

Digital Super Hybrid System

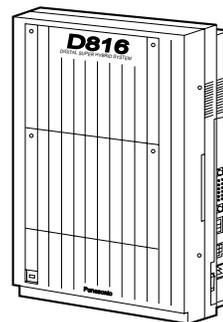
Panasonic

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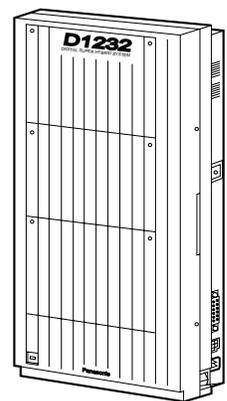
*Please read this manual before connecting
the Digital Super Hybrid System.*

MODEL

KX-TD816E / KX-TD1232E



KX-TD816



KX-TD1232

Thank you for purchasing the Panasonic Model
KX-TD816E/KX-TD1232E, Digital Super Hybrid System.

System Components

	Model	Description
Service Unit	KX-TD816E	Digital Super Hybrid System (Main Unit)
	KX-TD1232E	Digital Super Hybrid System (Main Unit)
Telephone	KX-T7420E	Digital proprietary telephone
	KX-T7425E	Digital proprietary telephone
	KX-T7431E	Digital proprietary telephone with 1-line display
	KX-T7433E	Digital proprietary telephone with 3-line display
	KX-T7436E	Digital proprietary telephone with 6-line display
	KX-T7220E	Digital proprietary telephone
	KX-T7230E	Digital proprietary telephone with 2-line display
	KX-T7235E	Digital proprietary telephone with 6-line display
	KX-T7250E	Digital proprietary telephone
	KX-T7130E	Proprietary telephone with 1-line display
	KX-T7020E	Proprietary telephone
	KX-T7050E	Proprietary telephone
Optional Equipment	KX-T7440E	Digital DSS Console
	KX-T7441E	Digital DSS Console
	KX-T7240E	Digital DSS Console
	KX-T7040E	DSS Console
	KX-TD170E	8-Station Line Unit
	KX-TD180E	4-CO Line Unit
	KX-TD181E* ¹	8-CO Line Card
	KX-TD182E* ²	4-CO Line Card
	KX-TD192E* ¹	System Inter Connection Card (two cards with Connection Cable)
	KX-TD196E* ¹	Remote Card
	KX-TD280E	2-ISDN S0 Line Unit
	KX-TD281E* ¹	4-ISDN S0 Line Card
	KX-TD282E* ²	2-ISDN S0 Line Card
	KX-T30865E	Doorphone
	KX-A46E	Battery Adaptor

System Components Table

Note The models marked *¹ can be installed only in KX-TD1232.
The models marked *² can be installed only in KX-TD816.
In this Installation Manual, the suffix “E” of each model number is omitted.
The Digital Super Hybrid System is abbreviated as “DSHS.”
The Digital Proprietary Telephone is abbreviated as “DPT.”
Other proprietary telephone (analogue type) is abbreviated as “APT.”
A Single Line Telephone is abbreviated as “SLT.”

Important Information

FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.

A 5 amp fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5 amps and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local Panasonic Dealer.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.

THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.

If in any doubt please consult a qualified electrician.

WARNING : THIS APPLIANCE MUST BE EARTHED.

IMPORTANT : The wires in this mains leads are coloured in accordance with the following code:

Green-and-yellow:	Earth
Blue:	Neutral
Brown:	Live

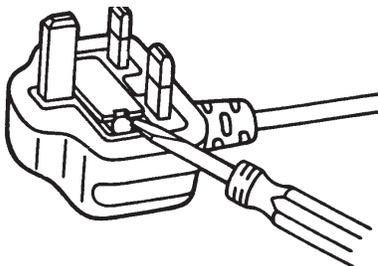
As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.

The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked with the letter E or by the safety earth symbol  or coloured GREEN or GREEN-AND-YELLOW.

The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

How to replace the fuse : Open the-fuse compartment with a screwdriver and replace the fuse and fuse cover.



Important Information

This equipment should be used on PSTN lines requiring 2-wire Loop calling unguarded clearing with Loop Disconnect or DTMF address signalling.

The equipment must be connected to direct extension lines and a payphone should not be connected as an extension.

Operation in Power Failure

In the event of a power failure, three single line telephones connected to Power Failure Transfer jacks will be directly connected to the following CO lines:

KX-TD816 — CO 1, CO 2, and CO 5

KX-TD1232 — CO 1, CO 2, and CO 9

- Set the Dialling Mode (Tone or Pulse) of your telephone, according to the CO line.
- 999 and 112 can be dialled on the apparatus for the purpose of making outgoing calls to the BT emergency (999) and (112) service.

Satisfactory performance can not be guaranteed for every allowed combination of host and subsidiary apparatus.

999 and 112 can be dialled on the apparatus after accessing the CO line for the purpose of making outgoing calls to the BT emergency (999) and (112) service.

During dialling, this apparatus may tinkle the bells of other telephones using the same line. This is not a fault and we advise you not to call Fault Repair Service.

‘Prevention of access by user. This apparatus is intended to be accessible only to authorized personnel. This apparatus must be installed in a locked room or similar environment, such that user access is prevented. Failure to prevent such user access will invalidate any approval given to this apparatus.’

Caution:

Do not push the PAUSE button more than twice following the initial access digit (or digits). Failure to comply with this requirement may result in unsatisfactory operation.

Notice:

This PBX should only be used on B•T lines on which specific BT services or facilities are provided.

CAUTION

Danger of explosion if battery is incorrectly replaced.

**Replace only with the same or equivalent type
recommended by the manufacturer.
Dispose of used batteries according
to the manufacturer's instructions.**

Attention

- The apparatus is designed to be installed and operated under controlled conditions of ambient temperature and a relative humidity not greater than 60%.
- Avoid installing the apparatus in damp or humid environments, such as bathrooms or swimming pools.
- The apparatus shall not be exposed to dripping or splashing.
- Keep the unit away from heating appliances and electrical noise generating devices such as fluorescent lamps, motors and televisions. These noise sources can interfere with the performance of the Digital Super Hybrid System.
- This unit should be kept free of dust, moisture, high temperature (more than 40°C / 104°F) and vibration, and should not be exposed to direct sunlight.
- Never attempt to insert wires, pins, etc. into the vents or other holes of this unit.
- If there is any trouble, disconnect the unit from the telephone line. Plug the telephone directly into the telephone line. If the telephone operates properly, do not reconnect the unit to the line until the trouble has been repaired. If the telephone does not operate properly, chances are that the trouble is in the telephone system, and not in the unit.
- Do not use benzine, thinner, or the like, or any abrasive powder to clean the cabinet. Wipe it with a soft cloth.

WARNING

THIS UNIT MAY ONLY BE INSTALLED AND SERVED BY QUALIFIED SERVICE PERSONNEL.

WHEN A FAILURE OCCURS WHICH RESULTS IN THE INTERNAL PARTS BECOMING ACCESSIBLE, DISCONNECT THE POWER SUPPLY CORD IMMEDIATELY AND RETURN THIS UNIT TO YOUR DEALER.

DISCONNECT THE TELECOM CONNECTION BEFORE DISCONNECTING THE POWER CONNECTION PRIOR TO RELOCATING THE EQUIPMENT, AND RECONNECT THE POWER FIRST.

THIS UNIT IS EQUIPPED WITH AN EARTHING CONTACT PLUG. FOR SAFETY REASONS THIS PLUG MUST ONLY BE CONNECTED TO AN EARTHING CONTACT SOCKET WHICH HAS BEEN INSTALLED ACCORDING TO REGULATIONS.

THE POWER SOCKET WALL OUTLET SHOULD BE LOCATED NEAR THIS EQUIPMENT AND BE EASILY ACCESSIBLE.

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

Attention

The serial number of this product may be found on the label affixed to the bottom of the unit. You should note the serial number of this unit in the space provided and retain this book as a permanent record of your purchase to aid in identification in the event of theft.

MODEL NO.: _____

SERIAL NO.: _____

For your future reference

DATE OF PURCHASE _____

NAME OF DEALER _____

DEALER'S ADDRESS _____

Warning

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.



73/23/EEC
89/336/EEC
92/31/EEC
93/68/EEC

Introduction

This Installation Manual provides technical information for the Panasonic Digital Super Hybrid System, KX-TD816/KX-TD1232. It is designed to serve as an overall technical reference for the system and includes a description of the system, its hardware and software, features and services and environmental requirements.

This manual contains the following sections:

Section 1, System Outline.

Provides general information on the system including system capacity and specifications.

Section 2, Installation.

Contains the basic system installation and wiring instructions, as well as how to install the optional cards and units.

Section 3, Features.

Describes all the basic, optional and programmable features in alphabetical order. It also provides information about the programming required, conditions, connection references, related features and operation for every feature.

Section 4, System Programming.

Provides step-by-step programming instructions for a proprietary telephone.

Section 5, List.

Lists tone/ring tone and default values of system programming.

Section 6, Troubleshooting.

Provides information for system and telephone troubleshooting.

Section 7, PRI Section.

Provides information on using the Primary Rate Interface (PRI) ISDN line with the optional expansion unit.

Section 8, DECT Portable Station Section.

Provides information on the wireless system, which can be optionally equipped with the basic system.

NOTE

The following documents may be used in conjunction with this manual:

- User Manual for KX-TD816/KX-TD1232 System, DIGITAL Proprietary Telephones, DSS Console, DECT Portable Station and Single Line Telephones
- Programming Table

The programming table is designed to be used as a hard copy reference to the user-programmed data.

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Section 1

System Outline

This section provides general information on the system, including system capacity and specifications.

1.1 System Highlights

System Capacity

	Basic System	Module Expansion	System Connection
KX-TD816			
CO line (ISDN S0 line)	0	8 (4)	—
Extension	8	16	—
KX-TD1232			
CO line (ISDN S0 line)	0	12 (6)	24 (12)
Extension	16	32	64

Module Expansion

Expansion modules are used to increase the system capacity. CO line modules and extension modules can be added to the basic system to add CO lines, ISDN S0 lines and extensions.

EXtra Device Port (XDP)

Each extension jack in the system supports the connection of a digital proprietary telephone / DSS console and a single line device. The devices have different extension numbers and are treated as two completely different extensions.

Paralleled Telephone Connection

Every jack in the system also supports the parallel connection of a proprietary telephone and a single line device. They share the same extension number and are considered by the system to be one extension.

Super Hybrid System

This system supports the connection of digital and analogue proprietary telephones, DSS Consoles and single line devices such as single line telephones, facsimiles, and data terminals.

System Connection*

With the addition of optional System Inter Connection Card, two Digital Super Hybrid Systems can be connected together to expand the system capacity. The two systems function as one, however, some functions such as paging and music on hold are duplicated.

Digital Proprietary Telephones (DPT)

The system supports nine different models of digital proprietary telephones which cover the range from a monitor set to a large display handsfree version.

1.1 System Highlights

Programming System

The system can be programmed from a proprietary telephone or from a personal computer.

Voice Mail Integration

The system supports Voice Processing Systems with in-band DTMF signalling as well as DPT integration.

Least Cost Routing (LCR)

Automatically selects the pre-programmed least expensive route for outgoing toll calls.

Charge Fee Reference

Allows the user to see charges and to print out the charges.

Trunk (CO Line) Answer From Any Station (TAFAS)

Ringling occurs over the external paging system; call can be answered from any station.

Remote Station Lock Control

Allows an operator to lock an extension so that outgoing calls cannot be made.

Budget Management

Limits the telephone usage to a pre-assigned amount.

Hotel Application

Allows to handle the front and operator services such as check-in/check-out and wake-up call setting.

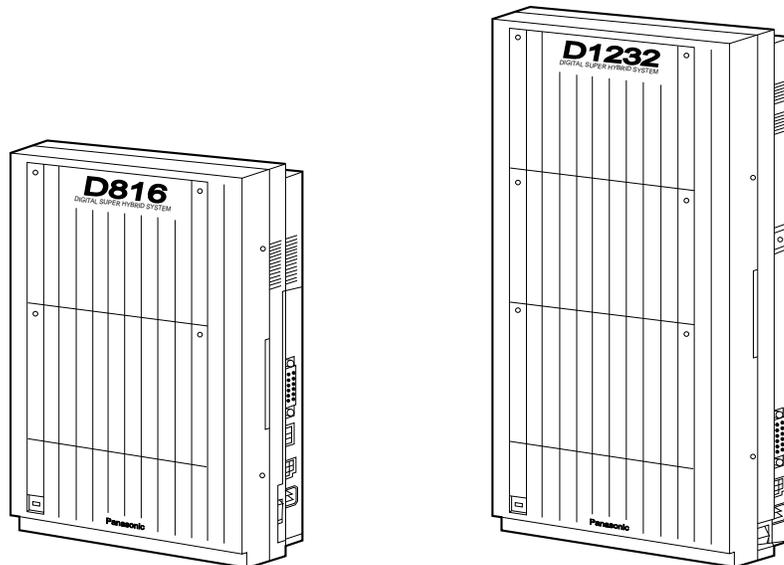
Uniform Call Distribution (UCD)

Allows an incoming calls to be distributed uniformly to a specific group of extensions.

1.2 Basic System Construction

The KX-TD816 Digital Super Hybrid System has a basic capacity of 8 extensions, and KX-TD1232 has 16 extensions. It is capable of supporting Panasonic digital and analogue proprietary telephones, DSS Consoles and single line devices such as single line telephones, facsimiles.

To expand its capabilities the system can be equipped with optional components or customer-supplied peripherals such as external speakers and external music sources (e.g., radios).



1.3 Proprietary Telephones

The following Panasonic proprietary telephones are available with this system.

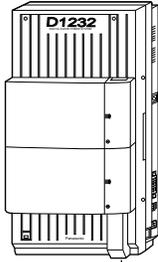
Proprietary Telephone	Description
KX-T7420	Digital, speakerphone, 12 Flexible CO
KX-T7425	Digital, speakerphone, 24 Flexible CO
KX-T7431	Digital, 1-line display, speakerphone, 12 Flexible CO
KX-T7433	Digital, 3-line display, speakerphone, 24 Flexible CO
KX-T7436	Digital, 6-line display, speakerphone, 24 Flexible CO
KX-T7220	Digital, speakerphone, 24 Flexible CO
KX-T7230	Digital, 2-line display, speakerphone, 24 Flexible CO
KX-T7235	Digital, 6-line display, speakerphone, 12 Flexible CO
KX-T7250	Digital, monitor, 6 Flexible CO
KX-T7130	1-line display, speakerphone, 12 Flexible CO, 12 PF
KX-T7020	Speakerphone, 12 Flexible CO, 4 PF
KX-T7050	Monitor, 12 Flexible CO, 4 PF

Note : Flexible CO : Flexible CO button (programmable)
PF : Programmable Feature button

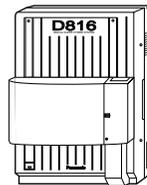
1.4 Options

8-Station Line Unit (KX-TD170)

Each unit adds eight extensions. One expansion unit for KX-TD816, and up to two expansion units for KX-TD1232 can be installed per system.



8 or 16 extensions can be added.



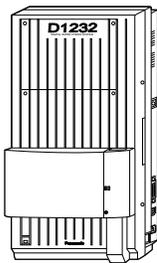
8 extensions can be added.

4-CO Line Unit (KX-TD180) / 2-ISDN S0 Line Unit (KX-TD280)

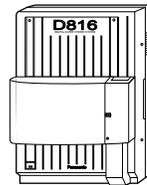
One of the following units can be installed per system.

KX-TD180 : Adds four CO lines.

KX-TD280 : Adds two ISDN S0 lines.



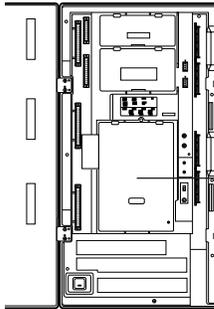
4 CO lines / 4 DID lines /
2 ISDN S0 lines can be added.



4 CO lines / 4 DID lines /
2 ISDN S0 lines can be added.

1.4 Options

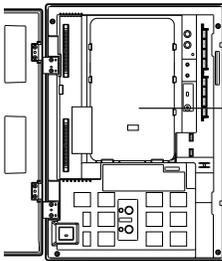
8-CO Line Card (KX-TD181)*¹ / 4-ISDN S0 Line Card (KX-TD281)*¹



One of the following cards can be installed for KX-TD1232.
KX-TD181 : Adds eight CO lines.
KX-TD281 : Adds four ISDN S0 lines.

8 CO lines / 4 ISDN S0 lines can be added.

4-CO Line Card (KX-TD182)*² / 2-ISDN S0 Line Card (KX-TD282)*²

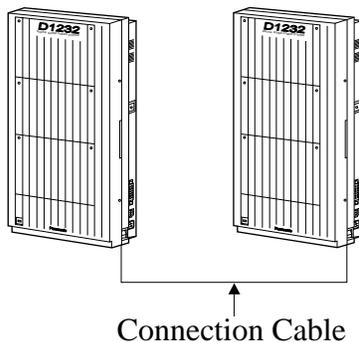


One of the following cards can be installed for KX-TD816.
KX-TD182 : Adds four CO lines.
KX-TD282 : Adds two ISDN S0 lines.

4 CO lines / 2 ISDN S0 lines can be added.

System Inter Connection Card (KX-TD192)*¹

Permits two Digital Super Hybrid Systems to be connected together — to double system capacity.



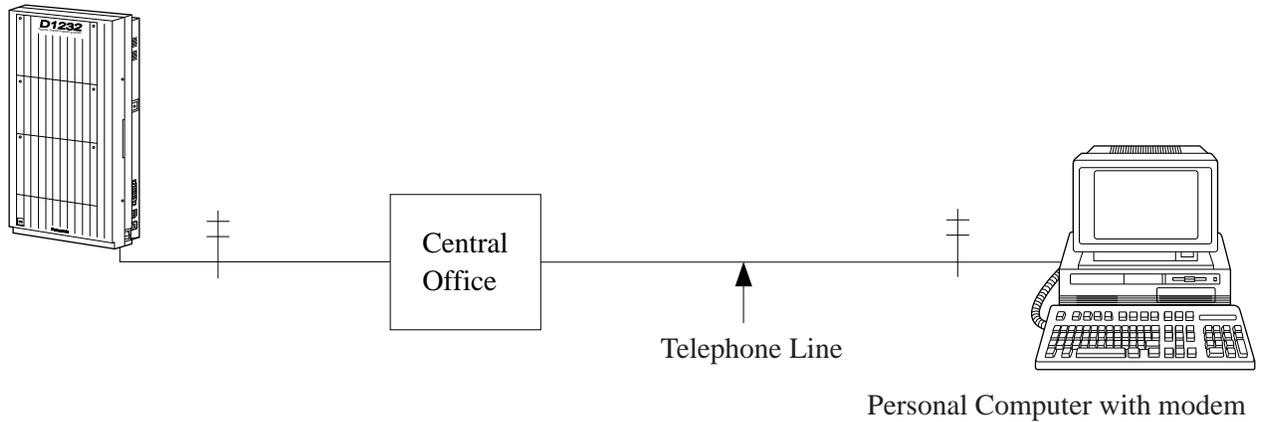
*¹: Available for KX-TD1232 only.

*²: Available for KX-TD816 only.

1.4 Options

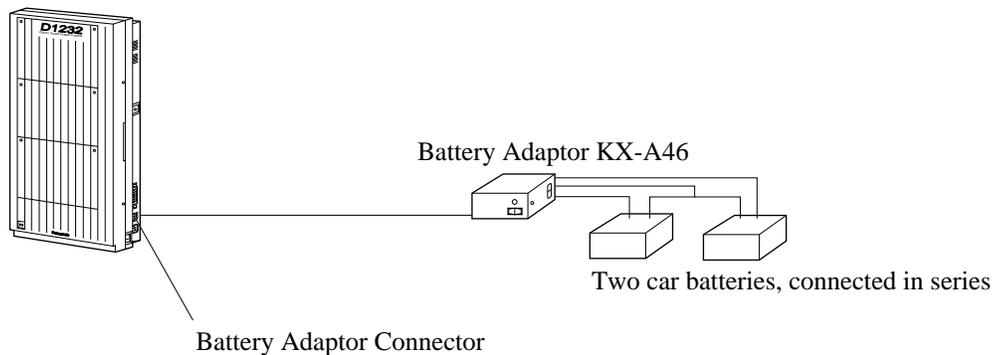
Remote Card (KX-TD196)*

The Remote Card allows programming and maintenance of the system from a remote location.



Battery Adaptor (KX-A46)

Supports the connection of two car batteries (12 VDCX2) for power backup in case of a power failure.

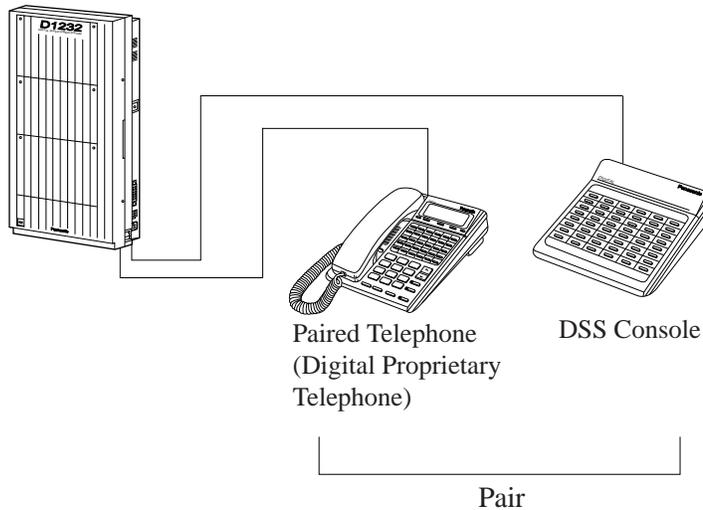


Note The KX-TD1232 is illustrated as a main unit.

1.4 Options

DSS Console (KX-T7440 / KX-T7441 / KX-T7240 / KX-T7040)

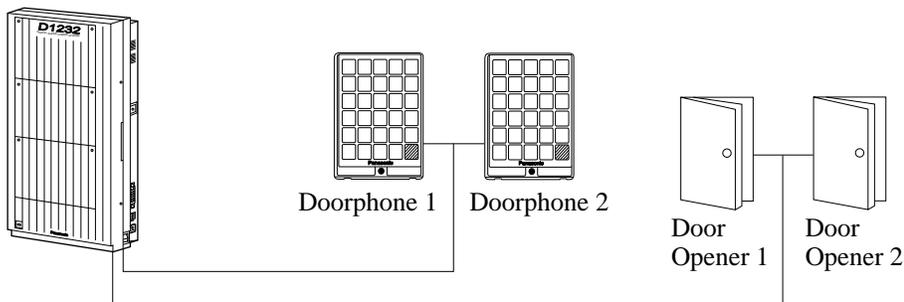
Permits easy and quick access to stations and features. The Busy Lamp Field shows the idle or busy state of each station. DSS Consoles are designed for use with a proprietary telephone. The system supports up to four DSS Consoles per system.



Note The KX-TD1232 is illustrated as a main unit.

Doorphone (KX-T30865)

This system supports two doorphones and two door openers. The doorphone is an option.



Note The KX-TD1232 is illustrated as a main unit.

1.5 Specifications

1.5.1 General Description

System Capacity	KX-TD816	
	CO lines (ISDN S0 lines)	8 max. (4 max.)
	Extensions	16 max. (32 max. with XDP)
	KX-TD1232	
	CO lines (ISDN S0 lines)	12 max. (6 max.)
	Extensions	32 max. (64 max. with XDP)
Control Method	Stored Program CPU: 16 bits CPU	
Switching	Non Blocking PCM Time Switch	
Power Supplies	Primary	230 VAC, 50 Hz
	Secondary	Station Supply Volt: 30V Circuit Volt: $\pm 5V, \pm 15V$
	Power Failure	<ul style="list-style-type: none">• Memory back-up duration: seven years by factory-provided lithium battery• Power Failure Transfer: 3 CO lines max. assigned to extensions• System operation for several hours by recommended batteries (consisting of two 12 VDC car batteries)
Dialling	Outward	Dial Pulse (DP) 10 pps, 20 pps Tone (DTMF) Dialling
	Internal	Dial Pulse (DP) 10 pps, 20 pps Tone (DTMF) Dialling
	Mode Conversion	DP-DTMF, DTMF-DP
Connector	CO lines	4-pin connector
	Stations	6-pin connector
	Paging Output	Pin Jack (RCA JACK)
	External Music Input	Two-conductors Jack (MINIJACK 3.5 mm diameter)

1.5 Specifications

Extension Connection Cable

Single line telephones	1 pair wire (A, B)
KX-T7420, KX-T7425, KX-T7431, KX-T7433, KX-T7436, KX-T7220, KX-T7230, KX-T7235, KX-T7250	1 pair wire (L, H) or 2 pair wire (A, B, L, H)
KX-T7130 , KX-T7020, KX-T7050	2 pair wire (A, B, L, H)
KX-T7440, KX-T7441, KX-T7240, KX-T7040	1 pair wire (L, H)

SMDR (Station Message Detail Recording)

Interface	EIA (RS-232C)
Output Equipment	Printer
Detail Recording	Date, Time, Extension Number, CO Line Number, Dialed Number, Call Duration, Charge Fee, Account Code

1.5.2 Characteristics

Station Loop Limit	KX-T7420 / KX-T7425 / KX-T7431 / KX-T7433 / KX-T7436 / KX-T7220 / KX-T7230 / KX-T7235 / KX-T7250 / KX-T7020 / KX-T7050 / KX-T713040 ohms Single Line Telephone600 ohms including set Doorphone.....20 ohms
---------------------------	--

Minimum Leak Resistance 15 000 ohms

Maximum Number of Station Instruments per Line

1 for KX-T7420, KX-T7425, KX-T7431, KX-T7433, KX-T7436, KX-T7220, KX-T7230, KX-T7235, KX-T7250, KX-T7130, KX-T7020, KX-T7050 or single line telephone
2 by Parallel or eXtra Device Port Connection of a proprietary telephone and a single line telephone

Ring Voltage 70 Vrms at 25 Hz depends on Ringing Load

Primary Power 230 VAC, 50 Hz

Central Office Loop Limit 1 600 ohms max.

Environmental Requirements 0 – 40 °C / 32 – 104 °F, 10 – 90%

1.5 Specifications

Ability To Recognize Further Digits

The KX-TD816 / KX-TD1232 PBX is capable of accepting and acting upon routing information received from a proprietary telephone for 10 seconds, after the latest routing information has been received. (Satisfies BS6450:Part 1 1993 Clause 13.5.)

1.5.3 System Capacity

Lines, Cards, Units, Station Equipment

Item	KX-TD816 Max. Quantity	KX-TD1232 Max. Quantity	
		Single System	System Connection
System Inter Connection Card	—	—	2
Service Unit	1	1	2
8-CO Line Card or 4-ISDN S0 Line Card	—	1	2
4-CO Line Card or 2-ISDN S0 Line Card	1	—	—
4-CO Line Unit or 2-ISDN S0 Line Unit	1	1	2
CO Line	8	12	24
ISDN S0 Line	4	6	12
8-Station Line Unit	1	2	4
Extension Jack	16	32	64
Station Terminal (including DSS Consoles)	32	64	128
{DSS Console}	{4}	{4}	{8}
Remote Card	—	1	2
Doorphone	2	2	4
Door Opener	2	2	4
External Pager	2	2	4
External Music Source	2	2	4

1.5 Specifications

System Data

Item	Max. Quantity	
Operator	2	
System Speed Dialling	500	
One-Touch Dialling	24	per station (proprietary telephone)
Station Speed Dialling	10	per station
Call Park	10	
Absent Message	9	
CO Line Group	8	
Toll Restriction Level	8	
Extension Group	16	
Class of Service	8	
Message Waiting	128	

1.5.4 Ports

Port type classification

PORT NAME		BRIEF DESCRIPTION	PORT TYPE
EXTN PORT	**	CONNECT TO ITS, SLT	1AS
PSTN PORT	**	CONNECT TO NETWORK	PA1
ISDN 2 PORT		CONNECT TO DIGITAL NETWORK	PD1
PAGING PORT	*	EXTERNAL PAGING	4F
EXT. MUSIC PORT	*	EXTERNAL MUSIC	4F
BATTERY PORT	*	CONNECT TO KX-A46	4C
DOORPHONE PORT	*	CONNECT TO KX-T30865	4E
DOOR OPENER PORT		DOOR OPENER	4F

* These ports do not respond to address signalling.

** These ports provide DTMF and Loop Disconnect Signalling.

1.5 Specifications

Port types between which call paths can be established

FROM \ TO	EXT	PSTN	PAGING	EXT. MUSIC	DOOR- PHONE	Battery	DOOR OPENER	ISDN 2
EXTN	A	A	A	X	A	X	X	A
PSTN	A	A	X	X	X	X	X	X
PAGING	X	X	X	X	X	X	X	X
EXT. MUSIC	A	A	A	N/A	X	X	X	A
DOORPHONE	A	X	X	X	N/A	X	X	X
Battery	X	X	X	X	X	N/A	X	X
DOOR OPENER	X	X	X	X	X	X	N/A	X
ISDN 2	A	A	X	X	X	X	X	X

A: Allowed X: Not allowed N/A: Not applicable

Maximum associated cable loss for EXT port

ITS: Max cable loss 0.34 dB (240 m max for ø 0.5 mm)

SLT: Max cable loss 0.87 dB (620 m max for ø 0.5 mm)

Port to port loss

Loss across switch, PAS → 1AS Loss=1.13 dB (Not through-fed system)

Send and receive loudness ratings on port to port basis

Send loudness rating (1AS → PAS) : +3 dB (0 km)

Receive loudness rating (PAS → 1AS) : -6 dB (0 km)

Extension (1AS) port

3 ringers can be supported with extension wiring up to 620 m.

- Notes**
- EXTN Jack 1 to EXTN Jack 16 for KX-TD816 or EXTN Jack 1 to EXTN Jack 32 for KX-TD1232 may be used for off premise extension in which case cabling would be required by BS6701:Part 1 1986 to be equipped with over voltage protection.
 - When using separately approved extension telephones, the best overall performance of the PBX system will be obtained by using extension telephones of impedance class A clause 4.3.2.1 of BS6305:1982.

Section 2

Installation

This section contains the basic system installation and wiring instructions, as well as how to install the optional cards and units.

2.1 Before Installation

Please read the following notes concerning installation and connection before installing the system.

Safety Installation Instructions

When installing telephone wiring, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury to persons, including the following:

1. Never install telephone wiring during a lightning storm.
2. Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
3. Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
4. Use caution when installing or modifying telephone lines.

Installation Precautions

This set is exclusively made for wall mounting only. Avoid installing in the following places. (Doing so may result in malfunction, noise, or discoloration.)

1. In direct sunlight and hot, cold, or humid places. (Temperature range: 0°C – 40°C / 32°F – 104°F)
2. Sulfuric gases produced in areas where there are thermal springs, etc. may damage the equipment or contacts.
3. Places in which shocks or vibrations are frequent or strong.
4. Dusty places, or places where water or oil may come into contact with the unit.
5. Near high-frequency generating devices such as sewing machines or electric welders.
6. On or near computers, telexes, or other office equipment, as well as microwave ovens or air conditioners. (It is preferable not to install in the same room with the above equipment.)
7. Install at least 1.8 m from radios and televisions. (both the main unit and proprietary telephones)
8. Do not obstruct area around the main unit (for reasons of maintenance and inspection — be especially careful to allow space for cooling above and at the sides of the main unit).

Wiring Precautions

Make sure to keep the following instructions when wiring.

1. Do not wire the telephone cable in parallel with an AC power source, computer, telex, etc. If the cables are run near those wires, shield the cables with metal tubing or use shielded cables and ground the shields.
2. If cables are run on the floor, use protectors or the like to protect

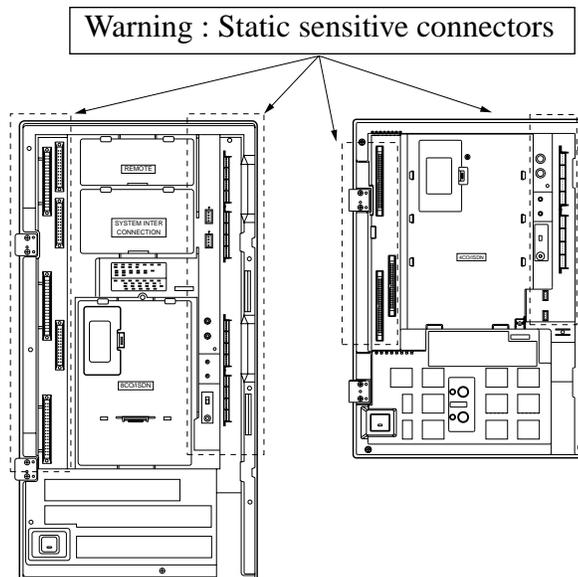
2.1 Before Installation

the wires where they may be stepped on. Avoid wiring under carpets.

3. Avoid using the same power supply outlet for computers, telexes, and other office equipment. Otherwise, the system operation may be interrupted by the induction noise from such equipment.
4. Please use one pair telephone wire for extension connection of (telephone) equipment such as single line telephones, data terminals, answering machines, computers, voice processing systems, etc., except proprietary telephones (e.g. KX-T7235, KX-T7436).
5. The Power Switch of the system must be off during wiring. After all the wirings are completed, turn the Power Switch on.
6. Mis-wiring may cause the system to operate improperly. Refer to Section 6.1.1 "Installation" and Section 6.1.2 "Connection."
7. If an extension does not operate properly, disconnect the telephone from the extension line and then connect again, or turn off the Power Switch of the system and then on again.
8. The system is equipped with a 3-wire grounding type plug. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the purpose of the grounding-type plug.
9. Use twisted pair cable for CO line connection.
10. CO lines should be installed with lightning protectors. For details, refer to Section 2.4.3 "Lightning Protector Installation."

Warning:

Static sensitive devices are used. To protect printed circuit boards from static electricity, do not touch connectors indicated to the right. To discharge body static, touch ground or wear a grounding strap.



2.2 Installation of the Main Unit

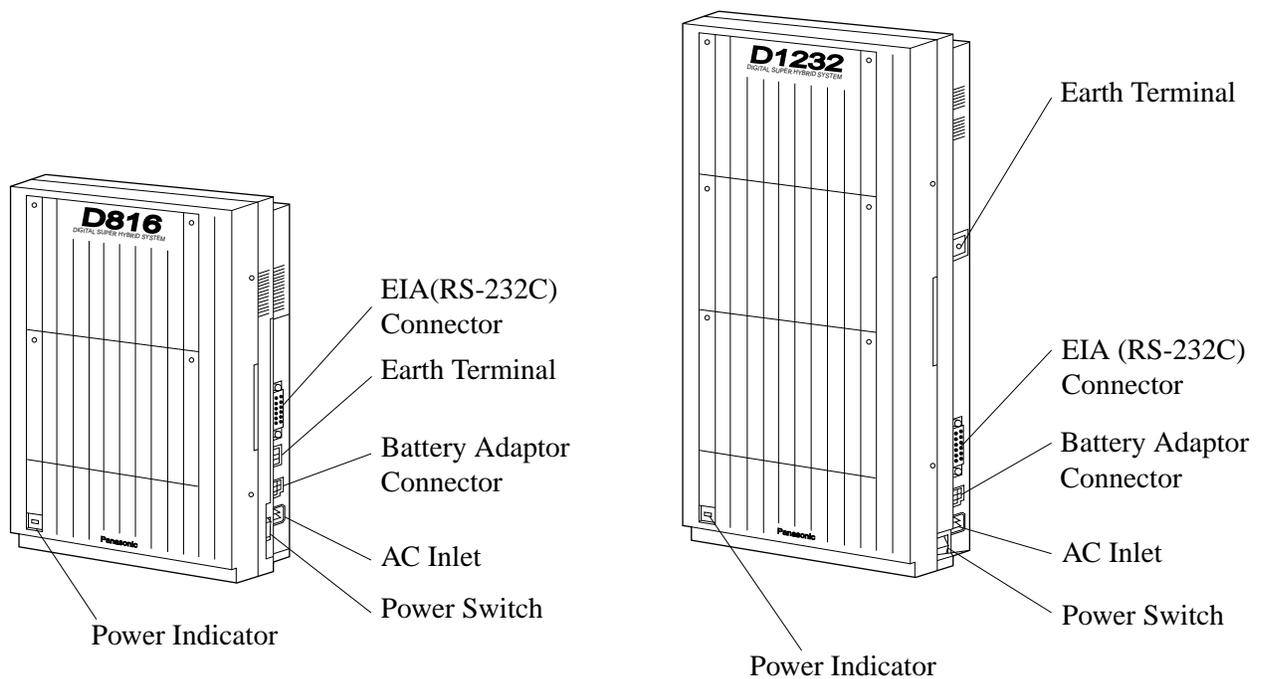
2.2.1 Unpacking

When you unpack the main unit, the following components should be included:

	KX-TD816	KX-TD1232
Main Unit	one	one
AC Cord	one	one
Templet	one	one
Screw	three	four
Pager Connector	two	two
Music Source Connector	two	two
Expansion line cord holder	one	one
6-pin plugs for extension connection	eight	sixteen
4-pin plugs for doorphone or door opener connection	two	two
Overlay	one	one

2.2.2 Name and Location

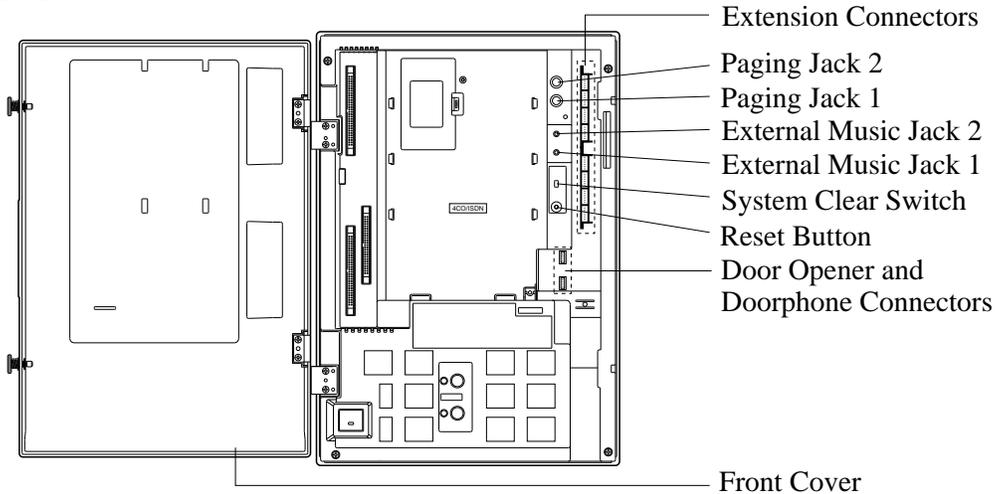
Overview of the Main Unit



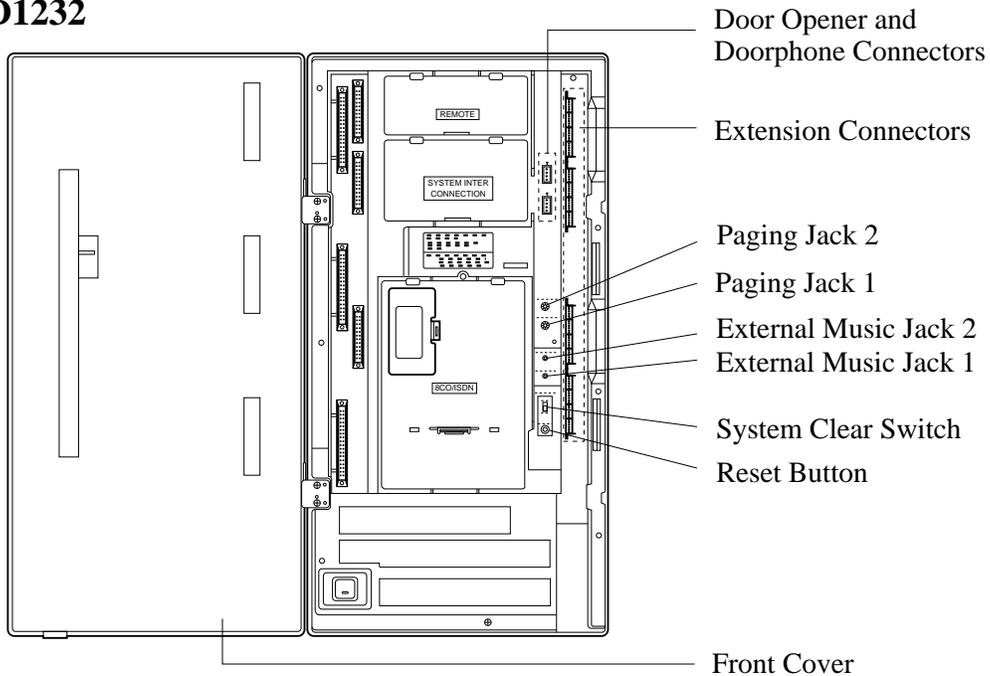
2.2 Installation of the Main Unit

Inside View of the Main Unit

KX-TD816



KX-TD1232



- Notes**
- EIA (RS-232C) Connector, Battery Adaptor Connector, Paging Jack ports, External Music Jack ports, and Doorphone / Dooropener Connectors are at SELV.
 - CO Line Connectors and Extension Connections are at TNV.
 - Interconnection circuit should be such that the equipment continues to comply with the requirements of 4.2 of EN41003 for TNV circuits and 2.3 of EN60950 for SELV circuits, after making connections between circuits.

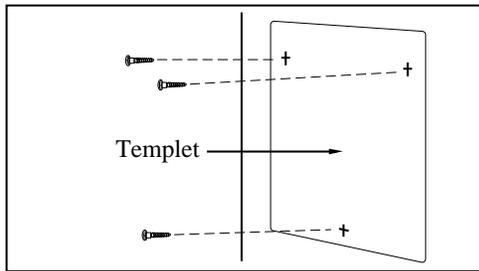
2.2.3 Wall Mounting

This set is made exclusively for wall mounting. The wall must be able to support the weight of the main unit. If screws other than the ones supplied are used, they must have the same diameter as the ones enclosed.

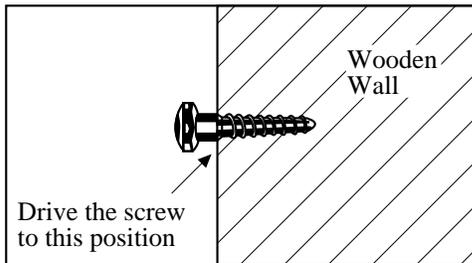
Mounting on Wooden Wall

KX-TD816

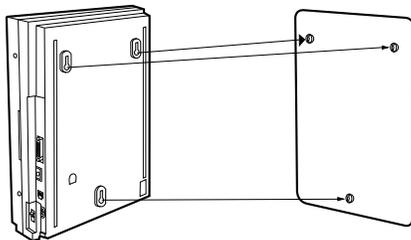
1. Place the templet (included) on the wall to mark the three screw positions.



2. Install the three screws (included) into the wall.

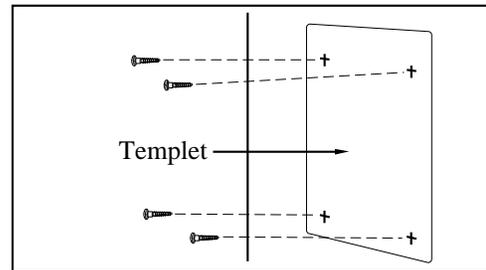


3. Hook the main unit on the screw heads.

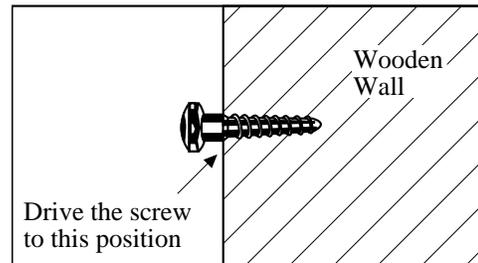


KX-TD1232

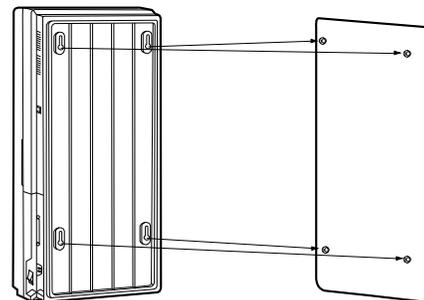
1. Place the templet (included) on the wall to mark the four screw positions.



2. Install the four screws (included) into the wall.



3. Hook the main unit on the screw heads.

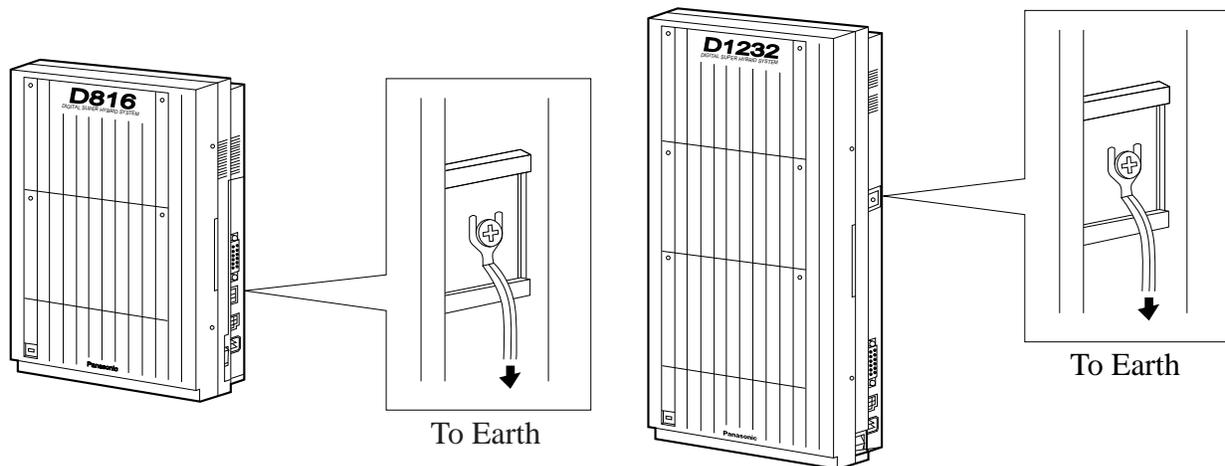


2.2 Installation of the Main Unit

2.2.4 Frame Earth Connection

IMPORTANT!!!

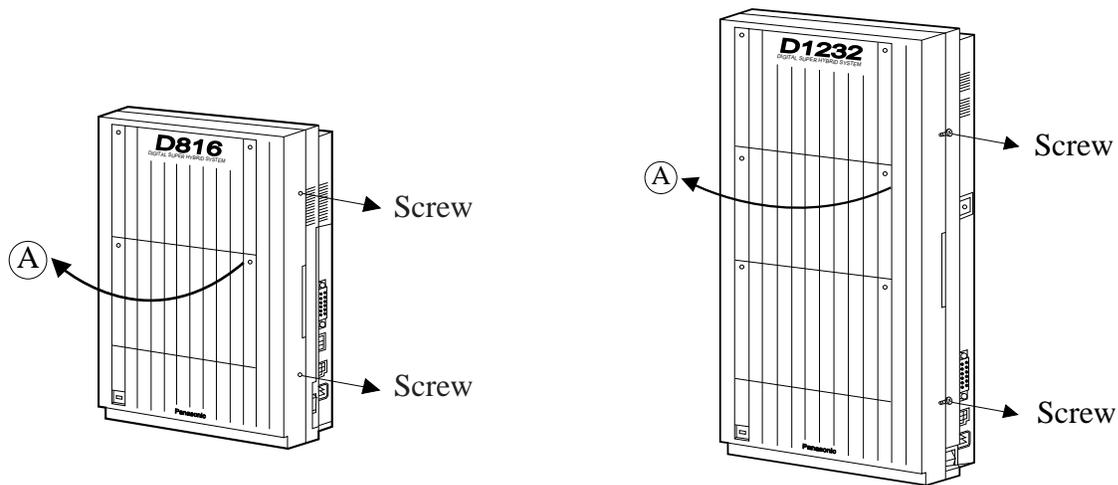
You must connect the frame of the main unit to Earth.



2.2.5 Opening Front Cover

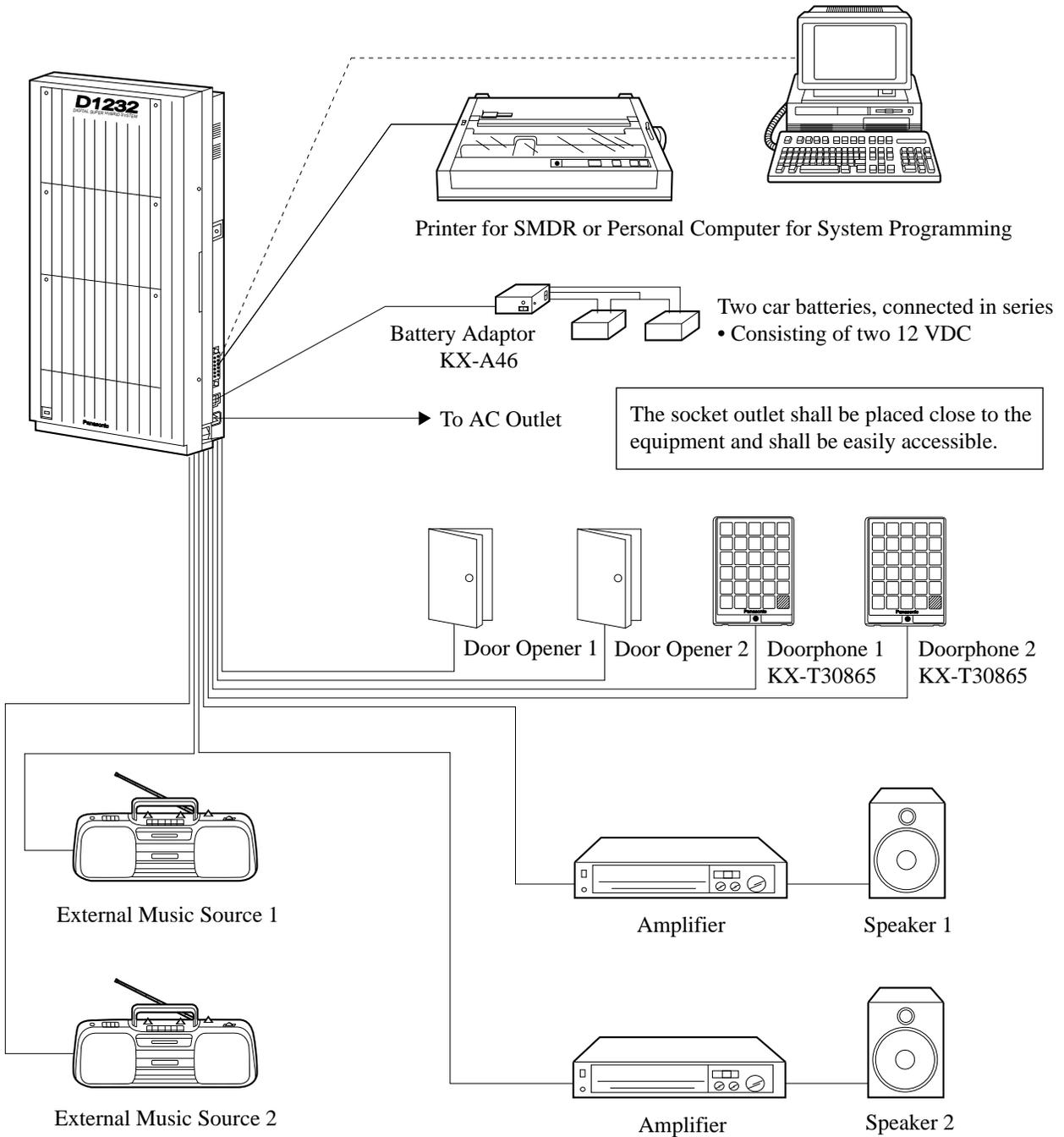
Two screws are attached to the front cover by springs so that they will not be lost. To open the front cover of the main unit:

1. Loosen the two screws on the right side of the main unit.
2. Open the front cover in the direction of Arrow (A).



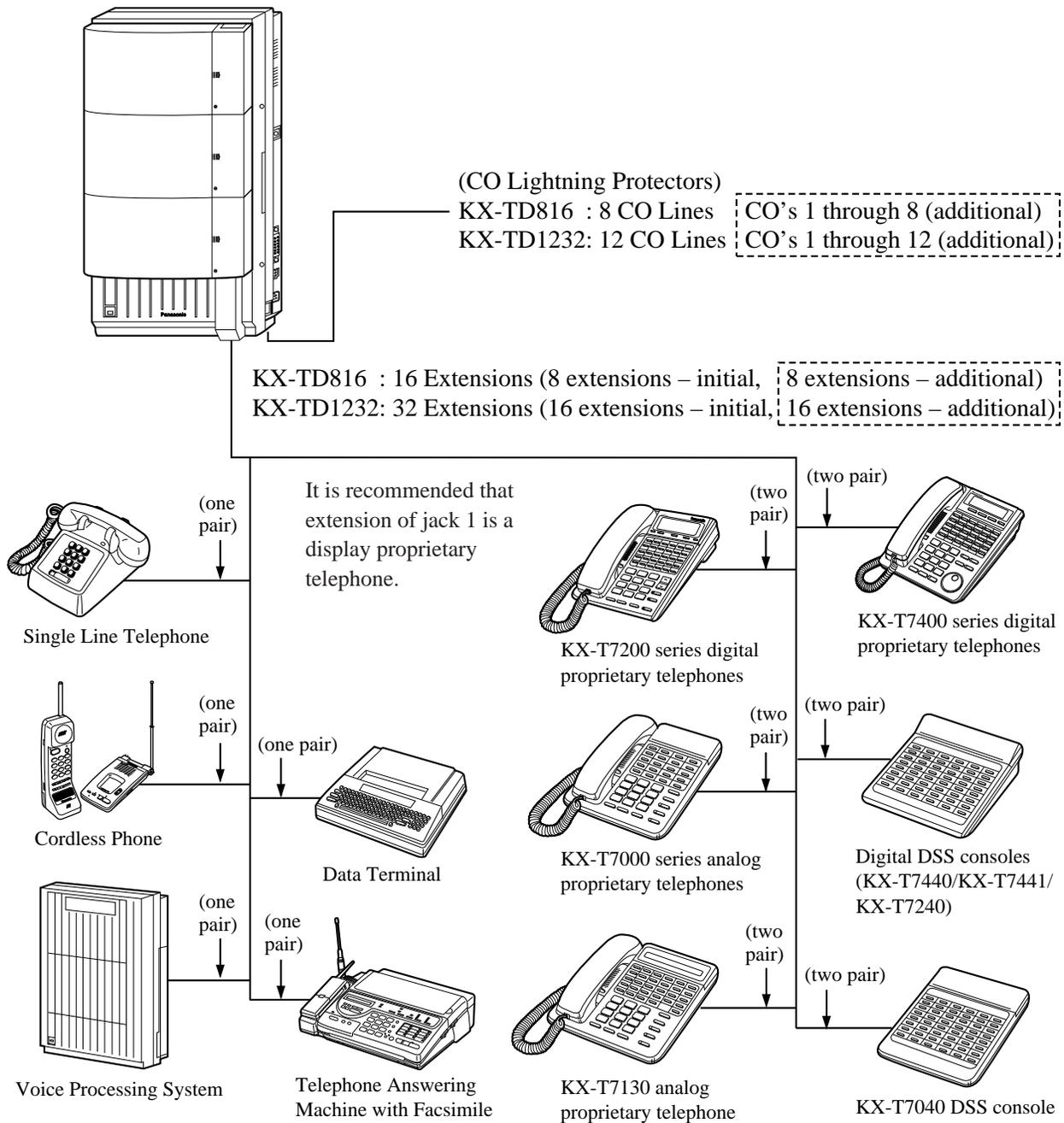
2.3 Connection

2.3.1 System Connection Diagram



Note The KX-TD1232 is illustrated as a main unit.

2.3.1 System Connection Diagram



Notes

-  : needs optional cards or adaptor.
- Parallel telephone connections are possible.
- The KX-TD1232 is illustrated as a main unit.

2.3.2 Extension Connection

for Proprietary Telephones, Single Line Telephones and DSS Consoles
(KX-TD816: Jack 1 through Jack 8, KX-TD1232: Jack 1 through Jack 16)

Wire Specifications

In making an extension line connection, use twisted pair cable for installation. The wire specifications for extensions are as follows:

Wire	Solid wire
Diameter of conductor	ø 0.4 – ø 0.65 mm
Diameter including coating	ø 0.66 – ø 1.05 mm

Connection

Use 6-pin plugs (included). There are 8 plugs to connect extensions to jacks 1 through 8 for KX-TD816, and 16 plugs to connect extensions to jacks 1 through 16 for KX-TD1232. Mis-connection may cause the system to operate improperly. See Section 6.1.1 “Installation” and 6.1.2 “Connection” before connection.

1. Insert required telephone wires into the holes in a plug.
Fix the transparent part into the black part.

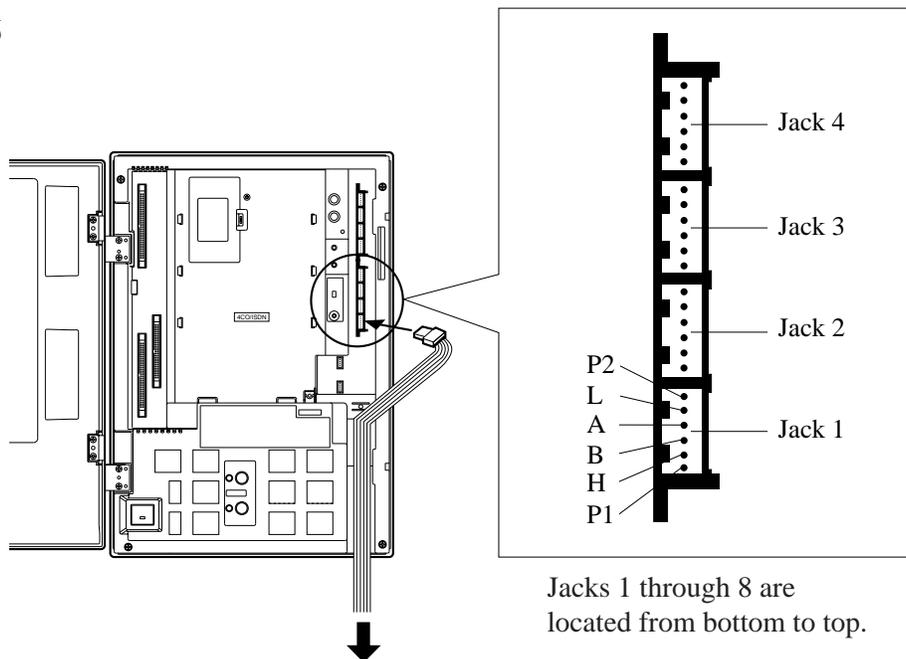
Note: Do not strip the wires. Insert the wires all the way into the plug.

6-pin plug



2. Insert the plug into an extension jack in the main unit.

KX-TD816

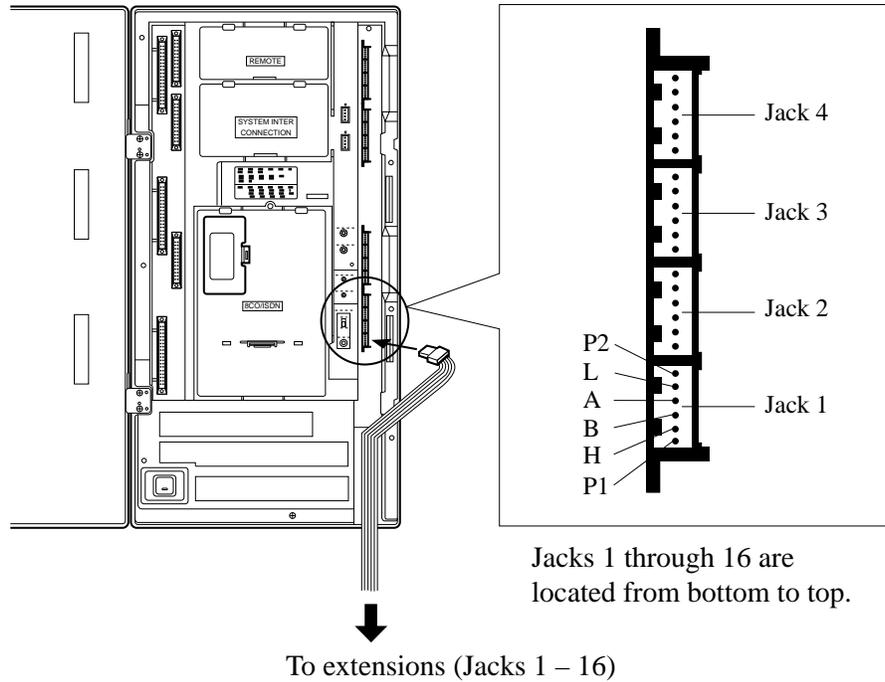


To extensions (Jacks 1 – 8)

2.3.2 Extension Connection

for Proprietary Telephones, Single Line Telephones and DSS Consoles
(KX-TD816: Jack 1 through Jack 8, KX-TD1232: Jack 1 through Jack 16)

KX-TD1232



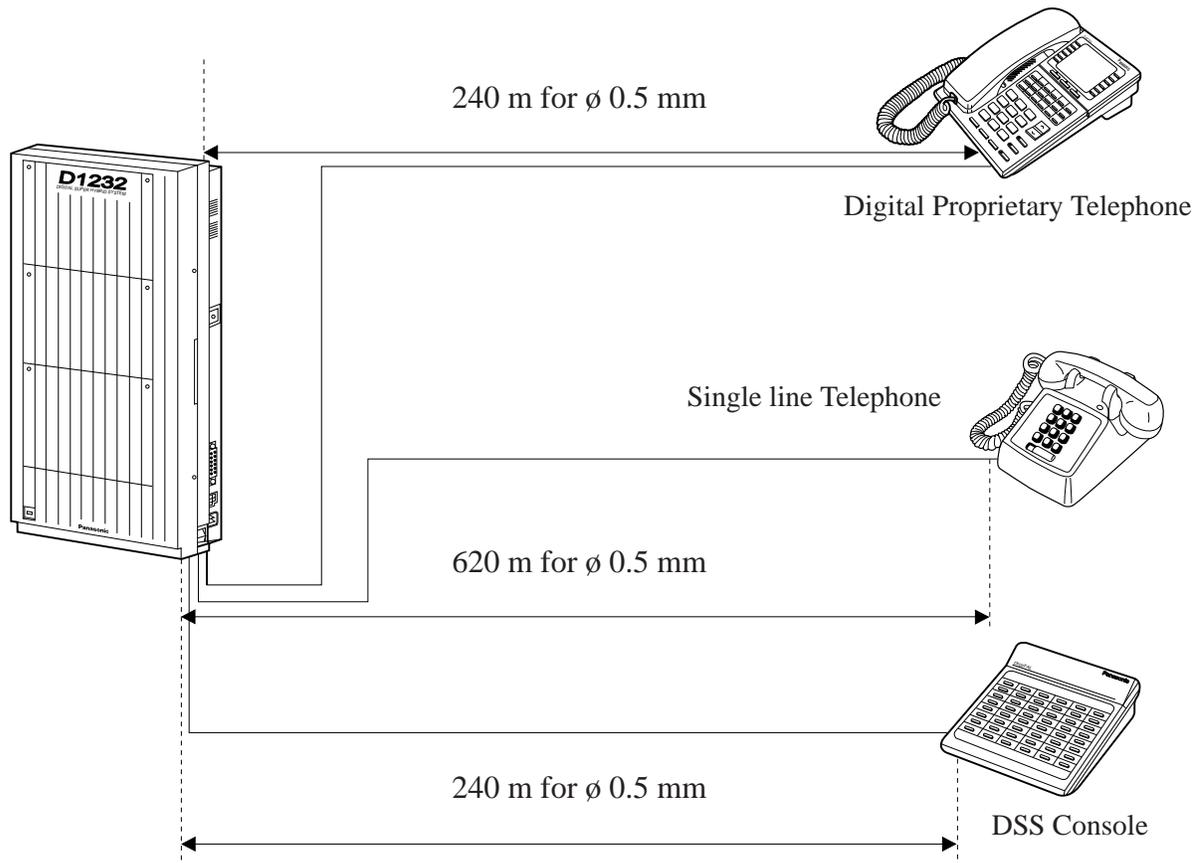
Jacks 1 through 16 are located from bottom to top.

2.3.2 Extension Connection

for Proprietary Telephones, Single Line Telephones and DSS Consoles
(KX-TD816: Jack 1 through Jack 8, KX-TD1232: Jack 1 through Jack 16)

Maximum distance of extension line cord

The maximum length of the extension line cord, twisted cable, that connects the main unit and the extension is as follows:



- Notes**
- Extension line cords should only be routed internally (inside a customer's premises).
 - The KX-TD1232 is illustrated as a main unit.

Proprietary Telephone (analogue type) Connection

With the KX-T7020, KX-T7050 and KX-T7130 model proprietary telephones, 4-conductor wiring is required for each extension. Connect pins "A," "B," "L" and "H."

A: A-wire L: Low
B: B-wire H: High

2.3.2 Extension Connection

for Proprietary Telephones, Single Line Telephones and DSS Consoles
(KX-TD816: Jack 1 through Jack 8, KX-TD1232: Jack 1 through Jack 16)

Digital Proprietary Telephone Connection

With the KX-T7420, KX-T7425, KX-T7431, KX-T7433, KX-T7436, KX-T7220, KX-T7230, KX-T7235, and KX-T7250 model digital proprietary telephones, 4-conductor wiring is required for each extension. Connect pins “L” and “H” only. (“A” and “B” are only needed for Paralleled Telephone or XDP operation.)

Single Line Telephone Connection

With the single line telephones, 2-conductor wiring is required for each extension. Connect pins “A” and “B.”

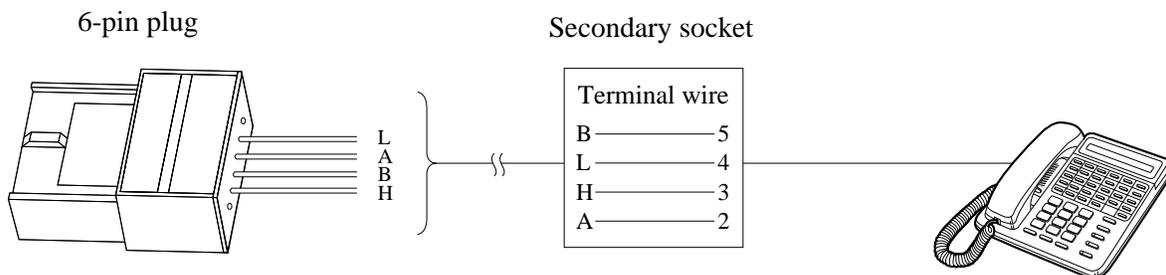
DSS Console Connection

A maximum of four DSS Consoles, models KX-T7440, KX-T7441, KX-T7240 or KX-T7040, can be installed per system. The DSS Console must be connected in parallel with a proprietary telephone. System Programming is required to designate paired jack numbers of DSS Consoles and proprietary telephones. With the KX-T7440, KX-T7441, KX-T7240 and KX-T7040 model DSS Consoles, 4-conductor wiring is required for each extension. Connect pins “L” and “H” only. (“A” and “B” are not necessary.)

Notes If a telephone or answering machine with an A-A1 relay is connected to the main unit, set the A-A1 relay switch of the telephone or answering machine to OFF position.

Station Wiring

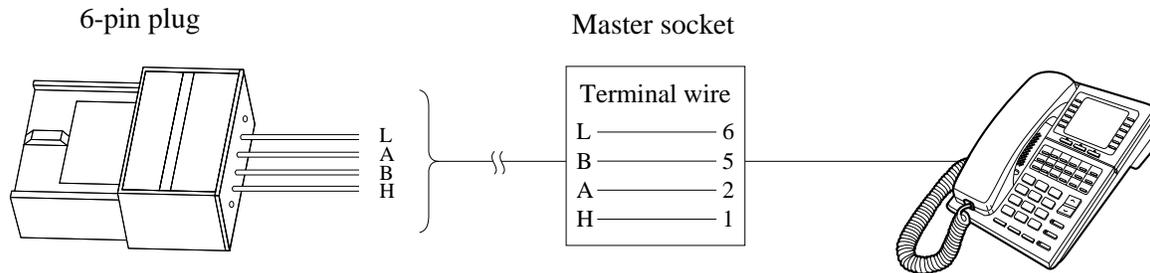
1. Proprietary Telephone (analogue type) Connection and DSS Console Connection



2.3.2 Extension Connection

for Proprietary Telephones, Single Line Telephones and DSS Consoles
(KX-TD816: Jack 1 through Jack 8, KX-TD1232: Jack 1 through Jack 16)

2. Digital Proprietary Telephone Connection and SLT Connection



Programming References

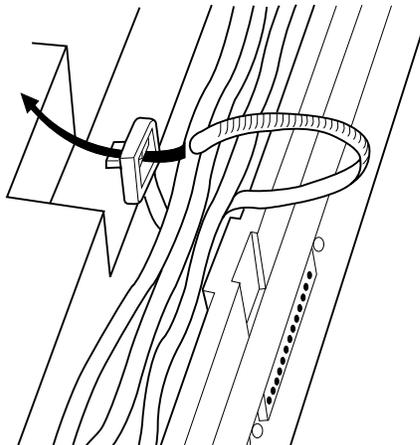
Section 4, System Programming,
[007] DSS Console Port and Paired Telephone Assignment

Feature References

Section 3, Features,
DSS Console

Note

After completing all the required inside cabling, including CO lines, extensions, external pagers and external music sources, fasten the cables with the nylon tie (included) as shown.

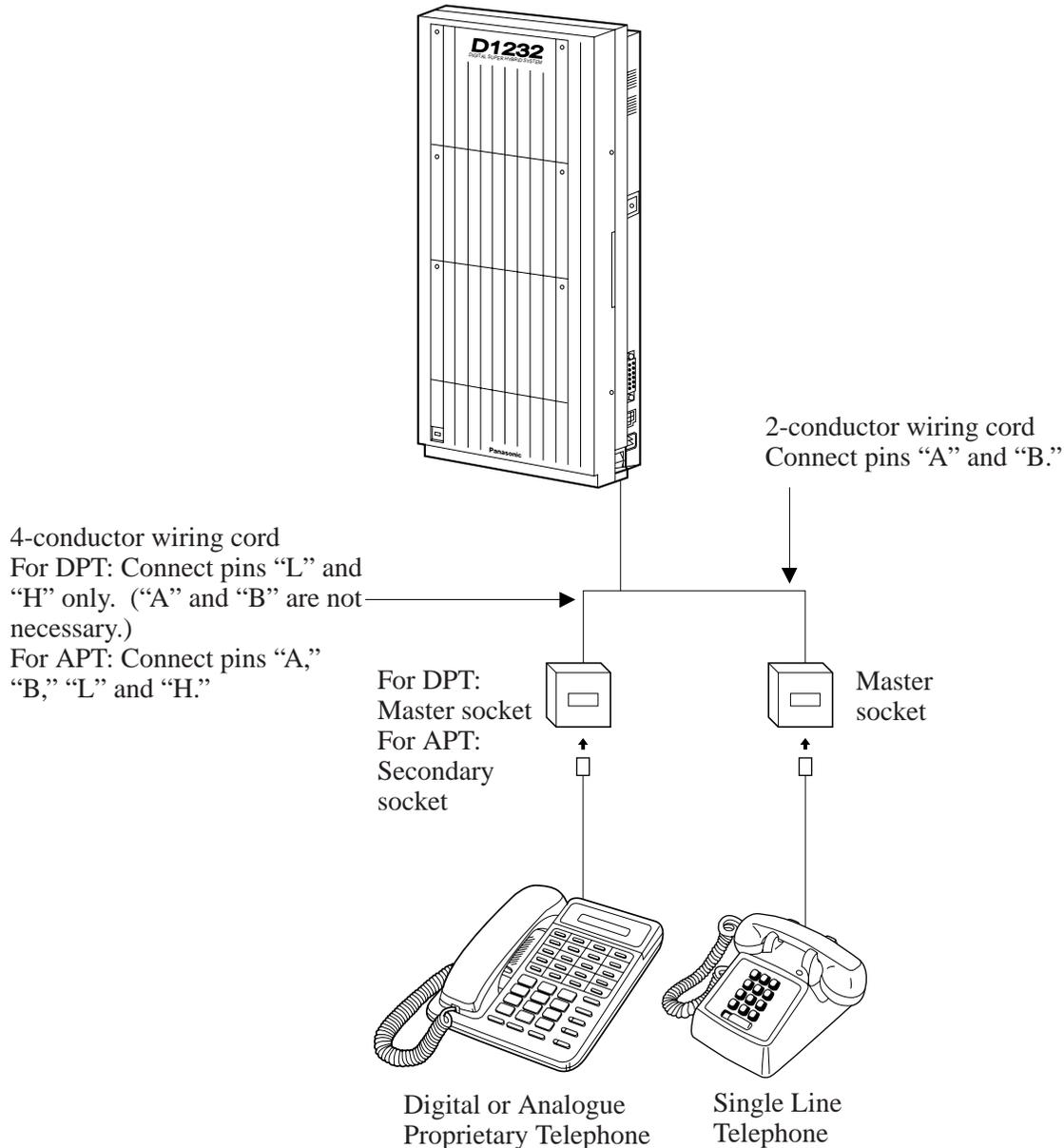


2.3.3 Paralleled Telephone Connection

for a Proprietary Telephone and a Single Line Telephone

A single line telephone can be connected in parallel with any proprietary telephone as follows:

Method 1

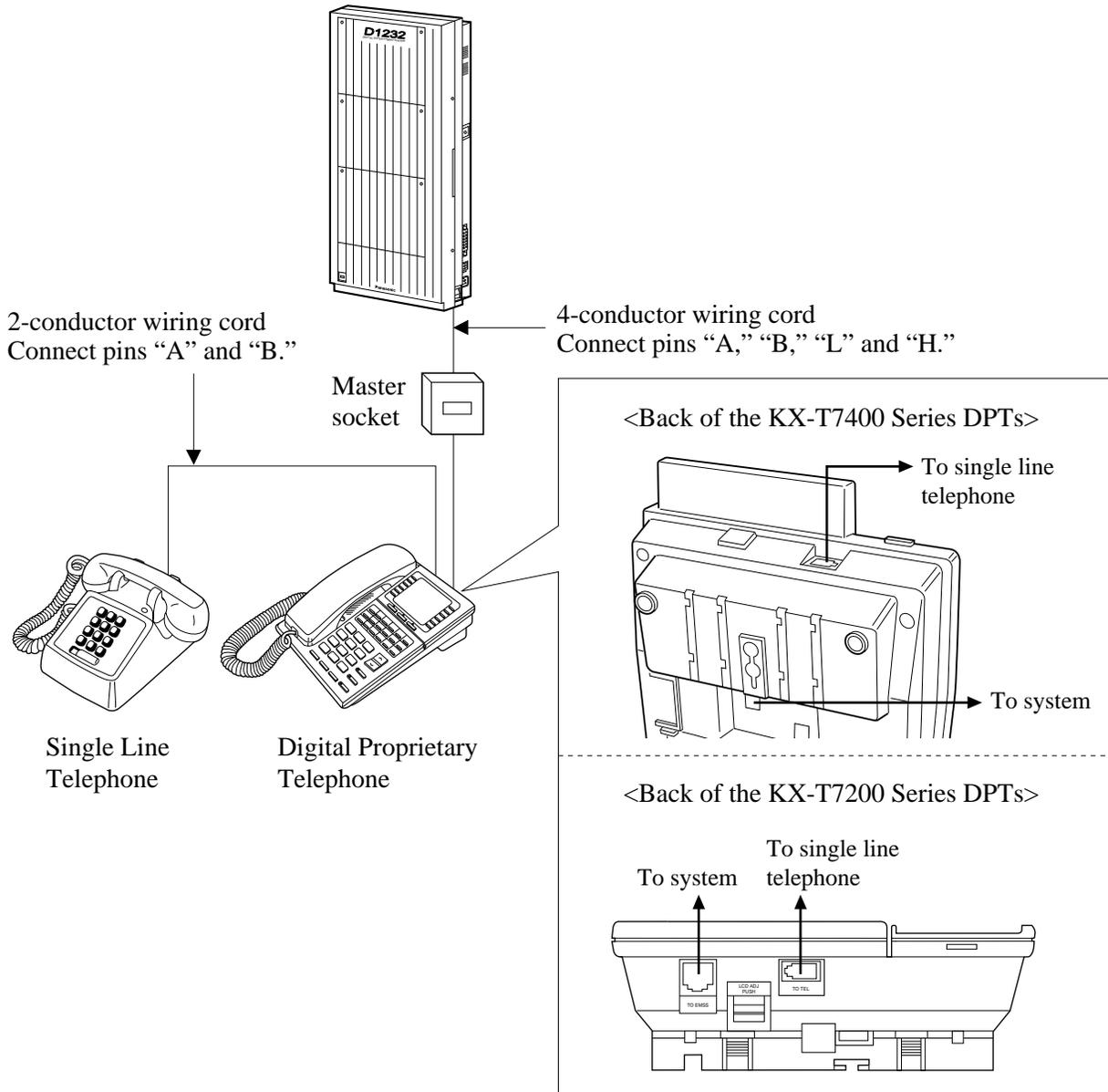


Note The KX-TD1232 is illustrated as a main unit.

2.3.3 Paralleled Telephone Connection

for a Proprietary Telephone and a Single Line Telephone

Method 2: for Digital Proprietary Telephone only



- Notes**
- Not only a single line telephone but a single line device such as an answering machine, a facsimile or a modem (personal computer) etc. can be connected in parallel with a digital proprietary telephone.
 - The KX-TD1232 is illustrated as a main unit.

Feature References

Section 3, Features,
Paralleled Telephone

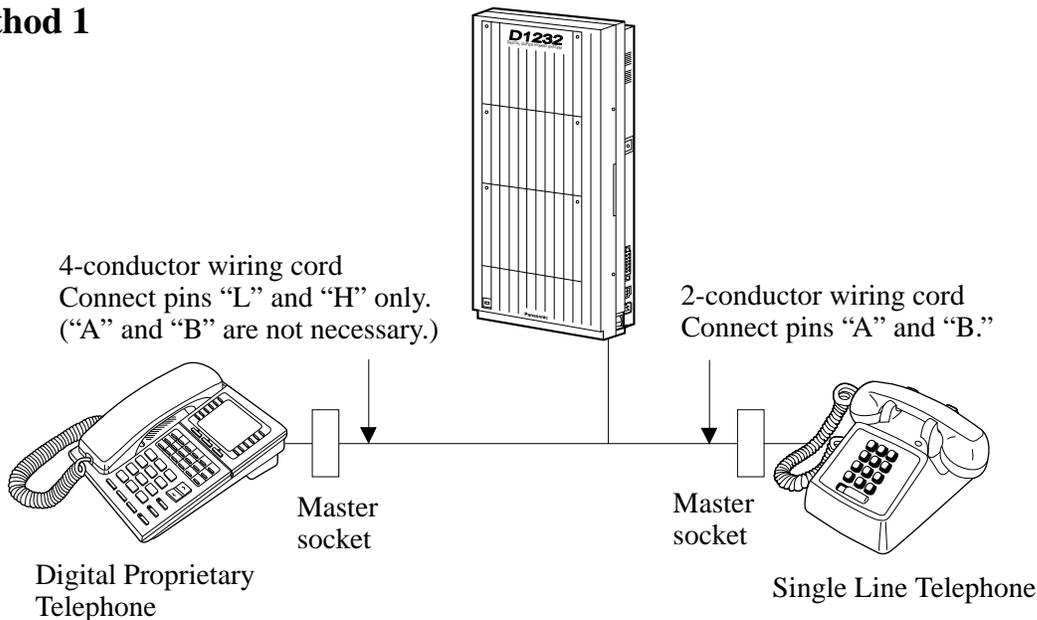
2.3.4 EXtra Device Port (XDP) Connection

for a Digital Proprietary Telephone and a Single Line Telephone

With the eXtra Device Port (XDP) connection, a digital proprietary telephone and a single line telephone can be connected to the same extension jack and have different extension numbers. System programming is required.

A single line telephone and a digital proprietary telephone are connected to the main unit by 2-conductor and 4-conductor wiring cords.

Method 1



Note The KX-TD1232 is illustrated as a main unit.

Method 2

Section 2.3.3 "Paralleled Telephone Connection, Method 2: for Digital Proprietary Telephone only" is also available for XDP connection.

Programming References

Section 4, System Programming,
[600] EXtra Device Port

Feature References

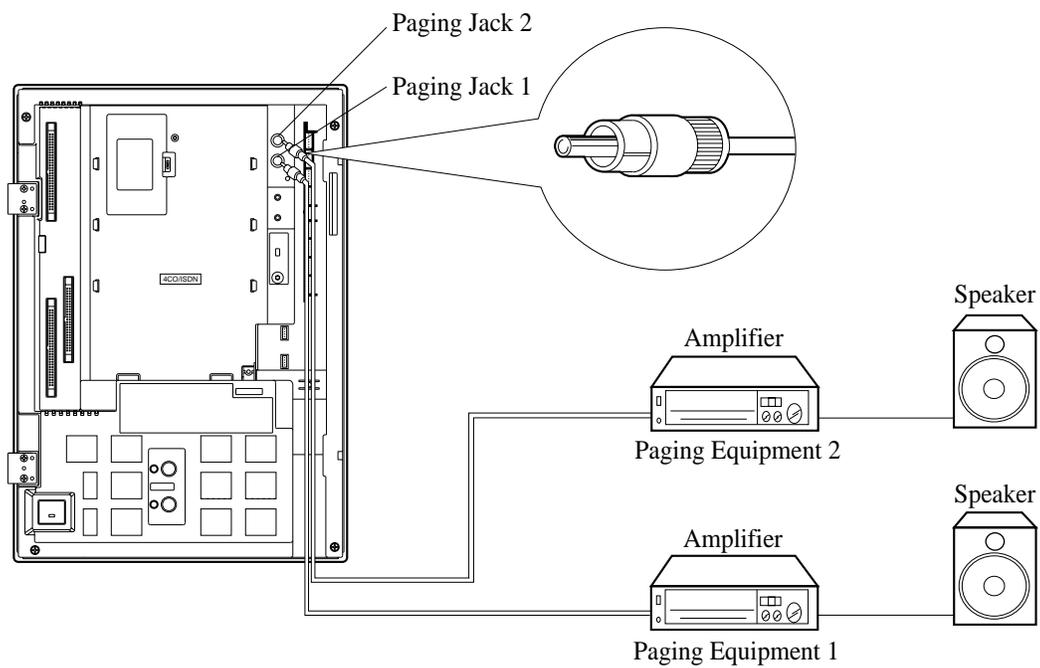
Section 3, Features,
EXtra Device Port (XDP)

2.3.5 External Pager Connection

A maximum of two user-supplied external pagers can be connected per system. You can program the external pager that will send background music and determine whether both pagers will generate a confirmation tone. Use an RCA connector and shielded cable. To adjust the sound level of the pagers, use the volume control on the amplifiers.

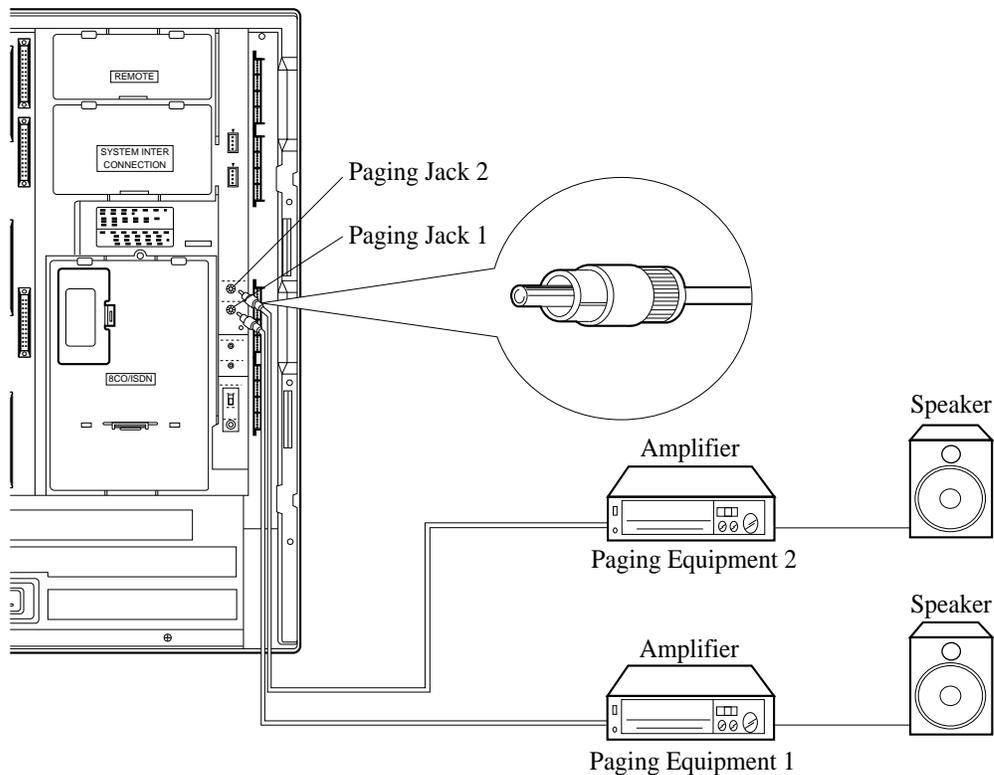
- Output impedance: 600 Ω

KX-TD816



2.3.5 External Pager Connection

KX-TD1232



Programming References

Section 4, System Programming,
[804] External Pager BGM
[805] External Pager Confirmation Tone

Feature References

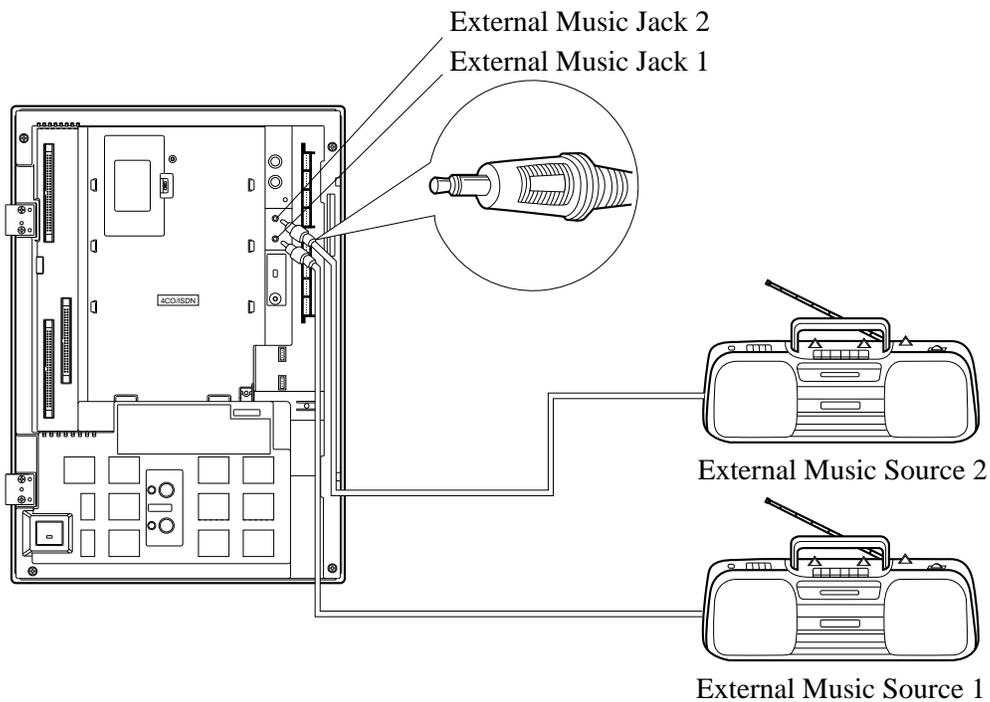
Section 3, Features,
Background Music (BGM) – External Paging – External
Paging – All
Trunk (CO Line) Answer From Any Station (TAFAS)

2.3.6 External Music Source Connection

A maximum of two music sources can be connected per system. Use a two-conductor plug (3.5 mm in diameter). Insert the plug to the earphone / headphone jack on the external music source. System programming is required for the Music on Hold and Background Music features. To adjust the sound level of the Music on Hold, use the volume control on the external music source.

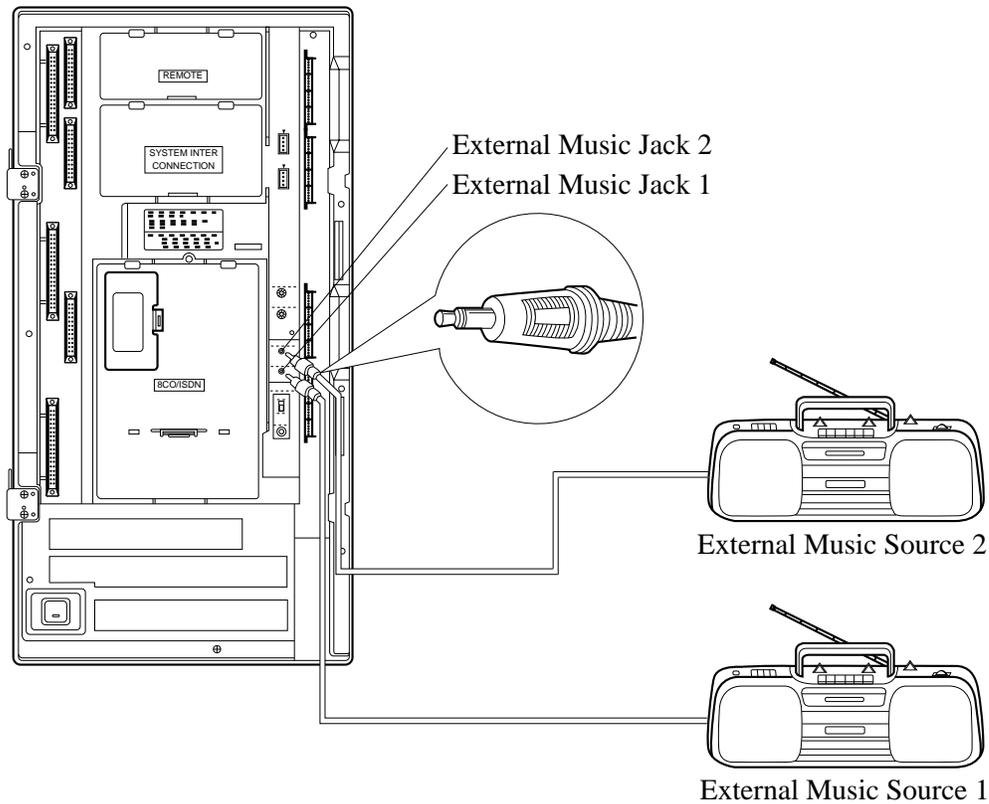
- Input impedance: 8 k Ω

KX-TD816



2.3.6 External Music Source Connection

KX-TD1232



Programming References

Section 4, System Programming,
[803] Music Source Use
[990] System Additional Information, Field (20)

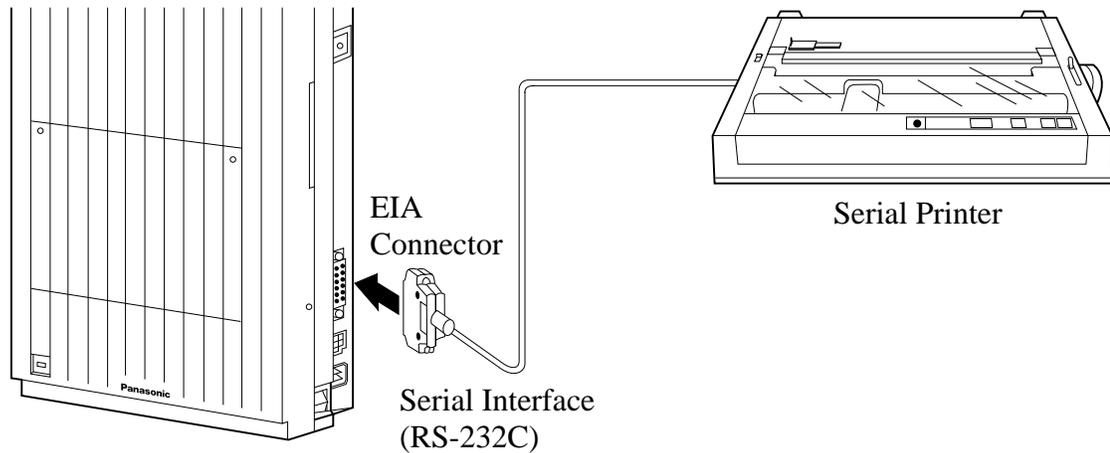
Feature References

Section 3, Features,
Background Music (BGM) Background Music (BGM) – External
Music on Hold

2.3.7 Printer Connection

A user-supplied printer can be connected to the EIA (RS-232C) connector (25-pin) on the main unit. The printer is used to print out SMDR call records and system programming data.

Connect the EIA (RS-232C) printer connector to the EIA connector. Cables must be shielded; the maximum length is 2 m.



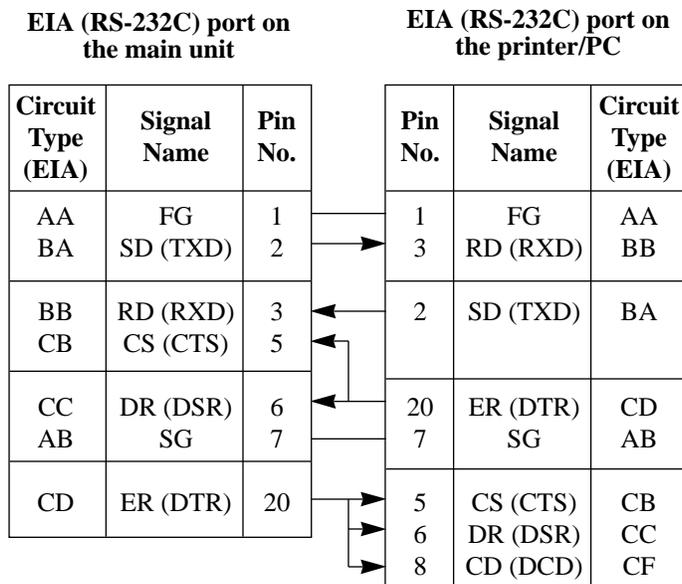
Note The KX-TD1232 is illustrated as a main unit.

The pin configuration of EIA (RS-232C) connector is as follows:

Pin No.	Signal Name		Circuit Type	
			EIA	CCITT
1	FG	Frame Ground	AA	101
2	SD (TXD)	Transmitted Data	BA	103
3	RD (RXD)	Received Data	BB	104
4	RS (RTS)	Request To Send	CA	105
5	CS (CTS)	Clear To Send	CB	106
6	DR (DSR)	Data Set Ready	CC	107
7	SG	Signal Ground	AB	102
8	CD (DCD)	Data Carrier Detect	CF	109
20	ER (DTR)	Data Terminal Ready	CD	108.2

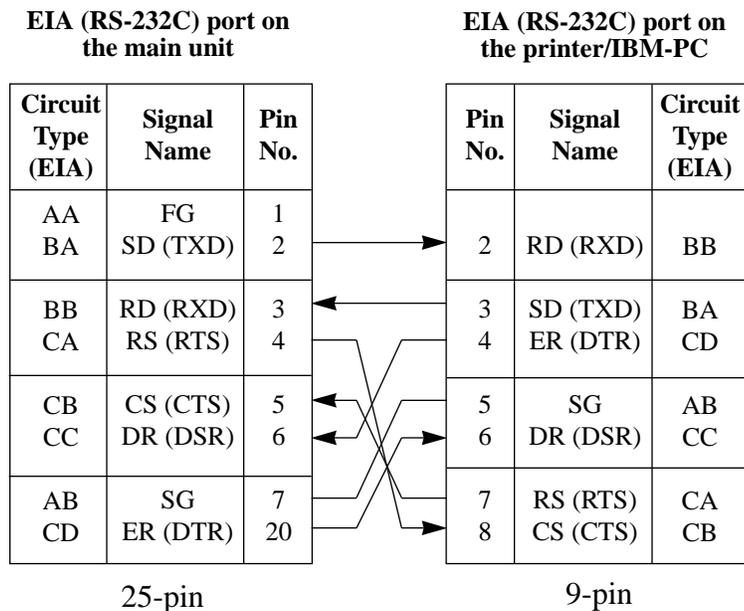
2.3.7 Printer Connection

Printer / Personal Computer (25-pin) Connection Chart



Printer / IBM Personal Computer (9-pin) Connection Chart

If you connect an IBM-PC or printer with 9-pin EIA (RS-232C) connector to your system, see the chart below.



Note Please read your printer manual and connect the first EIA pin (FG) of this unit to the printer cable.

2.3.7 Printer Connection

EIA (RS-232C) Signals

Frame Ground: FG

Connects to the unit frame and the earth ground conductor of the AC power cord.

Transmitted Data: SD (TXD)(output)

Conveys signals from the unit to the printer. A “Mark” condition is held unless data or break signals are being transmitted.

Received Data: RD (RXD)(input)

Conveys signals from the printer.

Request to Send: RS (RTS)(output)

This lead is held ‘ON’ whenever DR (DSR) is ‘ON.’

Clear To Send: CS (CTS)(input)

An ‘ON’ condition of the CS (CTS) circuit indicates that the printer is ready to receive data from the unit. The unit does not attempt to transfer data or receive data when the CS (CTS) circuit is ‘OFF.’

Data Set Ready: DR (DSR)(input)

An ‘ON’ condition of the DR (DSR) circuit indicates that the printer is ready. An ‘ON’ condition does not indicate that communication has been established with the printer.

Signal Ground: SG

Connects to the DC ground of the unit for all interface signals.

Data Terminal Ready: ER (DTR)(output)

This signal line is turned on by the unit to indicate that it is online. The ‘ON’ condition does not indicate that communication has been established with the printer. The signal line is switched ‘OFF’ when the unit is offline.

Data Carrier Detect: CD (DCD)(input)

The ON condition is an indication to data terminal (DTE) that the carrier signal is being received.

Programming References

Section 4, System Programming,

[800] SMDR Incoming / Outgoing Call Log Printout

[801] SMDR Format

[802] System Data Printout

[806]-[807] EIA (RS-232C) Parameters – Port 1 / Port 2

Feature References

Section 3, Features,

Station Message Detail Recording (SMDR)

System Programming and Diagnosis with Personal Computer

2.4 Optional Cards and Units Installation

2.4.1 Location of Optional Cards and Units

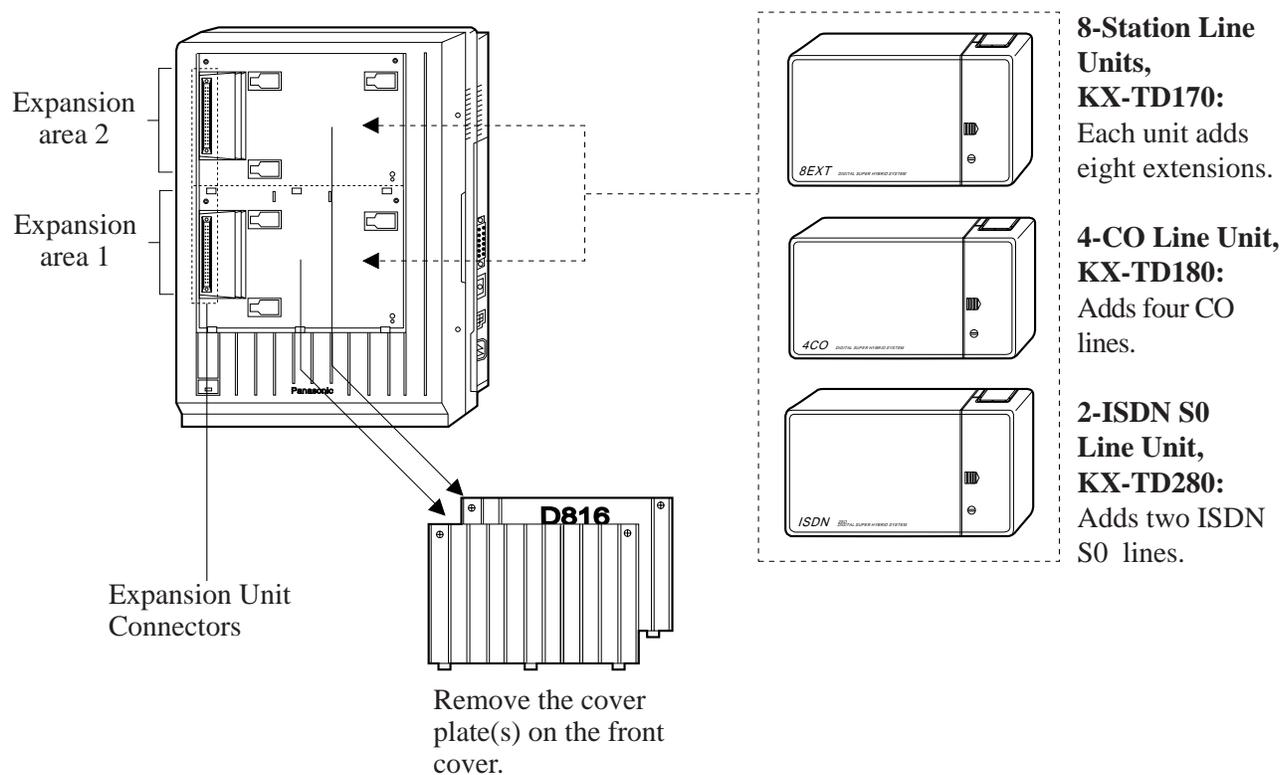
Precaution

The location of the optional cards and units is shown below.
To protect the printed circuit boards (P-boards) from static electricity, do not touch parts on the P-boards in the main unit and on the optional cards and units.

Expansion Units

KX-TD816

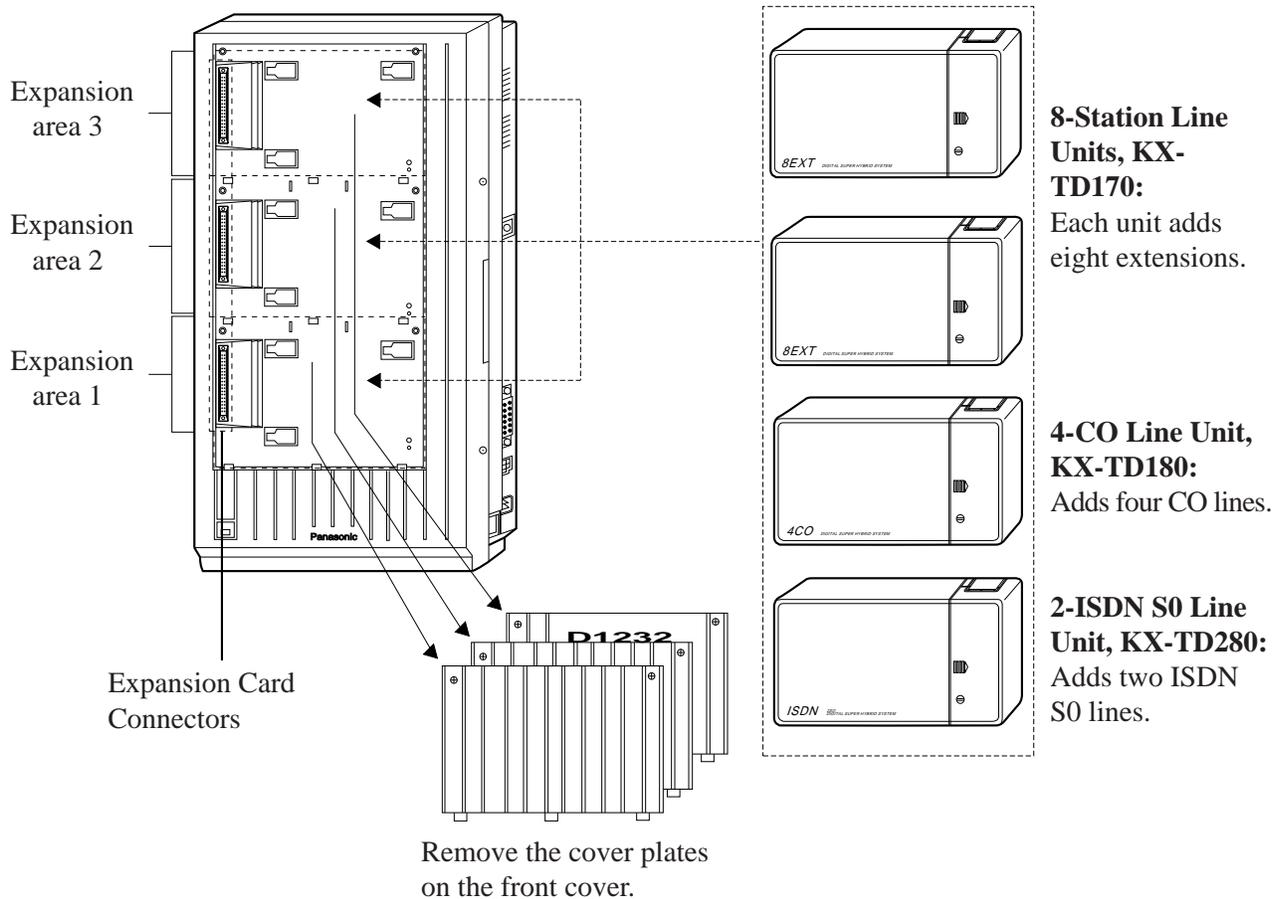
Either 4-CO Line Unit (KX-TD180) or 2-ISDN S0 Line Unit (KX-TD280) and a 8-Station Line Unit (KX-TD170) can be installed in any expansion area.



2.4.1 Location of Optional Cards and Units

KX-TD1232

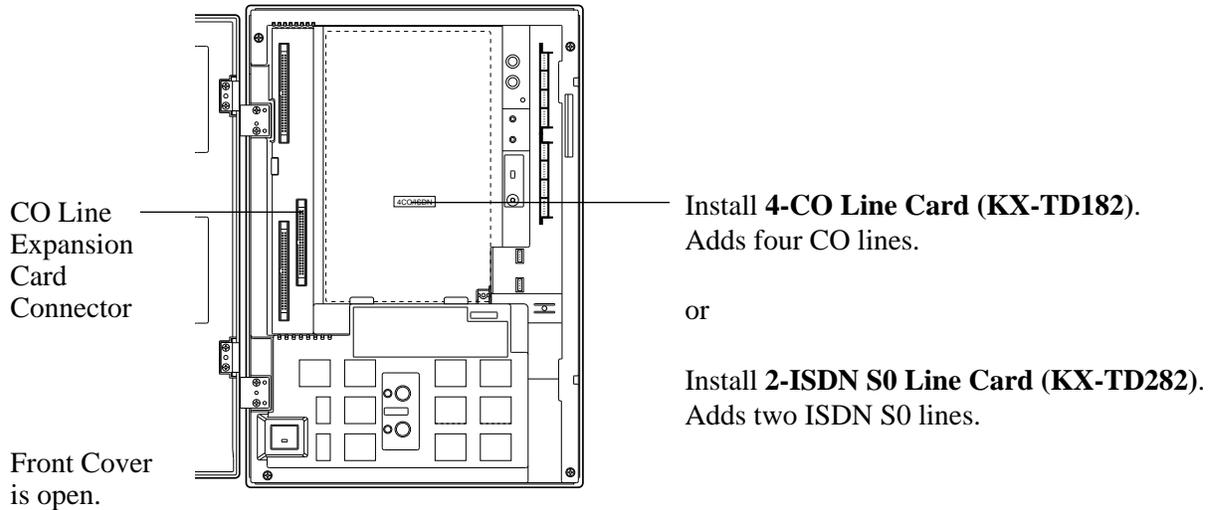
Either 4-CO Line Unit (KX-TD180) or 2-ISDN S0 Line Unit (KX-TD280) and a maximum of two 8-Station Line Units (KX-TD170) can be installed in any expansion area.



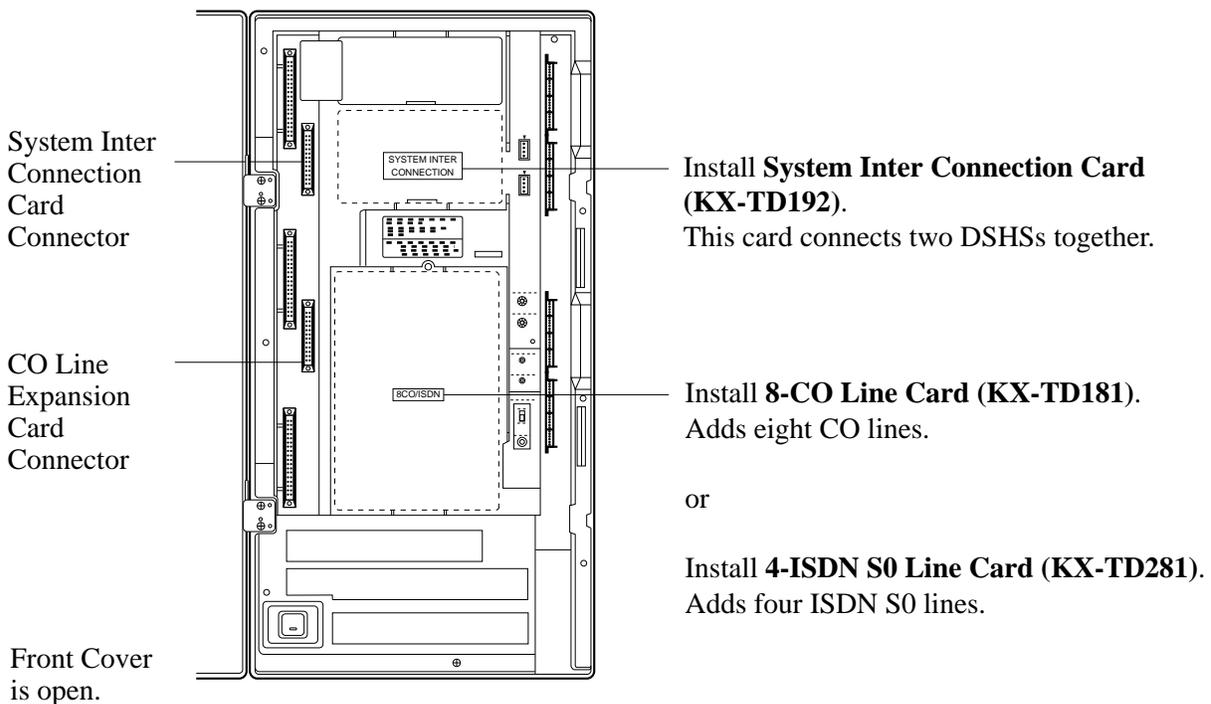
Note System programming is required for unit location identification. Refer to Section 4.3 [109] "Expansion Card / Unit Type."

2.4.1 Location of Optional Cards and Units

4-CO Line Card / 2-ISDN S0 Line Card for KX-TD816



System Inter Connection Card / 8-CO Line Card / 4-ISDN S0 Line Card for KX-TD1232



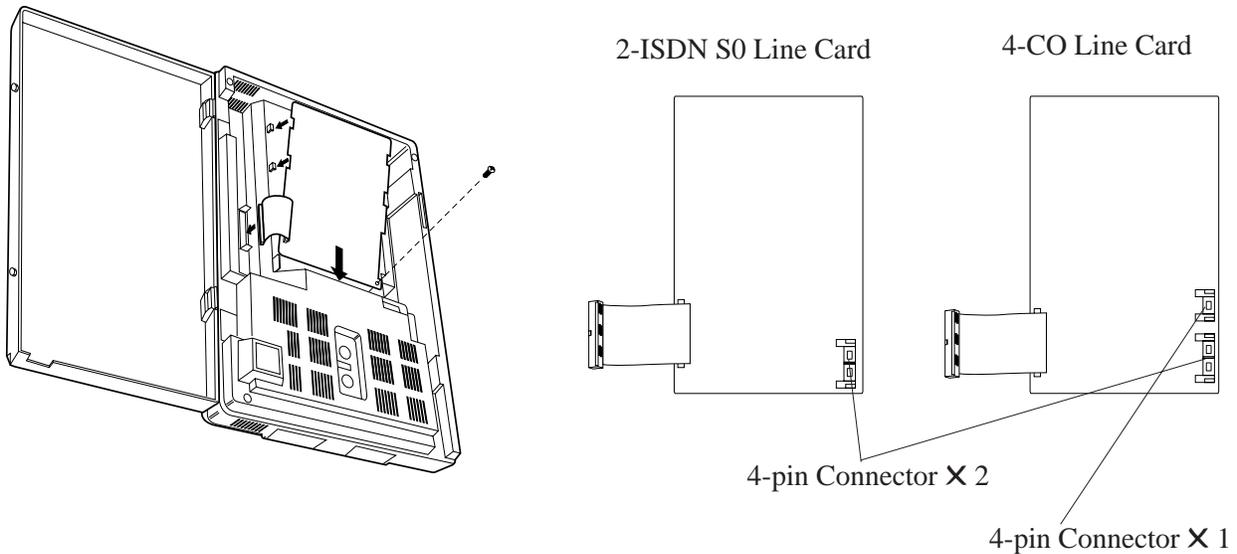
2.4.2 CO Line Connection (Optional Card)

Card Installation for KX-TD816

To connect CO 1 through CO 4, install the optional 4-CO Line Card (KX-TD182).

To connect two ISDN S0 lines (CO 1 through CO 4), install the optional 2-ISDN S0 Line Card (KX-TD282).

1. Insert the upper end of the 4-CO Line Card or 2-ISDN S0 Line Card into the two hooks on the main unit.
2. Press the two corners at the lower end of the Card.
3. Fix the card with an accessory screw at the lower-right corner.
4. Connect the cord to the connector.



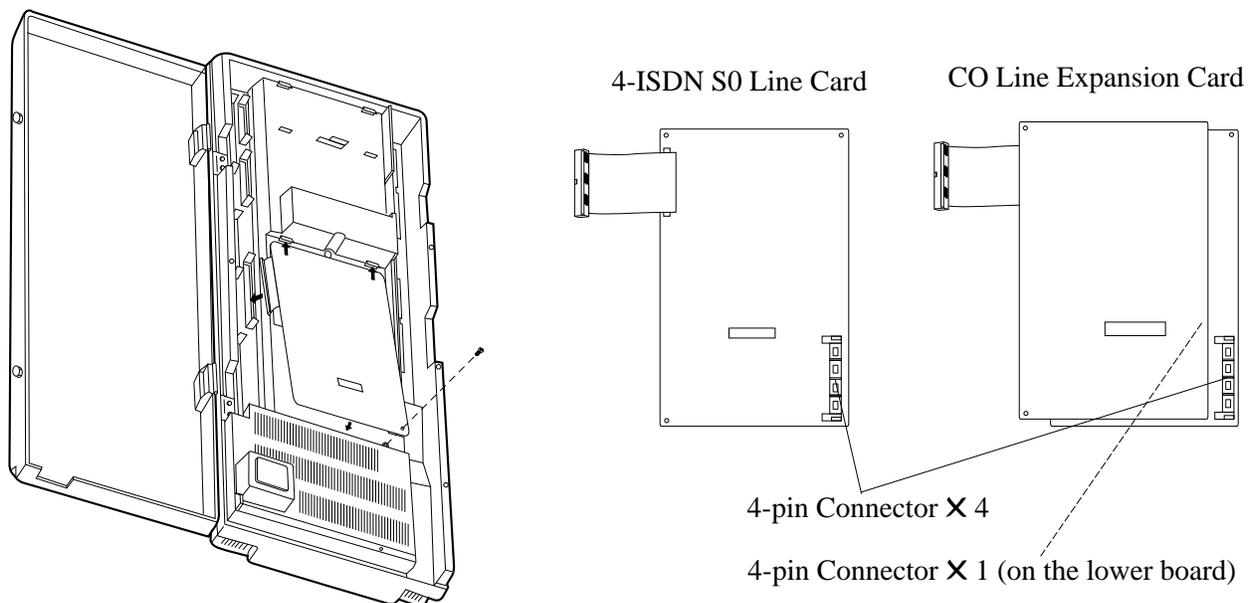
2.4.2 CO Line Connection (Optional Card)

Card Installation for KX-TD1232

To connect CO 1 through CO 8, install the optional 8-CO Line Card (KX-TD181).

To connect four ISDN S0 lines (CO 1 through CO 8), install the optional 4-ISDN S0 Line Card (KX-TD281).

1. Insert the upper end of the 8-CO Line Card or 4-ISDN S0 Line Card into the two hooks on the main unit.
2. Press the two corners at the lower end of the Card.
3. Fix the card with an accessory screw at the lower-right corner.
4. Connect the cord to the connector.



Wire Specifications

In making a CO line connection, use twisted pair cable for installation. The wire specifications for CO lines are as follows:

Wire	Solid wire
Diameter of conductor	ø 0.4 – ø 0.65 mm
Diameter including coating	ø 0.66 – ø 1.05 mm

- Notes**
- In case of starting the system for the first time or System Data Clear, the application for location will adapt the practical installation instead of system default setting.
 - System Programming is required for location identification. Refer to Section 4, [109] “Expansion Card / Unit Type.”
Default: CO Line Expansion Unit

2.4.2 CO Line Connection (Optional Card)

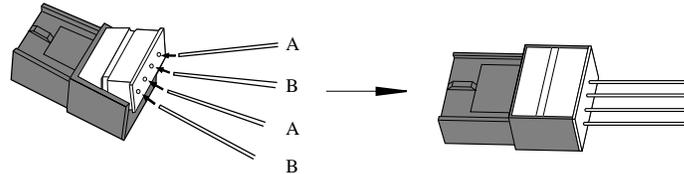
8-CO Line Connection with KX-TD181 / 4-CO Line Connection with KX-TD182

Use 4-pin plugs (included) to connect CO lines. There are two plugs to connect four CO lines for KX-TD1816, and four plugs to connect eight CO lines for KX-TD1232. A single plug is able to connect two CO lines. Mis-connection may cause the system to operate improperly. See Section 6.1.2 “Connection” before connection.

1. Insert required telephone wires into the holes in a plug.
Fix the transparent part into the black part.

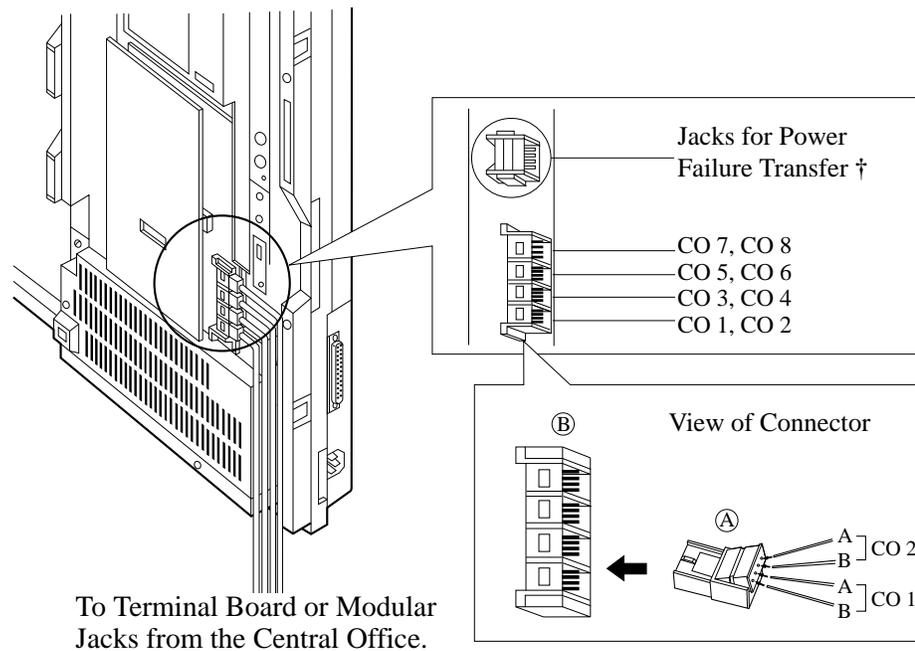
Note: Do not strip the wires. Insert the wires all the way into the plug.

4-pin plug



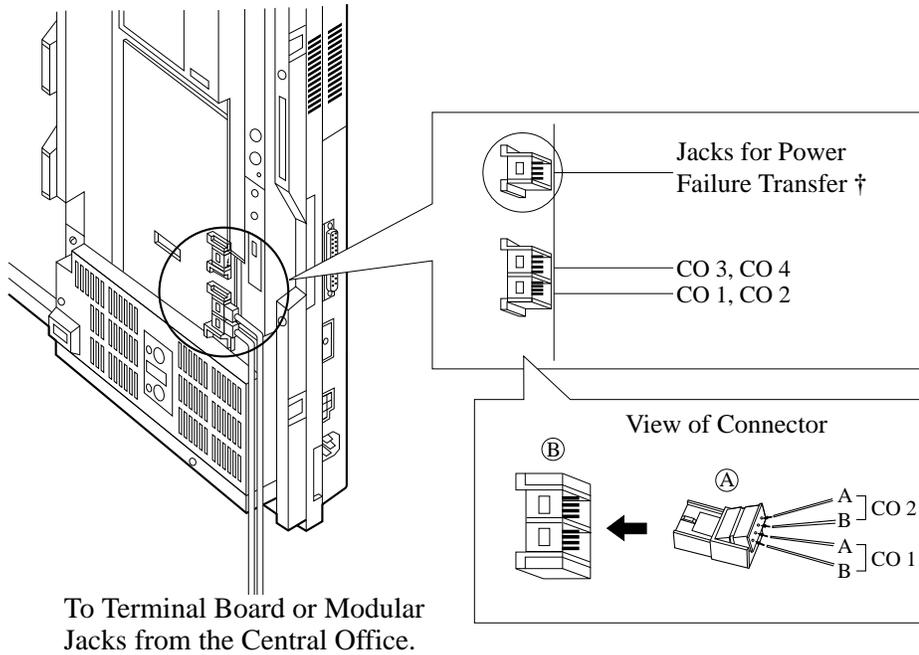
2. Insert the plug (A) into a CO jack (B) on the card.

KX-TD181



2.4.2 CO Line Connection (Optional Card)

KX-TD182



† For details, refer to Section 2.5 “Auxiliary Connection for Power Failure Transfer.”

Note: If connection is made using a TJF (Test Jack Frame), ensure the maximum cable length between the TJF and the point on entry into the CO card is less than 30 m (minimum distance 0 m).

2.4.2 CO Line Connection (Optional Card)

4-ISDN S0 Line Connection with KX-TD281 / 2-ISDN S0 Line Connection with KX-TD282

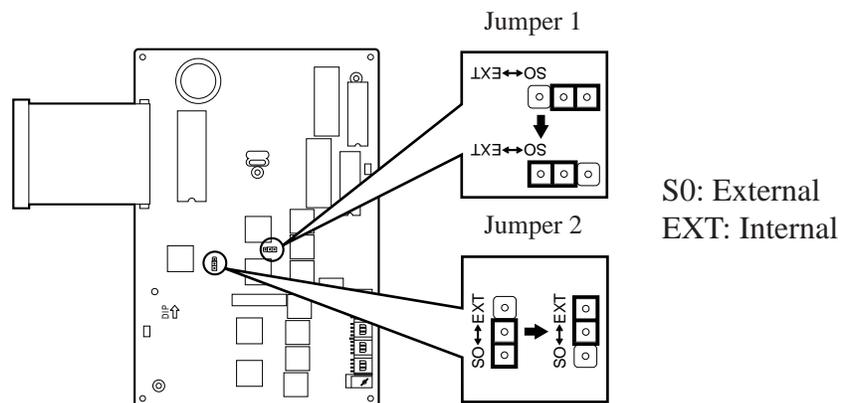
Use 4-pin plugs (included) to connect ISDN S0 lines. There are two plugs to connect two ISDN S0 lines for KX-TD816, and four plugs to connect four ISDN S0 lines for KX-TD1232. A single plug is able to connect one ISDN S0 line. Mis-connection may cause the system to operate improperly. See Section 6.1.2 “Connection” before connection.

Preparation

For KX-TD281 only

(Not necessary for KX-TD282.)

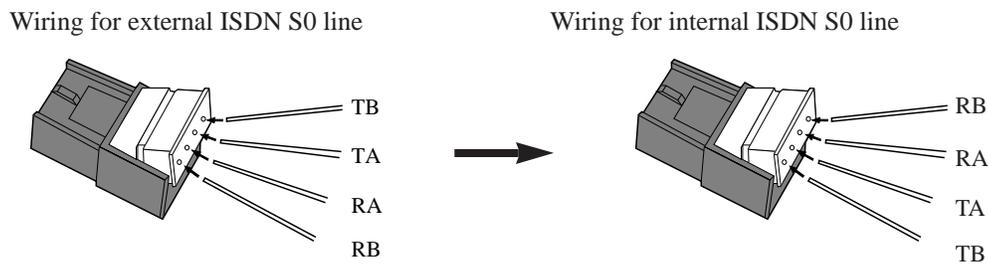
1. Take the appropriate jumper cover out of the first and second pins from the left on the jumper of the P-board (“S0” side).
Jumper 1 for Port number 03 Jumper 2 for Port number 04
2. Cover the jumper cover on the first and second pins from the right on the jumper of the P-board (“EXT” side).



Connection

Use 4-pin plugs (included) to connect ISDN S0 lines. A single plug is able to connect one ISDN S0 line. Mis-connection may cause the system to operate improperly.

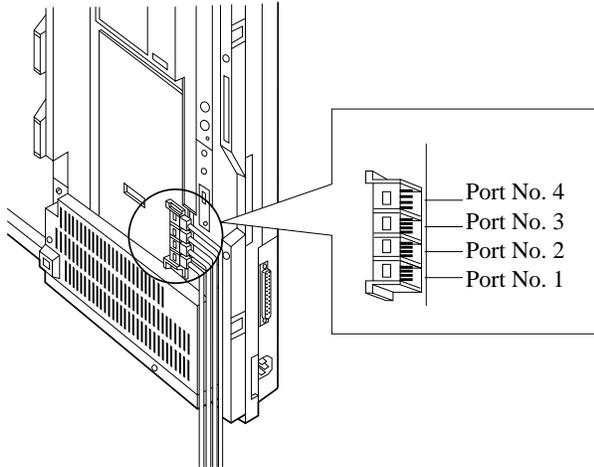
1. Re-arrange telephone wires in reverse order of the plug.



2.4.2 CO Line Connection (Optional Card)

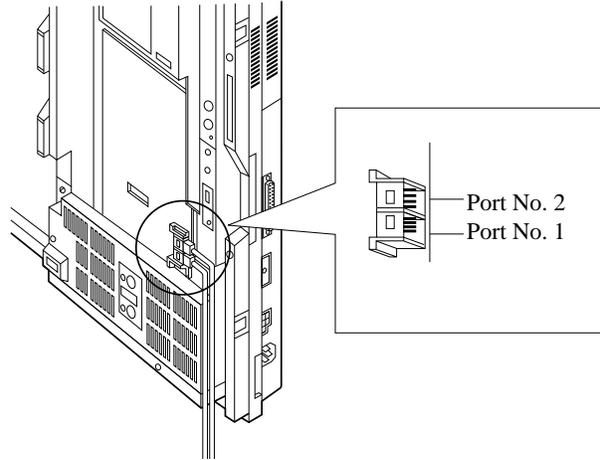
2. Insert the plug into an ISDN port on the card.

KX-TD281



To Terminal Board or Modular
Jacks from the Central Office.

KX-TD282



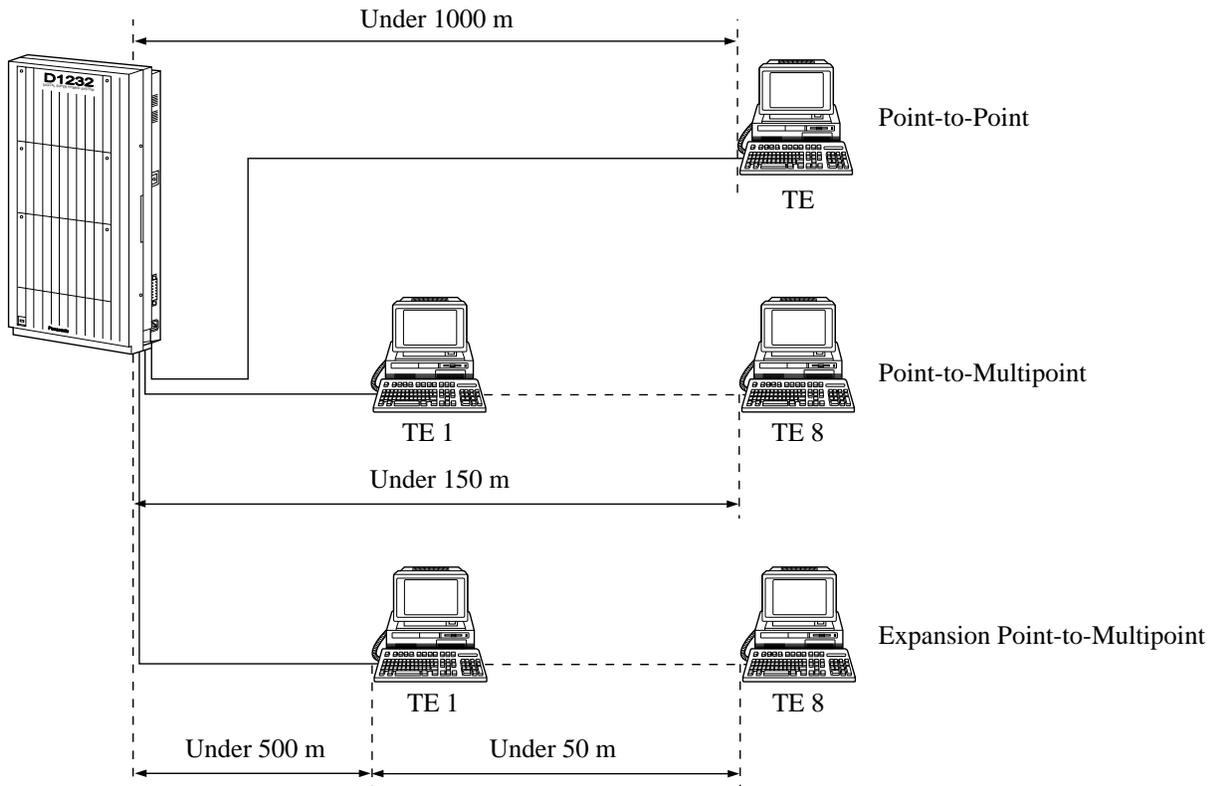
To Terminal Board or Modular
Jacks from the Central Office.

Note: If connection is made using a TJF (Test Jack Frame), ensure the maximum cable length between the TJF and the point on entry into the CO card is less than 30 m (minimum distance 0 m).

2.4.2 CO Line Connection (Optional Card)

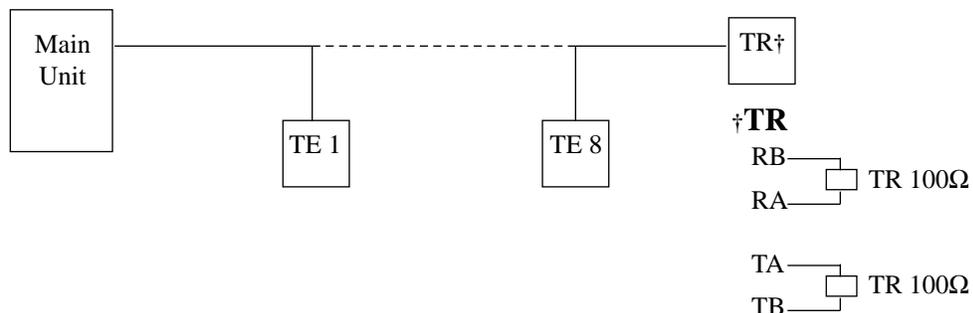
Maximum cabling distance of S0 bus connection

The maximum length of the extension line cord that connects the main unit and the ISDN terminal equipment (TE) is shown below:



Wiring with Terminating Resistors (TR)

The ISDN S0 bus should be terminated with two 100Ω terminating resistors (TR).



Power Supply for ISDN Terminal Equipment (TE)

The system does not provide a power supply to terminal equipment (TE). Depending on the type of TE's, the external power supply is required on ISDN S0 line to operate.

2.4.3 Lightning Protector Installation

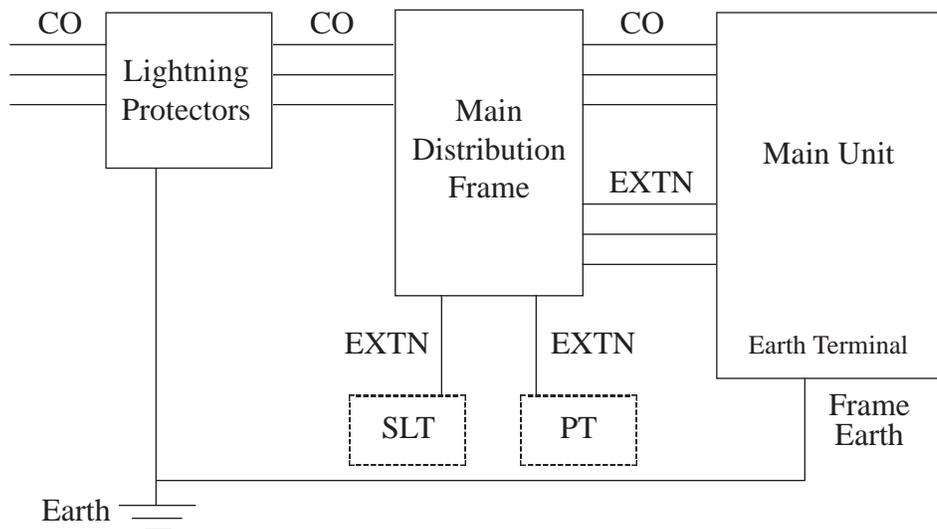
A lightning protector is a device to be installed on a CO line to prevent a dangerous surge from entering the building and damaging equipment.

A dangerous surge can occur if a telephone line comes in contact with a power line. Troubles due to lightning surges have been showing a steady increase with the development of electronic equipment.

In many countries, there are regulations requiring the installation of a lightning protector. A lightning strike to a telephone cable which is 10 m above ground can be as high as 200,000 volts.

This system should be installed with lightning protectors. In addition, connection to earth ground is very important for the protection of the system.

Installation Diagram

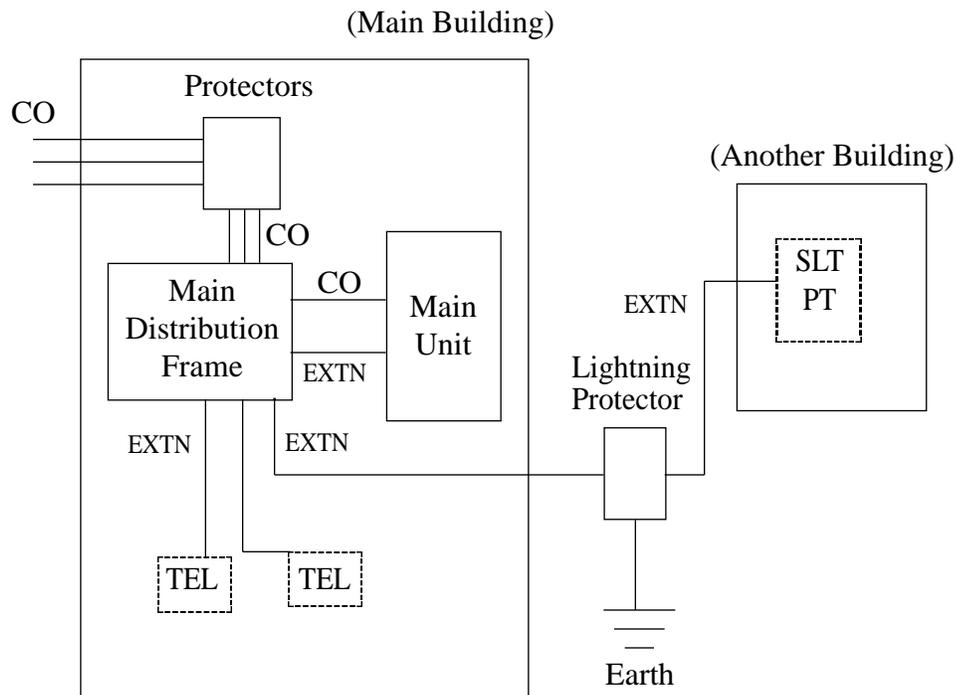


2.4.3 Lightning Protector Installation

Outside Installation Diagram

If you install an extension outside of the main building, the following precautions are recommended:

- (1) Install the extension wire underground.
- (2) Use a conduit to protect the wire.

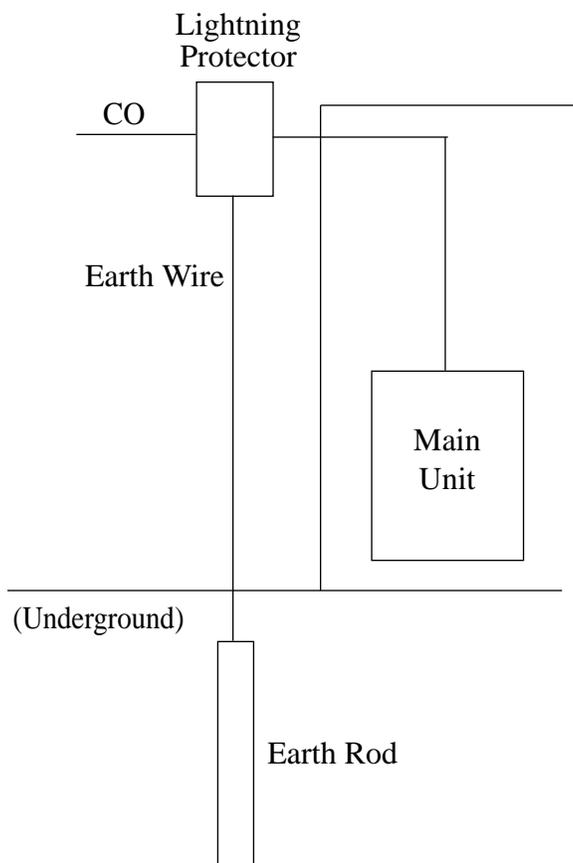


Note The lightning protector for an extension is different from that for CO.

2.4.3 Lightning Protector Installation

Earth Rod Installation Diagram

The length of earth rod and the required depth depend on the composition of the soil. Consider the following recommendations:



- 1) Installation location of the earth rodNear the protector
- 2) Check obstructions.....None
- 3) Composition of the earth rodMetal
- 4) Depth of the earth rodMore than 50 cm
- 5) Size of the earth wireThickness is more than 1.6 mm

2.4 **Optional Cards and Units Installation**

2.4.4 **CO Line Connection (Optional Unit)**

To add four CO lines (KX-TD816: CO 5 through CO 8, KX-TD1232: CO 9 through CO 12), use the optional 4-CO Line Unit (KX-TD180). To add two ISDN S0 lines, use the optional 2-ISDN S0 Line Unit (KX-TD280). One of these units can be installed in any of the two/three expansion areas provided on the front of the main unit.

For Unit Installation, see Section 2.4.6 “Installing Expansion Unit (KX-TD170/KX-TD180/KX-TD280).”

2.4.5 **Extension Connection (Optional Unit)**

To add eight extensions (KX-TD816: jacks 9 through 16, KX-TD1232: jacks 17 through 24), use the optional 8-Station Line Unit (KX-TD170).

To add 16 extensions (jacks 17 through 32)*, use two 8-Station Line Units.

This unit can be installed in any of the two/three expansion areas provided on the front of the main unit.

For Unit Installation, see Section 2.4.6 “Installing Expansion Unit (KX-TD170/KX-TD180/KX-TD280).”

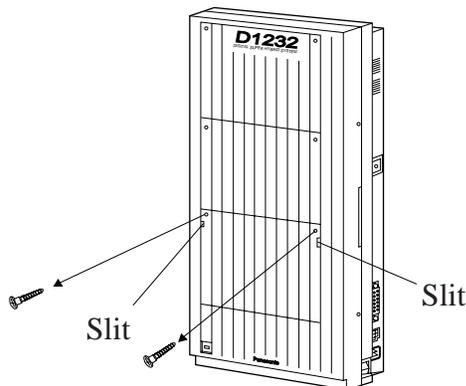
2.4.6 Installing Expansion Unit (KX-TD170 / KX-TD180 / KX-TD280)

The following procedures can be used to install either 8-Station Line Unit (KX-TD170), 4-CO Line Unit (KX-TD180) or 2-ISDN S0 Line Unit (KX-TD280). There are two expansion areas for KX-TD816 and three expansion areas for KX-TD1232. System programming is required for unit location identification.

Default KX-TD816: bottom = 4-CO Line Unit,
top = 8-Station Line Unit
KX-TD1232: bottom = 4-CO Line Unit,
middle and top = 8-Station Line Unit

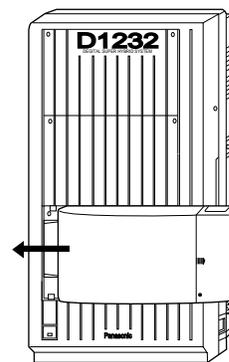
Note The KX-TD1232 is illustrated as a main unit.

1. Loosen the two the screws on the cover plate. Insert fingers into the slits to remove the cover plate.

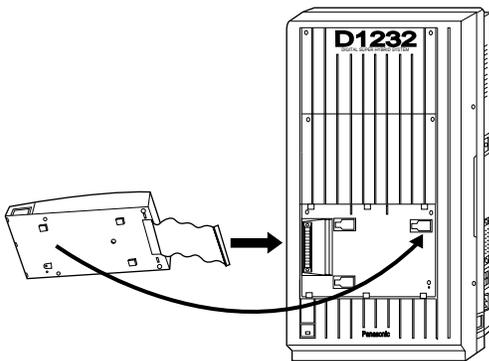


Note Any of the cover plates can be removed, as needed.

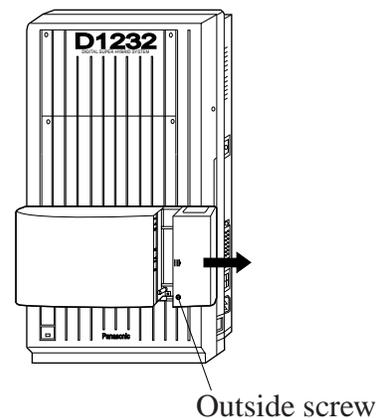
3. Hook the cabinet to the main unit and slide the cabinet to the left until it is fixed.



2. Connect the cabinet cord to the connector in the main unit firmly.

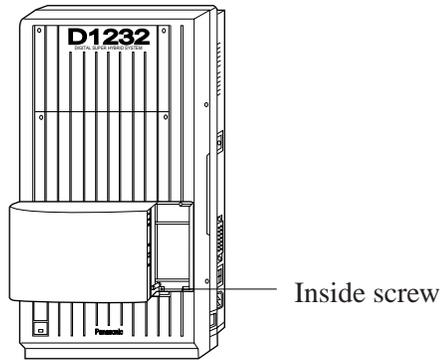


4. Loosen the outside screw and slide the cover to the right.



2.4.6 Installing Expansion Unit (KX-TD170 / KX-TD180 / KX-TD280)

- Secure the inside screw (included in the card) to fix the cabinet to the main unit.



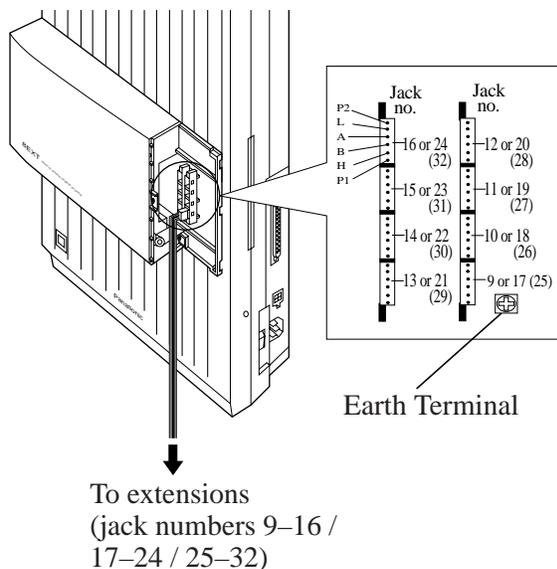
Note Be sure to fix the inside screw to the main unit, or the unit may not work properly.

- Prepare the required plugs. Two 4-pin plugs are included in 4-CO Line Unit or 2-ISDN S0 Line Unit to connect four CO lines or two ISDN S0 lines. Eight 6-pin plugs are included in 8-Station Line Unit to connect eight extensions.
 - To prepare a 4-pin plug, perform step 1 on page 2-30 or 2-32.
 - To prepare a 6-pin plug, perform step 1 on page 2-10.

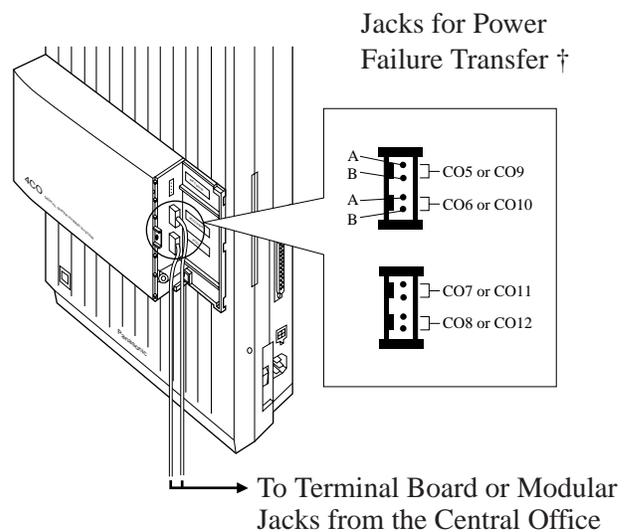
- Insert the plug into a jack on the unit.

Connect an earth wire to the earth terminal on the extension expansion unit in order to ground it.

KX-TD170



KX-TD180



† For details, refer to Section 2.5 “Auxiliary Connection for Power Failure Transfer.”

2.4.6

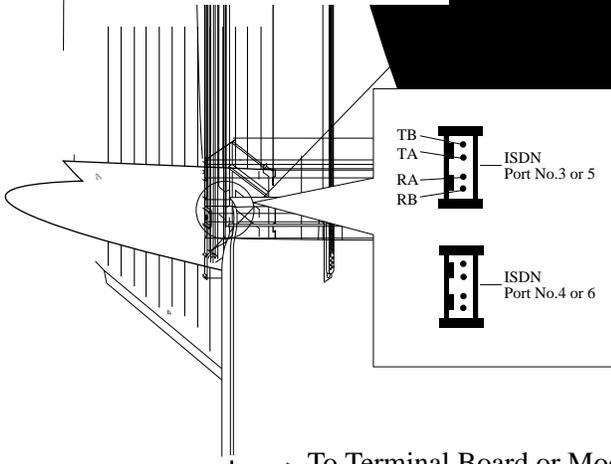
Ins

(KX

30)

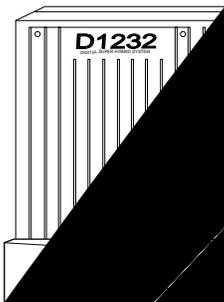
7. (Continued)

KX-TD280



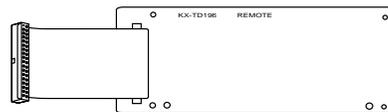
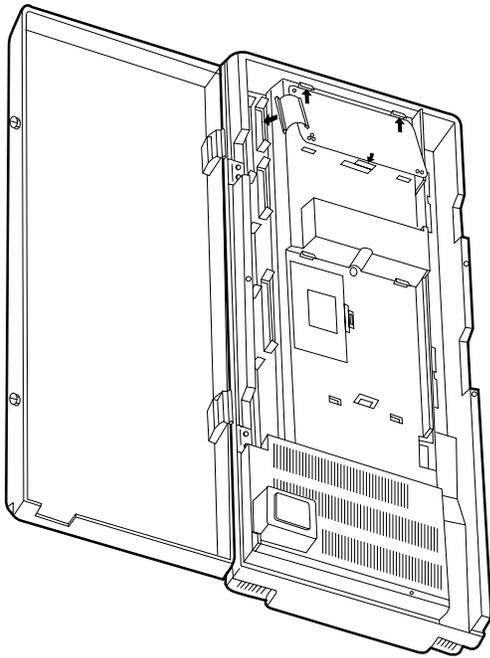
→ To Terminal Board or Modular Jacks from the Central Office

8. Tie up all the cords into a bundle. If other cords are coming from the upper cabinets, tie them, too.
9. Close the cabinet cover and secure the outside screw.
10. Cover the cords with the cover (included).



2.4.7 Remote Card Installation*

1. Insert the upper end of the Remote Card into the two hooks on the main unit.
2. Press the two corners at the lower end of the Remote Card.
3. Connect the cord to the Remote Card connector.



Remote Card

Programming References

Section 4, System Programming,
[107] System Password
[813] Floating Number Assignment
[814] Modem Standard

Feature References

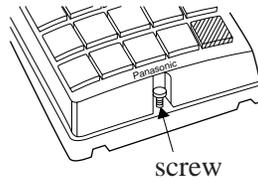
Section 3, Features,
System Programming and Diagnosis with Personal Computer

2.4.8 Doorphone and Door Opener Connection

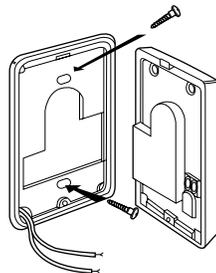
A maximum of two doorphones (KX-T30865) and two door openers is permitted.

Doorphone Installation

1. Loosen the screw to separate the doorphone into halves.



2. Attach the base cover to the wall with two screws.

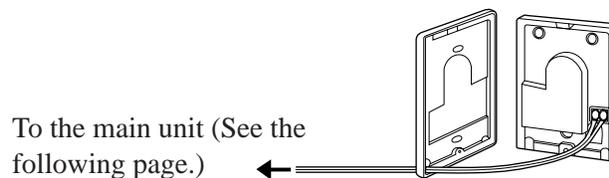


Note Two kinds of screws are included; choose the one that is appropriate for use depending on your wall type:

 Type 1: When the doorphone plate has been fixed to the wall.

 Type 2: When you wish to install the doorphone directly to the wall.

3. Connect the wires from the main unit to the screws located in the front cover.



4. Re-attach the halves and re-install the screw.

2.4.8 Doorphone and Door Opener Connection

Connection

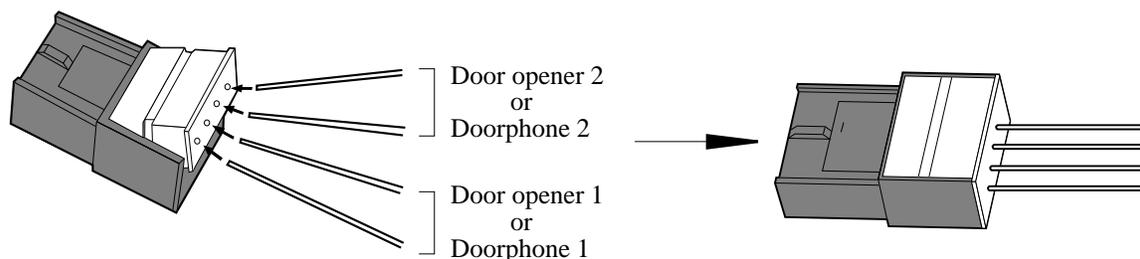
Use 4-pin plugs (included) to connect doorphone or door opener. A plug is able to connect up to two doorphones or door openers. 4-conductor wiring is required.

1. Insert required wires into the holes in a plug.

Fix the transparent part into the black part.

Note: Do not strip the wires. Insert the wires all the way into the plug.

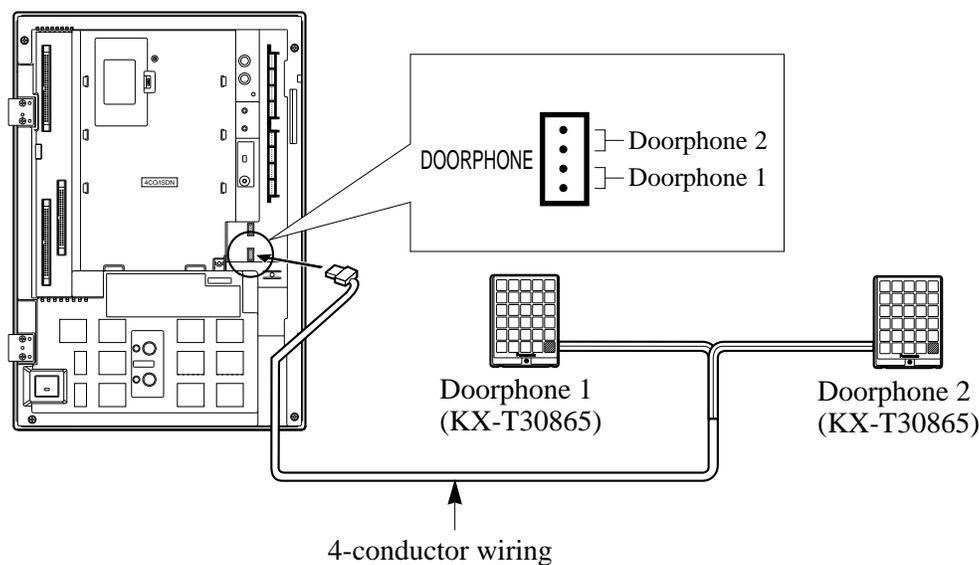
4-pin plug



2. Insert the plug into the connector in the main unit.
3. Connect the wires to the doorphone (1 or/and 2) or door opener (1 or/and 2).

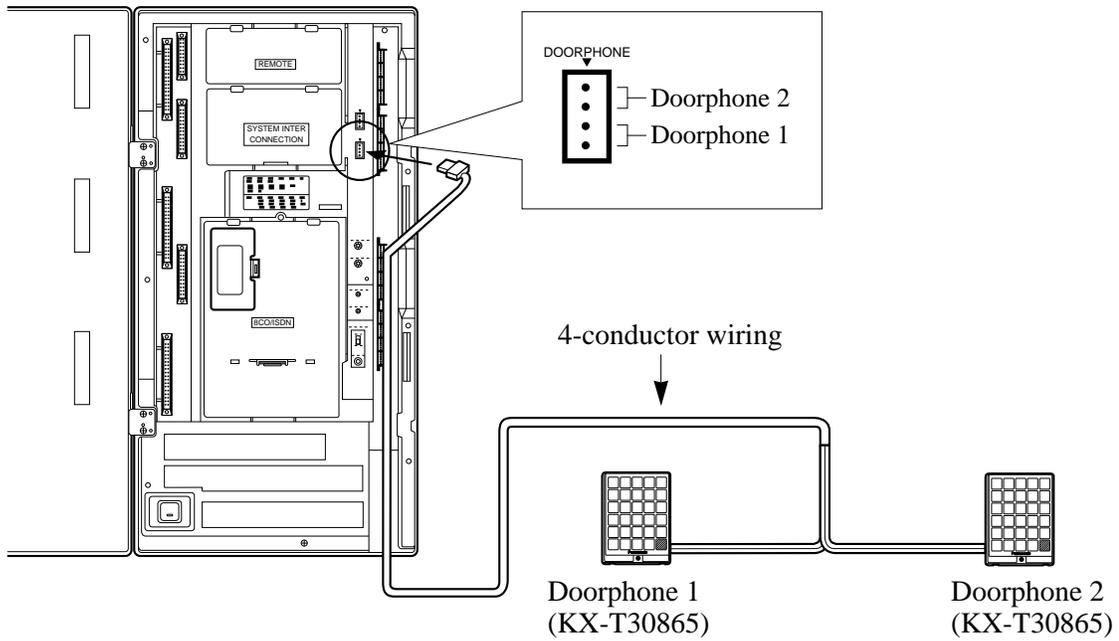
■ Doorphone

KX-TD816



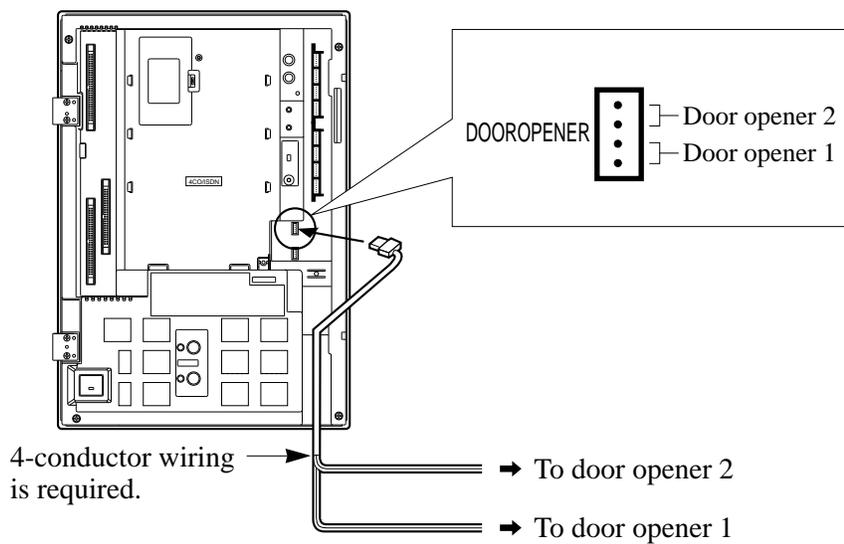
2.4.8 Doorphone and Door Opener Connection

KX-TD1232



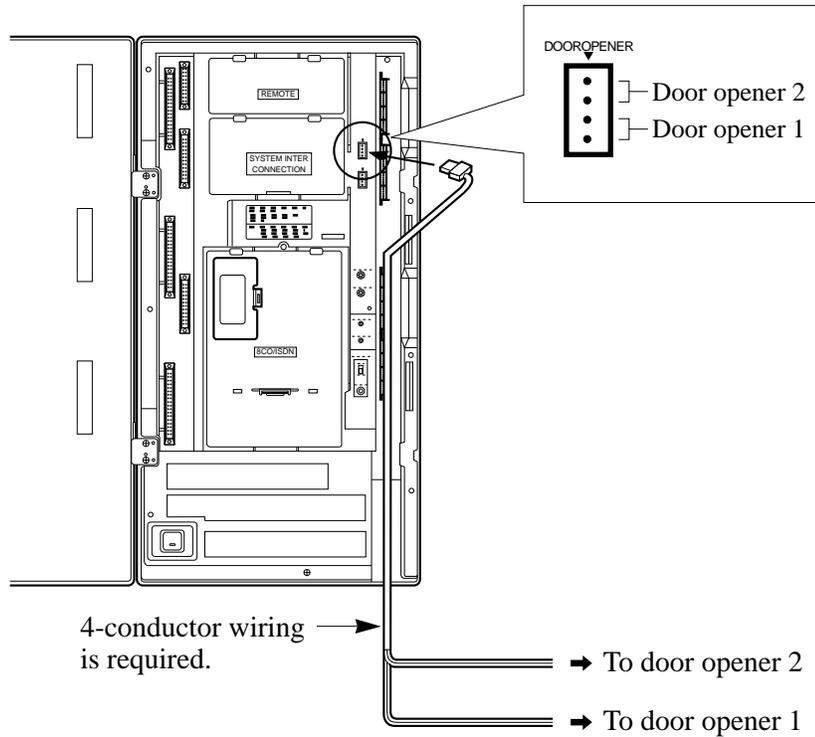
■ Door Opener

KX-TD816

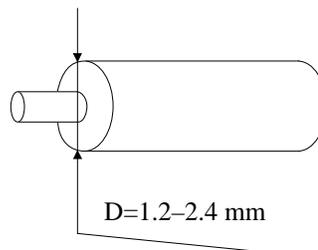


2.4.8 Doorphone and Door Opener Connection

KX-TD1232



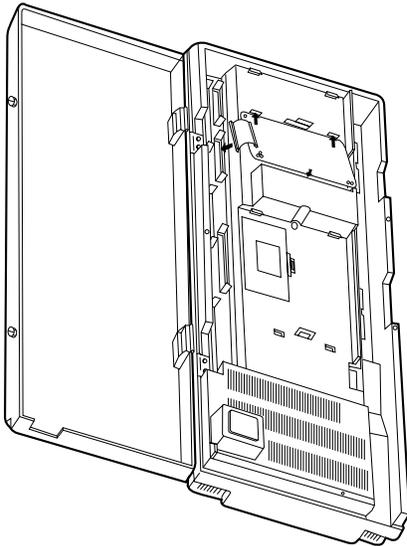
- Notes**
- For wiring, it is recommended to use UL 1015 twisted wire or the equivalent.
 - The wire should be between 1.2 and 2.4 mm in diameter including the coating.



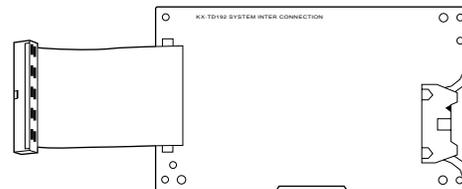
- Pair the door opener with the doorphone.

2.4.9 System Connection*

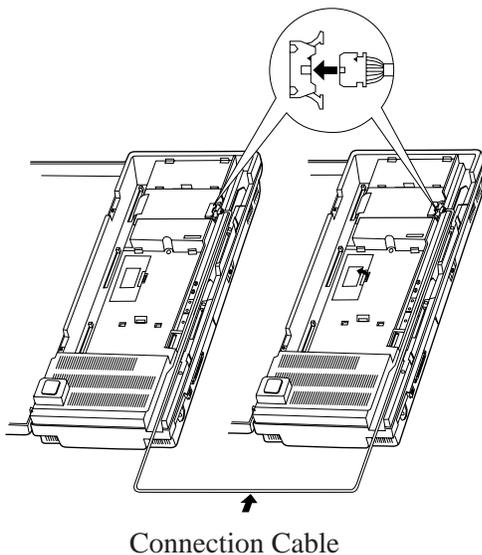
To connect two main units, use the optional System Inter Connection Cards (two) and the Connection Cable (included in the cards).



1. Insert the upper end of the System Inter Connection Card into the two hooks on the main unit of the Master System.
2. Press the two corners at the lower end of the System Inter Connection Card.
3. Connect the cord to the System Inter Connection Card connector.



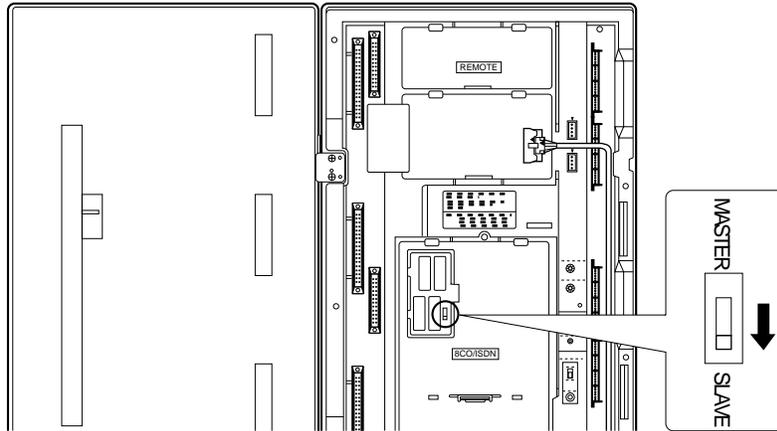
System Inter Connection Card



4. Open the latch on the card.
5. Repeat steps 1 through 4 for the Slave System, using the other card.
6. Insert one connection cable end to the Master System and insert the other end into the Slave System.
7. Close the latches on both systems.

2.4.9 System Connection*

8. Open the ROM Cover in the Slave System and set the Master/Slave switch on the CPU card to “Slave.”



9. Turn the power on.

- Notes**
- System Connection is completed about one minute later after the power is turned on.
 - To turn the power on for the first time, refer to Section 2.6 “Starting the System for the First Time.”
 - The master and slave must have the same version software. Otherwise, System Connection will not work properly.
 - When you install an ISDN S0 Line Unit or/and Card, you should install it to the Master System first and then the Slave System. If only installed to the Slave System, noise may occur.

Programming References

Section 4, System Programming,
[115] Adjust Time

Feature References

Section 3, Features,
System Connection

2.4.10 Battery Adaptor Connection

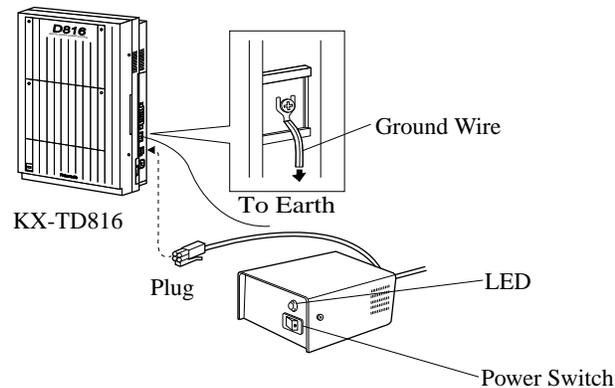
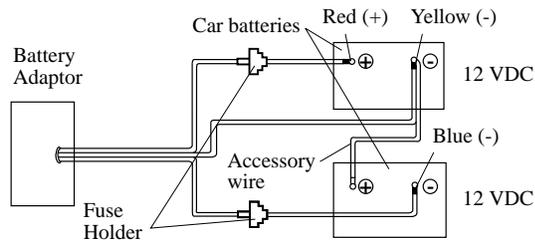
User-supplied car batteries can be used as a backup power supply in the event of a power failure. In case of power failure, the batteries automatically maintain the power to the main unit instantly. The optional Battery Adaptor, model KX-A46, is required. The Battery Adaptor should not be exposed to direct sunlight. Keep the adaptor and car batteries away from heating appliances and fire. Place car batteries in airy place.

Connection

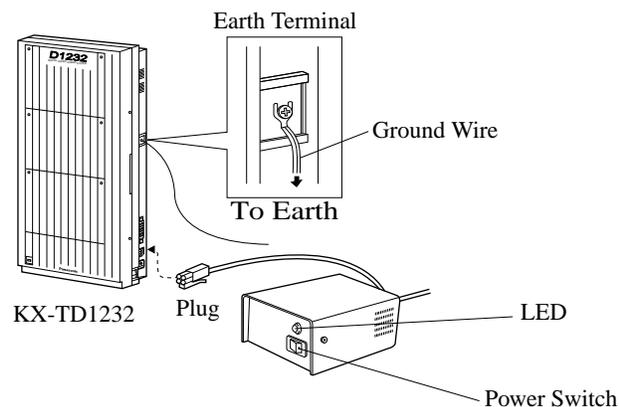
When connecting the battery adaptor, keep the following in mind.

- Make sure of the polarities of batteries and wires.
- Make sure do not short the batteries and wires.
- To connect the two batteries, use accessory wire.

1. Assemble the cords and two car batteries (12VDC each) as shown.



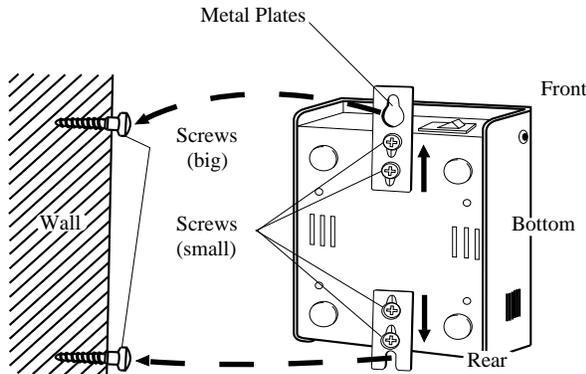
2. Insert the plug of the battery adaptor into the battery adaptor connector on the main unit. Connect the earth wire to the earth terminal on the main unit.



3. Turn on the power switch of the battery adaptor.

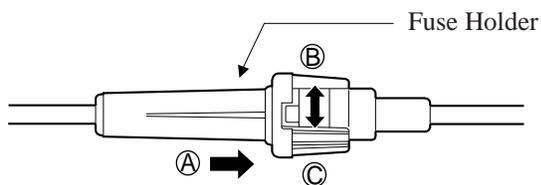
2.4.10 Battery Adaptor Connection

Wall Mounting



1. Drive the accessory four small screws on the bottom of the unit.
2. Place the metal plates so that the screw heads insert into the slots as shown.
3. Slide the metal plates in the directions of the arrows, and drive the screws.
4. Place the templet on the wall to mark two screw positions, and install the big screws into the wall.
5. Hook the battery adaptor on the screw heads.

- Notes**
- If the Power LED does not go on, check the main unit, battery adaptor, batteries and wiring connection.
 - After connection of the battery adaptor, keep the power switch on unless when the main unit is turned off. (Batteries will discharge.)
 - To charge the discharged batteries, use a proper charging unit.
 - Power Fuse: (8A, 32V)×2
- If the Power LED light goes off during a power failure, the power fuse may have been blown. To change the fuse:



1. Turn the power switch off.
2. Turn the fuse holder in the direction of Arrow ② while pushing it in the direction of Arrow ①.
3. Change the fuse.
4. Turn the fuse holder in the direction of Arrow ③ while pushing it in the direction of Arrow ①.
5. Turn the power switch on.

- Back-up Duration: depends on the amp-hour of the batteries used.
e.g. When using two 12 VDC batteries 20 amp-hour, maintenance-free, car batteries, the power is maintained for about three hours.

2.5 Auxiliary Connection for Power Failure Transfer

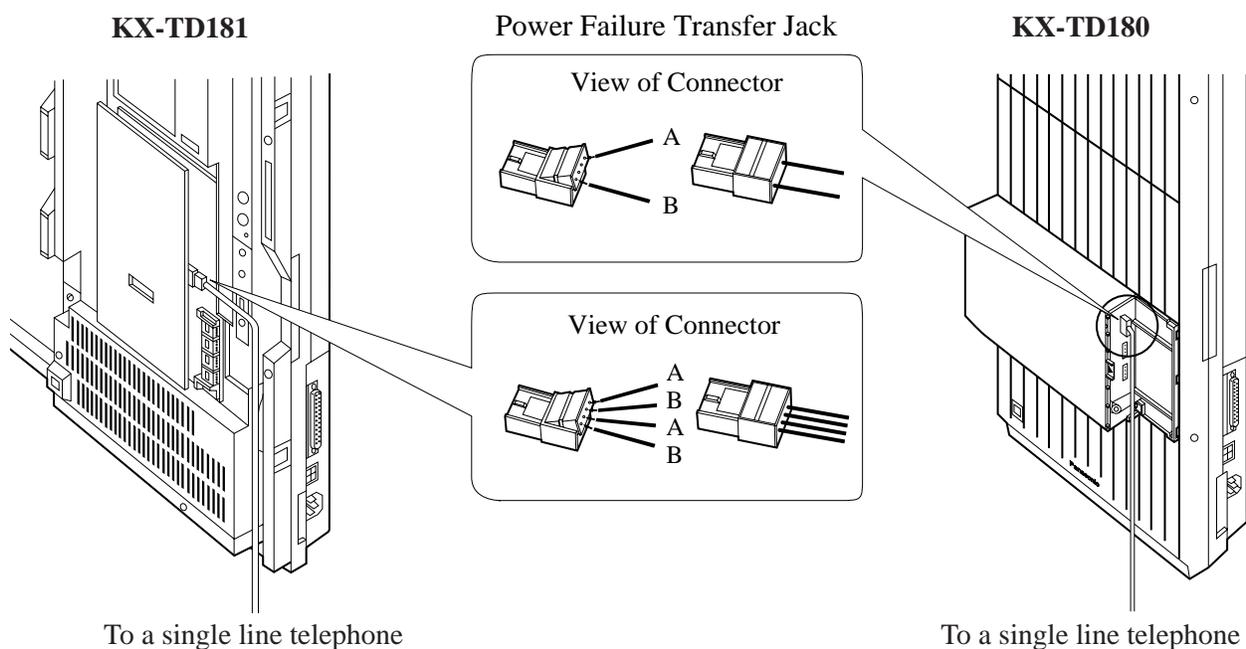
Power Failure Transfer connects a specific single line telephone to selected CO line in the event of system power failure.

Single line telephones connected to the Power Failure Transfer jacks are connected directly to following CO lines;

KX-TD816 : CO 1, CO 2, CO 5

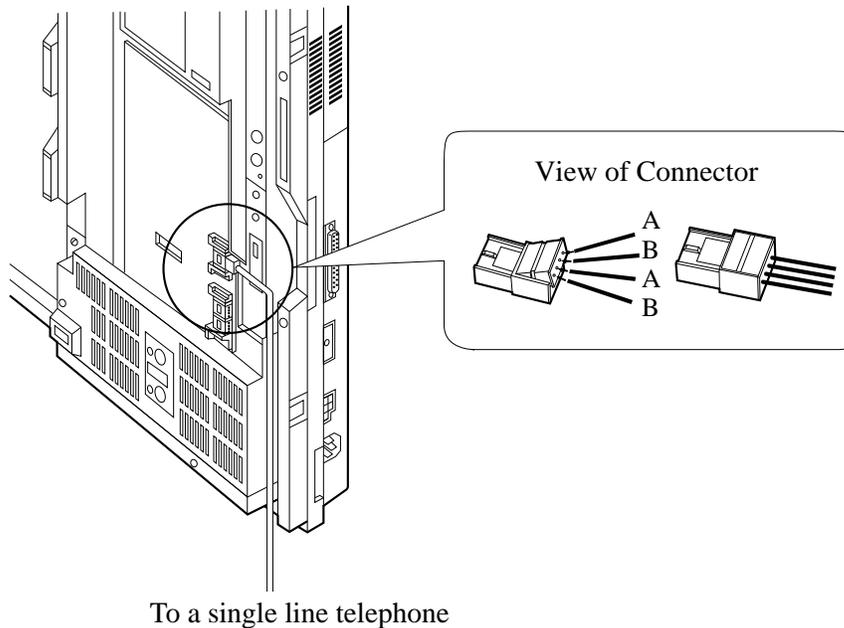
KX-TD1232 : Master System – CO 1, CO 2, CO 9,
Slave System – CO 13, CO 14, CO 21

The Power Failure Transfer jack is on the 8-CO Line Card, 4-CO Line Card and 4-CO Line Unit.



2.5 Auxiliary Connection for Power Failure Transfer

KX-TD182



- Notes**
- In the event of a power failure, system memory is protected by the factory-provided lithium battery. There is no memory loss except for the saved values of the Camp-on, Saved Number Redial, Last Number Redial, Call Park and Message Waiting features.
 - The system automatically changes the current connection when the power supply stops.
 - If DC power is available from backup batteries in the event of an AC power failure, the system does not change the current connection.

Programming References

Section 4, System Programming
[109] Expansion Card / Unit Type

Feature References

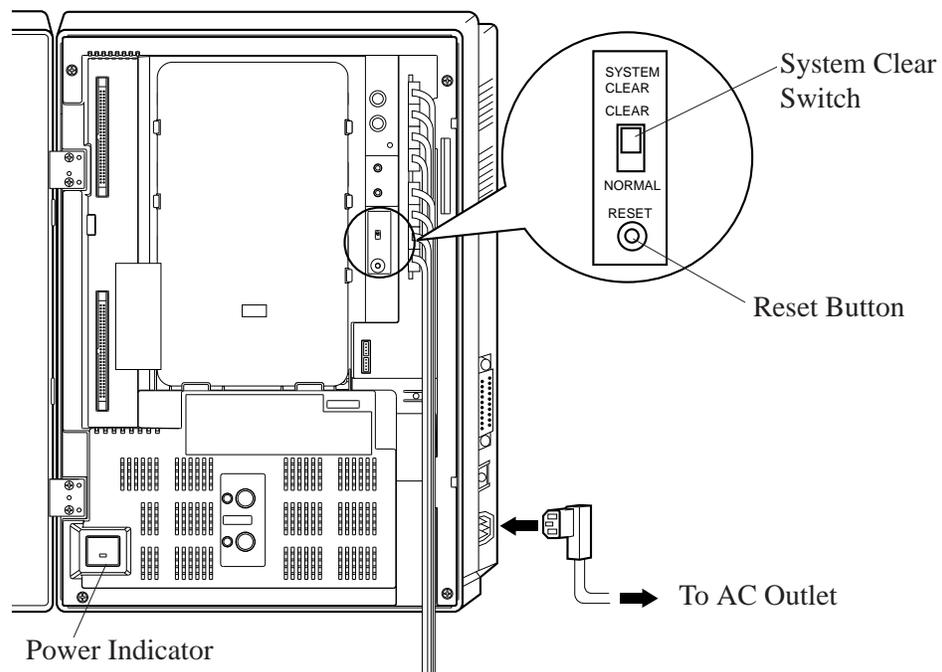
Section 3, Features,
Power Failure Transfer

2.6 Starting the System for the First Time

1. Set the power switch to “OFF.”
2. Set the system clear switch to “CLEAR.”
3. Plug the AC power cord into the system and an AC outlet.
4. Turn the power switch on.
5. Press the Reset button with a pointed tool.
(The power indicator will flash.)
6. Slide the system clear switch to “NORMAL” while the power indicator is flashing (approximately within 10 seconds).

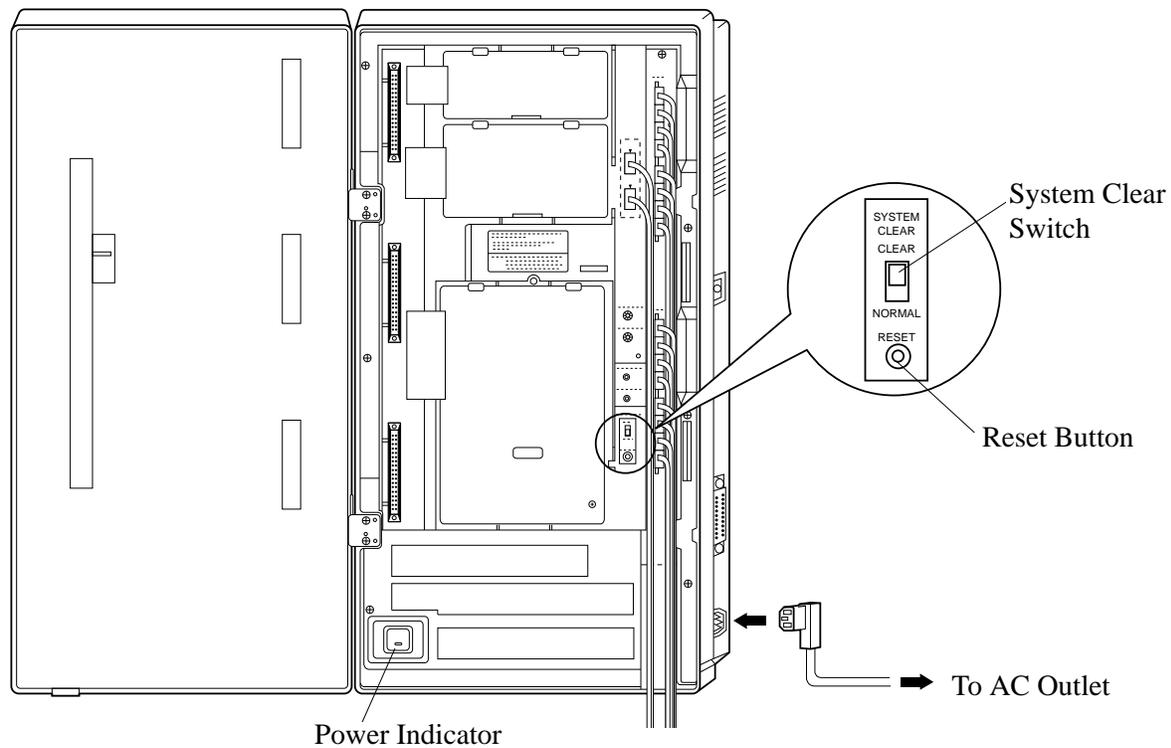
The system will be initialized with default values. The system will also check the CO lines, extensions, and optional cards and units.

KX-TD816



2.6 Starting the System for the First Time

KX-TD1232



- Notes**
- After pressing the Reset button, slide the system clear switch to “NORMAL” at step 6 while the power indicator is flashing (approximately within 10 seconds). Otherwise, the system does not start up with the default values.
 - When System Connection is executed, the system will not accept incoming outside calls for about 4 minutes after sliding the system clear switch to “NORMAL.” The system needs time to establish the LCR data.

CAUTION: Once you start up the system and if you turn the power off, do not perform the above procedures to start the system again. Otherwise, your programmed data is cleared. To start the system, just turn the power switch on.

2.7 System Restart

If after checking the system features you determine that the system is not operating properly, restart the system.

Keep in mind that the following features are cleared when you restart the system:

- Camp-on
- Call Park

The following features are cancelled when you restart the system:

- Calls on Hold
- Calls on Exclusive Hold
- Calls in progress

1. Make sure that the system clear switch is set to “NORMAL.”
2. Press the Reset button with a pointed tool.

- Notes**
- If the system clear switch is set to “CLEAR,” do not slide the system clear switch to “NORMAL” within 20 seconds of pressing the Reset button. If you do, the system programming data is reset to the default values. (Refer to Section 2.8 “System Data Clear.”) Wait over 30 seconds after pressing the Reset button and then slide the system clear switch to “NORMAL.”
 - When System Connection is executed, the system will not accept incoming outside calls for about 4 minutes after pressing the Reset button. The system needs time to establish the LCR data.
 - If the system still does not operate properly, please see Section 6.1.4 “Using Reset Button.”

2.8 System Data Clear

After storing or changing the system programming data, you can clear the programming data stored in the system. The system will restart with the default settings.

1. Slide the system clear switch to “CLEAR.”
2. Press the Reset button with a pointed tool.
3. Return the system clear switch to “NORMAL” while the power indicator is flashing (approximately within 10 seconds).

- Notes**
- After pressing the Reset button, return the system clear switch to “NORMAL” at step 3 while the power indicator is flashing (approximately within 10 seconds). Otherwise, the system is not cleared.
 - When System Connection is executed, the system will not accept incoming outside calls for about 4 minutes after returning the system clear switch to “NORMAL.” The system needs time to establish the LCR data.

Section 3

Features

This section describes every basic, optional, and programmable features in alphabetical order. It also provides information about the conditions, connection references, programming required, related features, and operation for every feature.

Absent Message Capability

Description

Once set this option provides a message, on the display of the calling extension, to show the reason for the called extension's absence. Nine messages can be programmed as desired which are available for every extension user. There are six pre-programmed default messages. Setting or cancelling a message can be done by individual extension users but only callers with a display telephone can receive the message.

Conditions

- Six default messages, which are changeable, are shown below. The “%” means a parameter to be entered when assigning a message at individual extension.
 - (1) Will Return Soon
 - (2) Gone Home
 - (3) At Ext %%% (extension number)
 - (4) Back at %% : %% (hour : minute)
 - (5) Out Until %% / %% (month / day)
 - (6) In a Meeting
- An extension user can select only one message at a time. The selected message is displayed every time the user goes off-hook.

Programming References

Section 4, System Programming,
[\[008\] Absent Messages](#)
[\[100\] Flexible Numbering, Absent message](#)
[\[990\] System Additional Information, Field \(34\)](#)

Feature References

None

Operation References

DPT Features, SLT and ISDN Telephone Features;
 —User Manual Absent Message Capability

Account Code Entry

Description

An Account Code is used to identify incoming and outgoing outside calls for accounting and billing purposes. The account code is appended to the Station Message Detail Recording (SMDR) call record. For incoming outside calls, account codes are optional. For outgoing outside calls, there are three modes available to enter an account code: Verified-All Calls mode; Verified Toll Restriction Override mode; and Option mode. One mode is selected for each extension on a Class of Service basis.

In Verified-All Calls mode, the user must always enter a pre-assigned account code when making any of the following calls unless it has previously been stored in memory:

- Call Forwarding – to CO Line
- Last Number Redial
- Line Access
- Notebook Function
- One-Touch Dialling
- Pickup Dialling
- Saved Number Redial
- Station Speed Dialling
- System Speed Dialling

In Verified-Toll Restriction Override mode, the user can enter a pre-assigned account code only when the user needs to override toll restriction.

In Option mode, the user can enter any account code if needed.

Conditions

- An account code can be stored into Memory Dialling (System / Station Speed Dialling; Notebook Function; One-Touch Dialling; Pickup Dialling; Call Forwarding – to CO Line).
- The Account button may be used in place of the feature number. A flexible button on the proprietary telephone set can be programmed as the Account button.
- Account code entry after CPC detection must be done within 15 seconds. Otherwise, SMDR call record is activated and entry becomes impossible afterwards.
- If disconnection signal is selected in program [990], field (3) and Recall function is enabled in field (15), the Verified-All Calls extension is allowed to make an outside call using the same line with Recall function.
- If an account code is appended to a call, specified display telephone users can see the charge for the call (Charge Fee Reference).
- In any mode, emergency dial numbers stored in program [311] “Emergency Dial Number Set” can be dialled out without an account code entry.
- If the account code stored in location 01 of the programming table is used, the dialled number is not printed out to SMDR (Private Call).

Programming References

Section 4, System Programming,

[\[005\] Flexible CO Button Assignment](#)

[\[100\] Flexible Numbering, Account code entry](#)

[\[105\] Account Codes](#)

[\[508\] Account Code Entry Mode](#)

[\[990\] System Additional Information, Fields \(3\), \(15\)](#)

	Station ProgrammingUser Manual, Charge Fee Reference Flexible Button Assignment – Account Button
Feature References	Section 3, Features, Charge Fee Reference Toll Restriction Override by Account Code Entry
Operation References —User Manual	DPT Features, SLT and ISDN Telephone Features; Account Code Entry

Alert Indication

Description	If the following situations occur, the pre-warning indication is displayed on the proprietary telephone of Operator 1 in Day mode. Memory: When the system finds the wrong system data, the indication “System Data Err 1” is displayed. Printer: When the paper of the printer for SMDR runs out or the printer is out-of-service, the indication “Check Printer” is displayed. Check the printer. Connection*: When a system inter-connection error occurs and system connection operation is interrupted, the indication “System Link Down” is displayed. Connect the interface between the systems and press the Reset Button on both systems.
Conditions	None
Programming Reference	No Programming required.
Feature Reference	None
Operation References —User Manual	Operator Service Features, Alert Indication

Alternate Calling – Ring / Voice

Description This system offers two methods of Intercom Calling – Ring-Calling and Voice-Calling. Ring-Calling informs the called party of an incoming call with a ring tone, while the Voice-Calling uses the calling party’s voice. The proprietary telephone user can select tone or voice calling by station programming. If the user selects Voice-Calling, the calling party can talk to the user immediately after confirmation tone. The calling extension user is able to change the calling method pre-selected once at a time by the called extension by pressing “*”; Ring-Calling can be switched to Voice-Calling, and vice versa. This operation is available for both proprietary and single line telephone users during calling.

Conditions Single line telephone users receive calls with Ring-Calling only.

Programming References

Station Programming.....User Manual,
Intercom Alerting Assignment

Feature References Section 3, Features,
Handsfree Answerback

Operation References DPT Features, SLT and ISDN Telephone Features;
—User Manual Alternate Calling — Ring / Voice

Answering, Direct CO Line

Description Allows the proprietary telephone user to answer an incoming call by simply pressing the appropriate CO button without lifting the handset or pressing the SP-PHONE / MONITOR button.

Conditions This feature permits the user to specify the desired line to be answered if multiple incoming lines are ringing.

Programming References

No programming required.

Feature References Section 3, Features,
CO Line Connection Assignment

Operation References DPT Features,
—User Manual Answering, Direct CO Line

Automatic Callback Busy (Camp-On)

Description

Allows the caller to be informed when the called party or the selected line becomes free.

Automatic Callback – Extension

If the caller answers the callback ringing, the called extension automatically starts ringing.

Automatic Callback – CO Line

If the caller answers the callback ringing, the line is automatically selected to allow the user to make an outside call.

Conditions

- If the callback ringing is not answered in four rings (within 10 seconds) the callback is cancelled.
- More than one extension user can set this function to one extension or CO line at the same time.

Programming References

Section 4, System Programming,
[\[100\] Flexible Numbering, Automatic callback busy cancel](#)

Feature References

None

Operation References

—User Manual

DPT Features, SLT and ISDN Telephone Features;
Automatic Callback Busy (Camp-On)

Automatic Configuration[†]

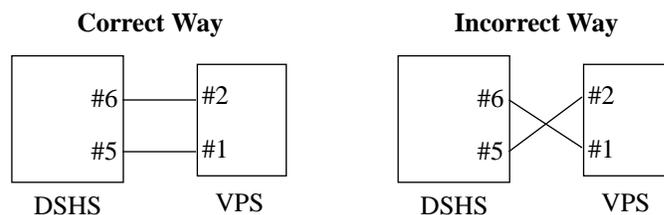
Description

The system sends the VPS data which contains the extension number configuration information and the VPS automatically creates mailboxes with this data (Quick Setup).

Conditions

- The data is transmitted to the VPS on the lowest jack port.
- If two or more lines are connected with the VPS, the port(s) with lower number(s) on the system need to be connected to one(s) with lower number(s) on the VPS.

<Example>



Programming References

No programming required.

Feature References None

Operation References Not applicable.

Automatic Overflow and Hurry-Up Transfer

Description

When Operator 1 is busy and the outside call reaches the Operator 1 directly, the incoming call can be waited until the waiting queue is over assigned number. When the incoming call is over assigned number, the last call will be transferred to the Operator 2.

(Automatic Overflow)

Operator 1 can refer the waiting queue with the indicator of the Hurry-Up button, and transfer the first waiting call to the pre-assigned extension with the Hurry-Up button. (Hurry-Up Transfer)

Conditions

- Automatic Overflow does not function in the following cases;
 - a) The waiting queue is set “0.”
 - b) Operator 2 is not set.
 - c) Operator 1 belongs to Station Hunting Group.
- Hurry-Up Transfer does not function in the following cases;
 - a) The waiting queue is set “0.”
 - b) Hurry-Up Button is not assigned.
 - c) Operator 1 belongs to Station Hunting Group.

Programming References

Section 4, System Programming,
[\[005\] Flexible CO Button Assignment](#)
[\[129\] Operator Queue](#)
Station Programming.....User Manual,
Flexible Button Assignment, Hurry-Up Button

Feature References **Section 3, Features,**
Operator

Operation References **Operator Service Features,**
—User Manual Automatic Overflow and Hurry-Up Transfer

Automatic Station Release

Description After going off-hook, if an extension user fails to dial any digits within a specified time period, the user will be disconnected from the line after reorder tone is sent. To get a line again, the user must go back on-hook and then off-hook.

Conditions This function works in the following cases:
When making a call
(1)The first digit has not been dialled within 10 seconds.
(2)After a digit is dialled, the next one is not dialled within five seconds (Intercom call only).

Programming References

Section 4, System Programming,
[\[207\] First Digit Time](#)
[\[208\] Inter Digit Time](#)

Feature References None

Operation References Not applicable.

Background Music (BGM)

Description Allows the proprietary telephone user to listen to background music from the monitor speaker on the telephone.

Conditions

- It may be required to select a music source used for BGM by system programming.
- For Music Source 1, it is possible to select the internal or external music source by system programming.
- The music is interrupted while off-hooked.

Connection References

Section 2, Installation,
2.3.6 External Music Source Connection

Programming References

Section 4, System Programming,
[\[803\] Music Source Use](#)
[\[990\] System Additional Information, Field \(20\)](#)

Budget Management

Description Limit the telephone usage to a pre-assigned amount. For example, the limit may be the amount deposited during a hotel at check-in. If the pre-assign limit is reached, the extension user cannot make further calls until he/she receives authorization from the operator.

Conditions None

Programming References

Section 4, System Programming,
[\[010\] Budget Management](#)
[\[014\] Budget Management on ISDN Port](#)
[\[990\] System Additional Information, Field \(32\)](#)

Feature References **Section 3, Features,**
HOTEL APPLICATION

Operation References Not applicable.

Busy Lamp Field

Description The LED (Light Emitting Diode) indicators of the DSS (Direct Station Selection) buttons, each of which corresponds to a selected extension, tell whether the corresponding extensions are idle, busy or in Do Not Disturb (DND) mode.

Conditions

- This function is available for DSS buttons on DSS Consoles and for flexible CO buttons assigned as DSS buttons on proprietary telephones.
- A DSS button indicator lights red if the corresponding extension is busy or in DND mode.
- The DSS indicator on a proprietary telephone also informs you of incoming calls except for the DIL 1:N and doorphone call to the corresponding extensions. You can pick up calls by pressing the corresponding flashing DSS buttons.

Programming References

Section 4, System Programming,
[\[005\] Flexible CO Button Assignment](#)
Station ProgrammingUser Manual,
Flexible Button Assignment – Direct Station Selection (DSS) Button

Button, Direct Station Selection (DSS)

Description DSS button permits the proprietary telephone user one-touch access to other extension users.

- Conditions**
- A flexible CO button on a proprietary telephone can be assigned as a DSS button using either system or station programming.
 - DSS buttons are provided on DSS Consoles with default setting. Changing the setting is possible from the paired telephone using station programming.
 - Once a button is assigned as a DSS button, it provides Busy Lamp Field (BLF) status.
 - The mode of a DSS button on a DSS Console / proprietary telephone can be programmed to disconnect the CO line and calls the extension or hold and transfer the call to the extension (One-Touch Transfer by DSS Button).

Programming References

Section 4, System Programming,
[\[005\] Flexible CO Button Assignment](#)
[\[108\] One-Touch Transfer by DSS Button](#)
Station ProgrammingUser Manual,
 Flexible Button Assignment – Direct Station Selection (DSS) Button

Feature References

Section 3, Features,
 Busy Lamp Field One-Touch Transfer by DSS
 DSS Console Button

Operation References —User Manual

Basic Operation,
 Making Calls
DPT Features,
 Call Transfer – to Extension
DSS Console Features

Button, Flexible

Description The use of Flexible Buttons is determined by either system or station programming. The following three types of Flexible Buttons are provided on proprietary telephones (PT) and DSS Consoles:

- Flexible CO buttons (provided on PT only)
- Flexible DSS buttons (provided on DSS Console only)
- Programmable Feature (PF) buttons

The table below shows all of the features which can be assigned to Flexible Buttons.

Features to be assigned \ Button	CO (PT)	DSS (DSS)	PF (DSS)
Single CO	✓		
Group CO	✓		
Loop CO	✓		
Alert	✓		
Hurry-Up	✓		
Log-In / Log-Out	✓		
Live Call Screening†	✓		
Live Call Screening Cancel†	✓		
Direct Station Selection (DSS)	✓	✓	
Message Waiting	✓	✓	
Night	✓	✓	
Phantom	✓	✓	
Two-Way Record†	✓	✓	
Two-Way Transfer†	✓	✓	
Account Code Entry	✓	✓	✓
Conference	✓	✓	✓
FWD/DND	✓	✓	✓
One-Touch Dialling	✓	✓	✓
One-Touch Dialling with Auto Hold	✓	✓	✓
Saved Number Redial	✓	✓	✓
Terminate	✓	✓	✓
Voice Mail Transfer	✓	✓	✓

In the table, “✓” indicates that the feature can be assigned to the button.

Conditions

- A CO line can only appear on one Single-CO button of any given telephone. A station can only appear on one DSS button of any given telephone or DSS Console.
- It is possible to have multiple appearances of the same Group-CO or Loop-CO buttons on the same telephone. Incoming and outgoing calls on the line are shown on the button in the following priority.
Single-CO > Group-CO > Loop-CO

Programming References

Section 4, System Programming,
[\[005\] Flexible CO Button Assignment](#)
Station Programming.....User Manual,
 Flexible Button Assignment

†: Available when the Digital Super Hybrid System is connected to a Digital Proprietary Telephone capable Panasonic Voice Processing System (one that supports digital proprietary telephone integration; e.g. KX-TVP100).

Feature References **Section 3, Features,**
 Buttons on Proprietary Telephones DSS Console

Operation References Not applicable.

Button, Group-CO (G-CO)

Description To support efficient utilization of CO lines, a group of CO lines (CO line group) can be assigned to a CO button. The function is referred to as Group-CO (G-CO). The G-CO button works in conjunction with the DIL 1:N feature. Any incoming call from any CO line in the CO line group arrives at the G-CO button. To make an outside call, the user can access an idle CO line in the group by simply pressing the dedicated G-CO button.

- Conditions**
- No G-CO button is originally provided on a proprietary telephone (PT). It is programmable on a CO button by either system or station programming.
 - It is needed to program the extension for receiving and / or originating calls on CO lines.
 - It is possible to assign the same CO line group to more than one G-CO buttons on the same PT.
 - It is possible to assign the same line to an S-CO button and to a G-CO button.
 - Immediate, delayed, no ringing or no incoming call (disable) can be selected on an extension-CO line basis.
 - The digital PT user can choose a desired ringer frequency for each G-CO button by system or station programming.

Programming References

Section 4, System Programming,
[\[005\] Flexible CO Button Assignment](#)
[\[400\] CO Line Connection Assignment](#)
[\[401\] CO Line Group Assignment](#)
[\[603\]–\[604\] DIL 1:N Extension and Delayed Ringing — Day / Night](#)
[\[605\]–\[606\] Outgoing Permitted CO Line Assignment — Day / Night](#)
Station Programming.....User Manual,
 Flexible Button Assignment – Group-CO (G-CO) Button
 Ringing Tone Selection for CO Buttons

Feature References **Section 3, Features,**
 Answering, Direct CO Line Line Access, Direct
 CO Line Group Ringing, Delayed

	LED Indication, CO Line Line Access, CO Line Group	Ringling Tone Selection for CO Buttons
Operation References —User Manual	Basic Operation, Making Calls DPT Features, Answering, Direct CO Line Outward Dialling – Line Access, CO Line Group	Receiving Calls

Button, Loop-CO (L-CO)

Description

All CO lines can be assigned to a flexible CO button on a proprietary telephone (PT). The assigned button serves as a Loop-CO (L-CO) button. An incoming call on any CO line arrives at the L-CO, unless there are no S-CO or G-CO buttons associated with the line or unless the button is already in use. To make an outside call, the PT user can simply press the dedicated L-CO button.

Conditions

- No L-CO button is originally provided on a PT. A flexible CO button can be assigned as an L-CO button in either system or station programming.
- It is possible to assign more than one L-CO button on a PT.
- Pressing the L-CO button provides the same operation as dialling the automatic line access code. This results in Automatic Line Access or Least Cost Routing (LCR), if programmed.
- Immediate, delayed, no ringing or no incoming call (disable) can be selected on an extension–CO line basis.
- The digital PT user can choose a desired ringer frequency for each L-CO button by system or station programming.

Programming References

Section 4, System Programming,
[\[005\] Flexible CO Button Assignment](#)
[\[400\] CO Line Connection Assignment](#)
[\[603\]–\[604\] DIL 1:N Extension and Delayed Ringing — Day / Night](#)
[\[605\]–\[606\] Outgoing Permitted CO Line Assignment — Day / Night](#)
Station Programming.....User Manual,
 Flexible Button Assignment – Loop-CO (L-CO) Button
 Ringing Tone Selection for CO Buttons

Feature References

Section 3, Features, Answering, Direct CO Line LED Indication, CO Line	Line Access, Direct Ringing, Delayed
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	Line Access, Automatic	Ringing Tone Selection for CO Buttons
Operation References —User Manual	Basic Operation, Making Calls DPT Features, Outward Dialling – Line Access, Automatic	Receiving Calls

Button, Single-CO (S-CO)

Description A Single-CO (S-CO) button is a CO line access button. This allows the proprietary telephone user to access a specific line by pressing an S-CO button. An incoming call can be directed to an S-CO button.

- Conditions**
- The default setting for CO buttons is changeable. (Flexible CO Button)
 - An S-CO button provides CO line status.
 - It is possible to assign one CO line to both an S-CO and a G-CO button.
 - If Least Cost Routing (LCR) is set, it is overridden by an outgoing call made by pressing the S-CO button.
 - Incoming calls appear on the proprietary telephone, when an extension is assigned as the incoming call destination and an S-CO, G-CO and/or L-CO button is assigned.
 - Immediate, delayed, no ringing or no incoming call (disable) can be selected on an extension–CO line basis.
 - The digital PT user can choose a desired ringing tone type for the S-CO button by system or station programming.

Programming References

Section 4, System Programming,
[\[005\] Flexible CO Button Assignment](#)
[\[400\] CO Line Connection Assignment](#)
[\[603\]–\[604\] DIL 1:N Extension and Delayed Ringing — Day / Night](#)
[\[605\]–\[606\] Outgoing Permitted CO Line Assignment — Day / Night](#)
Station ProgrammingUser Manual,
 Flexible Button Assignment – Single-CO (S-CO) Button
 Ringing Tone Selection for CO Buttons

Feature References	Section 3, Features, Answering, Direct CO Line LED Indication, CO Line Line Access, Direct	Line Access, Individual Ringing, Delayed Ringing Tone Selection for CO Buttons
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3 Features

B

Operation References —User Manual **Basic Operation,**
 Making Calls Receiving Calls
DPT Features,
 Outward Dialling – Line Access, Individual

Buttons on Proprietary Telephones

Description Proprietary telephones are provided with the feature / line access buttons listed below:

KX-T Proprietary Telephones:

Buttons	7020	7050	7130	7220	7230	7235	7250	7420	7425	7431	7433	7436
AUTO ANSWER / MUTE †	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓
AUTO DIAL / STORE †	✓	✓	✓	✓	✓	✓	✓!	✓	✓	✓	✓	✓
CO † *	✓ (12)	✓ (12)	✓ (12)	✓ (24)	✓ (24)	✓ (12)	✓ (6)	✓ (12)	✓ (24)	✓ (12)	✓ (24)	✓ (24)
CONF †	✓	✓!	✓	✓	✓	✓		✓	✓	✓	✓	✓
FLASH / RCL								✓	✓	✓	✓	✓
Function						✓ (10)						✓ (10)
FWD / DND †	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓
HOLD	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
INTERCOM †	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Jog Dial								✓	✓	✓	✓	✓
MESSAGE †	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓
MODE										✓		
MONITOR		✓ †					✓					
PAUSE	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓
PF (Programmable Feature)	✓ (4)	✓ (4)	✓ (12)									
PROGRAM				✓	✓	✓	✓	✓	✓	✓	✓	✓
RECALL	✓	✓	✓	✓	✓	✓	✓					
REDIAL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SAVE			✓									
SELECT										✓		
SHIFT †					✓	✓					✓	✓
Soft					✓ (3)	✓ (3)					✓ (3)	✓ (3)
SP-PHONE †	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓
TRANSFER	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
VOLUME				✓	✓	✓	✓					

- ✓ : The button is provided on the designated telephones.
- † : The button is provided with an LED (Light Emitting Diode).
- * : The buttons which can be changed to function as a feature button are called flexible buttons.
- ! : The button is provided without an LED.
- (x) : Shows the number of buttons only if multiple buttons are provided.

The functions of the listed buttons are described below:

AUTO ANSWER / MUTE: This dual function button is used for extension auto-answer and microphone mute during a conversation.

AUTO DIAL / STORE: Used for System Speed Dialling and storing program changes.

CO (Central Office line): Can make or receive an outside call or can be re-assigned to a different CO or to various feature buttons.

CONF (Conference): Used to establish a three-party conference.

FLASH/RCL: Allows you to disconnect the current call and originate another call without hanging up (Recall). Sends a Register Recall signal to the Central Office or a host PBX to access their features (External Feature Access).

Function: Used to perform the displayed function / operation.

FWD / DND (Call Forwarding / Do Not Disturb): Used to program Call Forwarding, set Do Not Disturb.

HOLD: Used to place a call on hold.

INTERCOM: Used to make or receive intercom calls.

Jog Dial: Used to adjust the ringer, speaker, handset and headset volume and the display contrast. With the KX-T7431, KX-T7433 and KX-T7436, it can also be used to select data from the Call Directory and the System Feature Access Menu on the display.

MESSAGE: Used to send a message or display current message.

MODE: Used to shift the display in order to access various features.

MONITOR: Used for handsfree operation.

PAUSE: Inserts a pause in a speed dial number. With an analogue proprietary telephone, it is used as the PROGRAM button.

PF (Programmable Feature): This flexible button can be programmed to be a One-Touch Dialling, FWD / DND, SAVE, Account, CONF (Conference) or Voice Mail Transfer button, as desired.

PROGRAM: Used to enter / exit the Programming mode. With the KX-T7220 and KX-T7250, it can also be used as the PAUSE button.

RECALL: Allows you to disconnect the current call and originate another call without hanging up (Recall). Sends a Register Recall signal to the Central Office or a host PBX to access their features (External Feature Access).

REDIAL: Used for Last Number or Automatic Redial.

SAVE: Used to store a dialled telephone number for Saved Number Redial.

SELECT: Used to select the displayed function or to call for the displayed phone number.

SHIFT: Used to access the second level of Soft button function.

Soft: Pressing a Soft button performs the function / operation appearing on the bottom line of the display.

SP-PHONE (Speakerphone): Used for handsfree operation. Pressing the button causes the telephone to switch between handset and handsfree operation.

TRANSFER: Transfers a call to another extension or external destination.

VOLUME: Used to adjust the ringer, speaker, handset and headset volume and the display contrast.

Conditions

- Certain buttons are equipped with light indicators (LED's) to show line or feature status.
- CO buttons can be classified according to the following three types: Single-CO (S-CO) button / Group-CO (G-CO) button / Loop-CO (L-CO) button

Programming References

Section 4, System Programming,
[\[005\] Flexible CO Button Assignment](#)

Station ProgrammingUser Manual,
Flexible Button Assignment

Feature References

None

Operation References

—User Manual

Refer to respective operating instructions.

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CALL FORWARDING FEATURES – SUMMARY

Description Call forwarding features enable you to have your calls forwarded to a specified destination. You may specify the circumstances under which your calls are forwarded. The following Call Forwarding features are available:

- Call Forwarding – All Calls**
- Call Forwarding – Busy**
- Call Forwarding – Busy / No Answer**
- Call Forwarding – Follow Me**
- Call Forwarding – No Answer**
- Call Forwarding – to CO Line**
- Call Forwarding – by ISDN Line**

Call Forwarding – All Calls

Description This feature is used when you want all your calls to be automatically re-directed to another extension.

- Conditions**
- Types of calls which are forwarded by this feature are:
 - Outside calls – DDI; DIL 1:1; DIL 1:N; Intercept Routing
 - Intercom calls – Extension; Transfer
 - There can only be one stage of Call Forwarding, if a call is forwarded to an extension which is also in Call Forwarding. In this case, Station Hunting can be activated for the forwarded call.
 - Although calls are forwarded, Message Waiting is not. The MESSAGE button indicator is lit on the originally called extension.
 - If an extension in Call Forwarding is also in a Hunt group, a call directed to the extension is forwarded. Station Hunting still applies for calls directed to other extensions in the Hunt group.
 - Setting this function cancels other Call Forwarding or Do Not Disturb functions, if any.
 - A Floating Station cannot be programmed as the forwarded destination.
 - An ISDN extension can be programmed as the forwarded destination.

Programming References

Section 4, System Programming,
[\[005\] Flexible CO Button Assignment](#)
[\[100\] Flexible Numbering, Call forwarding / Do not disturb](#)
Station Programming.....User Manual,
Flexible Button Assignment – FWD/DND Button

Feature References None

Operation References **DPT Features, SLT and ISDN Telephone Features;**
—User Manual Call Forwarding — All Calls

Call Forwarding – Busy

Description A call directed to your extension is forwarded to another extension if your telephone is busy.

- Conditions**
- Types of calls which are forwarded by this feature are:
 - Outside calls – DDI; DIL 1:1; DIL 1:N; Intercept Routing
 - Intercom calls – Extension; Transfer
 - There can only be one stage of Call Forwarding, if a call is forwarded to a station which is also in Call Forwarding. In this case, Station Hunting is activated for the forwarded call.
 - Although calls are forwarded, Message Waiting is not. The MESSAGE button indicator is lit on the originally called extension.
 - If an extension in Call Forwarding is also in a Hunt group, a call directed to the extension is forwarded. Station Hunting still applies for calls directed to other extensions in the Hunt group.
 - Setting this function cancels other Call Forwarding or Do Not Disturb functions, if any.
 - A Floating Station cannot be programmed as the forwarded destination.
 - An ISDN extension can be programmed as the forwarded destination.

Programming References

Section 4, System Programming,
[\[005\] Flexible Button Assignment](#)
[\[100\] Flexible Numbering, Call forwarding / Do not disturb](#)
Station ProgrammingUser Manual,
Flexible Button Assignment – FWD/DND Button

Feature References None

Operation References **DPT Features, SLT and ISDN Telephone Features;**
—User Manual Call Forwarding — Busy

Programming References

Section 4, System Programming,
[\[005\] Flexible CO Button Assignment](#)
[\[100\] Flexible Numbering, Call forwarding / do not disturb](#)
[\[991\] COS Additional Information, Field \(2\)](#)
Station ProgrammingUser Manual,
 Flexible Button Assignment – FWD / DND Button

Feature References

Section 3, Features,
 Call Forwarding – All Calls

Operation References
—User Manual

DPT Features, SLT and ISDN Telephone Features;
 Call Forwarding — Follow Me

Call Forwarding – No Answer**Description**

Calls to your extension are forwarded to another extension if you do not answer the call in a pre-determined time.

Conditions

- Types of calls which are forwarded by this function are:
 Outside calls – DDI; DIL 1:1; DIL 1:N; Intercept Routing
 Intercom calls – Extension; Transfer
- This function operates if an incoming call is not answered in a specific period of time. Therefore, this function also applies if your extension is busy and cannot answer the incoming call within the time.
- There can only be one stage of Call Forwarding if a call is forwarded to a station which is also in Call Forwarding. In this case, Station Hunting is activated for the forwarded call.
- Although calls are forwarded, Message Waiting is not. The MESSAGE button indicator is lit on the originally called extension.
- If an extension in Call Forwarding is also in a Hunt group, a call directed to the extension is forwarded. Station Hunting still applies for calls directed to other extensions in the Hunt group.
- Setting this function cancels other Call Forwarding or Do Not Disturb functions, if any.
- A Floating Station cannot be programmed as the forwarded destination.
- An ISDN extension can be programmed as the forwarded destination.

Programming References

Section 4, System Programming,
[\[005\] Flexible CO Button Assignment](#)
[\[100\] Flexible Numbering, Call forwarding / do not disturb](#)
[\[202\] Call Forwarding – No Answer Time](#)
Station ProgrammingUser Manual,
 Flexible Button Assignment – FWD/DND Button

Feature References None

Operation References **DPT Features, SLT and ISDN Telephone Features;**
—User Manual Call Forwarding — No Answer

Call Forwarding – to CO Line

Description Calls directed to your extension will be sent to an external destination. The outside telephone number must be pre-programmed.

- Conditions**
- Types of calls which are forwarded by this function are:
 - Outside calls – DIL 1:1; DDI (ISDN Service only)
 - Intercom calls – Extension; Transfer
 - A call between two external parties can be established by this feature only when both outside lines are ISDN S0 lines.
 - The forwarding extension's Toll Restriction, Least Cost Routing and Account Code Entry requirements still apply.
 - Although calls are forwarded, Message Waiting is not. The MESSAGE button indicator is lit on the originally called extension.
 - If an extension in Call Forwarding is also in a Hunt group a call directed to the extension is forwarded. Station Hunting still applies for calls directed to other extensions in the Hunt group.
 - Setting this function cancels other Call Forwarding or Do Not Disturb functions, if any.
 - Class of Service programming determines the extensions that are able to perform the function.
 - If an extension is limited by the program [502] "Extension-to-CO Line Call Duration Limit" according to its Class of Service, the extension is unable to forward an outside call to a CO line.
 - If a call between an extension and an outside party is established by this feature, the duration of the call period can be restricted depending on the setting of a system timer.

Programming References

Section 4, System Programming,
[\[005\] Flexible CO Button Assignment](#)
[\[100\] Flexible Numbering, Call forwarding / do not disturb](#)
[\[205\] Extension-to-CO Line Call Duration Time](#)
[\[502\] Extension-to-CO Line Call Duration Limit](#)
[\[504\] Call Forwarding to CO Line](#)
Station Programming.....User Manual,
Flexible Button Assignment – FWD/DND Button

Feature References **Section 3, Features,**
 Limited Call Duration

Operation References **DPT Features, SLT and ISDN Telephone Features;**
—User Manual Call Forwarding — to CO Line

Call Forwarding – by ISDN Line

Description The call forwarding service provided by ISDN can be assigned on a multiple subscriber number (MSN) basis. The following features are available.

- **Call Forwarding – Unconditional (CFU)**
All incoming calls to an extension are transferred by the ISDN line.
- **Call Forwarding – Busy (CFB)**
An incoming call to an extension is transferred by the ISDN line when the line is busy.
- **Call Forwarding – No Reply (CFNR)**
An incoming call to an extension is transferred by the ISDN line when the extension does not answer it before a pre-assigned time.

Programming References

Section 4, System Programming,
[\[518\] CFU / CFB / CFNR Assignment](#)
Station Programming.....User Manual,
Flexible Button Assignment – FWD/DND Button

Feature References None

Operation References **DPT Features, SLT and ISDN Telephone Features;**
—User Manual Call Forwarding — by ISDN Line

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Call Hold – CO Line

Description Allows the extension user to put an outside call on hold. The held call can be retrieved from the user who held it or from any other extension.

Conditions

- With a single line telephone, the user can hold only one call whether it is an extension or outside call.
- Music is sent to the party on hold, if available (Music on Hold).
- If a call on hold is not retrieved in a specific period of time, Hold Recall results.
- If an outside party is placed on hold and not retrieved in 30 minutes, it is automatically disconnected.

Programming References

Section 4, System Programming,
[\[100\] Flexible Numbering, Call hold](#)
[\[200\] Hold Recall Time](#)

Feature References Section 3, Features,
 Hold Recall Music on Hold

Operation References DPT Features, SLT and ISDN Telephone Features;
 —User Manual Call Hold

Call Hold – Intercom

Description This is used to place an intercom call on hold. The held call can be retrieved from the user who held it or from any other extension.

Conditions

- Only one intercom call can be placed on hold in a telephone at a time (up to 10 calls in the system – Call Park). With a proprietary telephone, outside calls and one intercom call can be placed on hold at the same time. With a single line telephone, either one outside or intercom call can be held.

- If a call on hold is not retrieved in a specific period of time, Hold Recall results.
- Music is sent to the party on hold, if available (Music on Hold).

Programming References

Section 4, System Programming,
[\[100\] Flexible Numbering, Call hold](#)
[\[200\] Hold Recall Time](#)

Feature References

Section 3, Features,
Call Park Music on Hold
Hold Recall

Operation References —User Manual

DPT Features, SLT and ISDN Telephone Features;
Call Hold

Call Hold, Exclusive – CO Line

Description

Allows the proprietary telephone user to prevent any other extension users from retrieving a held outside call. Only the user who held it can retrieve the call.

Conditions

- If a call on hold is not retrieved in a specific period of time, Hold Recall results. After Hold Recall results, the held call can be retrieved from any other extension.
- If an outside party is placed on hold and not retrieved in 30 minutes, it is automatically disconnected.
- Music is sent to the party on hold, if available (Music on Hold).

Programming References

Section 4, System Programming,
[\[200\] Hold Recall Time](#)
[\[990\] System Additional Information, Field \(44\)](#)

Feature References

Section 3, Features,
Hold Recall Music on Hold

Operation References —User Manual

DPT Features,
Call Hold, Exclusive

Call Hold, Exclusive – Intercom

Description Allows the proprietary telephone user to prevent any other extension users from retrieving a held intercom call. Only the user who held it can retrieve the call.

Conditions

- Only one intercom call can be placed on Call Hold or Exclusive Call Hold at a time.
- If a call on hold is not retrieved in a specific period of time, Hold Recall results. After Hold Recall results, the held call can be retrieved from any other extension.
- Music is sent to the party on hold, if available (Music on Hold).

Programming References

Section 4, System Programming,
[\[200\] Hold Recall Time](#)
[\[990\] System Additional Information, Field \(44\)](#)

Feature References Section 3, Features,
 Hold Recall Music on Hold

Operation References DPT Features,
 —User Manual Call Hold, Exclusive

Call Hold Retrieve – CO Line

Description Allows the extension user to retrieve a specified outside call that has been placed on hold by another extension.

Conditions Confirmation tone is sent to the user when the hold is retrieved by the feature number. Eliminating the tone is programmable.

Programming References

Section 4, System Programming,
[\[100\] Flexible Numbering, Call hold retrieve – CO line](#)
[\[990\] System Additional Information, Fields \(16\), \(44\)](#)

Feature References Section 3, Features,
 Call Hold – CO Line

Operation References DPT Features, SLT and ISDN Telephone Features;
 —User Manual Call Hold Retrieve

Call Hold Retrieve – Intercom

Description Allows the extension user to retrieve a call that has been placed on hold by another extension.

Conditions Confirmation tone is sent to the user when the hold is retrieved by the feature number. Eliminating the tone is programmable.

Programming References

Section 4, System Programming,
[\[100\] Flexible Numbering, Call hold retrieve – intercom](#)
[\[990\] System Additional Information, Fields \(16\), \(44\)](#)

Feature References **Section 3, Features,**
Call Hold – Intercom

Operation References **DPT Features, SLT and ISDN Telephone Features;**
—User Manual Call Hold Retrieve

Calling / Connected Line Identification Presentation (CLIP / COLP)

Description Allows the extension user to display the calling party's number on the LCD of the called party's telephone when making a call (CLIP), or allows the extension user to display the called party's number on the LCD of the calling party's telephone when answering a call (COLP).
You can select the number sent to the other party from either of the following:

- DDI: Subscriber number + your extension number
(or transformed DDI number)
- Any number: Subscriber number + any number (max. 6 digits)

This feature is one of ISDN's services.
When "DDI" is selected, the number added to a subscriber number can be selected from either of the extension number and the DDI transformed number by program [990].

Conditions None

Programming References

Section 4, System Programming,
[\[419\] Subscriber Number Assignment](#)
[\[516\] Calling Line Identification Restriction](#)
[\[517\] Connected Line Identification Restriction](#)
[\[623\] CLIP / COLP Number Assignment](#)
[\[624\] CLIP / COLP Number Assignment for ISDN Extension](#)
[\[990\] System Additional Information, Field \(37\)](#)

Feature References **Section 3, Features,**
CO Incoming Call Information Display

Operation References **DPT Features, SLT and ISDN Telephone Features;**
—User Manual Calling / Connected Line Identification Presentation (CLIP / COLP)

Calling Line Identification Restriction (CLIR)

Description Allows the extension user to restrict the presentation of the calling party's number to the called party when making a call. This feature is one of the ISDN services.

Conditions If the presentation is enabled, the called party can check the calling party's number before the called party is answered it (Calling Line Identification Presentation, CLIP – case by case).

Programming References

Section 4, System Programming,
[\[100\] Flexible Numbering, CLIR](#)
[\[419\] Subscriber Number Assignment](#)
[\[516\] Calling Line Identification Restriction](#)

Feature References None

Operation References **DPT Features, SLT and ISDN Telephone Features;**
—User Manual **Calling Line Identification Restriction (CLIR)**

Call Park

Description Allows the extension user to place a held call into a system parking area. This releases the user from the parked call to perform other operations. The parked call can be retrieved from any other extension user.

Conditions

- The system contains 10 parking areas, each of which has its own call park number. Up to 10 calls can be parked at the same time in the system. Under the System Connection,* all users may access the same call parking area. The number of holding slots remains at 10.
- If a parked call is not retrieved within Transfer Recall Timer period, Transfer Recall starts to the operator or the extension that parked the call.
- If Call Park Recall is not retrieved in 30 minutes, it is automatically disconnected.
- Confirmation tone is sent to the user when the parked call is retrieved. Eliminating the tone is programmable.

Programming References

Section 4, System Programming,
[\[100\] Flexible Numbering, Call park / call park retrieve](#)
[\[201\] Transfer Recall Time](#)
[\[990\] System Additional Information, Fields \(11\), \(16\)](#)

Feature References None

Operation References **DPT Features, SLT and ISDN Telephone Features;**
 —User Manual Call Park

Calling Party Control (CPC) Signal Detection

Description The Calling Party Control (CPC) Signal is an on-hook indication (disconnect signal) sent from the CO line when the telephone is hung up at the other end. To support efficient utilization of CO lines, the system monitors their state and when CPC Signal is detected from a line, the system disconnects the line and informs the extension with reorder tone.

Conditions

- CPC Signal Detection is enabled or disabled on incoming and outgoing outside calls by system programming.
- Generally CPC Signal Detection works on incoming outside calls, and does not work on outgoing outside calls (except once they are placed on

Call Hold, Exclusive Call Hold or Consultation Hold). In this case, if the extension user remains off-hook after the completion of an outgoing outside call, the system does not release all the switches used to establish the connection, and a CO line connected will continue to be seized. To prevent this, it is administrable to make CPC Signal Detection work on outgoing outside calls. (Note: Some Central Offices may send CPC-like signals during the dialling sequence and an attempt to make a call may be terminated. If your CO does not send such signals, it is recommended to make CPC Signal Detection work on outgoing outside calls.)

- If your Central Office does not send CPC-like signals, it is also effective to limit the dialled numbers during a call by the program [991] “COS Additional Information” on a Class of Service basis to prevent unauthorized calls.
- If CPC Signal is detected during a Conference call, the line is disconnected and the remaining two parties maintain the call.

Programming References

Section 4, System Programming,
[\[405\] CPC Signal Detection Incoming Set](#)
[\[415\] CPC Signal Detection Outgoing Set](#)
[\[991\] COS Additional Information, Field \(1\)](#)

Feature References None

Operation References Not applicable.

Call Pickup, CO Line

Description Allows any extension user to answer an incoming outside call that is ringing at another’s telephone.

Conditions • Call Pickup starts with the lowest CO number.
• Confirmation tone is sent to the user when the call is picked up.
Eliminating the tone is programmable.

Programming References

Section 4, System Programming,
[\[100\] Flexible Numbering, Call pickup, CO line](#)
[\[990\] System Additional Information, Field \(16\)](#)

Feature References None

Operation References **DPT Features, SLT and ISDN Telephone Features;**
—User Manual Call Pickup, CO Line

Call Pickup, Directed

Description	Allows any extension user to answer a call ringing at any other extension.
Conditions	<ul style="list-style-type: none">• Doorphone calls can be picked up from extensions that are not programmed to answer doorphone calls.• Confirmation tone is sent to the user when the call is picked up. Eliminating the tone is programmable.• You can pick up a call by pressing a flashing DSS button assigned on a proprietary telephone.
Programming References	Section 4, System Programming, [100] Flexible Numbering, Call pickup, directed [990] System Additional Information, Field (16)
Feature References	None
Operation References —User Manual	DPT Features, SLT and ISDN Telephone Features; Call Pickup, Directed

Call Pickup, Group

Description	Allows the extension user to answer a call that is ringing at another telephone, if the call is ringing within the user's extension group.
Conditions	<ul style="list-style-type: none">• The user can pick up an incoming outside, intercom, or doorphone call.• The priority of Group Call Pickup is as follows: Outside call > Transferred call > Extension call > Doorphone call• Group Call Pickup starts with the lowest jack number.• Confirmation tone is sent to the user when the call is picked up. Eliminating the tone is programmable.
Programming References	Section 4, System Programming, [100] Flexible Numbering, Call pickup, group [990] System Additional Information, Field (16)
Feature References	None
Operation References —User Manual	DPT Features, SLT and ISDN Telephone Features; Call Pickup, Group

Call Pickup Deny

Description Allows the user to prohibit other extensions from picking up calls ringing at his / her extension by using the call pickup features.

Conditions Distinctive dial tone is sent to the user on the extension with this feature when the user goes off-hook.

Programming References

Section 4, System Programming,
[\[100\] Flexible Numbering, Call pickup deny](#)

Feature References

Section 3, Features,
Call Pickup, CO Line Call Pickup, Group
Call Pickup, Directed

Operation References **DPT Features, SLT and ISDN Telephone Features;**
—User Manual Call Pickup Deny

Call Splitting

Description Allows the extension user to alternate between two other parties. Placing the current call on hold allows the user to have a conversation with the other party.

Conditions Call Splitting is impossible during Doorphone Call or Paging.

Programming References

No programming required.

Feature References None

Operation References **DPT Features, SLT and ISDN Telephone Features;**
—User Manual Call Splitting

CALL TRANSFER FEATURES – SUMMARY

Description	<p>Call Transfer features allow the user to transfer a call to another party. This operation can be screened or unscreened. Screened call transfer is used when you want to announce the call to the other party before completing the transfer. Unscreened call transfer immediately releases the caller to the called party. An intercom or an outside call can be transferred to an extension or to an outside party by:</p> <ul style="list-style-type: none"> Call Transfer, Screened – to CO Line Call Transfer, Screened – to Extension Call Transfer, Unscreened – to Extension
--------------------	---

Call Transfer, Screened – to CO Line

Description	Allows the proprietary telephone user to voice-announce to the external party and transfer the intercom call.
Conditions	Class of Service programming determines the extensions that are able to perform it.
Programming References	<p>Section 4, System Programming,</p> <ul style="list-style-type: none"> [205] Extension-to-CO Line Call Duration Time [502] Extension-to-CO Line Call Duration Limit [503] Call Transfer to CO Line [990] System Additional Information, Field (1)
Feature References	Section 3, Features, Hold Recall
Operation Reference —User Manual	DPT Features, SLT and ISDN Telephone Features; Call Transfer — to CO Line

Call Transfer, Screened – to Extension

Description	Allows the extension user to voice-announce to the extension and transfer the call.
Conditions	None

Programming References

Section 4, System Programming,
[\[990\] System Additional Information, Field \(1\)](#)

Feature References None

Operation Reference **DPT Features, SLT and ISDN Telephone Features;**
—User Manual Call Transfer — to Extension

Call Transfer, Unscreened – to Extension

Description

Allows the user to transfer an intercom or outside call to directly transfer to an extension party. After dialling the destination extension, the user replaces the handset while hearing ringback tone.

Conditions

- If the destination party does not answer within the transfer recall time, the call will return to the user or Operator 1. You can select the desired one by system programming.
- This function is possible when the destination is sending ringback or busy tone. If the destination is busy, Camp-On Transfer occurs.
- The ringing signal pattern follows the regular ringing pattern depending on the party being transferred: outside or extension call ringing.
- It is possible for any extension user to transfer a call to the modem* for remote maintenance.
- If music on hold is enabled, music is sent to the caller while being transferred. It is system-programmable whether to send ringback tone or music on hold to the caller by program [990], Field (1).

Programming References

Section 4, System Programming,
[\[201\] Transfer Recall Time](#)
[\[990\] System Additional Information, Fields \(1\), \(11\)](#)

Feature References None

Operation References **DPT Features, SLT and ISDN Telephone Features;**
—User Manual Call Transfer — to Extension

*: Available for KX-TD1232 only.

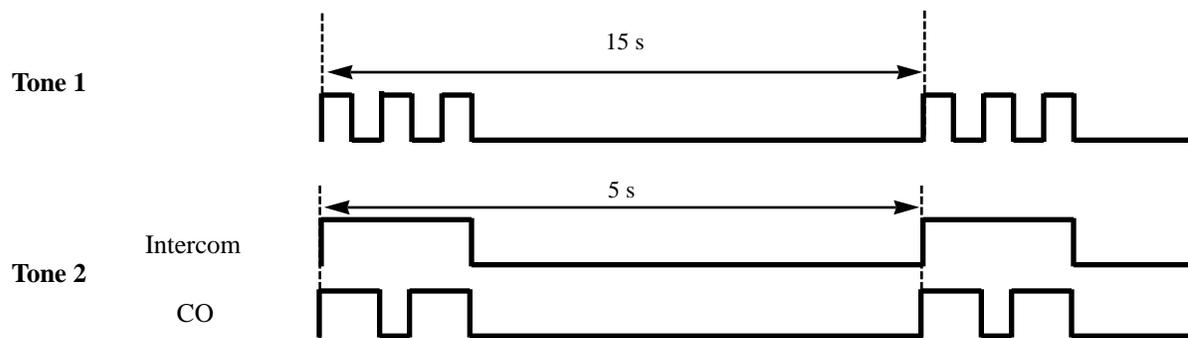
Call Waiting

Description

While in conversation, a call waiting tone informs the user of another incoming call that is waiting. He or she can answer the second call by disconnecting or placing the current call on hold. Call waiting tone can be enabled or disabled by dialling the appropriate feature number.

Conditions

- The call waiting tone is generated when an outside call or a doorphone call comes in or when an extension caller executes Busy Station Signalling.
- Setting Data Line Security cancels Call Waiting which has been turned on.
- For proprietary telephone users, two types of call waiting tone are provided to prevent them from missing the tone as shown below: A proprietary telephone user can select the desired type by station programming.



Programming References

Section 4, System Programming,
[\[100\] Flexible Numbering, Call waiting / OHCA / whisper OHCA](#)
Station Programming.....User Manual,
 Call Waiting Tone Type Assignment

Feature References

Section 3, Features,
 Busy Station Signalling (BSS)

Operation References

—User Manual

DPT Features, SLT and ISDN Telephone Features;
 Call Waiting

Charge Fee Reference

Description Allows pre-assigned display telephone users to see charges and print out the charges. Charges are displayed per extension, CO line, Account Code, or the total of each can be referred to. There are two display formats – Pulse or Pound.

- Conditions**
- System programming determines the extensions that can see charges.
 - An identification code (ID code), set by system programming, is required to see charges.
 - The first display format – Pulse or Pound – is selected by system programming. This can be switched manually at each extension.
 - Exchange rate between pulse counter and pounds is changeable by station programming.
 - The displayed currency denomination can be programmed by system programming.

Programming References

Section 4, System Programming,
[\[015\] Charge Rate Fractional Point Assignment](#)
[\[016\] Charge Rate Assignment](#)
[\[117\] Charge Display Selection](#)
[\[118\] Charge Fee Reference Extension Assignment](#)
[\[119\] Charge Fee Reference ID Code Set](#)
[\[125\] Assignment of Denomination](#)
Station ProgrammingUser Manual,
Charge Fee Reference

Feature References None

Operation References **Station Programming,**
—User Manual Charge Fee Reference

Class of Service (COS)

Description COS is used to define the features which are allowed for a group of extensions. Each extension is assigned a primary and a secondary COS numbers. Eight Classes of Service are available.

- Conditions**
- The operator can switch the extension's COS between a primary and a secondary.
 - The programmable items are shown below:
 - (1) Forwards a call to an outside party
 - (2) Transfers a call to an outside party
 - (3) Overrides Do Not Disturb of the called extension
 - (4) Account Code Entry operation – verified - all calls / verified - toll restriction override / option
 - (5) Outgoing call restriction level (Day mode / Night mode) – 1 through 8
 - (6) Restriction of outside call duration
 - (7) The number of permitted dialling digits during an outside call
 - (8) Call Forwarding – Follow Me
 - (9) System speed dialling call restriction level (Day mode / Night mode)
 - (10) Switches the Day/Night service
 - (11) Unlocks the door opener
 - (12) Do Not Disturb for Direct Dialling In Call
 - (13) Connected Line Identification Restriction
 - (14) Calling Line Identification Restriction
 - (15) Call Forwarding – Unconditional (CFU) / Busy (CFB) / No Reply (CFNR)
 - (16) Off-Hook Call Announcement (OHCA)

Programming References

- Section 4, System Programming,**
[\[500\]–\[501\] Toll Restriction Level — Day / Night](#)
[\[502\] Extension-to-CO Line Call Duration Limit](#)
[\[503\] Call Transfer to CO Line](#)
[\[504\] Call Forwarding to CO Line](#)
[\[507\] Do Not Disturb Override](#)
[\[508\] Account Code Entry Mode](#)
[\[509\]–\[510\] Toll Restriction Level for System Speed Dialling — Day / Night](#)
[\[511\] Door Opener Access](#)
[\[513\] Night Service Access](#)
[\[514\] Do Not Disturb for Direct Dialling In Call](#)
[\[516\] Calling Line Identification Restriction](#)
[\[517\] Connected Line Identification Restriction](#)

Conditions

- It is required to name CO lines and extensions by system programming.
- With the CLIP feature, the ISDN line informs the system of the caller's telephone number. To display the name, the system compares the informed number with the System Speed Dialling Numbers stored in program [001] and if a match is found, determines the caller's name by using the System Speed Dialling Names stored in program [002].
- The display DPT (KX-T7230, KX-T7235, KX-T7433 or KX-T7436) user can record the call information received by the CLIP feature (CO Incoming Call Information Log feature).
- If the assigned information cannot be displayed, it will be shown according to the following priority:
Caller →CO Line →DDI

Connection References

Section 2, Installation,
2.4.2 CO Line Connection

Programming References

Section 4, System Programming,
[001] [System Speed Dialling Number Set](#)
[002] [System Speed Dialling Name Set](#)
[003] [Extension Number Set](#)
[004] [Extension Name Set](#)
[012] [ISDN Extension Number Set](#)
[013] [ISDN Extension Name Set](#)
[421] [CO Line Name Assignment](#)
[622] [Incoming Call Display](#)

Feature References

Section 3, Features,
CO Incoming Call Information Log

Operation Reference
—User Manual

DPT Features,
CO Incoming Call Information Display

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CO Incoming Call Information Log

Description

If the display digital proprietary telephone (KX-T7230, KX-T7235, KX-T7433 or KX-T7436) user cannot answer a call, the telephone automatically records the caller's telephone number, name and the time. The user can call back the caller by checking the call log. This is available if such a telephone receives incoming outside calls from the ISDN S0 line provided with the CLIP (Calling Line Identification Presentation) feature. A maximum of 15 calls are recorded per telephone.

Conditions

- The call log is registered at the time the DPT finishes ringing. If a call is directed to multiple DPTs, the call log is registered at the DPT that has the smallest jack number of the ringing DPTs.
- Transferred call information is also recorded.
- If the DPT is in Call Forwarding – No Answer or IRNA is activated, the call log is registered at the original DPT but not at the destination DPT unless the destination party answers the call and records it manually.
- The telephone user can control the CO Incoming Call Information Log Mode on the unit when the information area is full. If the user sets this mode, new CO incoming call information is retained but old data is discarded. If the user cancels this mode, new CO incoming call information is not memorized on the unit. To set or cancel the mode, a corresponding feature number is used.
- The telephone user can lock the display of the unit so that CO incoming call information is not shown on the display, if the user does not want others to see the information. A lock code is required to set or cancel this feature. Operator can cancel the lock in case the user forgets the lock code.

Connection References

Section 2, Installation,

2.4.2 CO Line Connection (Optional Card)

2.4.4 CO Line Connection (Optional Unit)

Programming References

Section 4, System Programming,

[001] [System Speed Dialling Number Set](#)

[002] [System Speed Dialling Name Set](#)

[100] [Flexible Numbering, CO incoming call information log mode/CO incoming call information log lock](#)

[419] [Subscriber Number Assignment](#)

[421] [CO Line Name Assignment](#)

[622] [Incoming Call Display](#)

Feature References	Section 3, Features, CO Incoming Call Information Display
Operation Reference —User Manual	DPT Features, CO Incoming Call Information Log Lock CO Incoming Call Information Log Mode Operator Service Features, CO Incoming Call Information Log Lock Clear

CO Line Connection Assignment

Description	This allows you to specify the CO lines connected to your system to prevent an extension user from originating an outside call by selecting a line which is not connected. An idle line is selected from the connected ones when an extension user makes an Automatic Line Access.
Conditions	If the user tries to make a call with a disconnected line, reorder tone sounds to indicate that the line is out of use.
Programming References	Section 4, System Programming, [400] CO Line Connection Assignment
Feature References	None
Operation References	Not applicable.

CO Line Connection Assignment – Outgoing

Description	Allows you to assign the CO line an extension user can use for outgoing calls. This feature is useful to prevent unauthorized toll calls.
Conditions	<ul style="list-style-type: none"> • When an extension user tries to make an outside call on a disallowed CO line, reorder tone is sent to indicate that the user cannot use the CO line. • Day and Night Service are individually programmed. (Night Service)
Programming References	<p>Section 4, System Programming, [605]–[606] Outgoing Permitted CO Line Assignment — Day / Night [615]–[616] Outgoing Permitted CO Line Assignment — Day / Night for ISDN Extension</p>
Feature References	None
Operation References	Not applicable.

CO Line Group

Description	<p>CO lines can be grouped into up to eight CO line groups. This allows extensions to call outside parties without designating a specific CO line, since a CO line is automatically selected from the designated CO line group. All CO lines belonging to a CO line group follow the assignment determined for that CO line group. A list of assignments for each CO line group is shown below:</p> <ul style="list-style-type: none"> • The destination of Intercept Routing • Disconnect Time • Register Recall Signal Time • Host PBX Access Code • Pause Time (used in Speed Dialling and Recall)
Conditions	<ul style="list-style-type: none"> • Each CO line can only belong to one CO line group. • CO lines in a CO line group are selected uniformly if all lines belong to the same system. • If System Connection* is employed, a CO line group can include CO lines in both systems. In this case, a CO line is first selected from the user's system. If all lines in the user's system are in use, a line in the other system is selected.

Programming References

Section 4, System Programming,
[100] Flexible Numbering, CO line group line access
[401] CO Line Group Assignment
[409]–[410] Intercept Extension — Day / Night
[411] Host PBX Access Codes
[412] Pause Time
[413] Register Recall Signal Time
[414] Disconnect Time

Feature References None

Operation References Not applicable.

Conference

Description

The system supports three-party conference calls, including outside or inside parties. During a two-party conversation, the extension user can add a third party to their conversation, thereby establishing a conference.

Conditions

- Possible conference combinations are: 1-inside and 2-outside; 2-inside and 1-outside; and 3-inside.
- Up to six conference calls are allowed simultaneously.
- When a two-party call is changed to a three-party call and vice versa, a confirmation tone is sent to all three parties. Eliminating the tone is programmable.
- The third party must have a CO button which is common to the CO line in use by the original parties.

Programming References

Section 4, System Programming,
[005] Flexible CO Button Assignment
[990] System Additional Information, Field (13)
Station Programming.....User Manual,
Flexible Button Assignment – Conference (CONF) Button

Feature References None

Operation References **DPT Features, SLT and ISDN Telephone Features;**
—User Manual Conference

Confirmation Tone

Description

At the end of many different functions the system confirms the success of the operation by sending a confirmation tone to the extension user through the speaker of the telephone.

Confirmation tone 1:

- (a) Indicates that the new setting differs from the previous setting.
- (b) Set or cancel the Electronic Station Lockout.



Confirmation tone 2:

- (a) Indicates that the new setting is identical to the previous setting.
- (b) In addition, sent when various features are successfully performed or accessed. (e.g. Call Hold; Automatic Callback Busy)
- (c) Sent when accessing external paging equipment. (e.g. Paging – All; Paging – External) Confirmation tone from external pagers can be enabled or disabled.



Confirmation tone 3:

Sent when a conversation is established just after dialling.

For example, when accessing the following features by the feature numbers:

- Call Park Retrieve
- Call Pickup
- Hold Retrieve
- Paging / Paging Answer
- TAFAS Answer

This tone can be eliminated by system programming so that the user can start talking instantly.



Confirmation tone 4:

Sent when moving from a two-party call to a three-party call, and vice versa. (These are caused by Conference.) It is possible to eliminate this tone by system programming.



Conditions

Confirmation Tone 1 and 2 are provided to reconfirm the assigned feature.

Programming References

Section 4, System Programming,
[\[805\] External Pager Confirmation Tone](#)
[\[990\] System Additional Information, Fields \(13\), \(16\)](#)

Feature References

None

Operation References

Not applicable.

Connected Line Identification Restriction (COLR)

Description

Allows the extension user to restrict the presentation of the called party's number to the calling party when the calling party is making the call. This feature is one of the ISDN services.

Conditions

If the presentation is enabled, the calling party can check the the called party's number before the called party is answered it (Connected Line Identification Presentation).

Programming References

Section 4, System Programming,
[\[100\] Flexible Numbering, COLR](#)
[\[419\] Subscriber Number Assignment](#)
[\[517\] Connected Line Identification Restriction](#)

Feature References

None

Operation References

—User Manual

DPT Features, SLT and ISDN Telephone Features;
Connected Line Indication Restriction (COLR)

Data Line Security

Description

Data Line Security is a function that can be set by system programming. Once set, communication between the extension and the other end is protected from signal intrusions such as Call Waiting and Hold Recall. Data equipment or a facsimile may be connected to an extension jack so that the user can perform data communications. During the communication, Data Line Security maintains secure data transmission against tones or barging in from other extensions.

Conditions

- If one extension in a conversation has set Data Line Security, it applies to the both extensions.
- The Intercept Routing – No Answer (IRNA) feature is not available for incoming calls to the extensions to which the Data Line Security feature is assigned.

Programming References

Section 4, System Programming,
[612] Data Line Security

Feature References

None

Operation References

Not applicable.

Dial Tone, Distinctive

Description

Four types of dial tone patterns are available to give some information about features enabled on the telephone set.

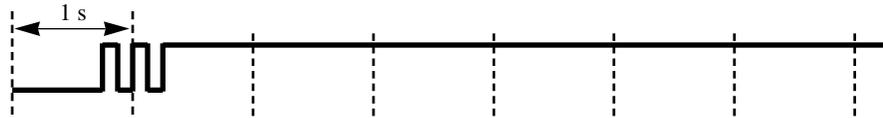
Dial tone 1: Normal dial tone. None of the features listed below are enabled.

Dial tone 2: Sounds when any one of the features below are set.



Absent Message Capability
Background Music (BGM) (for proprietary telephones only)
Call Forwarding
Call Pickup Deny
Call Waiting

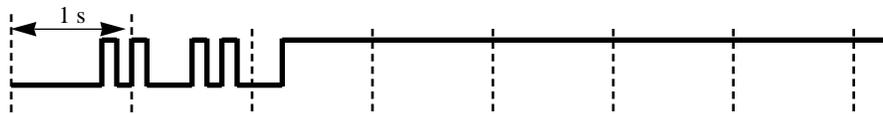
Data Line Security
 Do Not Disturb (DND)
 Electronic Station Lockout
 Pickup Dialling
 Timed Reminder



Dial tone 3: Sounds when performing Account Code Entry. Also sounds when answering Timed Reminder call.



Dial tone 4: Sounds when messages are waiting for the extension.



Conditions None

Programming References

No programming required.

Feature References None

Operation References Not applicable.

Dial Type Selection

Description

Allows you to select the desired dialling mode for each CO line regardless of the type of extension originating the call (pulse or tone).

There are three dialling modes available:

DTMF (Dual Tone Multi-Frequency) Mode

The dialling signal from an extension, either in tone or pulse, is converted to tone dialling. DTMF signals are transmitted to the CO line.

Pulse Dial (Rotary) Mode

The dialling signal from an extension, either in tone or pulse, is converted to pulse dialling. Pulse signals are transmitted to the CO line.

Call Blocking Mode

Set this mode on CO lines that can receive both tone and pulse, but under contract with the Central Office for pulse dialling only. When dialling to the line using an MF4 telephone, only pulse signals are sent to the Central Office.

Conditions

- It is possible for the extension user to temporarily convert the pre-assigned pulse dialling mode to DTMF mode (Pulse to Tone Conversion). DTMF mode cannot be changed to pulse.
- In case a CO line can receive both DTMF and pulse signals and is contracted for DTMF with a Central Office, DTMF mode should be selected for the line. If it is contracted for pulse dialling mode, Call Blocking mode should be selected for the line.
- If a line is assigned Pulse Dial mode, select an appropriate pulse speed, pulse break ratio, and inter-digit pause for the line, if needed. If a line is assigned DTMF, select an appropriate DTMF duration for the line, if needed.
- After a held call is retrieved, the dial mode goes back to the one originally programmed on the CO line.

Programming References

Section 4, System Programming,
[\[402\] Dial Mode Selection](#)
[\[403\] Pulse Speed Selection](#)
[\[404\] DTMF Time](#)
[\[990\] System Additional Information, Fields \(17\), \(21\), \(49\)](#)

Feature References

Section 3, Features,
End-to-End DTMF Signaling Pulse to Tone Conversion
(Tone Through)

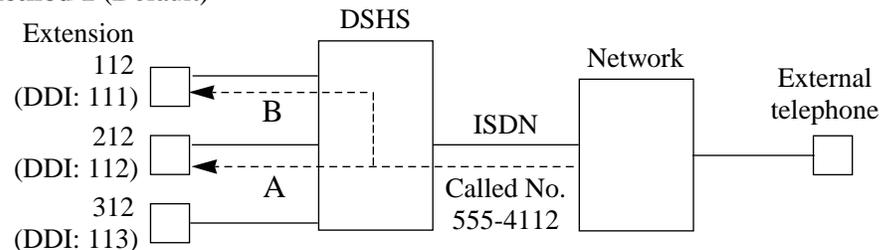
Operation References Not applicable.

Direct Dialling In (DDI)

Description

Provides automatic direction of an incoming ISDN S0 line call to a specific extension. Assignable destinations are:(1) Operator; (2) extension; (3) Hunting Group; (4) TAFAS; (5) modem.* This requires a number received from the ISDN network. The number is converted to a specific extension number by using a pre-programmed conversion table.

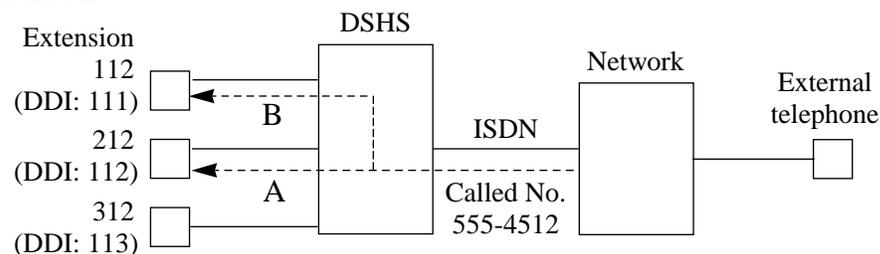
Method 1 (Default)



Explanation

1. An incoming call from the ISDN network reaches your DSHS (Digital Super Hybrid System). The ISDN network informs DSHS of the called number.
2. DSHS converts the number as follows:
 - Received number (555-4112) – subscriber number (5554) = 112
 - When “DDI transformation number” is selected, the call is directed to extension 212 (A).
 - When “extension” is selected, the call is directed to extension 112 (B).

Method 2



Explanation

1. An incoming call from the ISDN network reaches your DSHS (Digital Super Hybrid System). The ISDN network informs DSHS of the called number.
2. DSHS converts the number as follows:
 - Received number (555-4512) – deleted 5 digits (55545) = 12
 - “12” + added number (1) = 112
 - When “DDI transformation number ” is selected, the call is directed to extension 212 (A).
 - When “extension” is selected, the call is directed to extension 112 (B).

To select Method 1 or Method 2 depends on the program [990] Field (38) and to select “DDI transformation number” or “extension” depends on the program [990] Field (37).

Conditions

- DDI service can be enabled or disabled on a CO line basis.
- After the extension number is determined, the system operates the call in the same way as the DIL 1:1 operation.
- If a called number cannot be converted to an extension number or DDI transformed number, the call is sent to an IRNA destination.
- It is possible to deny answering the direct dialling in call on a Class of Service basis.
- This feature activates when “Point” is assigned in the program [424] “ISDN Configuration.”

Connection References

Section 2, Installation,

2.4.2 CO Line Connection (Optional Card)

2.4.2 CO Line Connection (Optional Unit)

Programming References

Section 4, System Programming,

[111] [DDI Removed Digit / Added Number Assignment](#)

[112] [DDI Number Assignment for Floating Extension](#)

[420] [Direct Dialling In — Day](#)

[424] [ISDN Configuration](#)

[429] [Direct Dialling In — Night](#)

[618] [ISDN DDI Number / Extension Number Transformation](#)

[619] [ISDN DDI Number / ISDN Extension Number Transformation](#)

[990] [System Additional Information, Fields \(37\), \(38\), \(50\) and \(51\)](#)

Feature References

Section 3, Features,

Do Not Disturb for Direct Dialling In Call

Operation References Not applicable.

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Direct In Lines (DIL)

Description

Enables an incoming outside call to go directly to one or more answering points.
DIL 1:1 puts an incoming outside call to a single destination. Assignable destinations are: (1) extension; (2) modem*; or (3) external pager. This CO line can be used by multiple extension users to make calls but can be used by only one extension to receive calls.
DIL 1:N puts an incoming outside call to multiple destinations. Assignable destinations are extensions only. This CO line can be used by multiple extension users to make and receive calls.
Both DIL 1:1 and 1:N can have different destinations for day and night modes (Night Service).

Conditions

- If a CO line is programmed for both DIL 1:1 and DIL 1:N, it is regarded as a DIL 1:1 line.
- DIL 1:1 to the modem* allows the caller to perform remote administration. DIL 1:1 to an external pager causes the pager to ring when receiving incoming calls (TAFAS feature).

Programming References

Section 4, System Programming,
[\[407\]–\[408\] DIL 1:1 Extension — Day / Night](#)
[\[603\]–\[604\] DIL 1:N Extension and Delayed Ringing — Day / Night](#)

Feature References

None

Operation References

Not applicable.

Display, Call Information

Description

The display proprietary telephone shows the user the following call information:

Extension number and name

These are shown when calling or when called by an extension user and during an established intercom call.

A display example: 123: Smith

Dialled telephone number

This is shown when dialling the telephone number.

A display example: 91234567890

Number or name of the caller

These are shown when receiving an incoming outside call on ISDN network.

Display examples: 0712225555

JOHN WHITE

CO line number and name

This is shown when receiving an outside call.

A display example: CO03:AB COMPANY

Charge Meter

This is shown during an established outside call.

A display example: CO01:00005

Charge Fee

This is shown during an established outside call.

A display example: CO01:£00001.15

Call duration

This is shown during an established incoming outside call.

The display remains for five seconds after the call is finished.

A display example: CO 02 0:02'28

Conditions

- Extension numbers and names, and CO line names are programmable. If no name is stored, only the number is displayed.
- The display shows no intercom call duration.
- The outgoing outside call duration starts when the programmable timer expires.
- It is programmable to select the first display, meter or charge, by system programming. To alternate the display, press the CO button.
- The displayed currency denomination can be programmed by system programming.

Programming References

Section 4, System Programming,
[003] Extension Number Set
[004] Extension Name Set
[117] Charge Display Selection
[125] Assignment of Denomination
[212] Call Duration Count Start Time
[421] CO Line Name Assignment

Feature References

Section 3, Features,
Charge Fee Reference
CO Incoming Call Information Display

Operation References Not applicable.

Display, Extension Programmed Data

Description

Allows the display proprietary telephone user to confirm the features assigned on the buttons on the telephone. When it is on-hook (that is, when the handset is on the cradle and the SP-PHONE button is off), pressing a button displays the use of the button or the information assigned to the button for five seconds.

Conditions

- Display examples
 - (1) If REDIAL; SAVE; or One-Touch Dialling button is pressed, the stored number is displayed: 950-1001PP12345&
 - (2) If the DSS or MESSAGE button is pressed, the extension number and the name (if assigned) stored under the DSS button or the source of the Message Waiting is displayed: 223: Tony
 - (3) If Account button is pressed, the display shows: Account
 - (4) If FWD/DND button is pressed, the selected feature assigned on the button is shown as follows:
 - (a) If the Do Not Disturb feature is assigned: Do Not Disturb
 - (b) If Call Forwarding- All Calls to extension 223 is assigned: FWD(All) Ext223
 - (c) If Call Forwarding – Busy to extension 234 is assigned: FWD(BSY) Ext234
 - (d) If Call Forwarding – No Answer to extension 345 is assigned: FWD(NA) Ext345
 - (e) If Call Forwarding – Busy / No Answer to extension 200 is assigned: FWD(B/NA) Ext200
 - (f) If Call Forwarding – To CO Line number 91201431 is assigned: FWD(CO) 91201431

- If the display characters exceed 16 digits, the mark “&” is shown at the right-hand edge.
- This is used to display the data programmed for each PF (Programmable Feature), DSS, SAVE, or REDIAL button. If Full-One Touch Dialling is enabled on the telephone Full-One Touch Dialling will be active instead.

Programming References

No programming required.

Feature References None

Operation References Not applicable.

Display, Self-Extension Number

Description Allows the display proprietary telephone user to display their own jack number and extension number in station programming mode.

Conditions Display example
If the jack number is 02 and the extension number is 202:
Jack02<=>EXT202

Programming References

Station ProgrammingUser Manual,
Self-Extension Number Confirmation

Feature References None

Operation References Not applicable.

Display, Time and Date

Description Offers the display proprietary telephone user a display of either the present time and the date or the date and the day of the week. It is displayed while on-hook.

- Conditions**
- There are two types of display:
Display example 1: Day, Month, Time: 1 Jan 12:00AM
Display example 2: Day, Month, Year, Day of the Week:
1 Jan 1994 SAT
 - The present date and time are set by system programming.

Programming References

Section 4, System Programming,
[000] Date and Time Set

Feature References None

Operation References **Appendix**
—User Manual Display Examples

Display Contrast Adjustment

Description Allows the display proprietary telephone user to adjust the display contrast.

Conditions The adjusting method depends on the type of proprietary telephone (PT) you have. For a digital PT, Soft buttons and Volume button are used to sharpen the contrast to one of three levels. For an analogue PT, a sliding lever on the telephone (CONTRAST selector) is used to select one of three available levels.

Programming References

Configuration.....User Manual,
Initial Settings for the KX-T7400 Series
Initial Settings for the KX-T7200 Series

Feature References None

Operation References Not applicable.

Do Not Disturb (DND)

Description

Allows an extension user to appear busy to an incoming extension call or allows to transfer an incoming outside call to the assigned extension. This can be set or cancelled by the extension user.

Conditions

- If your proprietary telephone (PT) is not supplied with the FWD/DND button, it can be assigned on a flexible button.
- DND does not work for the following calls: doorphone calls; recalls for hold / Timed Reminder alarm.
- A PT user in DND mode can answer a call by pressing the button showing the arrival of the call.
- An extension in DND mode can be called by other extension users who are allowed to override DND in their Class of Service (Do Not Disturb Override).
- The following extension cannot set DND: operator, the Call Forwarding (C.FWD) destination or the DND destination.
- When the extension has set the C.FWD, DND or DND for Direct Dialling In Call, the extension cannot be a DND destination.
- Setting this feature cancels C.FWD or DND for Direct Dialling In Call.
- If the destination extension has DND activated, then the DSS button corresponding to it will light up red. This indicates to the proprietary telephone or DSS console user that the destination extension is unavailable.

Programming References

Section 4, System Programming,
[\[005\] Flexible CO Button Assignment](#)
[\[100\] Flexible Numbering, Call forwarding / do not disturb](#)
Station Programming.....User Manual,
Flexible Button Assignment – FWD/DND Button

Feature References

Section 3, Features,
Do Not Disturb for Direct Do Not Disturb (DND) Override
Dialling In Call

Operation References —User Manual

DPT Features, SLT and ISDN Telephone Features;
Do Not Disturb (DND)

Do Not Disturb for Direct Dialling In Call

Description Allows the pre-assigned extension user to reject to answer the direct dialling in call on Class of Service basis. The rejected call will be transferred to an operator. The operator cannot reject the direct dialling in call. This feature is one of the ISDN services.

Conditions

- Setting this feature cancels Call Forwarding or DND.
- If the destination extension has DND activated, then the DSS button corresponding to it will light up red. This indicates to the proprietary telephone or DSS console user that the destination extension is unavailable.

Programming References

Section 4, System Programming,
[\[100\] Flexible Numbering, Do not disturb for DDI](#)
[\[514\] Do Not Disturb for Direct Dialling In Call](#)

Feature References **Section 3, Features,**
Direct Dialling In (DDI)

Operation References **DPT Features, SLT and ISDN Telephone Features;**
—User Manual Do Not Disturb For Direct Dialling In Call

Do Not Disturb (DND) Override

Description Permits the pre-assigned extension user to call another user who sets the Do Not Disturb feature. Dialling '2' enables the caller to override the DND programmed on the called extension's telephone and causes the telephone to ring.

Conditions Class of Service (COS) programming determines the extension users who can perform DND Override.

Programming References

Section 4, System Programming,
[\[507\] Do Not Disturb Override](#)

Feature References **Section 3, Features,**
Do Not Disturb (DND)

Operation References **DPT Features, SLT and ISDN Telephone Features;**
—User Manual Do Not Disturb (DND) Override

Door Opener

Description

Allows the extension users to unlock the door for a visitor from their telephones. The door can be unlocked by extension users who have been programmed to receive doorphone calls. However, while engaged on a doorphone call, any extension user can open the door from the telephone to let the visitor in.

Conditions

- It is needed to install a user-supplied door opener on each door to be opened. Two door openers can be installed on each system. System Connection* provides for four door openers.
- When a visitor presses the Call button on the doorphone, the system may automatically open the door, if the doorphone has a built-in door opener. It is required to set by system programming.

Connection References

Section 2, Installation,
2.4.8 Doorphone and Door Opener Connection

Programming References

Section 4, System Programming,
[\[100\] Flexible Numbering, Door opener](#)
[\[122\] Automatic Door Open Assignment](#)
[\[511\] Door Open Access](#)
[\[607\]–\[608\] Doorphone Ringing Assignment — Day / Night](#)

Feature References

Section 3, Features,
Doorphone Call

Operation References

—User Manual

DPT Features, SLT and ISDN Telephone Features;
Doorphone Call

Doorphone Call

Description

Your system supports two doorphones. If a visitor presses the doorphone button, pre-assigned extensions are rung. The extension who answers the call can talk to the visitor. It is possible for any extension user to originate a call to a doorphone.

Conditions

- You need to install an optional Doorphone.
- Two doorphones can be installed on each system. System Connection* provides for four doorphones.
- It is necessary to program the extensions that can receive calls from each doorphone during day and night mode.
- If no extension user answers an incoming doorphone call within 30 seconds, the call stops ringing and is cancelled.
- While engaged on a doorphone call, any extension user can open the door from the telephone to let the visitor in (Door Opener). This requires a user-supplied door opener.

Connection References

Section 2, Installation,
2.4.8 Doorphone and Door Opener Connection

Programming References

Section 4, System Programming,
[\[100\] Flexible Numbering, Doorphone call](#)
[\[607\]–\[608\] Doorphone Ringing Assignment — Day / Night](#)

Feature References

Section 3, Features,
Door Opener

Operation References —User Manual

DPT Features, SLT and ISDN Telephone Features;
Doorphone Call

Doorphone Call Forwarding by ISDN

Description

Doorphone calls can be forwarded by ISDN S0 lines. The programs [607]–[608] become available when this feature is set to disable.

Conditions

- If the transferred call is not answered before the programmed intercept time, the line is disconnected.
- If the doorphone button is pressed again before the call is answered, the intercept timer starts again.
- When the LCR feature is functioning, the data of Jack 01-1 is used as the itemized code programmed in [7003] “Itemized Code Set.” The data of Operator 1 is also available.

Programming References

Section 4, System Programming,
[625]–[626] Doorphone Call Forwarding — Day / Night
[990] System Additional Information, Field (61)

Feature References

Section 3, Features,
Doorphone Call

Operation References —User Manual

DPT Features, SLT and ISDN Telephone Features;
Doorphone Call

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DSS Console

Description

The Direct Station Selection (DSS) Console provides direct access to extensions and features and busy lamp display.

The DSS Console must be programmed to work with a proprietary telephone (PT). System Programming assigns the jack numbers of the DSS Console and its associated PT.

Up to four consoles can be installed per system. A PT can be paired with up to four DSS Consoles. The paired telephone user can carry out the following operations using the DSS Console:

- Direct access to an extension (Direct Station Selection)
- Quick access to an outside party (One-Touch Dialling)
- Easy transfer of an outside call to an extension
(The programmable One-Touch Transfer feature provides simplified operation.)
- Quick access to a system feature

The above functions are activated simply by pressing buttons on the console which were pre-programmed as function buttons.

DSS Consoles are provided with the following buttons listed below:

KX-T DSS Consoles:

Buttons	7040	7240	7440	7441
DSS	✓ (32)	✓ (32)	✓ (64)	✓ (48)
PF (Programmable Feature)	✓ (16)	✓ (16)		
ANSWER				✓
RELEASE				✓

✓ : The button is provided on the designated telephones.

(x) : Shows the number of buttons only if multiple buttons are provided.

The functions of the listed buttons are described below:

DSS (Direct Station Selection) buttons: Used to access extensions. Every button is programmed to correspond to an extension. Pressing a button allows the user to call the corresponding extension. Every button is provided with an indicator (Busy Lamp Field), which shows the current state of the corresponding extension as shown in the Table below:

Light	State of extension
Off	Idle
On	Busy / DND

Busy Lamp Field Table

Electronic Station Lockout

Description

Allows the extension users to lock their stations so that other users cannot make outgoing outside calls. Any 3-digit numeric code can be used to lock the station. The same code is used to unlock it.

Conditions

- Making intercom calls and receiving intercom or outside calls are permitted on the locked station.
- Remote Station Lock Control overrides Electronic Station Lockout. If the operator sets Remote Station Lock on a station that has already been locked by the station user, the user cannot unlock it.
- It is programmable to admit the press of the Register Recall button during an outside call on the locked station.
- Emergency dial numbers programmed in [311] “Emergency Dial Number Set” can be dialled on a locked station.

Programming References

Section 4, System Programming,
[\[100\] Flexible Numbering, Electronic station lockout](#)
[\[990\] System Additional Information, Field \(15\)](#)

Feature References

Section 3, Features,
Remote Station Lock Control

Operation References —User Manual

DPT Features, SLT and ISDN Telephone Features;
Electronic Station Lockout

Emergency Call

Description Allows the extension user to dial out a pre-assigned emergency number after seizing the CO line.

- Conditions**
- Emergency numbers are allowed to call even in the following cases;
 - in Account Code – Verified mode
 - in any toll restriction level
 - after the pre-assigned charge limit is reached
 - in Electronic Station Lockout
 - A maximum of ten emergency numbers are assignable. Any number can be stored as an emergency number. (999) and (112) are already stored by default settings.
 - The LCR feature is not available for the emergency call.

Programming References

Section 4, System Programming,
[\[311\] Emergency Dial Number Set](#)

Feature References None

Operation References DPT Features, SLT and ISDN Telephone Features;
—User Manual Emergency Call

End-to-End DTMF Signalling (Tone Through)

Description DTMF signalling is required for access to special network services offered by some telephone companies. This system allows the proprietary telephone user to send DTMF signals to the line during an established call.

- Conditions**
- If the dial type of the line is assigned to DTMF, Tone Through mode is established automatically after the dialling sequence is finished and the call is established.
 - If the dial type of the line is assigned to dial pulse, Tone Through mode is established after the dialling sequence is finished and the “*#” buttons are pressed (Pulse to Tone Conversion).
 - This function also applies to extension and conference calls.

Programming References

No programming required.

Feature References Section 3, Features,
Dial Type Selection Pulse to Tone Conversion

Operation References Not applicable.

Extension Connection Assignment

Description Assign whether the extension user can perform all accesses or not.

Conditions

- The extension of the jack number 01 should be set to “connect.”
- If the destination of DIL 1:1 or DDI is set to “disconnect,” the call is transferred to an operator.

Programming References

Section 4, System Programming,
[\[611\] Extension Connection Assignment](#)

Feature References None

Operation Reference Not applicable.

Extension Group

Description The system supports 16 extension groups. Any member of an extension group can pick up a call directed to another group member (Group Call Pickup) or can make a voice announcement to another group member (Paging – Group).

Conditions

- Every extension should belong to an extension group and can belong to more than one group simultaneously.
- If System Connection* is employed, an extension group can include extensions on both systems.
- The floating number can be assigned on extension group basis.

Programming References

Section 4, System Programming,
[\[602\] Extension Group Assignment](#)

Feature References **Section 3, Features,**
Call Pickup, Group Paging – Group

Operation References Not applicable.

External Feature Access

- Description** Allows the extension user to have access to the features of a host PBX or Central Office, such as Call Waiting, etc. Register Recall signal can be sent out to the CO line.
- Conditions**
- This feature is effective only during an outside call.
 - The Register Recall Signal must be assigned as required by the host PBX or CO line.
 - With a proprietary telephone, the RECALL or FLASH/RCL button, or the feature number is used to perform this function. With a single line telephone, the feature number is used to perform this feature.
 - During outside calls, a RECALL or FLASH/RCL stored in System Speed Dialling, Station Speed Dialling or One-Touch Dialling functions as External Feature Access, not as Recall.

Programming References

Section 4, System Programming,
[\[100\] Flexible Numbering, External feature access](#)
[\[413\] Register Recall Signal Time](#)
[\[990\] System Additional Information, Field \(3\)](#)

Feature References **Section 3, Features,**
Host PBX Access Recall

Operation References **DPT Features, SLT and ISDN Telephone Features;**
—User Manual External Feature Access

EXtra Device Port (XDP)

Description EXtra Device Port (XDP) expands the number of telephones available in the system by allowing an extension jack to contain two telephones. A digital proprietary telephone (DPT) and a single line telephone (SLT) or DSS console and SLT can be connected to the same jack but have different extension numbers so that they can act as completely different extensions.

- Conditions**
- XDP requires previous programming of the individual jack. Enable XDP mode for the desired jack by system programming. Immediately after changing the assignment, changed setting may not work for a maximum of eight seconds.
 - If an analogue proprietary telephone (APT) and SLT are connected to an XDP-enabled jack, neither telephones work.

- If XDP is disabled for the jack, DPT and SLT may be used as Paralleled Telephones. APT and SLT also can be used as Paralleled Telephones.

Connection References

Section 2, Installation,
2.3.4 EXtra Device Port (XDP) Connection

Programming References

Section 4, System Programming,
[\[600\] EXtra Device Port](#)

Feature References

Section 3, Features,
Paralleled Telephone

Operation References Not applicable.

Flexible Numbering

Description

The numbers used for the access codes of system features and the number used for extension numbers are not fixed. They can be set as required provided there are not any conflicts. Feature numbers can be from one to three digits, utilizing numbers “0 through 9” as well as “*” and “#.” Extension numbers can be two to four digits in length. Any number can be set as the leading first or second digit. If one digit is assigned as the leading digit, some extensions have 2-digit numbers and some have 3-digit numbers. If two digits are assigned as the leading digits, some have 3-digit numbers and some have 4-digit numbers.

Flexible Feature Numbers

Number	Feature	Default
01	1st hundred extension block	2
02	2nd hundred extension block	3
03 - 16	3rd through 16th hundred extension block	None
17	Operator call	0
18	Automatic line access / LCR	9
19	CO line group line access	8
20	System speed dialling	*
21	Station speed dialling	6*
22	Station speed dialling programming	60
23	Doorphone call	61
24	Paging – external	62
25	Paging – external answer / TAFAS answer	42

3 Features

F

Flexible Feature Numbers

Number	Feature	Default
26	Paging – group	63
27	Paging – group answer	43
28	Call pickup, CO line	4 *
29	Call pickup, group	40
30	Call pickup, directed	41
31	Call hold	50
32	Call hold retrieve – intercom	51
33	Call hold retrieve – CO line	53
34	Last number redial	#
35	Call park / call park retrieve	52
36	Account code entry	49
37	Door opener	55
38	External feature access	64
39	Station feature clear	790
40	Message waiting	70
41	Not available	—
42	Call forwarding / do not disturb	710
43	Call pickup deny	720
44	Not available	—
45	Call waiting / OHCA / Whisper OHCA	731
46	Not available	—
47	Pickup dialling	74
48	Absent message	750
49	Timed reminder	76
50	Electronic station lockout	77
51	Night service mode	78
52	Parallel telephone mode	69
53	Background music – external	65
54	Paging – deny	721
55	Primary COS select	791
56	Secondary COS select	793
57	Log-in / log-out	45
58	Operator 1 call	None
59	Operator 2 call	None
60	Automatic callback busy cancel	46
61-69	Not available	—
70	Timed reminder remote	7 *
71	CO incoming call information log mode	56
72	Do not disturb for DDI	54
73	CLIR	59
74	COLR	58
75	CO incoming call information log lock	57
76†	Live call screening password control†	799
77	System working report	794
78	Super extra device port (SXDP)	48

†: Available when the Digital Super Hybrid System is connected to a Digital Proprietary Telephone capable Panasonic Voice Processing System (one that supports digital proprietary telephone integration; e.g. KX-TVP100).

Fixed Feature Numbers

Feature	Default
While busy tone is heard	
Busy Station Signalling (BSS)	2
Off-Hook Call Announcement (OHCA)	2
Whisper OHCA	2
Automatic Callback Busy	6
While Do Not Disturb tone is heard	
Do Not Disturb Override	2
While calling or talking	
Conference	3
Door Open	5
Alternate Calling – Ring / Voice	*
Pulse to Tone Conversion	* #
Account Code Delimiter	# / 99
When the set is on-hook	
Time display / date display switching	*
Day / night mode display	#

Conditions

- Flexible feature numbers can only be dialled during dial tone.
- The following are examples of feature number conflicts:
Examples: 1 and 11, 0 and 00, 2 and 21, 10 and 101, 32 and 321, etc.
- Some flexible feature numbers require additional digits to make the feature active. For example, to set Call Waiting, the feature number for “Call Waiting” must be followed by “1” and to cancel it, the same feature number should be followed by “0.”

Programming References

Section 4, System Programming,
[\[003\] Extension Number Set](#)
[\[100\] Flexible Numbering](#)

Feature References None

Operation References Not applicable.

Floating Station

Description

You can assign virtual extension numbers for resources to make them appear to be extensions. These numbers are defined as floating numbers (FN). The following resources can have floating numbers:

- (1) External paging instruments: used for TAFAS feature. For KX-TD816, two FNs are available. For KX-TD1232, four FNs are available.

These FNs can be assigned as:

- a) DIL 1:1 destination
- b) Intercept Routing destination

- * (2) Modem: used for system administration. One FN is available.

This can be assigned as:

- a) DIL 1:1 destination
- b) and also can be used as an extension number to call the modem.

- (3) Hunting group: used for Station Hunting feature. 32 FNs are available. These FNs can be assigned as:

- a) DIL 1:1 destination
- b) Extension
- c) Intercept Routing destination

- (4) Digital Test Access: used for testing. One DTA is available. The FN can be used as an extension.

Conditions

Floating numbers cannot be used for setting a feature such as Call Forwarding, etc.

Connection References

Section 2, Installation,
2.4.7 Remote Card Installation

Programming References

Section 4, System Programming,
[\[100\] Flexible Numbering, 1st through 16th hundred extension blocks](#)
[\[813\] Floating Number Assignment](#)

Feature References

None

Operation References

Not applicable.

Full One-Touch Dialling

Description

Allows the proprietary telephone user to make a call or have access to a system service with one button. There is no need to turn the SP-PHONE / MONITOR button on before pressing the button, which is required for One-Touch Dialling. Handsfree operation is automatically provided by pressing the One-Touch Dialling, DSS, REDIAL, or SAVE button.

Conditions

- It is necessary to program automatic handsfree dial mode.
- This feature is also available with DSS buttons on a DSS Console.
- This feature is also available with the display operation for KX-T7235, KX-T7431, KX-T7431 or KX-T7436 (Special Display Features).

Programming References

Station ProgrammingUser Manual,
Full One-Touch Dialling Assignment

Feature References

Section 3, Features, Button, Direct Station Selection (DSS) One-Touch Dialling	Redial, Last Number Redial, Saved Number Special Display Features
--	---

Operation References

—User Manual

DPT Features,
Full One-Touch Dialling

Handset / Headset Selection

Description The system supports the use of headsets on proprietary telephones.

Conditions

- The headset is an user-supplied item.
- To set headset mode on a digital proprietary telephone (PT), use station programming. To set headset mode on an analogue PT, use the handset / headset selector provided on the set and / or on the headset.

Programming References

Station ProgrammingUser Manual,
Handset/Headset Selection

Feature References None

Operation References None

Handset Microphone Mute

Description Allows the KX-T7400 series digital proprietary telephone user to turn off the handset microphone, for privacy.

Conditions

- This is effective for the handset microphone only. Only your voice will be muted during a handset conversation.
- The user can hear the other party's voice during Handset Microphone Mute.

Programming References

No programming required.

Feature References None

Operation References **DPT Features,**
—User Manual Handset Microphone Mute

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Handsfree Answerback

Description Allows the speakerphone telephone user to talk to a caller without lifting the handset, if the user has set handsfree answerback mode. If the user receives an intercom call in the mode, handsfree conversation is established immediately after the user hears beep tone and the caller hears confirmation tone.

- Conditions**
- Handsfree answerback mode is set or cancelled by pressing the AUTO ANSWER button.
 - This feature does not work for calls from outside parties or doorphone calls.
 - Handsfree Answerback set on a telephone overrides the Ring / Voice Intercom Alerting mode preset on the telephone; Handsfree conversation mode is established as soon as confirmation tone is sent.
 - Handsfree answerback mode is overridden and a ring tone is heard when an outside call is transferred to the extension where the mode is set.

Programming Reference

No programming required.

Feature References Section 3, Features,
Alternate Calling – Ring / Voice

Operation References DPT Features,
—User Manual Handsfree Answerback

Handsfree Operation

Description Allows the proprietary telephone user to dial and to talk to the other party without lifting the handset. Pressing an appropriate button provides handsfree mode.

- Conditions**
- This function can be utilized by pressing a button listed below when the SP-PHONE / MONITOR button indicator is off:
SP-PHONE button; MONITOR button; INTERCOM button; CO button
 - The KX-T7050 and the KX-T7250 can be used for handsfree dialling operations, etc., but cannot be used for handsfree conversation.
 - A single press of a One-Touch Button, DSS button, REDIAL button or a SAVE button also provides handsfree mode if Full One-Touch Dialling is enabled.

Programming References

No programming required.

Feature References

Section 3, Features,
Full One-Touch Dialling

Operation References

—User Manual

DPT Features,
Handsfree Operation

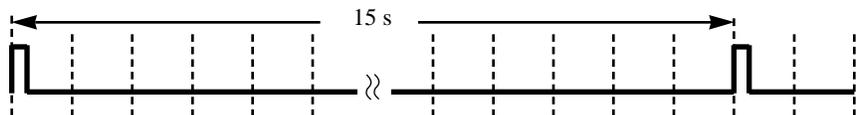
Hold Recall

Description

Prevents a call on hold from being kept waiting longer than a pre-determined time. If the timer expires, ringing or an alarm tone is generated as a reminder to the user who held the call. If the user is on-hook and its speaker-phone is off, the phone is rung. If the user is off-hook or in speakerphone mode when the timer expires an alarm tone is sent from the built-in speaker of a proprietary telephone (PT) or from the handset receiver of a single line telephone at 15-second intervals.

Conditions

- Hold Recall can be disabled by programming.
- The display PT flashes the indication of the held party for five seconds at 15-second intervals synchronized with the tone.
- Alarm tone is sent as follows:



Programming References

Section 4, System Programming,
[\[200\] Hold Recall Time](#)

Feature References

Section 3, Features,
Call Hold – CO Line
Call Hold – Intercom

Call Hold, Exclusive – CO Line
Call Hold, Exclusive – Intercom

Operation References

Not applicable.

Host PBX Access

Description

The system may be installed behind an existing host PBX. This is performed by connecting a line from the host to a CO line in the Digital Super Hybrid System.

Conditions

- To enable Host PBX Access, put the host PBX line in a CO line group. The user accesses the host PBX by selecting that CO line.
- A Host PBX Access Code is required to access CO lines of the host PBX.
- A pause, if programmed, can be inserted between the user-dialled Host PBX Access Code and the following digits (Automatic Pause Insertion). Program the pause time required by the Host PBX for that CO line group.
- Access to the host PBX during a conversation is also possible (External Feature Access).

Programming References

Section 4, System Programming,
[\[411\] Host PBX Access Codes](#)
[\[412\] Pause Time](#)

Feature References

Section 3, Features,
External Feature Access Pause Insertion, Automatic

Operation References

Not applicable.

HOTEL APPLICATION

Description Allows the operator to handle the front/operator services such as check-in / check-out, timed reminder (wake-up call) and room management. This operation is applicable to only the operator extension with the KX-T7235 or KX-T7436.

Check-In / Check-Out

Description Allows the operator to operate the check-in / check-out service. This feature can control the usage of an outside call by switching the Class of Service between primary and secondary, and count and print out the telephone charge and the other charges such as mini-bar.

- Conditions**
- It is required to enable the hotel application by system programming.
 - When the check-in is assigned, the Class of Service is set to the primary one and the charge counter will be cleared. When the check-out is assigned, the Class of Service is set to secondary one and the total telephone charge and the other charge will be displayed and printed out.
 - The telephone charge can be added the surcharge according to the pre-assigned margin rate. The pre-assigned tax rate can be also added.
 - If the operator uses the paired DSS console, the operator can refer the check-in status on DSS console.
 - It is possible to give a header to the printed bill such as hotel's name or greeting or to assign the starting location of output data with a personal computer.
 - It is possible to limit the telephone usage on a pre-assigned amount by system programming.

Programming References

Section 4, System Programming,
[\[010\] Budget Management](#)
[\[011\] Charge Margin and Tax Rate](#)
[\[123\] Hotel Application](#)
[\[990\] System Additional Information, Field \(33\)](#)

Feature References **Section 4, Features,**
Budget Management Charge Fee Reference

Operation References **Operator Service Features,**
—User Manual Hotel Application

Room Management

Description Allows the extension user to print out the information of a guest room (e.g. cleaning status of the room and the total of the minibar charge) with a telephone in each room. Absent messages No.6 through No.9 can be printed out.

Conditions None

Programming References

Section 4, System Programming,
[\[008\] Absent Messages](#)
[\[990\] System Additional Information, Field \(34\)](#)

Feature References **Section 3, Features,**
Absent Message Capability

Operation References **DPT Features, SLT and ISDN Telephone Features;**
—User Manual Hotel Application

Timed Reminder, Remote (Wake-Up Call)

Description Allows the operator to set, cancel and confirm the wake-up call remotely for the extension.

Conditions

- When either an operator or the extension sets a new time, the pre-set time is cleared.
- When a wake-up call is not answered, the operator's Alert indicator (KX-T7235 and KX-T7436 only) will flash.

Programming References

Section 4, System Programming,
[\[005\] Flexible CO Button Assignment](#)
[\[100\] Flexible Numbering, Timed reminder, remote](#)
Station Programming.....User Manual,
Flexible Button Assignment – Alert Button

Feature References **Section 3, Features,**
Timed Reminder

Operation References **Operator Service Features,**
—User Manual Hotel Application

Hunting Group

Description

The system supports thirty-two hunting groups. The station hunting feature is assigned on the hunting group basis. Hunting works when an incoming call arrives at an floating number for a hunting group. However, for VM/AA hunting, an incoming call to any extension number which belongs to a hunting group is hunted as well.

The following assignments are determined for the hunting group.

- Floating Extension Number
- The Hunting Group Name
- Numbers of Waiting Queues
- Overflow Status
- The Destination of Intercept Routing — Day/Night
- DDI number
- Hunting Type

Conditions

- Each extension can belong to more than one group simultaneously.

Programming References

Section 4, System Programming,
[\[106\] Station Hunting Type](#)
[\[112\] DDI Number Assignment for Floating Extension](#)
[\[131\] Hunting Group Assignment](#)
[\[132\] Hunting Group Name](#)
[\[133\] Hunting Overflow](#)
[\[134\]–\[135\] Hunting Intercept — Day / Night](#)
[\[813\] Floating Number Assignment](#)

Feature References

Section 3, Features,
No Reply Group
Ring Group
Station Hunting
Uniform Call Distribution (UCD)

Operation References Not applicable.

Integrated Services Digital Network (ISDN)

Description

The system can assign which subscriber number is answered and which extension receives a call by the ISDN point-to-multi-point configuration. The optional ISDN S0 Line Card/Unit, KX-TD280, KX-TD281 or KX-TD282 is required. A maximum of ten Multiple Subscriber Numbers (MSN) can be assigned to each ISDN S0 bus with point-to-multi-point configuration.

Point-to-point

A call sent through one ISDN S0 port is reached to the pre-assigned extension directly with Direct Dialling In (DDI) contract.

Point-to-multi-point

A call sent through one ISDN S0 port is reached to the multiple extensions. It is possible to assign the multiple telephone numbers on ISDN S0 port basis.

When a call through the ISDN S0 line with the point-to multi-point configuration is reached to your unit;

- The call is refused, if the dialed number is not fitted with the stored MSN.
- The call is connected to the pre-assigned extension if the dialed number is fitted with the stored MSN.

If no MSN number sent through the ISDN S0 line is found, the call is reached with standard method.

Conditions

None

Connection References

Section 2, Installation,

2.4.2 CO Line Connection

2.4.6 Installing Expansion Unit (KX-TD170 / KX-TD180 / KX-TD280)

Programming References

Section 4, System Programming,

[\[424\] ISDN Configuration](#)

[\[437\] Multiple Subscriber Number](#)

[\[438\]–\[439\] Extension Ringing Assignment – Day/Night for ISDN MSN](#)

Feature References

None

Operation References

Not Applicable.

Intercept Routing

Description

Provides automatic redirection of incoming outside calls. There are two types of Intercept Routing. In the first case, a call cannot be placed to the called party. This is called Rerouting. In the second case the call is not answered within a programmed time period. This is called Intercept Routing – No Answer (IRNA).

The following items can have the Intercept Routing destination.

- CO Line Group
- Extension
- Hunting Group

Conditions

- Intercept Routing applies to DIL 1:1, DIL 1:N, TAFAS, Call Forwarding, and Station Hunting.
- The final destination of intercepted calls must be programmed for day and night modes. There are four possible destinations:
 - 1) an extension
 - 2) an external pager
 - 3) a hunting group
 - 4) a phantom extension
- Intercept Routing is activated as shown below, depending on the combination of incoming type and called destination.

	Extension including Operator	External Pager/ Internal ISDN/ Phantom Extension	Hunting Group
DIL 1:N	Assigned CO line group	No incoming calls are received.	No incoming calls are received.
DIL 1:1	Registered extension	Assigned CO line group	Assigned hunting group
DDI	Registered extension	Assigned CO line group	Assigned hunting group
Intercept	No more Intercept Routing	No more Intercept Routing	Assigned hunting group

- If Call Forwarding to CO Line feature is set at the IRNA destination, the call will be forwarded to the specific outside party.

Programming References

Section 4, System Programming,

[\[203\] Intercept Time](#)

[\[409\]–\[410\] Intercept Extension — Day / Night](#)

[\[620\]–\[621\] Extension Intercept Routing — Day / Night](#)

Feature References

None

Operation References

Not applicable.

ISDN Extension

Description

The system supports terminal equipment with separate power supplies. For example, ISDN telephone, G4 Facsimile and personal computers which are connected to optional ISDN S0 Line Unit or Card: KX-TD280, KX-TD281 or KX-TD282. A maximum of eight terminal equipment can be connected to each ISDN S0 bus with point-to-multi-point configuration. Terminal equipment can be addressed individually with Multiple Subscriber Numbers (MSN). The MSN consists of the ISDN extension number and an additional digit, 0 through 9. If MSN is not assigned, all equipment on the same S0 bus are called simultaneously.

The following bearer capabilities can be supported:

<u>Transfer Mode</u>	<u>Transfer Capability</u>
Circuit	Unrestricted digital Speech 3.1 kHz Audio

The functions of terminal equipment are similar to single line telephone functions except for the following features:

- Automatic Callback Busy
- Call Forwarding
- Call Hold
- Call Park
- Call Pickup
- Call Transfer
- Call Waiting
- Conference
- Do Not Disturb
- Log-In / Log-Out
- Message Waiting
- Paging – Group Answer
- Pickup Dialling
- Timed Reminder

Conditions

- Class of Service and department code for ISDN port apply to all terminal equipment on the same S0 bus.

Connection References

Section 2, Installation

2.4.2 CO Line Connection (Optional Card)

2.4.4 CO Line Connection (Optional Unit)

Programming References

Section 4, System Programming,

[012] ISDN Extension Number Set

[013] ISDN Extension Name Set

[014] Budget Management on ISDN Port

[422] ISDN Port Type

3 Features

- [423] ISDN Layer 1 Active Mode
- [424] ISDN Configuration
- [425] ISDN Data Link Mode
- [426] ISDN TEI Mode
- [427] ISDN Extension Multiple Subscriber Number
- [428] ISDN Extension Progress Tone
- [437] Multiple Subscriber Number Set
- [438]–[439] Extension Ringing Assignment – Day/Night for ISDN MSN
- [613] ISDN Class of Service
- [615]–[616] Outgoing Permitted CO Line Assignment – Day/Night for ISDN Extension

- The possible parameter combinations are listed below. The underlined selections are recommended. The selections marked “*” are activated, regardless of the assignments.

Program	[422] ISDN Port Type	[423] ISDN Layer 1 Active Mode	[424] ISDN Configuration	[425] ISDN Data Link Mode	[426] ISDN TEI Mode
Parameter	CO	Permanent	Point	Permanent	<u>Fix</u> / Automatic
		—	Multipoint	—	—
	Extension	<u>Call</u> / <u>Permanent</u>	Point	<u>Call</u> / <u>Permanent</u>	Fix*
		<u>Call</u> / Permanent	Multipoint	Call*	Automatic*

Feature References None

Operation References **ISDN Telephone Features**
 —User Manual

Least Cost Routing (LCR)

Description

Least Cost Routing (LCR) is a system programmable feature that automatically selects the least expensive route available at the time a long distance call is made. Previous programming eliminates the necessity for the user to dial the access code of the least expensive carrier. The appropriate CO line group is selected and an appropriate access code is added before the number is outpulsed.

General Description

The dialling plan for long distance call is as follows:

01NX-NXX-XXXX

01NXX-NXXXXXX

(N=2-9; X=0-9)

<Example>

London	0171
	0181
Birmingham	0121
Edinburgh	0131
Glasgow	0141
Liverpool	0151
Manchester	0161
Tyneside	0191
Wearside	0191
Other Areas	01NXX

The charged fee is decided by three digits (NXX) following "0" of the area codes and time zone per carrier. For example, if charged fee by a carrier is as follows, program the carrier's fee in time zones. The system compares each carrier's charged fee and selects the least expensive carrier for the call.

Example of Charged Fee for Carrier

Area	Area 1	Area 2	...	Area 8
Area Code	021,0333,0444 0555, 0666	031,0344,0455 0566, 0677	...	061,091,0355 0577, 0588
Peak Rate (9 a.m.–1 p.m., Mon.–Fri.)	£1.00	£2.00	...	£5.00
Standard Rate (8 a.m.–9 a.m. and 1 a.m.–6 p.m., Mon.–Fri.)	£0.75	£1.50	...	£3.50
Cheapest Rate (6 p.m.–8 a.m., Mon.–Fri.) (6 a.m., Fri.–8 p.m., Mon.)	£0.50	£1.00	...	£2.00

LCR Programming consists of the following items:

Common Tables

(1) LCR Mode (Program [7000])

This program is used to turn on or off the LCR mode. If turned off, calls are sent to CO lines selected according to the Automatic Access CO Line Group Assignment table (Program [103]). If turned on, calls are sent to appropriate lines according to LCR programming tables. (Default=Disable)

If LCR mode is turned on, the user-dialled number is compared with the following tables:

(2) BTL Access Code Set (Program [7002])

This program is used to store the British Telecom Line (BTL) Access Code. (Default=121) If the system finds out the same number as the user-dialled number in this table, the call is sent to the CO lines selected from the Automatic Access CO Line Group Assignment table (Program [103]).

(3) Emergency Dial Number Set (Program [311])

This is used to store emergency dial numbers. The dial numbers defined in this table are not applied to LCR and Toll Restriction. If the system finds out the same number as the user-dialled number in this table, the call is sent to the CO lines selected from the Automatic Access CO Line Group Assignment table (Program [103]).

Emergency dial table

Entry	Dial
1	999
2	112
•	•
•	•
•	•
10	

(4) Automatic Access CO Line Group Assignment (Program [103])

Usually this table is used for automatic line access in non-LCR mode. In LCR mode, if the system cannot find out the dialled number in Carrier Access Tables or LCR Routing Plan Tables, or if the system finds out the same number as the user-dialled number in Emergency Dial Number Set table or LCR Exceptional Code Set table, this table is used to select a CO.

Automatic access CO line group table

Priority	1	2	3	4	5	6	7	8
CO line group	1	2	3	4	5	6	7	8

Note:

The 'X' and 'Y' in the following program addresses substitute:

X=carrier number 1-8

Y=table number 1-8

Carrier Access Tables

(1) LCR Carrier Code (Program [7X21])

This is used to store each carrier's access code. Example: Mercury Communications Line (MCL)=131. If the system finds out the same number as the user-dialled number in this table, the call is sent to the carrier's line selected from the LCR CO Line Group Assignment table (Program [7X23]).

(2) LCR CO Line Group Assignment (Program [7X23])

This program is used to assign CO lines available to access each carrier.

LCR Routing Plan Tables

(1) LCR Leading Digit Entry for Plans 1– 8 (Program [7X0Y])

The user-dialled area code is compared with this table. If the system finds out the same number in the table, a corresponding LCR Time and Fee Set table (Program [7X1Y]) is applied to the call.

(2) LCR Time and Fee Set (Program 7X1Y)

This table is used to register each carrier's fee in pounds per minute in each time zone. The system compares the current time and each carrier's charge fee by this table in order to decide the least expensive carrier.

3 Features

L

Example of programming tables

Route Plan Table 1

Leading digit table 1

01	021*
02	0333
03	0444
04	0555
05	0666
•	•
•	•
•	•
80	

•
•
•

Time zone and fee table 1

Monday		Tuesday		•••	Sunday	
Start time	Fee	Start time	Fee	•••	Start time	Fee
8:00AM	0.75	8:00AM	0.75	•••	All day	0.50
9:00AM	1.00	9:00AM	1.00	•••		
1:00PM	0.75	1:00PM	0.75	•••		
6:00PM	0.50	6:00PM	0.50	•••		

•
•
•

Route Plan Table 8

Leading digit table 8

01	061*
02	091*
03	0355
04	0577
05	0588
•	•
•	•
•	•
80	

Time zone and fee table 8

Monday		Tuesday		•••	Sunday	
Start time	Fee	Start time	Fee	•••	Start time	Fee
8:00AM	3.50	8:00AM	3.50	•••	All day	2.00
9:00AM	5.00	9:00AM	5.00	•••		
1:00PM	3.50	1:00PM	3.50	•••		
6:00PM	2.00	6:00PM	2.00	•••		

(3) LCR Carrier Modify Command (Program [7X22])

When the carrier is decided, this table is used to modify the user-dialled number as appropriate for the carrier. This table has the following commands:

- C** : Insert carrier code
- P** : Send a pause
- T** : Change to tone (DTMF) mode
- A** : Insert an Authorization code
- I** : Insert an Itemized code
- H** : Home Position — the original number is put here

A maximum of 16 commands can be assigned to a carrier.

(4) Authorization Code Set (Program [7X24])

This is used to register an authorization code of a carrier to a CO line. The code is inserted at the 'A' position of the LCR Carrier Modify Command.

Example

Authorization code table

CO No.	Authorization Code
01	11111
02	22222
03	33333
•	•
•	•
•	•
24	12121

(5) Itemized Code Set (Programs [7003] and [7004])

This is used to register an itemized code of an extension. The code is inserted at the 'I' position of the LCR Carrier Modify Command.

Example

Itemized code table

Extension No.	Itemized Code
201	201
202	202
203	203
•	•
•	•
•	•
364	364

(6) LCR Exceptional Code Set (Program [7X20])

This table is used to assign area codes that are excepted from LCR routing plans of the specified carrier. If the system finds out the same number as the user-dialled area code in this table, the call is sent to the CO line selected from Automatic Line Access CO Line Group Assignment table.

Example

LCR exceptional code table

01	0235
02	0332
•	•
•	•
•	•
80	

Programming Examples

(A) If you use BTL/MCL

If you use MCL only for long distance calls, you may program the following tables to decide the carrier. In the table the wild card characters “* * *” substitute all the digits except the codes in the LCR Exceptional Code Set table. All the dialled numbers except for the excepted codes are sent to the MCL. The excepted codes are sent to the BTL.

(1) Route Plan Table 1

Leading digit table 1

01	0* * *
02	
03	
04	
05	
•	•
•	•
•	•
80	

Time zone and fee table 1

Monday		Tuesday		•••	Sunday	
Start time	Fee	Start time	Fee	•••	Start time	Fee
				•••		
				•••		
				•••		
				•••		

(2) Exceptional code set table

01	0235
02	0332
•	•
•	•
•	•
80	

(B) If you use BTL/MCL/SPLASH TELECOM Line

If you use BTL/MCL/SPLASH TELECOM Line for long distance calls, you may program the following tables to decide the carrier. If you enter all area codes available, you should program eight hundreds area codes. However, you can use the wild card characters “* * *” for the largest number of area code. The wild card can be programmed at only one location of all the Leading Digit Entry tables 1 through 8 and the Exceptional Code Set table.

(1) Carrier Table for MCL

Route Plan Table 1 (“A” rate calls up to 56km)

Leading digit table 1 Time zone and fee table 1

01	021*
02	0333
03	0444
04	0555
05	0666
⋮	⋮
⋮	⋮
80	

Monday		Tuesday		⋮	Sunday	
Start time	Fee	Start time	Fee	⋮	Start time	Fee
8:00AM	0.75	8:00AM	0.75	⋮	All day	0.50
9:00AM	1.00	9:00AM	1.00	⋮		
1:00PM	0.75	1:00PM	0.75	⋮		
6:00PM	0.50	6:00PM	0.50	⋮		

Route Plan Table 2 (“B1” rate calls on frequently used route over 56km)

Leading digit table 2 Time zone and fee table 2

01	061*
02	091*
03	0355
04	0577
05	0588
⋮	⋮
⋮	⋮
80	

Monday		Tuesday		⋮	Sunday	
Start time	Fee	Start time	Fee	⋮	Start time	Fee
8:00AM	1.50	8:00AM	1.50	⋮	All day	1.00
9:00AM	2.00	9:00AM	2.00	⋮		
1:00PM	1.50	1:00PM	1.50	⋮		
6:00PM	1.00	6:00PM	1.00	⋮		

Route Plan Table 3 (“B” rate calls over 56km)

Leading digit table 3 Time zone and fee table 3

01	0***
02	
03	
04	
05	
⋮	⋮
⋮	⋮
80	

Monday		Tuesday		⋮	Sunday	
Start time	Fee	Start time	Fee	⋮	Start time	Fee
8:00AM	3.50	8:00AM	3.50	⋮	All day	2.00
9:00AM	5.00	9:00AM	5.00	⋮		
1:00PM	3.50	1:00PM	3.50	⋮		
6:00PM	2.00	6:00PM	2.00	⋮		

Exceptional table (Local Call)

01	0235
02	0332
⋮	⋮
⋮	⋮
80	

3 Features

L

(2) Carrier Table for SPLASH TELECOM Line

Route Plan Table 1 (“A” rate calls up to 56km)

Leading digit table 1 Time zone and fee table 1

01	021*
02	0333
03	0444
04	0555
05	0666
•	•
•	•
•	•
80	

Monday		Tuesday		•••	Sunday	
Start time	Fee	Start time	Fee	•••	Start time	Fee
8:00AM	0.50	8:00AM	0.50	•••	All day	0.40
9:00AM	1.00	9:00AM	1.00	•••		
1:00PM	0.50	1:00PM	0.50	•••		
6:00PM	0.40	6:00PM	0.40	•••		

Route Plan Table 2 (“B1” rate calls on frequently used route over 56km)

Leading digit table 2 Time zone and fee table 2

01	061*
02	091*
03	0355
04	0577
05	0588
•	•
•	•
•	•
80	

Monday		Tuesday		•••	Sunday	
Start time	Fee	Start time	Fee	•••	Start time	Fee
8:00AM	1.20	8:00AM	1.20	•••	All day	1.20
9:00AM	2.30	9:00AM	2.30	•••		
1:00PM	1.70	1:00PM	1.70	•••		
6:00PM	1.20	6:00PM	1.20	•••		

Route Plan Table 3 (“B” rate calls over 56km)

Leading digit table 3 Time zone and fee table 3

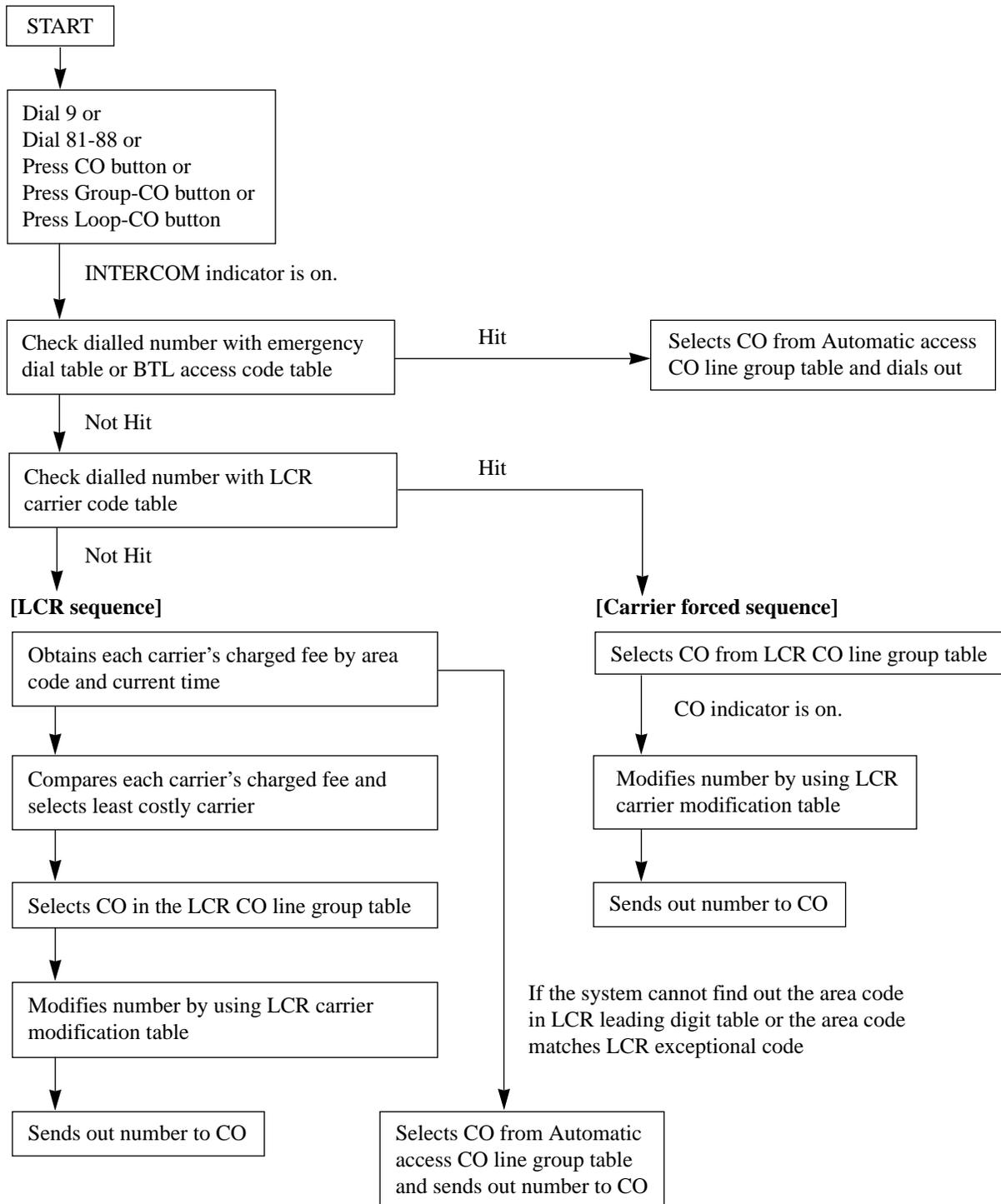
01	0***
02	
03	
04	
05	
•	•
•	•
•	•
80	

Monday		Tuesday		•••	Sunday	
Start time	Fee	Start time	Fee	•••	Start time	Fee
8:00AM	4.50	8:00AM	4.50	•••	All day	1.00
9:00AM	5.00	9:00AM	5.00	•••		
1:00PM	4.50	1:00PM	4.50	•••		
6:00PM	1.00	6:00PM	1.00	•••		

Exceptional table (Local Call)

01	0235
02	0332
•	•
•	•
80	

LCR Sequence chart



Conditions

- Toll Restriction check is done before LCR is applied.
- LCR works according to the selected dialling plan. If the user-dialled number is not found in the dialling plans, the dialled number is sent out with Local Access (Automatic line access) Code.
- This feature also applies to Call Forwarding – to CO Line.
- The same code with different digits may be assigned in program [7X0Y] “LCR Leading Digit Entry for Plans 1 through 8” or in program [7X20] “LCR Exceptional Code Set.” In this case, the code which has smaller digits takes the more expensive route is priority. To prevent this, enter “*” (wild card) after the code with the smaller digits. Examples are shown below:
<Examples>
 - (1) The code priority is as follows:
“033” in program [7102] > “0333” in program [7101]
In this case, “033*” should be assigned in program [7102].
 - (2) The code priority is as follows:
“044” in program [7201] > “0444” in program [7101]
In this case, “044*” should be assigned in program [7201].
 - (3) The code priority is as follows:
“0332” in program [7120] > “03323” in program [7120]
In this case, “0332*” should be assigned in program [7120].
- When making a call to an ISDN line using the memory dialling, and the number has a pause in it, the number after the pause will be sent to the line as DTMF signals. This function is useful when accessing a special network service which can be accessed only by the DTMF signaling. Program [990], field (64), is used to enable or disable this function (default: disabled).

Programming References

Section 4, System Programming,

- [100] Flexible Numbering, Automatic line access / LCR
- [103] Automatic Access CO Line Group Assignment
- [311] Emergency Dial Number Set
- [7000] LCR Mode
- [7002] BTL Access Code
- [7003] Itemized Code Set
- [7004] Internal ISDN Itemized Code Set
- [7X0Y] LCR Leading Digit Entry for Plans 1 through 8
- [7X1Y] LCR Time and Fee Set 1 through 8
- [7X20] LCR Exceptional Code Set
- [7X21] LCR Carrier Code
- [7X22] LCR Carrier Modify Command
- [7X23] LCR CO Line Group Assignment
- [7X24] Authorization Code Set
- [990] System Additional Information, Fields (43), (64)

Note:**X=carrier number 1-8****Y=table number 1-8**

Feature References **Section 3, Features,**
Line Access, Automatic

Operation References **DPT Features, SLT and ISDN Telephone Features;**
—User Manual Outward Dialling – Line Access, Automatic

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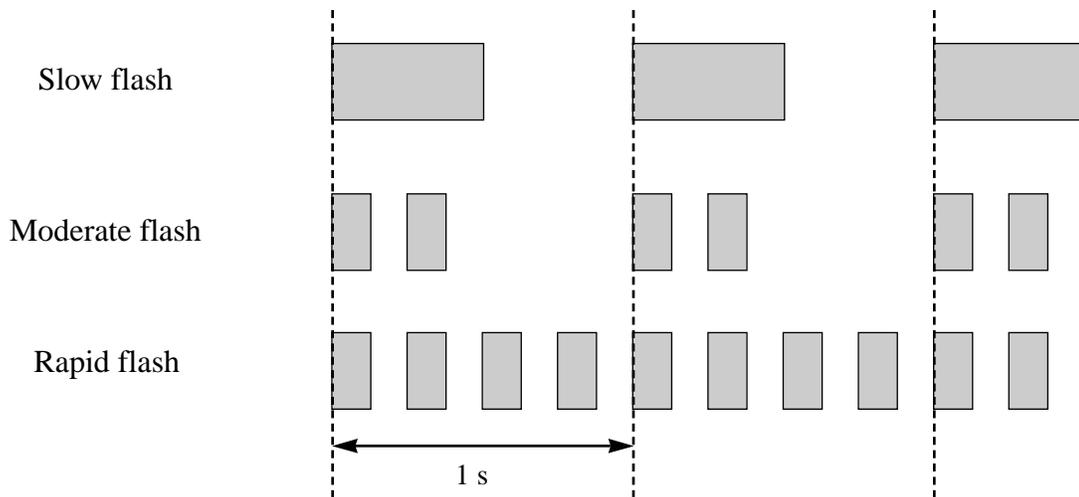
LED Indication, CO Line

Description

The LED (Light Emitting Diode) indicators of the buttons associated with CO lines tell the line conditions with a variety of lighting patterns. This allows the user to determine which lines are idle and which lines are in use. The table on the next page shows the lighting patterns and line conditions according to the CO button type.

LED Indicator	CO Line Status
Off	Idle
Green On	I-use
Green slow flash	I-hold
Green moderate flash	I-Exclusive Hold
Green rapid flash	Hold Recall / Incoming call
Red On	Other-use
Red slow flash	Other-hold

Flashing light (winks) patterns



Conditions

Red slow flash indication appears on the S-CO button only.

Programming References

Section 4, System Programming,
[\[005\] Flexible CO Button Assignment](#)
Station Programming.....User Manual,
 Flexible Button Assignment – Group-CO (G-CO) Button, Loop-CO (L-CO) Button, Single-CO (S-CO) Button

3 Features

L

Feature References Section 3, Features,
Button, Group-CO (G-CO) Button, Single-CO (S-CO)
Button, Loop-CO (L-CO)

Operation References Not applicable.

LED Indication, Intercom

Description The LED (Light Emitting Diode) indicator of the INTERCOM button indicates the line condition with a variety of lighting patterns. This allows the user to see the current state of the intercom line. The table below shows the lighting patterns and the intercom line conditions.

INTERCOM Button	Intercom Status
Off	Idle
Green on	Intercom call / Conference established
Green slow flash	Intercom call hold
Green moderate flash	Intercom call exclusive hold / Consultation hold
Green rapid flash	Incoming intercom / doorphone call

Conditions None

Programming References
No programming required.

Feature References Section 3, Features,
Busy Lamp Field

Operation References Not applicable.

Limited Call Duration

Description Limited Call Duration is a system programmable feature that disconnects an outside call when a specified timer expires. A warning tone is sent to the extension user 15 seconds, 10 seconds, and 5 seconds before the time-limit. Limiting the call duration can be enabled or disabled by Class of Service (COS) for each extension.

Conditions It is programmable to select the limited call, either incoming and outgoing call or outgoing call only.

Programming References

Section 4, System Programming,
[\[205\] Extension-to-CO Line Call Duration Time](#)
[\[502\] Extension-to-CO Line Call Duration Limit](#)
[\[990\] System Additional Information, Field \(12\)](#)

Feature References **Section 3, Features,**
Call Forwarding – to CO Line Call Transfer, Screened – to
CO Line

Operation References Not applicable.

Line Access, Automatic

Description Allows the extension user to dial the automatic line access number and access an idle line from the CO line groups assigned for the extension. The proprietary telephone user can use the Loop-CO button in place of the access number.

Conditions

- This feature functions with Least Cost Routing (LCR), if LCR is enabled. If so, the least expensive route is automatically selected.
- Each extension is subject to system programming items for CO lines available to access.
- An idle CO line is selected from the CO line groups assigned to the station. If one CO line group is available, an idle line is selected from that group. If multiple CO line groups are available, the CO line group hunting sequence is determined by system programming.

- This feature requires a CO button (G-CO, L-CO or S-CO) assignment on a proprietary telephone (PT). Dialling the line access code selects a CO button on a PT according to the priority:
S-CO > G-CO > L-CO on a hunted CO line group
- If Idle Line Preference – Outgoing is set on the telephone, the user can access an idle line only by going off-hook.
- The system waits for a programmed time before dialling after a CO line is seized.

Programming References

Section 4, System Programming,

[\[100\] Flexible Numbering, Automatic line access / LCR](#)

[\[103\] Automatic Access CO Line Group Assignment](#)

[\[211\] Dial Start Time](#)

[\[400\] CO Line Connection Assignment](#)

[\[605\]–\[606\] Outgoing Permitted CO Line Assignment — Day / Night](#)

Feature References

Section 3, Features,

CO Line Connection Assignment – Outgoing

Operation References —User Manual

DPT Features, SLT and ISDN Telephone Features;

Outward Dialling – Line Access, Automatic

Line Access, CO Line Group

Description

Allows the extension user to dial access a CO line group. An idle line is selected from the CO line group. To specify a CO line group, dial the feature number (the default setting is “8”) and a desired CO line group number (1 through 8). A proprietary telephone user can also specify a CO line group by pressing a Group-CO button.

Conditions

- Each extension is subject to system programming items for CO lines available to access.
- An idle line is selected in sequence from the lines in the specified CO line group.
- Group-CO buttons must be programmed prior to use.
- If Idle Line Preference – Outgoing is set on the telephone, the user can access an idle line only by going off-hook.

Programming References

Section 4, System Programming,
[005] Flexible CO Button Assignment
[100] Flexible Numbering, CO line group line access
[211] Dial Start Time
[400] CO Line Connection Assignment
[401] CO Line Group Assignment
[605]–[606] Outgoing Permitted CO Line Assignment — Day / Night
Station Programming.....User Manual,
Flexible Button Assignment – Group-CO (G-CO) Button

Feature References

Section 3, Features,
Button, Group-CO (G-CO) CO Line Group
CO Line Connection
Assignment – Outgoing

Operation References

—User Manual

DPT Features, SLT and ISDN Telephone Features;
Outward Dialling – Line Access, CO Line Group

Line Access, Direct

Description

Allows the proprietary telephone user to select a CO line by pressing an idle CO button, which automatically establishes handsfree operation mode and allows the user to perform On-Hook Dialling. The user need not press the SP-PHONE button, MONITOR button nor lift the handset.

Conditions

- There are three types of CO buttons which can be programmed on an extension: Single-CO button, Group-CO button, and Loop-CO button.
- Each extension is subject to system programming items for CO lines available to access.

Programming References

Section 4, System Programming,
[005] Flexible CO Button Assignment
[211] Dial Start Time
[400] CO Line Connection Assignment
[605]–[606] Outgoing Permitted CO Line Assignment — Day / Night
Station Programming.....User Manual,
Flexible Button Assignment – Group-CO (G-CO) Button, Loop-CO (L-CO) Button, Single-CO (S-CO) Button

Feature References **Section 3, Features,**
Button, Group-CO (G-CO) CO Line Connection Assignment
Button, Loop-CO (L-CO) – Outgoing
Button, Single-CO (S-CO)

Operation References **DPT Features,**
—User Manual Outward Dialling – Line Access, Automatic, Line Access, CO Line
Group, Line Access, Individual

Line Access, Individual

Description Allows the proprietary telephone user one-button access to a CO line without having to dial a line access code.

Conditions

- Each extension is subject to system programming items for CO lines available to access.
- This feature requires a Single-CO (S-CO) button assignment on a proprietary telephone.
- The system waits for a programmed time before dialling after a CO line is seized.

Programming References

Section 4, System Programming,
[\[005\] Flexible CO Button Assignment](#)
[\[211\] Dial Start Time](#)
[\[400\] CO Line Connection Assignment](#)
[\[605\]–\[606\] Outgoing Permitted CO Line Assignment](#)
— Day / Night
Station Programming.....User Manual,
Flexible Button Assignment – Single-CO (S-CO) Button

Feature References **Section 3, Features,**
Button, Single-CO (S-CO) CO Line Connection
Assignment – Outgoing

Operation References **DPT Features,**
—User Manual Outward Dialling – Line Access, Individual

Line Preference – Incoming (No Line / Prime Line / Ringing Line)

Description

A proprietary telephone user can select the method used to answer incoming calls from the following three line preferences:

- (1) No Line Preference
No line is selected when you go off-hook. You must select a line to answer.
- (2) Prime Line Preference
You can assign a prime line beforehand and answer a call on that line, when multiple calls are received simultaneously.
- (3) Ringing Line Preference
When you go off-hook, you answer the call ringing at your telephone.

Conditions

- Setting a new line preference feature cancels the previous setting.
- If Prime Line Preference is selected and an incoming call arrives from a line other than the prime line, it cannot be answered just by going off-hook. The Prime Line should be assigned to the Single-CO button.
- If Ringing Line Preference is selected, going off-hook does not answer a line programmed for “no ring” even though there is an incoming call. Going off-hook during the delay time does not answer a line programmed for “delayed ringing.”
- A single line telephone is always set to Ringing Line Preference and cannot be changed.

Programming References

Station ProgrammingUser Manual,
Preferred Line Assignment – Incoming

Feature References

None

Operation References

—User Manual

Basic Operation,
Receiving Calls

Line Preference – Outgoing (Idle Line / No Line / Prime Line)

Description

A proprietary telephone user can select a desired outgoing line preference to originate calls from the following three line preferences:

- (1) Idle Line Preference:
When you go off-hook, you are connected to an idle line. An idle line is automatically selected from the pre-assigned lines.
- (2) No Line Preference:
No line is selected when you go off-hook. You must select a line to make a call.
- (3) Prime Line Preference:
When you go off-hook, you are connected to the pre-assigned line. Assign a line as your prime line beforehand.

Conditions

- Setting a new line preference feature cancels the previous setting.
- To set Prime Line Preference, one prime line is selected from intercom or CO lines.
- The CO lines used by users must be connected by programming.
- To select Idle Line Preference, CO lines available for the user should be programmed. Also CO lines available for Automatic Line Access should be assigned.
- The user can override the Idle / Prime Line Preference temporarily to select a specific line. To select it, press the desired line access button (INTERCOM or CO button) before going off-hook or pressing the SP-PHONE / MONITOR button; or if Full One-Touch Dialling is enabled, press One-Touch Dialling, DSS, REDIAL, or SAVE button.

Programming References

Section 4, System Programming,
[\[005\] Flexible CO Button Assignment](#)
[\[103\] Automatic Access CO Line Group Assignment](#)
[\[400\] CO Line Connection Assignment](#)
[\[605\]–\[606\] Outgoing Permitted CO Line Assignment — Day / Night](#)
Station ProgrammingUser Manual
Flexible Button Assignment – Group-CO (G-CO) Button, Loop-CO (L-CO) Button, Single-CO (S-CO) Button
Preferred Line Assignment – Outgoing

Feature References

Section 3, Features,
CO Line Connection Assignment – Outgoing

Operation References —User Manual

Basic Operation,
Making Calls

Live Call Screening (LCS)[†]

Description

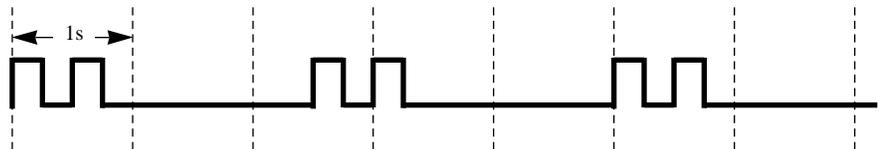
Allows a proprietary telephone user to monitor their voice mailbox while incoming callers are leaving a message and, if desired, intercept the call. The voice mailbox can be monitored in one of two ways — Hands-free or Private.

Hands-free Mode

The voice mailbox is monitored through the built-in speaker of the proprietary telephone.

Private Mode

The proprietary telephone sounds an alert tone when callers are connected to the voice mailbox. To monitor the call, the user goes off hook on the handset or speakerphone.



Alert Tone

To intercept the call in either Hands-Free or Private mode, press the LCS button.

A single line telephone, which is connected with a proprietary telephone in parallel, can be also used to monitor a recording message. Be sure that the Live Call Screening on the connected proprietary telephone has been activated.

This feature is useful when you are out with a portable handset of a cordless telephone (SLT). The handset sounds an alert tone to let you know that a message is being recorded. To intercept the call, lift the handset and flash the hookswitch.

Conditions

- When the extension user is having a conversation, a call waiting tone is sent. The user can put an existing call on hold before accessing LCS.
- A flexible CO and DSS button can be assigned as a Live Call Screening button.
- To prevent unauthorized monitoring, a three-digit password must be set by the LCS user. If the user forgets his password, it can be cleared by Operator 1.
- Each extension can be programmed to either close the mailbox or keep recording the conversation after the call is intercepted.

Programming References

System Programming,
[005] Flexible CO Button Assignment
[617] Live Call Screening Recording Mode Assignment
Station Programming,
Live Call Screening Mode Set
Flexible Button Assignment – Live Call Screening Button
Live Call Screening Cancel Button

Feature References None

Operation References **DPT Features,**
—User Manual Live Call Screening (LCS)
Operator Service Features,
Live Call Screening Password Control

Lockout

Description If one party in a conversation goes on-hook, they are both disconnected from the speech path automatically. This feature applies to extension and outside calls. Reorder tone is sent to the off-hook party before it is disconnected.

Conditions In the case of a single line telephone (SLT), if nothing is dialed within a certain period of time after the other party goes on-hook, reorder tone is sent to the SLT and then it is disconnected from the speech path.

Programming References

No programming required.

Feature References None

Operation References **DPT Features, SLT and ISDN Telephone Features;**
—User Manual Lockout

Log-In / Log-Out

Description

Assigns an extension to join (log-in) or leave (log-out) a hunting group. Extensions in log-out status receive no calls by Station Hunting but can receive other calls, unlike the DND feature.

Conditions

- There should be at least one extension that is in log-in status. Only one log-in extension cannot be set in log-out status.
- The lighting patterns of Log-In/Log-Out button and the status are shown below.

lighting pattern	CO Line Status	
	UCD	Station Hunting
Red on	Log-Out (no reception)	Log-Out (no reception)
Red flash	Log-In (plural reception)	
off	Log-In	Log-In

Programming References

Section 4, System Programming,
[\[100\] Flexible Numbering, Log-in / log-out](#)
Station ProgrammingUser Manual,
 Flexible Button Assignment – Log-In / Log-Out Button

Feature References

Section 3, Features,
 Station Hunting Uniform Call Distribution (UCD)

Operation References —User Manual

DPT Features, SLT and ISDN Telephone Features;
 Log-In / Log-Out

Manager Extension

- Description** One extension in the system can be assigned as the system manager. This extension can perform system programming.
- Conditions**
- Besides the manager extension, the extension that is connected to the jack 1 is able to perform system programming.
 - If eXtra Device Port mode is enabled at the manager extension, the proprietary telephone user is regarded as the manager.
 - Manager extension can print out and clear the system working report.
- Programming References**
[Section 4, System Programming,](#)
[\[006\] Operator / Manager Extension Assignment — Day / Night](#)
- Feature References** None
- Operation References** Not applicable.

Message Waiting

- Description** The system supports the ability to inform the called party of a message waiting. The user, with a MESSAGE button, knows there is a message if the LED of the MESSAGE button is lit red. If the button is neither provided nor assigned, the called party hears special dial tone, when he / she goes off-hook. Pressing the lit MESSAGE button also means to call back the called party or listen to the messages which are stored in the mailbox of the Voice Processing System.
- Conditions**
- For the proprietary telephone which is provided with no MESSAGE button, a flexible CO button can be assigned as the MESSAGE button either by system or station programming.
 - Cancelling the message can be performed from the extension setting it or from the extension receiving it.
 - The system supports a maximum of 128 simultaneous messages.
 - Messages are always left on the original extension. It is not sent to a Call Forwarding or Station Hunting destination.
 - A single line telephone user will hear the ring tone if a message is received. It is programmable to set the ring tone interval by system programming.

Programming References

Section 4, System Programming,
[005] Flexible CO Button Assignment
[100] Flexible Numbering, Message waiting
[214] Message Waiting Ring Interval Time
[990] System Additional Information Fields (9), (31)
Station Programming.....User Manual,
Flexible Button Assignment – Message Waiting (MESSAGE) Button

Feature References

Section 3, Features,
Dial Tone, Distinctive Voice Mail Integration

Operation References —User Manual

DPT Features, SLT and ISDN Telephone Features;
Message Waiting Voice Mail Integration

Microphone Mute

Description

Allows the proprietary telephone user to turn off the microphone, for privacy reasons.

Conditions

- This is effective for the microphone only; only your voice will be muted during a handsfree conversation.
- The user can hear the other party's voice during Microphone Mute.

Programming References

No programming required.

Feature References

None

Operation References —User Manual

DPT Features,
Microphone Mute

Mixed Station Capacities

Description

This system supports a wide range of telephone sets, not only Digital Proprietary Telephones (DPT) and Analogue Proprietary Telephones (APT) in the Digital Super Hybrid System, but also single line LD telephones (10 pps / 20 pps, employing dial pulse signals) and single line MF4 telephones. The super hybrid method used in this system allows any telephone to be connected to an extension jack without an adaptor.

Conditions

- If a telephone is replaced by another one, the stored data (such as feature button storage) is held for the new one.
- It is possible to ignore the pulse dial by system programming. In this case, a single line LD telephone does not function.

Connection References

- Section 2, Installation,**
2.3.2 Extension Connection
2.4.5 Extension Connection (Optional Unit)

Programming References

- Section 4, System Programming,**
[\[121\] Pulse Dial Reception Assignment](#)

Feature References None

Operation References Not applicable.

Module Expansion

Description

The KX-TD816 starts with 8 extension jacks and the KX-TD1232 starts with 16 extension jacks. It can be expanded by installing optional cards and units.

For both systems:

- An 8-Station Line Unit adds 8 extension jacks.
- A 4-CO Line Unit adds 4 CO line jacks.
- A 2-ISDN S0 Line Unit adds 2 ISDN S0 lines.

For KX-TD816 only:

- A 4-CO Line Card adds 4 CO line jacks.
- A 2-ISDN S0 Line Card adds 2 ISDN S0 lines.

For KX-TD1232 only:

- An 8-CO Line Card adds 8 CO line jacks.
- A 4-ISDN S0 Line Card adds 4 ISDN S0 lines.

The KX-TD816 can have a maximum of one 8-Station Line Unit, one of 4-CO Line / 2-ISDN S0 Line Cards and one of 4-CO Line / 2-ISDN S0 Line Units.

The KX-TD1232 can have a maximum of two 8-Station Line Unit, one of 8-CO Line / 4-ISDN S0 Line Cards and one of 4-CO Line / 2-ISDN S0 Line Units.

Programming References

Section 4, System Programming,
[803] Music Source Use
[990] System Additional Information, Fields (1), (20), (70)

Feature References

Section 3, Features,
Background Music (BGM)

Operation References

Not applicable.

Night Service

Description

This supports both Night and Day modes of operation. The system operation for originating and receiving calls can be different for day and night modes. The system operation for restricting toll calls can be arranged separately to prevent unauthorized toll calls at night.

Switching of the Day / Night Mode

Day / Night mode can be switched either automatically at a pre-assigned time or manually by the pre-assigned extension or the operator at any time desired.

Class of Service programming determines the extensions that can perform it.

Automatic Night Service: If you select automatic switching mode, your system will switch the Day / Night mode at the programmed time each day. The starting time of the Day / Night mode can be set for each day.

Manual Night Service: If you select manual switching mode, the pre-assigned extension and the operator can switch the Day / Night mode by dialling the feature number.

Conditions

The following programming items may be assigned in a different way between day mode and night mode:

- [006] Operator / Manager Extension Assignment — Day / Night
- [134]–[135] Hunting Intercept — Day / Night
- [407]–[408] DIL 1:1 Extension — Day / Night
- [409]–[410] Intercept Extension — Day / Night
- [438]–[439] Extension Ringing Assignment — Day / Night for ISDN MSN
- [500]–[501] Toll Restriction Level — Day / Night
- [509]–[510] Toll Restriction for System Speed Dialling — Day / Night
- [603]–[604] DIL 1:N Extension and Delayed Ringing — Day / Night

- [605]–[606] [Outgoing Permitted CO Line Assignment — Day / Night](#)
- [607]–[608] [Doorphone Ringing Assignment — Day / Night](#)
- [615]–[616] [Outgoing Permitted CO Line Assignment — Day / Night for ISDN Extension](#)
- [620]–[621] [Extension Intercept Routing — Day / Night](#)
- [625]–[626] [Doorphone Call Forwarding — Day / Night](#)

Programming References

- Section 4, System Programming,**
- [100] [Flexible Numbering, Night service mode](#)
 - [101] [Day / Night Service Switching Mode](#)
 - [102] [Day / Night Service Starting Time](#)
 - [513] [Night Service Access](#)

Feature References

None

Operation References —User Manual

DPT Features, SLT and ISDN Telephone Features;
Night Service

No Reply Group

Description

Extensions or ring groups can belong to the no reply group. If the floating number of this group is dialed, the call is hunted in the group in the order of registration at a pre-programmed “Call Forwarding — No Answer Time.” If the called extension or ring group is busy, the call skips to the next extension or the ring group. A no reply group can be a Station Hunting type.

Conditions

- Types of calls whose destination can be the no reply group are:
 - Outside calls — DIL1:1; DDI; IRNA; Hunting Group-Overflow
 - Intercom calls — Extension; Transfer
- The floating number of the hunting group is used for all other hunting types, Circular, Voice Mail (VM), Automated Attendant (AA), Uniform Call Distribution (UCD) and Ring.

Programming References

- Section 4, System Programming,**
- [106] [Station Hunting Type](#)
 - [131] [Hunting Group Assignment](#)
 - [813] [Floating Number Assignment](#)

Feature References Section 3, Features,
Floating Extension
Station Hunting

Operation References Not applicable.

Notebook Function

Description Allows the proprietary telephone user to store the phone number in the memory during conversation on the phone or on-hook status. The stored number is dialed automatically with a simple operation.

Conditions • The outside line, which was connected when the user stored the number is selected when re-dialling the number. If the line is busy, the busy tone is sent.
• The pause, if programmed, can be inserted between the CO line access number and the following phone number (Automatic Pause Insertion).

Programming References
No programming required.

Feature References None

Operation References **DPT Features,**
—User Manual Notebook Function

Off-Hook Call Announcement (OHCA)

Description

OHCA allows you to inform a busy extension that another call is waiting by talking through the built-in speaker of the called party's proprietary telephone. If the existing call is using the handset, the second conversation is made with the speakerphone so that the called party can talk to two parties independently. OHCA is performed the same way as Busy Station Signalling (BSS) or Whisper OHCA. It depends on the telephone type used by the called party whether Call Waiting, OHCA or Whisper OHCA is activated by the operation. If the called telephone is one of the following, OHCA becomes active: KX-T7130, KX-T7235, KX-T7436.

Conditions

- Class of Service programming determines which extensions can perform this feature.
- If none of three features, Call Waiting, OHCA or Whisper OHCA is set at the called party, the caller will hear a reorder tone.

Programming References

Section 4, System Programming,
[\[100\] Flexible Numbering, Call waiting / OHCA / whisper OHCA](#)
[\[519\] Off-Hook Call Announcement \(OHCA\)](#)

Feature References

Section 3, Features,
Busy Station Signaling (BSS) Whisper OHCA
Call Waiting

Operation References

—User Manual

DPT Features,
Off-Hook Call Announcement (OHCA)

Off-Hook Monitor

Description

Allows the KX-T7431, KX-T7433, and KX-T7436 digital proprietary telephone users to let the other users listen to the conversation through the built-in speaker, while continuing the same call using the handset.

Conditions

This is effective with a handset conversation.

Programming References

Section 4, System Programming,
[\[148\] Off-Hook Monitor](#)

Feature References	None
Operation References —User Manual	DPT Features, Off-Hook Monitor

One-Touch Dialling

Description One-Touch Dialling offers the proprietary telephone (PT) user one-touch access to a desired party or system feature. This is enabled by storing an extension number, a telephone number or a feature number of up to 16-digits on a One-Touch Dialling button. The number of buttons available depends on the type of PT. One-Touch Dialling buttons can be programmed to flexible buttons: CO, DSS or PF (Programmable Feature).

- Conditions**
- It is possible to store an account code into a One-Touch Dialling button.
 - Speed Dialling, One-Touch Dialling, manual dialling, Last Number Redial and Saved Number Redial can be used together.
 - It is possible to store a number consisting of 17 digits or more by dividing it and storing it in two One-Touch Dialling buttons. In this case, a line access code should not be stored on the second button.
 - If the Full One-Touch Dialling is enabled, there is no need to go off-hook, before pressing the One-Touch Dialling button.

Programming References

Section 4, System Programming, [005] Flexible CO Button Assignment	
Station Programming	User Manual, Flexible Button Assignment – One-Touch Dialling Button Full One-Touch Dialling Assignment
DSS Console Features	User Manual, Station Programming – One-Touch Dialling Assignment

Feature References	Section 3, Features, Full One-Touch Dialling
---------------------------	--

Operation References —User Manual	DPT Features, One Touch Dialling DSS Console Features, One Touch Dialling One-Touch Access for System Features
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One-Touch Transfer by DSS Button

Description

This feature, if programmed, allows the DSS Console and the proprietary telephone user to hold an outside call and quickly transfer it to an extension. While talking to an outside party, pressing a DSS button on the console or the proprietary telephone provides automatic hold and transfer. There is no need to press the TRANSFER button. The extension starts ringing immediately.

Conditions

- One-Touch Transfer cannot be performed when there is another call on Consultation Hold.
- If One-Touch Transfer mode is disabled, the user transfers an outside call by pressing the TRANSFER button followed by the DSS button.

Programming References

Section 4, System Programming,
[\[108\] One-Touch Transfer by DSS Button](#)

Feature References

Section 3, Features,
Button, Direct Station Selection (DSS)

Operation References —User Manual

DPT Features,
Call Transfer — to Extension
DSS Console Features,
Call Transfer

Operator

Description

The system supports up to two operators during day and night modes separately. Any extension can be appointed as an operator. The extension assigned as an operator has the ability to perform the following operations:

- Controlling CO Incoming Call Information Log Lock mode
- Clearing the Live Call Screening Password
- Performing the Hotel Application
- Printing / clearing the System Working Report
- Setting / clearing the Remote Station Lock
- Switching the Class of Service – primary / secondary
- Switching Day / Night mode manually
- Turning Background Music – External on and off

Only Operator 1 has the ability to perform the following operations:

- Setting the Automatic Overflow
- Setting the Hurry-Up Transfer
- Receiving the Alert Indication
- Receiving the call which is transferred from DND extension

Conditions

- If eXtra Device Port mode is enabled at the operator's extension, the proprietary telephone user is regarded as the operator.
- The operator can be assigned as a destination of the Transfer Recall by system programming.
- The Direct Dialling In call which is denied to receive by the extension or is dialled improper number is forwarded to the operator.
- The Alert Indication is only available for Operator 1 in Day mode.

Programming References

Section 4, System Programming,

[005] [Flexible CO Button Assignment](#)

[006] [Operator / Manager Extension Assignment — Day / Night](#)

[100] [Flexible Numbering, Night service mode, Background music –](#)

external, Primary COS select, Secondary COS select, Timed reminder remote, CO incoming call information log lock, Live call screening password control, System working report

[129] [Operator Queue](#)

[990] [System Additional Information, Field \(11\)](#)

Station Programming.....User Manual,

Flexible Button Assignment – Hurry-UP Button, Voice Mail (VM)

Transfer Button

Feature References

None

Operation References —User Manual

Operator Service Features

Operator Call

Description Allows the extension user to call an extension operator by dialling the feature number, if at least one operator is assigned. There can be one or two extensions assigned as Operator 1 and 2. When an operator call (default: 0) is made, the call is connected to Operator 1. If the Operator 1's line is busy, the call is connected to Operator 2.

Conditions None

Programming References

Section 4, System Programming,
[\[006\] Operator / Manager Extension Assignment — Day / Night](#)
[\[100\] Flexible Numbering, Operator call, Operator 1 call, Operator 2 call](#)

Feature References None

Operation References **DPT Features, SLT and ISDN Telephone Features;**
—User Manual Operator Call

PAGING FEATURES – SUMMARY

Description Paging allows you to make a voice announcement to multiple persons at the same time. Your message is announced over the built-in speakers of proprietary telephones and / or external speakers (external pagers). The paged person can answer your page from a nearby telephone. Making and answering a page is possible from either a proprietary or single line telephone. You can do paging with a call on hold in order to transfer the call (Paging and Transfer). It is also possible to deny the page. Paging features are classified as follows:

- Paging – All**
- Paging – External**
- Paging – Group**

Paging – All

Description Allows you to make a voice announcement from the speakers of the proprietary telephones and from the external paging devices (external pagers). If one of the paged persons answers your paging, you can talk to the person through the connected line.

- Conditions**
- If System Connection* is established, paging is performed to all proprietary telephones and all external paging devices in both systems.
 - The confirmation tone is sent to extensions, when the paging is made or answered. Eliminating the tone is programmable.
 - The confirmation tone is sent from external pagers, before the voice announcement. Eliminating the tone is programmable.
 - The ringing or busy extension cannot receive a page.

Connection References

Section 2, Installation,
2.3.5 External Pager Connection

Programming References

Section 4, System Programming,
[\[100\] Flexible Numbering, Paging – external, Paging – external answer / TAFAS answer, Paging – group, Paging – group answer, Paging – deny](#)
[\[805\] External Pager Confirmation Tone](#)
[\[990\] System Additional Information, Field \(16\)](#)

Feature References None

Operation References **DPT Features, SLT and ISDN Telephone Features;**
—User Manual Paging — All Paging — ANSWER
Paging — DENY Paging and Transfer

Paging – External

Description Allows you to make a voice announcement using external paging devices (external pagers). Up to two pagers can be contained per system. It is possible to select one or two pagers to perform your paging. Any telephone user can answer your Paging – External.

- Conditions**
- Previous connection of an external pager is required.

- External pagers can be used for TAFAS, Paging – External , or Background Music (BGM) – External in this order. For example, if Paging – External is overridden by TAFAS, reorder tone is returned to the performer of the Paging – External. If BGM is overridden by another higher priority, it is interrupted and starts again when the higher priority is finished.
- If System Connection* is established, up to four pagers are available.
- The confirmation tone is sent to the extensions and external pager, when the paging is made or answered. Eliminating the tone is programmable.
- The confirmation tone is sent from external pagers before the voice announcement. Eliminating the tone is programmable.

Connection References

Section 2, Installation,
2.3.5 External Pager Connection

Programming References

Section 4, System Programming,
[\[100\] Flexible Numbering, Paging – external, Paging – external answer / TAFAS answer, Paging – deny](#)
[\[805\] External Pager Confirmation Tone](#)
[\[990\] System Additional Information, Field \(16\)](#)

Feature References

None

Operation References —User Manual

DPT Features, SLT and ISDN Telephone Features;
Paging — External Paging — ANSWER
Paging — DENY Paging and Transfer

Paging – Group

Description

Allows you to select an extension group and make a voice announcement. All the proprietary telephones in the group will receive the page. If a member of the paged group answers your paging, you can talk to the person through the connected line.

Conditions

- To select all groups pages all extensions.
- Confirmation tone is sent when the page is made or answered. Eliminating the tone is programmable.

Programming References

Section 4, System Programming,
[\[100\] Flexible Numbering, Paging – group, Paging – group answer, Paging – deny](#)

[990] System Additional Information, Field (16)

Feature References	Section 3, Features, Extension Group
Operation References —User Manual	DPT Features, SLT and ISDN Telephone Features; Paging — Group Paging — DENY
	Paging — ANSWER Paging and Transfer

Paralleled Telephone

Description

Any proprietary telephone can be connected in parallel with a single line telephone. The following two combinations of telephones are available:

- (1) APT + SLT (an analogue proprietary telephone and a single line telephone/device)
- (2) DPT + SLT (a digital proprietary telephone and a single line telephone/device)

When a parallel connection is made, an extension user can make and answer a call using either telephone.

Conditions

- The proprietary telephone (PT) can be used to perform normal operations whether or not the SLT is enabled.
- In the SLT + DPT combination, if one telephone goes off-hook while the other telephone is on a call, the call is switched to the former.
- In the SLT + APT combination, if one telephone goes off-hook while the other telephone is on a call, a three-party call is established. If one user goes on-hook, the other user continues the call.
- When receiving a call;
The SLT is enabled; Both the PT and the SLT ring except when the PT is in Handsfree Answerback mode or Voice Alerting mode.
The SLT is disabled; PT rings but the SLT does not ring. However the SLT can answer the phone.
- When the SLT is in operation, the display and LED indicator on the paired PT will show in the same way as if the PT is in operation.
- If APT + SLT are used, the extension user cannot originate a call from the SLT if the APT is:
 - playing BGM
 - in programming mode
 - receiving a paging announcement over the built-in speaker.
- If eXtra Device Port feature is available, a DPT+ SLT can act as completely different extensions.
- Call Waiting tone can be heard only by PT.

Phantom Extension

Description

Allows the system to route the calls to a phantom extension. A call to a phantom extension arrives at an extension who has the corresponding Phantom Extension button. A Phantom Extension button can be assigned by Station Programming.

Conditions

- Types of calls whose destination can be the phantom extension are:
Outside calls – DIL 1:1; DDI; IRNA; Hunting Group-Overflow
Intercom calls – Extension; Transfer
- You can call the phantom extension by pressing the Phantom Extension button or by dialling the phantom extension number. If several extensions have the same phantom extension button, they will ring simultaneously.
- A phantom number must be assigned by System Programming before assigning the Phantom Extension button by Station Programming.
- There is a maximum of 128 phantom numbers. Each number has two to four digits, consisting of numbers **0 through 9**.
- The phantom number cannot be used for feature settings such as Call Forwarding.
- The lighting patterns and status of the Phantom Extension button are shown below.

Lighting pattern	Phantom Extension Status
Off	Idle
Red on	Calling a phantom extension
Green rapid flash	Incoming call

- A DSS button can be assigned as the Phantom Extension button so that the operator can use the button for transferring a call.

Programming References

Section 4, System Programming,
[\[130\] Phantom Extension Number Assignment](#)
[\[136\] ISDN DDI Number / Phantom Extension Number Transformation](#)
Station Programming.....User Manual,
Flexible Button Assignment – Phantom Extension Button

Feature References

None

Operation References

—User Manual

DPT Features,
Phantom Extension

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Pickup Dialling

Description Allows an extension user to make an outgoing call by going off-hook, if the user has previously stored the telephone number. This feature is also known as Hot Line.

- Conditions**
- An LD telephone without the “#” button cannot program this feature. For programming the phone number, replace the LD telephone with a telephone with the “#” button temporarily.
 - The user uses a feature number to enable or disable pickup dialling.
 - If the feature is enabled and the user goes off-hook, dial tone is generated for the waiting time and then dialling starts. During the waiting time the user can dial another party, overriding the Pickup Dialling function.
 - If the user answers an incoming call or retrieves a call on hold, the Pickup Dialling feature does not work.
 - If the proprietary telephone is provided with PF 12 button, the stored number of PF12 button is common to the one for Pickup Dialling.

Programming References

Section 4, System Programming,
[\[100\] Flexible Numbering, Pickup dialling](#)
[\[204\] Pickup Dial Waiting Time](#)

Feature References None

Operation References **DPT Features, SLT and ISDN Telephone Features;**
—User Manual Pickup Dialling (Hot Line)

Power Failure Restart

Description Returning on electricity, the system restarts the stored data automatically. Before restarting, the system records the error logs if necessary.

- Conditions**
- If System Connection* is established, the Slave system makes a copy of the restored data of the Master system.
 - In the event of a power failure, system memory is protected by the factory-provided lithium battery. There is no memory loss except the memories of Camp-On and Call Park. However if the system finds the wrong system data, the indication “Memory data loss” is displayed on the display proprietary telephone of Operator 1.

* : Available for KX-TD1232 only.

Programming References

No programming required.

Feature References None

Operation References Not applicable.

Power Failure Transfer

Description

If a power failure should happen, or during a system-off-line state, single line telephone (SLT) which is connected the Power Failure jack should be connected straight to specific CO lines.

Connections between the CO lines and the SLTs are as follows:

KX-TD816

The power failure transfer jacks – CO 1, 2, 5

KX-TD1232

The power failure transfer jacks of Master System – CO 1, 2, 9

The power failure transfer jacks of Slave System – CO 13, 14, 21

Conditions

- Only SLT is available during a power failure.
- If the power is restored during a call using a SLT, the call is disconnected.

Connection References

Section 2, Installation,

2.3.2 Extension Connection

2.4.2 CO Line Connection (Optional Card)

2.5 Auxiliary Connection for Power Failure Transfer

Programming References

No programming required.

Feature References **Section 3, Features,**
Power Failure Restart

Operation References Not applicable.

Predial

Description Allows the display proprietary telephone user to check and correct the dialled number in on-hook state before going off-hook. When going off-hook, making a call is initiated.

- Conditions**
- This feature is available during stand-by state only.
 - A line access number is always required to make an outgoing outside call.
 - Making a call is performed at the time the handset is lifted up or the CO or SP-PHONE button is pressed.

Programming References
No programming required.

Feature References None

Operation References **DPT Features,**
—User Manual Predial Preparation

Private Call

Description Allows the user to exclude private calls from the SMDR printout. When making a private call, if the user enters the pre-set account code, the dialled number is not included in the SMDR printout.

- Conditions**
- It is required to program the account code for private calls in program [105] “Account Code.” The location 01 of the entries is used as the account code for this feature.
 - To prevent private calls, clear the entry above.

Programming References
Section 4, System Programming,
[\[105\] Account Codes](#)
Station Programming.....User Manual,
Change Fee Reference – Account Code Set

Feature References **Section 3, Features,**
Account Code Entry Station Message Detail Recording
(SMDR)

Operation References **DPT Features, SLT and ISDN Telephone Features;**
—User Manual Account Code Entry

Pulse to Tone Conversion

- Description** This feature allows the extension user to change from pulse dial to tone (DTMF) dial so that the user can access special services such as computer-accessed long distance service.
- Conditions**
- This feature works only on CO lines set to Pulse Dialling mode or Call Blocking mode.
 - Dial Type Selection provides selection of a dial mode for each CO line.
 - Changing tone to pulse is not possible.

Programming References

Section 4, System Programming,
[\[402\] Dial Mode Selection](#)

Feature References **Section 3, Features,**
Dial Type Selection

Operation References **DPT Features, SLT and ISDN Telephone Features;**
—User Manual Pulse to Tone Conversion

Quick Dialling

Description Quick Dialling offers the extension user one-touch access to a desired party. This is enabled by storing an extension number or a telephone number up to 16-digits as a quick dial number.

- Conditions**
- Up to eighty quick dial numbers can be stored.
 - For example, Quick Dialling is convenient for room service calls in a hotel.
 - You must assign a feature number first in program [104] “Quick Dial Assignment,” and then a quick dial number in program [009] “Quick Dial Number Set” in order for Quick Dial to be effective.
Example: If you want to dial “1” to call extension 201;
1) Change or clear the feature numbers which have “1” in the first digit in program [100].
2) Assign “1” in the location number 01 in program [104].
3) Assign “201” in a quick dial location number 01 (same location number as the location number 01 in program [104]) in program [009].
Now you can dial the quick dial number 1 to call extension 201.
 - Quick Dialling is available even if the toll restriction level is 6 which denies the intercom callings.

Programming References

Section 4, System Programming

[\[009\] Quick Dial Number Set](#)

[\[104\] Quick Dial Assignment](#)

Feature References

None

Operation Reference —User Manual

DPT Features, SLT and ISDN Telephone Features;
Quick Dialling

Recall

Description

The RECALL or FLASH/RCL button is used to allow a digital proprietary telephone user to disconnect from the current call and originate another call without hanging up first.

Conditions

- By default setting, pressing RECALL or FLASH/RCL button with a digital proprietary telephone works as External Feature Access. By changing the programmed data, it works as Recall (disconnection).
- Pressing the RECALL or FLASH/RCL button re-starts the conversation duration, outputs an SMDR record, inserts the automatic pause, and checks toll restriction level again.
- It is required to enable this function at the locked extension and toll-restricted extension by system programming.

Programming References

Section 4, System Programming,

[\[414\] Disconnect Time](#)

[\[990\] System Additional Information, Fields \(3\), \(15\)](#)

Feature References

Section 3, Features,
External Feature Access

Operation References —User Manual

DPT Features,
Recall

Remote Station Lock Control

Description The operator is given the privilege of controlling Electronic Station Lockout on any station.

Conditions Remote Station Lock Control is superior to Electronic Station Lockout. If Station Lockout has already been set by the extension user and Remote Station Lock is set by the operator, cancelling the lock is only possible by the operator.

Programming References

No programming required.

Feature References **Section 3, Features,**
Electronic Station Lockout

Operation References **Operator Service Features,**
—User Manual Remote Station Lock Control

Reverse Circuit

Description This feature can be used to detect a reversal of CO line polarity from Central Office, when trying to make a CO line call. This is useful for determining the start and completion of CO line calls.

Conditions This feature needs system programming for each CO line.

Programming References

Section 4, System Programming,
[\[416\] Reverse Circuit Assignment](#)

Feature References None

Operation References Not applicable.

Ringling, Delayed

Description If Direct In Lines (DIL) 1:N is established, a telephone set is originally set to ring instantly. This setting can be changed to delayed ringing, no ringing or no incoming call (disable) on a CO line number basis.

- Conditions**
- This feature does not apply to DIL 1:1 calls.
 - If delayed, no ringing or no incoming call (disable) is assigned to an extension, the extension can answer an incoming call during no ring or the delay time by pressing the flashing button.

Programming References

Section 4, System Programming,
[\[603\]–\[604\] DIL 1:N Extension and Delayed Ringing — Day / Night](#)

Feature References Section 3, Features,
Direct In Lines (DIL)

Operation References Not applicable.

Ringling, Discriminating

Description Allows the extension user to identify the incoming call by the ringing pattern. (See Section 5.1 “Tone / Ring Tone.”)

- Conditions**
- When there are multiple incoming calls and the extension goes from off-hook to on-hook, the calls are rung according to the following priority:
 - <1> Consultation Hold Recall
 - <2> An incoming call from a line in which the Prime Line Preference – Incoming function has been set (with a proprietary telephone only)
 - <3> Call Waiting
 - <4> Incoming calls; Hold Recall; Transfer Recall
 - If multiple incoming calls arrive at an on-hook extension simultaneously, priority as to which calls should be rung is generally on a “first-come, first-served” basis. In the case of proprietary telephones (PT), however, when the Prime Line Preference – Incoming function has been set, this line takes precedence.
 - Incoming TAFAS calls can be identified by ringing signals sent out from external pagers. The ringing pattern is the same as the outside calls.

Ringling Tone Selection for CO Buttons

Description Allows the digital proprietary telephone user to select the desired ringer frequency for each CO button. This provides discrimination of incoming outside calls.

Conditions There are eight ringer frequencies available. One of them can be assigned to a CO button that is assigned as each of the following buttons: Single-CO, Group-CO, or Loop-CO button. It is not possible to assign a ringer frequency to any other button.

Programming References

Section 4, System Programming,
[\[005\] Flexible CO Button Assignment](#)
Station Programming.....User Manual,
Ringling Tone Selection for CO Buttons

Feature References None

Operation References Not applicable.

Ringling Tone Selection for Intercom Calls

Description Allows the digital proprietary telephone user to select the desired ringer frequency for the intercom button. This distinguishes incoming intercom calls.

Conditions There are eight ringer frequencies available. One of them can be assigned to an intercom button.

Programming References

Station Programming.....User Manual,
Ringling Tone Selection for Intercom Calls

Feature References None

Operation References Not applicable.

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Special Display Features

The KX-T7235, KX-T7431, KX-T7433 and KX-T7436 feature a display that allows the user to originate calls or to access system facilities with ease. The display prompts the user with information related to the desired feature. Examples of this special function are shown below:

Call Forwarding / Do Not Disturb

CO Outgoing Call Log

Extension Dialling

Hotel Application (operator only) (→ See the “HOTEL APPLICATION.”)

Station Speed Dialling

System Feature Access Menu

System Speed Dialling

Call Forwarding / Do Not Disturb

Description	Allows the KX-T7235 and KX-T7436 users to set or cancel the Call Forwarding and Do Not Disturb (DND) features using the display messages after pressing the FWD/DND button.	
Conditions	None	
Programming References	No programming required.	
Feature References	Section 3, Features, Call Forwarding	Do Not Disturb (DND)
Operation References —User Manual	Special Display Features, Call Forwarding / Do Not Disturb	

CO Outgoing Call Log

Description	Provides a KX-T7235 and KX-T7436 display of the last dialed telephone numbers and allows the user to perform redialling the number by pressing the associated button.
Conditions	The oldest telephone number will be eliminated when over the limited numbers are dialed out.
Programming References	No programming required.
Feature References	None
Operation References —User Manual	Special Display Features, CO Outgoing Call Log

Extension Dialling

Description	Provides a display of extension names and numbers. The user can call an extension by pressing the associated function button.
Conditions	System programming of extension numbers and names is required.
Programming References	Section 4, System Programming, [003] Extension Number Set [004] Extension Name Set [012] ISDN Extension Number Set [013] ISDN Extension Name Set [100] Flexible Numbering, 1st through 16th hundred extension blocks
Feature References	None
Operation References —User Manual	Special Display Features, Extension Dialling

Station Speed Dialling

Description A list of the names and telephone numbers stored for One-Touch Dialling is displayed allowing the user to make a one-touch call by name without having to know the number.

- Conditions**
- It is necessary to program One-Touch Dialling Numbers and Names into the 10 function buttons F1 through F10.
 - It is programmable to select the first display, number or name.

Programming References

Section 4, System Programming,
[\[990\] System Additional Information, Field \(19\)](#)
Station ProgrammingUser Manual,
Station Speed Dialling Number / Name Assignment
(KX-T7235 / KX-T7431 / KX-T7433 / KX-T7436 only)

Feature References **Section 3, Features,**
One-Touch Dialling

Operation References **Special Display Features,**
—User Manual Station Speed Dialling

System Feature Access Menu

Description This feature provides a display of the system features available at any time and allows the user to have access to the desired features.

- Conditions**
- The available features are:
 - Absent Message Capability
 - Call Park
 - Call Pickup, Group
 - Message Waiting
 - Paging (access / answer)
 - Paralleled Telephone
 - In addition to the features above, the operator can have the display of the following features:
 - Background Music (BGM) – External
 - Class of Service (primary / secondary)
 - Night Service (pre-assigned extension also)

Programming References

No programming required.

Feature References None

Operation References **Special Display Features,**
—User Manual System Feature Access Menu

System Speed Dialling

Description A list of the names stored for System Speed Dialling is displayed. This allows the user to dial by name without having to know the telephone number. All the user needs to do is press the button associated with the desired name.

Conditions • The numbers and names for System Speed Dialling must be programmed.
• If a name is not stored for a number, it is not displayed and cannot be called with this feature.

Programming References

Section 4, System Programming,
[\[001\] System Speed Dialling Number Set](#)
[\[002\] System Speed Dialling Name Set](#)

Feature References **Section 3, Features,**
 System Speed Dialling

Operation References **Special Display Features,**
—User Manual System Speed Dialling

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Station Feature Clear

Description

Allows the extension user to cancel the functions set on the user's own telephone. The following functions will be cancelled by this feature:

- Absent Message Capability – The message set on the telephone
- Automatic Callback Busy (Camp-On)
- Background Music that has been turned on
- Call Forwarding
- Call Pickup Deny
- Call Waiting enabled
- Calling Line Identification Restriction (CLIR)
- CO Incoming Call Information Log – Over-stored mode
- Connected Line Identification Restriction (COLR)
- Do Not Disturb (DND)
- Log-Out status
- Message Waiting – All the messages that have been left by other extension users
- Paralleled Telephone enabled
- Paging Deny
- Pickup Dialling
- Timed Reminder

Conditions

None

Programming References

Section 4, System Programming,
[\[100\] Flexible Numbering, Station feature clear](#)

Feature References

None

Operation References

—User Manual

DPT Features, SLT and ISDN Telephone Features;
Station Feature Clear

Station Hunting

Description

If a call reaches a floating number of a hunting group, Station Hunting redirects the incoming call to an idle member of the hunting group. There are a maximum of 32 hunting groups. Idle extensions are automatically hunted according to the programmed type. There are six hunting types available – Circular, UCD (Uniform Call Distribution), Voice Mail (VM), Automated Attendant (AA), Ring and No Reply.

Circular hunting: The extensions are hunted until an idle one is found, regardless of the jack number.

UCD: Refer to “Uniform Call Distribution (UCD)” in this section.

AA hunting: All of the AA ports are hunted until an idle one is found to permit AA Service.

VM hunting: All of the VM ports are hunted until an idle one is found to permit VM Service.

Ring: All of the extensions in the group ring simultaneously.

No Reply hunting: The extensions are hunted in the order of registration at a programmed “Call Forwarding — No Answer” time. If the called extension is busy, the call hunts the following extensions.

One hunting type is selected for each hunting group. The hunting order corresponds to the order of registration in program [131]. For VM/AA Hunting, an incoming call to any extension number which belongs to a hunting group is hunted as well.

Hunting Type Incoming Call Arrives at	Circular	VM/ AA	UCD	Ring	No Reply
Floating Extension	✓	✓	✓	✓	✓
Extension which belongs to a hunting group		✓			

✓: A call is hunted.

Conditions

- Even if the called extension has set Do Not Disturb, or Call Forwarding, they are disregarded and the call reaches to the extension.

Programming References

Section 4, System Programming,

[106] Station Hunting Type

[131] Hunting Group Assignment

- [132] [Hunting Group Name Assignment](#)
- [133] [Hunting Overflow](#)
- [134]–[135] [Hunting Intercept — Day / Night](#)

Feature References

Section 3, Features,
Hunting group
Log-In / Log-Out
No Reply Group

Ring Group
Uniform Call Distribution (UCD)

Operation References

Not applicable.

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Station Message Detail Recording (SMDR)

Description

Station Message Detail Recording (SMDR) automatically records detailed call information for outside calls. A printer connected to the EIA (RS-232C) port can be used to print incoming and outgoing outside calls as well as print a hard copy of system programming. To print the record of system programming items that have been assigned, use the program [802] "System Data Printout." To print the charge fee, use the station programming. To print the call records, use the program [800] "SMDR Incoming / Outgoing Call Log Printout," which allows you to print out the following records:

- Record all outgoing outside calls or outgoing toll calls.
- Record all incoming outside calls.

An example of a printed call record:

Date	Time	Ext	CO	Dial Number	ANS	Duration	Cost:£	Acc	CD
24/06/96	10:00AM	200	01	0344853233		00:05'12	00012.00	12345	
24/06/96	10:10AM		01	<I>0344853233	0'12			12345	TR
24/06/96	10:20AM	200	01	<I>0344853233	0'10	00:20'12		12345	FW
24/06/96	10:30AM	202	01	<I>MARY WARD					RC
24/06/96	10:38AM	205	03	<I>0924312111	0'22				AN
24/06/96	10:40AM	201	03	<I>1022220	0'45				NA
24/06/96	10:42AM	202	01	<Private>		00:3'10		09876	
•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•	•
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

Example of SMDR printout format:

Explanation

- (1) Date: shows the date of the call as Day / Month / Year.
- (2) Time: shows the end time of a call as Hours:Minutes / AM or PM.
- (3) Ext: shows the extension number, floating number, etc. that engaged in a call.
- (4) CO: shows the CO line number used for the call.
- (5) Dial Number

Outgoing call: shows the other party's telephone number (maximum 20 digits). Valid digits are 0 through 9, *, #, P (if PAUSE button is pressed), or the mark "=" (if a host PBX access code is entered).

Received call: shows <I> that indicates ‘Incoming.’ If the call is carried by an ISDN network, also shows the name or telephone number of the calling party.

Private call: shows <Private>.

- (6) ANS: shows the ring duration of the incoming call in Minutes / Seconds.
- (7) Duration: shows the duration of the call in Hours / Minutes / Seconds.
- (8) Cost: shows the amount of charged fee; Pulse or Pounds.
- (9) Acc (Account Code): shows the account code appended to the call.
- (10) CD (Condition Code): shows call handling type with the following codes:

TR: Transfer

FW: Call Forwarding to CO Line

RM: Remote access to a modem*

RC: Received an incoming call

AN: Answered an incoming call

NA: Unanswered an incoming call

Conditions

- Connect a printer provided with an EIA (RS-232C) interface to the EIA (RS-232C) connector located on the main unit. After connecting a printer, do not press the RETURN key, if provided on the printer, in 10 seconds.
- When programmed for outgoing toll calls only, printing occurs only for calls which start with the numbers stored in any Denied Code Table from levels 2 to 6. If LCR is employed, not the user-dialed but the modified number is checked against these tables.
- This system can store information up to 100 calls. If more calls are originated or received, previous records are deleted starting from the oldest one.
- This data is not deleted when you reset the system.
- If the system clock is not set by system programming or if the calendar IC is out of order, the date and time is not printed out.
- If Register Recall signal is manually sent out during a conversation, the call record is printed and a new record is started.
- “(8) Cost” is printed out in the format selected in program [117] “Charge Display Selection.”
- It is programmable to enable or disable the printout of secret dial numbers.
- If the account code stored in location 01 of the programming table is dialed, the dialed number is not printed out to SMDR (Private Call). Refer to the seventh line on an example of printed call records.
- When the paper of the printer runs out or the printer is out-of-service, the indication “Check Printer” is displayed on the telephone of Operator 1.

Connection References

Section 2, Installation,
2.3.7 Printer Connection

Programming References

Section 4, System Programming,
[000] Date and Time Set
[212] Call Duration Count Start Time
[800] SMDR Incoming / Outgoing Call Log Printout
[801] SMDR Format
[802] System Data Printout
[806]–[807] EIA (RS-232C) Parameters — Port 1 / Port 2
[990] System Additional Information, Field (53)

Feature References None

Operation References Not applicable.

Station Programming

Description

Allows the proprietary telephone (PT) user to customize the extension to their needs. The following are the programming items available:

For the PT (KX-T7420; KX-T7425; KX-T7431; KX-T7433; KX-T7436; KX-T7220; KX-T7230; KX-T7235; KX-T7250; KX-T7130; KX-T7020; KX-T7050)

Call Waiting Tone Type Assignment

Flexible Button Assignment

Full One-Touch Dialling Assignment

Intercom Alerting Assignment

Preferred Line Assignment – Incoming / Outgoing

Station Programming Data Default Set

For digital PT (KX-T7420; KX-T7425; KX-T7431; KX-T7433; KX-T7436; KX-T7220; KX-T7230; KX-T7235; KX-T7250) only,
Handset / Headset Selection

Ringling Tone Selection for CO Buttons

Ringling Tone Selection for Intercom Calls

For display PT (KX-T7431; KX-T7433; KX-T7436; KX-T7230; KX-T7235; KX-T7130) only,

Charge Fee Reference (pre-assigned extensions only)

Self-Extension Number Confirmation

For digital large display PT (KX-T7431; KX-T7433; KX-T7436; KX-T7235) only,

Station Speed Dialling Number / Name Assignment

For operator extension PT only,
 CO Incoming Call Information Log Lock Clear
 Live Call Screening Password Control
 Remote Station Lock Control
 Detailed information and programming instructions are described in the User Manual, Station Programming.

Conditions During Station Programming, the PT is considered to be in busy status.

Programming References

Station ProgrammingUser Manual
Operator Service FeaturesUser Manual
 CO Incoming Call Information Log Lock Clear
 Live Call Screening Password Control
 Remote Station Lock Control

Feature References None

Operation References Not applicable.

Station Programming Data Default Set

Description Allows the proprietary telephone user to return all the following items programmed on the telephone to default setting.

Programming Items	Default
Call Waiting Tone Type Assignment	Tone 1
Full One-Touch Dialling Assignment	On
Handset / Headset Selection	Handset
Intercom Alerting Assignment	Tone Call
Preferred Line Assignment – Incoming	Ringing Line
Preferred Line Assignment – Outgoing	Intercom Line

Station programming is used to set or cancel these items at individual telephones.

Conditions None

Programming References

Station ProgrammingUser Manual,
 Station Programming Data Default Set

Station Speed Dialling

Description

Allows an extension user to store frequently dialled numbers in order to place a call with abbreviated dialling. It is performed by dialling the feature number and a speed dial number from 0 through 9. Up to 10 numbers can be stored for each telephone.

Conditions

- Station Speed Dialling can be followed by manual dialling to supplement the dialled digits.
- You may make a call with One-Touch Dialling button, instead of Station Speed Dialling.
- The single line telephone (SLT) may be replaced with a proprietary telephone (PT) temporarily to store one-touch dialling into memory. The Function Buttons F1 through F10 are corresponded to speed dial numbers as follows:

F1 — 0	F6 — 5
F2 — 1	F7 — 6
F3 — 2	F8 — 7
F4 — 3	F9 — 8
F5 — 4	F10 — 9

Programming References

Section 4, System Programming,
[\[100\] Flexible Numbering, Station speed dialling, Station speed dialling programming](#)

Feature References

Section 3, Features,
One-Touch Dialling

Operation References —User Manual

DPT Features, SLT and ISDN Telephone Features;
Station Speed Dialling

System Connection*

Description

System Connection allows two main units (KX-TD1232) to work together as one system. This expands the capacity of the system, number of extensions, CO lines and so on. Two connected systems are called the master and the slave systems.

A maximum capacity of the system is as follows:

Item	Maximum Quantity (Single System)	Maximum Quantity (System Connection)
CO Line	12	24
Extension Jack	32	64
DSS Console	4	8
Doorphone	2	4
Door Opener	2	4
External Pager	2	4
Music Source	2	4

Conditions

- The following resources can be used by either system:
 - (a) External pagers
 - (b) Music sources used for Music on Hold
 - (c) Music sources used for Background Music (BGM)
 - (d) Station Message Detail Recording (SMDR); EIA (RS-232C) ports
 - (e) Call Parking areas
- System Inter Connection Card (KX-TD192), optional expansion cards to connect both systems, must be installed for this feature.
- Once this feature is employed, the data adjustment in both systems are performed at the programmed time (default is 1:00) every day. The time can be changed by programming.

Connection References Section 2, Installation,
2.4.9 System Connection

Programming References

Section 4, System Programming,
[\[115\] Adjust Time](#)

Feature References None

Operation References Not applicable.

System Data Default Set

Description This system permits re-initialization of system-programmed data. If all the programmed data is cleared, the system will restart with the default setting.

Conditions The default setting for each programming item is listed in Section 5.2, "Default Values."

Programming References No programming required.

Feature References None

Operation References Section 2, Installation,
2.8 System Data Clear

System Programming and Diagnosis with Personal Computer

Description This system can be programmed and administered using a personal computer. The EIA/Remote Programming & Diagnosis floppy is required to perform this feature. The KX-TD816 cannot perform the diagnosis. There are two programming methods:

On-Site Programming

By connecting a personal computer (PC) to your system, system programming and maintenance can be performed locally. There are two ways available to perform the above:

(Method 1.) Using the EIA (RS-232C) port

Connect the PC to the EIA (RS-232C) port provided. The main unit has an EIA (RS-232C) port which can be used for either system administration or SMDR.

(Method 2.) Using a modem*

Install the optional Remote Card. Connect the PC to an extension jack. Assign the floating number of the modem in system programming. Dial this number from the PC.

Remote Programming

You can perform system programming and maintenance from a remote site using a PC. Install the Remote Card and assign the floating number of the modem in system programming.

Starting system administration from a remote location can be done in the following ways.

*: Available for KX-TD1232 only.

- Call an extension (probably the operator) from a remote location and request a transfer to the modem.
- Assign the modem as the destination of the DIL 1:1 feature.

Conditions

- A proprietary telephone can be used to perform system programming.
- Only one access is allowed to system programming at any one time.
- To access system administration, a valid password must be entered. The password is factory-programmed and can be changed.
- System administration can be performed on-line except for the procedures of diagnosis.
If the system goes off-line, the system functions as if it was in power failure. (Refer to Power Failure Transfer feature.)

Connection References Section 2, Installation,
2.4.7 Remote Card Installation

Programming References

Section 4, System Programming,
[107] System Password
[813] Floating Number Assignment
[814] Modem Standard*

Feature References Section 3, Features,
System Programming with Proprietary Telephone Station Message Detail
Recording (SMDR)

Operation References Not applicable.

System Programming with Proprietary Telephone

Description

This system can be programmed with a personal computer or a proprietary telephone (PT).
Proprietary telephones available for system programming are: KX-T7431; KX-T7433; KX-T7436; KX-T7230; KX-T7235; and KX-T7130 (Display Proprietary Telephones).
Two extensions are allowed to perform system programming. The extensions available are:

- (1) An extension that is connected to jack 1.
- (2) An extension that is assigned as a manager.

For more information and programming instructions, refer to Section 4, "System Programming."

Conditions

- During system programming the system operates normally.
- During system programming the extension is considered to be busy.

- The display on the PT permits interactive programming.
- Only one access is allowed to system programming at any one time.
- To access system administration, a valid password must be entered. The password is factory-programmed and can be changed.
- A personal computer can be used to perform system programming.

Programming References

Section 4, System Programming

[006] [Operator / Manager Extension Assignment — Day / Night](#)

[107] [System Password](#)

Feature References

Section 3, Features,

System Programming and Diagnosis with Personal Computer

Operation References Not applicable.

System Speed Dialling

Description

This feature supports 500 abbreviated dial numbers available to all users. A system speed dial number is dialled out by pressing the AUTO button and a 3-digit code (000 through 499). It is possible to store five hundred 24-digit telephone numbers per system (maximum).

Conditions

[For proprietary telephone users only]

- Speed Dialling, One-Touch Dialling, manual dialling, Last Number Redial and Saved Number Redial can be used in combination.

[For single line telephone users only]

- If a stored feature number includes “*” or “#,” LD single line telephones cannot use it.

Programming References

Section 4, System Programming,

[001] [System Speed Dialling Number Set](#)

[002] [System Speed Dialling Name Set](#)

[100] [Flexible Numbering, System speed dialling](#)

[509]–[510] [Toll Restriction Level for System Speed Dialling — Day / Night](#)

Feature References

Section 3, Features,

Toll Restriction Override for System Speed Dialling

Operation References

—User Manual

DPT Features, SLT and ISDN Telephone Features;
System Speed Dialling

System Working Report

Description

The Digital Super Hybrid System automatically records the system's working state. A printer connected to the EIA (RS-232C) port can be used to print the recorded data.

Recorded contents are as follows:

1. Date of record
 - The date and time when cleared
 - The date and time when printed out
2. Incoming calls
 - The number of incoming calls
 - The number of answered incoming calls
 - The number of unanswered incoming calls
 - The ratio of the answered calls to the incoming calls

$$\frac{\text{Number of answered calls}}{\text{Number of incoming calls}} \times 100 (\%)$$

- The average time from receipt of call to answer of the incoming and answered calls
 - The average duration time of talk of the answered calls
3. Outgoing calls
 - The number of access requested
 - The number of access succeeded
 - The number of access failed
 - The ratio of access succeeded

$$\frac{\text{Number of access succeeded}}{\text{Number of access requested}} \times 100 (\%)$$

- The average duration of the dialled calls

These records can be deleted by the manager and the operator, and new data will be recorded thereafter.

Conditions

Connect a printer to the EIA (RS-232C) connector located on the main unit. After connecting a printer, do not press the RETURN key, if provided on the printer, in 10 seconds.

Connection References

Section 2, Installation

2.3.7 Printer Connection

3 Features

T

Programming References

Section 4, System Programming,
[100] Flexible Numbering, System working report
[806]–[807] EIA (RS-232C) Parameters — Port 1 / Port 2

Feature References

Section 3, Features,
Station Message Detail Recording (SMDR)

Operation References —User Manual

DPT Features,
System Working Report

Terminate

Description

The Terminate button is used to allow the proprietary telephone user to disconnect the current call and originate another call without hanging up first.

Conditions

- Pressing the Terminate button disconnects the conversation, outputs an SMDR record, and get an internal dial tone.
- The proprietary telephone is provided with no Terminate button originally. However a flexible CO button can be assigned as the Terminate button either by system or station programming.

Programming References

Section 4, System Programming
[005] Flexible CO Button Assignment
Station Programming.....User Manual,
Flexible Button Assignment – Terminate Button

Feature References

None

Operation References —User Manual

DPT Features,
Terminate

Time-Out, Variable

Description

Provides timers to control various features or functions.
The following timers are programmable:

System Timer Items	Range
Automatic Redial Interval Time	n×10 s, n: 3 – 120
Automatic Redial Repeated Times	1 – 12 times

Call Forwarding – No Answer Time-Out	1 – 12 rings
CO Dial Starting Time	n×100 ms, n: 0 – 40
Extension-to-CO Call Duration Time	1 – 64 min
Hold Recall Time	0 – 240 s
Intercept Routing Time-Out	3 – 48 rings
Message Waiting Ring Interval Time	0 – 64 min
Pickup Dialling Waiting Time	0 – 8 s
Ring-Off Detection Time	6 / 11 s
SMDR Duration Count Starting Time	0 – 60 s
Toll Restriction First Digit Time-Out	5 – 120 s
Toll Restriction Inter-digit Time-Out	5 – 30 s
Transfer Recall Time	3 – 48 rings
CO Line Group Timer Items	
Disconnect Time	0.5 / 2.0 / 4.0 s
Register Recall Signal Time	Disable / 80 / 96 / 112 / 200 / 300 / 400 / 500 / 600 / 700 / 800 / 900 / 1000 / 1100 / 1200 ms
Pause Time	1.5 / 2.5 / 3.5 / 4.5 / 5.5 / 6.5 s
CO Line Timer Items	
CPC Signal Detection Time (Incoming)	n×8 ms, n: 02 – 75
DTMF Digit Time	96 / 160 ms
Extension Timer Items	
Delayed Ringing Count	Disable / Immediate / 2 / 4 / 6 / 8 rings / No ring
Voice Mail Integration Timer Items	
DTMF Signal Duration	80 / 160 ms
DTMF Signal Waiting Time after VPS Answer	0.5 / 1.0 / 1.5 / 2.0 s
DTMF Signal Waiting Time after VPS calls Extension	0.5 / 1.0 / 1.5 / 2.0 s

Programming References

Section 4, System Programming,

- [200] [Hold Recall Time](#)
- [201] [Transfer Recall Time](#)
- [202] [Call Forwarding – No Answer Time](#)
- [203] [Intercept Time](#)
- [204] [Pickup Dial Waiting Time](#)

[205] Extension-to-CO Line Call Duration Time
[207] First Digit Time
[208] Inter Digit Time
[209] Automatic Redial Repeat Times
[210] Automatic Redial Interval Time
[212] Call Duration Count Start Time
[214] Message Waiting Ring Interval Time
[215] Ring-Off Detection Time
[404] DTMF Time
[405] CPC Signal Detection Incoming Set
[412] Pause Time
[413] Register Recall Signal Time
[414] Disconnect Time
[603]–[604] DIL 1:N Extension and Delayed Ringing — Day / Night
[990] System Additional Information, Fields (6) through (8)

Feature References None

Operation References Not applicable.

Timed Reminder

Description Each telephone can be set to generate an alarm tone at a preset time as a wake up or reminder. This feature can be programmed to be active only once or every day.

Conditions

- Be sure that the system clock works.
- Setting a new time clears the preset time.
- The alarm tone continues for 30 seconds. To stop it, lift the handset or, with a proprietary telephone, press any button.

Programming References

Section 4, System Programming,
[\[100\] Flexible Numbering, Timed reminder](#)

Feature References None

Operation References **DPT Features, SLT and ISDN Telephone Features;**
—User Manual Timed Reminder

Toll Restriction

Description

Toll Restriction is a system programmable feature that, in conjunction with the assigned Class of Service, can prohibit certain extension users from placing unauthorized toll calls.

Every extension is programmed to belong to one of eight Classes of Service. Each Class of Service is programmed to have a toll restriction level for day mode and night mode.

There are eight toll restriction levels available. Toll restriction level 1 is the highest level and the level 8 is the lowest. That is, level 1 allows all toll calls and levels 7 and 8 disallows all toll calls. Levels 2 through 6 are used to restrict calls by combining pre-programmed deny and excepted code tables.

Denied Code Tables

An outgoing outside call made by an extension with a toll restriction level between 2 and 6 is first checked against the selected Denied Code Tables. If the leading six digits of the dialed number (not including the line access code) are not found in the table, the call is made. There are five system programs for Denied Code Tables: **[301]-[305] TRS Denied Code Entry for Levels 2 through 6**: each program is used to make up a Denied Code Table for Levels 2 through 6 respectively.

Complete every table by storing numbers that are to be prohibited. These numbers are defined as denied codes. Each table can store up to 20 denied codes, each of which consisting of seven digits.

Excepted Code Tables

These tables are used to override a programmed denied code. A call denied by the selected Denied Code Tables is checked against the selected Excepted Code Tables, and if a match is found, the call is made.

There are five system programs for these tables:

[306]-[310] TRS Excepted Code Entry for Levels 2 through 6: each programming is used to make up an Excepted Code Table for Levels 2 through 6.

Complete every table by storing numbers that are exceptions to the denied codes. These numbers are defined as excepted codes. Each table can store up to 20 excepted codes, each of which consisting of seven digits.

Applicable Denied and Excepted Code Tables depend on the assigned toll restriction level of an extension as follows:

	Denied Code Tables	Excepted Code Tables
Level 1	None	None
Level 2	Table for Level 2	Tables for Levels 2 through 6
Level 3	Tables for Levels 2 and 3	Tables for Levels 3 through 6
Level 4	Tables for Levels 2 to 4	Tables for Levels 4 through 6
Level 5	Tables for Levels 2 to 5	Tables for Levels 5 through 6
Level 6	Tables for Levels 2 to 6	Tables for Level 6
Level 7	None	None
Level 8	None	None

[Explanation]

Level 1: allows all calls.

Level 2: denies the codes stored in the Denied Code Table for Level 2 except the codes stored in Excepted Code Tables for Levels 2 through 6.

Level 3: denies the codes stored in the Denied Code Tables for Levels 2 and 3 except the codes stored in Excepted Code Tables for Levels 3 through 6.

Level 4: denies the codes stored in the Denied Code Tables for Levels 2 through 4 except the codes stored in Excepted Code Tables for Levels 4 through 6.

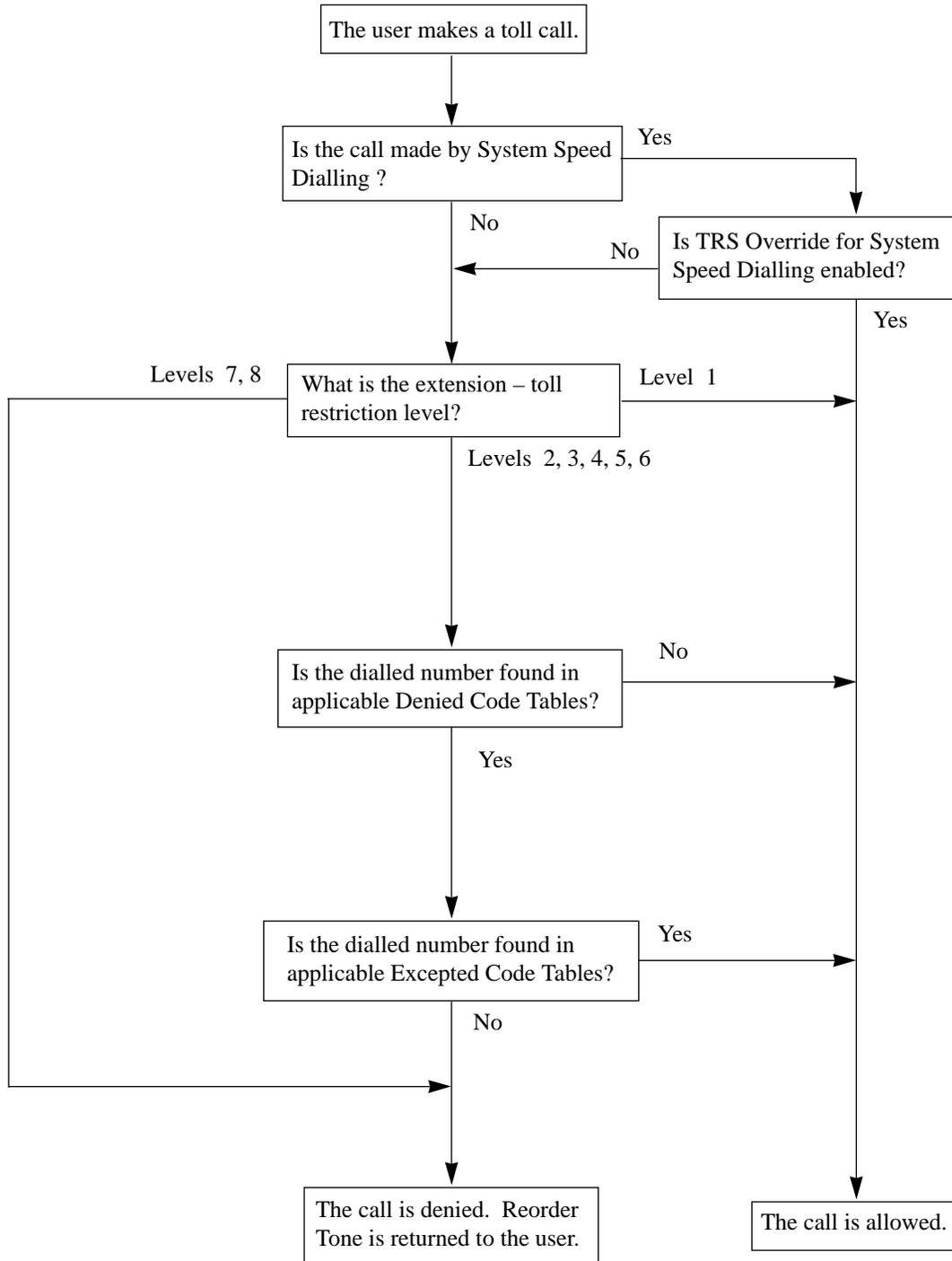
Level 5: denies the codes stored in the Denied Code Tables for Levels 2 through 5 except the codes stored in Excepted Code Tables for Levels 5 and 6.

Level 6: denies the codes stored in the Denied Code Tables for Levels 2 through 6 except the codes stored in Excepted Code Table for Level 6.

Level 7: Allows intercom calls only.

Level 8: Allows operator calls only.

Flow Chart of Toll Restriction



Conditions

- Toll restriction checks are applied to the following:
 - (1) Account Code Entry
 - (2) Dial Access, Automatic
 - (3) Least Cost Routing (LCR)
 - (4) Line Access, CO Line Group
 - (5) Line Access, Individual
 - (6) System Speed Dialling
- Emergency call numbers such as Police or Fire Department numbers should be stored in program [311] “Emergency Dial Number Set” so that they are excepted from toll restriction.
- If a stored Host PBX access code is found in the dialled number, a toll restriction check starts for succeeding telephone number.
- Toll restriction for System Speed Dialling can be assigned in the Class of Service setting.
- It is programmable whether the “*” or “#” the user dials is to be checked or not on the Toll Restriction code. This is useful to prevent unauthorized calls which could be possible through certain Central Offices’ exchange system.
- It is programmable to admit the press of the RECALL or FLASH/RCL button, during an outside call on the extensions in levels 7 and 8.

Programming References

- Section 4, System Programming,
 - [207] First Digit Time
 - [208] Inter Digit Time
 - [301]–[305] TRS Denied Code Entry for Levels 2 through 6
 - [306]–[310] TRS Excepted Code Entry for Levels 2 through 6
 - [500]–[501] Toll Restriction Level — Day / Night
 - [509]–[510] Toll Restriction Level for System Speed Dialling — Day / Night
 - [990] System Additional Information, Field (14)

Feature References

- Section 3, Features,
 - Toll Restriction Override by Account Code Entry
 - Toll Restriction Override for System Speed Dialling

Operation References Not applicable.

Toll Restriction Override by Account Code Entry

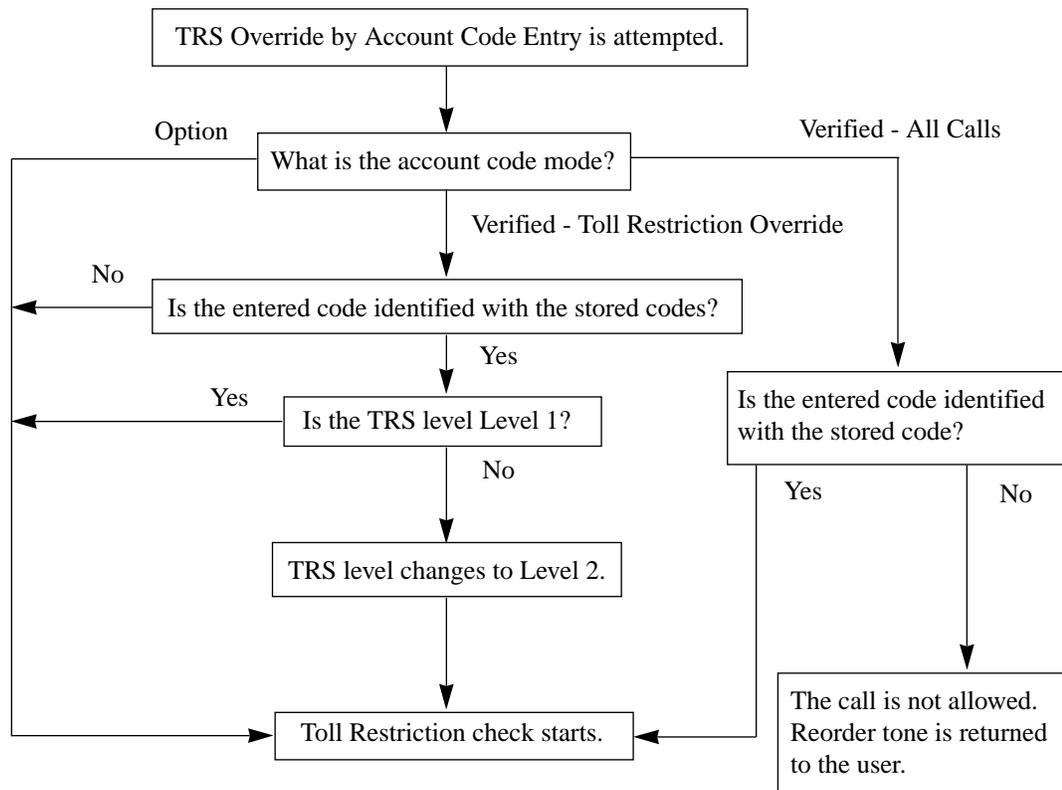
Description

Allows the extension user to override toll restriction temporarily to make a toll call from a toll-restricted telephone. The user can carry out this feature by entering the appropriate account code before dialling the telephone number.

Conditions

- The toll restriction level of the user is changed to level 2 by this feature. Thus this can be used by extension users assigned a toll restriction level from 3 through 8. The levels 1 and 2 are not changed.
- A Class of Service which is assigned Account Code Entry – Verified Toll Restriction Override permits the class members to override their toll restrictions.
- Up to 40 account codes can be programmed for Verified Account code operation. These are used for Toll Restriction Override.
- If the user does not enter any account code or enters an invalid account code, an ordinary toll restriction check is done.

Flow Chart of TRS Override by Account Code Entry



Trunk (CO Line) Answer From Any Station (TAFAS)

Description

A tone signal is sent from the external pager when an incoming outside call is received. Any extension user can answer the call.

Conditions

- Connect a user-supplied external paging device.
- Two external pagers can be installed per system. System Connection* permits four pagers (maximum). These pagers are numbered from 1 through 4. To answer an incoming call dial the feature number and 1 to 4. The feature number is the same as that used to answer Paging – External.
- Floating numbers of pagers are programmable.
- TAFAS can be used in the following cases:
 - a) The floating number of an external pager is assigned as the DIL 1:1 destination. In this case all the incoming calls on the specified line will be signalled.
 - b) The floating number of an external pager is assigned as the Intercept Routing destination. In this case incoming calls redirected to the destination will be signalled.
 - c) The floating number of an external pager is assigned as the Direct Dialling In destination.
- Confirmation tone is sent to the user before being connected to the caller. Eliminating the tone is programmable.

Connection References

Section 2, Installation,
2.3.5 External Pager Connection

Programming References

Section 4, System Programming,
[\[100\] Flexible Numbering, Paging – external answer / TAFAS answer](#)
[\[813\] Floating Number Assignment](#)
[\[990\] System Additional Information, Field \(16\)](#)

Feature References

Section 3, Features,
Floating Station

Operation References —User Manual

DPT Features, SLT and ISDN Telephone Features;
Trunk (CO Line) Answer From Any Station (TAFAS)

Two-Way Recording into the Voice Mail†

Description Allows the proprietary telephone user to record the conversation into one's mailbox or another mailbox, while talking on the phone.

Note:

When you record Two-Way telephone conversations, you should inform the other party that the conversation is being recorded.

- Conditions**
- A flexible CO and DSS button can be assigned as a Two-Way Record button or a Two-Way Transfer button.
 - When all the voice mail ports are busy, pressing the Two-Way Record button sends an alarm tone.
 - When all the voice mail ports are busy, pressing the Two-Way Transfer button followed by an extension number sends an alarm tone.

Programming References

System Programming,
[\[005\] Flexible CO Button Assignment](#)

Station Programming,
Flexible Button Assignment — Two-Way Record Button, Two-Way Transfer Button

Feature References None

Operation References **DPT Features,**
Two-Way Recording into the Voice Mail

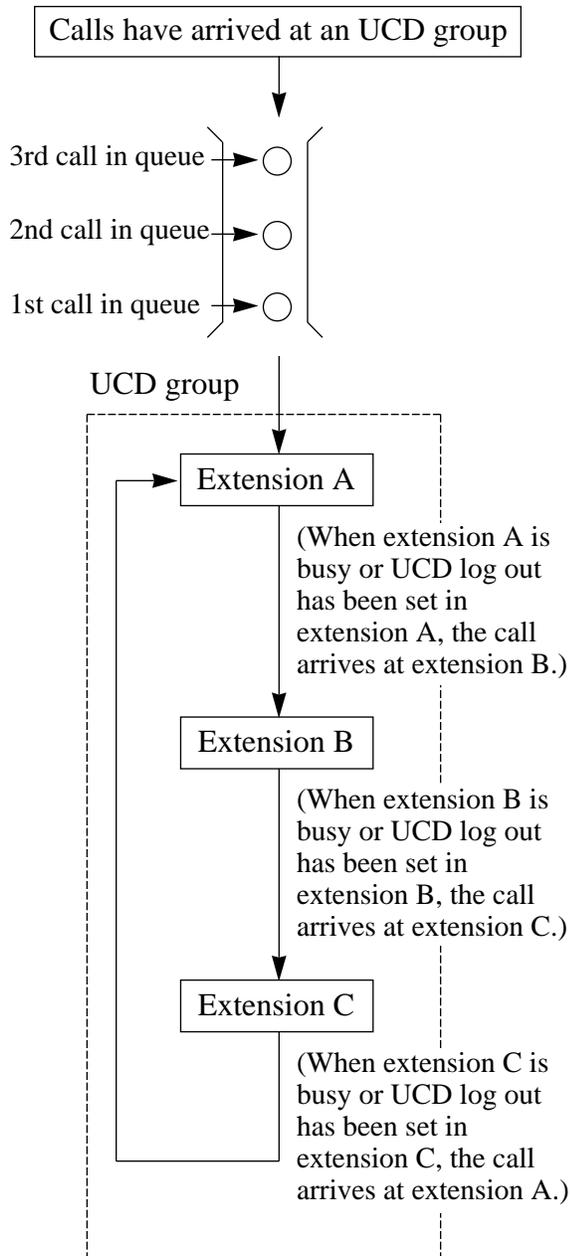
Uniform Call Distribution (UCD)

Description Allows an incoming calls (CO line, extension) to be distributed uniformly to a specific group of extensions called UCD group. Calls to an UCD group hunt for an idle station in circular way, starting at the extension following the last one called. This UCD feature is particularly helpful when certain extension receives a high volume of calls compared with other extensions. Log-In / Log-Out feature is available for UCD.

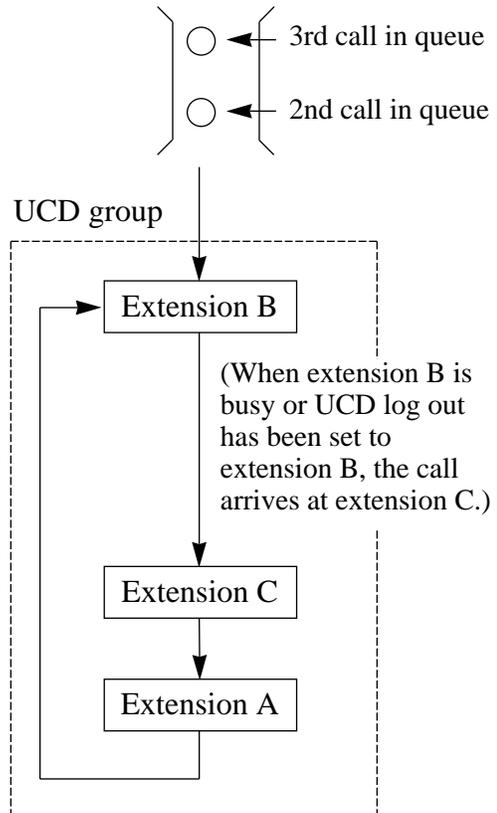
†: Available when the Digital Super Hybrid System is connected to a Digital Proprietary Telephone capable Panasonic Voice Processing System (one that supports digital proprietary telephone integration; e.g. KX-TVP100).

An outline sketch of UCD is shown below.

(1) When a number of calls have been arrived at an UCD group, the 1st call arrives at extension A first.



(2) When the 1st call arrives at extension A, the 2nd call arrives at extension B.



(3) When the 2nd call arrives at extension C, the 3rd call will arrive at extension A.

User Programming (Manager Programming)

Description	User Programming (Manager Programming) can be programmed by the end user. Programs [000] through [016] can be changed by the user.
Conditions	None
Programming References	User ProgrammingUser Manual
Feature References	None
Operation References	Not applicable.

Voice Mail Integration

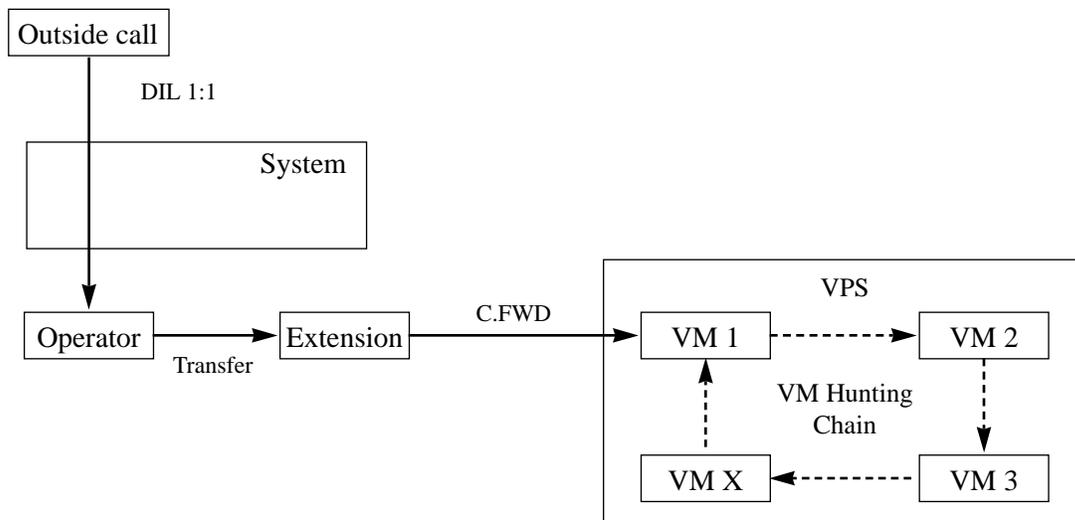
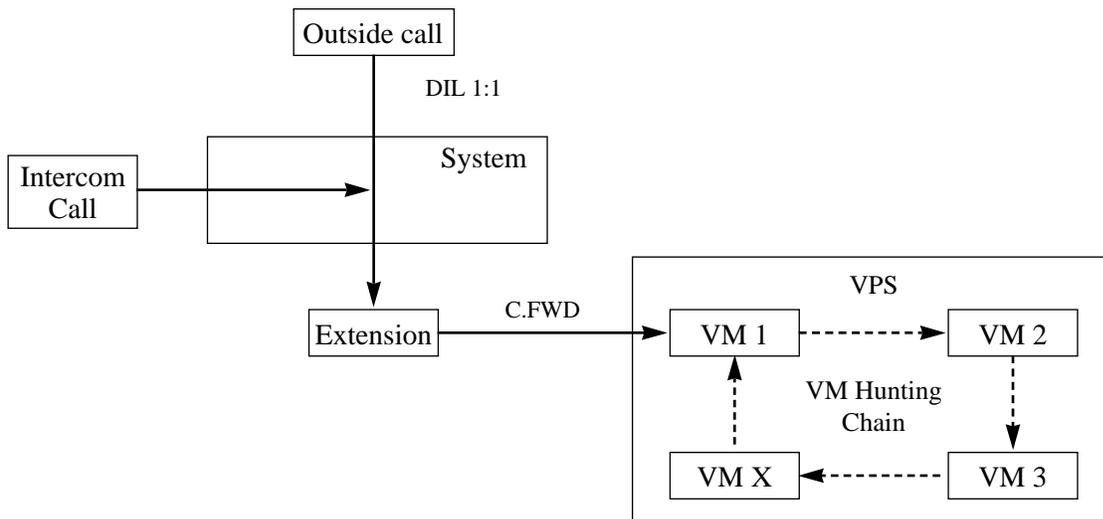
Description This system can accommodate Voice Processing System (VPS) equipment, which offers the user a Voice Mail and an Automated Attendant Services. If an extension user has set Call Forwarding destination to the VPS, a calling party will be forwarded to the VPS and can leave a voice message in the mailbox of the extension. When a call is transferred to the VPS by the Call Forwarding or Intercept Routing – No Answer features, the mailbox number is sent to the VPS automatically with DTMF signalling (Follow On ID). Up to eight extension jacks can be connected to VPS as extensions in the system.

System Explanation

1. Voice Mail Service

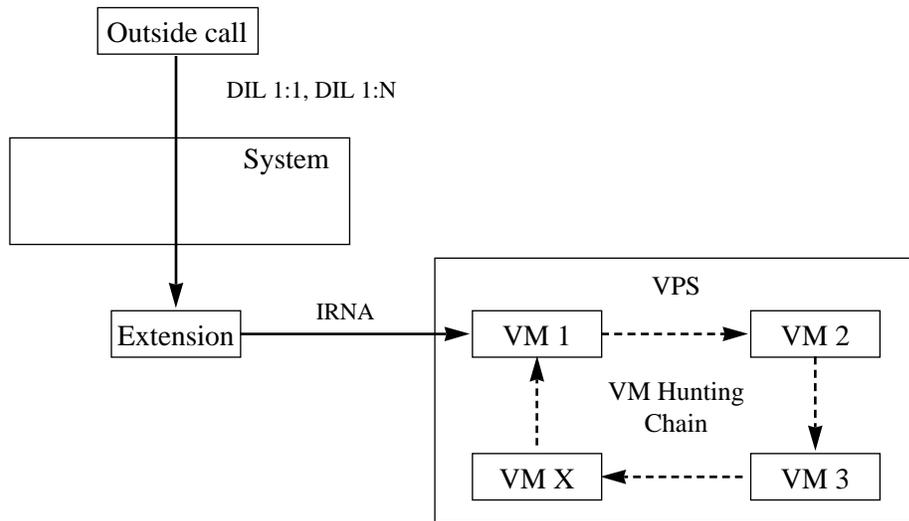
1.1 Call Forwarding to VM

If an extension user sets Call Forwarding (C. FWD) whose destination is the VPS, an incoming call is forwarded to the VPS under the proper conditions. The system sends to the VPS a mailbox number of the corresponding extension at that time. Therefore the calling party can leave his / her message in the mailbox of the desired extension without knowing the mailbox number.



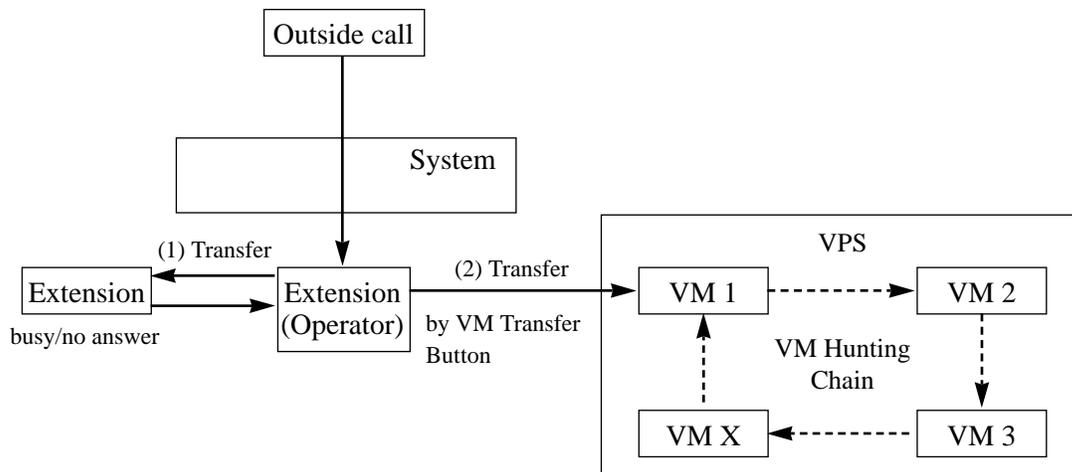
1.2 Intercept Routing to VM

If a CO line is set as Intercept Routing – No Answer (IRNA) whose destination is the VPS, an outside call is forwarded to the VPS under the proper conditions. The system sends to the VPS a mailbox number of the corresponding extension at that time. Therefore the calling party can leave his / her message in the mailbox of the desired extension without knowing the mailbox number.



1.3 Transferring to VM

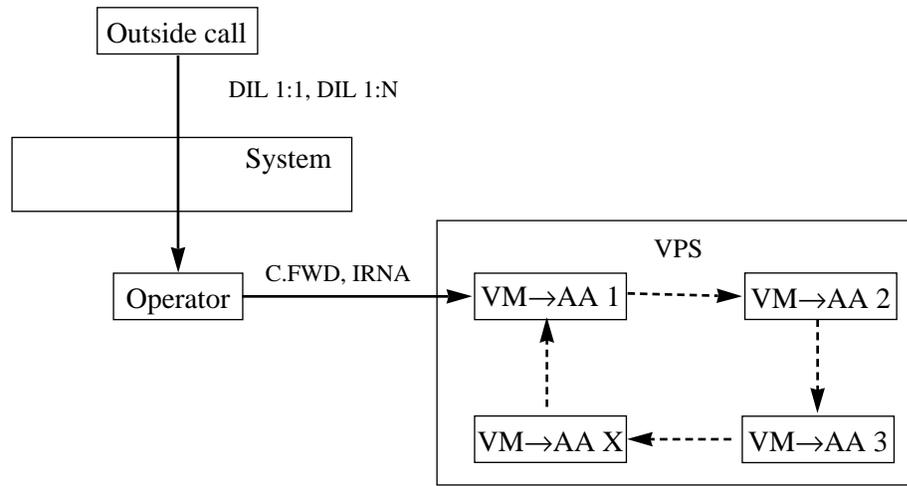
The extension user can transfer an outside call to the VPS so that calling party can leave his / her message in the mailbox of the desired extension. The extension user should use the Voice Mail (VM) Transfer button, when transferring a call to the VPS. Pressing this button and entering the extension number allows the extension user to transfer the call to the mailbox of the corresponding extension.



1.4 Changing from VM to Automated Attendant (AA)

The Automated Attendant Service is automatically activated in the following cases:

- 1) The incoming call is not answered by the operator and IRNA is activated.
- 2) The operator is assigned as a destination of DIL 1:1 and the operator sets the Call Forwarding to VPS.



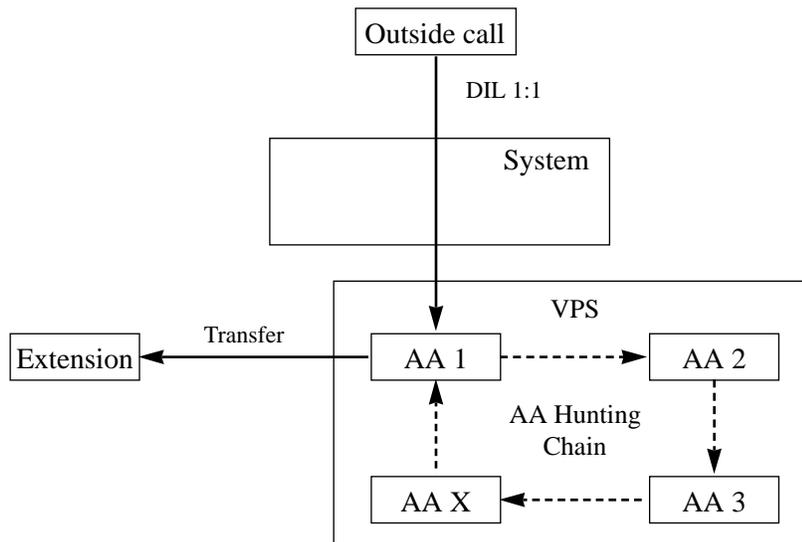
1.5 Listening to a Recorded Message

If the VPS receives a message, the VPS can turn on the MESSAGE button indicator of the corresponding telephone as a notification to the user of the telephone. The VPS notifies the extension user that there is a message waiting in his / her mailbox. When the MESSAGE button indicator is lit, pressing the button allows the extension user to play back the stored message.

2. Automated Attendant (AA) Service

2.1 AA to Extension

AA receives and answers an outside call and offers services such as transferring to a specified extension or the corresponding mailbox by the DTMF signalling which is sent from the calling party.



Conditions

- A VPS can be assigned as the destination of the following features:
 - Call Forwarding – All Calls
 - Call Forwarding – Busy
 - Call Forwarding – Busy / No Answer
 - Call Forwarding – No Answer
 - Intercept Routing – No Answer

In these functions, the caller to the extension need not know the mailbox number of the called extension because the code is automatically transmitted to the VPS (Follow On ID function). If a DIL 1:N call is transferred to the VPS by IRNA, your system transmits the mailbox number of the lowest jack number of the receiving extensions.

- A mailbox number is a respective extension number by default. The mailbox number can be changed, only if program [990] “System Additional Information, Field (18)” is set to “free.”
- Pressing the Voice Mail Transfer button and dialling the extension number allows the extension user to transfer to the corresponding mailbox. In this case, Follow On ID function is available.
- The Voice Mail extension should be set to Data Line Security to achieve proper recording.
- The KX-TD1232 has two Extension Cards and can have two 8-Station Line Units. It is recommended that you do not connect more than two VM ports to each card or units.

Connection References

Section 2, Installation,

2.3.2 Extension Connection

2.4.5 Extension Connection (Optional Unit)

Programming References

Common

Section 4, System Programming,

- [005] Flexible CO Button Assignment
- [100] Flexible Numbering, Call forwarding / do not disturb, Message waiting
- [113] VM Status DTMF Set
- [114] VM Command DTMF Set
- [407]–[408] DIL 1:1 Extension — Day / Night
- [409]–[410] Intercept Extension — Day / Night
- [603]–[604] DIL 1:N Extension and Delayed Ringing — Day / Night
- [609] Voice Mail Access Codes
- [990] System Additional Information, Fields (6) through (9), (18)

Station Programming.....User Manual,
Flexible Button Assignment – MESSAGE Button, Voice Mail (VM)
Transfer Button

For VM Service

Section 4, System Programming,

- [106] Station Hunting Type (Select Voice Mail Hunting.)
- [990] System Additional Information, Fields (10), (29), (30)

For AA Service

Section 4, System Programming,

- [106] Station Hunting Type (Select Automated Attendant Hunting.)
- [990] System Additional Information, Field (24)

Feature References

Section 3, Features,

- | | |
|------------------------------------|-----------------------------|
| Call Forwarding – All Calls | Call Forwarding – No Answer |
| Call Forwarding – Busy | Intercept Routing |
| Call Forwarding – Busy / No Answer | Station Hunting |

Operation References

—User Manual

DPT Features, SLT and ISDN Telephone Features;

- Voice Mail Integration
- Voice Mail Transfer

Voice Mail Integration for Digital Proprietary Telephones[†]

Description

The Digital Proprietary Telephone capable Panasonic Voice Processing System can be connected to the Digital Super Hybrid System (DSHS) in a tightly integrated fashion. The system sends the VPS data which contains the extension number configuration information and the VPS automatically creates mailboxes with this data (Automatically Configuration — Quick Setup).

Conditions

- A maximum of one VPS can be connected to each DSHS cabinet.
- A maximum of six DSHS jacks can be connected to a digital proprietary telephone capable VPS. Because a digital proprietary telephone connection supports up to two simultaneous voice calls, only one DSHS jack needs to be connected for each two VPS ports.
- Connect the jacks and ports in ascending order. In other words, the lowest number DSHS jack used for VPS connection must be connected to the lowest number VPS port.
- The VPS data is transmitted to the VPS on the lowest jacks port.
- Only extensions which are assigned as “Connect” in the program [611] can have mailboxes.
- The voice mail service codes and names can be stored in station speed dialling.

Programming References

Section 4, System Programming,
[\[126\] Voice Mail Number Assignment](#)
[\[127\] Voice Mail Extension Number Assignment](#)
[\[128\] Voice Mail Extension Group Assignment](#)
[\[611\] Extension Connection Assignment](#)
[\[617\] Live Call Screening Recording Mode Assignment](#)

Feature References

Section 3, Features,
Voice Mail Integration

Operation References

Not applicable.

Volume Control – Speaker / Handset Receiver / Headset / Ringer

Description	Allows the proprietary telephone user to change the following as desired: <ul style="list-style-type: none">Handset receiver volumeHeadset volumeRinger volumeSpeaker volume
Conditions	<p>The control method depends on the telephone type:</p> <ul style="list-style-type: none">• With a KX-T7400 series digital proprietary telephone, rotate the Jog Dial in the desired direction to select the desired volume level. With a KX-T7200 series digital proprietary telephone, press the volume control button (VOLUME ^ / √ UP / DOWN) to select the desired volume level. However the ringer volume of KX-T7420, KX-T7425, KX-T7220 and KX-T7250 is selected with Ringer Volume Selector (OFF / LOW / HIGH).• With other proprietary telephones, slide the following levers located on the left side of the telephone.<ul style="list-style-type: none">Volume Control (MIN – MAX)Handset Headset<ul style="list-style-type: none">Volume Selector (NORMAL / MID / HIGH)Ringer Volume Selector (OFF / LOW / HIGH)
Programming References	No programming required.
Feature References	None
Operation References —User Manual	Configuration, Initial Settings for the KX-T7400 Series Initial Settings for the KX-T7200 Series

Section 4

System Programming

This section provides step-by-step programming instructions
for a proprietary telephone.

4.1 General Programming Instructions

Default Setting

This system has a default factory setting. If any of the programming needs to be changed, you will find the necessary information in Section 3, “Features.” This makes the system very simple to install and customize as required by the customer. Any required changes can be written in “Programming Tables.”

Required Telephone Set

One of the following telephone sets is required for System Programming:

- Digital Proprietary Telephone (DPT): KX-T7230, KX-T7235, KX-T7431, KX-T7433, KX-T7436
- Analog Proprietary Telephone (APT): KX-T7130

Extensions Used for Programming

Connect one of the above-mentioned telephone sets to either of the following:

- Jack number 1
- Jack programmed as a manager extension

To assign the manager extension, see Section 4.2 [006] “Operator / Manager Extension Assignment — Day / Night.”

User Programming (Manager Programming)

Manager programming items are allowed for any display proprietary telephone user in the system. See Section 4.1.4 “User Programming.”

4.1.1 Using Proprietary Telephones

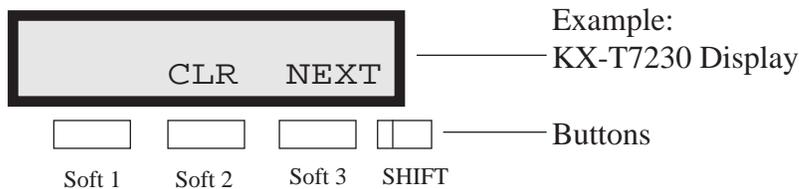
Soft Buttons and SHIFT Button on the Display DPT

Three soft buttons are provided just below the display on the display of Digital Proprietary Telephones (DPT), KX-T7230, KX-T7235, KX-T7433 and KX-T7436. The functions of these soft buttons vary as the programming procedures advance step by step. Those functions that are currently assigned to the buttons are shown on the lower line of the display. (See “Viewing the Display” on page 4-6 for more information on the display lines.)

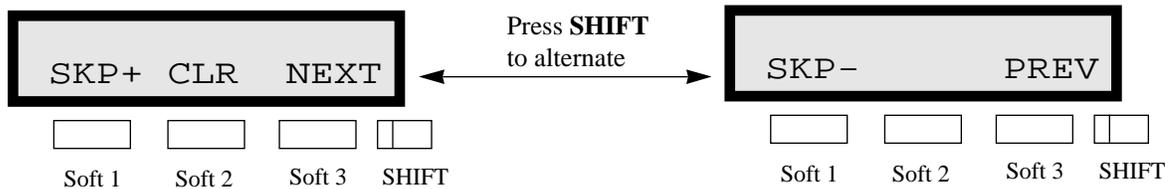
If the **SHIFT** button indicator is on, two functions are available with each soft button. To alternate between the two functions, press the **SHIFT** button on the right side of the display.

Soft button variations

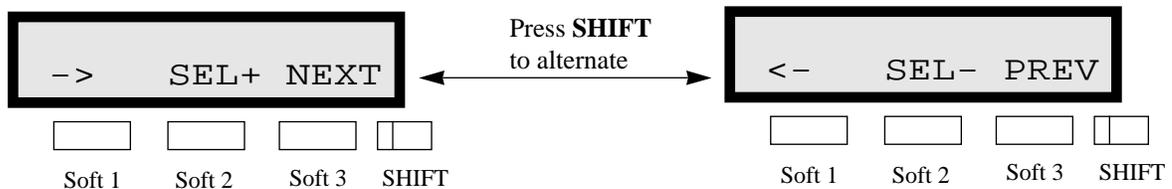
Type 1



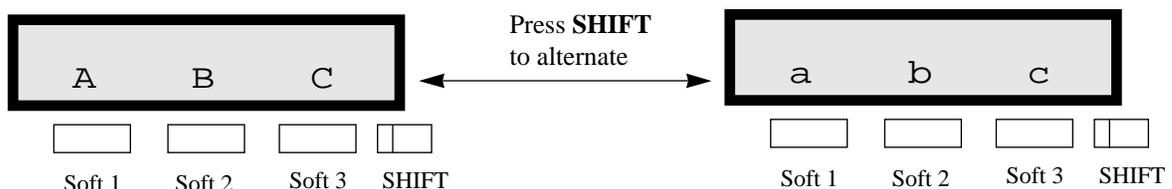
Type 2



Type 3

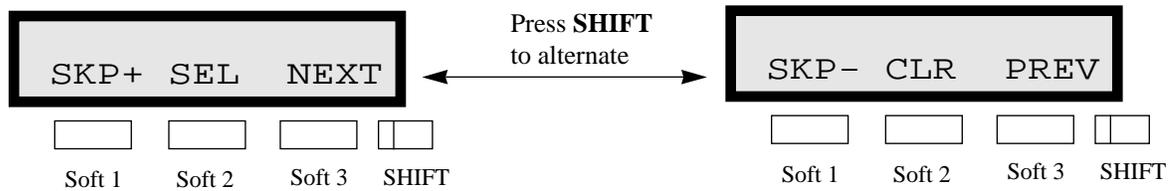


Type 4



4.1.1 Using Proprietary Telephones

Type 5



You can use either the soft buttons or the overlay buttons. (For overlay buttons, refer to “Using the Overlay” below.)

Throughout programming you will see instructions such as “Press **PREV.**” If you use soft buttons, this means press **SHIFT**, release **SHIFT** and then press **Soft 3**. The (PREV) function is performed.

Note If you use soft buttons and if programming instructions tell you to press the following buttons, you may press soft buttons shown below.

Instructions	Soft button
SELECT	SEL+, SEL-, or SEL
CLEAR	CLR

Using the Overlay

A programming overlay is packed with the telephone at the factory. This overlay should be used at all times while in programming mode since the functions of the telephone keys change while in programming mode as follows: (The original functions are in parentheses.)

During Normal Operation

(PAUSE)
 (SP-PHONE)
 (REDIAL)
 (AUTO ANSWER / MUTE)
 (RECALL)
 (FLASH / RCL)
 (TRANSFER)
 (FWD / DND)
 (CONF)
 (INTERCOM)
 (AUTO DIAL / STORE)
 (HOLD)

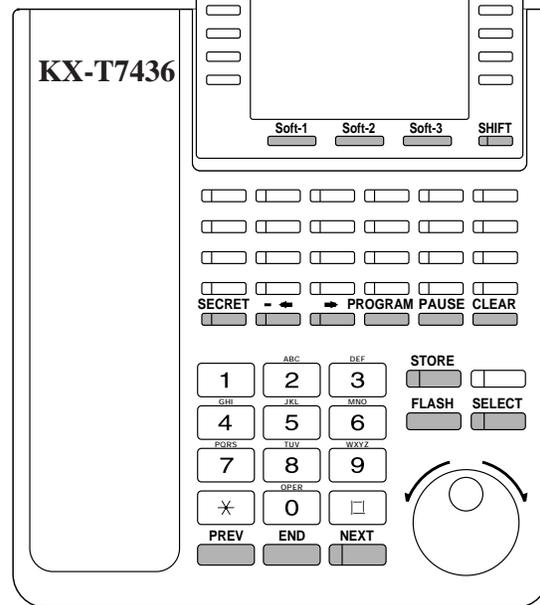
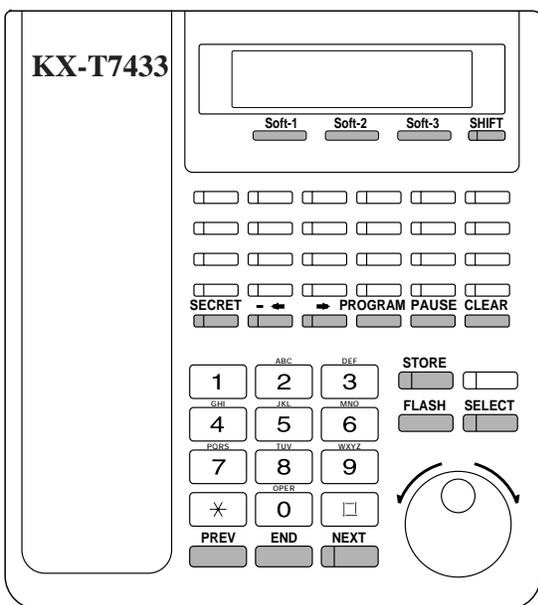
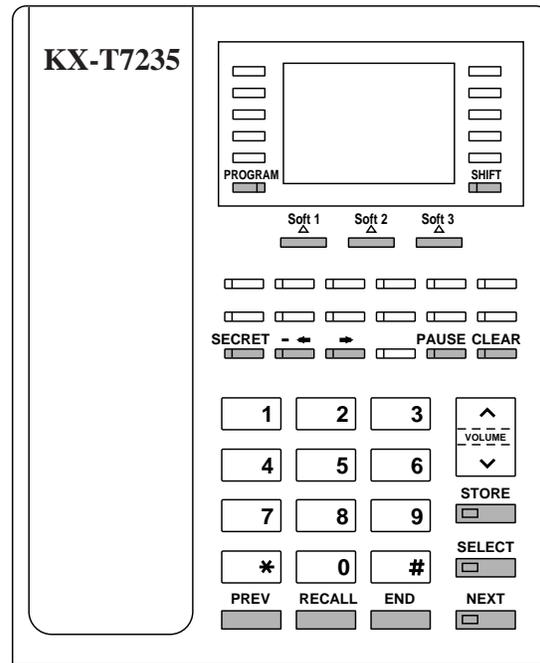
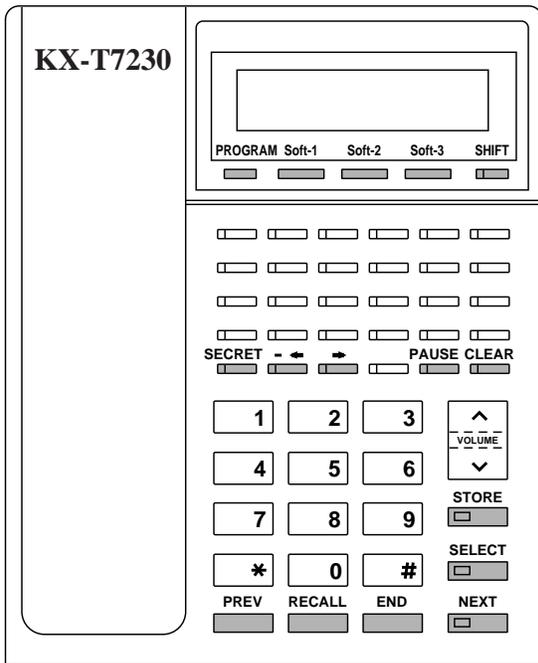
During Programming

PAUSE / PROGRAM
NEXT
PREV (PREVIOUS)
SELECT
RECALL
FLASH
CLEAR
➡
- / ◀
SECRET
STORE
END

4.1.1 Using Proprietary Telephones

Location of Controls with the Overlay

The pictures below show the functions of the buttons of the KX-T7230, KX-T7235, KX-T7433 and KX-T7436 while in programming mode. KX-T7431 is the same as KX-T7433 except for the Soft and SHIFT buttons.



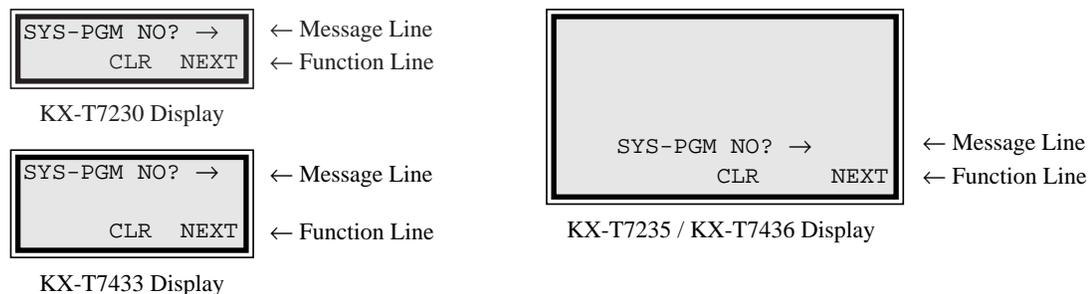
4.1.1 Using Proprietary Telephones

Viewing the Display

The display gives you helpful information, such as what you should do now, what you have done, etc..

The KX-T7230, KX-T7235, KX-T7433 and the KX-T7436 utilize two information lines for programming. The upper line is called the Message Line and the lower one is called the Function Line.

The Message Line (upper) shows you what you should do or what you should select. It also allows you to confirm what you have just entered. The display capacity is 16 digits. If your entry exceeds the capacity, you can shift the display by pressing **➡** or **⬅** button. The Function Line (lower) shows the current function of the soft buttons. These functions change with the programming procedures.



Before entering the programming mode

Before entering programming mode, confirm that:

- Your telephone is on-hook.
- No calls are on hold at your telephone.

Entering the programming mode

Press **PROGRAM** (or **PAUSE**) + * + # and enter your **System Password (default=1234)**.

- The display shows the Initial Message: SYS-PGM NO?→

- Note**
- If your telephone set does not have a **PROGRAM** button, substitute it with the **PAUSE** button.
 - If nothing is entered in five seconds after the **PROGRAM** (or **PAUSE**) button is pressed, it is cancelled.
 - The System Password entered is not shown on the display. The System Password can be changed by System Programming. Refer to Section 4.3 [107] “System Password.”
 - During the programming mode, your extension is treated as a busy extension.
 - Only one proprietary telephone can be in programming mode at any one time.

4.1.2 Programming Ways

Advancing to the next stage

When “SYS-PGM NO?→” is displayed, you can select one of the following:

- To go to program [000], press the **NEXT** button.
- To go to another program, enter the 3-digit program address.

Rotation of jack number

Each jack of the Digital Super Hybrid System supports the connection of a digital proprietary telephone and a single line device with different extension numbers (eXtra Device Port: XDP function). To program this function it is necessary to assign two parts for each jack. The first part of jack one is 01-1. The second part of jack one is 01-2. The first part of jack two is 02-1 and so on. The **NEXT** and **PREV** buttons can be used to move from jack to jack as required in programs [003], [004], [601] through [609], [611], [612], [621] and [623].

Example;



Note The first part of a jack is for a DPT of a XDP-assigned jack. The second part is for a single line device. Program [600] “EXtra Device Port” assigns which jacks are XDP.

Storing your data

Press **STORE** to store your data.

- The **STORE** indicator lights red and a confirmation tone is emitted.

* **Confirmation tone (one beep)**

After pressing **STORE**, you will hear a beep. This informs you that storage is completed.

* **Alarm tone (three beeps)**

If you hear this alarm, your entry is not valid.

Making another selection within the same program address

- To make the next higher selection, press **NEXT**.
- To make the previous selection, press **PREV**.
- To make a specific selection, press **SELECT** and then enter the number.

4.1.2 Programming Ways

Going to another program address

After pressing **STORE**, you can go to another program with either of the following two methods:

- (1) • To go to the next larger program address:
Press **Soft 1 (SKP+)** or **VOLUME ∨ (DOWN)**.
 - To go to the next smaller program address:
Press **SHIFT + Soft 1 (SKP-)** or **VOLUME ∧ (UP)**.
- (2) To go to a specific program address:
Press **END**, then enter the Program Address.

Method (1) is useful when you want to perform a series of programs consecutively. For example, to change the programming in addresses [000] to [008], use this method. You can move from [000] to [001], from [001] to [002], and so on by pressing the **SKP+** or **VOLUME ∨**. You can move in reverse order from [008] to [007], etc. by pressing the **SKP-** or **VOLUME ∧**.

This method can also be used to move between neighboring program groups: For example, you can move between the program addresses [008] and [100], [116] and [200], and so on. Also, you can move between the smallest program address [000] and the largest one [991]. Program addresses [7000] through [7824] are arranged between [626] and [800].

Method (2) is useful when you wish to jump to another program address. For example, you have just finished with program [006] and now you want to go to program [301]. Neither **SKP+ / VOLUME ∨** nor **SKP- / VOLUME ∧** is convenient in this case. So you should press **END** and enter 301.

Note	The following programming instructions assume that you have already entered the programming mode and that you will use Method (2).
-------------	--

Confirming the entries

You may review the stored programming without making any changes.

Going back to the operation mode

Two ways are available to go back to the operation mode:

- (1) Lift the handset while in programming mode.
- (2) When the Initial Message: **SYS-PGM NO?→** is displayed, press the **PROGRAM (or PAUSE)** button.
(To display the Initial Message, press **END**.)

4.1.3 Entering Characters

You can enter characters to store names or messages by using the dialing key pad, buttons or the Jog Dial.
See the Combination Tables below.

Combination Tables

SHIFT & Soft Combination		S1	SHIFT + S1	S2	SHIFT + S2	S3	SHIFT + S3	SHIFT + SHIFT +S1	SHIFT + SHIFT +S2	
Pressing SELECT (Times)	Keys	0	1	2	3	4	5	6	7	8
1	1	Q	q	Z	z	!	?			
2	2	A	a	B	b	C	c			
3	3	D	d	E	e	F	f			
4	4	G	g	H	h	I	i			
5	5	J	j	K	k	L	l			
6	6	M	m	N	n	O	o			
7	7	P	p	Q	q	R	r	S	s	
8	8	T	t	U	u	V	v			
9	9	W	w	X	x	Y	y	Z	z	
0	0		.	,	'	:	;			
*	*	/	+	-	=	<	>			
#	#	\$	%	&	@	()			

Combination Table 1

Rotating Jog Dial (Pulses)	Keys	0	1	2	3	4	5	6	7	8
1	1	Q	q	R	r	S	s	T	t	
2	2	A	a	B	b	C	c	D	d	
3	3	D	d	E	e	F	f	G	g	
4	4	G	g	H	h	I	i	J	j	
5	5	J	j	K	k	L	l	M	m	
6	6	M	m	N	n	O	o	P	p	
7	7	P	p	Q	q	R	r	S	s	
8	8	T	t	U	u	V	v	W	w	
9	9	W	w	X	x	Y	y	Z	z	
0	0		!	?	.	,	'	:	;	
*	*	/	+	-	=	<	>	#	\$	
#	#	\$	%	&	@	()	A	a	

Combination Table 2

- Note**
- The alphabetical characters correspond to the letters shown on the twelve dialing keys on the proprietary telephone. (except symbols)
 - In Combination Table 1:** If your telephone is a KX-T7431, do not use the provided SELECT button. Use the AUTO ANSWER/MUTE button which becomes the SELECT button when using the overlay.
 - In Combination Table 2:** If you keep rotating the Jog Dial, all of the characters in the table will be displayed.

4.1.3 Entering Characters

Please see the following example which shows how to select a desired character.

For example, to select the letter “M”:

Select either of the following three methods:

- (1) Using the **SHIFT** and **Soft** buttons
(for KX-T7230 / KX-T7235 / KX-T7433 / KX-T7436 only)
* See Combination Table 1.
 1. Press **6**. (“M” belongs to “6.”)
 - The Function Line shows: M N O
 2. Press the **Soft 1 (M)** button.
(Press **SHIFT** to display the lower case of the above letters.)
- (2) Using the **SELECT** button
* See Combination Table 1.
 1. Press **6**. (“M” belongs to “6.”)
 2. Press the **SELECT** button once.
 - Pressing the **SELECT** button an appropriate number of times gives you the desired letter. Pressing **SELECT** twice gives the letter “m., pressing three times gives “N,” and so on.
- (3) Using the **Jog Dial**
(for KX-T7431 / KX-T7433 / KX-T7436 only)
* See Combination Table 2.
 1. Press **6**. (“M” belongs to “6.”)
 2. Rotate the **Jog Dial** one pulse.
 - Rotating the **Jog Dial** an appropriate number of pulses gives you the desired letter. Rotating the **Jog Dial** two pulses gives the letter “m,” rotating three pulses gives “N,” and so on.

OR

1. Press **any dialing keypad**.
2. Rotate the **Jog Dial** until the desired character appears.
 - If you keep rotating the Jog Dial, all of the characters will be displayed. For example, If you rotate the Jog Dial after pressing 2, characters will appear in the following order:
A a B b ... Z z (space) ! ? . , ' ; * / + - = < >
\$ % & @ () A a B b ...

4.1.3 Entering Characters

Example of entering characters: to enter “Mike”:

Using method (1)

* See Combination Table 1.

1. Enter **6**.
2. Press **Soft 1 (M)**.
3. Enter **4**.
4. Press **SHIFT**.
5. Press **Soft 3 (i)**.
6. Enter **5**.
7. Press **Soft 2 (k)**.
8. Enter **3**.
9. Press **Soft 2 (e)**.

The display shows:

		6
M	N	O

		M
M	N	O

		M4
G	H	I

		M4
g	h	i

		Mi
g	h	i

		Mi5
j	k	l

		Mik
j	k	l

		Mik3
d	e	f

		Mike
d	e	f

Using method (2)

* See Combination Table 1.

1. Enter **6**.
2. Press **SELECT**.
3. Enter **4**.
4. Press **SELECT** six times.
5. Enter **5**.
6. Press **SELECT** four times.
7. Enter **3**.
8. Press **SELECT** four times.

The display shows:

6

M

M4

Mi

Mi5

Mik

Mik3

Mike

4.1.3 Entering Characters

Using method (3)

* See Combination Table 2.

The display shows:

- | | |
|--|------|
| 1. Enter 6 . | 6 |
| 2. Rotate Jog Dial one pulse. | M |
| 3. Enter 4 . | M4 |
| 4. Rotate Jog Dial six pulses. | Mi |
| 5. Enter 5 . | Mi5 |
| 6. Rotate Jog Dial four pulses. | Mik |
| 7. Enter 3 . | Mik3 |
| 8. Rotate Jog Dial four pulses. | Mike |

OR

- | | |
|--|------|
| 1. Enter 2 . | 2 |
| 2. Rotate Jog Dial until “M” appears. | M |
| 3. Enter 2 . | M2 |
| 4. Rotate Jog Dial until “i” appears. | Mi |
| 5. Enter 2 . | Mi2 |
| 6. Rotate Jog Dial until “k” appears. | Mik |
| 7. Enter 2 . | Mik2 |
| 8. Rotate Jog Dial until “e” appears. | Mike |

- Notes**
- To erase all the letters, press **CLEAR**.
 - To erase the last letter, press **←**.

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4.1.4 User Programming Mode

Some programming items are accessible by any display proprietary telephone user in the system.

The programmable items are manager programs [000] through [016].

Entering the user programming mode

You can access these programs by entering the User Programming Mode as follows:

Before entering the mode, confirm that:

- Your telephone is on-hook.
- No calls are on hold at your telephone

Press PROGRAM (or PAUSE) + * + * and enter the User Password (default: 1234)
--

After entering the mode, perform the same programming steps as the system programming steps in each program address.

- Note**
- *If your telephone set does not have a **PROGRAM** button, substitute it with the **PAUSE** button.*
 - If nothing is entered in five seconds after the **PROGRAM (or PAUSE)** button is pressed, it is cancelled.
 - The User Password is not shown on the display. The password can be changed by system programming. Refer to Section 4.3 [120] “User Password.”
 - During the programming mode, your extension is treated as a busy extension.
 - Only one proprietary telephone can be in programming mode at any one time.

4.1.5 Example of Programming

The following programming instructions assume that you have already entered the programming mode and that you will employ method (2) on page 4-8.

Example: Program [001] “System Speed Dialing Number Set”

Sample of Description	Explanation
<p>001⁽¹⁾ 4.2 Manager Programming⁽²⁾</p> <p><u><i>System Speed Dialing Number Set</i></u>⁽³⁾</p> <p>Description⁽⁴⁾ Used to program the System Speed Dial numbers. These numbers are available to all extension users. There are 500 numbers from 000 through 499.</p> <p>Selection⁽⁵⁾ • Speed dial number: 000 through 499 • Telephone number: 24 digits (max.)</p> <p>Default⁽⁶⁾ All speed dial numbers – Not stored</p> <p>Programming⁽⁷⁾</p> <ol style="list-style-type: none"> 1. Enter 001.⁽⁸⁾ Display: 001 SYS SPD DIAL⁽⁹⁾ 2. Press NEXT.⁽¹⁰⁾ Display: SPD Code?→⁽¹¹⁾ 3. Enter a speed dial number. To enter speed dial number 000, you can also press NEXT. Display example: 000:Not Stored⁽¹²⁾ 4. Enter a telephone number.⁽¹³⁾ To delete the current entry, press CLEAR.⁽¹⁴⁾ To change the current entry, press CLEAR and the new number. 5. Press STORE.⁽¹⁵⁾ 6. To program another speed dial number, press NEXT or PREV, or SELECT and the desired speed dial number.⁽¹⁶⁾ 7. Repeat steps 4 through 6.⁽¹⁷⁾ 8. Press END.⁽¹⁸⁾ 	<ol style="list-style-type: none"> (1) Program address: This address is printed at the top of every page to allow you to quickly find the desired program. (2) Running title: tells you which group the program belongs to. (3) Program title. (4) Provides a more detailed description of the program. (5) Shows you choices that you can assign. (6) Shows you the default (factory setting). (7) Shows you programming procedures step by step. <ul style="list-style-type: none"> • While programming, use the overlay. • Before starting to program, enter the programming mode. (See “Entering the programming mode” on page 4-6.) (8) Enter the program address. (9) The display shows the program title. If your telephone has soft buttons, the lower line shows the functions that are currently assigned to them. (10) Press either Soft 3 (NEXT) shown on the display or the NEXT shown on the overlay. (11) The message line advises you to enter a speed dial number. (12) If the telephone number has already been stored, the number is displayed. (13) Enter the telephone number that you want to store. Your entry is displayed as you enter the digits. (14) Pressing CLEAR erases the whole entry. (15) Your entry is now stored. The indicator lights red and a confirmation tone lets you know that storage is complete. (16) Select the best way for you to store another speed dial number. Pressing the NEXT / PREV allows you to select the next higher / lower speed dial number. You can also keep pressing them until the desired one is displayed. If you press SELECT

4.1.5 Example of Programming

Sample of Description	Explanation
<p>001 4.2 Manager Programming</p> <p><u><i>System Speed Dialing Number Set (contd.)</i></u></p> <p>Conditions ⁽¹⁹⁾ • There is a maximum of 500 speed dial numbers. Each speed dial number has a maximum of 24 digits. The valid characters are 0 through 9, * and # keys, RECALL or FLASH, PAUSE, SECRET and – (hyphen) buttons.</p> <ul style="list-style-type: none"> • • • • <p>Feature References ⁽²⁰⁾ Section 3, Features Special Display Features — System Speed Dialling System Speed Dialing</p>	<p>and the desired speed dial number, the selected code is displayed.</p> <p>(17) You can continue to program another entry.</p> <p>(18) After you have stored all your entries, finish this program by pressing END. After pressing END you can go to any program address you desire. You can return to the Initial Message mode any time by pressing END.</p> <p>To go to the next larger program address, do not press END but press Soft 1 (SKP+) or VOLUME ∨.</p> <p>To go to the next smaller program address, do not press END but press SHIFT + Soft 1 (SKP-) or VOLUME ∧.</p> <p>(19) Tells you what you should notice or consider when doing the programming.</p> <p>(20) Lists all of the features related to the programming. These features are described in Section 3.</p>

Programming Structure

Program Address	Programming Group	Description
[000] – [016]	Manager Programming	These programs may meet frequent changes requested by the customer.
[100] – [148]	System Programming	Entire system programming.
[200] – [215]	Timer Programming	Flexible system timer setting.
[301] – [311]	TRS Programming	Assignment of Toll Restriction.
[400] – [439]	CO Line Programming	Setting of CO line and CO line group values.
[500] – [519]	COS Programming	Setting of Class of Service (COS).
[600] – [626]	Extension Programming	Setting of extension values.
[7000 – 7824]	LCR Programming	Assignment of Least Cost Routing.
[800] – [814]	Resource Programming	Assignment of customer-supplied peripherals connected to the system.
[990] – [991]	Option Programming	Used to answer the user's requirements or troubles, if needed.

Date and Time Set

NOTICE

It is assumed that you have read Section 4.1 “General Programming Instructions.” The use of the soft buttons is discussed in the section, therefore we will not make any reference to them in the following instructions. At any time the soft buttons can be used in place of the overlay keys.

Description

Sets the current date and time.

Selection

- Day: **1 through 31**
- Month: **Jan. through Dec.**
- Year: **00 through 99**
- Day of the week: **SUN / MON / TUE / WED / THU / FRI / SAT**
- Hour: **1 through 12**
- Minute: **00 through 59**
- **AM / PM**

Default

1 Jan. '94 SAT 12:00 AM

Programming

1. Enter **000**.
Display: Day/Time Set
2. Press **NEXT**.
Display example: 1 Jan. '94 SAT
3. Enter the **day**.
To change the current entry, press **CLEAR** and the new day.
4. Press **▶** .
5. Keep pressing **SELECT** until the desired month is displayed.
6. Press **▶** .
7. Enter the **year**.
To change the current entry, press **CLEAR** and the new year.
8. Press **▶** .
9. Keep pressing **SELECT** until the desired day of the week is displayed.

Date and Time Set (contd.)

10. Press **STORE**.

11. Press **NEXT**.

Display example: 12:00 AM

12. Enter the **hour**.

To change the current entry, press **CLEAR** and the new hour.

13. Press **➡** .

14. Enter the **minute**.

To change the current entry, press **CLEAR** and the new minutes.

15. Press **➡** .

16. Press **SELECT** for AM or PM.

17. Press **STORE**.

18. Press **END**.

Conditions

- After changing an entry, you can press **STORE**. You do not have to perform all of the rest of the steps.
- To go back to the previous field, press **←** at steps 4 through 9 and steps 13 through 16.
- If you hear the alarm after pressing **STORE**, check that the date is valid.
- The clock starts immediately after the **STORE** button is pressed.
- You cannot leave the entry empty.

Feature References

Section 3, Features,
Display, Time and Date

System Speed Dialling Number Set

Description	Used to program the System Speed Dial numbers. These numbers are available to all extension users. The stored numbers are also applied to CO Incoming Call Information Display / Log features.
Selection	<ul style="list-style-type: none">• Speed dial number: 000 through 499• Telephone number: 24 digits (max.)
Default	All speed dial numbers – Not stored
Programming	<ol style="list-style-type: none">1. Enter 001. Display: SPD Number Set2. Press NEXT. Display: SPD Code?->3. Enter a speed dial number. To enter speed dial number 000, you can also press NEXT. Display example: 000: Not Stored4. Enter a telephone number. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and the new number.5. Press STORE.6. To program another speed dial number, press NEXT or PREV, or SELECT and the desired speed dial number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• There is a maximum of 500 speed dial numbers. Each speed dial number has a maximum of 24 digits. The valid characters are 0 through 9, *, and # keys, RECALL or FLASH, PAUSE, SECRET and – (hyphen) buttons.<ul style="list-style-type: none">– To store the register recall signal, press RECALL or FLASH. Note: The stored recall will be in effect only during an established call. (Refer to Section 3 “External Feature Access.”)– To store a hyphen, press the “-” button.

System Speed Dialling Number Set (contd.)

- To store a pause, press **PAUSE**.
(Refer to Section 3 “Pause Insertion, Automatic.”)
- To store the feature number to convert pulse signals to DTMF signals, press the *# keys.
(Refer to Section 3 “Pulse to Tone Conversion.”)
- To prevent the display of all or part of the number, press **SECRET** before and after confidential parts of the number. The **SECRET** button must always be entered in a pair. Or your entry is not stored. (Refer to Section 3 “Secret Dialling.”)
- If you are storing an external number, include the line access code (default=9, 81 through 88) before the number. When dialling, a pause is automatically inserted after the code. If the programmed pause time (in program [412] “Pause Time”) is 1.5 or 2.5 seconds, it is required to store a pause manually after the line access code.
- If you are storing an account code, enter the account code before the line access code. (Refer to Section 3 “Account Code Entry.”)
- If you are storing a number for CO Incoming Call Information Display with name, enter “-” (hyphen) after the line access code. The system starts to compare the calling party’s number with the System Speed Dialling Number stored after “-.” Example : 9-12345678
(Refer to Section 3 “CO Incoming Call Information Display.”)
- It is possible to store a number consisting of 25 digits or more by storing it in two speed dial numbers. A line access code should not be stored in the second speed dial number.
- To go to another speed dial number at steps 3 through 6, press **SELECT** and start with step 3.
- To display parts of the number which have scrolled off the display, press **➡** or **⬅**.
- Program [002] “System Speed Dialling Name Set” is used to give names to speed dial numbers.

Feature References

Section 3, Features,
 CO Incoming Call Information Display
 CO Incoming Call Information Log
 Special Display Features — System Speed Dialling
 System Speed Dialling

System Speed Dialling Name Set

Description Assigns names to the system speed dial numbers assigned in program [001] “System Speed Dialling Number Set.” KX-T7235, KX-T7431, KX-T7433 and KX-T7436 telephones show the stored name when performing System Speed Dialling. The stored names are applied to the CO Incoming Call Information Display / Log features.

Selection

- Speed dial number: **000 through 499**
- Name: **10 characters (max.)**

Default All speed dial numbers – Not stored

Programming

1. Enter **002**.
Display: SPD Name Set
2. Press **NEXT**.
Display: SPD Code?->
3. Enter a **speed dial number**.
To enter speed dial number 000, you can also press **NEXT**.
Display example: 000: Not Stored
4. Enter a **name**.
For entering characters, see Section 4.1.3 “Entering Characters.”
To delete the current entry, press **CLEAR**.
To change the current entry, press **CLEAR** and the new name
5. Press **STORE**.
6. To program another speed dial number, press **NEXT** or **PREV**, or **SELECT** and the desired **speed dial number**.
7. Repeat steps 4 through 6.
8. Press **END**.

Conditions

- Speed dial numbers are programmed in program [001] “System Speed Dialling Number Set.”
- There is a maximum of 500 names. Each name has a maximum of 10 characters.
- To go to another speed dial number at steps 3 through 6, press **SELECT** and start with step 3.

Feature References **Section 3, Features,**
CO Incoming Call Information Display
CO Incoming Call Information Log
Special Display Features — System Speed Dialling

*Extension Number Set***Description**

Assigns an extension number to each extension.

Selection

- Jack number: KX-TD816 – **01 through 16 (-1 / -2)**
KX-TD1232 – **01 through 64 (-1 / -2)**
(-1 = first part, -2 = second part)
- Extension Number: **2 through 4 digits**

Default

KX-TD816: Jack 01-1 through 16-1 = 201 through 216;
Jack 01-2 through 16-2 = 301 through 316
KX-TD1232: Jack 01-1 through 64-1 = 201 through 264;
Jack 01-2 through 64-2 = 301 through 364

Programming

1. Enter **003**.
Display: EXT Number Set
2. Press **NEXT**.
Display: Jack NO?->
3. Enter a **jack number**.
To enter jack number 01, you can also press **NEXT**.
To select the second part (-2), press **NEXT** after entering a jack number.
Display: #01-1:EXT201
4. Enter an **extension number**.
To change the current entry, press **CLEAR** and the new number.
5. Press **STORE**.
6. To program another jack, press **NEXT** or **PREV**, or **SELECT** and the desired **jack number**.
7. Repeat steps 4 through 6.
8. Press **END**.

Conditions

- There is a maximum of 32 extension numbers for KX-TD816, and 128 extension numbers for KX-TD1232. Each extension number can be two, three, or four digits, consisting of **0 through 9**. The ***** and **#** keys cannot be used.
- In the case of KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available.

Extension Number Set (contd.)

- An extension number is invalid if the leading first or second digits disagree with the setting of the program [100] “Flexible Numbering, (01) – (16) 1st through 16th hundred extension blocks.” If one digit is assigned as the leading digit, some extensions have two digits and some have three digits. If two digits are assigned, some have three digits and some have four digits.
- Two extension numbers can be assigned per jack. If XDP is disabled for the jack in program [600] “EXtra Device Port,” the extension number of the second part (XX-2) is not available. (XX=jack number)
- For an explanation of jack numbering, see “Rotation of jack number” on page 4-7.
- Double entry or incompatible entry is invalid including the assignment of program [012] “ISDN Extension Number Set,” [127] “Voice Mail Extension Number Assignment,” [130] “Phantom Extension Number Assignment” and [813] “Floating Number Assignment.” Valid entry examples: 10 and 11; 10 and 110. Invalid entry examples: 10 and 106; 210 and 21.
- Program [004] “Extension Name Set” is used to give names to extension numbers.

Feature References

Section 3, Features,
Display, Call Information
EXtra Device Port (XDP)
Flexible Numbering
Intercom Calling
Special Display Features — Extension Dialling

Flexible CO Button Assignment

Description Used to determine the use of the flexible CO buttons on proprietary telephones from a centralized telephone.

- Selection**
- Jack number: KX-TD816 – **01 through 16**
KX-TD1232 – **01 through 64**
 - Button Code (plus parameter, if required):

Button Code	Parameter
0 (Single-CO)	KX-TD816: 01 through 16 (CO line number) KX-TD1232: 01 through 54 (CO line number)
1 (DSS)	2 through 4 digits (Extension number)
2 (One-Touch)	16 digits max. (Telephone number)
3 (Message Waiting)	None
4 (FWD/DND)	None
5 (Save)	None
6 (Account)	None
7 (Conference)	None
80 (Log-In/Log-Out)	None
81 (Hurry-Up)	2 through 4 digits (Extension number)
82 (Voice Mail Transfer)	2 through 4 digits (Extension number)
83 (Two-Way Record)†	2 through 4 digits (Extension number)
84 (Two-Way Transfer)†	2 through 4 digits (Extension number)
85 (Live Call Screening)†	None
86 (Live Call Screening Cancel)†	None
87 (Alert)	None
88 (Phantom)	2 through 4 digits (Phantom extension number)
8* (Night)	None
8# (One-Touch Dialling with Auto Hold)	16 digits max. (Telephone number)
9 (Terminate)	None
* (Loop-CO)	None
# (Group-CO)	1 through 8 (CO line group number)
CO (ringer frequency)	1 through 8 (ring tone type number)

- Default**
- KX-TD816
All jacks – CO buttons 1 through 8 = Single-CO 01 through 08;
Ring tone type 2
 - KX-TD1232
All jacks – CO buttons 1 through 24 = Single-CO 01 through 24;
Ring tone type 2

- Programming**
1. Enter **005**.
Display: Flexible Key Asn

†: Available when the Digital Super Hybrid System is connected to a Digital Proprietary Telephone capable Panasonic Voice Processing System (one that supports digital proprietary telephone integration; e.g. KX-TVP100).

Flexible CO Button Assignment (contd.)

2. Press **NEXT**.
Display: Jack NO?->
3. Enter a **jack number**.
To enter jack number 01, you can also press **NEXT**.
Display: PT-PGM Mode
4. Press a **CO button** to be changed.
The display shows the contents pre-assigned to the button.
Display example: CO-01
5. Enter a **button code** (plus **parameter**, if required).
To change the parameter, press **CLEAR** and the new parameter.
6. Press **STORE**.
7.
 - To program another CO button of the same jack, repeat steps 4 through 6.
 - To program another jack, press **SELECT** and repeat steps 3 through 6.
8. Press **END**.

Cancelling

1. Perform the same procedures as steps 1 through 4 above.
2. Enter **2**.
3. Press **STORE**.
4. Press **END**.

Conditions

- A centralized telephone is a telephone connected to jack 01 or a jack programmed as a manager extension in program [006] "Operator / Manager Extension Assignment — Day / Night."
- There is a maximum of 16 proprietary telephones for KX-TD816, and 64 proprietary telephones for KX-TD1232.
- In the case of KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available. Jack numbers in the out-of-service system are unacceptable.
- The number of the CO buttons available depends on the telephone type. (Refer to Section 3 "Buttons on Proprietary Telephones.") To program 24 CO buttons, use proprietary telephones, KX-T7230/T7433/T7436.
- If you press the same CO button again in step 5, you can select a desired ringer frequency for the CO button from eight types of ring tone. When you enter the tone type number (1 through 8), you will hear the selected tone type until **STORE** is pressed. This selection is possible only for the CO buttons that have been assigned to Single-CO, Group-CO, or Loop-CO.

Feature References

Section 3, Features,
Button, Flexible

Buttons on Proprietary Telephones

Operator / Manager Extension Assignment — Day / Night

Description	Assigns the jack number for a manager and / or operators. The manager extension can perform system programming. The operator has the ability to perform operator services.
Selection	<ul style="list-style-type: none">• OPE-1 (operator 1) (Day / Night) / OPE-2 (operator 2) (Day / Night) / MNGER (manager)• Jack number: KX-TD816 – 01 through 16 KX-TD1232 – 01 through 64
Default	Operator 1 (Day / Night) and Manager – Jack 01; Operator 2 – Not stored
Programming	<ol style="list-style-type: none">1. Enter 006. Display: Operator/Manager2. Press NEXT to program Operator 1. Display: OP-1-Day:Jack01 To program another item, you can also keep pressing NEXT or PREV until the desired one is displayed.3. Enter a jack number. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and the new jack number.4. Press STORE.5. To program another item, press NEXT or PREV.6. Repeat steps 3 through 5.7. Press END.
Conditions	<ul style="list-style-type: none">• Up to two operators and a manager can be programmed.• In the case of KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available.• The manager cannot be assigned the jack number of the DSS Console Port set in program [007] “DSS Console Port and Paired Telephone Assignment.”• If the assigned jack is in eXtra Device Port mode, the proprietary telephone jack is treated as the manager / operator extension.• If there is no operator or manager, press CLEAR in step 3.
Feature References	Section 3, Features, Manager Extension Operator

DSS Console Port and Paired Telephone Assignment

Description	Assigns the jack numbers for the DSS Console and the paired extension.
Selection	<ul style="list-style-type: none"> • DSS Console number: KX-TD816 – 01 through 04 KX-TD1232 – 01 through 08 (for Master), 09 through 16 (for Slave) • Jack number for DSS Console: KX-TD816 – 02 through 16 KX-TD1232 – 02 through 32 (for Master), 33 through 64 (for Slave) • Jack number for paired extension: KX-TD816 – 01 through 16 KX-TD1232 – 01 through 32 (for Master), 33 through 64 (for Slave)
Default	All DSS Consoles – Not stored
Programming	<ol style="list-style-type: none"> 1. Enter 007. Display: DSS Console Asn 2. Press NEXT. Display: DSS NO?-> 3. Enter a DSS Console number. To enter DSS Console number 01, you can also press NEXT. Display example: DSS-01:# P:# 4. Enter a jack number for the console. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and the new jack number. 5. Press ➡ . 6. Enter a jack number for the paired extension. To change the current entry, press CLEAR and the new jack number. Display example: DSS-01:#02 P:#03 7. Press STORE.

DSS Console Port and Paired Telephone Assignment (contd.)

8. To program another DSS Console, press **NEXT** or **PREV**, or **SELECT** and the desired **DSS Console number**.
9. Repeat steps 4 through 8.
10. Press **END**.

Conditions

- The jack number for the Console and that for the paired extension must be entered together.
- Multiple DSS Consoles cannot be assigned to the same DSS Console jack.
- Multiple DSS Consoles can be paired with the same proprietary telephone jack.
- A DSS Console jack cannot be assigned the jack 01 and the jack number of Manager set in program [006] “Operator / Manager Extension Assignment — Day / Night.”
- If all incoming outside calls are set to ring at the operator extension telephone in program [407]–[408] “DIL 1:1 Extension — Day / Night,” assigning the DSS Consoles to the operator extension makes the operator’s job much easier.
- If a DSS Console - assigned jack is programmed for eXtra Device Port, an SLT can be connected to the jack in parallel with the console.
- If an SLT is assigned as the pair extension, the paired DSS Console will not function.

Feature References

Section 3, Features,
DSS Console

Absent Messages

Description	Used to program the absent messages. An absent message, if set by the station user, is displayed on the calling extension's telephone to show the reason for the user's absence.								
Selection	<ul style="list-style-type: none"> • Message number: 1 through 9 • Message: 16 characters (max.) 								
Default	<table> <tr> <td>1: Will Return Soon</td> <td>5: Out Until %%/%%</td> </tr> <tr> <td>2: Gone Home</td> <td>6: In a Meeting</td> </tr> <tr> <td>3: At Ext %%%</td> <td>7 through 9: Blank (not stored)</td> </tr> <tr> <td>4: Back at %%:%%</td> <td></td> </tr> </table>	1: Will Return Soon	5: Out Until %%/%%	2: Gone Home	6: In a Meeting	3: At Ext %%%	7 through 9: Blank (not stored)	4: Back at %%:%%	
1: Will Return Soon	5: Out Until %%/%%								
2: Gone Home	6: In a Meeting								
3: At Ext %%%	7 through 9: Blank (not stored)								
4: Back at %%:%%									
Programming	<ol style="list-style-type: none"> 1. Enter 008. Display: Message Asn 2. Press NEXT. Display: MSG NO?-> 3. Enter a message number. To enter message number 1, you can also press NEXT. Display example: MSG1:Will Return 4. Enter the message. For entering characters, see Section 4.1.3 "Entering Characters." To delete the current entry, press CLEAR. To change the current entry, press CLEAR and the new message. 5. Press STORE. 6. To program another message, press NEXT or PREV, or SELECT and the desired message number. 7. Repeat steps 4 through 6. 8. Press END. 								
Conditions	<ul style="list-style-type: none"> • There is a maximum of nine messages. Messages 1 through 6 are programmed at the factory but can be changed. Each message has a maximum of 16 characters. • You can enter a maximum of seven "%" characters per message which can be programmed at each user's station. The station user can enter 0 through 9, * and # for the % characters. If the user enters digits less than the number of "%" characters, it is recommended to fill the remaining "%" characters with "#" or "*." • If there are 4-digit extension numbers available in your system, add one "%" to Message 3. • To display parts of the message which have scrolled off the display, press ▶ or ◀. 								
Feature References	Section 3, Features, Absent Message Capability								

Quick Dial Number Set

Description	Stores up to eighty quick dial numbers.
Selection	<ul style="list-style-type: none">• Location number: 01 through 80• Desired quick dial number: 16 digits (max.)
Default	All locations – Not Stored
Programming	<ol style="list-style-type: none">1. Enter 009. Display: Quick Dial2. Press NEXT. Display: Location NO?→3. Enter a location number. To enter location number 01, you can also press NEXT. Display example: 01: Not Stored4. Enter a desired quick dial number. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and enter the new number.5. Press STORE.6. To program another location, press NEXT or PREV, or SELECT and the desired location number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• There is a maximum of eighty quick dial numbers. A maximum of sixteen digits, consisting of 0 through 9, *, #, RECALL or FLASH, PAUSE, or – (hyphen), can be assigned to a quick dial number.• Before programming, assign a feature number for each location first in program [104] “Quick Dial Assignment.”
Feature References	Section 3, Features, Quick Dialling

Budget Management

Description	Assigns the charge limitation of a call on the extension basis.
Selection	<ul style="list-style-type: none"> • Jack number: KX-TD816 – 01 through 16, * (-1 / -2), KX-TD1232 – 01 through 64, * (-1 / -2), (* =all jacks, -1 = first part, -2 = second part) • Charge limitation (Charge): 0 through 99999999
Default	All jacks – 0 £
Programming	<ol style="list-style-type: none"> 1. Enter 010. Display: Charge Limit 2. Press NEXT. Display: Jack NO?→ 3. Enter a jack number. To enter jack number 01, you can also press NEXT. To select the second part (-2), press NEXT after entering a jack number. Display example: #01-1: 0 £ 4. Enter a charge limitation. To delete the charge limitation, press CLEAR. 5. Press STORE. 6. To program another jack, press NEXT or PREV, or SELECT and the desired jack number. 7. Repeat steps 4 through 6. 8. Press END.
Conditions	<ul style="list-style-type: none"> • If the charge limitation is set “0,” no restriction is applied. • To assign all jack number to one selection, press the * key in step 3. In this case, the display shows the contents programmed for Jack 01. • The displayed currency denomination can be programmed by [125] “Assignment of Denomination.”
Feature References	<p>Section 3, Features, Budget Management Charge Fee Reference</p>

Charge Margin and Tax Rate

Description	Assigns the margin rate of a telephone charge and the tax rate to the total charge. This program is used for printing out the total charge when a guest checks out.
Selection	Margin (%): 0.0 through 999.9 Tax (%): 0.0 through 99.9
Default	Margin : 0.0%, Tax : 0.0%
Programming	<ol style="list-style-type: none">1. Enter 011. Display: Charge Margin2. Press NEXT. Display: Margin : 0.0%3. Enter a charge margin rate (whole number part). To delete the charge limitation, press CLEAR.4. Press ➡ .5. Enter a charge margin rate (decimal fraction part). To delete the charge limitation, press CLEAR.6. Press STORE.7. Press NEXT. Display: Tax : 0.0%8. Enter a tax rate (whole number part). To delete the tax rate, press CLEAR.9. Press ➡ .10. Enter a tax rate (decimal fraction part). To delete the tax rate, press CLEAR.11. Press STORE.12. Press END.
Conditions	None
Feature References	Section 3, Features, HOTEL APPLICATION – Check-In / Check-Out

ISDN Extension Number Set

Description	Assigns an extension number to each port which is connected to the ISDN S0 unit or card.
Selection	<ul style="list-style-type: none"> • Port number: KX-TD816 – 01 through 04 KX-TD1232 – 03 through 06, 09 through 12 • Extension Number: 1 through 3 digits
Default	All ports – Not stored
Programming	<ol style="list-style-type: none"> 1. Enter 012. Display: ISDN EXT.Num Set 2. Press NEXT. Display: Port NO?-> 3. Enter a port number. To enter a first port number, you can also press NEXT. Display: #03:Not Stored 4. Enter an extension number. To change the current entry, press CLEAR and the new number. 5. Press STORE. 6. To program another port, press NEXT or PREV, or SELECT and the desired port number. 7. Repeat steps 4 through 6. 8. Press END.
Conditions	<ul style="list-style-type: none"> • Each extension number can be one, two or three digits, consisting of 0 through 9. The * and # keys cannot be used. • A multiple subscriber number (MSN) is determined regarding to this assignment. The MSN consists of the assigned extension number and an additional digit, 0 through 9. Example) In case that the ISDN extension number is assigned “3”; 30 through 39 are effective as MSN’s. The extension user can call any terminal equipment on the ISDN S0 bus with MSN individually. Pressing “30” calls all extensions on the ISDN S0 bus simultaneously. • Port numbers 03 through 06 are for the Master System and 09 through 12 are for the Slave, if available.

ISDN Extension Number Set (contd.)

- An extension number is invalid if the leading first or second digits disagree with the setting of the program [100] “Flexible Numbering, 1st through 16th hundred extension blocks.” If one digit is assigned as the leading digit, some extensions have one through three digits. If two digits are assigned, some have three digits.
- Double entry or incompatible entry is invalid including the assignment of programs [003] “Extension Number Set,” [127] “Voice Mail Extension Number Assignment,” [130] “Phantom Extension Number Assignment” and [813] “Floating Number Assignment.” Valid entry examples: 10 and 11; 10 and 110. Invalid entry examples: 10 and 106; 210 and 21.
- Program [013] “ISDN Extension Name Set” is used to give names to the extension numbers.

Feature References

Section 3, Features,
ISDN Extension

ISDN Extension Name Set

Description	Assigns names to the ISDN extension numbers programmed in program [012] "ISDN Extension Number Set."
Selection	<ul style="list-style-type: none">• Port number: KX-TD816 – 01 through 04 KX-TD1232 – 03 through 06, 09 through 12• Name: 10 characters (max.)
Default	All ports – Not stored
Programming	<ol style="list-style-type: none">1. Enter 013. Display: ISDN EXT. Name2. Press NEXT. Display: Port NO?→3. Enter a port number. To enter a first port number, you can also press NEXT. Display: #03:Not Stored4. Enter a name. For entering characters, see Section 4.1.3 "Entering Characters." To delete the current entry, press CLEAR. To change the current entry, press CLEAR and the new name.5. Press STORE.6. To program another port, press NEXT or PREV, or SELECT and the desired port number.7. Repeat steps 4 through 6.8. Press END.
Conditions	Port numbers 03 through 06 are for the Master System and 09 through 12 are for the Slave, if available.
Feature References	Section 3, Features, ISDN Extension

Budget Management on ISDN Port

Description	Assigns the charge limitation of a call on the ISDN port basis.
Selection	<ul style="list-style-type: none">• Port number: KX-TD816 – 01 through 04, * (*=all ports) KX-TD1232 – 03 through 06, 09 through 12, * (* =all ports)• Charge limitation (Charge): 0 through 99999999
Default	All ports – 0 £
Programming	<ol style="list-style-type: none">1. Enter 014. Display: ISDN Charge Lim.2. Press NEXT. Display: Port NO?→3. Enter a port number. To enter a first port number, you can also press NEXT. Display example: #03: 0 £4. Enter a charge limitation. To delete the charge limitation, press CLEAR.5. Press STORE.6. To program another port, press NEXT or PREV, or SELECT and the desired port number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• If the charge limitation is set “0,” no restriction is applied.• To assign all port to one selection, press the * key at step 3. In this case, the display shows the contents programmed for a first port.• Port numbers 03 through 06 are for the Master System and 09 through 12 are for the Slave, if available.• The displayed currency denomination can be programmed by [125] “Assignment of Denomination.”
Feature References	Section 3, Features, Budget management Charge Fee Reference ISDN Extension

Charge Rate Fractional Point Assignment

Description	Assigns how many decimal places to set for the charge rate.
Selection	Number of decimal places: 0 through 8
Default	2
Programming	<ol style="list-style-type: none">1. Enter 015. Display: Decimal Point2. Press NEXT. Display example: Fraction place 23. Enter the desired number. To delete the current entry, press CLEAR.4. Press STORE.5. Press END.
Conditions	<ul style="list-style-type: none">• This program is used when the rate is assigned in program [016] “Charge Rate Assignment.”• According to this assignment, the charge is displayed during the conversation and shown on the SMDR print out.• This assignment is used for the charge fee reference.
Feature References	Section 3, Features, Charge Fee Reference

Charge Rate Assignment

Description	Assigns the rate to each CO line.
Selection	<ul style="list-style-type: none">• CO line number: KX-TD816 – 01 through 08, 09, * (9=for KX-TD290, *=all CO lines) KX-TD1232 – 01 through 24, 25, * (25=for KX-TD290, *=all CO lines)• Charge rate: 9 digits max. (including the decimal point)
Default	0.01
Programming	<ol style="list-style-type: none">1. Enter 016. Display: Charge Rate Asn2. Press NEXT. Display: CO Line NO?→3. Enter a CO line number. To enter CO line number 01, you can also press NEXT. Display example: CO01: 0.014. Enter a charge rate (to the left of the decimal point). To delete the current entry, press CLEAR.5. Press ➡.6. Enter a charge rate (to the right of the decimal point). To delete the current entry, press CLEAR.7. Press STORE.8. To program another CO line, press NEXT or PREV, or SELECT and the desired CO line number.9. Repeat steps 4 through 7.10. Press END.

Charge Rate Assignment *(contd.)*

Conditions

- A maximum of nine digits, consisting of 0 through 9, can be assigned as the rate. The number of decimal places depends on the assignment in program [015] “Charge Rate Fractional Point Assignment.”
- When the ISDN card or unit is installed to the system, the rate cannot be assigned per CO line. The rate which is assigned to the lowest CO line number is used for the other lines.
For example, when the KX-TD280 is installed to the KX-TD1232, the rate assigned to CO09 is used for CO 10 through 12.
- If a different rate is assigned to each CO line, the extension charge fee, account code charge fee and total extension charge fee meters will not be displayed correctly. In this case, the meter is calculated by the rate assigned to CO01.
- When the ISDN S0 line unit or card is installed, you have to restart the system after programming. Otherwise, the correct charge may not be displayed. See the “2.7 System Restart” section.

Feature References

Section 3, Features,
Charge Fee Reference

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*Flexible Numbering***Description**

Assigns the leading digits of extension numbers and feature numbers for system features.

Selection

- Selection number: **01 through 78** (See “Feature Number List” on page 4-37 and 4-38 for the corresponding features.)
- Feature number: **1 or 2 digits** (for selection numbers 01 through 16); **1 through 3 digits** (for selection numbers 17 through 78)

Default

See “Feature Number List” on page 4-37 and 4-38.

Programming

1. Enter **100**.
Display: FLX Numbering
2. Press **NEXT**.
Display: Select NO?->
3. Enter a **selection number**.
To enter selection number 01, you can also press **NEXT**.
Display example: 01. 1-EXT BL:2
4. Enter the **feature number**.
To delete the feature number, press **CLEAR**.
To change the current entry, press **CLEAR** and the new number.
5. Press **STORE**.
6. To program another selection, press **NEXT** or **PREV**, or **SELECT** and the desired **selection number**.
7. Repeat steps 4 through 6.
8. Press **END**.

To remove all the feature numbers except selection numbers (01) through (16) 1st through 16th extension blocks;

1. Enter **100**.
2. Press **NEXT**.
3. Enter **00**.
Display: All Feature CLR?
4. Press **STORE**.
5. Press **END**.

Flexible Numbering (contd.)

Conditions

- Each extension block has one or two digits, consisting of **0 through 9**. Assign the leading digits for extension numbers of the respective blocks.
- Assignment of extension blocks defines the limits for programs [003] “Extension Number Set,” [012] “ISDN Extension Number Set,” [127] “Voice Mail Extension Number Assignment,” [130] “Phantom Extension Number Assignment” and [813] “Floating Number Assignment.”
- Each feature number has one through three digits, consisting of **0 through 9, *, and #**.
- If * or # is included in a feature number, dial pulse telephone users cannot access the feature.
- Double entry and incompatible combinations are invalid. Valid entry example: 30 and 31, 210 and 211. Invalid entry example: 5 and 5, 30 and 301.
- If you delete a feature number, the feature cannot be used by dialling operation.
- You can remove all the feature numbers except selections (01) through (16).
- To clear an extension block (01) through (16), it is required to change the corresponding numbers assigned in programs [003] “Extension Number Set,” [012] “ISDN Extension Number Set,” [127] “Voice Mail Extension Number Assignment,” [130] “Phantom Extension Number Assignment” and [813] “Floating Number Assignment.”

Feature References

Section 3, Features,
Flexible Numbering

Feature Number List

Number	Feature	Default
01	1st hundred extension block	2
02	2nd hundred extension block	3
03 - 16	3rd through 16th hundred extension block	None
17	Operator call	0
18	Automatic line access / LCR	9
19	CO line group line access	8
20	System speed dialling	*
21	Station speed dialling	6*
22	Station speed dialling programming	60
23	Doorphone call	61
24	Paging – external	62
25	Paging – external answer / TAFAS answer	42
26	Paging – group	63
27	Paging – group answer	43
28	Call pickup, CO line	4*
29	Call pickup, group	40
30	Call pickup, directed	41
31	Call hold	50

Flexible Numbering (contd.)

Number	Feature	Default
32	Call hold retrieve – intercom	51
33	Call hold retrieve – CO line	53
34	Last number redial	#
35	Call park / call park retrieve	52
36	Account code entry	49
37	Door opener	55
38	External feature access	64
39	Station feature clear	790
40	Message waiting	70
41	Not available	—
42	Call forwarding / do not disturb	710
43	Call pickup deny	720
44	Not available	—
45	Call waiting / OHCA / whisper OHCA	731
46	Not available	—
47	Pickup dialling	74
48	Absent message	750
49	Timed reminder	76
50	Electronic station lockout	77
51	Night service mode	78
52	Parallel telephone mode	69
53	Background music – external	65
54	Paging – deny	721
55	Primary COS select	791
56	Secondary COS select	793
57	Log-in / log-out	45
58	Operator 1 call	None
59	Operator 2 call	None
60	Automatic callback busy cancel	46
61-69	Not available	—
70	Timed reminder remote	7*
71	CO incoming call information log mode	56
72	Do not disturb for DDI	54
73	CLIR	59
74	COLR	58
75	CO incoming call information log lock	57
76†	Live call screening password control†	799
77	System working report	794
78	Super extra device port (SXDP)	48

Day / Night Service Switching Mode

Description	This program is used to determine if night mode is automatic or manual.
Selection	Manual / Auto (automatic)
Default	Manual
Programming	<ol style="list-style-type: none">1. Enter 101. Display: Day/Night Mode2. Press NEXT. Display example: D/N Mode:Manual3. Keep pressing SELECT until the desired selection is displayed.4. Press STORE.5. Press END.
Conditions	<ul style="list-style-type: none">• If automatic switching is assigned, day / night mode is switched at the time programmed in [102] “Day / Night Service Starting Time.”• The pre-assigned extension and the operator can switch the day / night mode at any time.
Feature References	Section 3, Features, Night Service

Day / Night Service Starting Time

Description	Sets the starting time on a day of the week basis, when automatic day / night switching is programmed in program [101] “Day / Night Service Switching Mode.”
Selection	<ul style="list-style-type: none"> • Day of the week selection number: 1 (Sunday) / 2 (Monday) / 3 (Tuesday) / 4 (Wednesday) / 5 (Thursday) / 6 (Friday) / 7 (Saturday) / * (every day of the week) • Hour: 1 through 12 / Disable (no switching) • Minute: 0 through 59 • AM / PM
Default	Every day of the week – Day – 9:00 AM / Night – 5:00 PM
Programming	<ol style="list-style-type: none"> 1. Enter 102. Display: Day/Night Time 2. Press NEXT. Display: Day of Week?-> 3. Enter the day of the week selection number. To select Sunday, you can also press NEXT. Display example: Sun-Day: 9:00 AM To select night mode, press NEXT. Display example: Sun-Nig: 5:00 PM 4. Enter the hour. To set no switching, keep pressing SELECT until “Disable” is displayed and go to step 9. If SELECT is pressed, the display shows the previous entry. If the previous setting was “Disable,” press SELECT to enter the starting time. To change the current entry, press CLEAR and the new time. 5. Press ➡ . 6. Enter the minute. To change the current entry, press CLEAR and the new minutes. 7. Press ➡ .

Day / Night Service Starting Time (contd.)

8. Press **SELECT** for AM or PM.
9. Press **STORE**.
10. To program another day / night mode or day of the week, press **NEXT** or **PREV**, or **SELECT** and the **day of the week selection number**.
11. Repeat steps 4 through 10.
12. Press **END**.

Conditions

- To select the desired day, you may keep pressing **NEXT** at step 3. To assign every day of the week to one selection, press the * key at step 3. In this case, the display shows the contents programmed for Sunday.
- If day / night switching is unwanted, select “Disable” at step 4.
- You cannot leave the entry empty.

Feature References

Section 3, Features,
Night Service

Automatic Access CO Line Group Assignment

Description	Assigns the sequence in which CO line groups will be accessed when in Automatic Line Access mode. When a user dials the feature number for automatic line access (default=9) or presses the L-CO button, an idle line is hunted in the programmed CO line group order.
Selection	CO line group number: 1 through 8, eight entries (max.) in desired order
Default	12345678
Programming	<ol style="list-style-type: none"> 1. Enter 103. Display: Local Access 2. Press NEXT. Display example: Access:12345678 3. Enter the CO line group numbers in priority from top to bottom. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and the new order. 4. Press STORE. 5. Press END.
Conditions	<ul style="list-style-type: none"> • There is a maximum of eight CO line groups. Up to eight CO line group numbers can be entered. • Automatic Line Access feature works only if Least Cost Routing mode is turned off in program [7000] “LCR Mode.”
Feature References	<p>Section 3, Features, Line Access, Automatic Line Access, Direct</p> <p>Line Preference – Outgoing</p>

Quick Dial Assignment

Description	Assign a feature number for each quick dial location number.
Selection	<ul style="list-style-type: none">• Location number: 01 through 80• Feature number: 4 digits (max.)
Default	All locations – Not Stored
Programming	<ol style="list-style-type: none">1. Enter 104. Display: FLX Quick Dial2. Press NEXT. Display: Location NO?→3. Enter a quick dial number. To enter location number 01, you can also press NEXT. Display example:01: Not Stored4. Enter a desired number. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and enter the new number.5. Press STORE.6. To program another location, press NEXT or PREV, or SELECT and the desired location number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• There is a maximum of eighty quick dial numbers. A maximum of four digits, consisting of 0 through 9, can be assigned to a quick number.
Feature References	Section 3, Features, Quick Dialling

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Account Codes

Description	Assigns the account codes for Account Code Entry, Verified – All Calls and Verified – Toll Restriction Override modes. If Verified – All Calls is assigned in program [508] “Account Code Entry Mode,” an account code is required to make an outside call. If Verified – Toll Restriction Override is assigned, an account code is only required for a toll call and overrides toll restriction.
Selection	<ul style="list-style-type: none">• Location number: 01 through 40• Account code: 5 digits (max.)
Default	All locations – Not stored
Programming	<ol style="list-style-type: none">1. Enter 105. Display: Account Code2. Press NEXT. Display: Location NO?->3. Enter a location number. To enter location number 01, you can also press NEXT. Display example: 01:Not Stored4. Enter an account code. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and the new account code.5. Press STORE.6. To program another location, press NEXT or PREV, or SELECT and the desired location number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• There is a maximum of 40 verifiable account codes. Each code has a maximum of 5 digits, consisting of 0 through 9.• Program [508] “Account Code Entry Mode” is used to select the Account Code Entry mode.• Account codes having “99” in any part or ending with “9” are invalid, as “99” is used as a delimiter when entering an account code.• The account code recorded in location 01 is not printed out on the SMDR (Private Call feature).
Feature References	Section 3, Features, Account Code Entry Private Call Toll Restriction Override by Account Code Entry

*Station Hunting Type***Description**

Used to enable or disable hunting and set the Station Hunting type for each hunting group. There are six Station Hunting types available: Circular, Uniform Call Distribution (UCD), Voice Mail (VM), Automated Attendant (AA), Ring, and No Reply . If circular hunting is assigned for a group, all of the extensions in the group are hunted until an idle one is found. If VM hunting is assigned, all of the VM ports of an extension group are hunted until an idle one is found to permit Voice Mail Service. If AA hunting is assigned, all of the AA ports of an extension group are hunted until an idle one is found to permit AA Service. If UCD is assigned, group members are hunted in circular way, starting at the extension following the last one called. If Ring hunting is assigned, all of the extensions in the group ring simultaneously. If No Reply hunting is assigned, the extensions in the group are hunted in order of registration for a programmed interval of time.

Selection

- Hunting group number: **01 through 32**
- **Disable** (no hunting) / **Circular** / **VM** (voice mail) / **AA** (automated attendant) / **UCD** / **Ring** / **No Reply**

Default

All hunting groups – Disable

Programming

1. Enter **106**.
Display: Hunt Type
2. Press **NEXT**.
Display: Group NO?->
3. Enter a **hunting group number**.
To enter hunting group number 1, you can also press **NEXT**.
Display example: 01: Disable
4. Keep pressing **SELECT** until the desired selection is displayed.
5. Press **STORE**.
6. To program another hunting group, press **NEXT** or **PREV**, or **SELECT** and the desired **hunting group number**.
7. Repeat steps 4 through 6.
8. Press **END**.

Conditions

- The system supports a maximum of eight jacks (16 jacks during System Connection*) for connection to a Voice Processing System as VM or AA port.

Feature References

Section 3, Features,	
Hunting Group	Station Hunting
No Reply Group	Uniform Call Distribution (UCD)
Ring Group	Voice Mail Integration

System Password

Description	Assigns the password required for entering system programming mode and for maintenance from a personal computer.
Selection	Password: 4 through 7 digits
Default	1234
Programming	<ol style="list-style-type: none">1. Enter 107. Display: System Password2. Press NEXT. Display example: Password:12343. Enter a password. To change the current entry, press CLEAR and the new password.4. Press STORE.5. Press END.
Conditions	<ul style="list-style-type: none">• The password can be from four to seven digits long. The valid numbers are from 0 through 9.• If less than four digits are entered, they are not stored.• You cannot leave the entry empty.
Feature References	Section 3, Features, System Programming and Diagnosis with Personal Computer System Programming with Proprietary Telephone

One-Touch Transfer by DSS Button

Description	Enables or disables the function of automatically holding the outside call when a DSS button on the DSS Console or proprietary telephone is pressed.
Selection	Enable / Disable
Default	Enable
Programming	<ol style="list-style-type: none">1. Enter 108. Display: DSS Auto Hold2. Press NEXT. Display example: Auto HLD:Enable3. Keep pressing SELECT until the desired selection is displayed.4. Press STORE.5. Press END.
Conditions	This assignment applies to all DSS buttons on all DSS Consoles and on all proprietary telephones in the system.
Feature References	Section 3, Features, One-Touch Transfer by DSS Button

Expansion Card / Unit Type

Description Assigns the type of expansion cards/units to be used in the Master and Slave Systems. This allows the system to identify the card and/or unit in each expansion location.

Selection KX-TD816

- Areas 1; 2; 3 = 1 (Inside the system): **C (4CO) / S (2S0)**
2; 3 (Expansion Area): **C (4CO) / S (2S0) / S3 (1 PRI) / E (EXT)**

KX-TD1232

- **Master / Slave**
- Areas 1; 2; 3; 4 = 1 (Inside the system): **C (8CO) / S (4S0)**
2; 3; 4 (Expansion Area): **C (4CO) / S (2S0) / S3 (1 PRI) / E1 (EXT1) / E2 (EXT2)**

Default KX-TD816: C; C; E
KX-TD1232: Master and Slave – C; C; E1; E2

Programming **KX-TD816**

1. Enter **109**.
Display: Expansion Card
2. Press **NEXT**.
Display example: Mast.:C;C;E
3. Keep pressing **SELECT** until the desired selection is displayed.
4. Press **➡** .
5. Keep pressing **SELECT** until the desired selection is displayed.
6. Repeat steps 4 and 5 until all the required entries are completed.
7. Press **STORE**.
8. Press **END**.

KX-TD1232

1. Enter **109**.
Display: Expansion Card
2. Press **NEXT** to program Master System.
To program “Slave,” press **NEXT** again.
Display example: Mast.:C;C;E1;E2

Expansion Card / Unit Type (contd.)

3. Keep pressing **SELECT** until the desired selection is displayed.
4. Press **➡** .
5. Keep pressing **SELECT** until the desired selection is displayed.
6. Repeat steps 4 and 5 until all the required entries are completed.
7. Press **STORE**.
If only one system is in operation, go to step 8.
8. Press **NEXT** to program Slave System.
Display example: Slave :C;C;E1;E2
9. Repeat steps 3 and 7.
10. Press **END**.

Conditions

- When starting the system for the first time or performing System Data Clear, the application for location will use practical installation instead of the system default setting.
- For KX-TD816, there is one expansion area inside the system, area 1, and there are two expansion areas on the system, area 2 and 3 from bottom to top.
- For KX-TD1232, there is one expansion area inside the system, area 1, and there are three expansion areas on the system, area 2, 3 and 4 from bottom to top.
- If the Slave System of KX-TD1232 is out-of-service, skip the steps 8 and 9.
- After changing the setting, to make your setting effective, unplug the system once and plug it in again. Otherwise the previous setting will be maintained.

Feature References

Section 3, Features,
Module Expansion

Network Type Assignment

Description	Assigns the type of ISDN network.
Selection	BT / EURO
Default	BT
Programming	<ol style="list-style-type: none">1. Enter 110. Display: Network Type2. Press NEXT. Display example: BT3. Keep pressing SELECT until the desired selection is displayed.4. Press STORE.5. Press END.
Conditions	None
Feature References	None

DDI Removed Digit / Added Number Assignment

Description	Assigns the removed digits and added number to a subscriber's number and the DDI number sent from the network to make the extension which receives a call.
Selection	<ul style="list-style-type: none"> • CO line number: KX-TD816 – 01 through 08, * (* =all CO lines) KX-TD1232 – 01 through 24, * (* =all CO lines) • Removed digit: 0 through 16 (0=no deleting) • Added number: 4 digits (max.)
Default	All CO Lines – Removed digit=0; Added number=Not stored
Programming	<ol style="list-style-type: none"> 1. Enter 111. Display: DDI Removed/Add 2. Press NEXT. Display: CO Line NO?→ 3. Enter a CO line number. To enter CO line number 01, you can also press NEXT. Display example: CO01: 0, 4. Enter the digit(s) to be deleted. To change the current entry, press CLEAR and enter the new number. 5. Press ▶. Display example: CO01: 3, 6. Enter the number(s) to be added. To change the current entry, press CLEAR and enter the new number. 7. To program another CO line, press NEXT or PREV, or SELECT and the desired CO line number. 8. Press STORE. 9. Press END.
Conditions	<ul style="list-style-type: none"> • To assign all CO lines to one, press the * key in step 3. In this case, the display shows the contents programmed for CO01. • Example: If the removed digits are assigned as “6” and the added number is assigned as “2,” the number sent from the network is changed as follows: <u>85492603</u> (DDI number: 2 digits) Six digits are deleted and “2” is added, and the number becomes “203.” • This program is available when the program [990] Field (38) is assigned to use this program.
Feature References	Section 3, Features, Direct Dialling In (DDI)

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Floating DDI Number Assignment

Description	Assigns the floating DDI number for an operator, External Pagers, modem,* and hunting groups.
Selection	<ul style="list-style-type: none"> • DDI floating station: KX-TD816 – Operator / Pager1 / Pager2 / Hunting Groups 01 through 32 KX-TD1232 – Operator / Pager1 / Pager2 / Pager3 / Pager4 / MODEM / Hunting Groups 01 through 32 <ul style="list-style-type: none"> • Floating DDI number: 6 digits (max.)
Default	Not stored
Programming	<ol style="list-style-type: none"> 1. Enter 112. Display: FLT DDI NO. 2. Press NEXT to program the Operator. Display example: Operator: To program another floating station, press NEXT or PREV until the desired floating station is displayed. 3. Enter a floating DDI number. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and enter the new number. 4. Press STORE. 5. To program another floating station, press NEXT or PREV until the desired floating station is displayed. 6. Repeat steps 3 through 5. 7. Press END.
Conditions	None
Feature References	Section 3, Features, Direct Dialling In (DDI)

*VM Status DTMF Set***Description**

Sets the DTMF signals (“inband”) that are transmitted to the Voice Processing System (VPS), by the Panasonic telephone system, under all the dial and connect events which the VPS can occur. The following signals are sent to the VPS with the assigned DTMF signals:

- RBT** (ringback tone) : This signal is sent when calling an extension.
- BT** (busy tone) : This is sent when the called extension is busy.
- ROT** (reorder tone) : This is sent when the dialled number is invalid.
- DND** (DND tone) : This is sent when the other extension has DND assigned.
- Answer** : This is sent when the other extension answers the call.
- Disconnect** : This is sent when the other extension hangs up.
- Confirm** (confirmation tone) :
This is sent when the feature number for “Message Waiting Lamp” is valid.
- FWD VM RBT** (FWD to VM ringback tone) :
Not available (reserved).
- FWD VM BT** (FWD to VM busy tone) :
This is sent when the called extension has set Call Forwarding to VPS.
- FWD EXT RBT** (FWD to extension ringback tone) :
Not available (reserved).

Selection

- **RBT / BT / ROT / DND / Answer / Disconnect / Confirm / FWD VM RBT / FWD VM BT / FWD EXT RBT**
- DTMF signal number: **3 digits (max.)**

Default

RBT – 1; BT – 2; ROT – 3; DND – 4; Answer – 5; Disconnect – #9
Confirm – 9; FWD VM RBT – 6; FWD VM BT – 7; FWD EXT RBT – 8

Programming

1. Enter **113**.
Display: VM Status Set
2. Press **NEXT** to program ringback tone status.
To program another status, keep pressing **NEXT** until the desired status is displayed.
Display example: RBT :1

VM Status DTMF Set (contd.)

3. Enter a **DTMF signal number**.
To delete the current entry, press **CLEAR**.
To change the current entry, press **CLEAR** and the new number.
4. Press **STORE**.
5. To program another selection, keep pressing **NEXT** or **PREV** until the desired selection is displayed.
6. Repeat steps 3 through 5.
7. Press **END**.

Conditions

- A DTMF signal number can have a maximum of three digits, consisting of **0 through 9, *, #** and **PAUSE**.
- The DTMF signals are sent to the extensions in the extension group that is assigned as “VM” or “AA” in program [106] “Station Hunting Type.”

Feature References

Section 3, Features,
Voice Mail Integration

VM Command DTMF Set

Description

Sets the DTMF command signals transmitted to your Voice Processing System (VPS). There are four commands available: Leave Message; Get Message; Automated Attendant Service; Voice Mail Service. These commands are used in the following ways:

(A) If your VPS is used for Voice Mail (VM) Service

(1) Call Forwarding / Intercept Routing to Voice Mail

If a call is forwarded to the VPS, your system will send a mailbox number to the VM port. This allows the caller to leave a message without knowing the mailbox number.

- Required entries (selections):

LV-MSG (Leave Message): This command is transmitted to a VM port if a call is forwarded or intercepted and rerouted to the port.

AA-SVC (Automated Attendant Service): If AA Service is set to “Start” in program [990], field (10), the “AA-SVC” command is sent to a VM port if an incoming outside call is answered by the VM port.

- Other programming required (program addresses): [106]; [602]; [609]; [990], field (10); [990], field (18)

(2) Hearing the message at the extension

If the VPS receives a message and lights the MESSAGE button indicator of the concerned telephone, the telephone user can hear the message by pressing the MESSAGE button.

- Required entries (selections):

GETMSG (Get Message): This command is transmitted to a VM port when the message receiver presses the MESSAGE button.

VM-SVC (Voice Mail Service): The “VM-SVC” command is a code transmitted preceding the “GETMSG” command above. This is effective to switch to VM port when an AA port lights the MESSAGE indicator.

- Other programming required (program addresses): [609]; [990], field (18)

(B) If your VPS is used for Automated Attendant (AA) Service

An AA port answers an incoming outside call to provide AA services, such as call transfer, receiving a message.

- Required entries (selections):

VM-SVC (Voice Mail Service): The “VM-SVC” command is a code transmitted before “LV-MSG” code if Operator transfers a call to an extension and then it is forwarded to an AA port so that the AA port can be switched to VM port temporarily.

- Other programming required (program addresses): [106], [602]

VM Command DTMF Set (contd.)

Selection	<ul style="list-style-type: none"> • LV-MSG / GETMSG / AA-SVC / VM-SVC • DTMF signal number: 16 digits (max.)
Default	LV-MSG – H; GETMSG – *H; AA-SVC – #8 ; VM-SVC – #6
Programming	<ol style="list-style-type: none"> 1. Enter 114. Display: VM Command Set 2. Press NEXT to program the LV-MSG command. To program another command, keep pressing NEXT until the desired command is displayed. Display example: LV-MSG:H 3. Enter a DTMF signal number. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and the new number. 4. Press STORE. 5. To program another selection, keep pressing NEXT or PREV until the desired selection is displayed. 6. Repeat steps 3 through 5. 7. Press END.
Conditions	<ul style="list-style-type: none"> • A command signal number can have a maximum of 16 digits, consisting of 0 through 9, *, #, RECALL or FLASH, and PAUSE. • The RECALL or FLASH button is available only for LV-MSG and GETMSG commands to store “H” which means “Home Position.” • If “H” is stored for “LV-MSG,” a mailbox number programmed in program [609] “Voice Mail Access Codes” or an extension number will be sent to the VM port (Follow On ID function). If certain codes are required before and after the ID code, insert “H” between the codes, as “aaaHbbb.” If nothing is stored, it will operate as “H.” • If “*H” is stored for “GETMSG,” a mailbox number programmed in program [609] “Voice Mail Access Codes” or an extension number will be sent to the port succeeding the “*.”
Feature References	Section 3, Features, Voice Mail Integration

Adjust Time

Description	Used to set the time for checking the normality of the system. Every day at the programmed time, system data is checked. If an error is checked, it is recorded onto error log.
Selection	<ul style="list-style-type: none">• Hour: 1 through 12• Minute: 00 through 59• AM / PM
Default	1:00 AM
Programming	<ol style="list-style-type: none">1. Enter 115. Display: Adjust Time2. Press NEXT to program hour. Display example: 1:00 AM3. Enter the hour. To change the current entry, press CLEAR and the new hour.4. Press ➡ to program minute.5. Enter the Minute. To change the current entry, enter the new minute.6. Press ➡ to program AM / PM.7. Press SELECT for AM or PM.8. Press STORE.9. Press END.
Conditions	You cannot leave the entry empty.
Feature References	None

ROM Version Display

Description Confirms the version of the ROM of Master and Slave Systems.

Display example: P111A50101A

Version	Date

Selection System Number: **KX-TD816 – 0**
KX-TD1232 – 0 (Master) / **1** (Slave)

Default Not applicable.

- Programming**
1. Enter **116**.
Display: ROM Version
 2. Press **NEXT**.
Display: System NO?->
 3. Enter the **System Number**.
The display shows the ROM version of the specified system.
 4. To confirm the other system, press **SELECT** and enter the **System Number**.
The display shows the ROM version of the specified system.
 5. Press **END**.

- Conditions**
- The out-of-service system number is unacceptable.
 - For KX-TD816, you can enter the system number “0” only. Skip step 4.

Feature References None

Charge Display Selection

Description	Selects the display format used for charge display.
Selection	Pulse / Pound
Default	Pound
Programming	<ol style="list-style-type: none">1. Enter 117. Display: Charge Meter2. Press NEXT. Display example: Pulse3. Keep pressing SELECT until the desired selection is displayed.4. Press STORE.5. Press END.
Conditions	None
Feature References	Section 3, Features, Charge Fee Reference Display, Call Information

Charge Fee Reference Extension Assignment

Description	Assigns extensions that can refer to charges.
Selection	<ul style="list-style-type: none">• Jack number: KX-TD816 – 01 through 16, * (*=all jacks) KX-TD1232 – 01 through 64, * (*=all jacks)• Enable / Disable
Default	All jacks – Enable
Programming	<ol style="list-style-type: none">1. Enter 118. Display: Charge Refer Ext2. Press NEXT. Display: Jack NO?->3. Enter a jack number. To enter jack number 01, you can also press NEXT. Display example: #01: Enable4. Keep pressing SELECT until the desired selection is displayed.5. Press STORE.6. To program another jack, press NEXT or PREV, or SELECT and the desired jack number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• In the case of KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available.• To assign all jack numbers to one selection, press the * key at step 3. In this case, the display shows the contents programmed for Jack 01.
Feature References	Section 3, Features, Charge Fee Reference

Charge Fee Reference ID Code Set

Description	Assigns the identification code (ID code) required to verify charges.
Selection	ID Code: 4 digits (0000 through 9999)
Default	1234
Programming	<ol style="list-style-type: none">1. Enter 119. Display: Charge ID Code2. Press NEXT. Display example: Code:12343. Enter an ID code. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and the new code.4. Press STORE.5. Press END.
Conditions	None
Feature References	Section 3, Features, Charge Fee Reference

User Password

Description	Assigns the password required for entering User Programming (Manager Programming) mode. In the User Programming Mode, any display proprietary telephone user in the system can set the programs [000] through [020].
Selection	Password: 4 through 7 digits
Default	1234
Programming	<ol style="list-style-type: none">1. Enter 120. Display: User Password2. Press NEXT. Display example: Password:12343. Enter a password. To change the current entry, press CLEAR and the new password.4. Press STORE.5. Press END.
Conditions	<ul style="list-style-type: none">• The password can be from four to seven digits long. The valid numbers are from 0 through 9.• If less than four digits are entered, they are not stored.• You cannot leave the entry empty.
Feature Reference	Section 3, Features, User Programming (Manager Programming)

Pulse Dial Reception Assignment

Description	Assigns whether the pulse dial from the extension can be received or not by the system.
Selection	Puls : Enable / Puls : Disable
Default	Puls : Enable
Programming	<ol style="list-style-type: none">1. Enter 121. Display: Ext Pulse Dial2. Press NEXT. Display example: Ext Puls:Enable3. Keep pressing SELECT until the desired selection is displayed.4. Press STORE.5. Press END.
Conditions	None
Feature Reference	Section 3, Features, Mixed Station Capacities

Automatic Door Open Assignment

Description	Assigns whether the door is automatically unlocked or not, when the Call button is pressed.
Selection	<ul style="list-style-type: none"> • KX-TD816 – D1 – Day / D1 – Night / D2 – Day / D2 – Night • KX-TD1232 – D1 – Day / D1 – Night / D2 – Day / D2 – Night / D3 – Day / D3 – Night / D4 – Day / D4 – Night <p>(D1: Doorphone 1, D2: Doorphone 2, D3: Doorphone 3, D4: Doorphone 4)</p> <ul style="list-style-type: none"> • Enable / Disable
Default	All selections – Disable
Programming	<ol style="list-style-type: none"> 1. Enter 122. Display: Auto. Door Open 2. Press NEXT to program D1–Day. To program another status, keep pressing NEXT until the desired one is displayed. Display example: D1-Day: Disable 3. Keep pressing SELECT until the desired selection is displayed. 4. Press STORE. 5. To program another selection press NEXT or PREV until the desired selection is displayed. 6. Repeat steps 3 and 4. 7. Press END.
Conditions	This programming is applied to the doorphone which provides the door opener.
Feature Reference	Section 3, Features, Door Opener

Hotel Application

Description	Assigns whether the hotel application is enabled or disabled.
Selection	Disable / Enable
Default	Disable
Programming	<ol style="list-style-type: none">1. Enter 123. Display: Hotel Apply Asn2. Press NEXT. Display example: Hotel : Disable3. Keep pressing SELECT until the desired selection is displayed.4. Press STORE.5. Press END.
Conditions	If “Enable” is selected, the menu “Hotel” is displayed on the operator extension’s KX-T7235 or KX-T7436, and “Check-In / Check-Out” feature is available.
Feature Reference	Section 3, Features, HOTEL APPLICATION

Assignment of Denomination

Description	Assigns the Denomination required for your country.
Selection	2 characters (Max.)
Default	£
Programming	<ol style="list-style-type: none">1. Enter 125. Display: Denomination2. Press NEXT. Display example: Denomi.: £3. Enter a denomination. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and the new denomination. To enter characters, see Section 4.1.3 “Entering Characters.”4. Press STORE.5. Press END.
Conditions	If more than two characters are entered, they are ignored.
Feature References	Section 3, Features, Display, Call Information

Voice Mail Number Assignment †

Description Assigns the jack number corresponding to the voice mail port for data transmission to the Voice Processing System.

Selection

KX-TD816

- Jack number: **02 through 16**

KX-TD1232

- **Master / Slave**
- Jack number: **02 through 32 / Master; 33 through 64 / Slave**

Default All jacks — Blank

Programming

KX-TD816

1. Enter **126**.
Display: VMS Port Asn
2. Press **NEXT**.
Display example: Mast1:# # #
3. Enter a **jack number**.
To delete the current entry, press **CLEAR**.
To change the current entry, press **CLEAR** and enter the new jack number.
4. Press **➡** to enter another jack number.
5. Repeat steps 3 through 4 to enter another jack number.
6. Press **STORE**.
7. Press **NEXT** to program another jack number.
Display example: Mast2:# # #
8. Repeat steps 3 through 5 to enter another jack number.
9. Press **STORE**.
10. Press **END**.

KX-TD1232

1. Enter **126**.
Display: VMS Port Asn
2. Press **NEXT** to program the Master System.
Display example: Mast1:# # #
3. Enter a **jack number**.
To delete the current entry, press **CLEAR**.
To change the current entry, press **CLEAR** and enter the new jack number.

†: Available when the Digital Super Hybrid System is connected to a Digital Proprietary Telephone capable Panasonic Voice Processing System (one that supports digital proprietary telephone integration; e.g. KX-TVP100).

Voice Mail Number Assignment (contd.)

4. Press **➡** to enter another jack number.
5. Repeat steps 3 through 4 to enter another jack number.
6. Press **STORE**.
7. Press **NEXT** to program another jack number.
Display example: Mast2:# # #
8. Repeat steps 3 through 5 to enter another jack number.
9. Press **STORE**.
10. Press **NEXT** to program the Slave System.
Display example: Slav1:# # #
11. Repeat steps 3 through 5 to enter another jack number.
12. Press **STORE**.
13. Press **NEXT** to program another jack number.
Display example: Slav2:# # #
14. Repeat steps 3 through 5 to enter other jack numbers.
15. Press **STORE**.
16. Press **END**.

Conditions

- A maximum of six jacks can be assigned (twelve jacks during System Connection for KX-TD1232).
- Neither Jack number 01 nor the manager extension can be assigned as a voice mail port jack.
- The jack numbers correspond to the voice mail port in numerical order.
Example: Stored jack numbers: Jacks 02, 03, 05, 08, 11, 13
Jack 02=Voice mail numbers 01, 02; Jack 03=Voice mail numbers 03, 04;
Jack 05=Voice mail numbers 05, 06; Jack 08=Voice mail numbers 07, 08;
Jack 11=Voice mail numbers 09, 10; Jack 13=Voice mail numbers 11, 12

Feature References

Section 3, Features,
Voice Mail Integration for Digital Proprietary Telephones

Voice Mail Extension Number Assignment †

Description	Assigns the extension number for the voice mail number. These numbers can be used the same way extension numbers are used for station access.
Selection	<ul style="list-style-type: none">• Voice mail number (VM): KX-TD816 – 01 through 12 KX-TD1232 – 01 through 24• Extension Number: 2 to 4 digits
Default	VM-01=265, VM-02=266, VM-03=267, VM-04=268, VM-05=269, VM-06=270, VM-07=277, VM-08=278, VM-09=281, VM-10=282, VM-11=283, VM-12=284, VM-13=271, VM-14=272, VM-15=273, VM-16=274, VM-17=275, VM-18=276, VM-19=279, VM-20=280, VM-21=285, VM-22=286, VM-23=287, VM-24=288
Programming	<ol style="list-style-type: none">1. Enter 127. Display: VM EXT NO. Set2. Press NEXT. Display: VM NO?->3. Enter a voice mail number. To enter voice mail number 01, you can also press NEXT. Display: VM-01:#02-1:2654. Enter an extension number. To change the current entry, press CLEAR and enter the new number.5. Press STORE.6. To program another voice mail number, press NEXT or PREV, or SELECT and the desired voice mail number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• You cannot leave an entry empty.• For the KX-TD1232, VM-01 through VM-12 are for the Master system and VM-13 through VM-24 are for the Slave system, if available.• Double entries and incompatible entries for extension numbers are invalid. To avoid making an invalid entry, check the other extension numbers in programs [003] “Extension Number Set,” [012] “ISDN Extension Number Set,” [130] “Phantom Extension Number Assignment” and [813] “Floating Number Assignment.”• The display shows “VM-XX:#YY-1:ZZZ” in step 3. “XX” means the voice mail number. “YY” means the jack number of the voice mail port programmed in [126] “Voice Mail Number Assignment”. “-1” of YY-1 means the first part of jack number in digital line. YY-2 means the second number of the jack number in digital line.
Feature References	Section 3, Features, Voice Mail Integration for Digital Proprietary Telephones

†: Available when the Digital Super Hybrid System is connected to a Digital Proprietary Telephone capable Panasonic Voice Processing System (one that supports digital proprietary telephone integration; e.g. KX-TVP100).

Voice Mail Extension Group Assignment †

Description	Assigns each voice mail number to a voice mail extension group number.
Selection	<ul style="list-style-type: none"> • Voice mail number (VM): KX-TD816 – 01 through 12, * KX-TD1232 – 01 through 24, * (*=all voice mail numbers) • Voice mail extension group number (VMG) = 1 through 8
Default	All voice mail numbers = VMG 1
Programming	<ol style="list-style-type: none"> 1. Enter 128. Display: VM EXT Group Asn 2. Press NEXT. Display: VM NO?-> 3. Enter a voice mail number. To enter voice mail number 01, you can also press NEXT. Display example: VM-01:#02-1:VMG1 4. Enter the voice mail extension group number. To delete the current entry, press CLEAR. To change the current entry, enter the new number. 5. Press STORE. 6. To program another voice mail number, press NEXT or PREV, or SELECT and the desired voice mail number. 7. Repeat steps 4 through 6. 8. Press END.
Conditions	<ul style="list-style-type: none"> • For the KX-TD1232, VM-01 through VM-12 are for the Master system and VM-13 through VM-24 are for the Slave system, if available. • The display shows “VM-XX:#YY-1:EXG Z” in step 3. “XX” means a voice mail number. “YY” means the jack number of the voice mail port programmed in [126] “Voice Mail Number Assignment”. “-1” of YY-1 means the first part of jack number in digital line. “YY-2” means the second part of the jack number in digital line. • To assign all voice mail numbers to one selection, press the * key in step 3. In this case, the display shows the contents programmed for voice mail number 01.
Feature References	Section 3, Features, Voice Mail Integration for Digital Proprietary Telephones

Operator Queue

Description	Assigns the limited number of queue and the number of Hurry-Up.
Selection	<ul style="list-style-type: none">• Queue: 0 through 8• Number of Hurry-Up : 0 through 8
Default	Queue : 8, H-UP : 4
Programming	<ol style="list-style-type: none">1. Enter 129. Display: Operator Queue2. Press NEXT. Display example: Queue:8, H-UP: 43. Enter a queue. To change the current entry, press CLEAR and the new number.4. Press ➡ .5. Enter a number of Hurry-Up. To change the current entry, press CLEAR and the new number.6. Press STORE.7. Press END.
Conditions	The queue should be longer than the number of Hurry-Up.
Feature Reference	Section 3, Features, Automatic Overflow and Hurry-Up Transfer

Phantom Extension Number Assignment

Description	Assigns the phantom extension number.
Selection	<ul style="list-style-type: none">• Location number: 001 through 128• Phantom extension number: 2 through 4 digits
Default	All locations – Not stored
Programming	<ol style="list-style-type: none">1. Enter 130. Display: Phantom NO.2. Press NEXT. Display: Location NO?→3. Enter a location number. To enter location number 001, you can also press NEXT. Display example: 001: Not Stored4. Enter a phantom extension number. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and enter the new number.5. Press STORE.6. To program another location, press NEXT or PREV, or SELECT and the desired location number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• There is a maximum of 128 phantom extension numbers. Each number has two to four digits, consisting of numbers 0 through 9.• The first one or two digits of the phantom extension numbers are subject to program [100] “Flexible Numbering, (01) through (16) 1st through 16th hundred extension blocks.”• Phantom extension numbers and other extension numbers should be unique. Double entry and incompatible entry for these numbers are invalid. Valid entry example: 10 and 11, 10 and 110; Invalid entry example: 10 and 106, 210 and 21.• To avoid making an invalid entry, check the other extension numbers in programs [003] “Extension Number Set,” [012] “ISDN Extension Number Set,” [127] “Voice Mail Extension Number Assignment” and [813] “Floating Number Assignment.”
Feature Reference	Section 3, Features, Phantom extension

Hunting Group Assignment

Description	Assigns the extension numbers which belong to each hunting group. An incoming call is hunted in the order of registration except for Ring hunting.
Selection	<ul style="list-style-type: none">• Hunting group number: 01 through 32• Extension number: 2 through 4 digits, 12 numbers (max.) / Disable (No entry)
Default	All hunting groups – Disable
Programming	<ol style="list-style-type: none">1. Enter 131. Display: Hunt Group Asn2. Press NEXT. Display: Group NO?→3. Enter a hunting group number. To enter hunting group number 01, you can also press NEXT. Display example: 01:01 Disable4. Enter an extension number. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and enter the new number.5. Press STORE.6. To program another extension to the same group, press NEXT and repeat steps 4 and 5.7. To program another hunting group, press SELECT and repeat steps 3 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• One extension can belong to more than one hunting group simultaneously.• You can assign the floating number of the Ring hunting group for No Reply hunting.
Feature Reference	Section 3, Features, Hunting Group Station Hunting

Hunting Group Name Assignment

Description	Assigns a hunting group name to the hunting group. When an incoming outside call is received, the assigned name and the extension number of the group are displayed on the LCD.
Selection	<ul style="list-style-type: none">• Hunting group number: 01 through 32• Name: 10 characters (max.)
Default	All hunting groups – Not Stored
Programming	<ol style="list-style-type: none">1. Enter 132. Display: Hunt Group Name2. Press NEXT. Display: Group NO?→3. Enter a hunting group number. To enter hunting group number 01, you can also press NEXT. Display: 01: Not Stored4. Enter a name. For entering characters, see Section 4.1.3 “Entering Characters.” To delete the current entry, press CLEAR. To change the current entry, press CLEAR and enter the new name.5. Press STORE.6. To program another group, press NEXT or PREV, or SELECT and the desired hunting group number.7. Repeat steps 4 through 6.8. Press END.
Conditions	None
Feature Reference	Section 3, Features, Hunting Group Station Hunting

*Hunting Overflow***Description**

Assigns the limited number of a queue and the management of an incoming call when the queue is full. There are three types of management mentioned below:

Overflow: When the queue is full, a new incoming call is transferred to the Intercept destination for the group.
If the number in the queue is assigned as “0” and all extensions are busy or logout, the call is transferred to the Intercept destination for the group.

Busy Tone: This assignment is available only when the call is made through an ISDN line or intercom call. If the queue is full, a busy tone is sent to a caller. If the number in the queue is assigned as “0” and all extensions are busy or logout, a busy tone is sent to the caller. If the call is made through an analog line, the number in the queue is assigned as “0,” and all extensions are busy or logout, the caller will hear a ringback tone but the call cannot be received.

No: As the queue is treated as infinite, overflow will not occur and a busy tone will not be sent. The call will be kept waiting until any extension in the group becomes idle (or logs in).
IRNA starts.

Selection

- Hunting group number: **01 through 32**
- Call management : **OVF (Overflow) / Busy (Busy Tone) / No**
- The number in the queue: **0 through 8, 1 digit**

Default

All hunting groups – Busy, 0

Programming

1. Enter **133**.
Display: Hunt Overflow
2. Press **NEXT**.
Display: Group NO?→
3. Enter a **hunting group number**.
To enter hunting group number 01, you can also press **NEXT**.
Display example: 01: Busy, 0
4. Keep pressing **SELECT** until the desired selection is displayed.
5. Press **➡**.

Hunting Overflow (contd.)

6. Enter the **number in the queue**.
To change the current entry, press **CLEAR** and enter the new number.
7. Press **STORE**.
8. To program another group, press **NEXT** or **PREV**, or **SELECT** and the desired **hunting group number**.
7. Repeat steps 4 through 6.
8. Press **END**.

Conditions

None

Feature ReferenceSection 3, Features,
Hunting Group
Station Hunting

Hunting Intercept — Day / Night

Description	Sets the Intercept destination in both day and night modes for each hunting group.
Selection	<ul style="list-style-type: none">• Hunting group number: 01 through 32• Extension number: 2 through 4 digits / Disable (no Intercept Routing)
Default	All hunting groups – Disable — Day / Night
Programming	<ol style="list-style-type: none">1. Enter a program address (134 for day or 135 for night). Display example: Hunt Intercep Day2. Press NEXT. Display: Group NO.?→3. Enter the hunting group number. To enter hunting group number 01, you can also press NEXT. Display example: 01: Disable4. Enter an extension number. To change the current entry, press CLEAR and enter the new number. To disable Intercept Routing, press CLEAR.5. Press STORE.6. To program another hunting group, press NEXT or PREV, or SELECT and the desired hunting group number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• You can set the extension numbers in programs [003] “Extension Number Set,” [127] “Voice Mail Extension Number Assignment,” [130] “Phantom Extension Number” and also floating numbers of the external ringer, hunting groups, and pagers in program [813] “Floating Number Assignment.”
Feature References	Section 3, Features, Intercept Routing

ISDN DDI Number / Phantom Extension Number Transformation

Description	Used to convert a DDI number to a phantom extension number in order to send an incoming DDI call to a specific extension.
Selection	<ul style="list-style-type: none">• Location number: 001 through 128• DDI Number: 1 through 6 digits / Blank (no number)
Default	All locations – Blank (no number)
Programming	<ol style="list-style-type: none">1. Enter 136. Display: Phantom DDI2. Press NEXT. Display: Location NO?→3. Enter a location number. To enter location number 01, you can also press NEXT. Display example: 001:4. Enter a DDI number. To delete the current entry, press CLEAR and enter the new number. To assign no number, press CLEAR.5. Press STORE.6. To program another port, press NEXT or PREV, or SELECT and the desired location number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• There is a maximum of 128 phantom DDI numbers. Each DDI number can be one through six digits, consisting of 0 through 9.
Feature References	Section 3, Features, Direct Dialling In (DDI)

Off-Hook Monitor

Description	Enables or disables to perform the Off-Hook Monitor.
Selection	Enable / Disable
Default	Enable
Programming	<ol style="list-style-type: none">1. Enter 148. Display: Off-Hook Monitor2. Press NEXT. Display example: Monitor:Enable3. Keep pressing SELECT until the desired selection is displayed.4. Press STORE.5. Press END.
Conditions	Off-Hook Monitor is only available for the KX-T7431, KX-T7433 and KX-T7436 telephone users.
Feature Reference	Section 3, Features, Off-Hook Monitor

Hold Recall Time

Description	Assigns the length of the hold recall timer. This timer is used to alert an extension that a call has been held for an extended period of time.
Selection	Time (seconds): 0 through 240 (0=Hold Recall disabled)
Default	60 s
Programming	<ol style="list-style-type: none">1. Enter 200. Display: Hold Recall Time2. Press NEXT. Display example: Time: 60 sec3. Enter the time. To change the current entry, press CLEAR and the new time.4. Press STORE.5. Press END.
Conditions	<ul style="list-style-type: none">• Select “0” if Hold Recall is not required.• You cannot leave the entry empty.
Feature References	Section 3, Features, Hold Recall

Transfer Recall Time

Description	Sets the number of rings before the transfer recall occurs. If a transferred call is not answered before the programmed time of rings, the call returns to the original caller.
Selection	Number of rings: 3 through 48
Default	12 rings
Programming	<ol style="list-style-type: none">1. Enter 201. Display: Transfer Recall2. Press NEXT. Display example: Time:12 rings3. Enter the number of rings. To change the current entry, press CLEAR and the new number of rings.4. Press STORE.5. Press END.
Conditions	<ul style="list-style-type: none">• One ring is equivalent to five seconds.• You cannot leave the entry empty.
Feature References	Section 3, Features, Call Transfer, Unscreened – to Extension

Call Forwarding – No Answer Time

Description	Sets the number of rings for the Call Forwarding – No Answer feature. If a call is not answered before the programmed number of rings, the call is forwarded to the destination.
Selection	Number of rings: 1 through 12
Default	3 rings
Programming	<ol style="list-style-type: none">1. Enter 202. Display: No Answer Time2. Press NEXT. Display example: Time: 3 rings3. Enter the number of rings. To change the current entry, press CLEAR and the new number of rings.4. Press STORE.5. Press END.
Conditions	<ul style="list-style-type: none">• One ring is equivalent to five seconds.• This timer is also used for Intercept Routing.• You cannot leave the entry empty.
Feature References	Section 3, Features, Call Forwarding – Busy / No Answer Call Forwarding – No Answer

Intercept Time

Description	Sets the number of rings for the Intercept Routing – No Answer (IRNA) feature. If a call is not answered before the programmed number of rings, the call is redirected to the programmed station.
Selection	Number of rings: 3 through 48
Default	12 rings
Programming	<ol style="list-style-type: none">1. Enter 203. Display: Intercept Time2. Press NEXT. Display example: Time: 12 rings3. Enter the number of rings. To change the current entry, press CLEAR and the new number of rings.4. Press STORE.5. Press END.
Conditions	<ul style="list-style-type: none">• One ring is equivalent to five seconds.• Programs [409]–[410] “Intercept Extension — Day / Night” are used to program the destination of Intercept Routing on a CO line group basis in day and night modes.• If the original extension has set Call Forwarding – No Answer, Intercept Timer starts after the Call Forwarding.• You cannot leave the entry empty.
Feature References	Section 3, Features, Intercept Routing

Pickup Dial Waiting Time

Description	Sets the number of seconds for Pickup Dialling. If the telephone user lifts the handset, the programmed party is called when the time expires.
Selection	Time (seconds): 0 through 8
Default	1 s
Programming	<ol style="list-style-type: none">1. Enter 204. Display: Pickup Dial Time2. Press NEXT. Display example: Time:1 sec3. Enter the time. To change the current entry, enter the new time.4. Press STORE.5. Press END.
Conditions	This time gives the user an opportunity to dial digits before the automatic dialling process takes place.
Feature References	Section 3, Features, Pickup Dialling

Extension-to-CO Line Call Duration Time

Description	Sets the maximum time allowed for a conversation with an outside party. If an outside call is originated or answered by a programmed extension user and the timer expires, the call is disconnected.
Selection	Time (minutes): 1 through 64
Default	10 min
Programming	<ol style="list-style-type: none">1. Enter 205. Display: CO Dur. Time2. Press NEXT. Display example: Time:10 min3. Enter the time. To change the current entry, press CLEAR and the new time.4. Press STORE.5. Press END.
Conditions	<ul style="list-style-type: none">• This time-out applies to extensions to which Limited Call Duration is assigned by program [502] “Extension-to-CO Line Call Duration Limit.”• This time cannot be set to zero or be left empty.
Feature References	Section 3, Features, Limited Call Duration

First Digit Time

Description	Sets the maximum time allowed between the start of outside dial tone and the first digit dialed on an outgoing outside call. If an extension user fails to dial any digits during this time, the DTMF receiver is released.
Selection	Time (seconds): 5 through 120
Default	10 s
Programming	<ol style="list-style-type: none">1. Enter 207. Display: 1st Digit Time2. Press NEXT. Display example: Time: 10 sec3. Enter the time. To change the current entry, press CLEAR and the new time.4. Press STORE.5. Press END.
Conditions	<ul style="list-style-type: none">• This timer is used for toll restriction checking.• You cannot leave the entry empty.
Feature References	Section 3, Features, Toll Restriction

Inter Digit Time

Description	Assigns the maximum time allowed between digits on an outgoing toll call. If an extension user fails to dial any digits during this time, the DTMF receiver is released. This timer applies until the Toll Restriction check is completed.
Selection	Time (seconds): 5 through 30
Default	10 s
Programming	<ol style="list-style-type: none">1. Enter 208. Display: Inter Digit Time2. Press NEXT. Display example: Time:10 sec3. Enter the time. To change the current entry, press CLEAR and the new time.4. Press STORE.5. Press END.
Conditions	<ul style="list-style-type: none">• This timer is used for toll restriction checking.• You cannot leave the entry empty.
Feature References	Section 3, Features, Toll Restriction

Automatic Redial Repeat Times

Description	Sets the number of times Automatic Redial is tried. Automatic redialling of the last dialled or saved number is done up to the specified number of times.
Selection	Number of times: 1 through 12
Default	4 times
Programming	<ol style="list-style-type: none">1. Enter 209. Display: Redial Times2. Press NEXT. Display example: Attempt: 43. Enter the number of times. To change the current entry, press CLEAR and the new number of times.4. Press STORE.5. Press END.
Conditions	<ul style="list-style-type: none">• Program [210] “Automatic Redial Interval Time” is used to set the interval time between Automatic Redial attempts.• You cannot leave the entry empty.
Feature References	Section 3, Features, Redial, Automatic

Automatic Redial Interval Time

Description	Sets the interval time between Automatic Redial attempts.
Selection	Time (seconds): 3 through 120 (×10 is the actual time)
Default	12 (120 s)
Programming	<ol style="list-style-type: none">1. Enter 210. Display: Interval Time2. Press NEXT. Display example: Time: 120 sec3. Enter the time. To change the current entry, press CLEAR and the new time.4. Press STORE.5. Press END.
Conditions	<ul style="list-style-type: none">• You enter a number from 3 through 120. The actual time is 10 times your input.• Program [209] “Automatic Redial Repeat Times” is used to set the number of times Automatic Redial is tried.• You cannot leave the entry empty.
Feature References	Section 3, Features, Redial, Automatic

Dial Start Time

Description	Sets the number of milliseconds the system waits before dialling after a CO line is seized.
Selection	Time (milliseconds): 0 through 40 (×100 is the actual time)
Default	0 ms
Programming	<ol style="list-style-type: none">1. Enter 211. Display: CO Dial Start2. Press NEXT. Display example: Time: 000 msec3. Enter the time. To change the current entry, press CLEAR and the new time.4. Press STORE.5. Press END.
Conditions	<ul style="list-style-type: none">• You enter a number from 0 through 40. The actual time is a 100 times your input.• You cannot leave the entry empty.
Feature References	Section 3, Features, Line Access, Automatic Line Access, CO Line Group Line Access, Direct Line Access, Individual

Call Duration Count Start Time

Description	Sets the number of seconds the system waits between the end of dialling and the start of the SMDR timer for outgoing toll calls. When the system has sent out all the digits to the central office and this timer expires, the system starts counting the call. A display telephone shows the elapsed time of the call. The starting time and the duration of a call are recorded in the SMDR record.
Selection	Time (seconds): 0 through 60
Default	0 s
Programming	<ol style="list-style-type: none">1. Enter 212. Display: SMDR Durat Time2. Press NEXT. Display example: Time: 0 sec3. Enter the time. To change the current entry, press CLEAR and the new time.4. Press STORE.5. Press END.
Conditions	<ul style="list-style-type: none">• The timer starts counting after all the digits are dialled. This timer is not applied to incoming calls. The timer for incoming calls starts immediately.• You cannot leave the entry empty.
Feature References	Section 3, Features, Display, Call Information Station Message Detail Recording (SMDR)

Message Waiting Ring Interval Time

Description	Sets the Message Waiting ring interval time for a single line telephone.
Selection	Time (minutes) : 0 through 64
Default	0 min
Programming	<ol style="list-style-type: none">1. Enter 214. Display: MW Ring Time2. Press NEXT. Display example: Interval: 10 min3. Enter the time. To change the current entry, press CLEAR and enter the new time.4. Press STORE.5. Press END.
Conditions	When the internal time is set "0," the telephone does not ring for Message Waiting notification.
Feature References	Section 3, Features, Message Waiting

Ring-Off Detection Time

Description	Sets the ring-off time so that the system can detect that the central office stops ringing.
Selection	Time (seconds) : 6 / 11
Default	6 s
Programming	<ol style="list-style-type: none">1. Enter 215. Display: Ring Detect Time2. Press NEXT. Display example: Time : 6 sec3. Keep pressing SELECT until the desired selection is displayed.4. Press STORE.5. Press END.
Conditions	None
Feature References	None

TRS Denied Code Entry for Levels 2 through 6

Description	<p>These allow you to specify the numbers which are toll-restricted for each toll restriction level as follows:</p> <p>Program [301]: restricts levels 2 through 6 Program [302]: restricts levels 3 through 6 Program [303]: restricts levels 4 through 6 Program [304]: restricts levels 5 through 6 Program [305]: restricts level 6</p>
Selection	<ul style="list-style-type: none"> • Location number: 01 through 20 • Toll call number: 7 digits (max.)
Default	All locations – Not stored
Programming	<ol style="list-style-type: none"> 1. Enter a program address (301 through 305). Display example: TRS Deny LVL-2 2. Press NEXT. Display: Location NO?-> 3. Enter a location number. To enter location number 01, you can also press NEXT. Display example: 01:Not Stored 4. Enter a toll call number. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and the new number. 5. Press STORE. 6. To program another location, press NEXT or PREV, or SELECT and the desired location number. 7. Repeat steps 4 through 6. 8. Press END.
Conditions	<ul style="list-style-type: none"> • There is a maximum of 20 toll call numbers which can be restricted for each program. Each number has a maximum of seven digits, consisting of 0 through 9, and *. The character “*” can be used as a wild card character. • Programs [306]–[310] “TRS Excepted Code Entry for Levels 2 through 6” are used to assign exceptions to these numbers. Programs [500]–[501] “Toll Restriction Level — Day / Night” are used to set the toll restriction value for each COS.
Feature References	Section 3, Features, Toll Restriction

TRS Excepted Code Entry for Levels 2 through 6

Description	These allow you to assign numbers which are exceptions to the toll restriction specified in programs [301] through [305] as follows: Program [306]: applies to level 2 Program [307]: applies to levels 2 through 3 Program [308]: applies to levels 2 through 4 Program [309]: applies to levels 2 through 5 Program [310]: applies to levels 2 through 6
Selection	<ul style="list-style-type: none">• Location number: 01 through 20• Exceptional number: 7 digits (max.)
Default	All locations – Not stored
Programming	<ol style="list-style-type: none">1. Enter a program address (306 through 310). Display example: TRS Excp LVL-22. Press NEXT. Display: Location NO?->3. Enter a location number. To enter location number 01, you can also press NEXT. Display example: 01:Not Stored4. Enter an exceptional number. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and the new number.5. Press STORE.6. To program another location, press NEXT or PREV, or SELECT and the desired location number.7. Repeat steps 4 through 6.8. Press END.
Conditions	There is a maximum of five numbers for each program. Each number has a maximum of seven digits, consisting of 0 through 9 , and * . The character “*” can be used as a wild card character.
Feature References	Section 3, Features, Toll Restriction

Emergency Dial Number Set

Description	Stores up to 10 emergency call numbers. Emergency numbers are not subject to toll restriction, Account Code – Verified or Electronic Station Lockout.
Selection	<ul style="list-style-type: none"> • Location number: 01 through 10 • Emergency number: 3 digits (max.)
Default	Location 01 – 999 / Location 02 – 112
Programming	<ol style="list-style-type: none"> 1. Enter 311. Display: Emergency Dial 2. Press NEXT. Display: Location NO?-> 3. Enter a location number. To enter location number 01, you can also press NEXT. Display example: 01: 999 4. Enter an emergency number. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and the new number. 5. Press STORE. 6. To program another location, press NEXT or PREV, or SELECT and the desired location number. 7. Repeat steps 4 through 6. 8. Press END.
Conditions	There is a maximum of 10 emergency numbers. Each number has a maximum of three digits, consisting of 0 through 9 .
Feature References	Section 3, Features, Least Cost Routing (LCR) Toll Restriction

CO Line Connection Assignment

Description	Used to identify the CO lines which are connected to the system(s). This prevents users from originating a call to a line which is not connected.
Selection	<ul style="list-style-type: none"> • CO line number: <ul style="list-style-type: none"> KX-TD816 – 01 through 16, * (* =all CO lines) KX-TD1232 – 01 through 54, * (* =all CO lines) • Connect / No Connect
Default	All CO lines – Connect
Programming	<ol style="list-style-type: none"> 1. Enter 400. Display: CO Connection 2. Press NEXT. Display: CO Line NO?-> 3. Enter a CO line number. To enter CO line number 01, you can also press NEXT. Display example: CO01:Connect 4. Keep pressing SELECT until the desired selection is displayed. 5. Press STORE. 6. To program another CO line, press NEXT or PREV, or SELECT and the desired CO line number. 7. Repeat steps 4 through 6. 8. Press END.
Conditions	<ul style="list-style-type: none"> • In the case of KX-TD1232, CO01 through CO12 are for the Master System and CO13 through CO24 are for the Slave, if available. • CO09 through CO16 become available when the expansion unit KX-TD290 is installed in the KX-TD816 and CO25 through CO54 become available when the expansion unit KX-TD290 is installed in the KX-TD1232. However, the assignment of CO09 through CO16 or CO25 through CO54 are not changeable. You can only check them. • To assign all CO lines to one selection, press the * key at step 3. In this case, the display shows the contents programmed for CO01.
Feature References	Section 3, Features, CO Line Connection Assignment

CO Line Group Assignment

Description Each CO line must be assigned to a CO line group. This program defines the CO line group assignment for each CO line. For example, if there are multiple telephone service companies available, the CO lines can be grouped by company.

Selection

- CO line (CO) number:
 KX-TD816 – **01 through 16**, * (* =all CO lines)
 KX-TD1232 – **01 through 54**, * (* =all CO lines)
- CO line group (TRG) number: **1 through 8**

Default

CO01 – TRG 1; CO05 – TRG 5;
 CO02 – TRG 2; CO06 – TRG 6;
 CO03 – TRG 3; CO07 – TRG 7;
 CO04 – TRG 4; CO08 through CO16 – TRG 8 (for KX-TD816);
 CO08 through CO54 – TRG 8 (for KX-TD1232)

Programming

1. Enter **401**.
 Display : Trunk Group Asn
2. Press **NEXT**.
 Display: CO Line NO?->
3. Enter a **CO line number**.
 To enter CO line number 01, you can also press **NEXT**.
 Display example: CO01:TRG1
4. Enter the **CO line group number**.
 To change the current entry, enter the new CO line group number.
5. Press **STORE**.
6. To program another CO line, press **NEXT** or **PREV**, or **SELECT** and the desired **CO line number**.
7. Repeat steps 4 through 6.
8. Press **END**.

Conditions

- In the case of KX-TD1232, CO01 through CO12 are for the Master System and CO13 through CO24 are for the Slave, if available.
- CO09 through CO16 become available when the expansion unit KX-TD290 is installed in the KX-TD816 and CO25 through CO54 become available when the expansion unit KX-TD290 is installed in the KX-TD1232.
- To assign all CO lines to one CO line group, press the * key at step 3. In this case, the display shows the contents programmed for CO01.

Feature References Section 3, Features,
 CO Line Group

Dial Mode Selection

Description	<p>Each CO line can be programmed for DTMF, pulse (rotary) or call blocking. This program assigns your choice for each line.</p> <p>DTMF: The dialling signals from an extension, either tone or pulse, are converted to tone signals and transmitted to the CO line.</p> <p>Pulse: The dialling signals from an extension, either tone or pulse, are converted to pulse signals and transmitted to the CO line.</p> <p>Call blocking: If your central office can receive both DTMF and pulse signals but you are contracted for pulse, select this mode. When dialling on the line with an MF4 telephone, only the pulse signals are sent to the CO line.</p>
Selection	<ul style="list-style-type: none">• CO line number: KX-TD816 – 01 through 08, * (* =all CO lines) KX-TD1232 – 01 through 24, * (* =all CO lines)• DTMF / Pulse / C. Block (call blocking)
Default	All CO lines – DTMF
Programming	<ol style="list-style-type: none">1. Enter 402. Display : CO Dial Mode2. Press NEXT. Display : CO Line NO?->3. Enter a CO line number. To enter CO line number 01, you can also press NEXT. Display example: CO01:DTMF4. Keep pressing SELECT until the desired selection is displayed.5. Press STORE.6. To program another CO line, press NEXT or PREV, or SELECT and the desired CO line number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• In the case of KX-TD1232, CO01 through CO12 are for the Master System and CO13 through CO24 are for the Slave, if available.

Dial Mode Selection (contd.)

- To assign all lines to one selection, press the * key at step 3. In this case, the display shows the contents programmed for CO01.
- If DTMF is assigned, set the DTMF time of the line in program [404] “DTMF Time.”
- If pulse or call blocking is assigned, set the pulse speed of the line in program [403] “Pulse Speed Selection,” and set the pulse break ratio and inter-digit pause in program [990] “System Additional Information, Field (17)” and in “Field (21),” if needed.

Feature References

Section 3, Features,
Dial Type Selection

Pulse Speed Selection

Description	A CO line set for pulse or call blocking mode in program [402] “Dial Mode Selection” can have two pulse rates, 10 pps (low) and 20 pps (high). This program sets the pulse speed for each CO line set to pulse or call blocking mode.
Selection	<ul style="list-style-type: none">• CO line number: KX-TD816 – 01 through 08, * (* =all CO lines) KX-TD1232 – 01 through 24, * (* =all CO lines)• 10 pps / 20 pps
Default	All CO lines – 10 pps
Programming	<ol style="list-style-type: none">1. Enter 403. Display: Pulse Speed2. Press NEXT. Display: CO Line NO?->3. Enter a CO line number. To enter CO line number 01, you can also press NEXT. Display example: CO01:10pps4. Keep pressing SELECT until the desired selection is displayed.5. Press STORE.6. To program another CO line, press NEXT or PREV, or SELECT and the desired CO line number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• In the case of KX-TD1232, CO01 through CO12 are for the Master System and CO13 through CO24 are for the Slave, if available.• To assign all CO lines to one selection, press the * key at step 3. In this case, the display shows the contents programmed for CO01.• The pulse speed required is determined by the CO or PBX line.• Program [990] “System Additional Information, Field (17) and Field (21)” are used to select a pulse break ratio and inter-digit pause, if needed.
Feature References	Section 3, Features, Dial Type Selection

DTMF Time

Description	A CO line set to DTMF mode in program [402] “Dial Mode Selection” can have two settings. This program sets the duration of the DTMF signals sent to a CO line set to DTMF mode.
Selection	<ul style="list-style-type: none"> • CO line number: KX-TD816 – 01 through 08, * (* =all CO lines) KX-TD1232 – 01 through 24, * (* =all CO lines) • Time (milliseconds): 96 / 160
Default	All CO lines – 96 ms
Programming	<ol style="list-style-type: none"> 1. Enter 404. Display: DTMF Time 2. Press NEXT. Display: CO Line NO?-> 3. Enter a CO line number. To enter CO line number 01, you can also press NEXT. Display example: CO01: 96msec 4. Keep pressing SELECT until the desired selection is displayed. 5. Press STORE. 6. To program another CO line, press NEXT or PREV, or SELECT and the desired CO line number. 7. Repeat steps 4 through 6. 8. Press END.
Conditions	<ul style="list-style-type: none"> • In the case of KX-TD1232, CO01 through CO12 are for the Master System and CO13 through CO24 are for the Slave, if available. • To assign all CO lines to one selection, press the * key at step 3. In this case, the display shows the contents programmed for CO01. • The DTMF time required is determined by the CO line or PBX line.
Feature References	Section 3, Features, Dial Type Selection

*CPC Signal Detection Incoming Set (contd.)***CPC Signal Detection Time Table**

Entry	Time (ms)	Entry	Time (ms)	Entry	Time (ms)
02	16	27	216	52	416
03	24	28	224	53	424
04	32	29	232	54	432
05	40	30	240	55	440
06	48	31	248	56	448
07	56	32	256	57	456
08	64	33	264	58	464
09	72	34	272	59	472
10	80	35	280	60	480
11	88	36	288	61	488
12	96	37	296	62	496
13	104	38	304	63	504
14	112	39	312	64	512
15	120	40	320	65	520
16	128	41	328	66	528
17	136	42	336	67	536
18	144	43	344	68	544
19	152	44	352	69	552
20	160	45	360	70	560
21	168	46	368	71	568
22	176	47	376	72	576
23	184	48	384	73	584
24	192	49	392	74	592
25	200	50	400	75	600
26	208	51	408		

DIL 1:1 Extension — Day / Night

Description The Direct In Lines (DIL) 1:1 feature allows incoming outside calls to be directed to a specific extension. When a CO line is assigned as DIL 1:1, it is necessary to assign the destination. These programs specify the extension number for day or night mode.

Selection

- CO line number: KX-TD816 – **01 through 08**, * (* =all CO lines)
KX-TD1232 – **01 through 24**, * (* =all CO lines)
- Extension number: **2 through 4 digits / Disable** (no DIL 1:1)

Default All CO lines – Disable — Day / Night

Programming

1. Enter a **program address (407 for day or 408 for night)**.
Display example: DIL 1:1 Asn Day
2. Press **NEXT**.
Display: CO Line NO?->
3. Enter a **CO line number**.
To enter CO line number 01, you can also press **NEXT**.
Display example: CO01:Disable
4. Enter an **extension number**.
To change the current entry, press **CLEAR** and the new number.
To disable DIL 1:1, press **CLEAR**.
5. Press **STORE**.
6. To program another CO line, press **NEXT** or **PREV**, or **SELECT** and the desired **CO line number**.
7. Repeat steps 4 through 6.
8. Press **END**.

Conditions

- In the case of KX-TD1232, CO01 through CO12 are for the Master System and CO13 through CO24 are for the Slave, if available. CO line numbers in the out-of-service system are unacceptable.
- To assign all CO lines to one selection, press the * key at step 3. In this case, the display shows the contents programmed for CO01.
- You set the extension numbers in program [003] “Extension Number Set,” ISDN extension numbers in program [012] “ISDN Extension Number Set,” voice mail extension numbers in program [127] “Voice Mail Extension Number Assignment,” phantom extension numbers in program [130] “Phantom Extension Number Assignment” or floating numbers of pagers in program [813] “Floating Number Assignment.”
- If a CO line is also programmed for DIL 1:N in program [603]–[604] “DIL 1:N Extension and Delayed Ringing — Day / Night,” it is regarded as a DIL 1:1 line.

Feature References Section 3, Features,
Direct In Lines (DIL) Night Service

Intercept Extension — Day / Night

Description	Intercept Routing provides an automatic re-direction of calls which cannot or have not been answered. These programs set the destination in both day and night modes for each line group.
Selection	<ul style="list-style-type: none"> • CO line group (TRG) number: 1 through 8, * (* =all CO line groups) • Extension number: 2 through 4 digits / Disable (no Intercept Routing)
Default	All CO line groups – Disable — Day / Night
Programming	<ol style="list-style-type: none"> 1. Enter a program address (409 for day or 410 for night). Display example: TRG Intercept Day 2. Press NEXT. Display: TRK GRP NO?-> 3. Enter the CO line group number. To enter CO line group number 1, you can also press NEXT. Display example: TRG1:Disable 4. Enter an extension number. To change the current entry, press CLEAR and the new number. To disable Intercept Routing, press CLEAR. 5. Press STORE. 6. To program another CO line group, press NEXT or PREV, or SELECT and the desired CO line group number. 7. Repeat steps 4 through 6. 8. Press END.
Conditions	<ul style="list-style-type: none"> • You set the extension numbers in program [003] “Extension Number Set,” ISDN extension numbers in program [012] “ISDN Extension Number Set,” voice mail extension numbers in program [127] “Voice Mail Extension Number Assignment,” phantom extension numbers in program [130] “Phantom Extension Number Assignment” or floating numbers of pagers in program [813] “Floating Number Assignment.” You cannot assign the floating number of the modem. • To assign all CO line groups to one selection, press the * key at step 3. In this case, the display shows the contents programmed for CO line group 1. • Program [401] “CO Line Group Assignment” is used to assign each CO line to a CO line group.
Feature References	Section 3, Features, Intercept Routing

Host PBX Access Codes

Description	Assigns Host PBX access codes. If the system is installed behind a host PBX system, an access code is required to make an outside call. Up to four codes can be stored for a CO line group assigned the line.
Selection	<ul style="list-style-type: none">• CO line group (TRG) number: 1 through 8, * (* =all CO line groups)• Access code: 1 or 2 digits, four different entries (max.)
Default	All CO line groups – Not stored
Programming	<ol style="list-style-type: none">1. Enter 411. Display : TRG Host PBX NO.2. Press NEXT. Display : TRK GRP NO?->3. Enter a CO line group number. To enter CO line group number 1, you can also press NEXT. Display example: TRG1: , , ,4. Enter an access code. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and the new access code. Display example: TRG1:01, , ,5. To enter more access codes for the same CO line group, press ▶ and enter the access codes until all the required entries are completed. Display example: TRG1:01,08,10,226. Press STORE.7. To program another CO line group, press NEXT or PREV, or SELECT and the desired CO line group number.8. Repeat steps 4 through 7.9. Press END.

Host PBX Access Codes (contd.)

Conditions

- This program is only required if a host PBX line is connected to the system. Program [401] “CO Line Group Assignment” is used to assign the line to a CO line group.
- There is a maximum of four access codes per CO line group. Each code has one or two digits, consisting of **0 through 9**, and *****.
- If conflicting access codes (such as 8 and 81) are stored for the same CO line group, the 1-digit code (8) only will be in effect.
- When the programmed codes are dialed, Automatic Pause Insertion and Toll Restriction are applied to the calls. The programmed pause time (in program [412] “Pause Time”) is automatically inserted after the access code.
- To assign all CO line groups to one selection, press the ***** key at step 3. In this case, the display shows the contents programmed for CO line group 1.

Feature References

Section 3, Features,
External Feature Access Pause Insertion, Automatic
Host PBX Access

Pause Time

Description	Assigns the length of the pause time. The programmed pause time is automatically inserted after a line access code or a host PBX access code programmed in [411] “Host PBX Access Codes” or manually inserted if the PAUSE button is pressed by the user.
Selection	<ul style="list-style-type: none"> • CO line group number: 1 through 8, * (* =all CO line groups) • Time (seconds): 1.5 / 2.5 / 3.5 / 4.5 / 5.5 / 6.5
Default	All CO line groups – 3.5 s
Programming	<ol style="list-style-type: none"> 1. Enter 412. Display: TRG Pause Time 2. Press NEXT. Display: TRK GRP NO?-> 3. Enter a CO line group number. To enter CO line group number 1, you can also press NEXT. Display example: TRG1:3.5sec 4. Keep pressing SELECT until the desired time is displayed. 5. Press STORE. 6. To program another CO line group, press NEXT or PREV, or SELECT and the desired CO line group number. 7. Repeat steps 4 through 6. 8. Press END.
Conditions	<ul style="list-style-type: none"> • To assign all CO line groups to one selection, press the * key at step 3. In this case, the display shows the contents programmed for CO line group 1. • Program [401] “CO Line Group Assignment” is used to assign each CO line to a CO line group. • If the programmed pause time is 1.5 or 2.5 seconds and you are storing an external number in program [001] “System Speed Dialling Number Set,” it is required to store a pause manually after the line access code.
Feature References	<p>Section 3, Features, Host PBX Access</p> <p>Pause Insertion, Automatic</p>

Disconnect Time

Description	Determines the amount of time between successive accesses to the same CO line.
Selection	<ul style="list-style-type: none">• CO line group (TRG) number: 1 through 8, * (* =all CO line groups)• Time (seconds): 0.5 / 2.0 / 4.0
Default	All CO line groups – 2.0 s
Programming	<ol style="list-style-type: none">1. Enter 414. Display: TRG Discnct Time2. Press NEXT. Display : TRK GRP NO?->3. Enter a CO line group number. To program CO line group number 1, you can also press NEXT. Display example: TRG1:2.0sec4. Keep pressing SELECT until the desired time is displayed.5. Press STORE.6. To program another CO line group, press NEXT or PREV, or SELECT and the desired CO line group number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• The disconnect time must be longer than the requirements of the central office or the host PBX.• To assign all CO line groups to one selection, press the * key at step 3. In this case, the display shows the contents programmed for CO line group 1.• Program [401] “CO Line Group Assignment” is used to assign each CO line to a CO line group.
Feature References	Section 3, Features, Recall

CPC Signal Detection Outgoing Set

Description	Enables or disables CPC Signal Detection during the time between the originated outside call and the established outside call. If this is enabled, the system disconnects the line with the time set in program [405] “CPC Signal Detection Incoming Set” when CPC Signal is detected.
Selection	<ul style="list-style-type: none"> • CO line number: <ul style="list-style-type: none"> KX-TD816 – 01 through 08, * (* =all CO lines) KX-TD1232 – 01 through 24, * (* =all CO lines) • Enable (detection) / Disable (no detection)
Default	Disable
Programming	<ol style="list-style-type: none"> 1. Enter 415. Display: CPC Outgoing Asn 2. Press NEXT. Display: CO Line NO?-> 3. Enter a CO line number. To enter CO line number 01, you can also press NEXT. Display example: CO01:Disable 4. Keep pressing SELECT until the desired selection is displayed. 5. Press STORE. 6. To program another CO line, press NEXT or PREV, or SELECT and the desired CO line number. 7. Repeat steps 4 through 6. 8. Press END.
Conditions	<ul style="list-style-type: none"> • Some central offices (CO) may send CPC-like signals during the dialling sequence and an attempt to make a call may be terminated. If your CO is such a type, select “Disable.” • Program [405] “CPC Signal Detection Incoming Set” is used to set CPC Signal Detection Time. • In the case of KX-TD1232, CO01 through CO12 are for the Master System and CO13 through CO24 are for the Slave, if available. • To assign all CO lines to one selection, press the * key at step 3. In this case, the display shows the contents programmed for CO01.
Feature References	Section 3, Features, Calling Party Control (CPC) Signal Detection

Reverse Circuit Assignment

Description	Enables or disables to detect Reverse Circuit.
Selection	<ul style="list-style-type: none">• CO line number: KX-TD816 – 01 through 08, * (*=all CO lines) KX-TD1232 – 01 through 24, * (*=all CO lines)• Regular (no detection) / Reverse (detection)
Default	All CO lines – Regular
Programming	<ol style="list-style-type: none">1. Enter 416. Display: Reverse Circuit2. Press NEXT. Display: CO Line NO?->3. Enter a CO line number. To enter CO line number 01, you can also press NEXT. Display example: CO01:Regular4. Keep pressing SELECT until the desired selection is displayed.5. Press STORE.6. To program another CO line, press NEXT or PREV, or SELECT and the desired CO line number.7. Repeat steps 4 through 6.8. Press END.
Conditions	To assign all CO lines to one selection, press the * key at step 3. In this case, the display shows the contents programmed for CO01.
Feature References	Section 3, Features , Reverse Circuit

Subscriber Number Assignment

Description	Assign the subscriber number which is assigned to a CO line by a central office for Calling Line Identification Presentation or Connected Line Identification Presentation.
Selection	<ul style="list-style-type: none"> • CO line number: KX-TD816 – 01 through 16, * (*=all CO lines) KX-TD1232 – 01 through 54, * (*=all CO lines) • Telephone number: 16 digits (max.)
Default	All CO lines – Not stored
Programming	<ol style="list-style-type: none"> 1. Enter 419. Display: Telephone Number 2. Press NEXT. Display: CO Line NO?-> 3. Enter a CO line number. To enter CO line number 01, you can also press NEXT. Display example: CO01: Not Stored 4. Enter a telephone number. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and the new number. 5. Press STORE. 6. To program another CO line number, press NEXT or PREV, or SELECT and the desired CO line number. 7. Repeat steps 4 through 6. 8. Press END.
Conditions	<ul style="list-style-type: none"> • The valid characters are 0 through 9. • To assign all CO lines to one selection, press the * key at step 3. In this case, the display shows the contents programmed for CO01. • In case of the KX-TD1232, CO 01 through CO 24 are for the Master System and CO 13 through CO 24 are for the Slave, If available. • CO09 through CO16 become available when the expansion unit KX-TD290 is installed in the KX-TD816 and CO25 through CO54 become available when the expansion unit KX-TD290 is installed in the KX-TD1232. • To display parts of the number which have scrolled off the display, press ➡ or ⬅.
Feature References	Section 3, Features, Calling Line Identification Restriction (CLIR) Connected Line Identification Restriction (COLR)

Direct Dialling In — Day / Night

Description	Assign the contract status of the Direct Dialling In (DDI) Service or Multiple Subscriber Number on a CO line basis in both day and night modes. This setting is also used for Calling Line Identification Presentation (CLIP) and Connected line Identification Presentation (COLP).
Selection	<ul style="list-style-type: none">• CO line number: KX-TD816 – 01 through 08, * (*=all CO lines) KX-TD1232 – 01 through 24, * (*=all CO lines)• Disable / Enable
Default	All CO lines – Enable — Day / Night
Programming	<ol style="list-style-type: none">1. Enter a program address (420 for day or 429 for night). Display example: DDI Service Day2. Press NEXT. Display: CO Line NO?→3. Enter a CO line number. To enter CO line number 01, you can also press NEXT. Display example: CO01: Enable4. Keep pressing SELECT until the desired selection is displayed.5. Press STORE.6. To program another CO line, press NEXT or PREV, or SELECT and the desired CO line number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• In case of the KX-TD1232, CO01 through CO12 are for the Master System and 13 through 24 are for the Slave, if available.• To assign all CO lines to one, press the * key in step 3. In this case, the display shows the contents programmed for CO01.• If “Enable” is selected, the subscriber number and extension number is provided to ISDN for CLIP and COLP.
Feature References	Section 3, Features, Direct Dialling In (DDI)

CO Line Name Assignment

Description Assigns the company or customer names to each CO line so that the operator or extension user can find the destination where the caller is trying to reach before answering.

Selection

- CO line number:
 KX-TD816 – **01 through 16**, * (*=all CO lines)
 KX-TD1232 – **01 through 54**, * (*=all CO lines)
- Name: **10 characters (max.)**

Default All CO lines – Not stored

Programming

1. Enter **421**.
 Display: CO Line Name
2. Press **NEXT**.
 Display: CO Line NO?→
3. Enter a **CO line number**.
 To enter CO line number 01, you can also press **NEXT**.
 Display example: CO01:Not Stored
4. Enter a **name**.
 For entering characters, see Section 4.1.3 “Entering Characters.”
 To delete the current entry, press **CLEAR**.
 To change the current entry, press **CLEAR** and the new name
5. Press **STORE**.
6. To program another CO line, press **NEXT** or **PREV**, or **SELECT** and the desired **CO line number**.
7. Repeat steps 4 through 6.
8. Press **END**.

Conditions

- In the case of KX-TD1232, CO01 through CO12 are for the Master System and CO13 through CO24 are for the Slave, if available.
- CO09 through CO16 become available when the expansion unit KX-TD290 is installed in the KX-TD816 and CO25 through CO54 become available when the expansion unit KX-TD290 is installed in the KX-TD1232.
- There is a maximum of 24 names. Each name has a maximum of 10 characters.
- To assign all CO lines to one selection, press the * key in step 3. In this case, the display shows the contents programmed for CO01.

Feature References Section 3, Features,
 CO Incoming Call Information Display

ISDN Port Type

Description	Assigns the type of each port either CO line or extension line on ISDN port basis.
Selection	<ul style="list-style-type: none">• Port number: KX-TD816 – 01 through 04, * (*=all ports) KX-TD1232 – 03 through 06, 09 through 12, * (*=all ports)• CO (CO line) / Extension
Default	All ports – CO
Programming	<ol style="list-style-type: none">1. Enter 422. Display: ISDN Line Type2. Press NEXT. Display: Port NO?->3. Enter a port number. To enter a first port number, you can also press NEXT. Display example: #03:CO4. Keep pressing SELECT until the desired selection is displayed.5. Press STORE.6. To program another port, press NEXT or PREV, or SELECT and the desired port number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• Port numbers 03 through 06 are for the Master System and 09 through 12 are for the Slave, if available.• To assign all ports to one selection, press the * key in step 3. In this case, the display shows the contents programmed for a first port.• After this assignment, you should reset the system so that this assignment is effective.
Feature References	Section 3, Features, ISDN Extension

ISDN Layer 1 Active Mode

Description	Assigns the active mode of Layer 1 on ISDN port basis.
Selection	<ul style="list-style-type: none"> • Port number: KX-TD816 – 01 through 04, * (*=all ports) KX-TD1232 – 01 through 12, * (*=all ports) • Permanent / Call
Default	All ports – Permanent
Programming	<ol style="list-style-type: none"> 1. Enter 423. Display: L1 Active Mode 2. Press NEXT. Display: Port NO?-> 3. Enter a port number. To enter a first port, you can also press NEXT. Display example: #03:Permanent 4. Keep pressing SELECT until the desired selection is displayed. 5. Press STORE. 6. To program another port, press NEXT or PREV, or SELECT and the desired port number. 7. Repeat steps 4 through 6. 8. Press END.
Conditions	<ul style="list-style-type: none"> • Port numbers 01 through 06 are for the Master System and 07 through 12 are for the Slave, if available. • To assign all ports to one selection, press the * key in step 3. In this case, the display shows the contents programmed for a first port. • After this assignment, you should reset the system so that this assignment is effective.
Feature References	Section 3, Features, ISDN Extension

ISDN Configuration

Description	Assigns the configuration on ISDN port basis.
Selection	<ul style="list-style-type: none">• Port number: KX-TD816 – 01 through 04, * (* =all ports) KX-TD1232 – 01 through 12, * (* =all ports)• Point (point to point) / Multipoint (point to multipoint)
Default	All ports – Point
Programming	<ol style="list-style-type: none">1. Enter 424. Display: Access Mode2. Press NEXT. Display: Port NO?->3. Enter a port number. To enter a first port number, you can also press NEXT. Display example: #03:Point4. Keep pressing SELECT until the desired selection is displayed.5. Press STORE.6. To program another port, press NEXT or PREV, or SELECT and the desired port number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• Port numbers 01 through 06 are for the Master System and 07 through 12 are for the Slave, if available.• If one equipment is connected to the ISDN port, select “Point.” If multiple equipment are connected, select “Multipoint.”• To assign all ports to one selection, press the * key in step 3. In this case, the display shows the contents programmed for a first port.• After this assignment, you should reset the system so that this assignment is effective.
Feature References	Section 3, Features, ISDN Extension

ISDN Data Link Mode

Description	Assigns the data link mode on ISDN port basis.
Selection	<ul style="list-style-type: none"> • Port number: KX-TD816 – 01 through 04, * (*=all ports) KX-TD1232 – 01 through 12, * (*=all ports) • Permanent / Call
Default	All ports – Permanent
Programming	<ol style="list-style-type: none"> 1. Enter 425. Display: Data Link Mode 2. Press NEXT. Display: Port NO?-> 3. Enter a port number. To enter a first port number, you can also press NEXT. Display example: #03:Permanent 4. Keep pressing SELECT until the desired selection is displayed. 5. Press STORE. 6. To program another port number, press NEXT or PREV, or SELECT and the desired port number. 7. Repeat steps 4 through 6. 8. Press END.
Conditions	<ul style="list-style-type: none"> • Port numbers 01 through 06 are for the Master System and 07 through 12 are for the Slave, if available. • To assign all ports to one selection, press the * key in step 3. In this case, the display shows the contents programmed for a first port. • After this assignment, you should reset the system so that this assignment is effective.
Feature References	Section 3, Features, ISDN Extension

ISDN TEI Mode

Description	Assigns the Terminal Endpoint Identifier (TEI) mode on ISDN port basis.
Selection	<ul style="list-style-type: none"> • Port number: KX-TD816 – 01 through 04, * (*=all ports) KX-TD1232 – 01 through 12, * (*=all ports) • Fix 0 through 63 / Automatic
Default	All ports – Fix 0
Programming	<ol style="list-style-type: none"> 1. Enter 426. Display: TEI Assign 2. Press NEXT. Display: Port NO?-> 3. Enter a port number. To enter a Port 01, you can also press NEXT. Display example: #01:Fix 0 4. Enter TEI. To change the current entry, press CLEAR and the new number. To assign “Automatic,” press CLEAR. 5. Press STORE. 6. To program another port, press NEXT or PREV, or SELECT and the desired port number. 7. Repeat steps 4 through 6. 8. Press END.
Conditions	<ul style="list-style-type: none"> • Port numbers 01 through 06 are for the Master System and 07 through 12 are for the Slave, if available. • If the “Point” is selected in program [424], assign the fixed TEI. If “Multipoint” is selected, assign “Automatic.” • To assign all ports to one selection, press the * key at step 3. In this case, the display shows the contents programmed for Port 01. • After this assignment, you should reset the system so that this assignment is effective.
Feature References	Section 3, Features, ISDN Extension

ISDN Extension Multiple Subscriber Number

Description	Selects whether the Multiple Subscriber Number is allocated to each terminal equipment on ISDN S0 bus or not on ISDN port basis.
Selection	<ul style="list-style-type: none"> • Port number: KX-TD816 – 01 through 04, * (*=all ports) KX-TD1232 – 03 through 06, 09 through 12, * (*=all ports) • Enable / Disable (no number)
Default	All ports – Disable
Programming	<ol style="list-style-type: none"> 1. Enter 427. Display: MSN Service 2. Press NEXT. Display: Port NO?-> 3. Enter a port number. To enter a first port number, you can also press NEXT. Display example: #03:Disable 4. Keep pressing SELECT until the desired selection is displayed. 5. Press STORE. 6. To program another port, press NEXT or PREV, or SELECT and the desired port number. 7. Repeat steps 4 through 6. 8. Press END.
Conditions	<ul style="list-style-type: none"> • Port numbers 03 through 06 are for the Master System and 09 through 12 are for the Slave, if available. • To assign all ports to one selection, press the * key at step 3. In this case, the display shows the contents programmed for a first port. • After this assignment, you should reset the system so that this assignment is effective.
Feature References	Section 3, Features, ISDN Extension

ISDN Extension Progress Tone

Description	Enables or disables to send the progress tone to ISDN extension on ISDN port basis.
Selection	<ul style="list-style-type: none">• Port number: KX-TD816 – 01 through 04, * (*=all ports) KX-TD1232 – 03 through 06, 09 through 12, * (*=all ports)• Enable / Disable (no tone)
Default	All ports – Disable
Programming	<ol style="list-style-type: none">1. Enter 428. Display: ISDN EXT Tone2. Press NEXT. Display: Port NO?→3. Enter a port number. To enter a first port number, you can also press NEXT. Display example: #03:Disable4. Keep pressing SELECT until the desired selection is displayed.5. Press STORE.6. To program another port, press NEXT or PREV, or SELECT and the desired port number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• Port numbers 03 through 06 are for the Master System and 09 through 12 are for the Slave, if available.• To assign all ports to one selection, press the * key at step 3. In this case, the display shows the contents programmed for a first port.
Feature References	Section 3, Features, ISDN Extension

Multiple Subscriber Number Set

Description	Assigns a maximum of ten multiple subscriber numbers (MSN) on an ISDN S0 port basis.
Selection	<ul style="list-style-type: none">• Port number: KX-TD816 – 01 through 04 KX-TD1232 – 01 through 12• Location number: 01 through 10• MSN: 16 digits (max.)
Default	All ports – All locations – Not Stored
Programming	<ol style="list-style-type: none">1. Enter 437. Display: MSN Assign2. Press NEXT. Display: Port NO?→3. Enter a port number. To enter port number 01, you can also press NEXT.4. Press NEXT or PREV until the desired location number is displayed. Display example: <u>01</u>:<u>01</u>: Not Stored5. Enter a MSN. To change the current entry, press CLEAR and enter the new number.6. Press STORE.7. To program another location, press NEXT or PREV.8. Repeat steps 5 and 6.9. To program another port, press SELECT and the desired port number.10. Repeat steps 4 through 8.11. Press END.
Conditions	<ul style="list-style-type: none">• Each MSN consists of 0 through 9.• For the KX-TD1232, port numbers 01 through 06 are for the Master System and 07 through 12 are for the Slave, if available.
Feature References	Section 3, Features, Integrated Services Digital Network (ISDN)

4.6 CO Line Programming 438-439

Extension Ringing Assignment — Day / Night for ISDN MSN

Description	Determines the extension which receives a call on a multiple subscriber number (MSN) basis of the ISDN S0 port in both day and night modes.
Selection	<ul style="list-style-type: none">• Port number: KX-TD816 – 01 through 04 KX-TD1232 – 01 through 12• Location number: 01 through 10• Extension number: 2 through 4 digits
Default	All ports – All locations – Disable — Day / Night
Programming	<ol style="list-style-type: none">1. Enter a program address (438 for day or 439 for night). Display example: MSN Ring Day2. Press NEXT. Display: Port NO?→3. Enter a port number. To enter port number 01, you can also press NEXT.4. Press NEXT or PREV until the desired location number is displayed. Display example: <u>01</u>:<u>01</u>: Disable5. Enter an extension number. To change the current entry, press CLEAR and enter the new number.6. Press STORE.7. To program another location, press NEXT or PREV.8. Repeat steps 5 and 6.9. To program another port, press SELECT and the desired port number.10. Repeat steps 4 through 8.11. Press END.

Extension Ringing Assignment — Day / Night for ISDN MSN (contd.)

Conditions

- For the KX-TD1232, port numbers 01 through 06 are for the Master System and 07 through 12 are for the Slave, if available.
- When “Enable” is chosen in the programs [420] “Direct Dialling In – Day,” or [429] “Direct Dialling In – Night,” this program becomes effective.
- Each extension number consists of **0 through 9**. The * and # keys cannot be used.
- You can set the extension numbers in programs [003] “Extension Number Set,” [127] “Voice Mail Extension Number Assignment,” [130] “Phantom Extension Number” and also floating numbers of the hunting groups, and pagers in program [813] “Floating Number Assignment.”
- To assign the operator, enter “0” in step 5.
- When “Multipoint” is assigned in the program [424] “ISDN Configuration,” an incoming outside call is received by the multiple subscriber. When “Point” is assigned, the call reaches to the extension with DDI contract.

Feature References

Section 3, Features,
Integrated Services Digital Network (ISDN)
Night Service

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Toll Restriction Level — Day / Night

Description	Each extension must be assigned a Class of Service (COS). These programs set the toll restriction value for each COS in day or night mode.
Selection	<ul style="list-style-type: none"> • COS number: 1 through 8, * (* =all COS) • Level number: 1 through 8
Default	All COS – Level 1 — Day / Night
Programming	<ol style="list-style-type: none"> 1. Enter a program address (500 for day or 501 for night). Display example: TRS Level Day 2. Press NEXT. Display: COS NO?-> 3. Enter a COS number. To enter COS number 1, you can also press NEXT. Display example: COS1:1 4. Enter a level number. To change the current entry, press CLEAR and the new number. 5. Press STORE. 6. To program another COS, press NEXT or PREV, or SELECT and the desired COS number. 7. Repeat steps 4 through 6. 8. Press END.
Conditions	<ul style="list-style-type: none"> • To assign all COS to one selection, press the * key at step 3. In this case, the display shows the contents programmed for COS 1. • Program [601] “Class of Service” is used to assign a Class of Service to each extension.
Feature References	<p>Section 3, Features, Night Service</p> <p style="text-align: right;">Toll Restriction</p>

Extension-to-CO Line Call Duration Limit

Description	This program allows you to restrict the duration of outside calls on a Class of Service (COS) basis.
Selection	<ul style="list-style-type: none"> • COS number: 1 through 8, * (* =all COS) • Disable (no limit) / Enable (limit)
Default	All COS – Disable
Programming	<ol style="list-style-type: none"> 1. Enter 502. Display: CO Durat. Limit 2. Press NEXT. Display: COS NO?-> 3. Enter a COS number. To enter COS number 1, you can also press NEXT. Display example: COS1:Disable 4. Keep pressing SELECT until the desired selection is displayed. 5. Press STORE. 6. To program another COS, press NEXT or PREV, or SELECT and the desired COS number. 7. Repeat steps 4 through 6. 8. Press END.
Conditions	<ul style="list-style-type: none"> • An outside call originated or answered by the programmed extension user is disconnected when the time specified in program [205] “Extension-to-CO Line Call Duration Time” expires. • Extensions in the limited classes cannot establish a CO-to-CO call, that is, cannot transfer / forward an outside call to another CO line. • To assign all COS to one selection, press the * key at step 3. In this case, the display shows the contents programmed for COS 1. • Program [601] “Class of Service” is used to assign a Class of Service to each extension. • Program [990] “System Additional Information, Field (12)” is used to program Limited Call Duration to be done for outgoing calls only.
Feature References	<p>Section 3, Features,</p> <p>Call Forwarding – to CO Line Limited Call Duration</p> <p>Call Transfer, Screened – to CO Line</p>

Call Transfer to CO Line

Description	This program determines which Classes of Services (COS) are allowed to perform the Call Transfer to CO Line function.
Selection	<ul style="list-style-type: none">• COS number: 1 through 8, * (* =all COS)• Enable / Disable
Default	All COS – Enable
Programming	<ol style="list-style-type: none">1. Enter 503. Display: Transfer to CO2. Press NEXT. Display: COS NO?->3. Enter a COS number. To enter COS number 1, you can also press NEXT. Display example: COS1:Enable4. Keep pressing SELECT until the desired selection is displayed.5. Press STORE.6. To program another COS, press NEXT or PREV, or SELECT and the desired COS number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• To assign all COS to one selection, press the * key at step 3. In this case, the display shows the contents programmed for COS 1.• Program [601] “Class of Service” is used to assign a Class of Service to each extension.
Feature References	Section 3, Features , Call Transfer, Screened – to CO Line

Call Forwarding to CO Line

Description	This program determines which Classes of Services (COS) are allowed to perform the Call Forwarding to CO Line function.
Selection	<ul style="list-style-type: none">• COS number: 1 through 8, * (* =all COS)• Disable / Enable
Default	All COS – Disable
Programming	<ol style="list-style-type: none">1. Enter 504. Display: Call FWD to CO2. Press NEXT. Display: COS NO?->3. Enter a COS number. To enter COS number 1, you can also press NEXT. Display example: COS1:Disable4. Keep pressing SELECT until the desired selection is displayed.5. Press STORE.6. To program another COS, press NEXT or PREV, or SELECT and the desired COS number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• To assign all COS to one selection, press the * key at step 3. In this case, the display shows the contents programmed for COS 1.• Program [601] “Class of Service” is used to assign a Class of Service to each extension.
Feature References	Section 3, Features , Call Forwarding – to CO Line

Do Not Disturb Override

Description	This program determines which Classes of Services (COS) are allowed to perform Do Not Disturb (DND) Override.
Selection	<ul style="list-style-type: none">• COS number: 1 through 8, * (* =all COS)• Disable / Enable
Default	All COS – Disable
Programming	<ol style="list-style-type: none">1. Enter 507. Display: DND Override2. Press NEXT. Display: COS NO?->3. Enter a COS number. To enter COS number 1, you can also press NEXT. Display example: COS1:Disable4. Keep pressing SELECT until the desired selection is displayed.5. Press STORE.6. To program another COS, press NEXT or PREV, or SELECT and the desired COS number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• To assign all COS to one selection, press the * key at step 3. In this case, the display shows the contents programmed for COS 1.• Program [601] “Class of Service” is used to assign a Class of Service to each extension.
Feature References	Section 3, Features , Do Not Disturb (DND) Override

Account Code Entry Mode

Description	There are three account code modes: Option, Verified-All Calls and Verified-Toll Restriction Override. This program determines the mode to be used by each Class of Service (COS). Option mode: The user can enter any account code, if needed. Verified – All Calls mode: The user must always enter a pre-assigned account code to make a CO call. Verified – Toll Restriction Override mode: The user must enter a pre-assigned account code when the user needs to override toll restriction.
Selection	<ul style="list-style-type: none"> • COS number: 1 through 8, * (* =all COS) • Option / Verify – All (Verified-All Calls) / Verify – Toll (Verified-Toll Restriction Override)
Default	All COS – Option
Programming	<ol style="list-style-type: none"> 1. Enter 508. Display: Call Accounting 2. Press NEXT. Display: COS NO?-> 3. Enter a COS number. To enter COS number 1, you can also press NEXT. Display example: COS1:Option 4. Keep pressing SELECT until the desired selection is displayed. 5. Press STORE. 6. To program another COS, press NEXT or PREV, or SELECT and the desired COS number. 7. Repeat steps 4 through 6. 8. Press END.
Conditions	<ul style="list-style-type: none"> • To assign all COS to one selection, press the * key at step 3. In this case, the display shows the contents programmed for COS 1. • Station programming is used to define the Account Codes for the Verified modes. • Program [601] “Class of Service” is used to assign a Class of Service to each extension.
Feature References	Section 3, Features, Account Code Entry Toll Restriction Override by Account Code Entry

Toll Restriction Level for System Speed Dialling – Day/Night

Description	These programs set the toll restriction value used in System Speed Dialling for each Class of Service (COS) in day or night mode. When the user makes a call with System Speed Dialling, the system will check the phone number with this level.
Selection	<ul style="list-style-type: none">• COS number: 1 through 8, * (* =all COS)• Level number: 1 through 8
Default	All COS – Level 1 – Day / Night
Programming	<ol style="list-style-type: none">1. Enter a program address (509 for day or 510 for night). Display: SPD TRS LVL Day2. Press NEXT. Display: COS NO?->3. Enter a COS number. To enter COS number 1, you can also press NEXT. Display example: COS1:14. Enter a level number. To change the current entry, press CLEAR and the new number.5. Press STORE.6. To program another COS, press NEXT or PREV, or SELECT and the desired COS number.7. Repeat steps 4 through 6.8. Press END.
Conditions	To assign all COS to one selection, press the * key at step 3. In this case, the display shows the contents programmed for COS 1.
Feature References	Section 3, Features, Toll Restriction for System Speed Dialling

Door Opener Access

Description	Enables or disables to unlock the door opener by feature number on a Class of Service (COS) basis.
Selection	<ul style="list-style-type: none">• COS number: 1 through 8, * (* =all COS)• Enable / Disable
Default	All COS – Enable
Programming	<ol style="list-style-type: none">1. Enter 511. Display: Door Opener2. Press NEXT. Display: COS NO?->3. Enter a COS number. To enter COS number 1, you can also press NEXT. Display example: COS1: Enable4. Keep pressing SELECT until the desired selection is displayed.5. Press STORE.6. To program another COS, press NEXT or PREV, or SELECT and the desired COS number.7. Repeat steps 4 through 6.8. Press END.
Conditions	To assign all COS to one selection, press the * key at step 3. In this case, the display shows the contents programmed for COS 1.
Feature References	Section 3, Features, Door Opener

Night Service Access

Description	Enables or disables the ability to switch the Day/Night service on a Class of Service (COS) basis.
Selection	<ul style="list-style-type: none">• COS number: 1 through 8, * (* =all COS)• Enable / Disable
Default	All COS – Enable
Programming	<ol style="list-style-type: none">1. Enter 513. Display: Night Service2. Press NEXT. Display: COS NO?->3. Enter a COS number. To enter COS number 1, you can also press NEXT. Display example: COS1: Enable4. Keep pressing SELECT until the desired selection is displayed.5. Press STORE.6. To program another COS, press NEXT or PREV, or SELECT and the desired COS number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• To assign all COS to one selection, press the * key at step 3. In this case, the display shows the contents programmed for COS 1.• The operator extension can switch the mode regardless of setting.
Feature References	Section 3, Features, Night Service

Do Not Disturb for Direct Dialling In Call

Description	Enables or disables the ability to reject Direct Dialling In call on a Class of Service (COS) basis.
Selection	<ul style="list-style-type: none">• COS number: 1 through 8, * (* =all COS)• Enable / Disable
Default	All COS – Disable
Programming	<ol style="list-style-type: none">1. Enter 514. Display: DND for DDI2. Press NEXT. Display: COS NO?->3. Enter a COS number. To enter COS number 1, you can also press NEXT. Display example: COS1: Disable4. Keep pressing SELECT until the desired selection is displayed.5. Press STORE.6. To program another COS, press NEXT or PREV, or SELECT and the desired COS number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• To assign all COS to one selection, press the * key at step 3. In this case, the display shows the contents programmed for COS 1.• The operator extension cannot reject the call regardless of setting.
Feature References	Section 3, Features, Do Not Disturb for Direct Dialling In Call

Calling Line Identification Restriction

Description	Enables or disables the Calling Line Identification Restriction (CLIR) Service on a Class of Service (COS) basis.
Selection	<ul style="list-style-type: none">• COS number: 1 through 8, * (* =all COS)• Enable / Disable
Default	All COS – Disable
Programming	<ol style="list-style-type: none">1. Enter 516. Display: CLIR2. Press NEXT. Display: COS NO?->3. Enter a COS number. To enter COS number 1, you can also press NEXT. Display example: COS1-Disable4. Keep pressing SELECT until the desired selection is displayed.5. Press STORE.6. To program another COS, press NEXT or PREV, or SELECT and the desired COS number.7. Repeat steps 4 through 6.8. Press END.
Conditions	To assign all COS to one selection, press the * key at step 3. In this case, the display shows the contents programmed for COS 1.
Feature References	Section 3, Features, Calling Line Identification Restriction (CLIR)

Connected Line Identification Restriction

Description	Enables or disables the Connected Line Identification Restriction (COLR) Service.
Selection	<ul style="list-style-type: none">• COS number: 1 through 8, * (* =all COS)• Enable / Disable
Default	All COS – Disable
Programming	<ol style="list-style-type: none">1. Enter 517. Display: COLR2. Press NEXT. Display: COS NO?→3. Enter a COS number. To enter COS number 1, you can also press NEXT. Display example: COS1: Disable4. Keep pressing SELECT until the desired selection is displayed.5. Press STORE.6. To program another COS, press NEXT or PREV, or SELECT and the desired COS number.7. Repeat steps 4 through 6.8. Press END.
Conditions	To assign all COS to one selection, press the * key at step 3. In this case, the display shows the contents programmed for COS 1.
Feature References	Section 3, Features, Connected Line Identification Restriction (COLR)

CFU / CFB / CFNR Assignment

Description	This program determines which Class of Service (COS) can perform CFU, CFB and CFNR features.
Selection	<ul style="list-style-type: none">• COS number: 1 through 8, * (* =all COS)• Enable / Disable
Default	All COS – Disable
Programming	<ol style="list-style-type: none">1. Enter 518. Display: CFU/CFB/CFNR2. Press NEXT. Display : COS NO?→3. Enter a COS number. To enter COS number 1, you can also press NEXT. Display example: COS1:Disable4. Keep pressing SELECT until the desired selection is displayed.5. Press STORE.6. To program another COS, press NEXT or PREV, or SELECT and the desired COS number.7. Repeat steps 4 through 6.8. Press END.
Conditions	To assign all COS to one selection, press the * key in step 3. In this case, the display will show the contents programmed for COS 1.
Feature References	Section 3, Features, Call Forwarding — by ISDN Line

Off-Hook Call Announcement (OHCA)

Description	Enables or disables to perform the Off-Hook Call Announcement (OHCA) and Whisper OHCA on a Class of Service (COS) basis.
Selection	<ul style="list-style-type: none">• COS number: 1 through 8, * (*=all COS)• Enable / Disable
Default	All COS – Enable
Programming	<ol style="list-style-type: none">1. Enter 519. Display: OHCA2. Press NEXT. Display: COS NO?→3. Enter a COS number. To enter COS number 1, you can also press NEXT. Display example: COS1:Enable4. Keep pressing SELECT until the desired selection is displayed.5. Press STORE.6. To program another COS, press NEXT or PREV, or SELECT and the desired COS number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• To assign all COS to one selection, press the * key in step 3. In this case, the display shows the contents programmed for COS 1.• Program [601] “Class of Service” is used to assign a Class of Service to each extension.• Program [613] “ISDN Class of Service” is used to assign a Class of Service to each ISDN extension.
Feature References	Section 3, Features , Off-hook Call Announcement (OHCA) Whisper OHCA

EXtra Device Port

Description	EXtra Device Port (XDP) allows a single line telephone (SLT) to be connected to the same jack as a digital proprietary telephone (DPT). This program assigns which jacks are XDP. The SLT and DPT of the programmed jack work as independent extensions.
Selection	<ul style="list-style-type: none"> • Jack number: KX-TD816 – 01 through 16, * (* =all jacks) KX-TD1232 – 01 through 64, * (* =all jacks) • Disable / Enable
Default	All jacks – Disable
Programming	<ol style="list-style-type: none"> 1. Enter 600. Display: XDP Assign 2. Press NEXT. Display: Jack NO?→ 3. Enter a jack number. To enter jack number 01, you can also press NEXT. Display example: #01:Disable 4. Keep pressing SELECT until the desired selection is displayed. 5. Press STORE. 6. To program another jack, press NEXT or PREV, or SELECT and the desired jack number. 7. Repeat steps 4 through 6. 8. Press END.
Conditions	<ul style="list-style-type: none"> • In the case of KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available. • To assign all jacks to one selection, press the * key at step 3. In this case, the display shows the contents programmed for Jack 01. • Immediately after changing your assignment, changed setting may not work for a maximum of eight seconds.
Feature References	Section 3, Features , EXtra Device Port (XDP)

Class of Service

Description	Programs each extension for a Class of Service (COS). The COS determines the call handling abilities of each extension. A primary and a secondary COS numbers can be assigned per extension.
Selection	<ul style="list-style-type: none"> • Jack number: KX-TD816 – 01 through 16, * (-1 / -2), KX-TD1232 – 01 through 64, * (-1 / -2), (* =all jacks, -1 = first part, -2 = second part) • COS number: 1 through 8
Default	All jacks-1/2 – COS 1, COS 1
Programming	<ol style="list-style-type: none"> 1. Enter 601. Display: COS Assign 2. Press NEXT. Display: Jack NO?-> 3. Enter a jack number. To enter jack number 01, you can also press NEXT. To select the second part (-2), press NEXT after entering a jack number. Display example: #01-1: COS1, COS1 4. Enter a COS number for primary number. To change the current entry, enter the new number. 5. Press ➡ . 6. Enter a COS number for secondary number. To change the current entry, enter the new number. 7. Press STORE. 8. To program another jack, press NEXT or PREV, or SELECT and the desired jack number. 9. Repeat steps 4 through 8. 10. Press END.
Conditions	<ul style="list-style-type: none"> • There is a maximum of eight Classes of Services. Every extension must be assigned to a Class of Service and is subject to the COS Programming of programs [500] through [519] and [991]. The restriction of program [991], field (1), applies only for analogue outside lines. • In the case of KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available. Jack numbers in the out-of-service system are unacceptable. • For an explanation of jack numbering, see “Rotation of jack number” on page 4-7. • To assign all jacks to one COS, press the * key in step 3. In this case, the display shows the contents programmed for Jack 01.
Feature References	Section 3, Features, Class of Service (COS)

4.8 Extension Programming **603-604**

DIL 1:N Extension and Delayed Ringing — Day / Night

Description

A DIL 1:N line can be assigned to ring more than one extension. All incoming calls from the programmed CO lines are directed to the specified extensions. These programs assign the extensions and the notification method for each CO line in both day and night modes.

Selection

- Jack number: **KX-TD816 – 01 through 16, * (-1 / -2),**
KX-TD1232 – 01 through 64, * (-1 / -2),
(* =all jacks, -1 = first part, -2 = second part)
- CO line number:
KX-TD816 – 01 through 08, * (* =all CO lines)
KX-TD1232 – 01 through 24, * (* =all CO lines)
- **Disab** (disable) / **Immdt** (immediate ringing) / **2RNG** (2 ring delay) / **4RNG** (4 ring delay) / **6RNG** (6 ring delay) / **8RNG** (8 ring delay) / **No RNG** (no ring)

Default

All jacks-1/2 – all CO lines – Immediate ringing — Day / Night

Programming

1. Enter a **program address (603 for day or 604 for night)**.
Display example: DIL 1:N Asn Day
2. Press **NEXT**.
Display: Jack NO?->
3. Enter a **jack number**.
To enter jack number 01, you can also press **NEXT**.
To select the second part (-2), press **NEXT** after entering a jack number.
Display example: #01-1:CO01:Immdt
4. Enter the **CO line number**.
You can also keep pressing **➡** or **⬅** until the desired CO line number is displayed.
5. Keep pressing **SELECT** until the desired selection is displayed.
6. Press **STORE**.
7. To program another jack, press **NEXT** or **PREV**, or **SELECT** and the desired **jack number**.

603-604 4.8 Extension Programming

DIL 1:N Extension and Delayed Ringing — Day / Night (contd.)

8. Repeat steps 4 through 7.
9. Press **END**.

Conditions

- An extension can be assigned as the destination of as many CO lines as is required.
- In the case of KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available. Jack numbers in the out-of-service system are unacceptable.
- For an explanation of jack numbering, see “Rotation of jack number” on page 4-7.
- To assign all jacks or all CO lines to one selection, press the * key at step 3 or step 4. In these cases, the display shows the contents programmed for Jack 01 or for CO01.
- There are six notification methods:
 - (1) Immediate ringing: rings immediately
 - (2) 2 ring delay
 - (3) 4 ring delay
 - (4) 6 ring delay
 - (5) 8 ring delay
 - (6) No ring: only the indicator flashes
 - (7) Disable: no incoming call
- When you change the jack number by pressing **NEXT** or **PREV**, the CO line number is not changed. Example #03-1:CO06.....Press **NEXT**.....#03-2:CO06

Feature References

Section 3, Features,
Direct In Lines (DIL) Ringing, Delayed
Night Service

4.8 Extension Programming **605-606**

Outgoing Permitted CO Line Assignment — Day / Night

Description	Determines the CO lines which can be accessed by an extension in both day and night modes. The extension users can make outgoing CO calls using the assigned CO lines.
Selection	<ul style="list-style-type: none">• Jack number: KX-TD816 – 01 through 16, * (-1 / -2), KX-TD1232 – 01 through 64, * (-1 / -2), (* =all jacks, -1 = first part, -2 = second part)• CO line number: KX-TD816 – 01 through 08, * (* =all CO lines) KX-TD1232 – 01 through 24, * (* =all CO lines)• Enabl (enable) / Disab (disable)
Default	All jacks-1/2 – all CO lines – Enable — Day / Night
Programming	<ol style="list-style-type: none">1. Enter a program address (605 for day or 606 for night). Display example: CO Out Day2. Press NEXT. Display: Jack NO?->3. Enter a jack number. To enter jack number 01, you can also press NEXT. To select the second part (-2), press NEXT after entering a jack number. Display example: #01-1:CO01:Enabl4. Enter the desired CO line number, or keep pressing ➡ or ⬅ until the desired CO line is displayed. To change the current entry, enter the new number.5. Keep pressing SELECT until the desired selection is displayed.6. Press STORE.7. To program another jack, press NEXT or PREV, or SELECT and the desired jack number.8. Repeat steps 4 through 7.9. Press END.

605-606 4.8 Extension Programming

Outgoing Permitted CO Line Assignment — Day / Night (contd.)

Conditions

- In the case of KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available. Jack numbers in the out-of-service system are unacceptable.
- For an explanation of jack numbering, see “Rotation of jack number” on page 4-7.
- To assign all jacks or all CO lines to one selection, press the * key at step 3 or 4. In these cases, the display shows the contents programmed for Jack 01 or CO01.
- To assign no CO line group for a station, press **CLEAR** at step 4.

Feature References

Section 3, Features,
CO Line Connection Assignment – Outgoing
Night Service

4.8 Extension Programming **607-608**

Doorphone Ringing Assignment — Day / Night

Description	These programs assign the extensions which will ring when a doorphone call is received during the day and night modes. Programmed extensions are also allowed to open the door.
Selection	<ul style="list-style-type: none">• Jack number: KX-TD816 – 01 through 16, * (-1 / -2), KX-TD1232 – 01 through 64, * (-1 / -2), (* =all jacks, -1 = first part, -2 = second part)• Doorphone number: KX-TD816 – 1 and 2, two entries (max.) KX-TD1232 – 1 through 4, four entries (max.)
Default	Jack 01-1– All doorphones; Other jacks – no doorphone — Day / Night
Programming	<ol style="list-style-type: none">1. Enter a program address (607 for day or 608 for night). Display example: Doorphone in Day2. Press NEXT. Display: Jack NO?->3. Enter a jack number. To enter jack number 01, you can also press NEXT. To select the second part (-2), press NEXT after entering a jack number. Display example: #01-1:12344. Enter the doorphone numbers. To assign no doorphone, press CLEAR. To change the current entry, press CLEAR and the new doorphone numbers.5. Press STORE.6. To program another jack, press NEXT or PREV, or SELECT and the desired jack number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• In the case of KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available.

607-608 4.8 Extension Programming

Doorphone Ringing Assignment — Day / Night (contd.)

- For an explanation of jack numbering, see “Rotation of jack number” on page 4-7.
- To assign all jacks to one selection, press the * key at step 3. In this case, the display shows the contents programmed for Jack 01.
- Two doorphones can be installed in each system. In the case of KX-TD1232, doorphones 1 and 2 are installed in the Master System, 3 and 4 in the Slave, if available.
- You can enter up to two (for KX-TD816) or four (for KX-TD1232) doorphone numbers for each extension.

Feature References

Section 3, Features,

Door Opener

Night Service

Doorphone Call

Voice Mail Access Codes

Description	Assigns a mailbox number for each extension, only if program [990] “System Additional Information, Field (18)” is set to “free.”
Selection	<ul style="list-style-type: none">• Jack number: KX-TD816 – 01 through 16, (-1 / -2), KX-TD1232 – 01 through 64, (-1 / -2), (-1 = first part, -2 = second part)• Mailbox number: 16 digits (max.)
Default	All jacks – Not stored
Programming	<ol style="list-style-type: none">1. Enter 609. Display: Mailbox ID Code2. Press NEXT. Display: Jack NO?->3. Enter a jack number. To enter jack number 01, you can also press NEXT. To select the second part (-2), press NEXT after entering a jack number. Display example: #01-1:Not Stored4. Enter a mailbox number. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and the new number.5. Press STORE.6. To program another jack, press NEXT or PREV, or SELECT and the desired jack number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• In the case of KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available. Jack numbers in the out-of-service system are unacceptable.• For an explanation of jack numbering, see “Rotation of jack number” on page 4-7.• The system supports a maximum of eight jacks (16 jacks during System Connection for KX-TD1232) for connection to a Voice Processing System as the Voice Mail or Automated Attendant ports.• Each mailbox number has a maximum of 16 digits, consisting of 0 through 9, *, # and PAUSE.• To display parts of the mailbox number which have scrolled off the display, press ▶ or ◀.
Feature References	Section 3, Features, Voice Mail Integration

Extension Connection Assignment

Description	Assigns whether the extension can perform all accesses or not.
Selection	<ul style="list-style-type: none"> • Jack number: KX-TD816 – 01 through 16, * (-1 / -2), KX-TD1232 – 01 through 64, * (-1 / -2), (* =all jacks, -1 = first part, -2 = second part) • Connect / No Connect
Default	All jacks – Connect
Programming	<ol style="list-style-type: none"> 1. Enter 611. Display: Ext Connection 2. Press NEXT. Display: Jack NO?-> 3. Enter a jack number. To enter jack number 01, you can also press NEXT. To select the second part (-2), press NEXT after entering a jack number. Display example: #01-1: Connect 4. Keep pressing SELECT until the desired selection is displayed. 5. Press STORE. 6. To program another jack, press NEXT or PREV, or SELECT and the desired jack number. 7. Repeat steps 4 through 6. 8. Press END.
Conditions	<ul style="list-style-type: none"> • The extension of the jack number 01 should be set to “Connect.” • In case of the KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available. • For an explanation of jack numbering, see “Rotation of jack number” on page 4-7. • To assign all jacks to one selection, press the * key at step 3. In this case, the display shows the contents programmed for jack 01.
Feature References	Section 3, Features , Extension Connection Assignment

Data Line Security

Description	Sets or cancels the Data Line Security mode on an extension basis.
Selection	<ul style="list-style-type: none">• Jack number: KX-TD816 – 01 through 16, * (-1 / -2), KX-TD1232 – 01 through 64, * (-1 / -2), (* =all jacks, -1 = first part, -2 = second part)• On / Off
Default	All jacks – Off
Programming	<ol style="list-style-type: none">1. Enter 612. Display: Data Mode2. Press NEXT. Display: Jack NO?->3. Enter a jack number. To enter jack number 01, you can also press NEXT. To select the second part (-2), press NEXT after entering a jack number. Display example: #01-1: Off4. Keep pressing SELECT until the desired selection is displayed.5. Press STORE.6. To program another jack, press NEXT or PREV, or SELECT and the desired jack number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• In case of the KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available.• For an explanation of jack numbering, see “Rotation of jack number” on page 4-7.• To assign all jacks to one selection, press the * key at step 3. In this case, the display shows the contents programmed for Jack 01.
Feature References	Section 3, Features, Data Line Security

ISDN Class of Service

Description	<p>Programs each ISDN port for a Class of Service (COS). The COS determines the call handling abilities of each port.</p> <p>A primary and a secondary COS numbers can be assigned per port.</p>
Selection	<ul style="list-style-type: none"> • Port number: KX-TD816 – 01 through 04, * (* =all ports) KX-TD1232 – 03 through 06, 09 through 12, * (* =all ports) • COS number: 1 through 8
Default	All ports – COS 1, COS 1
Programming	<ol style="list-style-type: none"> 1. Enter 613. Display: ISDN COS Assign 2. Press NEXT. Display: Port NO?-> 3. Enter a port number. To enter a first number, you can also press NEXT. Display example: #03: COS1, COS1 4. Enter a COS number for primary number. To change the current entry, enter the new number. 5. Press ➡ . 6. Enter a COS number for secondary number. To change the current entry, enter the new number. 7. Press STORE. 8. To program another port, press NEXT or PREV, or SELECT and the desired port number. 9. Repeat steps 4 through 8. 10. Press END.
Conditions	<ul style="list-style-type: none"> • There is a maximum of eight Classes of Services. Every ISDN extension must be assigned to a Class of Service and is subject to the COS Programming of programs [500] through [519] and [991]. The restriction of program [991], field (1), applies only for analogue outside lines. • Port numbers 03 through 06 are for the Master System and 09 through 12 are for the Slave, if available. • To assign all ports to one selection, press the * key at step 3. In this case, the display shows the contents programmed for a first port.
Feature References	<p>Section 3, Features, Class of Service (COS) ISDN Extension</p>

4.8 Extension Programming 615-616

Outgoing Permitted CO Line Assignment – Day/Night for ISDN Extension

Description	Determines the CO lines which can be accessed by an ISDN extension in both day and night modes. The extension users can make outgoing outside calls using the assigned CO lines.
Selection	<ul style="list-style-type: none">• Port number: KX-TD816 – 01 through 04, * (*=all ports) KX-TD1232 – 03 through 06, 09 through 12, * (*=all ports)• CO line number: KX-TD816 – 01 through 08, * (*=all CO lines) KX-TD1232 – 01 through 24, * (*=all CO lines)• Enabl (enable) / Disab (disable)
Default	All ports – all CO lines – Enabl — Day / Night
Programming	<ol style="list-style-type: none">1. Enter a program address (615 for day or 616 for night). Display example: CO Out (ISDN) Day2. Press NEXT. Display: Port NO?->3. Enter a port number. To enter first port number, you can also press NEXT. Display example: #03:CO01:Enabl4. Enter the desired CO line number, or keep pressing ➡ or ⬅ until the desired CO line is displayed. To change the current entry, enter the new number.5. Keep pressing SELECT until the desired selection is displayed.6. Press STORE.7. To program another jack, press NEXT or PREV, or SELECT and the desired port number.8. Repeat steps 4 through 7.9. Press END.
Conditions	<ul style="list-style-type: none">• Port numbers 03 through 06 are for the Master System and 09 through 12 are for the Slave, if available.

615-616 4.8 Extension Programming

Outgoing Permitted CO Line Assignment – Day/Night for ISDN Extension (contd.)

- To assign all ports to one selection, press the * key at step 3. In this case, the display shows the contents programmed for a first port.
- To assign all CO lines to one selection, press the * key at step 4. In this case, the display shows the contents programmed for CO 01.
- When you change a port number by pressing **NEXT** or **PREV**, the CO line number is not changed.
Example #03:CO02.....Pressing **NEXT**....#04:CO02

Feature References

Section 3, Features,
CO Line Connection Assignment – Outgoing
ISDN Extension
Night Service

Live Call Screening Recording Mode Assignment †

Description	Assigns whether to close the mailbox or to keep recording the conversation after the call is intercepted.
Selection	<ul style="list-style-type: none">• Jack number: KX-TD816 – 01 through 16, * (* =all jacks) KX-TD1232 – 01 through 64, * (* =all jacks)• Stop Record / Keep Record
Default	All jacks – Stop Record
Programming	<ol style="list-style-type: none">1. Enter 617. Display: LCS Rec. Mode2. Press NEXT. Display: Jack NO?→3. Enter a jack number. To enter jack number 01, you can also press NEXT. Display example: #01:Stop Record4. Keep pressing SELECT until the desired selection is displayed.5. Press STORE.6. To program another jack number, press NEXT or PREV, or SELECT and desired jack number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• In case of the KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available.• For an explanation of jack numbering, see “Rotation of jack number” on page 4-7.• To assign all jacks to one selection, press the * key at step 3. In this case, the display shows the contents programmed for jack 01.
Feature References	Section 3, Features, Live Call Screening (LCS) Voice Mail Integration for Proprietary Telephones

†: Available when the Digital Super Hybrid System is connected to a Digital Proprietary Telephone capable Panasonic Voice Processing System (one that supports digital proprietary telephone integration; e.g. KX-TVP100).

ISDN DDI Number / Extension Number Transformation

Description	Used to convert a DDI number to an extension number in order to put an incoming DDI call to a specific extension.
Selection	<ul style="list-style-type: none"> • Jack number: KX-TD816 – 01 through 16, (-1 / -2), KX-TD1232 – 01 through 64, (-1 / -2), (-1 = first part, -2 = second part) • DDI Number: 1 through 6 digits
Default	All jacks – Not stored
Programming	<ol style="list-style-type: none"> 1. Enter 618. Display: DDI NO. Trans 2. Press NEXT. Display: Jack NO?→ 3. Enter a jack number. To enter jack number 01, you can also press NEXT. To select the second part (-2), press NEXT after entering a jack number. Display: #01-1:001 4. Enter a DDI number. To delete the current entry, press CLEAR. 5. Press STORE. 6. To program another jack, press NEXT or PREV, or SELECT and the desired jack number. 7. Repeat steps 4 through 6. 8. Press END.
Conditions	<ul style="list-style-type: none"> • There is a maximum of 128 DDI numbers. Each DDI number can be one through six digits, consisting of 0 through 9. • In the case of KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available. • For an explanation of jack numbering, see “Rotation of jack number” on page 4-7.
Feature References	Section 3, Features, Direct Dialling In (DDI)

ISDN DDI Number / ISDN Extension Number Transformation

Description	Used to convert a DDI number to an ISDN extension number in order to send an incoming DDI call to a specific extension if you do not want to use your ISDN extension number as the DDI number.
Selection	<ul style="list-style-type: none">• Port number: KX-TD816 – 01 through 04 KX-TD1232 – 03 through 06, 09 through 12• DDI Number: 1 through 6 digits / Blank (no number)
Default	All ports – Blank (no number)
Programming	<ol style="list-style-type: none">1. Enter 619. Display: ISDN-EXT DDI2. Press NEXT. Display: Port NO?→3. Enter a port number. To enter port number 01 or 03, you can also press NEXT. Display example: #03:4. Enter a DDI number. To delete the current entry, press CLEAR and enter the new number. To assign no number, press CLEAR.5. Press STORE.6. To program another port, press NEXT or PREV, or SELECT and the desired port number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• There is a maximum of 4 DDI numbers for KX-TD816 and 8 DDI numbers for KX-TD1232. Each DDI number can be one through six digits, consisting of 0 through 9.• For the KX-TD1232, port numbers 03 through 06 are for the Master System and 09 through 12 are for the Slave, if available.• For an explanation of jack numbering, see “Rotation of jack number” on page 4-7.

ISDN DDI Number / ISDN Extension Number Transformation (contd.)

- For CLIP, COLP or DDI features, to convert the incoming number to an extension or a number assigned in this program depends on the program [990] System Additional Information, Field (37).

Feature References

Section 3, Features,
Calling / Connected Line Identification Presentation (CLIP / COLP)
Direct Dialling In (DDI)

4.8 Extension Programming 620-621

Extension Intercept Routing — Day / Night

Description	Sets the Intercept Routing destination of for each jack in both day and night modes.
Selection	<ul style="list-style-type: none">• Jack number: KX-TD816 – 01 through 16, * (-1 / -2) KX-TD1232 – 01 through 64, * (-1 / -2) (* =all jacks, -1 = first part, -2 = second part)• Extension number: 2 through 4 digits / Disable (no Intercept Routing)
Default	All jacks – Disable — Day / Night
Programming	<ol style="list-style-type: none">1. Enter a program address (620 for day or 621 for night). Display example: EXT Intercep Day2. Press NEXT. Display: Jack NO?→3. Enter a jack number. To enter jack number 01, you can also press NEXT. To select the second part (-2), press NEXT after entering the jack number. Display example: #01-1: Disable4. Enter an extension number. To change the current entry, press CLEAR and enter the new number. To disable Intercept Routing, press CLEAR.5. Press STORE.6. To program another jack number, press NEXT or PREV, or SELECT and the desired jack number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• You can set the extension numbers in programs [003] “Extension Number Set,” [127] “Voice Mail Extension Number Assignment,” [130] “Phantom Extension Number” and also floating numbers of the external ringer, hunting groups, and pagers in program [813] “Floating Number Assignment.”• To assign all jacks to one selection, press the * key in step 3. In this case, the display shows the contents programmed for jack 01.• When “Disable” is selected, Intercept Routing is provided according to the assignment in program [409]–[410].
Feature References	Section 3, Features, Intercept Routing

*Incoming Call Display***Description**

Allows you to choose between three display types when an incoming call is received.

“Caller” means the incoming caller’s telephone number and name are displayed. “CO Line” means the CO line number and CO line name assigned in the program [421] are displayed. “DDI” means the called party’s DDI number and extension name are displayed.

Selection

- Jack number: KX-TD816 – **01 through 16, ***
KX-TD1232 – **01 through 64, ***
(* =all jacks)
- Display Types: **Caller / CO Line / DDI**

Default

All jacks – Caller

Programming

1. Enter **622**.
Display: Incoming Display
2. Press **NEXT**.
Display: Jack NO?→
3. Enter a **jack number**.
To enter jack number 01, you can also press **NEXT**.
Display example: #01:Caller
4. Keep pressing **SELECT** until the desired selection is displayed.
5. Press **STORE**.
6. To program another jack, press **NEXT** or **PREV**, or **SELECT** and the desired **jack number**.
7. Repeat steps 4 through 6.
8. Press **END**.

Conditions

- For the KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available.
- To assign all jacks to one selection, press the * key in step 3. In this case, the display shows the contents programmed for jack 01.

Feature References

Section 3, Features,
CO Incoming Call Information Display
Display, Call Information

CLIP / COLP Number Assignment

Description	Selects the type of additional number to the CLIP and COLP information when making and answering a call through an ISDN line. You can select the type from one of the following: DDI: Subscriber number + DDI number None: Subscriber number + Optional number
Selection	<ul style="list-style-type: none">• Jack number: KX-TD816 – 01 through 16, (-1 / -2) KX-TD1232 – 01 through 64, (-1 / -2) (-1 = first part, -2 = second)• Types: DDI / Any number, 1 through 6 digits
Default	All jacks – DDI
Programming	<ol style="list-style-type: none">1. Enter 623. Display: CLIP/COLP NO.2. Press NEXT. Display: Jack NO?→3. Enter a jack number. To enter jack number 01, you can also press NEXT. To select the second part (-2), press NEXT after entering the jack number. Display example: #01-1:DDI4. Press SELECT until the desired selection is displayed and enter the number, if required. To change the current entry, press CLEAR and enter the new number.5. Press STORE.6. To program another jack, press NEXT or PREV, or SELECT and the desired jack number.7. Repeat steps 3 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• For the KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available.
Feature References	Section 3, Features, Calling / Connected Line Identification Presentation (CLIP / COLP)

CLIP / COLP Number for ISDN Extension Assignment

Description	Selects the type of additional number to the CLIP and COLP information when making and answering a call through an ISDN line. You can select the type from one of the following: DDI: Subscriber number + DDI number None: Subscriber number + Optional number
Selection	<ul style="list-style-type: none"> • Port number: KX-TD816 – 01 through 04 KX-TD1232 – 03 through 06, 09 through 12, • Types: DDI / Any number, 1 through 6 digits
Default	All jacks – DDI
Programming	<ol style="list-style-type: none"> 1. Enter 624. Display: ISDN CLIP/COLP 2. Press NEXT. Display: Port NO?→ 3. Enter a port number. To enter port number 01 or 03, you can also press NEXT. Display example: #03:DDI 4. Press SELECT until the desired selection is displayed and enter the number, if required. To change the current entry, press CLEAR and enter the new number. 5. Press STORE. 6. To program another port, press NEXT or PREV, or SELECT and the desired port number. 7. Repeat steps 3 through 6. 8. Press END.
Conditions	<ul style="list-style-type: none"> • For the KX-TD1232, port numbers 03 through 06 are for the Master System and 09 through 12 are for the Slave, if available.
Feature References	Section 3, Features, Calling / Connected Line Identification Presentation (CLIP / COLP)

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LCR Mode

Description	Allows you to turn on or off the Least Cost Routing (LCR) mode. LCR, if enabled, selects the least expensive route to be used for an outside call.
Selection	On / Off
Default	Off
Programming	<ol style="list-style-type: none">1. Enter 7000. Display: LCR Mode2. Press NEXT. Display example: LCR:Off3. Keep pressing SELECT until the desired selection is displayed.4. Press STORE.5. Press END.
Conditions	If “Off” is selected, the Automatic Line Access feature functions in place of LCR.
Feature References	Section 3, Features, Least Cost Routing (LCR) Line Access, Automatic

4.9 LCR Programming

Blank

BTL Access Code

Description	Stores the BTL (British Telecom Line) access code.
Selection	BTL access code: 10 digits (max.)
Default	121
Programming	<ol style="list-style-type: none">1. Enter 7002. Display: BTL Access Code2. Press NEXT. Display: example: 1213. Enter a BTL access code. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and the new code.4. Press STORE.5. Press END.
Conditions	The BTL access code can be a maximum of 10 digits, consisting of 0 through 9 .
Feature References	Section 3, Features, Least Cost Routing (LCR)

Itemized Code Set

Description	Registers an itemized code applied to an extension. The registered code is inserted into the “I” command position stored in program [7X22] “LCR Carrier Modify Command.”
Selection	<ul style="list-style-type: none"> • Jack number: KX-TD816 – 01 through 16 (-1 / -2) KX-TD1232 – 01 through 64 (-1 / -2) (-1 = first part, -2 = second part) • Itemized code: 4 digits (max.)
Default	KX-TD816: Jack 01-1 through 16-1 = 201 through 216; Jack 01-2 through 16-2 = 301 through 316 KX-TD1232: Jack 01-1 through 64-1 = 201 through 264; Jack 01-2 through 64-2 = 301 through 364
Programming	<ol style="list-style-type: none"> 1. Enter 7003. Display: Itemized Code 2. Press NEXT. Display: Jack NO?-> 3. Enter a jack number. To enter jack number 01, you can also press NEXT. To select the second part (-2), press NEXT after entering a jack number. Display example: #01-1: Not Stored 4. Enter an itemized code. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and the new code. 5. Press STORE. 6. To program another jack, press NEXT or PREV, or SELECT and the desired jack number. 7. Repeat steps 4 through 6. 8. Press END.
Conditions	<ul style="list-style-type: none"> • There is a maximum of 32 itemized codes for KX-TD816, and 128 itemized codes for KX-TD1232. Each code has a maximum of 4 digits, consisting of 0 through 9. • In the case of KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available.
Feature References	Section 3, Features, Least Cost Routing (LCR)

Internal ISDN Itemized Code Set

Description	Registers an itemized code applied to an ISDN extension. The registered code is inserted into the “I” command position stored in program [7X22] “LCR Carrier Modify Command.”
Selection	<ul style="list-style-type: none">• Port number: KX-TD816 – 01 through 04 KX-TD1232 – 03 through 06, 09 through 12• Itemized code: 4 digits (max.)
Default	All ports – Not Stored
Programming	<ol style="list-style-type: none">1. Enter 7004. Display: ISDN Itemized CD2. Press NEXT. Display: Port NO?->3. Enter a port number. To enter port number 01, you can also press NEXT. Display example: #03: Not Stored4. Enter an itemized code. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and the new code.5. Press STORE.6. To program another port, press NEXT or PREV, or SELECT and the desired port number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• There is a maximum of 4 itemized codes for KX-TD816, and 12 itemized codes for KX-TD1232. Each code has a maximum of 4 digits, consisting of 0 through 9.• For the KX-TD1232, port numbers 03 through 06 are for the Master System and 09 through 12 are for the Slave, if available.
Feature References	Section 3, Features, Least Cost Routing (LCR)

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LCR Leading Digit Entry for Plans 1 through 8

Description	By entering numbers into each leading digit plan for a maximum of eight carriers, you are starting the process to determine which CO line group will be used to route the call. Eight tables are available per carrier.
Selection	<ul style="list-style-type: none">• Program address: 7X0Y, X: 1-8 (carrier number), Y: 1-8 (table number)• Location number: 01 through 80• Leading digit number: 7 digits (max.)
Default	Carrier 1; Table 1; Location 1 – * * * * All other locations – Not stored
Programming	<ol style="list-style-type: none">1. Enter a program address (7X0Y). Display example: LCR L-Digit C1-12. Press NEXT. Display: Location NO?->3. Enter a location number. To enter location number 01, you can also press NEXT. Display example: 01:Not Stored4. Enter a leading digit number. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and the new number.5. Press STORE.6. To program another location, press NEXT or PREV, or SELECT and the desired location number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• There is a maximum of 80 leading digit numbers for each plan. Each number has a maximum of 7 digits, consisting of 0 through 9, and *. The character “*” can be used as a wild card character.

LCR Leading Digit Entry for Plans 1 through 8 (contd.)

- The same code with different digits may be assigned in this program or in program [7X20] “LCR Exceptional Code Set.” In this case, the code which has smaller digits takes the more expensive route is priority. To prevent this, enter “*” (wild card) after the code with the smaller digits. Examples are shown below:

<Examples>

- (1) The code priority is as follows:

“33” in program [7102] > “333” in program [7101]

In this case, “33*” should be assigned in program [7102].

- (2) The code priority is as follows:

“44” in program [7201] > “444” in program [7101]

In this case, “44*” should be assigned in program [7201].

- (3) The code priority is as follows:

“332” in program [7120] > “3323” in program [7120]

In this case, “332*” should be assigned in program [7120].

Feature References

Section 3, Features,
Least Cost Routing (LCR)

4.9 LCR Programming

7X1Y

LCR Time and Fee Set for Plans 1 through 8

Description

Assigns time schedules and charged fees for a maximum of eight plans of a maximum of eight carriers. It is possible to split a day into four time zones max. so that the least expensive line is selected for that time. According to the service hours and charges offered by your carriers, enter the starting time of each zone.

Selection

- Program address: **7X1Y**, **X=1-8** (carrier number); **Y=1-8** (table number)
- Day of the week selection number: **1 through 7**
 - 1: Sunday
 - 2: Monday
 - 3: Tuesday
 - 4: Wednesday
 - 5: Thursday
 - 6: Friday
 - 7: Saturday
- Time schedule: **1-4**
- Starting time: **01-12** (hours), **00-59** (minutes), **A**(a.m.)/**P**(p.m.)
- Fee: **00-99** (pounds), **00-99** (pence)

Default

Not stored

Programming

1. Enter a **program address (7X1Y)**.
Display: Time & Fee C1-1
2. Press **NEXT**.
Display: Week NO?->
3. Enter a **day of the week selection number**.
To program Monday, you can also press **NEXT**.
Display example: mo1:12:00A:10.10
To program another time schedule of the day, keep pressing **NEXT** or **PREV** until the desired time schedule is displayed.
4. Enter the **starting time** (hours and minutes), moving the cursor with **➡** or **⬅** buttons.
To delete the current entry, press **CLEAR**.
To change the current entry, press **CLEAR** and the new time.
5. Press **➡** to select AM/PM.
6. Press **SELECT** for **AM** or **PM**.

LCR Time and Fee Set for Plans 1 through 8 (contd.)

7. Press **➡** to enter the fee.
8. Enter the fee (pounds and pence), moving the cursor with **➡** and **⬅** buttons.
To delete the current entry, press **CLEAR**.
To change the current entry, press **CLEAR** and the new fee.
9. Press **STORE**.
10. To program another time schedule, press **NEXT** or **PREV**.
11. Repeat steps 4 through 10.
12. Press **END**.

Conditions

The times must be programmed in sequence from Time-1 to Time-4.

Feature References

Section 3, Features,
Least Cost Routing (LCR)

LCR Exceptional Code Set

Description Assigns dialling numbers that are excepted from LCR routing plans of the specified carrier. They are sent out to a CO selected from automatic access CO line groups.

Selection

- Program address: **7X20, X: 1-8** (carrier number)
- Location number: **01 through 80**
- Exceptional code: **7 digits (max.)**

Default All locations – Not stored

Programming

1. Enter a **program address (7X20)**.
Display example: EXCP Digit C1
2. Press **NEXT**.
Display: Location NO?->
3. Enter a **location number**.
To enter location number 01, you can also press **NEXT**.
Display example: 01:Not Stored
4. Enter an **exceptional code**.
To delete the current entry, press **CLEAR**.
To change the current entry, press **CLEAR** and the new code.
5. Press **STORE**.
6. To program another location, press **NEXT** or **PREV**, or **SELECT** and the desired **location number**.
7. Repeat steps 4 through 6.
8. Press **END**.

Conditions

- There is a maximum of 80 exceptional codes for each carrier. Each code has a maximum of 7 digits, consisting of **0 through 9**, and *****. The character “*” can be used as a wild card character.

LCR Exceptional Code Set (contd.)

- The same code with different digits may be assigned in this program or in program [7X0Y] “LCR Leading Digit Entry for Plans 1 through 8.” In this case, the code which has smaller digits takes the more expensive route is priority. To prevent this, enter “*” (wild card) after the code with the smaller digits. Examples are shown below:

<Examples>

- (1) The code priority is as follows:

“33” in program [7102] > “333” in program [7101]

In this case, “33*” should be assigned in program [7102].

- (2) The code priority is as follows:

“44” in program [7201] > “444” in program [7101]

In this case, “44*” should be assigned in program [7201].

- (3) The code priority is as follows:

“332” in program [7120] > “3323” in program [7120]

In this case, “332*” should be assigned in program [7120].

Feature References

Section 3, Features,
Least Cost Routing (LCR)

LCR Carrier Code

Description	Assigns carrier access codes used for LCR feature.
Selection	<ul style="list-style-type: none">• Program address: 7X21, X=1-8 (carrier number)• Carrier code: 10 digits (max.)
Default	Program 7121 (carrier 1) –131; Other programs (carriers 2-8) – Not stored
Programming	<ol style="list-style-type: none">1. Enter a program address (7X21). Display example: Carrier Code C12. Press NEXT. Display example: 1313. Enter the carrier code. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and the new code.4. Press STORE.5. Press END.
Conditions	There is a maximum of 8 carrier codes. Each code has a maximum of 10 digits, consisting of 0 through 9 .
Feature References	Section 3, Features, Least Cost Routing (LCR)

LCR Carrier Modify Command

Description	<p>Assigns modification commands applied to carrier numbers. Dialed numbers are modified according to the programmed commands. Available commands are as follows:</p> <ul style="list-style-type: none"> C : Insert carrier code P : Send pause T : Change to tone (DTMF) mode A : Insert Authorization code I : Insert Itemized code H : Home Position
Selection	<ul style="list-style-type: none"> • Program address: 7X22, X=1-8 (carrier number) • C/P/T/A/I/H, 16 entries (max.)
Default	<p>Program 7122 (carrier 1) – CPTAIH; Other programs (carriers 2-8) – Not stored</p>
Programming	<ol style="list-style-type: none"> 1. Enter a program address (7X22). Display example: Modify Command C1 2. Press NEXT. Display example: CPTAIH 3. Keep pressing SELECT until the desired selection is displayed. 4. To select other commands for the same carrier, press ➡ and press SELECT for the desired command until all the required entries are completed. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and repeat steps 4 and 5. 5. Press STORE. 6. Press END.
Conditions	<p>There is a maximum of 8 carriers, each of which can be given a maximum of 16 commands.</p>
Feature References	<p>Section 3, Features, Least Cost Routing (LCR)</p>

LCR CO Line Group Assignment

Description	Assigns CO line groups that correspond to an LCR carrier.
Selection	<ul style="list-style-type: none">• Program address: 7X23, X=1-8 (carrier number)• CO line group number: 1 through 8, eight entries (max.)
Default	Program 7123 (carrier 1) – 12345678; Other programs (carriers 2-8) – Not stored
Programming	<ol style="list-style-type: none">1. Enter a program address (7X23). Display example: Trunk Group C12. Press NEXT. Display example: 123456783. Enter CO line group numbers in succession. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and the new numbers.4. Press STORE.5. Press END.
Conditions	There is a maximum of 8 carriers, each of which can be given a maximum of 8 CO line groups.
Feature References	Section 3, Features, Least Cost Routing (LCR)

Authorization Code Set

Description	Registers an authorization code applied to a CO line. The registered code is inserted into the “A” command position stored in program [7X22] “LCR Carrier Modify Command.”
Selection	<ul style="list-style-type: none"> • Program address: 7X24, X=1-8 (carrier number) • CO line number: <ul style="list-style-type: none"> KX-TD816 – 01 through 08, * (* =all CO lines) KX-TD1232 – 01 through 24, * (* =all CO lines) • Authorization code: 20 digits (max.)
Default	All programs – Not stored
Programming	<ol style="list-style-type: none"> 1. Enter a program address (7X24). Display example: Authorize Code C1 2. Press NEXT. Display example: CO Line NO?-> 3. Enter CO line number. To enter CO line number 01, you can also press NEXT. Display example: CO01: Not Stored 4. Enter an authorization code. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and the new code. 5. Press STORE. 6. To program another CO line, press NEXT or PREV, or SELECT and the desired CO line number. 7. Repeat steps 4 through 6. 8. Press END.
Conditions	<ul style="list-style-type: none"> • There is a maximum of 8 CO lines for KX-TD816 and 24 CO lines for KX-TD1232, each of which can be given an authorization code. • Each authorization code has a maximum of 20 digits, consisting of 0 through 9 and PAUSE. • To assign one authorization code to all CO lines, press the * key at step 3. In this case, the display shows the contents programmed for CO01. • If the authorization code is already stored, “Already Set” is displayed at step 3. • To display parts of the commands which have scrolled off the display, press ▶ or ◀.
Feature References	Section 3, Features, Least Cost Routing (LCR)

SMDR Incoming / Outgoing Call Log Printout

Description	Used to determine which calls will produce an SMDR printout.
Selection	<ul style="list-style-type: none">• Outgoing calls: All (all calls) / Toll (toll calls only) / Off (no printing)• Incoming calls: On (all calls) / Off (no printing)
Default	All calls – Off
Programming	<ol style="list-style-type: none">1. Enter 800. Display: Duration Log2. Press NEXT to program outgoing calls. Display: Outgoing:Off3. Keep pressing SELECT until the desired selection is displayed.4. Press STORE.5. Press NEXT to program incoming calls. Display: Incoming:Off6. Keep pressing SELECT until the desired selection is displayed.7. Press STORE.8. Press END.
Conditions	<ul style="list-style-type: none">• It is necessary to connect a printer to the EIA (RS-232C) port provided on the system.• After connecting a printer, do not press the RETURN key, if provided on the printer, in 10 seconds. Otherwise, the usage of the EIA port is changed to system programming and printout will not occur.• If “Toll” is selected, the system will print out all the calls starting from the numbers stored in programs [301]–[305] “TRS Denied Code Entry for Levels 2 through 6.”
Feature References	Section 3, Features, Station Message Detail Recording (SMDR)

SMDR Format

Description	Used to match the SMDR output to the paper size being used in the printer. Page length determines the number of lines per page. Skip perforation determines the number of lines to be skipped at the end of every page.
Selection	<ul style="list-style-type: none">• Page length (lines): 4 through 99• Skip perforation (lines): 0 through 95
Default	Page length – 66; Skip perforation – 0
Programming	<ol style="list-style-type: none">1. Enter 801. Display: SMDR Format2. Press NEXT to program page length. Display example: Page Length:663. Enter the page length. To change the current entry, press CLEAR and the new page length.4. Press STORE.5. Press NEXT to program skip perforation. Display example: Skip Perf: 06. Enter the skip perforation. To change the current entry, press CLEAR and the new skip perforation.7. Press STORE.8. Press END.
Conditions	<ul style="list-style-type: none">• The page length should be four lines or more longer than the skip perforation length.• A title is positioned on the first three lines on every page.• The programmed format becomes valid only if the EIA (RS-232C) cable is connected. If a printer is already connected, disconnect it and connect again. Otherwise the former format becomes valid.
Feature References	Section 3, Features, Station Message Detail Recording (SMDR)

System Data Printout

Description	Starts or stops printing of the system data. All the current system-programmed data is printed out.
Selection	Start / Stop
Default	Not applicable.
Programming	<ol style="list-style-type: none">1. Enter 802. Display: System Data Dump2. Press NEXT. Display: Print-Out:Start3. Press STORE to start printing. Printing starts. To stop printing in the middle of printing, press SELECT and go to step 4. When printing is completed, the display shows: Display: Print-Out:Finish4. Press STORE. Display: Print-Out:Stop5. Press END.
Conditions	<ul style="list-style-type: none">• It is necessary to connect a printer to the EIA (RS-232C) port provided on the system.• You may stop printing by pressing the END button, while records are being printed out.• You cannot restart the printout while records are being output.
Feature References	Section 3, Features, Station Message Detail Recording (SMDR)

Music Source Use

Description	Assigns the music source to be used for Music on Hold and Background Music (BGM).
Selection	<ul style="list-style-type: none"> • Hold / BGM • Music source number: KX-TD816 – 1 or 2 / No Use KX-TD1232 – 1 through 4 / No Use
Default	Hold and BGM – Music 1
Programming	<ol style="list-style-type: none"> 1. Enter 803. Display: Music Source Use 2. Press NEXT to program Music on Hold. Display example: Hold:Music1 3. Enter a music source number. To select no music source, press CLEAR. To change the current entry, enter the new music source number. 4. Press STORE. 5. Press NEXT to program BGM. Display example: BGM :Music1 6. Enter a music source number. To select no music source, press CLEAR. To change the current entry, enter the new music source number. 7. Press STORE. 8. Press END.
Conditions	<ul style="list-style-type: none"> • The music source is a user-supplied item. Two music sources can be installed per system. For KX-TD1232, music sources 1 and 2 are connected to the Master System, 3 and 4 are to the Slave, if available. Any music source can be used by either system. • The system is provided with an internal music source. By default setting, external music source is used as Music Source 1. Program [990] “System Additional Information, Field (20)” is used to select internal music source for Music Source 1. • To disable music, press CLEAR at steps 3 and 6. • Program [804] “External Pager BGM” is used to enable / disable BGM for each external pager.
Feature References	<p>Section 3, Features, Background Music (BGM) Music on Hold Background Music (BGM) – External</p>

External Pager BGM

Description	Used to determine whether external pagers will receive Background Music (BGM). BGM –External is turned on and off by the operator.
Selection	<ul style="list-style-type: none">• External pager number: KX-TD816 – 1 or 2 KX-TD1232 – 1 through 4• Disable (sends no BGM) / Enable (sends BGM)
Default	All external pagers – Disable
Programming	<ol style="list-style-type: none">1. Enter 804. Display: Ext-Pag BGM2. Press NEXT. Display: Pager NO?->3. Enter an external pager number. To enter pager number 1, you can also press NEXT. Display example: Pager1:Disable4. Keep pressing SELECT until the desired selection is displayed.5. Press STORE.6. To program another pager, press NEXT or PREV, or SELECT and the desired external pager number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• The external pager is a user-supplied item. Two external pagers can be installed per system. For KX-TD1232, external pagers 1 and 2 are installed in the Master System, 3 and 4 in the Slave, if available.• Program [006] “Operator / Manager Extension Assignment” is used to assign an extension as an operator.• Program [803] “Music Source Use” is used to select the music source to be used for BGM.
Feature References	Section 3, Features, Background Music (BGM) – External

External Pager Confirmation Tone

Description	Used to remove the confirmation tone for external pagers. The default setting sends confirmation tone 2 to the external pagers before paging is broadcast. This programming applies to all the external pagers.
Selection	On / Off
Default	On
Programming	<ol style="list-style-type: none"> Enter 805. Display: Ext-Pag Ack-Tone Press NEXT. Display example: Tone:On Keep pressing SELECT until the desired selection is displayed. Press STORE. Press END.
Conditions	The external pager is a user-supplied item. Two external pagers can be installed per system. For KX-TD1232, external pagers 1 and 2 are installed in the Master System, 3 and 4 in the Slave, if available.
Feature References	Section 3, Features, Confirmation Tone Paging – All Paging – External

EIA (RS-232C) Parameters — Port 1 / Port 2

Description

Assigns the communication parameters for the EIA (RS-232C) interface for Port 1 (for KX-TD816 and Master System of KX-TD1232) or Port 2 (Slave System of KX-TD1232).

New line code: Select the code for your printer or personal computer. If your printer or personal computer automatically feeds lines with carriage return, select "CR." If not, select "CR+LF."

Baud rate: A baud rate code indicates the data transmission speed from the system to the printer or personal computer.

Word length: A word length code indicates how many bits compose a character.

Parity: A parity code indicates what type of parity is used to detect an error in the string of bits composing a character. Make an appropriate selection depending on the requirements of your printer or personal computer.

Stop bit: A stop bit code indicates the end of a bit string which composes a character. Select an appropriate value depending on the requirements of your printer or personal computer.

Selection

- New line code: **CR+LF / CR**
(CR=Carriage Return, LF=Line Feed)
- Baud rate (baud): **150 / 300 / 600 / 1200 / 2400 / 4800 / 9600**
- Word length (bits): **7 / 8**
- Parity bit: **None / Mark / Space / Even / Odd**
- Stop bit length (bits): **1 / 2**

Default

New line code = CR+LF; Baud rate = 9600; Word length = 8;
Parity bit = Mark; Stop bit = 1 — Port 1 / Port 2

Programming

1. Enter a **program address (806 for Port 1 or 807 for Port 2)**.
Display example: RS232C Paramet.1
2. Press **NEXT** to program new line code.
Display example: NL-Code:CR+LF
3. Keep pressing **SELECT** until the desired selection is displayed.
4. Press **STORE**.
5. Press **NEXT** to program baud rate.
Display example: Baud Rate:9600
6. Keep pressing **SELECT** until the desired selection is displayed.

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EIA (RS-232C) Parameters — Port 1 / Port 2 (contd.)

7. Press **STORE**.
8. Press **NEXT** to program word length.
Display example: Word Lengt:8bits
9. Keep pressing **SELECT** until the desired selection is displayed.
10. Press **STORE**.
11. Press **NEXT** to program parity bit.
Display example: Parity:Mark
12. Keep pressing **SELECT** until the desired selection is displayed.
13. Press **STORE**.
14. Press **NEXT** to program stop bit.
Display example: Stop Bit:1bit
15. Keep pressing **SELECT** until the desired selection is displayed.
16. Press **STORE**.
17. Press **END**.

Conditions

- The following combinations are invalid.

Parity	Word Length	Stop Bit
Mark	8	2
Space	8	1
Space	8	2

- The program address of the out-of-service system port is unacceptable.

Feature References

Section 3, Features,
Station Message Detail Recording (SMDR)

Floating Number Assignment

Description	Assigns the floating numbers for the External Pager, modem,* Digital Test Access (DTA) and Hunting Groups. These numbers can be used the same way extension numbers are used for station access.
Selection	<ul style="list-style-type: none">• Floating station: KX-TD816 – Pager1 / Pager2 / DTA / Hunting Groups 01 through 32 KX-TD1232 – Pager1 / Pager2 / Pager3 / Pager4 / MODEM / DTA / Hunting Groups 01 through 32• Floating number: 2 through 4 digits
Default	KX-TD816 – Pager 1=296; Pager 2=297; DTA=299; Hunting Groups 01 through 32=Not stored KX-TD1232 – Pager 1=296; Pager 2=297; Pager 3=396; Pager 4=397; MODEM=399; DTA=299; Hunting Groups 01 through 32=Not stored
Programming	<ol style="list-style-type: none">1. Enter 813. Display: FLT EXT NO.2. Press NEXT to program Pager 1. Display example: Pager1:EXT296 To program another floating station, keep pressing NEXT or PREV until the desired floating station is displayed.3. Enter a floating number. To program no floating number, press CLEAR. To change the current entry, press CLEAR and enter the new floating number.4. Press STORE.5. To program another floating station, keep pressing NEXT or PREV until the desired floating station is displayed.6. Repeat steps 3 through 5.7. Press END.
Conditions	<ul style="list-style-type: none">• A floating number is composed of two to four numerical digits, 0 through 9.

Floating Number Assignment (contd.)

- The leading one or two digits of the floating numbers are subject to program [100] “Flexible Numbering, (01) through (16) 1st through 16th hundred extension blocks.”
- Floating numbers and extension numbers should be unique. Double entry and incompatible entry for these numbers are invalid. Valid entry example: 10 and 11, 10 and 110; Invalid entry example: 10 and 106, 210 and 21.
- You can leave the entry empty.
- To avoid making an invalid entry, check the other extension number in programs [003] “Extension Number Set,” [012] “ISDN Extension Number Set,” [127] “Voice Mail Extension Number Assignment” and [130] “Phantom Extension Number Assignment.” The default of each extension number is as follows:
 - [003] Extension Number Set
KX-TD816 – 201 through 216, 301 through 316
KX-TD1232 – 201 through 264, 301 through 364
 - [012] ISDN Extension Number Set
Not stored
 - [127] Voice Mail Extension Number Assignment
265 through 280
 - [130] Phantom Extension Number Assignment
Not stored

Feature References

Section 3, Features,
Floating Station

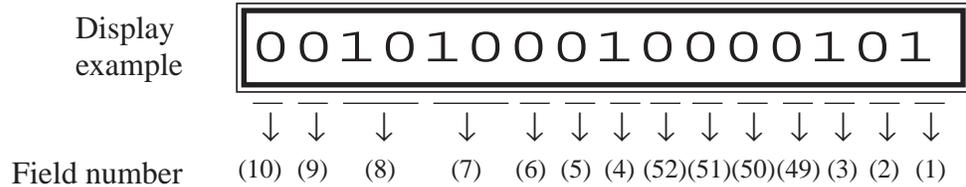
*Modem Standard**

Description	Assigns the modem standard. There are two standards available – BELL and CCITT.
Selection	BELL / CCITT
Default	CCITT
Programming	<ol style="list-style-type: none">1. Enter 814. Display: MODEM Standard2. Press NEXT. Display example: MODEM:CCITT3. Keep pressing SELECT until the desired selection is displayed.4. Press STORE.5. Press END.
Conditions	Select the standard used by your modem.
Feature References	Section 3, Features, System Programming and Diagnosis with Personal Computer

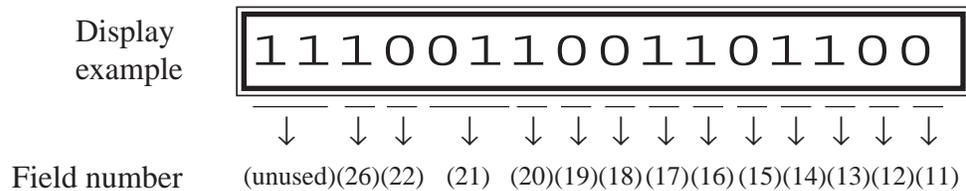
System Additional Information

Description Adds the following programming items, if required:

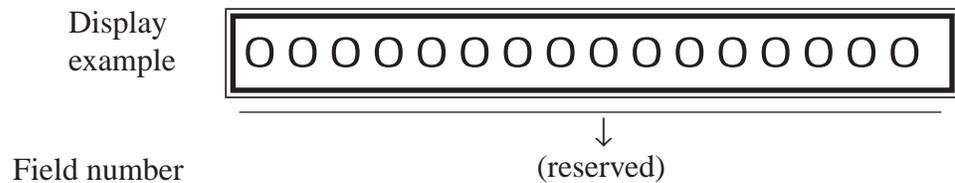
Area 1 There are 14 fields available in Area 1 as follows:



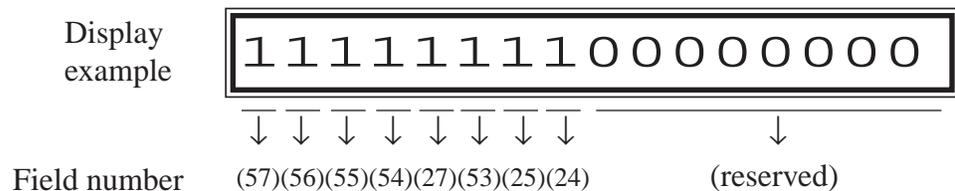
Area 2 There are 13 fields available in Area 2 as follows:



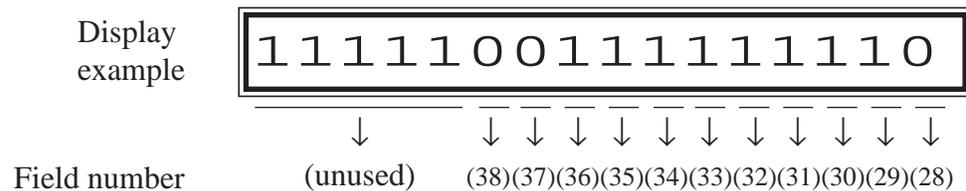
Area 3 Area 3 is reserved for future use.



Area 4 There are 8 fields available in Area 4 as follows:

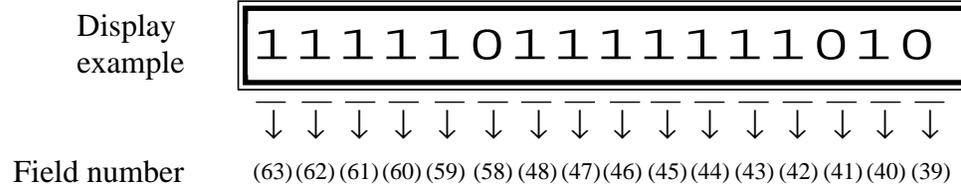


Area 5 There are 11 fields available in Area 5 as follows:

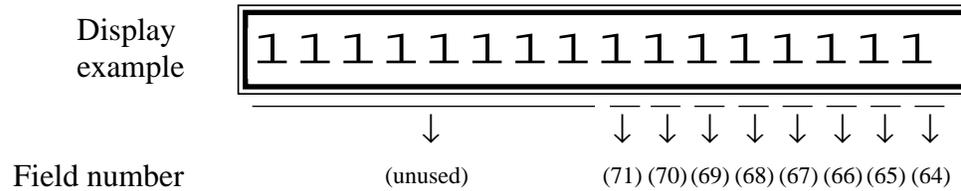


System Additional Information (contd.)

Area 6 There are 16 fields available in Area 6 as follows:



Area 7 There are 8 fields available in Area 7 as follows:



*System Additional Information (contd.)***Explanation**

Area	Field	Description	Selection	Default	References
1	(1)	Sound source during transfer.	0 : ringback tone 1 : Music on Hold	1	<ul style="list-style-type: none"> • CALL TRANSFER FEATURES • Music on Hold
	(2)	Result of pressing the hookswitch lightly and then placing down the handset (during an outside call; single line telephones only).	0 : Consultation Hold 1 : disconnection	0	Consultation Hold
	(3)	Result of pressing the RECALL or FLASH/RCL button on proprietary telephones (during an outside call).	0 : disconnection signal 1 : register recall signal	1	<ul style="list-style-type: none"> • External Feature Access • Recall
	(4)	Enables or disables the dial tone between obtaining a CO line and dialling the phone number when using the one-touch dial, redial or speed dial function.	0 : disable 1 : enable	1	None
	(5)	Result of pressing the hookswitch lightly (single line telephones only).	0 : Consultation Hold 1 : disconnection	0	Consultation Hold
	(6)	Sets the duration of the DTMF signals sent to the Voice Processing System (VPS) ports.	0 : 80 ms 1 : 160 ms	0	Voice Mail Integration
	(7)	Sets the time the system waits before sending DTMF signals (such as a mailbox number) to VPS after VPS answers a call.	00 : 0.5 s 01 : 1.0 s 10 : 1.5 s 11 : 2.0 s	10	Voice Mail Integration
	(8)	Sets the time the system waits before sending DTMF signals (programmed in [113]) to VPS after the VPS calls an extension.	00 : 0.5 s 01 : 1.0 s 10 : 1.5 s 11 : 2.0 s	10	Voice Mail Integration
	(9)	Assigns whether the system turns off the Message Waiting lamp or the VPS does when the user hears a message recorded in a mailbox.	0 : system 1 : VPS	0	<ul style="list-style-type: none"> • Message Waiting • Voice Mail Integration
	(10)	Assigns whether the system starts the Automated Attendant Service or not if an outside call is directed to VPS by Call Forwarding or Intercept Routing. If “start” is assigned, the “AA-SVC” code programmed in program [114] is transmitted to the voice mail port and the Follow On ID function does not work.	0 : do not start 1 : start	0	Voice Mail Integration

System Additional Information (contd.)

Area	Field	Description	Selection	Default	References
1	(49)	Enables or disables the CO Pulse feedback tone.	0 : disable 1 : enable	0	Dial Type Selection
	(50)	Selects the destination during the day mode, when operator number is sent as a Direct Dialling In number.	0 : DIL 1:N 1 : Operator	0	Direct Dialling In (DDI)
	(51)	Selects the destination during the night mode, when operator number is sent as a Direct Dialling In number.	0 : DIL 1:N 1 : Operator	0	Direct Dialling In (DDI)
	(52)	Assigns the operation when the Master and Slave system of KX-TD1232 are disconnected.	0 : Reset automatically 1 : Not reset	0	None
2	(11)	If an outside party is parked or transferred and unanswered, assigns whether Transfer Recall occurs at the park or transfer originating extension or at Operator 1.	0 : extension 1 : Operator 1	0	<ul style="list-style-type: none"> • Call Park • Call Transfer, Unscreened – to Extension
	(12)	If Limited Call Duration is enabled in program [502] “Extension-to-CO Line Call Duration Limit,” assigns if Limited Call Duration is done for both outgoing and incoming calls or for outgoing calls only.	0 : both calls 1 : outgoing calls only	0	Limited Call Duration
	(13)	Allows you to remove confirmation tone 4. By default, a beep tone sounds when a three-party conference is started / ended.	0 : disable 1 : enable	1	Confirmation Tone
	(14)	Determines if the dialled “* ” and “#” will be checked by Toll Restriction. This assignment is required for certain central offices (CO) to prevent toll fraud. Some CO ignore the user-dialled “* ” and “#.” If your CO is such a type, select “0” (no check).	0 : no check 1 : check	1	Toll Restriction
	(15)	Enables or disables the Recall function when receiving an outside call at a locked or toll-restricted station. Recall, if enabled, allows the user to make an outside call using the same line at the station. This is also allowed for those extensions that have Account Code – Verified – All Calls mode assigned, if “0” (disconnection signal) is selected in field (3) above.	0 : disable 1 : enable	0	Recall

System Additional Information (contd.)

Area	Field	Description	Selection	Default	References
2	(16)	Allows you to remove Confirmation Tone 3. This tone is sent when a conversation is established just after dialling the feature numbers for accessing the following features: Call Pickup, Paging, Paging Answer, TAFAS Answer, Hold Retrieve and Call Park Retrieve.	0 : disable 1 : enable	1	Confirmation Tone
	(17)	A CO line set to pulse or call blocking mode in program [402] "Dial Mode Selection" can have two settings. This assigns the pulse break ratio during dial pulsing. Select an appropriate ratio depending on the standard in your country.	0 : 60 % 1 : 67 %	1	Dial Type Selection
	(18)	Assigns if an extension's mailbox number is substituted by the extension number or it is programmable (free). If a call is forwarded or rerouted to the VPS, this system automatically transmits the mailbox number to the VPS to specify the user's mailbox. To make it programmable, select "1 (free)," then assign the number in program [609] "Voice Mail Access Codes."	0 : extension number 1 : free	0	Voice Mail Integration
	(19)	Assigns the first display of a digital display proprietary telephone in Station Speed Dialling.	0 : names 1 : numbers	0	Special Display Features for KX-T7235 — Station Speed Dialling
	(20)	Assigns the source of Music Source 1 for Music on Hold and BGM.	0 : internal music source 1 : external music source	1	<ul style="list-style-type: none"> • Background Music (BGM) • Background Music (BGM) – External • Music on Hold
	(21)	Selects inter-digit pause for pulse dialling.	00 : 630 ms 01 : 830 ms 10 : 1030 ms	01	None
	(22)	Selects intercom dial tone frequency.	0 : normal 1 : distinctive	0	None
	(26)	Selects the extension – hooking signal detection time.	0 : 32 – 1000 ms 1 : 32 – 136 ms	1	None

System Additional Information (contd.)

Area	Field	Description	Selection	Default	References
4	(24)	Prevents or allows a call originated by an AA port of VPS to another AA port.	0 : prevent 1 : allow	1	Voice Mail Integration
	(25)	Prevents or allows sending pulse dialling signals during an outside call.	0 : prevent 1 : allow	1	None
	(27)	Enables or disables the Digital Test Access.	0 : enable 1 : disable	1	None
	(53)	Enables or disables the SMDR printout of the secret dial numbers.	0 : disable 1 : enable	1	Station Message Detail Recording (SMDR)
	(54-57)	Reserved			
5	(28)	Assigns the displayed language when in system programming or when printing out the data to SMDR.	0 : English 1 : Germany	0	None
	(29)	Assigns whether the system sends the Follow On ID code to the VPS or not, when a call is directed to the VPS by Call Forwarding.	0 : disable 1 : enable	1	Voice Mail Integration
	(30)	Assigns whether the system sends the Follow On ID code to the VPS or not, when a call is directed to the VPS by Intercept Routing.	0 : disable 1 : enable	1	Voice Mail Integration
	(31)	Assigns how an SLT user replies to a message left by the Message Waiting feature.	0 : off-hook and feature number 1 : off-hook	1	Message Waiting
	(32)	Assigns how to treat the extension user who reaches the pre-assigned limit of the Budget Management feature.	0 : sends an alarm sound and then disconnects the line in 15 seconds. 1 : sends an alarm sound	1	Budget Management
	(33)	Assigns whether the data (the date and room number) is printed out or not when a guest checks-in and checks-out.	0 : enable 1 : disable	1	HOTEL APPLICATION
	(34)	Assigns whether to send an absent message, No.6-9, to an extension or to output it to the printer when the feature number is dialled. Outputting the message to the printer is useful when informing a receptionist of the cleaning status of a room or the total of the minibar at the hotel.	0 : SMDR (printer) 1 : extension	1	<ul style="list-style-type: none"> • Absent Message Capability • HOTEL APPLICATION

System Additional Information (contd.)

Area	Field	Description	Selection	Default	References
5	(35)	Assigns whether or not the new page will start whenever printing out the data in the Hotel Application feature.	0 : enable 1 : disable	1	
	(36)	Assigns whether or not to print out the data when the system receives a call and a call is answered.	0 : enable 1 : disable	1	
	(37)	Assigns whether an extension number or a DDI number is used when a DDI call comes in or the CLIP and COLP feature becomes available.	0 : DDI transformation number 1 : extension number	0	<ul style="list-style-type: none"> • CLIR • COLR • Direct Dialling In (DDI)
	(38)	Assigns how to change the number through the ISDN line into the extension number which receives incoming DDI calls.	0 : The number transformed in [111] 1 : The number equals the number from the ISDN line minus the subscriber's number programmed in [419].	0	Direct Dialling In (DDI)
6	(39)	Disables or enables sending dial tone after seizing a CO line.	0 : disable 1 : enable	0	None
	(40)	Reserved			
	(41)	Assigns whether the system disconnects the CO line or not if nothing is dialled after seizing a CO line.	0 : disconnect 1 : do not disconnect	0	None
	(42)	Reserved			
	(43)	Selects the way to access CO line to apply LCR.	0 : Dial 9 or press L-CO button. 1 : Dial 9, press L-CO button, press G-CO button or press S-CO button.	1	Least Cost Routing (LCR)
	(44)	Assigns if pressing the HOLD button twice acts as Exclusive Hold or Hold Retrieve.	0 : Hold Retrieve 1 : Exclusive Hold	1	<ul style="list-style-type: none"> • Call Hold, Exclusive • Call Hold Retrieve
	(45)	Assigns whether the system displays the authorization code while programming in program [7X24] "Authorization Code Set."	0 : display 1 : do not display	1	None
(46-47)	Reserved				

System Additional Information (contd.)

Area	Field	Description	Selection	Default	References
6	(48)	When an incoming call reaches the Hunting group (Circular, UCD, Ring and No Reply) this program determines whether the extension which the Do Not Disturb feature is set receives the call or not.	0 : receive 1 : not receive	1	None
	(58)	When an incoming call reaches the Hunting group (Circular, UCD, Ring and No Reply), this program determines whether the extension which the Call Forwarding feature is set receives the call or not.	0 : receive 1 : not receive	0	None
	(59)	Enables or disables the display of the margin rate during an outside call.	0 : enable 1 : disable	1	HOTEL APPLICATION
	(60)	Enables or disables the SMDR printout of the margin rate.	0 : enable 1 : disable	1	HOTEL APPLICATION
	(61)	Selects the extension whose itemized code is used for the Doorphone Call Forwarding to ISDN feature.	0 : Operator 1 1 : Jack 01-1	1	Doorphone Call Forwarding to ISDN
	(62)	Assigns whether the operator can set the Do Not Disturb (DND) feature.	0 : enable 1 : disable	1	Do Not Disturb (DND)
	(63)	Reserved			
7	(64)	Enables or disables the LCR with DTMF function.	0 : enable 1 : disable	1	Least Cost Routing (LCR)
	(65)	Assigns the incoming bell frequency for single line telephone (SLT).	0 : 32 Hz 1 : 25 Hz	1	None
	(66-68)	Reserved			
	(69)	Determines the telephone which can activate the Whisper OHCA feature.	0 : any telephone 1 : KX-T7400 series telephone only	1	Whisper OHCA
	(70)	Selects a beep tone or a music source for Music on Hold of the Music Source 1.	0 : beep tone 1 : music source	1	Music on Hold
	(71)	Selects the bearer when using the single line telephone (SLT). For Orange Network, select Speech.	0 : Speech 1 : 3.1k Audio	1	None

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System Additional Information (contd.)

Selection	<ul style="list-style-type: none">• Area code: 01 through 12 (08 through 12 are reserved)• Selection: See “Selection” on pages 4-169 through 4-174 for each area.
Default	See “ Default ” on pages 4-169 through 4-174.
Programming	<ol style="list-style-type: none">1. Enter 990. Display: System Add Inf.2. Press NEXT. Display: Area NO?->3. Enter an area code (01 through 12). Display example: 00101000110000014. Keep pressing ➡ or ⬅ to move the cursor to the desired field.5. Enter your selection (0 or 1). To change the current entry, press STORE and the new selection.6. To program another field, repeat steps 4 and 5.7. Press STORE.8. To program another area, press SELECT and the desired area code.9. Repeat steps 4 through 8.10. Press END.
Conditions	None
Feature References	See “ References ” on pages 4-169 through 4-174.

*COS Additional Information***Description**

(1) Sets the number of digits allowed to dial out during an analogue outside call on a Class of Service (COS) basis. If an outside party hangs up and the extension user tries to dial out still on the CO line, the system will disconnects the line at the time the assigned number of digits are dialled.

This program can be added if CPC Signal Detection is not provided by the CO.

The Field (1) shown below is used to enter your selection.

(2) Enables or disables the Call Forwarding – Follow Me feature on a COS basis.

The Field (2) below is used to enter your selection.

Display
example

1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Field number

↓
(unused)

↓
(2)

↓
(1)

Selection

- COS number: **1 through 8, *** (* =all COS)
- Field number : **1 or 2**
- Selection for field (1):
 - 0000**: no limit / **0001**: 1 digit / **0010**: 2 digits / **0011**: 3 digits /
 - 0100**: 4 digits / **0101**: 5 digits / **0110**: 6 digits / **0111**: 7 digits /
 - 1000**: 8 digits / **1001**: 9 digits / **1010**: 10 digits / **1011**: 11 digits /
 - 1100**: 12 digits / **1101**: 13 digits / **1110**: 14 digits / **1111**: 15 digits
- Selection for field (2): **0** : disable / **1** : enable

Default

Field 1: All COS – 0000 / Field 2: All COS – 1

Programming

1. Enter **991**.

Display: COS Add Inf.

2. Press **NEXT**.

Display: COS NO?->

3. Enter a **COS number**.

Display example: 1111111111110000

COS Additional Information (contd.)

4. Keep pressing **➡** or **⬅** to move the cursor to the desired field.
5. Enter your **selection (0 or 1)**.
To change the current entry, press **STORE** and the new selection.
6. To program another field, repeat steps 4 and 5.
7. Press **STORE**.
8. To program another COS, press **SELECT** and the desired **COS number**.
9. Repeat steps 4 through 8.
10. Press **END**.

Conditions

None

Feature References

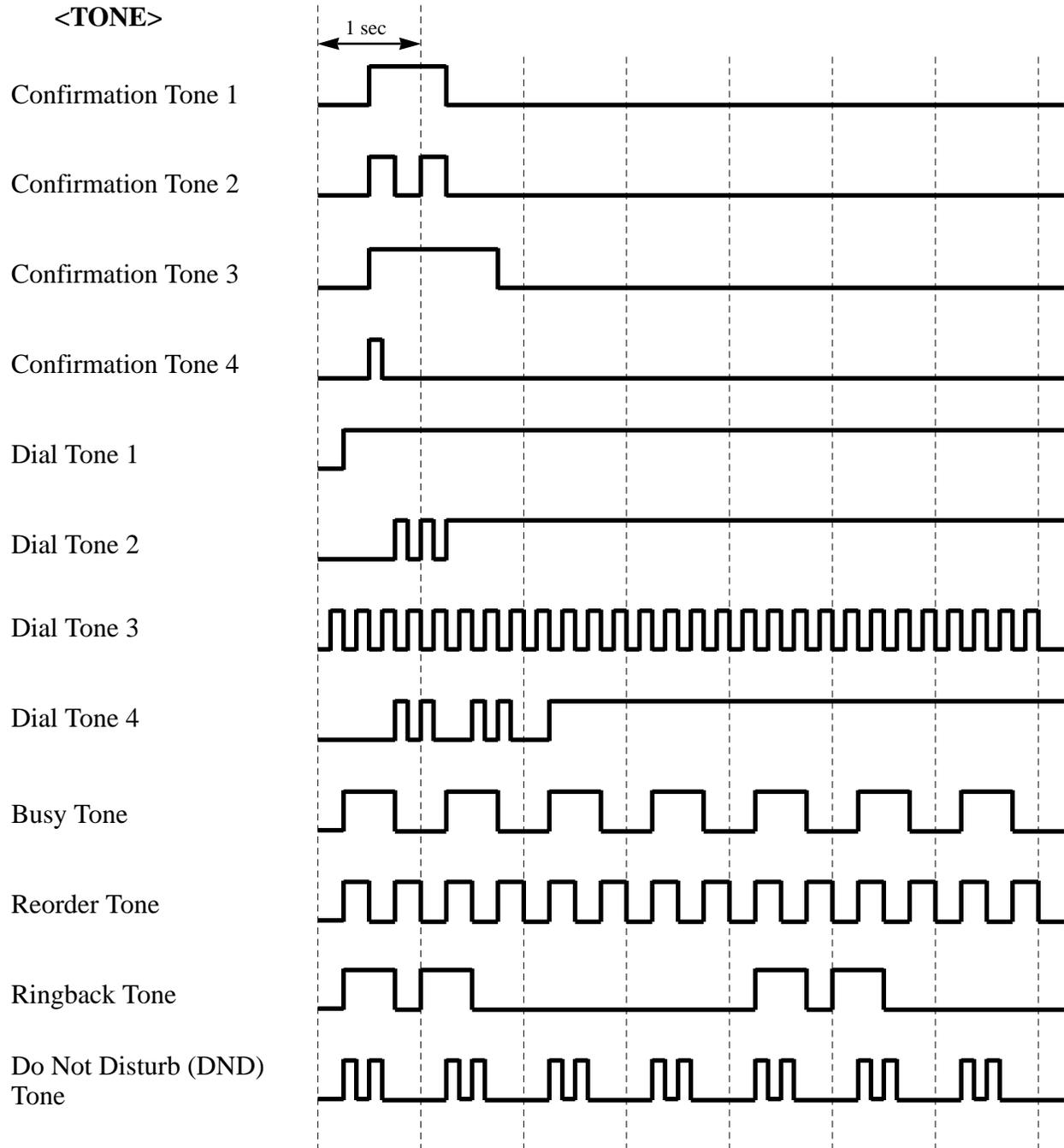
Section 3, Features,
Call Forwarding – Follow Me
Calling Party Control (CPC) Signal Detection
Class of Service (COS)

Section 5

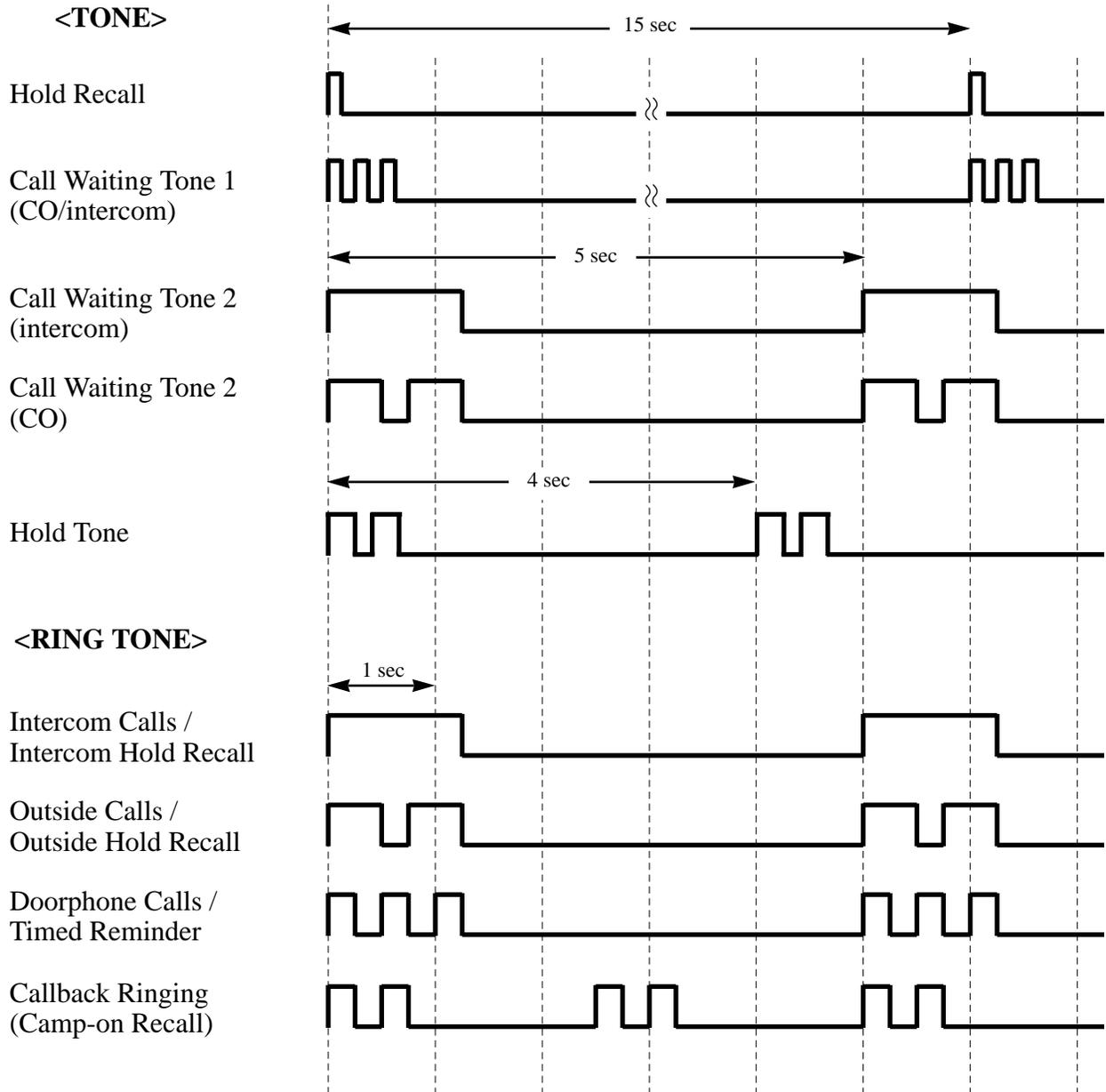
List

This section lists tone, ring tone and default values of system programming.

5.1 Tone / Ring Tone



5.1 Tone / Ring Tone



5.2 Default Values

Address	Program	Default
Manager Programming		
[000]	Date and Time Set	1 Jan. '94 SAT 12:00 am
[001]	System Speed Dialling Number Set	Not Stored
[002]	System Speed Dialling Name Set	Not Stored
[003]	Extension Number Set	<ul style="list-style-type: none"> • KX-TD816 Jack 01-1 through 16-1=201 through 216 Jack 01-2 through 16-2=301 through 316 • KX-TD1232 Jack 01-1 through 64-1=201 through 264 Jack 01-2 through 64-2=301 through 364
[004]	Extension Name Set	Not Stored
[005]	Flexible CO Button Assignment	<ul style="list-style-type: none"> • KX-TD816 CO Buttons 1 through 8 of All Jacks=Single-CO 01 through 08; ringing tone type 2 • KX-TD1232 CO Buttons 1 through 24 of All Jacks=Single-CO 01 through 24; ringing tone type 2
[006]	Operator / Manager Extension Assignment	Operator 1 (Day/Night) and Manager=Jack 01; Operator 2=Unassigned
[007]	DSS Console Port and Paired Telephone Assignment	Not Stored
[008]	Absent Messages	1: Will Return Soon; 2: Gone Home 3: At Ext %%%; 4: Back at %%% 5: Out Until %%%; 6: In a Meeting 7 through 9: Not Stored
[009]	Quick Dial Number Set	Not Stored
[010]	Budget Management	0 £
[011]	Charge Margin and Tax Rate	0, 0%
[012]	ISDN Extension Number Set	All Ports – Not Stored
[013]	ISDN Extension Name Set	All Ports – Not Stored
[014]	Budget Management on ISDN Port	All Ports – 0 £
[015]	Charge Rate Fractional Point Assignment	2
[016]	Charge Rate Assignment	0.01
System Programming		
[100]	Flexible Numbering	See page 4-37 and 4-38.
[101]	Day / Night Service Switching Mode	Manual
[102]	Day / Night Service Starting Time	Every Day of the Week – Day=9:00 am / Night=5:00 pm
[103]	Automatic Access CO Line Group Assignment	12345678

5.2 Default Values

Address	Program	Default
[104]	Quick Dial Assignment	Not Stored
[105]	Account Codes	Not Stored
[106]	Station Hunting Type	All Hunting Groups=Disable
[107]	System Password	1234
[108]	One-Touch Transfer by DSS Button	Enable
[109]	Expansion Card / Unit Type	• KX-TD816: C;C;E • KX-TD1232: Master and Slave=C;C;E1;E2
[110]	Network type Assignment	BT
[111]	DDI Removed Digit / Added Number Assignment	All CO Lines=Removed Digit – 01; Added Number – Not Stored
[112]	Floating DDI Number Assignment	Not Stored
[113]	VM Status DTMF Set	RBT=1; BT=2; ROT=3; DND=4; Answer=5; Disconnect=#9; Confirm =9; FWD VM RBT=6; FWD VM BT=7; FWD EXT RBT=8
[114]	VM Command DTMF Set	LV-MSG=H; GETMSG=* H; AA-SVC=#8; VM-SVC=#6
[115]	Adjust Time	1:00 am
[116]	ROM Version Display	Not Applicable
[117]	Charge Display Selection	Pound
[118]	Charge Fee Reference Extension Assignment	All Jacks=Enable
[119]	Charge Fee Reference ID Code Set	1234
[120]	User Password	1234
[121]	Pulse Dial Reception Assignment	Puls: Enable
[122]	Automatic Door Open Assignment	Disable
[123]	Hotel Application	Disable
[125]	Assignment of Denomination	£
†[126]	Voice Mail Number Assignment	All jacks=Blank (Not Stored)
†[127]	Voice Mail Extension Number Assignment	VM-01=265, VM-02=266, VM-03=267, VM-04=268, VM-05=269, VM-06=270, VM-07=277, VM-08=278, VM-09=281, VM-10=282, VM-11=283, VM-12=284, VM-13=271, VM-14=272, VM-15=273, VM-16=274, VM-17=275, VM-18=276, VM-19=279, VM-20=280, VM-21=285, VM-22=286, VM-23=287, VM-24=288
†[128]	Voice Mail Extension Group Assignment	All voice mail numbers=VMG 1
[129]	Operator Queue	Queue: 8, H-UP: 4
[130]	Phantom Extension Number Assignment	Not Stored

†: Available when the Digital Super Hybrid System is connected to a Digital Proprietary Telephone capable Panasonic Voice Processing System (one that supports digital proprietary telephone integration; e.g. KX-TVP100).

5.2 Default Values

Address	Program	Default
[131]	Hunting Group Assignment	All Hunting Groups=Disable
[132]	Hunting Group Name Assignment	Not Stored
[133]	Hunting Overflow	All Hunting Groups=Busy, 0
[134]–[135]	Hunting Intercept — Day/Night	All Hunting Groups=Disable—Day / Night
[136]	ISDN DDI Number / Phantom Extension Number Transformation	Blank (Not Stored)
[148]	Off-Hook Monitor	Enable
	Timer Programming	
[200]	Hold Recall Time	60 s
[201]	Transfer Recall Time	12 rings
[202]	Call Forwarding – No Answer Time	3 rings
[203]	Intercept Time	12 rings
[204]	Pickup Dial Waiting Time	1 s
[205]	Extension-to-CO Line Call Duration Time	10 min
[207]	First Digit Time	10 s
[208]	Inter Digit Time	10 s
[209]	Automatic Redial Repeat Times	4 times
[210]	Automatic Redial Interval Time	120 s
[211]	Dial Start Time	0 ms
[212]	Call Duration Count Start Time	0 s
[214]	Message Waiting Ring Interval Time	0 min
[215]	Ring-Off Detection Time	6 s
	TRS Programming	
[301]–[305]	TRS Denied Code Entry for Levels 2 through 6	Not Stored
[306]–[310]	TRS Excepted Code Entry for Levels 2 through 6	Not Stored
[311]	Emergency Dial Number Set	Location 01=999; Location 02=112; Others=Not Stored
	CO Line Programming	
[400]	CO Line Connection Assignment	All CO Lines=Connect
[401]	CO Line Group Assignment	CO01=TRG 1; CO02=TRG 2; CO03=TRG 3; CO04=TRG 4; CO05=TRG 5; CO06=TRG 6; CO07=TRG 7; (KX-TD816) CO08 through CO16=TRG 8; (KX-TD1232) CO08 through CO54=TRG8
[402]	Dial Mode Selection	All CO Lines=DTMF
[403]	Pulse Speed Selection	All CO Lines=10 pps
[404]	DTMF Time	All CO Lines=96 ms

5.2 Default Values

Address	Program	Default
[405]	CPC Signal Detection Incoming Set	All CO Lines=352 ms
[407]–[408]	DIL 1:1 Extension – Day/Night	All CO Lines=Disable—Day/Night
[409]–[410]	Intercept Extension – Day/Night	All CO Line Groups=Disable—Day/Night
[411]	Host PBX Access Codes	Not Stored
[412]	Pause Time	All CO Line Groups=3.5 s
[413]	Register Recall Signal Time	All CO Line Groups=96 ms
[414]	Disconnect Time	All CO Line Groups=2.0 s
[415]	CPC Signal Detection Outgoing Set	Disable
[416]	Reverse Circuit Assignment	All CO Lines=Regular
[419]	Subscriber Number Assignment	Not Stored
[420]	Direct Dialling In	All CO Lines=Enable
[421]	CO Line Name Assignment	Not Stored
[422]	ISDN Port Type	All CO Lines=Enable
[423]	ISDN Layer 1 Active Mode	Not Stored
[424]	ISDN Configuration	All Ports=CO
[425]	ISDN Data Link Mode	All Ports=Permanent
[426]	ISDN TEI Mode	All Ports=Point
[427]	ISDN Extension Multiple Subscriber Number	All Ports=Permanent All Ports=Fix 0
[428]	ISDN Extension Progress Tone	All Ports=Disable
[429]	Direct Dialling In — Night	All CO Lines=Enable
[437]	Multiple Subscriber Number Set	Not Stored
[438]–[439]	Extension Ringing Assignment — Day/Night for ISDN MSN	All Ports=All Locations=Disable—Day/Night
COS Programming		
[500]–[501]	Toll Restriction Level – Day/Night	All COS=Level 1—Day/Night
[502]	Extension-to-CO Line Call Duration Limit	All COS=Disable
[503]	Call Transfer to CO Line	All COS=Enable
[504]	Call Forwarding to CO Line	All COS=Disable
[507]	Do Not Disturb Override	All COS=Disable
[508]	Account Code Entry Mode	All COS=Option
[509]–[510]	Toll Restriction Level for System Speed Dialling – Day/Night	All COS=Level 1—Day/Night
[511]	Door Opener Access	All COS=Enable
[513]	Night Service Access	All COS=Enable
[514]	Do Not Disturb for Direct Dialling In Call	All COS=Disable
[516]	Calling Line Identification Restriction	All COS=Disable

5.2 Default Values

Address	Program	Default
[517]	Connected Line Identification Restriction	All COS=Disable
[518]	CFU / CFB / CFNR Assignment	All COS=Disable
[519]	Off-Hook Call Announcement (OHCA)	All COS=Enable
Extension Programming		
[600]	EXtra Device Port	All Jacks=Disable
[601]	Class of Service	All Jacks-1/2=COS 1, COS 1
[602]	Extension Group Assignment	All Jacks-1/2=Extension Group 1 – Enable
[603]–[604]	DIL 1:N Extension and Delayed Ringing — Day/Night	All Jacks-1/2=All CO Lines= Immediate Ringing—Day/Night
[605]–[606]	Outgoing Permitted CO Line Assignment — Day/Night	All Jacks-1/2=All CO Lines=Enable—Day/Night
[607]–[608]	Doorphone Ringing Assignment — Day/Night	Jack 01-1= All Doorphones; Other Jacks=No Doorphone—Day/Night
[609]	Voice Mail Access Codes	Not Stored
[611]	Extension Connection Assignment	All Jacks=Connect
[612]	Data Line Security	All Jacks=Off
[613]	ISDN Class of Service	All Ports=COS 1
[615]–[616]	Outgoing Permitted CO Line Assignment — Day/Night for ISDN Extension	All Ports=All CO Lines – Enabl—Day/Night
†[617]	Live Call Screening Recording Mode Assignment	All Jacks=Stop Record
[618]	ISDN DDI Number / Extension Number Transformation	Not Stored
[619]	ISDN DDI Number / ISDN Extension Number Transformation	Blank (Not Stored)
[620]–[621]	Extension Intercept Routing — Day/Night	All Jacks=Disable—Day/Night
[622]	Incoming Call Display	All Jacks=Caller
[623]	CLIP / COLP Number Assignment	All Jacks=DDI
[624]	CLIP / COLP Number for ISDN Extension Assignment	All Jacks=DDI
[625]–[626]	Doorphone Call Forwarding — Day/Night	All Jacks=Disable
LCR Programming		
[7000]	LCR Mode	Off
[7002]	BTL Access Code	121

5.2 Default Values

Address	Program	Default
[7003]	Itemized Code Set	<ul style="list-style-type: none"> • KX-TD816 Jack 01-1 through 16-1=201 through 216 Jack 01-2 through 16-2=301 through 316 • KX-TD1232 Jack 01-1 through 64-1=201 through 264 Jack 01-2 through 64-2=301 through 364
[7X0Y]	LCR Leading Digit Entry for Plans 1 through 8	Carrier 1=Table 1=Location 1=* * * * Other Locations=Not Stored
[7X1Y]	LCR Time and Fee Set for Plans 1 through 8	Not Stored
[7X20]	LCR Exceptional Code Set	Not Stored
[7X21]	LCR Carrier Code	Carrier 1=131; Other carriers=Not Stored
[7X22]	LCR Carrier Modify Command	Carrier 1=CPTAIH; Other carriers=Not Stored
[7X23]	LCR CO Line Group Assignment	Carrier 1=12345678; Other carriers=Not Stored
[7X24]	Authorization Code Set	Not Stored
Resource Programming		
[800]	SMDR Incoming / Outgoing Call Log Printout	All Calls=Off
[801]	SMDR Format	Page Length=66; Skip Perforation=0
[802]	System Data Printout	Not Applicable
[803]	Music Source Use	Hold and BGM=Music 1
[804]	External Pager BGM	All External Pagers=Disable
[805]	External Pager Confirmation Tone	On
[806]–[807]	EIA (RS-232C) Parameters – Port 1/ Port 2	New Line Code=CR+LF; Baud Rate=9600; Word Length=8; Parity Bit=Mark; Stop Bit=1 — Port1/Port2
[813]	Floating Number Assignment	<ul style="list-style-type: none"> • KX-TD816: Pager 1=296; Pager 2=297; DTA=299; Hunting Groups 01 through 32 =Not Stored • KX-TD1232: Pager 1=296; Pager 2=297; Pager 3=396; Pager 4=397; MODEM=399; DTA=299; Hunting Groups 01 through 32=Not Stored
[814]	Modem Standard	CCITT
Option Programming		
[990]	System Additional Information	See pages 4-169 through 4-174.
[991]	COS Additional Information	See page 4-176.

Section 6

Troubleshooting

This section provides information for system and telephone troubleshooting.

6.1 Troubleshooting

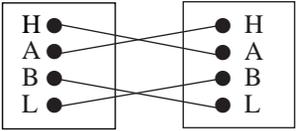
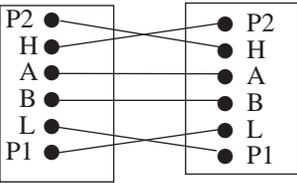
6.1.1 Installation

PROBLEM	PROBABLE CAUSE	POSSIBLE SOLUTION
Extension does not operate.	Bad printed circuit board (Extension Card).	Exchange printed circuit board for another printed circuit board.
	Bad connection between the system and extension.	Take that extension and plug it into the same extension port using a short telephone cord. If the telephone does not work, connection between the system and the extension must be repaired.
	A telephone with an A-A1 relay is connected.	Use a 2 wires cord. Set the A-A1 relay switch of the telephone to "OUT" or "OFF" position.
	Bad extension.	Take that extension and plug it into another extension port that is working. If the telephone does not work, replace the phone.
Improper reset operation.		Press the Reset Button.
Noise in external paging.	Induced noise on the wire between the system and the amplifier.	Use a shielded cable as the connection wire between the system and amplifier. A short shielded cable is recommended.
Volume distortion from external music source.	Excessive input level from external music source.	Decrease the output level of the external music source by using the volume control on the music source.
Speed Dialling or One-Touch Dialling does not function.	Bad programming.	Enter the CO line access number (9, 81 through 88) into programming.

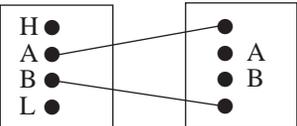
6.1 Troubleshooting

6.1.2 Connection

Connection between the DSHS and a proprietary telephone:

<p>Can you dial an extension?</p> <p>No</p>	<p>CAUSE</p> <p>The A/B is connected to the H/L.</p>  <p>DSHS extension</p>	<p>SOLUTION</p> <p>Use the correct cord (inner 2 wires are for A/B and the outer 2 wires are for H/L).</p>
	<p>*The P1/P2 is connected to the L/H.</p>  <p>DSHS extension</p>	<p>SOLUTION</p> <p>Use the correct cord (2 wires second from the outside for H/L and the outer 2 wires are for P1/P2).</p>

Connection between the DSHS and a single line telephone:

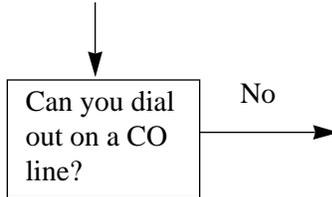
<p>Yes</p>	<p>CAUSE</p> <p>The A/B is connected to the H/L.</p>  <p>DSHS extension</p>	<p>SOLUTION</p> <p>Use the correct cord (inner 2 wires are for A/B).</p> <ul style="list-style-type: none"> If a telephone equipped with an A-A1 relay is connected to the DSHS, set the A-A1 relay switch of the telephone to "OFF."
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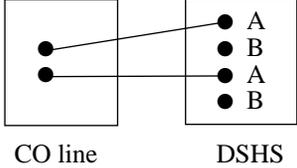
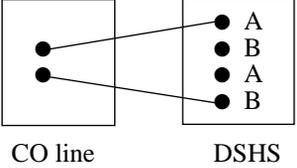
(Continued to the following page.)

6.1 Troubleshooting

Connection between the central office and the DSHS:

(Continued from the previous page.)



CAUSE	SOLUTION
<p>CO lines are connected to the A/A.</p>  <p style="text-align: center;">CO line DSHS</p>	<p>Reconnect the CO lines to the paired A/B of the telephone jack using 2-conductor wiring.</p>
<p>CO lines are connected to the A/B that is not in a pair.</p>  <p style="text-align: center;">CO line DSHS</p>	

6.1.3 Operation

PROBLEM	PROBABLE CAUSE	POSSIBLE SOLUTION
<ul style="list-style-type: none"> • When using the speaker- phone mode with a proprietary telephone KX-T7130, nothing is audible. • When using the speaker- phone/monitor mode with a digital proprietary telephone, nothing is audible. 	<ul style="list-style-type: none"> • The HANDSET / HEADSET selector of the KX-T7130 is set to the “HEADSET” position. • The “HEADSET” mode is selected by station pro- gramming, “Handset/Headset Selection.” 	<ul style="list-style-type: none"> • When the headset is not used, set the HANDSET / HEADSET selector to the “HANDSET” position. • When the headset is not used, select the “HANDSET” mode by station programming.
The unit does not ring.	The Ringer Volume Selector is set to “OFF.”	Set to “HIGH” or “LOW.”
During a power interrup- tion, extensions connected to Power Failure Transfer jacks do not operate.	<ul style="list-style-type: none"> • A DPT or APT is connected to the jack. • The dialling mode (tone or pulse) is improper. 	<ul style="list-style-type: none"> • Disconnect the DPT or APT and connect a single line telephone. • Set the Tone / Pulse switch to the other position.

6.1 Troubleshooting

PROBLEM	PROBABLE CAUSE	POSSIBLE SOLUTION
<ul style="list-style-type: none">• During system connection* operation, originating an intercom/ outside call from a system to the other system is not possible.• The indication “System Link Down” is displayed on the proprietary telephone of Operator 1.	Interface between the systems is disconnected.	Connect the interface between the systems and press the Reset Button on both systems.
Originating an outside call, Call Transfer, or Conference cannot be performed.	The corresponding CO button does not exist on the proprietary telephone.	Program the CO button. See Section 4.2 [005] “Flexible CO Button Assignment.”

6.1.4 Using Reset Button

If the system does not operate properly, use the Reset Button. (If Master and Slave Systems are in operation by System Connection, reset both systems.)

Before using the Reset Button, try the system feature again to confirm whether there definitely is a problem or not.

Notes:

(a) When the System Clear Switch is set to “NORMAL,” pressing the Reset Button causes the following:

1. Camp-on is cleared.
2. Calls on Hold are terminated.
3. Calls on Exclusive Hold are terminated.
4. Calls in progress are terminated.
5. Call Park is cleared.

Other data stored in memory except the above are not cleared.

(b) When the System Clear Switch is set to the “CLEAR” position, you must press the Reset Button with caution, because all data stored in memory will be cleared by the following operation: pressing the Reset Button and setting the System Clear Switch to the “NORMAL” position while the Power Indicator is flashing.

*: Available for KX-TD1232 only.

6.1 Troubleshooting

Operation

- (A) If the system does not operate properly,
 - 1. Make sure that the System Clear Switch is set to the “NORMAL” position.
 - 2. Press the Reset Button with a pointed tool.
- (B) If the system still does not operate properly,
 - 1. Set the System Clear Switch to the “CLEAR” position.
 - 2. Press the Reset Button with a pointed tool.
 - 3. Return the System Clear Switch to the “NORMAL” position while the Power Indicator is flashing (approximately within 10 seconds).
- (C) If the system still does not work, switch the power off and on again after five minutes.
- (D) If the system still does not work,
 - 1. Switch the power off.
 - 2. Set the System Clear Switch to the “CLEAR” position.
 - 3. Switch the power on.
 - 4. Press the Reset Button with a pointed tool.
 - 5. Set the System Clear Switch to the “NORMAL” position while the Power Indicator is flashing (approximately within 10 seconds).
- (E) If the system still does not work, switch the power off. If car batteries are connected to the system, disconnect them, too. Then consult an authorized service person.

When the power supply stops, extensions connected to Power Failure Transfer jacks are automatically connected straight to specific CO lines:

KX-TD816 — CO 1, CO 2 and CO 5

KX-TD1232 — CO 1, CO 2, CO 9, CO 13, CO 14 and CO 21.

Connect single line telephones to the Power Failure Transfer jacks.

Section 7

PRI Section

This section provides information on using the Primary Rate Interface (PRI) ISDN line with the optional expansion unit.

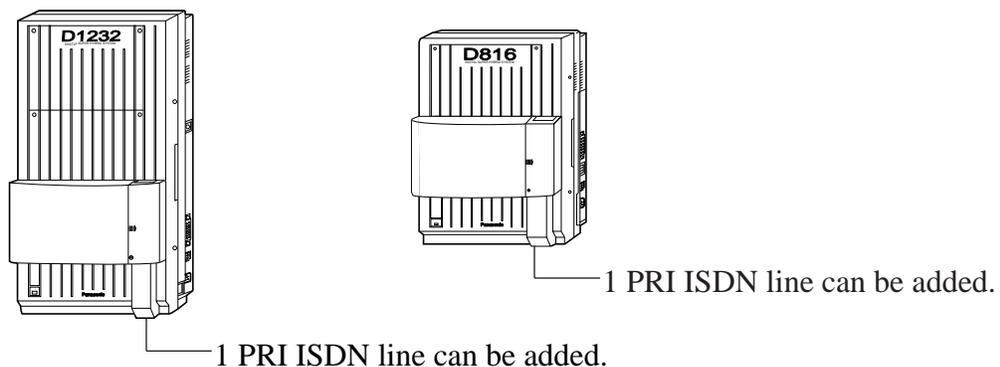
7.1 Overview

The KX-TD290 Primary Rate Interface (PRI) ISDN Expansion Unit adds one PRI ISDN line.

When this unit is installed in the KX-TD816, the maximum number of available CO lines is limited to 12 and when it is installed in the KX-TD1232 for the system connection, the maximum number of available CO lines is limited to 38.

Therefore, if another CO card or unit is used, it is required to program which area it is installed in by program [450] beforehand. One PRI ISDN line adds 8 CO lines (CO 09 through 16) to the KX-TD816 and adds 30 CO lines (CO 25 through CO54) to the KX-TD1232.

This unit cannot be installed in the KX-TD1232 Slave system.



Programming References

Section 4, System Programming

[109] Expansion Card/Unit Type — Assign “S3” to the desired area.

Section 7.3, System Programming

[450] PRI Configuration

[451] PRI Reference CO

Station ProgrammingUser Manual

Flexible Button Assignment – Group-CO (G-CO) Button, Loop-CO (L-CO) Button, Single-CO (S-CO) Button

Assign the following buttons to Flexible (CO) buttons.

- Single CO button(s) (09 through 16 for KX-TD816/25 through 54 for KX-TD1232)
- Group CO button(s) (Assign the CO line group number which CO lines 09 through 16 or 25 through 54 belong to.)
- Loop-CO button(s)

Feature References

Section 3, Features

Integrated Service Digital Network (ISDN)

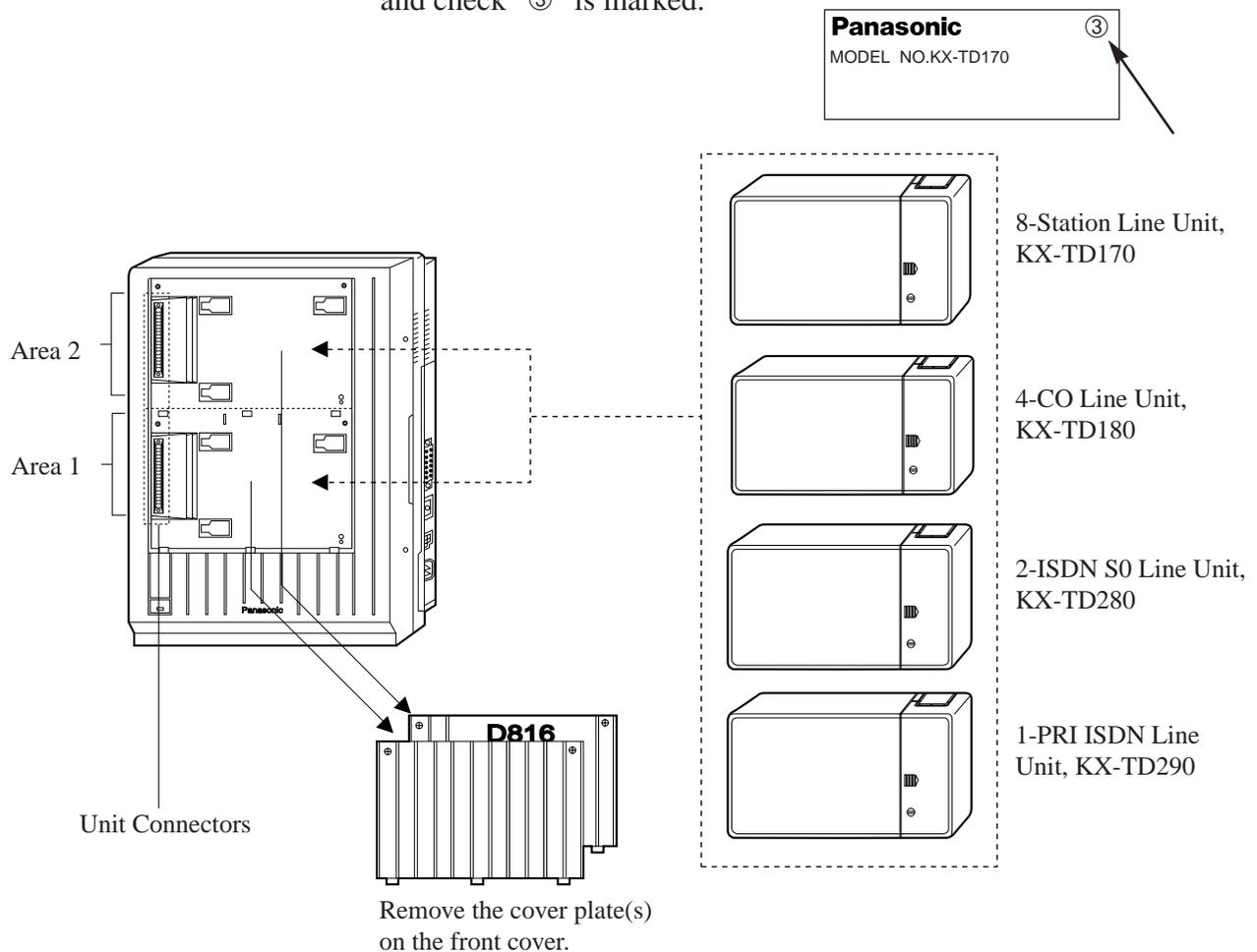
7.2 Installation

7.2.1 Location of the Optional Units

Precautions To protect the printed circuit boards (P-boards) from static electricity, do not touch parts on the P-boards in the main unit and on the optional units.

KX-TD816

One 8-Station Line Unit (KX-TD170) and either one CO Line/ISDN Line Unit (KX-TD180, KX-TD280, or KX-TD290) can be installed to any expansion area. You must use the KX-TD170-③ when you install the KX-TD290. The former KX-TD170 does not work properly with the KX-TD290. Please see the back of the unit and check “③” is marked.

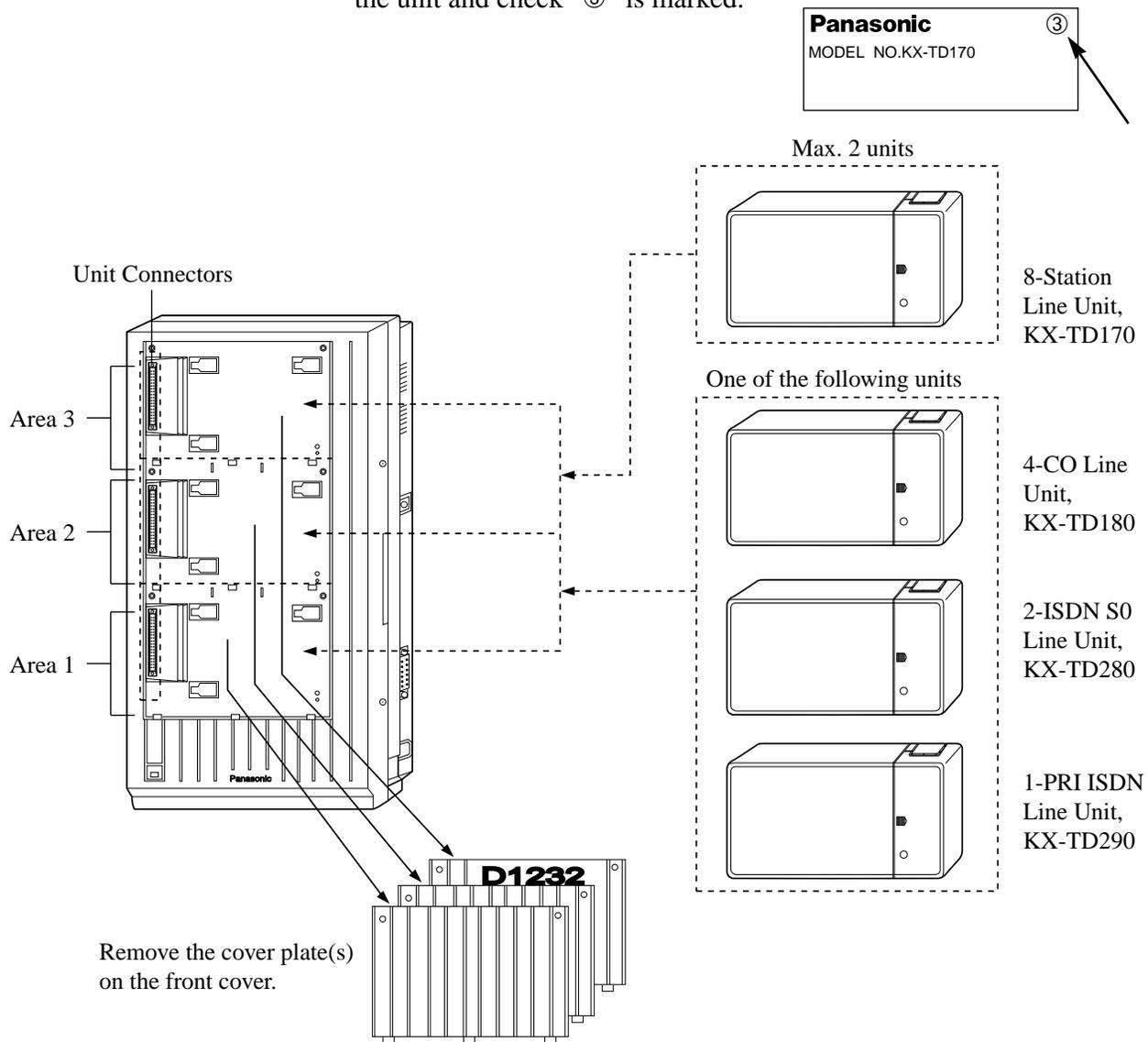


- Notes**
- When starting the system for the first time or performing System Data Clear, the application for location will use practical installation instead of the system default setting.
 - System Programming is required for location identification. Refer to program [109], “Expansion Card/Unit Type,” in Section 4. Default: Area 1= 4-CO Line Unit, Area 2= 8-Station Line Unit

7.2.1 Location of the Optional Units

KX-TD1232

A maximum of two 8-Station Line Units (KX-TD170) and/or one CO Line/ISDN Line Units (KX-TD180, KX-TD280 or KX-TD290) can be installed to any expansion area. You must use the KX-TD170-③ when you install the KX-TD290. The former KX-TD170 does not work properly with the KX-TD290. Please see the back of the unit and check “③” is marked.



- Notes**
- ISDN card/unit installation should not be done only in the Slave system for system connection.
 - When starting the system for the first time or performing System Data Clear, the application for location will use practical installation instead of the system default setting.
 - System Programming is required for location identification. Refer to program [109], “Expansion Card/Unit Type,” in Section 4.
Default: Area 1= 4-CO Line Unit, Area 2, 3= 8-Station Line Unit

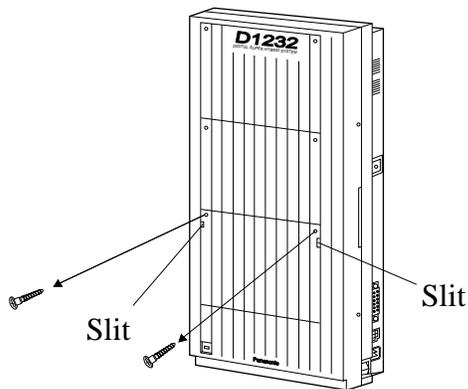
7.2.2 Installing the Unit (KX-TD290)

The following procedures can be used to install the Primary Rate Interface (PRI) ISDN Expansion Unit (KX-TD290).

Default KX-TD816: bottom = 4-CO Line Unit,
top = 8-Station Line Unit
KX-TD1232: bottom = 4-CO Line Unit,
middle and top = 8-Station Line Unit

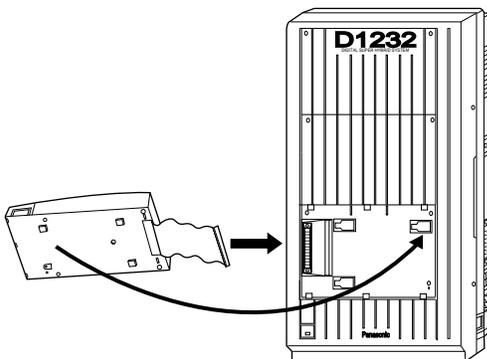
Note The KX-TD1232 is illustrated as a main unit.

1. Loosen the two screws on the cover plate. Insert fingers into the slits to remove the cover plate.

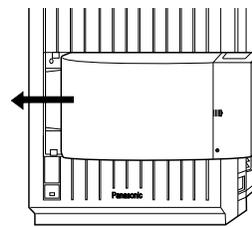


Note Any of the cover plates can be removed, as needed.

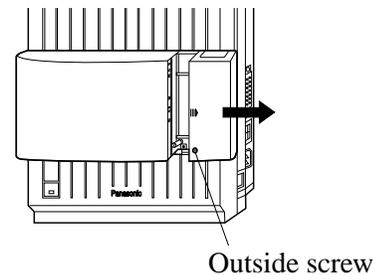
2. Connect the cabinet cord to the connector in the main unit firmly.



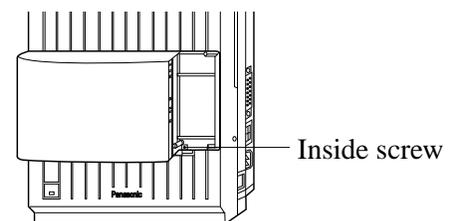
3. Hook the cabinet on the main unit and slide the cabinet to the left until it is secured.



4. Loosen the outside screw and slide the cover to the right.



5. Secure the inside screw (included) to fix the cabinet to the main unit.

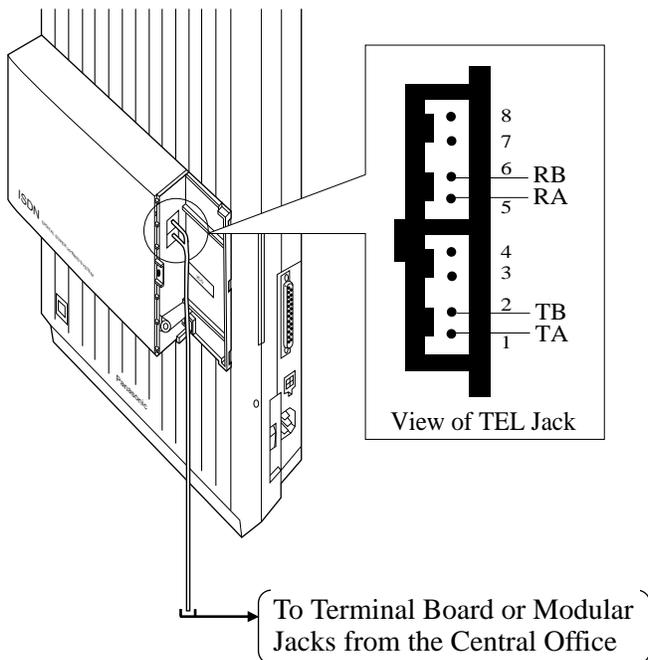


Note Be sure to fix the inside screw to the main unit, or the unit may not work properly.

7.2.2 Installing the Unit (KX-TD290)

6. Prepare the required plugs.

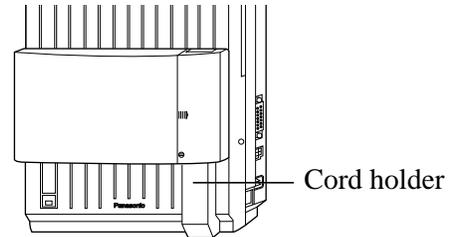
7. Insert the plug into a jack on the unit.



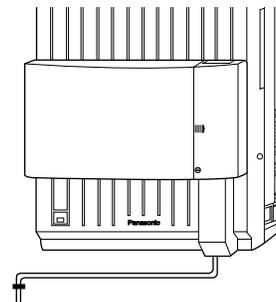
8. Tie up all the cords into a bundle. If other cords are coming from the upper cabinets, tie them, too.

9. Close the cabinet cover and secure the outside screw.

10. Cover the cords with the cord holder (included).

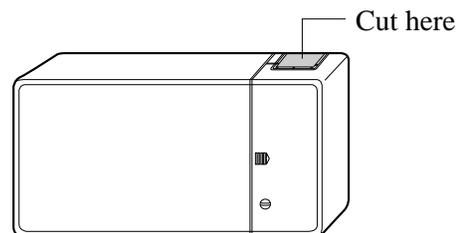


11. Fix the cords to the wall at the shown position so that the front cover can be opened.



Note

- If two or three expansion units are installed, cut the cabinet covers on the lower cabinets to allow the cords from upper cabinet to go down through the cabinet covers. To guard the cords, smooth the cut edge.



PRI Configuration

Description

Assigns the number of B channels which are actually used out of the 8 PRI line channels (for KX-TD816) or 30 PRI line channels (for KX-TD1232) and the installation location of the CO line card (KX-TD181 or KX-TD182) or BRI card (KX-TD281 or KX-TD282), the CO line unit (KX-TD180), or BRI unit (KX-TD280). The ISDN layer 1 active mode, ISDN data link mode and ISDN TEI mode can be also assigned.

Selection

KX-TD816

- B channel number and installation spot: **8 Y-- -/0 YY --**
(Y=the card can be installed, --=this area is not changeable)

ex.: 8 Y -- --

the number of available B channels

Status of the basic area of the system.

Status of the expansion area of the system.

Not available.

Programming example:

1. To install TD290 and TD282: 8 Y-- --

KX-TD1232

- B channel number and installation spot: **30 Y--NN/30 N--YN/
30 N--NY/26 Y--NY/
26 N--YY/ 22 Y--YN/
18 Y--YY/0 YYYY**

(Y=the card can be installed, --=this area is not changeable,
N=the card is not installed.)

ex.: 30 Y -- N N

the number of available B channels

Status of the basic area of the master system.

Status of the expansion area of the master system.

Status of the basic area of the slave system.

Status of the expansion area of the slave system.

Programming example:

1. To install TD290 and TD281 to the Master system: 30 Y--NN
2. To install TD290 to the Master and TD280 to the Slave systems:
30 N--NY

- ISDN layer1 mode (L1): **Permanent/Call**
- ISDN data link mode (L2): **Permanent/Call**
- ISDN TEI mode (TEI): **Fix 0 through 63/Automatic**

*PRI Configuration (contd.)***Default**

KX-TD816: 8 Y -- --/Permanent/Permanent/Fix0
 KX-TD1232: 30Y--NN/Permanent/Permanent/Fix0

Programming

1. Enter **450**.
 Display: PRI Config.
2. Press **NEXT**.
 Display example: 0 YYYY
3. Keep pressing **SELECT** until the desired combination of the channel number and the card status is displayed.
4. Press **STORE**.
5. Press **NEXT**.
 Display example:L1 : Permanent
6. Keep pressing **SELECT** until the desired ISDN layer mode is displayed.
7. Press **STORE**.
8. Press **NEXT**.
 Display example:L2 : Permanent
9. Keep pressing **SELECT** until the desired ISDN data link mode is displayed.
10. Press **STORE**.
11. Press **NEXT**.
 Display example:TEI : Fix 0
12. Enter the desired **TEI** (0 through 63) or press **CLEAR** (TRANSFER) to select "Auto."
13. Press **END**.

Conditions

- For KX-TD1232, when system connection is activated, the maximum number of available CO lines is limited to 38. Therefore, this program is required.
- For KX-TD1232, when you assign the number of B channels to 18, 22 or 26, ISDN Fractional Service must be provided by a telephone company.
- The available CO line numbers in program [400] are changed according to this program, but CO09 through CO16 (for KX-TD816) and CO25 through CO54 (for KX-TD1232) are not assignable.

Feature References

None

PRI Reference CO

Description	<p>Assigns which CO line number system data each PRI line uses except for the following programs:</p> <ul style="list-style-type: none">• [401] CO Line Group Assignment• [419] Subscribers Number Assignment• [421] CO Line Name Assignment <p>After assigning this program, the following program data will become available for PRI line CO 09 through CO16 (for KX-TD816) or CO 25 through 54 (for KX-TD1232).</p> <ul style="list-style-type: none">• [407]-[408] DIL 1:1 Extension — Day / Night• [420] Direct Dialling In — Day• [429] Direct Dialling In — Night• [603]-[604] DIL 1:N extension and Delayed ringing — Day / Night• [605]-[606] Outgoing Permitted CO Line Assignment — Day / Night• [615]-[616] Outgoing Permitted CO Line Assignment — Day / Night for ISDN Extension• [661]-[662] PS Outgoing Permitted CO Line Assignment — Day / Night
Selection	<p>KX-TD816</p> <ul style="list-style-type: none">• CO line number of PRI line: 09 through 16, * (* =all CO lines)• CO line number: 1 through 8 <p>KX-TD1232</p> <ul style="list-style-type: none">• CO line number of PRI line: 25 through 54, * (* =all CO lines)• CO line number: 01 through 24
Default	<p>KX-TD816: All CO lines (PRI line) – CO 5 KX-TD1232: All CO lines (PRI line) – CO 9</p>
Programming	<ol style="list-style-type: none">1. Enter 451. Display: PRI Reference CO2. Press NEXT. Display: CO NO?→3. Enter the CO Line number of PRI. Display example: CO25 : CO 94. Enter the desired CO Line number.5. Press STORE.6. Press END.

PRI Reference CO (contd.)

Conditions

- For the KX-TD1232, CO01 through CO12 are for the Master system and CO13 through CO24 are for the Slave, if available.
- CO09 through CO16 become available when the expansion unit KX-TD290 is installed in the KX-TD816 and CO25 through CO54 become available when the expansion unit KX-TD290 is installed in the KX-TD1232.
- To assign all CO lines to the same selection, press the * key in step 3. In this case, the display shows the contents programmed for CO09 for the KX-TD816 and CO25 for the KX-TD1232.

Feature References

None

Section 8

DECT Portable Station Section

This section provides information on the wireless system, which can be optionally equipped with the basic system.

8.1 Overview

To connect the wireless system, the following equipment is required.

2-RF Interface Unit with 4-Station Line (KX-TD144)

One KX-TD144 supports up to two Cell Stations (KX-TD142) and four wired extensions. One KX-TD144 can be installed to the KX-TD816 and up to two KX-TD144s can be installed to the KX-TD1232.

CS: Cell Station (KX-TD142)

This unit determines the range of the supporting PSs. Up to four calls can be made at the same time in one range.

PS: DECT Portable Station (KX-TD7500)

Up to 16 PSs in the KX-TD816 system and up to 64 PSs in the KX-TD1232 system can be assigned as extensions. For more details about the PS, please refer to the User Manual.

The Cell Station (KX-TD142) in this product is a Restricted Product subject to the laws of your country. It should not be exported or brought out of your country without authorisation from the appropriate governmental authorities.

8.2 Wireless System Installation

8.2.1 Wireless System Outline

System Capacity

CO Line

	KX-TD816	KX-TD1232	KX-TD1232 × 2 (System Connection)
Basic	4	8	16
KX-TD180 × 1	8	12	24

Extension Line

	KX-TD816		KX-TD1232		KX-TD1232 × 2 (System Connection)	
	Wired	Wireless	Wired	Wireless	Wired	Wireless
Basic	8	0	16	0	32	0
KX-TD170 × 1	16	0	24	0	48	0
KX-TD170 × 2	—	—	32	0	64	0
KX-TD144 × 1	12	16	20	64	40	64
KX-TD144 × 2	—	—	24	64	48	64

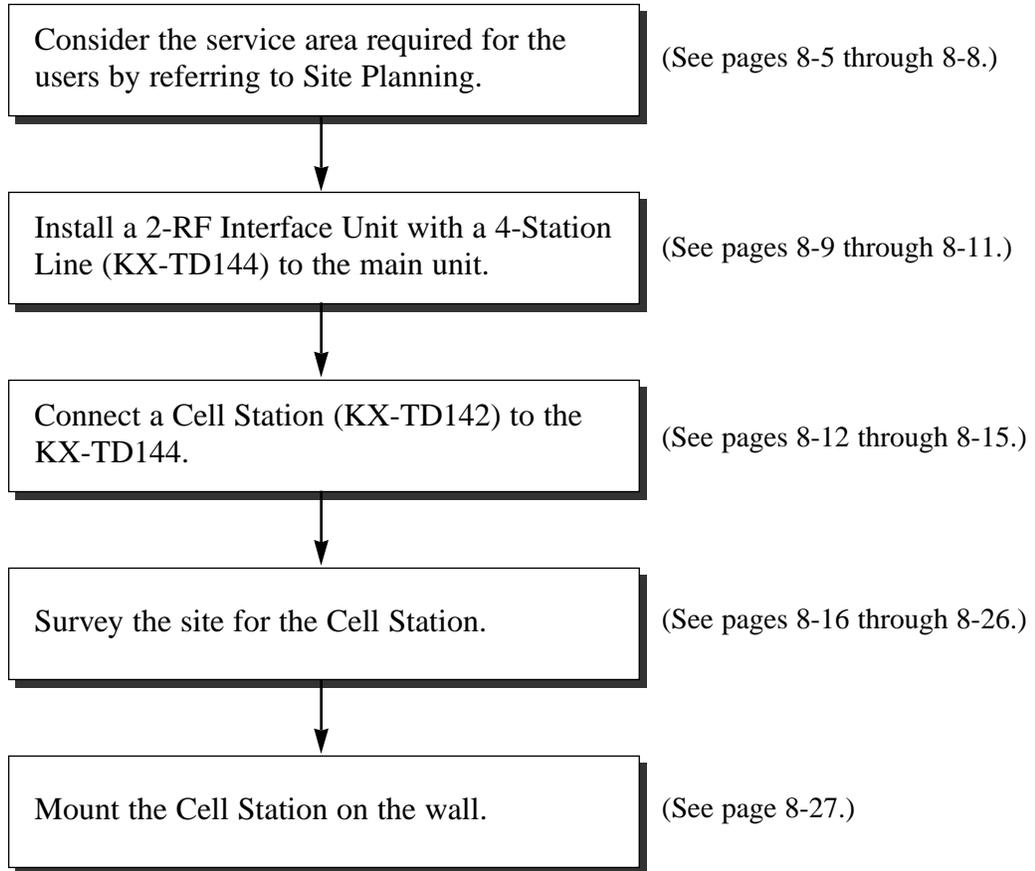
Note **KX-TD180**: 4-CO Line Unit; **KX-TD170**: 8-Station Line Unit
 For details about the optional units, refer to the main Installation Manual.

RF Specifications

ITEM	DESCRIPTION
Radio Access Method	Multi Carrier TDMA-TDD
Multiplex	12
Carrier Frequency Interval	1728 KHz
Transmission Speed	1152 Kbps
Frame Structure	10 msec / frame (T×12 slots + R×12 slots)
Modulation Scheme	GFSK <hr style="border-top: 1px dashed black;"/> Roll-off factor = 0.5 50% roll-off in the transmitter
Data Coding for Modulator	Differential Coding
Voice CODEC	32 Kbps ADPCM (CCITT G.721)
Transmission Output	Max. 250 mW

8.2.1 Wireless System Outline

Procedure Flow Chart



8.2.2 Site Planning

Choosing the best site for the Cell Station (KX-TD142) requires careful planning and testing of essential areas. The best location may not always be convenient for installation. Please read the following information before you install the unit.

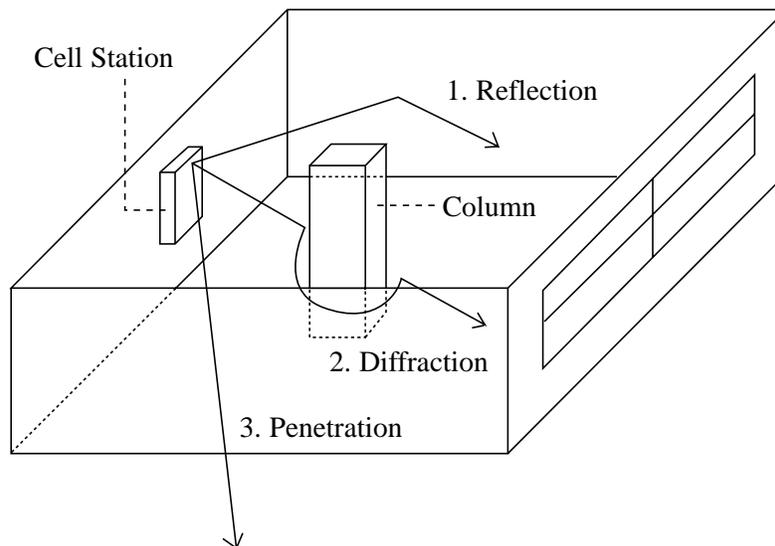
Characteristics of Radio Waves

The transmission of radio waves and the operating range depend on the structure and materials of the building.

Office equipment, such as computers and fax machines, can interfere with radio waves.

Such equipment may create noise or interfere with the performance of the portable station.

The illustration below shows the special transmitting patterns of radio waves.



1. Radio waves are reflected by objects such as those made of metal.
2. Radio waves are diffracted by objects such as metallic columns.
3. Radio waves penetrate objects such as those made of glass.

8.2.2 Site Planning

The Relationship between Radio Waves and Building Structure and Materials

- The transmitting range is affected more by the building materials and thickness of the material than the number of obstacles.
- Radio waves tend to be reflected or diffracted by conductive objects and rarely penetrate them.
- Radio waves tend to penetrate insulated objects and are rarely reflected by them.
- Radio waves penetrate thin objects more than thick objects.
- The table below shows the transmission tendency of radio waves when they reach objects made from various materials.

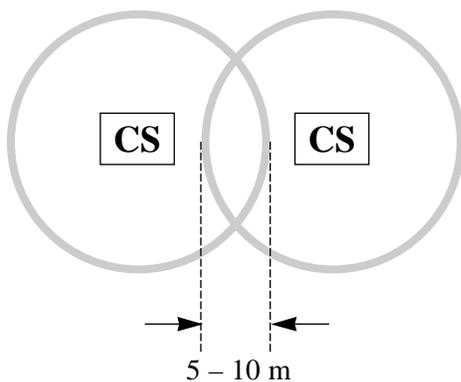
OBJECT	MATERIAL	TRANSMISSION TENDENCY
Wall	Concrete	The thicker they are, the less radio waves penetrate them.
	Ferroconcrete	Radio waves can penetrate them, but the more iron there is, the more radio waves are reflected.
Window	Glass	Radio waves usually penetrate them.
	Glass with wire nets	Radio waves can penetrate them, but tend to be reflected.
	Glass covered with heat-resistant film	Radio waves are weakened considerably when they penetrate windows.
Floor	Ferroconcrete	Radio waves can penetrate them, but the more iron there is, the more radio waves are reflected.
Partition	Steel	Radio waves are reflected and rarely penetrate them.
	Plywood, Glass	Radio waves usually penetrate them.
Column	Ferroconcrete	Radio waves can penetrate them, but the more iron there is, the more radio waves tend to be reflected or diffracted.
	Metal	Radio waves tend to be reflected or diffracted.
Cabinet	Steel	Radio waves are usually reflected or diffracted, and rarely penetrate them.
	Wood	Radio waves can penetrate them, but they are weakened.

8.2.2 Site Planning

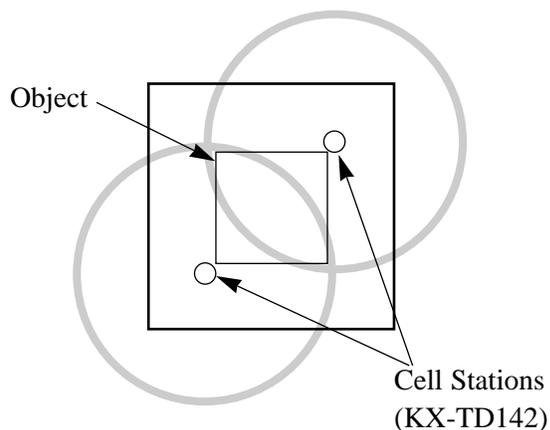
Installation Preparation

1. Prepare a drawing of the building where you want to install the Cell Station (CS).
(A drawing which shows the size or main structural material of the wall, partition wall or ceiling is preferable.)
2. Consider the service area required for the users.
3. Examine the service area on the drawing.
 - 1) Make a circle around the installable area by determining the radio transmission range (inside: 25 – 50 m, outside: 70 – 100 m). Note that a CS cannot be installed outside a building.
 - 2) If more than one CS is required, the radio transmission ranges should overlap. The overlapping range should be 5 to 10 meters.

<Basic location>

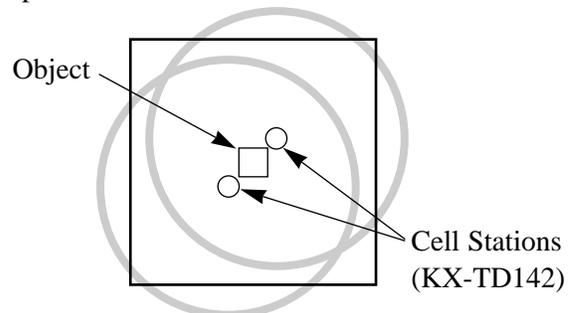


<Location example for a building which has an object in the centre.>



Note

The DECT system does not support the function to switch the CS automatically when the associated CS is busy. If the associated CS is busy, the portable station cannot make or receive a call. Thus, it is not useful to install more than one CS very closely as shown below. Please follow our recommendation in step 3 above.



8.2.2 Site Planning

Precautions

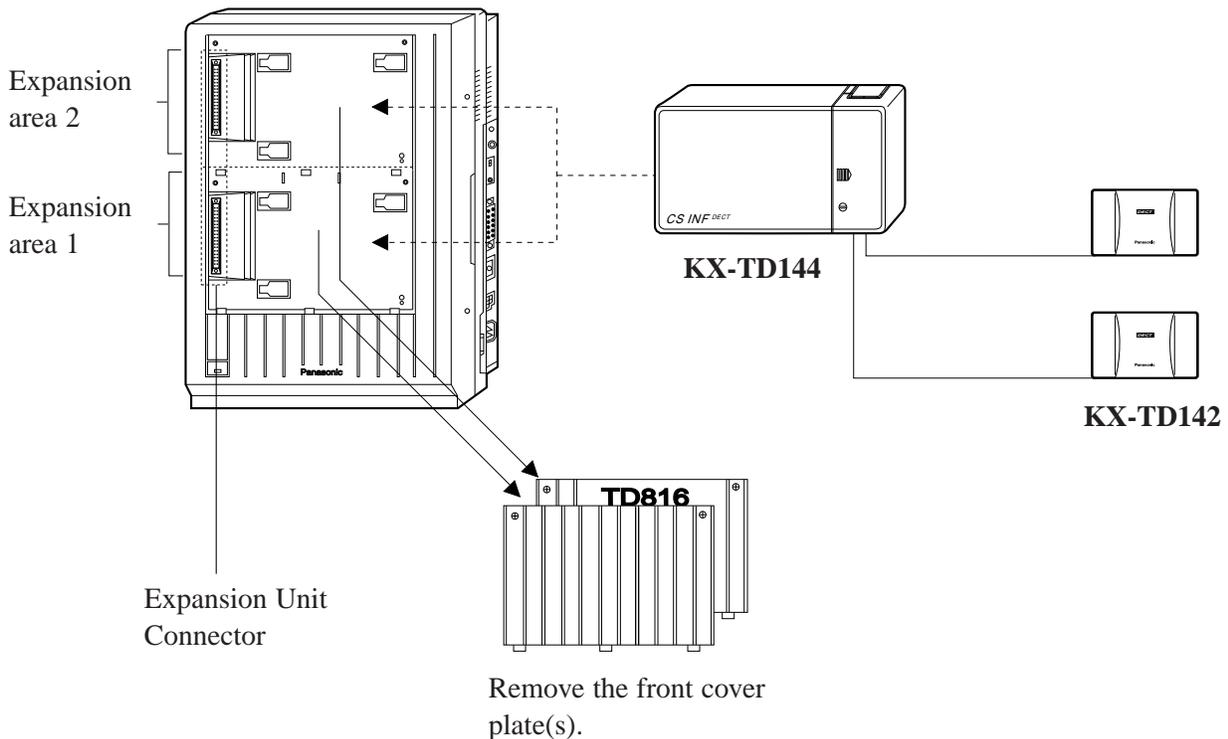
- The Cell Station should be kept free of dust, moisture, high temperature (more than 40°C), low temperature (less than 5°C), vibration, and should not be exposed to direct sunlight.
- If a backup system for use during a Cell Station power failure is required, set the system cable resistance within 20 Ω .
- Keep distance between the equipment listed below in order to prevent noise, interference or the disconnection or a conversation.

EQUIPMENT	DISTANCE
Two Cell Stations	more than 1 meter
Cell Station and office equipment such as a computer, telex, fax, etc., or microwaves.	more than 1.8 meters
Cell Station and portable station	more than 1 meter
Two portable stations	more than 0.5 meter
Portable station and proprietary wired telephone	more than 1 meter
The system and Cell Station	more than 2 meters

8.2.3 Location of the Unit

KX-TD816

One 2-RF Interface Unit with a 4-Station Line (KX-TD144) can be installed to any of the two expansion areas on the main unit KX-TD816. Up to two Cell Stations (KX-TD142) can be connected to the KX-TD144.



Note System Programming is required for location identification. Refer to program [109], "Expansion Card/Unit Type," in Section 4.

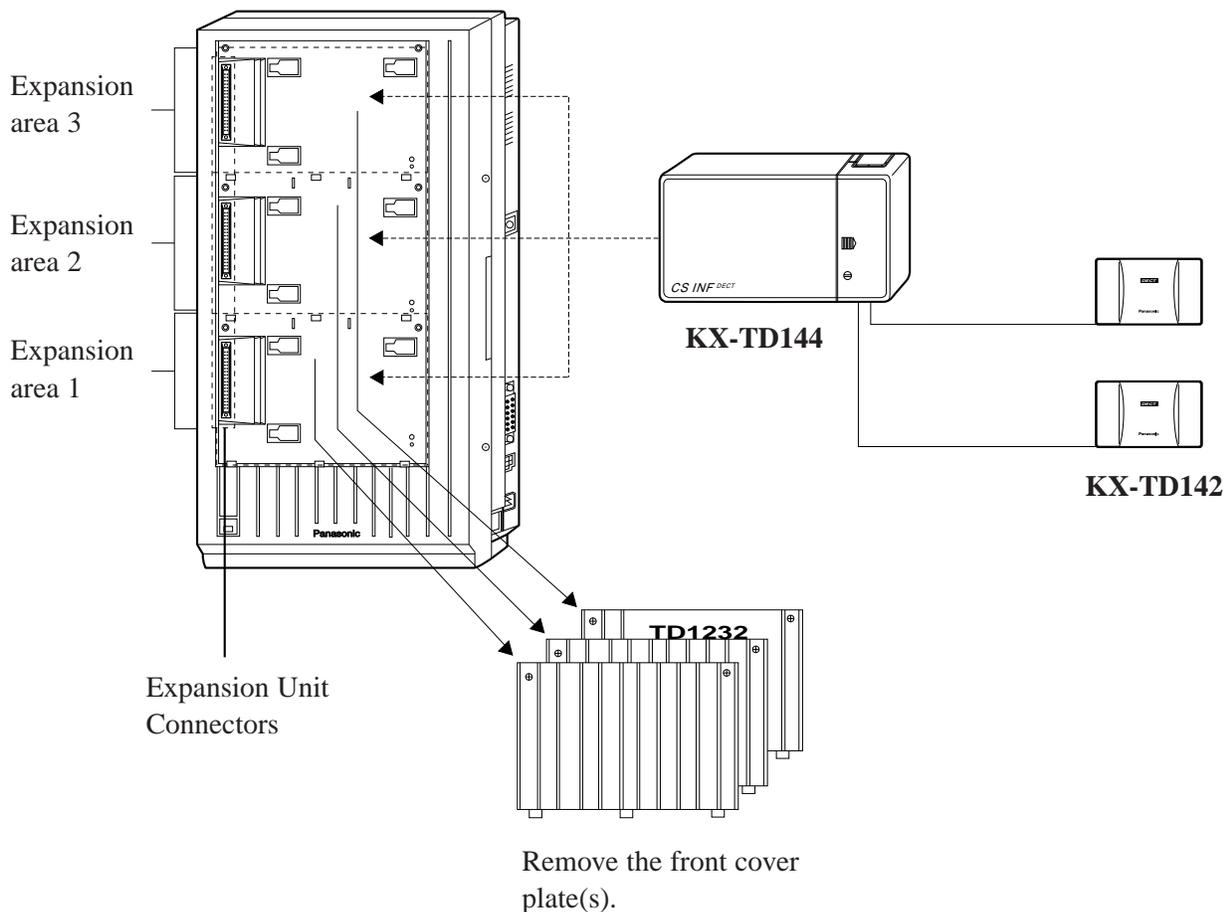
Default : Area 1 = 4-CO Line Unit
Area 2 = 8-Station Line Unit

Select "E" for the 2-RF Interface Unit with a 4-Station Line (KX-TD144). This is the same for an 8-Station Line Unit (KX-TD170).

8.2.3 Location of the Unit

KX-TD1232

Up to two 2-RF Interface Units with a 4-Station Line (KX-TD144) can be installed to any of the three expansion areas on the main unit KX-TD1232. Up to two Cell Stations (KX-TD142) can be connected to the KX-TD144.



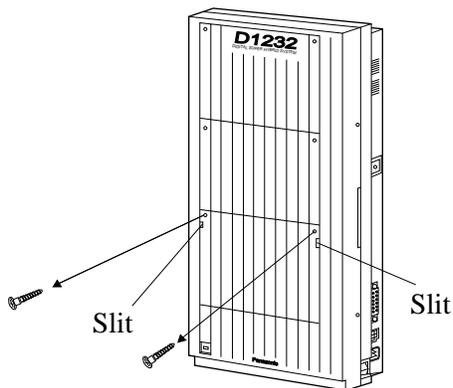
Note System Programming is required for location identification. Refer to program [109], “Expansion Card/Unit Type,” in Section 4.
Default : Area 1 = 4-CO Line Unit
 Areas 2 and 3 = 8-Station Line Unit
Select “E1” or “E2” for the 2-RF Interface Unit with a 4-Station Line (KX-TD144). This is the same for an 8-Station Line Unit (KX-TD170).

8.2.4 Installing the Unit

The following procedures can be used to install a 2-RF Interface Unit with a 4-Station Line (KX-TD144) to the main unit, and then the Cell Station (KX-TD142) to the KX-TD144.

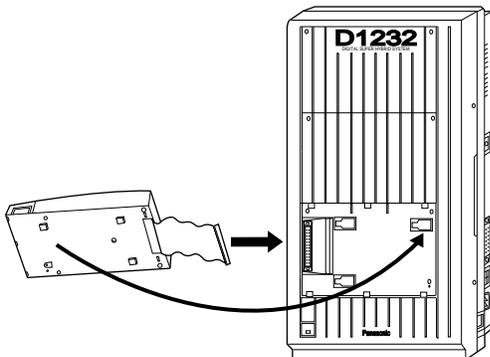
The KX-TD1232 is illustrated as the main unit.

1. Loosen the two screws on the cover plate. Insert your fingers into the slits to remove the cover plate(s).

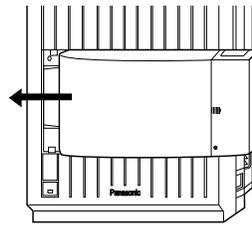


Note Any of the cover plates can be removed as required.

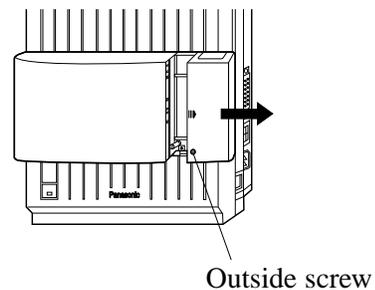
2. Connect the cabinet cord of the 2-RF Interface Unit with a 4-Station Line (KX-TD144) to the connector in the main unit firmly.



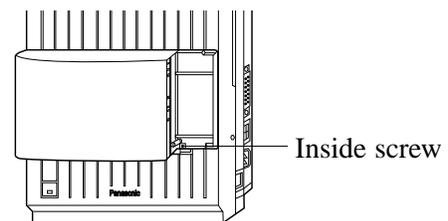
3. Hook the cabinet on the main unit and slide the cabinet to the left until it is secured.



4. Loosen the outside screw and slide the cover to the right.



5. Secure the inside screw (included) to fix the cabinet to the main unit.



Note Be sure to fix the inside screw to the main unit, or the unit may not work properly.

8.2.4 Installing the Unit

6. Wireless Extension Connection

Use a Cell Station Cord (4-conductor wiring – included) and 4-pin plug (included) to connect the cell station line. There are 2 plugs to connect the Cell Stations.

Maximum length of the cable: AWG 24 (\varnothing 0.6 mm): Under 1 km (3300 feet)

- 6-1.** Insert the wires of the 4-conductor wiring cord into the holes in the plug to connect pins “D1”, “D2”, “V1” and “V2”.

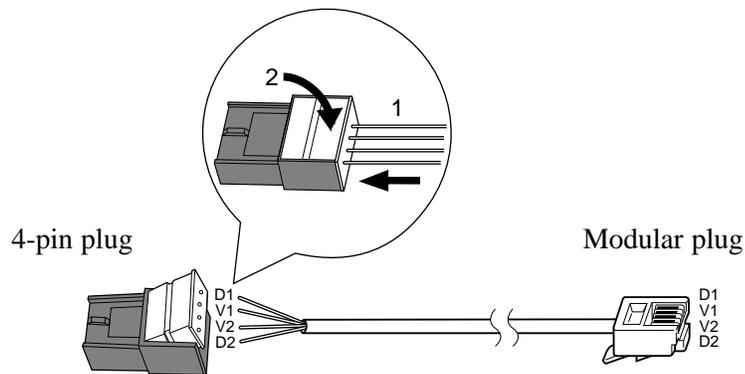
D1: Data 1 V1: Voltage +

D2: Data 2 V2: Voltage –

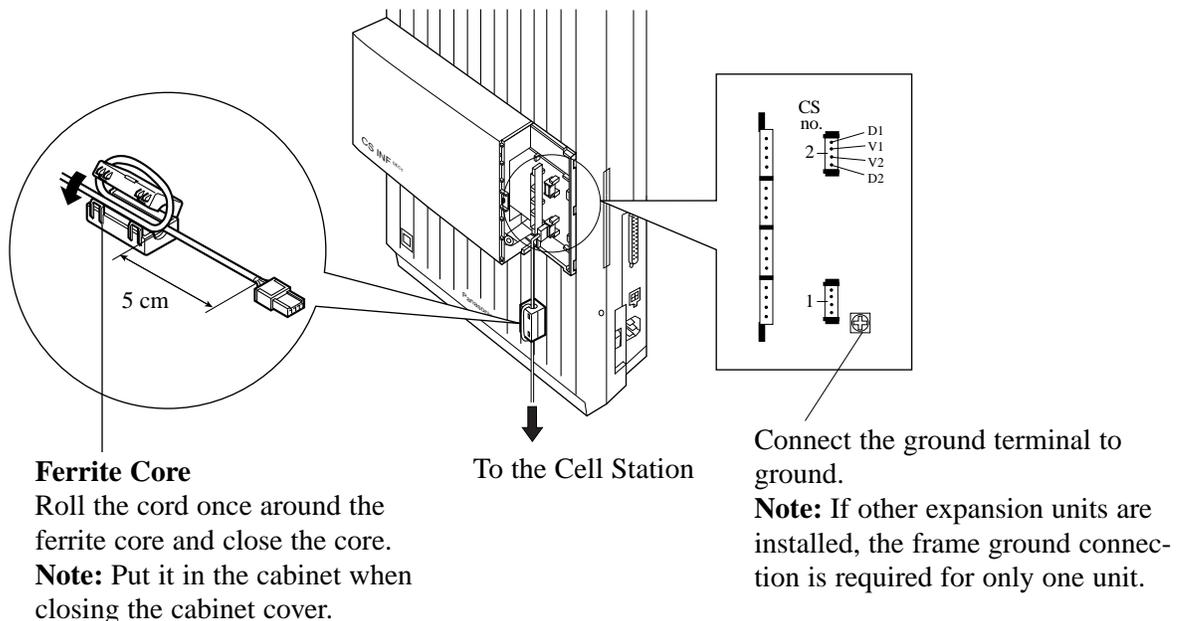
Press the transparent part into the black part.

Insert the other end of the wires into the modular plug.

Note: Do not peel off the wire coating. Insert the wires all the way.

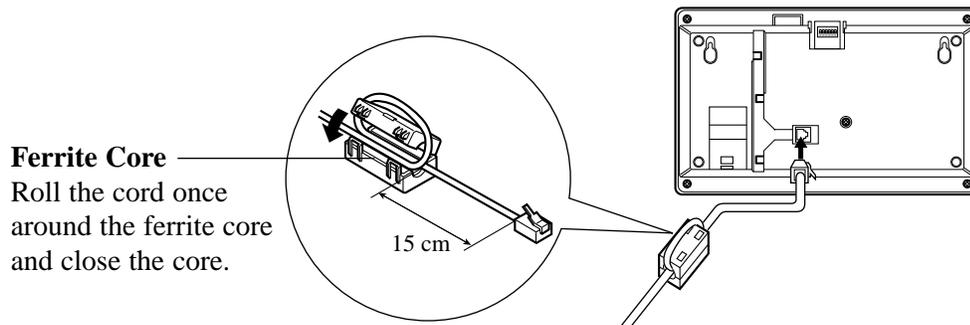


- 6-2.** Insert the 4-pin plug into a cell station jack on the unit, and attach the ferrite core (included) to the plug cord.



8.2.4 Installing the Unit

- 6-3.** Insert the modular plug into the Cell Station, and attach the ferrite core (included) to the plug cord.



- 6-4.** Survey the site for the Cell Station by testing the radio signal. Refer to Section 8.2.5, “Site Survey.”

- Note**
- System Programming is required to assign an extension number to each portable station.

Programming References

Section 8.4, DECT PS System Programming

- [650] PS Registration
- [653] PS Extension Name Set
- [671] PS Extension Number Set
- [672] PS Password Set
- [681] PS Radio System ID Set

Feature References

- Section 8.3, DECT Portable Station Features
- Digital Wireless Connection

8.2.4 Installing the Unit

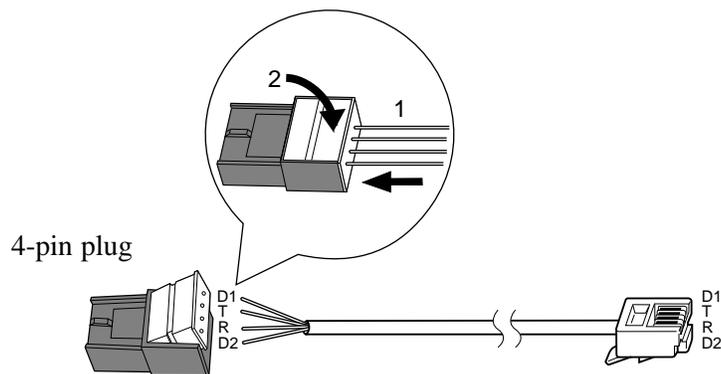
7. Wired Extension Connection

A 2-RF Interface Unit with a 4-Station Line (KX-TD144) can support four wired extensions as well as wireless extensions.

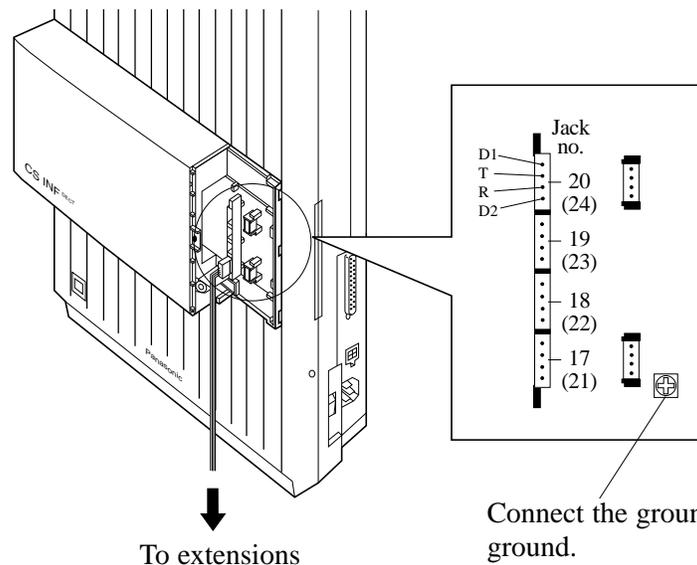
Use 4-pin plugs to connect the wired extensions.

- 7-1.** Insert the required telephone wires into the holes in the plug. Press the transparent part into the black part.

Note: Do not peel off the wire coating. Insert the wires all the way.



- 7-2.** Insert the plug into a jack on the unit.

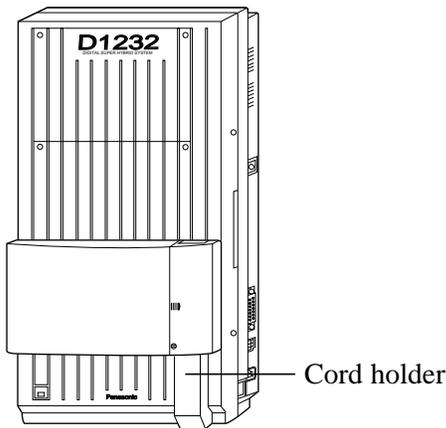


Connect the ground terminal to ground.

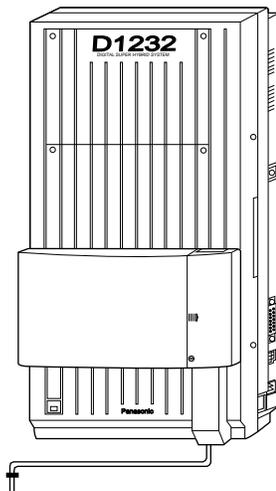
Note: If other expansion units are installed, the frame ground connection is required for only one unit.

8.2.4 Installing the Unit

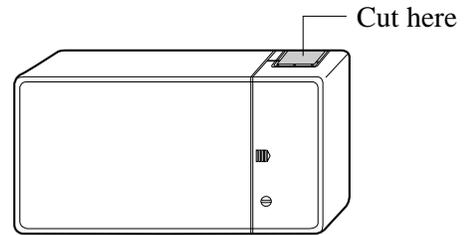
8. Tie all of the cords into a bundle. If other cords are exposed in the upper cabinet, tie them also.
9. Close the cabinet cover and secure the outside screw.
10. Cover the cords with the cord holder (included).



11. Fix the cords to the wall as shown so that the front cover can be opened.



- Note** If two expansion units are installed, cut the cabinet cover(s) on the lower cabinet(s) to allow the cords from the upper cabinet to go down through the cabinet cover(s). To protect the cords, smooth any cut edges.



SAFETY CAUTION

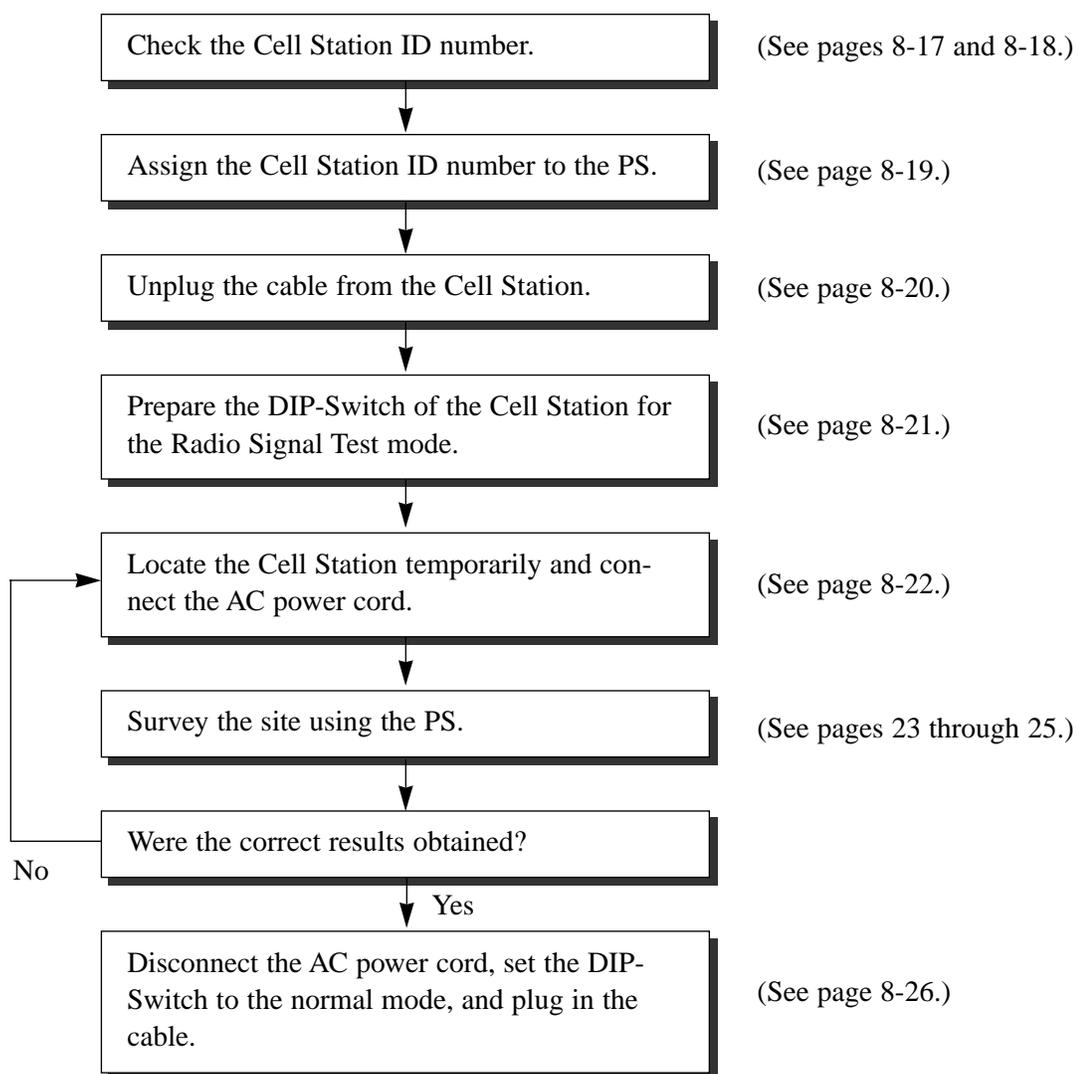
The small cover which provides access to connectors CN402, CN403, CN404 and CN405 shall not have its cable knock-out section removed, unless another expansion unit is mounted above which would prevent finger access via the cable knock-out opening. This safety requirement is necessary to prevent user access to network voltages.

8.2.5 Site Survey

Site Survey Specification

The KX-TD7500 portable station has Radio Signal Test Mode which monitors the state of link as one of the means to determine the site planning for the KX-TD142. In the mode, the frame loss and signal strength of a synchronous slot, and the signal strength of the other slots can be measured when the portable station is linking with the KX-TD142.

Flow Chart of the Site Survey



8.2.5 Site Survey

Checking the Cell Station ID Number

Use a personal computer to check the Cell Station (CS) ID number.
File: E1232BE.EXE

Main Menu Display

Main Menu	Off-line	Empty
<p>Panasonic</p> <p>Digital Super Hybrid System (DECT)</p> <p>Operating & Maintenance Tool Ver3.XXBE</p> <p>(C) COPYRIGHT 1997 KYUSHU MATSUSHITA ELECTRIC CO.,LTD.</p> <p>1.System Data Programming (BATCH) 2.System Data Programming (INTERACTIVE) 3.Disk File Management 4.DSHS Management 5.DSHS Connect/Disconnect 6.Quit Select the number: []</p>		
Enter the number, and hit ENTER key		
1	2	3
4	HELP	5
6	7	8

Input Format

- 1. In the Main Menu Display**
Enter **2** and press the **ENTER** key to select "System Data Programming (INTERACTIVE)".
- 2. In the System Data Programming Main Menu Display**
Enter **2** and press the **ENTER** key to select "Station".
- 3. In the Station Menu Display**
Enter **24** and press the **ENTER** key to select "CS Information".
The CS Information Display appears as shown on the next page.

8.2.5 Site Survey

CS Information Display

CS Information				On-line (RS-232C)		Empty		
CS No.	CS-ID			Large Info.	Small Info.	ROM Version	Diag. Code	Obst. Code
01	0000	0000	0000	FALUT	FAULT	0000	00	02
02	0000	0000	0000	FALUT	FAULT	0000	00	02
03	0080	1230	1260	INS	INS	0131	00	03
04	0080	1230	0360	FALUT	INIWAI	0131	00	03
05	0000	0000	0000	FALUT	FAULT	0000	00	02
06	0000	0000	0000	FALUT	FAULT	0000	00	02
07	0000	0000	0000	OUS	FAULT	0000	00	00
08	0000	0000	0000	OUS	FAULT	0000	00	00
09	0000	0000	0000	OUS	FAULT	0000	00	00
10	0000	0000	0000	OUS	FAULT	0000	00	00
11	0000	0000	0000	OUS	FAULT	0000	00	00
12	0000	0000	0000	OUS	FAULT	0000	00	00
13	0000	0000	0000	OUS	FAULT	0000	00	00
14	0000	0000	0000	OUS	FAULT	0000	00	00
15	0000	0000	0000	OUS	FAULT	0000	00	00
16	0000	0000	0000	OUS	FAULT	0000	00	00

↔
CS ID number (10 digits)

Example:

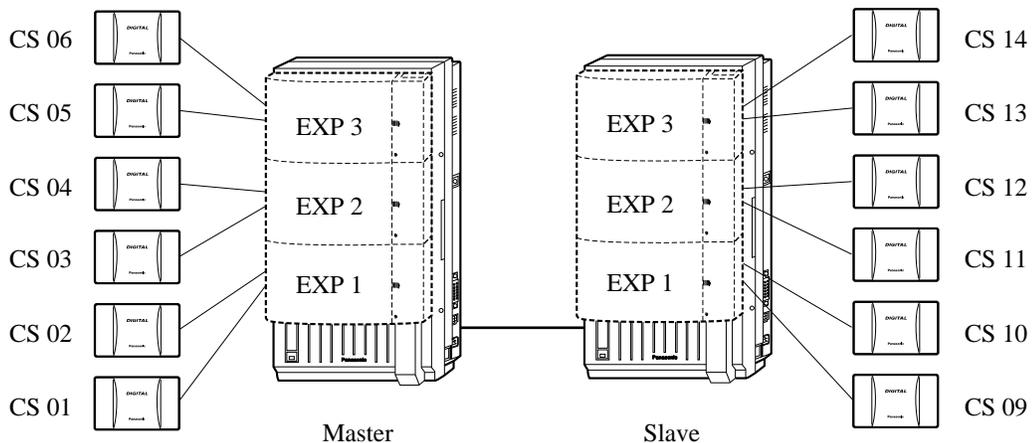
The CS ID number of CS number 03 is "8012301260".

The CS ID number of CS number 04 is "8012300360".

The location of the CS numbers are shown below.

KX-TD816: CS 01 through 04

KX-TD1232: CS 01 through 16



* EXP: 2-RF Interface Unit with 4-Station Line (KX-TD144)

One EXP for the KX-TD816 and a maximum of two EXPs for the KX-TD1232 can be installed per system.

CS connection for the KX-TD1232 Slave System is not possible now.

It will be possible in the future.

8.2.5 Site Survey

Assigning the Cell Station ID Number to the PS

1. Set the PS **Power Switch** to **ON** while pressing  (Talk),  (Flash) and  at the same time.

FUNCTION<0-4>

2. Press .

Example

CS NO?(1-8)

3. Enter the **Cell Station number**.

Example

CS ID1=
→

4. Press  (Talk).

Example

CS ID1=
→

5. Enter the **Cell Station ID number**.

- To enter letters, press the following but-

A	 (Hold)	D	 (Function)
B	 (OK)	E	 (Redial)
C	 (Book)	F	 (Flash)

tons.

Example

CS ID1=
→0123456789

6. Press  (Talk).

- The assignment is completed.

Example

CS NO?(1-8)

7. Repeat steps 3 through 6 to assign other Cell Station ID numbers.

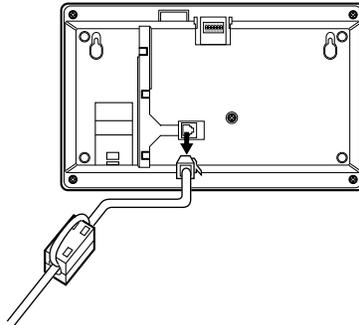
8. Press  (Transfer) to return to the initial display.

FUNCTION<0-4>

8.2.5 Site Survey

Unplugging the Cable from the Cell Station

After assigning the Cell Station ID number to the PS, unplug the cable from the Cell Station once.

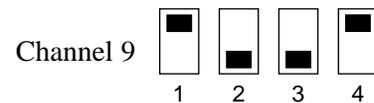
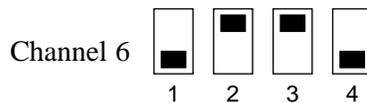
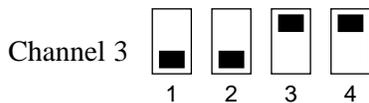
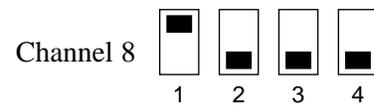
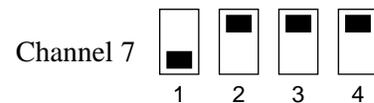
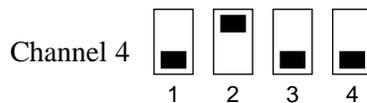
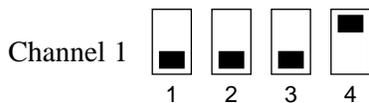
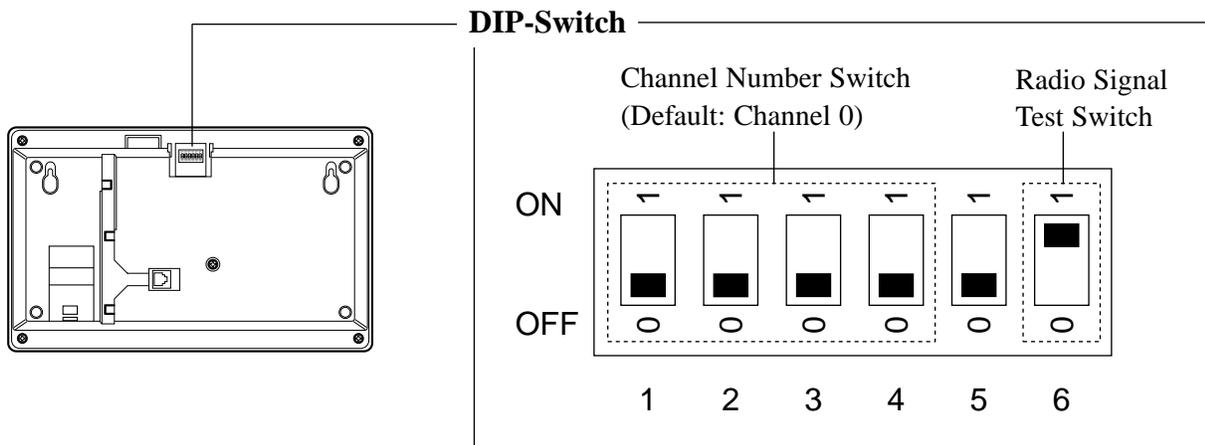


8.2.5 Site Survey

DIP-Switch Setting

After unplugging the Cell Station once, set the DIP-Switch as follows.

1. Switch the **Radio Signal Test Switch** from OFF to ON.
2. Set the **Channel Number Switches** as desired.



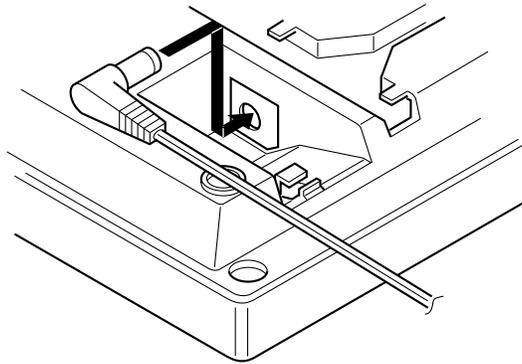
Note

- To see the signal strength of more than one Cell Station, the channel for each Cell Station needs to be set.
- Up to eight Cell Stations can be surveyed at the same time. If more than one Cell Station is in Radio Signal Test mode, each DIP-Switch channel must be different.

8.2.5 Site Survey

Connecting the AC Adaptor to the Cell Station

After setting the DIP-Switch, connect the AC Adaptor (KX-A11BS1: 230 ACV, 50Hz) to the Cell Station.



- Note**
- Only use the AC Adaptor for the Site Survey.

8.2.5 Site Survey

Radio Signal Test using the PS

After locating the Cell Station(s) temporarily, execute the Radio Signal Test using the PS.

The PS scans whether there is a Cell Station it can link with on channel 0 right after entering the Radio Signal Test mode. The channel to be scanned can be changed by pressing the appropriate 0 through 9 keys.

1. Set the PS **Power Switch** to **ON** while pressing  (Talk),  (Flash) and  at the same time.

FUNCTION<0-4>

2. Press .

- **To survey other slots**, scroll by pressing  (Next) or  (Previous).
- **To survey other channels**, enter the channel number (0 through 9).

Example:

When synchronised

CH0 SLOT:06 SYNC
L:12 0000/0100

Abbreviation of
SYNCHRONOUS

Channel number
(0 – 9)

Frame counter (0000 – 9999)

Frame error (0000 – 9999)

Slot number (00 – 23)

Signal strength level (00 – 12)

Level:00	Out of range
Level:01	Catches noise easily or disconnects.
Level:02 – 07	May catch noise.
Level:08 – 10	Good
Level:11 – 12	Better

When not synchronised

CH0 SLOT:06
L:12

RECOMMENDATION

- **Frame error** : 0000
- **Signal strength level** : more than level 08

8.2.5 Site Survey

3. To record the result;

3-1. Press  (Talk).

• **Attention!!**

All directory data will be cleared.
To return to the test result display,
press  (Clear).

ALL BOOK DATA
IS CLEARED!!

↓

ARE YOU SURE?
TALK=YES, TRANS=NO

3-2. Press  (Talk).

• To clear all log data, press  (Flash).

LOG NO.?(0-9)
FLASH=ALL CLR

3-3. Enter the **log number**
(0 through 9).

Example

LOG NO.?(0-9) 0
FLASH=ALL CLR

3-4. Press  (Talk).

• The result is recorded.

Example

LOG NO.?(0-9) 0
STORED

Note

- The results of measurement for the 24 slots on the channel are saved each time a channel is set. If the same channel is set, the new results override the previous ones. Therefore, a measurement of 10 channels x 24 slots in total can be made.
- If correct results cannot be obtained (e.g., there are many error counters), change the allocation of the Cell Station and repeat the site survey to select the best location.
- When a slot is synchronised in step 2 (“SYNC” is displayed), the other slots in the same channel show “OTHER”.
- Please do not use several PSs for the test simultaneously. This may cause interference problems, so that the test may not executed properly.

8.2.5 Site Survey

Referring to the recorded Radio Signal Test result

1. Set the PS **Power Switch** to **ON** while pressing  (Talk),  (Flash) and  at the same time.

FUNCTION<0-4>

2. Press .

RESULT OF SCAN
LOG NO.?(0-9)

3. Enter the desired **log number** (0 through 9).

Example

RESULT OF SCAN
LOG NO.?(0-9) 0

4. Press  (Talk).

- The results of channel 0 and slot 0 will be displayed.
- **To go to another slot**, scroll by pressing  (Next) or  (Previous). **To go to another channel**, enter the channel number (0 through 9).

Example

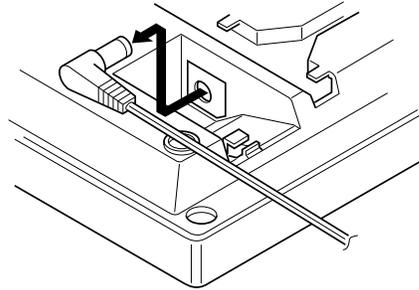
CH0 SLOT:00 SYNC
L:12 0000/0100

8.2.5 Site Survey

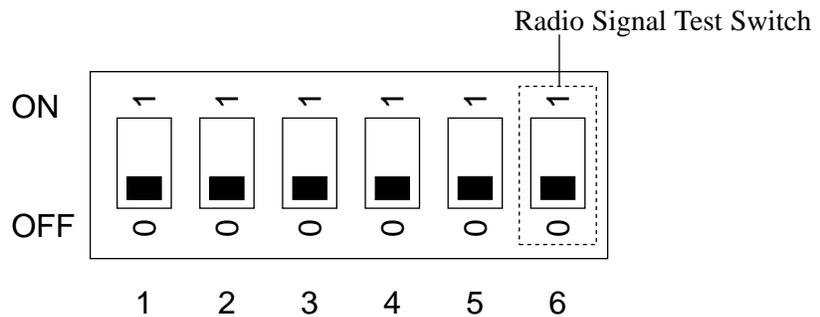
After the Site Survey

After obtaining the proper measurement results, the following procedures are required before mounting the Cell Station to the wall.

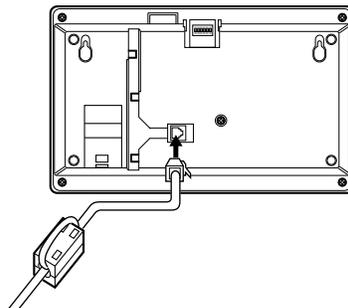
1. **Disconnect** the AC adaptor.



2. Switch the **Radio Signal Test Switch** of the Cell Station from ON to OFF.



3. **Connect the cable** from the 2-RF Interface Unit with the 4-Station Line to the Cell Station, and pass the cord through the groove on the unit.

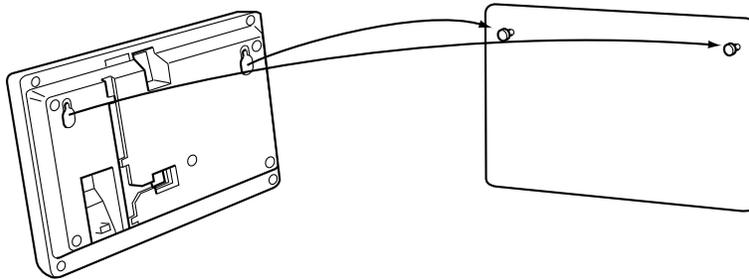


8.2.6 Wall Mounting

1. Place the template (included) on the wall to mark the two screw positions.
2. Install the two screws (included) into the wall.
3. Hook the Cell Station on the screw heads.

Mounting on Concrete or Mortar Walls

In step 2, drill two holes and drive the anchor plugs (included) with a hammer flush to the wall. Then install the screws into the anchor plugs.



8.3 DECT Portable Station Features

Digital Wireless Connection

Description The system supports the connection of a DECT Portable Station (PS), KX-TD7500. It can be used in the system with other telephones.

Conditions

- The KX-TD816 system supports up to 16 PSs and the KX-TD1232 system supports up to 64 PSs.
- To support the PSs, a 2-RF Interface Unit with a 4-Station Line (KX-TD144) and a Cell Station (KX-TD142) are required.
- Up to four calls can be made at the same time in the range.
- If you do not want your PS to ring, you can select the VIBRATION feature, which is convenient while in a meeting, etc.
- **The following procedures are required to utilise a PS:**
 - 1) Assign the radio system ID in program [681] “PS Radio System ID Set.”
 - 2) Reset the system.
 - 3) Register a PS in program [650] “PS Registration.”

Programming References

Section 4, System Programming

[109] Expansion Unit Type

Section 8.4, DECT PS System Programming

[020] PS Flexible CO Button Assignment

[650] PS Registration

[651] PS Termination

[653] PS Extension Name Set

[654] SXDP Assignment

[655] PS Budget Management

[656] PS Charge Verification Assignment

[657] PS Class of Service

[658] PS Extension Group Assignment

[659]–[660] PS DIL 1:N Extension — Day / Night

[661]–[662] PS Outgoing Permitted CO Line Assignment — Day / Night

[663]–[664] PS Doorphone Ringing Assignment — Day / Night

[665] PS Voice Mail Access Codes

[667] PS Extension Connection Assignment

[668] PS Data Line Security

[670] ISDN DDI Number / PS Extension Number Transformation

[671] PS Extension Number Set

[672] PS Password Set

[673] PS CLIP / COLP Number Assignment

[674]–[675] PS Extension Intercept Routing — Day / Night

[676] PS Incoming Call Display

[677] PS Itemized Code Set

[681] PS Radio System ID Set

Operation References DECT Portable Station Features
—User Manual

8.3 DECT Portable Station Features

PS Feature Conditions

Most of the features described in Section 3 are supported by a system with a DECT Portable Station (PS). However the following features are not supported.

- Background Music (BGM)
- Executive Busy Override – CO Line
- EXtra Device Port (XDP)
- Handsfree Operation
 - PS is not provided with a built-in speaker.
- Live Call screening (LCS)
- Microphone Mute
- Off-Hook Monitor
- Operator
 - As a PS cannot be assigned as an operator, it cannot perform the operator service features.
- Paging – DENY
- Paralleled Telephone
- Phantom Extension
- Redial, Automatic

The list below describes the available feature conditions which are required with a PS.

TITLE	PS CONDITION
Budget Management	<ul style="list-style-type: none">• Program [655], “PS Budget Management,” is required to assign the charge limit of a call on a PS basis.
Button, Flexible	<ul style="list-style-type: none">• Program [020], “PS Flexible Button Assignment,” is used to determine the use of the PS flexible buttons.
Call Forwarding	<ul style="list-style-type: none">• “FWD” is displayed as notification while on-hook.• The FWD/DND button can be activated by selecting it on the display. For details, refer to the Key Operation in the User Manual.• The FWD/DND button can be assigned on a flexible button. However, the LED of the flexible button does not work.
Calling / Connected Line Identification Presentation (CLIP / COLP)	<ul style="list-style-type: none">• Program [673], “PS CLIP / COLP Number Assignment,” is required for selecting the type of additional number to the CLIP and COLP information of the PS.
Charge Fee Reference	<ul style="list-style-type: none">• The charge fee reference allowed for a PS is determined by program [656], “PS Charge Verification Assignment.”

8.3 DECT Portable Station Features

TITLE	PS CONDITION
Class of Service (COS)	<ul style="list-style-type: none"> • Program [657], “PS Class of Service,” is required for assigning each PS a Class of Service (COS).
CO Incoming Call Information Display	<ul style="list-style-type: none"> • The display type for a PS when an incoming call is received can be selected by program [676], “PS Incoming Call Display.”
Display, Call Information	
CO Line Connection Assignment – Outgoing	<ul style="list-style-type: none"> • Program [661]–[662], “PS Outgoing Permitted CO Line Assignment — Day / Night,” is used to determine the CO line which can be accessed by a PS.
Conference	<ul style="list-style-type: none"> • The Conference button can be activated by selecting it on the display. For details, refer to the Key Operation in the User Manual. • The Conference button can be assigned on a flexible button. However, the LED of the flexible button does not work.
Data Line Security	<ul style="list-style-type: none"> • Data Line Security for a PS can be set or cancelled by program [668], “PS Data Line Security.”
Direct Dialling In (DDI)	<ul style="list-style-type: none"> • Program [670], “ISDN DDI Number / PS Extension Number Transformation,” is used to convert a DDI number to a PS extension number.
Direct In Lines (DIL)	<ul style="list-style-type: none"> • A PS can be assigned as the DIL 1:N destination. In this case, program [659]–[660], “PS DIL 1:N Extension — Day / Night,” is required. • Intercept Routing applies to DIL 1:1. When the line is busy, the PS is out of range or the PS power switch is OFF.
Do Not Disturb (DND)	<ul style="list-style-type: none"> • “DND” is displayed as notification while on-hook. • The FWD/DND button can be activated by selecting it on the display. For details, refer to the Key Operation in the User Manual. • The FWD/DND button can be assigned on a flexible button. However, the LED of the flexible button does not work.
Door Opener Doorphone Call	<ul style="list-style-type: none"> • Program [663]–[664], “PS Doorphone Ringing Assignment — Day / Night,” is required for assigning each PS to receive a doorphone call or to open the door.
DSS Console (KX-T7240 / KX-T7040)	<ul style="list-style-type: none"> • The DSS Console cannot work with a PS.
Extension Connection Assignment	<ul style="list-style-type: none"> • Program [667], “PS Extension Connection Assignment,” is used to assign whether the PS user can perform all accesses or not.

8.3 DECT Portable Station Features

TITLE	PS CONDITION
Extension Group	<ul style="list-style-type: none"> The PS extension group can be used with the Group Call Pickup. The PS extension group can be assigned in program [658] “PS Extension Group Assignment.”
Flexible Numbering	<ul style="list-style-type: none"> In addition to current flexible numbering, the feature number for the Super EXtra Device Port (SXDP) can be assigned. For details, refer to the program [100], “Flexible Numbering.”
Handset / Headset Selection	<ul style="list-style-type: none"> To use a headset with your PS, just connect the user-supplied headset to the PS. Moreover, it is possible to answer calls without lifting up the PS or pressing any key. In this case, PS Programming, “Setting the Handsfree Answer Mode,” is required to select the answering mode.
Handsfree Answerback	<ul style="list-style-type: none"> This feature allows PS users to answer calls, all or intercom, without lifting up the PS or pressing any key only when the user-supplied headset is connected to the PS. If the PS user receives a call in this mode, a handsfree conversation is established immediately after the user hears beep tone and the caller hears a confirmation tone. PS Programming, “Setting the Handsfree Answer Mode,” is required to select the answering mode.
Hunting Group	<ul style="list-style-type: none"> Program [131], “Hunting Group Assignment,” is required to assign each PS to a hunting group. PSs are hunted in the No Reply or Ring hunting mode. If another hunting mode is selected in program [106], “Station Hunting Type,” PSs are skipped. In Ring hunting mode, a maximum of four PSs ring simultaneously. If the connected CS is busy, the PSs are skipped.
Station Hunting	
Intercept Routing	<ul style="list-style-type: none"> Program [674]–[675], “PS Extension Intercept Routing — Day / Night,” is required for assigning the Intercept Routing destination for each PS. The possible destinations of intercepted calls are as follows. <ol style="list-style-type: none"> 1) a wired extension 2) an external pager A PS cannot be a destination.
Least Cost Routing (LCR)	<ul style="list-style-type: none"> Program [677], “PS Itemized Code Set” is required for assigning the itemized code for each PS.
LED Indication, CO Line	<ul style="list-style-type: none"> The LED indicators of the Flexible CO buttons do not work while on-hook.

8.3 DECT Portable Station Features

TITLE	PS CONDITION
Message Waiting	<ul style="list-style-type: none">• “✉” is displayed as notification.• The Message button can be activated by selecting it on the display. For details, refer to the Key Operation in the User Manual.• The Message button can be assigned on a flexible button. However, the LED of the flexible button does not work.
Module Expansion	<ul style="list-style-type: none">• In addition to the current expansion unit, a 2-RF Interface Unit with a 4-Station Line (KX-TD144) can be installed to the system. One KX-TD144 supports up to two Cell Stations (KX-TD142). One KX-TD144 can be installed to the KX-TD816, and up to two KX-TD144s can be installed to the KX-TD1232.
Night Service	<ul style="list-style-type: none">• PS users cannot confirm the current mode on the display.
Paging — All / Group	<ul style="list-style-type: none">• PS users can page and answer a page, which is being announced over a nearby wired proprietary telephone or external pager. However you cannot be directly paged at the PS.
Pulse to Tone Conversion	<ul style="list-style-type: none">• The Tone button can be activated by selecting it on the display. For details, refer to the Key Operation in the User Manual.
User Programming (Manager Programming)	<ul style="list-style-type: none">• Program [020], “PS Flexible Button Assignment,” can also be changed by any display proprietary telephone user in the system.
Voice Mail Integration	<ul style="list-style-type: none">• A mailbox number can be assigned for each PS in program [665], “PS Voice Mail Access Codes.”

8.3 DECT Portable Station Features

Call Directory

Description PS users can store names and/or phone numbers in the directory. A stored number is dialled out by selecting a name or phone number in the directory. There are four types of directory features, including one PS directory and three PBX directories, as follows.

PS Dialling Directory:
PS users can make an outside call by selecting privately-assigned names and phone numbers (100 max.).

PBX System Speed Dialling Directory:
PS users can make a call via the system by selecting system-assigned names and phone numbers (500 max.).

PBX Extension Dialling Directory:
PS users can make a call via the system by selecting system-assigned extension names.

PBX Station Speed Dialling Directory:
PS users can make a call via the system by selecting privately-assigned names and phone numbers (10 max.).

Conditions • It is possible to lock the PS Dialling Directory contents.

Programming References

Section 4, System Programming
[001] System Speed Dialling Number Set
[002] System Speed Dialling Name Set
[003] Extension Number Set
[004] Extension Name Set
DECT Portable Station FeaturesUser Manual,
PS Programming — Controlling the Directory Lock

Feature References None

Operation References **DECT Portable Station Features**
—User Manual Call Directory

8.3 DECT Portable Station Features

PS Programming

Description

PS users can change the default settings of PS Programming according to their needs.

There are two passwords, a PS Programming password and System Lock password, to enter into the programming mode. The PS Programming password is programmed in PS Programming, and the System Lock password is programmed in the initial PS registration or in PS Programming. The displayed PS programming menu differs depending on the password level as follows.

Level 0: A password is not required.

Level 1: A PS Programming password is required.

Level 2: A System Lock password is required.

The combination of the passwords are as follows.

System Lock	Disable	Disable	Enable	Enable
PS Programming	Disable	Enable	Disable	Enable
System Lock Password	—	—	Level 0 – 2	Level 0 – 2
PS Programming Password	—	Level 0 – 2	—	Level 0 – 1
No Password or Incorrect Password	Level 0 – 2	Level 0	Level 0 – 1	Level 0

8.3 DECT Portable Station Features

The programming items and their password levels are as follows.

Password level	Programming Item
0	Setting the Keypad Backlight Mode
0	Setting the Key Tone
0	Selecting the Ringer Pattern
0	Selecting the Vibration and Ring Type
0	Selecting the Display Language
1	Controlling the Directory Lock
0	Setting the Quick Answering Mode
0	Setting the Automatic Answering Mode
0	Selecting the Automatic Answer Delay
2	Selecting the DECT System
0	Selecting the Standby Display*
0	Selecting the Date / Time Display*
1	Clearing the Settings in Memory
2	Cancelling the PS Registration
0	Setting the Guidance Menu
1	Setting the PS Programming Password
2	Setting the System Lock

*: Only displayed when registered to a Panasonic Digital Super Hybrid System and “〒” is displayed.

Conditions

- If only one DECT system is connected, the “Selecting the DECT System” display will not appear.
- If your PS is not registered, the “Selecting the DECT System” and “Cancelling the PS Registration” displays will not appear.

Programming References

Section 8.4, System Programming

[650] PS Registration

DECT Portable Station FeaturesUser Manual,
PS Programming

Feature References None

Operation References None

8.3 DECT Portable Station Features

Super EXtra Device Port (SXDP)

Description

The Super EXtra Device Port (SXDP) allows a proprietary portable station (PS) to be used in parallel with a proprietary wired (PT) or single line telephone (SLT). When in the SXDP mode, your PS can make or receive calls as usual, but can also receive calls reaching the paired telephone.

Conditions

- This feature can only be set from a PS. The wired telephone can enable or disable this feature in program [654] “SXDP Assignment” (default: enable).
- When the paralleled wired telephone receives a call, both the wired telephone and PS will ring. If either of the paralleled telephones is busy, it is not possible to make a call from the other telephone.
- Types of incoming calls which are received while in SXDP mode are:
 - Outside calls – DIL 1:1; Intercept Routing; DDI; MSN; IRNA
 - Intercom calls – Extension; TransferOther type of calls will not be sent to the PS.
- When you receive a call reaching the paired telephone by the PS or when making a call from a PS, the display message of the wired telephone is shown on the calling or called party’s display (e.g., extension number and name).
- Paralleled telephones can call each other or transfer a call by dialling their own extension number.
- If a PS receives a call by its own extension number, it works as usual.

8.3 DECT Portable Station Features

- The following list shows the conditions when using a certain feature while in SXDP mode.

FEATURE	CONDITION
Call Log, Outgoing	<ul style="list-style-type: none">• The memory of Call Log is used together. The call logged by the wired telephone can be used by the PS and vice versa.
Budget Management	<ul style="list-style-type: none">• The call charge of the PS is included with the wired telephone. If the pre-assigned limit is reached, both telephones cannot make further calls without authorisation.
Call Forwarding	<ul style="list-style-type: none">• Calls to the wired telephone due to the setting of the wired telephone.• The <i>Call Forwarding – All</i> feature for the wired telephone can be set from a PS so that all incoming calls to the wired telephone will be forwarded to the desired destination.
Class of Service (COS)	<ul style="list-style-type: none">• The COS level of the wired telephone becomes available.
Do Not Disturb (DND)	<ul style="list-style-type: none">• Calls to the wired telephone due to the setting of the wired telephone.
Electronic Station Lockout	<ul style="list-style-type: none">• The PS can make a call even if the wired telephone is locked.
Executive Busy Override	<ul style="list-style-type: none">• Even during a conversation using a PS, the setting of the wired telephone becomes available.
Pickup Dialling	<ul style="list-style-type: none">• The memory of the Pickup Dialling exists individually.
Redial, Saved Number	<ul style="list-style-type: none">• The memory of the Saved Number Redial of the wired telephone cannot be used by the PS.
Station Speed Dialling (PS Dialling Directory)	<ul style="list-style-type: none">• The memory of the Station Speed Dialling (PS Dialling Directory) exists individually.

Programming References

Section 4, System Programming

[100] Flexible Numbering, Super extra device port (SXDP)

Section 8.4, System Programming

[654] SXDP Assignment

Feature References

None

Operation References

—User Manual

DECT Portable Station Features

Super EXtra Device Port (SXDP)

8.4 DECT PS System Programming

DECT PS System Programming Conditions

Most of the system programming described in Section 4 is supported by a system with a DECT portable station (PS). In addition, the programs which are described in the following pages are required to use the PS.

Use your display proprietary wired telephone for programming. Programming with a PS is only required for program [650], “PS Registration”.

Note For location identification of the 2-RF Interface Unit with a 4-Station Line (KX-TD144), refer to program [109], “Expansion Card/Unit Type,” in Section 4. Then select “E” for the 2-RF Interface Unit with a 4-Station Line (KX-TD144) with the KX-TD816, or “E1” or “E2” with the KX-TD1232. This is the same for an 8-Station Line Unit (KX-TD170).

8.4 DECT PS System Programming 020

PS Flexible CO Button Assignment

Description Used to determine how the flexible CO buttons are used on PSs.

- Selection**
- PS registration number: KX-TD816 – **01 through 16**
KX-TD1232 – **01 through 64**
 - Flexible CO button number: **1 through 3**
 - Button Code (plus parameter, if required)

Button Code	Parameter
0 (Single-CO)	TD816: 01 through 16 (CO line number) TD1232: 01 through 54 (CO line number)
1 (DSS)	2 through 4 digits (Extension number)
2 (One-Touch Dialling)	16 digits max. (Telephone number)
3 (Message Waiting)	None
4 (FWD/DND)	None
5 (Save)	None
6 (Account)	None
7 (Conference)	None
80 (Log-In/Log-Out)	None
82 (Voice Mail Transfer)	2 through 4 digits (Extension number)
83 (Two-Way Record)†	2 through 4 digits (Extension number)
84 (Two-Way Transfer)†	2 through 4 digits (Extension number)
8# (One-Touch Dialling with Auto Hold)	16 digits max. (Telephone number)
9 (Terminate)	None
* (Loop-CO)	None
# (Group-CO)	1 through 8 (CO line group number)

†: Available when the Digital Super Hybrid System is connected to a Digital Proprietary Telephone capable Panasonic Voice Processing System (one that supports digital proprietary telephone integration; e.g. KX-TVP100).

Default All PSs – CO buttons 1 through 3 = Single-CO 01 through 03

- Programming**
1. Enter **020**.
Display: PS Flexible Key
 2. Press **NEXT**.
Display: PS NO?→

020 8.4 DECT PS System Programming

PS Flexible CO Button Assignment (contd.)

3. Enter the **PS registration number**.
You can also keep pressing **NEXT** until the desired PS registration number is displayed.
Display: PT-PGM Mode
4. Press the **CO button** to be changed.
The display shows the button pre-assignment.
Display example: CO-01
5. Enter the **button code** (plus **parameter**, if required).
To change the parameter, press **CLEAR** and enter the new parameter.
6. Press **STORE**.
7.
 - To program another CO button for the same PS, repeat steps 4 through 6.
 - To program another PS, press **SELECT** and repeat steps 3 through 6.
8. Press **END**.

Cancelling

1. Perform the same procedures as steps 1 through 4 above.
2. Enter **2**.
3. Press **STORE**.
4. Press **END**.

Feature References

Section 3, Features
Button, Flexible

PS Registration

Description	Assigns a registration number and an extension number to each PS. Steps 1 through 5 and 22 through 24 must be operated with your display PT, and steps 6 through 21 with the PS whose registration number is to be set.
Selection	(With a display PT) <ul style="list-style-type: none">• PS registration number: KX-TD816 – 01 through 16 KX-TD1232 – 01 through 64• PS extension number: 2 through 4 digits (With a PS) <ul style="list-style-type: none">• DECT system number: 1 through 4• PS password: 4 digits• System lock password: 1 through 4 digits
Default	All PSs – Not stored
Programming	(With a display PT) <ol style="list-style-type: none">1. Enter 650. Display: PS Registration2. Press NEXT. Display: PS NO?→3. Enter the PS registration number. Display example: PS01:Not Stored4. Enter the PS extension number. Display example: PS01:Ext 2815. Press STORE.<ul style="list-style-type: none">• Display (if enabled): Executing Continue programming from step 6 with a PS within five minutes.• Display (if disabled): Rejected The Cell Station (CS) may not be connected or not working. After connecting the CS or resetting the PBX, wait for at least one minute and try again from the beginning. (With a PS) <ol style="list-style-type: none">6. Slide the Power switch ON.7. Press the Function button. Display: KEY8. Press the Book button twice. Display: PROGRAMMING9. Press the Auto/OK button.

650 8.4 DECT PS System Programming

PS Registration (contd.)

10. Press the **Book** button repeatedly until the display below appears.
Display: REGISTRATION
11. Press the **Auto/OK** button.
Display example: DECT-SYS-NO.
1234
12. Enter the **DECT system number**.
Display example: DECT-SYS-NO.
1
13. Press the **Auto/OK** button.
Display example: ENTER PASSWORD
=
14. Enter the **PS password**.
Display example: ENTER PASSWORD
=****

You will hear a confirmation tone.
15. Press the **Auto/OK** button.
Display: DECT-SYS LOCK
=DISABLE
16. Press the **Book** button to select “DISABLE” or “ENABLE” for the System Lock.
Display: DECT-SYS LOCK
=DISABLE
17. Press the **Auto/OK** button.
Display example(if disabled): UNLOCKED
Display example(if enabled): ENTER PASSWORD
=
18. If you select “ENABLE” in step 16, enter a **System Lock password**.
Display: ENTER PASSWORD
=****
19. Press the **Auto/OK** button.
Display: REENTER PASSWORD
=
20. Enter the **System Lock password** again.
Display: REENTER PASSWORD
=****
21. Press the **Auto/OK** button.
Display: LOCKED

PS Registration (contd.)

(With a display PT)

22. To program another PS, press **NEXT** or **PREV**, or **SELECT** and the desired **PS registration number**.
23. Repeat steps 4 through 21.
24. Press **END**.

Conditions

- It is possible to search the display by pressing # (Next) or * (Previous) in steps 8 and 10.
- You can assign an extension number to each PS also in program, [671] “PS Extension Number Set.”
- The PS password can be assigned in program [672], “PS Password Set.”
- One PS must have only one registration number. It is not possible to assign the different registration number for one PS.
- If the PS extension number or the PS password is changed after registering, the PS cannot be used until it is registered again in this program.
- Do not press END after step 15, or it may not registered correctly.
- To re-assign the PS, which is set the System Lock, to the other DECT system, it is required to cancel the System Lock first in PS Programming, “Setting the System Lock.”

Feature References

Section 8.3, DECT Portable Station Features
Digital Wireless Connection

651 8.4 DECT PS System Programming

PS Termination

Description	Deletes a stored PS so that it cannot be used in the system.
Selection	<ul style="list-style-type: none">• PS registration number: KX-TD816 – 01 through 16 KX-TD1232 – 01 through 64
Default	Not applicable.
Programming	<ol style="list-style-type: none">1. Enter 651. Display: PS Termination2. Press NEXT. Display: PS NO?→3. Enter the PS registration number. You can also keep pressing NEXT until the desired PS registration number is displayed. Display example: PS01:EXT 2814. Press STORE. Display: Executing The system searches for the PS registration number while “Executing” is blinking, and deletes the registration after it is found. Display example: Deleted5. To delete another PS, press NEXT or PREV, or SELECT and the desired PS registration number.6. Repeat steps 3 through 5.7. Press END. Even if “Rejected” is displayed in step 4 above, you can delete the PS. In this case, Registration Clear on the PS (PS Programming) is required. Display: Rejected (The PS is not registered correctly.) The display changes after few seconds as follows. Display: Delete? <ol style="list-style-type: none">5. If you do not want to delete the PS, go to step 7.

PS Termination (contd.)

6. Press **STORE**.
7. To delete another PS, press **NEXT** or **PREV**, or **SELECT** and the desired **PS registration number**.
8. Repeat steps 3 through 7.
9. Press **END**.

Conditions

- Deleting the same PS registration number from the PS by PS Programming is only necessary when it is deleted after “Rejected” is displayed in this program.
- If a PS registration is terminated in this program, all the PS assignments and its extension assignments will return to the default settings. If you only want to change the PS, retaining all the assignments, re-enter the replacing PS on the old PS registration number in program [650] “PS Registration.” In this case, you should reset the system so that the assignment is activated.

Feature References

Section 8.3, DECT Portable Station Features
Digital Wireless Connection

653 8.4 DECT PS System Programming

PS Extension Name Set

Description	Assigns names to the PS extension numbers programmed in program [671], “PS Extension Number Set.”
Selection	<ul style="list-style-type: none">• PS registration number: KX-TD816 – 01 through 16 KX-TD1232 – 01 through 64• Name: 10 characters (max.)
Default	All PSs – Not stored
Programming	<ol style="list-style-type: none">1. Enter 653. Display: PS EXT Name Set2. Press NEXT. Display: PS NO?→3. Enter the PS registration number. You can also keep pressing NEXT until the desired PS registration number is displayed. Display example: PS01:Not Stored4. Enter the name. For entering characters, see Section 4.1.3 “Entering Characters” in the KX-TD816/KX-TD1232 Installation Manual. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and enter the new name.5. Press STORE.6. To program another PS, press NEXT or PREV, or SELECT and the desired PS registration number.7. Repeat steps 4 through 6.8. Press END.
Feature References	Section 8.3, DECT Portable Station Features Digital Wireless Connection

SXDP Assignment

Description	Disables or enables the Super EXtra Device Port (SXDP) feature for wired extensions.
Selection	<ul style="list-style-type: none">• Jack number: KX-TD816 – 01 through 16 (-1 / -2), * KX-TD1232 – 01 through 64 (-1 / -2), * (-1= first part, -2= second part, *=all jacks)• Enable / Disable
Default	All jacks – Enable
Programming	<ol style="list-style-type: none">1. Enter 654. Display: SXDP Assign2. Press NEXT. Display: Jack NO?→3. Enter the jack number. To enter jack number 01, you can also press NEXT. To select the second part (-2), press NEXT after entering the jack number. Display example: #01-1:Enable4. Keep pressing SELECT until the desired selection is displayed.5. Press STORE.6. To program another jack, press NEXT or PREV, or SELECT and the desired jack number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• To assign all jacks to one selection, press the * key in step 3. In this case, the display shows the contents programmed for the jack 01.
Feature References	Section 3, Features Super EXtra Device Port (SXDP)

655 8.4 DECT PS System Programming

PS Budget Management

Description	Assigns the charge limit for a call on a PS basis.
Selection	<ul style="list-style-type: none">• PS registration number: KX-TD816 – 01 through 16, * KX-TD1232 – 01 through 64, * (*=all PS registration numbers)• Charge limit (Charge): 0 through 99999999
Default	All PSs – 0 £
Programming	<ol style="list-style-type: none">1. Enter 655. Display: PS Charge Limit2. Press NEXT. Display: PS NO?→3. Enter the PS registration number. You can also keep pressing NEXT until the desired PS registration number is displayed. Display example: PS01: 0 £4. Enter a charge limit. To delete the charge limit, press CLEAR.5. Press STORE.6. To program another PS, press NEXT or PREV, or SELECT and the desired PS registration number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• If the charge limit is set “0,” no restriction is applied.• To assign all PSs to one selection, press the * key in step 3. In this case, the display shows the contents programmed for the PS which has the lowest PS registration number.• The displayed currency denomination can be programmed by program [125] “Assignment of Denomination.”
Feature References	Section 3, Features Budget Management Charge Fee Reference

8.4 DECT PS System Programming 656

PS Charge Verification Assignment

Description	Assigns the PS which is allowed to refer or clear the charge information on the extension, CO line, department code, account code, and total.
Selection	<ul style="list-style-type: none">• PS registration number: KX-TD816 – 01 through 16, * KX-TD1232 – 01 through 64, * (* = all PS registration numbers)• Enable / Disable
Default	All PSs – Enable
Programming	<ol style="list-style-type: none">1. Enter 656. Display: PS Charge Refer2. Press NEXT. Display: PS NO?→3. Enter the PS registration number. You can also keep pressing NEXT until the desired PS registration number is displayed. Display example: PS01:Enable4. Keep pressing SELECT until the desired selection is displayed.5. Press STORE.6. To program another PS, press NEXT or PREV, or SELECT and the desired PS registration number.7. Press END.
Conditions	<ul style="list-style-type: none">• To assign all PSs to one selection, press the * key in step 3. In this case, the display shows the contents programmed for the PS which has the lowest PS registration number.
Feature References	Section 3, Features Charge Fee Reference

657 8.4 DECT PS System Programming

PS Class of Service

Description Programs each PS a Class of Service (COS). The COS determines the call handling abilities for each PS. Primary and secondary COS numbers can be assigned for each PS.

Selection

- PS registration number: KX-TD816 – **01 through 16, ***
KX-TD1232 – **01 through 64, ***
(*=all PS registration numbers)
- COS number: **1 through 8**

Default All PSs – Primary / Secondary – COS 1

Programming

1. Enter **657**.
Display: PS COS Assign
2. Press **NEXT**.
Display: PS NO?→
3. Enter the **PS registration number**.
You can also keep pressing **NEXT** until the desired PS registration number is displayed.
Display example: PS01: COS1, COS1
4. Enter a **primary COS number**.
To change the current entry, enter the new number.
5. Press **▶**.
6. Enter a **secondary COS number**.
To change the current entry, enter the new number.
7. Press **STORE**.
8. To program another PS, press **NEXT** or **PREV**, or **SELECT** and the desired **PS registration number**.
9. Repeat steps 4 through 8.
10. Press **END**.

Conditions

- There is a maximum of eight Classes of Service. Every PS must be assigned to a Class of Service and is subject to COS Programming in programs [500] through [518] and [991].
- To assign all PSs to one COS, press the ***** key in step 3. In this case, the display shows the contents programmed for the PS which has the lowest PS registration number.

Feature References Section 3, Features
Class of Service (COS)

PS Extension Group Assignment

Description Assigns each PS to an extension group. Extension groups are used for Group Call Pickup and Paging – Group

Selection

- PS registration number: KX-TD816 – **01 through 16, ***
KX-TD1232 – **01 through 64, ***
(*=all PS registration numbers)
- Extension group number: **01 through 16**
- **Enabl** (enable) / **Disab** (disable)

Default All PSs – Extension group 01 – Enabl

Programming

1. Enter **658**.
Display: PS EXT Group
2. Press **NEXT**.
Display: PS NO?→
3. Enter the **PS registration number**.
You can also keep pressing **NEXT** until the desired PS registration number is displayed.
Display example: PS01:EXG01:Enabl
4. Enter an **extension group number**.
You can also keep pressing **▶** or **◀** until the desired extension group number is displayed.
To change the current entry, press **CLEAR** and enter the new extension group number.
5. Keep pressing **SELECT** until the desired selection is displayed.
6. Press **STORE**.
7. To program another PS, press **NEXT** or **PREV**, or **SELECT** and the desired **PS registration number**.
8. Repeat steps 4 through 7.
9. Press **END**.

Conditions

- There is a maximum of 16 extension groups. Each PS can only belong to one group.
- To assign all PSs to one selection, press the ***** key in step 3. In this case, the display shows the contents programmed for the PS which has the lowest PS registration number.

Feature References **Section 3, Features**
 Call Pickup, Group Extension Group
 Paging – Group

659-660 8.4 DECT PS System Programming

PS DIL 1:N Extension — Day / Night

Description	A DIL 1:N line can be assigned to call more than one extension. All incoming calls from the programmed CO lines are directed to the specified PSs. This program assigns the PSs for each CO line in both the day and night modes.
Selection	<ul style="list-style-type: none">• PS registration number: KX-TD816 – 01 through 16 KX-TD1232 – 01 through 64• CO line number : KX-TD816 – 01 through 08, * KX-TD1232 – 01 through 24, * (* = all CO lines)• Enabl (enable) / Disab (disable)
Default	All PSs – all CO lines – Disable – Day / Night
Programming	<ol style="list-style-type: none">1. Enter a program address (659 for day or 660 for night). Display example: PS DIL 1:N Day2. Press NEXT. Display: PS NO?→3. Enter the PS registration number. You can also keep pressing NEXT until the desired PS registration number is displayed. Display example: PS01:CO01:Disab4. Enter the CO line number. You can also keep pressing ▶ or ◀ until the desired CO line number is displayed. To change the current entry, enter the new number.5. Keep pressing SELECT until the desired selection is displayed.6. Press STORE.7. To program another PS, press NEXT or PREV, or SELECT and the desired PS registration number.8. Repeat steps 4 through 7.9. Press END.

8.4 DECT PS System Programming **659-660**

PS DIL 1:N Extension — Day / Night (contd.)

Conditions

- To assign all CO lines to one selection, press the * key in step 4. In this case, the display shows the contents programmed for CO line 01 or the PS which has the lowest PS registration number.
- When you change the PS registration number by pressing **NEXT** or **PREV**, the CO line number will not changed.
<Example> PS01:CO06.....Press **NEXT**.....PS02:CO06

Feature References

Section 3, Features
Direct In Lines (DIL)
Night Service

661-662 8.4 DECT PS System Programming

PS Outgoing Permitted CO Line Assignment — Day / Night

Description	Determines which CO lines can be accessed by a PS in both the day and night modes. PS users can make outgoing outside calls using the assigned CO lines.
Selection	<ul style="list-style-type: none">• PS registration number: KX-TD816 – 01 through 16, * KX-TD1232 – 01 through 64, * (*=all PS registration numbers)• CO line number : KX-TD816 – 01 through 08, * KX-TD1232 – 01 through 24, * (*=all CO lines)• Enabl (enable) / Disab (disable)
Default	All PSs – all CO lines – Enable – Day / Night
Programming	<ol style="list-style-type: none">1. Enter a program address (661 for day or 662 for night). Display example: PS CO Out Day2. Press NEXT. Display: PS NO?→3. Enter the PS registration number. You can also keep pressing NEXT until the desired PS registration number is displayed. Display example: PS01:CO01:Enabl4. Enter the CO line number. You can also keep pressing ▶ or ◀ until the desired CO line number is displayed. To change the current entry, enter the new number.5. Keep pressing SELECT until the desired selection is displayed.6. Press STORE.7. To program another PS, press NEXT or PREV, or SELECT and the desired PS registration number.8. Repeat steps 4 through 7.9. Press END.

8.4 DECT PS System Programming **661-662**

PS Outgoing Permitted CO Line Assignment — Day / Night (contd.)

Conditions

- To assign all PSs or all CO lines to one selection, press the * key in step 3 or 4. In this case, the display shows the contents programmed for CO line 01 or the PS which has the lowest PS registration number.
- To not assign a CO line for a PS, press **CLEAR** in step 4.
- When you change the PS registration number by pressing **NEXT** or **PREV**, the CO line number will not be changed.
<Example> PS01:CO06.....Press **NEXT**.....PS02:CO06

Feature References

Section 3, Features

CO Line Connection Assignment – Outgoing
Night Service

663-664 8.4 DECT PS System Programming

PS Doorphone Ringing Assignment — Day / Night

Description These programs assign which PSs will ring when a doorphone call is received during the day and night modes. Programmed PSs are also allowed to open the door.

Selection

- PS registration number: KX-TD816 – **01 through 16**
KX-TD1232 – **01 through 64**
- Doorphone number: KX-TD816 – **1 or 2, Disable**, two entries (max.)
KX-TD1232 – **1 through 4, Disable**, four entries (max.)

Default All PSs – Disable (No doorphones) – Day / Night

Programming

1. Enter a program address (**663 for day or 664 for night**).
Display example: PS DPH in Day
2. Press **NEXT**.
Display: PS NO?→
3. Enter the **PS registration number**.
You can also keep pressing **NEXT** until the desired PS registration number is displayed.
Display example: PS01:1234
4. Enter the **doorphone number**.
To not assign a doorphone, press **CLEAR**.
To change the current entry, press **CLEAR** and enter the new doorphone number.
5. Press **STORE**.
6. To program another PS, press **NEXT** or **PREV**, or **SELECT** and the desired **PS registration number**.
7. Repeat steps 4 through 6.
8. Press **END**.

Conditions

- For the KX-TD1232, Doorphone 1 and 2 are installed in the Master System and 3 and 4 in the Slave, if available.
- You can enter up to two (KX-TD816) or up to four (KX-TD1232) doorphone numbers for each extension.

Feature References

Section 3, Features	
Door Opener	Night Service
Doorphone Call	

PS Voice Mail Access Codes

Description	Assigns a mailbox number for each PS only if program [990], “System Additional Information, Field (18),” is set to “free.”
Selection	<ul style="list-style-type: none">• PS registration number: KX-TD816 – 01 through 16 KX-TD1232 – 01 through 64• Mailbox number: 16 digits (max.)
Default	All PSs – Not stored
Programming	<ol style="list-style-type: none">1. Enter 665. Display: PS VM ID Code2. Press NEXT. Display: PS NO?→3. Enter the PS registration number. You can also keep pressing NEXT until the desired PS registration number is displayed. Display example: PS01:Not Stored4. Enter the mailbox number. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and enter the new number.5. Press STORE.6. To program another PS, press NEXT or PREV, or SELECT and the desired PS registration number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• The system supports a maximum of eight jacks (16 jacks during System Connection) for connection to a Voice Processing System as the Voice Mail or Automated Attendant ports.• Each mailbox number has a maximum of 16 digits, consisting of 0 through 9, *, # and PAUSE.• To display parts of the mailbox number which have scrolled off the display, press ➡ or ⬅.
Feature References	Section 3, Features Voice Mail Integration

667 8.4 DECT PS System Programming

PS Extension Connection Assignment

Description	Assigns whether the PS can perform all accesses or not.
Selection	<ul style="list-style-type: none">• PS registration number: KX-TD816 – 01 through 16, * KX-TD1232 – 01 through 64, * (* = all PS registration numbers)• Connect / No Connect
Default	All PSs – Connect
Programming	<ol style="list-style-type: none">1. Enter 667. Display: PS EXT Connect2. Press NEXT. Display: PS NO?→3. Enter the PS registration number. You can also keep pressing NEXT until the desired PS registration number is displayed. Display example: PS01:Connect4. Keep pressing SELECT until the desired selection is displayed.5. Press STORE.6. To program another PS, press NEXT or PREV, or SELECT and the desired PS registration number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• To assign all PSs to one selection, press the * key in step 3. In this case, the display shows the contents programmed for the PS which has the lowest PS registration number.
Feature References	Section 3, Features Extension Connection Assignment

PS Data Line Security

Description	Sets or cancels the Data Line Security mode on a PS basis.
Selection	<ul style="list-style-type: none">• PS registration number: KX-TD816 – 01 through 16, * KX-TD1232 – 01 through 64, * (* = all PS registration numbers)• On / Off
Default	All PSs – Off
Programming	<ol style="list-style-type: none">1. Enter 668. Display: PS Data Mode2. Press NEXT. Display: PS NO?→3. Enter the PS registration number. You can also keep pressing NEXT until the desired PS registration number is displayed. Display example: PS01:Off4. Keep pressing SELECT until the desired selection is displayed.5. Press STORE.6. To program another PS, press NEXT or PREV, or SELECT and the desired PS registration number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• To assign all PSs to one selection, press the * key in step 3. In this case, the display shows the contents programmed for the PS which has the lowest PS registration number.
Feature References	Section 3, Features Data Line Security

670 8.4 DECT PS System Programming

ISDN DDI Number / PS Extension Number Transformation

Description	Used to convert a DDI number to a PS extension number in order to send an incoming DDI call to a specific extension.
Selection	<ul style="list-style-type: none">• PS registration number: KX-TD816 – 01 through 16, * KX-TD1232 – 01 through 64, * (*=all PS registration numbers)• DDI Number: 1 through 6 digits
Default	All PSs – Not stored
Programming	<ol style="list-style-type: none">1. Enter 670. Display: PS DDI NO. Trans2. Press NEXT. Display: PS NO?→3. Enter the PS registration number. You can also keep pressing NEXT until the desired PS registration number is displayed. Display example: PS01:Not Stored4. Enter the DDI number. To delete the current entry, press CLEAR.5. Press STORE.6. To program another PS, press NEXT or PREV, or SELECT and the desired PS registration number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• Each DDI number can be one through six digits, consisting of 0 through 9.
Feature References	Section 3, Features Direct Dialling In (DDI)

8.4 DECT PS System Programming 671

PS Extension Number Set

Description	Assigns an extension number to each PS.
Selection	<ul style="list-style-type: none">• PS registration number: KX-TD816 – 01 through 16 KX-TD1232 – 01 through 64• PS extension number: 2 through 4 digits
Default	All PSs – Not stored
Programming	<ol style="list-style-type: none">1. Enter 671. Display: PS EXT NO. Set2. Press NEXT. Display: PS NO?→3. Enter the PS registration number. You can also keep pressing NEXT until the desired PS registration number is displayed. Display example: PS01:Not Stored4. Enter the PS extension number. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and enter the new name. Display example: PS01:EXT 2815. Press STORE.6. To program another PS, press NEXT or PREV, or SELECT and the desired PS registration number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• Each PS extension number can be two to four digits, consisting of 0 through 9. The * and # keys cannot be used.• A PS extension number can also be assigned in program [650], “PS Registration.”

671 8.4 DECT PS System Programming

PS Extension Number Set (contd.)

- A PS extension number is invalid if the first or second digits do not match with the setting in program [100], “Flexible Numbering, (01) – (16) 1st through 16th hundred extension blocks.” If one digit is assigned as the leading digit, some PS extension numbers have two or three digits. If two digits are assigned, they have three digits and some may have four digits.
- Double entries or incompatible entries are invalid including the assignment in programs [003] “Extension Number Set,” [012] “ISDN Extension Number Set,” [127] “Voice Mail Extension Number Assignment,” [130] “Phantom Extension Number” or [813] “Floating Number Assignment.” Valid entry examples are: 10 and 11; 10 and 110. Invalid entry examples are: 10 and 106; 210 and 21.
- Program [653], “PS Extension Name Set,” is used to name the PSs.
- It is possible to modify the extension number in this program. If the PS extension number was modified, re-register the PS to the system in program [650], “PS Registration,” in order to use the extension number.

Feature References

Section 8.3, DECT Portable Station Features
Digital Wireless Connection

PS Password Set

Description	Assigns a registration password, which is used for registration (program [650], “PS Registration”), to each PS.
Selection	<ul style="list-style-type: none">• PS registration number: KX-TD816 – 01 through 16 KX-TD1232 – 01 through 64• PS password: 4 digits
Default	All PSs – 1234
Programming	<ol style="list-style-type: none">1. Enter 672. Display: PS Password Set2. Press NEXT. Display: PS NO?→3. Enter the PS registration number. You can also keep pressing NEXT until the desired PS registration number is displayed. Display example: PS01:12344. Enter the PS password. Display example: PS01:56785. Press STORE.6. To program another PS, press NEXT or PREV, or SELECT and the desired PS registration number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• If you modify the PS password, re-register the PS to the system in order to use the password.
Feature References	None

673 8.4 DECT PS System Programming

PS CLIP / COLP Number Assignment

Description	Selects the type of additional number to the CLIP and COLP information when making and answering a call through an ISDN line. You can select the type from one of the following: DDI: Subscriber number + DDI number None: Subscriber number + Optional number
Selection	<ul style="list-style-type: none">• PS registration number: KX-TD816 – 01 through 16 KX-TD1232 – 01 through 64• Types: DDI / Any number 1 through 6 digits
Default	All PSs – DDI
Programming	<ol style="list-style-type: none">1. Enter 673. Display: PS CLIP/COLP2. Press NEXT. Display: PS NO?→3. Enter the PS registration number. You can also keep pressing NEXT until the desired PS registration number is displayed. Display example: PS01:DDI4. Press SELECT until the desired selection is displayed and enter the number, if required. To change the current entry, press CLEAR and the new number.5. Press STORE.6. To program another PS, press NEXT or PREV, or SELECT and the desired PS registration number.7. Repeat steps 3 through 6.8. Press END.
Conditions	None
Feature References	Section 3, Features Calling / Connected Line Identification Presentation (CLIP / COLP)

8.4 DECT PS System Programming 674-675

PS Extension Intercept Routing — Day / Night

Description	Sets the Intercept Routing destination for each PS in both day and night modes.
Selection	<ul style="list-style-type: none">• PS registration number: KX-TD816 – 01 through 16, * KX-TD1232 – 01 through 64, * (*=all PS registration numbers)• Extension number: 2 through 4 digits / Disable (no Intercept Routing)
Default	All PSs – Disable — Day / Night
Programming	<ol style="list-style-type: none">1. Enter a program address (674 for day or 675 for night). Display example: PS Intercept Day2. Press NEXT. Display: PS NO?→3. Enter the PS registration number. You can also keep pressing NEXT until the desired PS registration number is displayed. Display example: PS01: Disable4. Enter an extension number. To change the current entry, press CLEAR and enter the new number. To disable Intercept Routing, press CLEAR.5. Press STORE.6. To program another PS, press NEXT or PREV, or SELECT and the desired PS registration number.7. Repeat steps 4 through 6.8. Press END.
Conditions	<ul style="list-style-type: none">• You can set the extension numbers in programs [650] “PS Registration,” [671] “PS Extension Number Set,” [003] “Extension Number Set,” [127] “Voice Mail Extension Number Assignment,” [130] “Phantom Extension Number” and also floating numbers of the external ringer, hunting groups, and pagers in program [813] “Floating Number Assignment.”• To assign all PSs to one selection, press the * key in step 3. In this case, the display shows the contents programmed for PS 01.• When “Disable” is selected, Intercept Routing is provided according to the assignment in program [409-410].
Feature References	Section 3, Features Intercept Routing

PS Incoming Call Display

Description	<p>Selects the display type for each PS when an incoming call is received. You can select the display type from one of the following:</p> <p>Caller: The incoming caller's telephone number and name are displayed.</p> <p>CO Line: The CO line number and name assigned in the [421] program are displayed.</p> <p>DDI: The called party's DDI number and extension name is displayed.</p>
Selection	<ul style="list-style-type: none"> • PS registration number: KX-TD816 – 01 through 16, * KX-TD1232 – 01 through 64, * (*=all PS registration numbers) • Display Type: Caller / CO Line / DDI
Default	All PSs – Caller
Programming	<ol style="list-style-type: none"> 1. Enter 676. Display: PS Incoming Disp 2. Press NEXT. Display: PS NO?→ 3. Enter the PS registration number. You can also keep pressing NEXT until the desired PS registration number is displayed. Display example: PS01: Caller 4. Keep pressing SELECT until the desired selection is displayed. 5. Press STORE. 6. To program another PS, press NEXT or PREV, or SELECT and the desired PS registration number. 7. Repeat steps 4 through 6. 8. Press END.
Conditions	<ul style="list-style-type: none"> • To assign all PSs to one selection, press the * key in step 3. In this case, the display shows the contents programmed for the PS which has the lowest PS registration number. • If the receiving call is in the 1:N status, the display only shows "CO Line."
Feature References	<p>Section 3, Features, CO Incoming Call Information Display Display, Call Information</p>

PS Itemized Code Set

Description	Registers an itemized code applied to each PS. The registered code is inserted into the “I” command position stored in program [7X22] “LCR Carrier Modify Command.”
Selection	<ul style="list-style-type: none">• PS registration number: KX-TD816 – 01 through 16 KX-TD1232 – 01 through 64• Itemized code: 4 digits (max.)
Default	All PSs – Not Stored
Programming	<ol style="list-style-type: none">1. Enter 677. Display: PS Itemized Code2. Press NEXT. Display: PS NO?→3. Enter a port number. You can also keep pressing NEXT until the desired PS registration number is displayed. Display example: PS01: Not Stored4. Enter an itemized code. To delete the current entry, press CLEAR. To change the current entry, press CLEAR and the new code.5. Press STORE.6. To program another PS, press NEXT or PREV, or SELECT and the desired PS registration number.7. Repeat steps 4 through 6.8. Press END.
Conditions	There is a maximum of 16 itemized codes for KX-TD816, and 64 itemized codes for KX-TD1232. Each code has a maximum of 4 digits, consisting of 0 through 9 .
Feature References	Section 3, Features, Least Cost Routing (LCR)

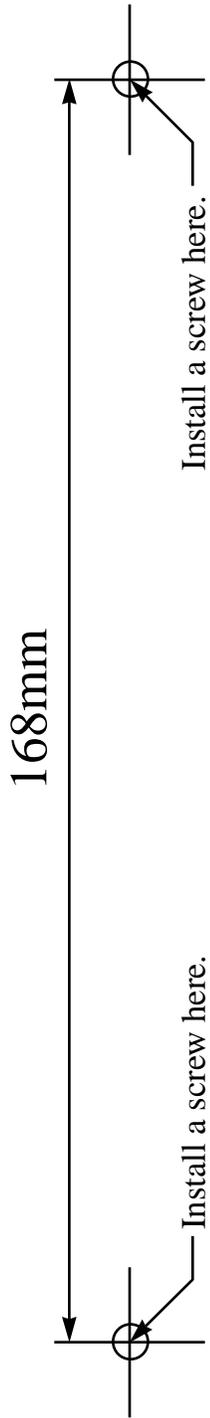
681 8.4 DECT PS System Programming

PS Radio System ID Set

Description	<p>Assigns a radio system ID which is required for each PS to distinguish its registered PBX. The radio system ID must be eight digits, starting with 00 and followed by the last six digits of the master system serial number.</p> <p><Example> Master system serial number: 8BAVB123456 Radio system ID: 00123456</p>
Selection	<ul style="list-style-type: none">• Radio system ID: 8 digits
Default	Not stored
Programming	<ol style="list-style-type: none">1. Enter 681. Display: Radio Sys-ID Set2. Press NEXT. Display: Not Stored3. Enter the radio system ID. Display example: 001234564. Press STORE.5. Press END.
Conditions	<ul style="list-style-type: none">• Be sure not to assign the same radio system ID to a different PBX, or the PS may not operate properly.• The radio system ID must be assigned to support the DECT system (KX-TD144 / KX-TD142). Otherwise, the wired extension port of the KX-TD144 can be used.• If the radio system ID is not assigned properly, the registered PS may not work properly.• If once assigned, you should not change the radio system ID. To change it, you must remove all the PS registration first.• After this assignment, you should reset the system so that this assignment is activated.
Feature References	None

8.5 Template for the Cell Station

Please copy this page and use as a template for the Cell Station.



1. Place this template on the wall.
2. Install the screws.
(If you mount the unit on a concrete or mortar wall, drive the anchor plugs flush to wall with a hammer beforehand.)
3. Hook the Cell Station (KX-TD142) on the screw heads.

For more details, see page 8-27.

Panasonic Business Systems U.K.
Panasonic House, Willoughby Road, Bracknell,
Berkshire RG12 4FP

Printed in the United Kingdom

PSQX1047SA KS0299MT1039PJ

To expand the sub-menu, left click the mouse on the symbol, located to the left of the selected text.

▷ for version 3 Adobe Reader

⊕ for version 4 Adobe Reader

Digital Super Hybrid System KX-TD 816E / KX-TD 1232E Version 4

Program differences with reference to previous versions

This addendum should be used in conjunction with the current version 4 Installation Manual.

This document highlights differences in programming on previous versions with reference to the current Version 4 system

PROGRAM STEP	DESCRIPTION	VERSION 3	VERSION 2	VERSION 1
005	PF Button Assignment	As Version 4	 Button code "88" N/A Button code "8*" N/A Button code "8#" N/A	"Voice Mail Transfer" Assigned to button code "8" Button code "81" N/A Button code "82" N/A Button code "83" N/A Button code "84" N/A Button code "85" N/A Button code "86" N/A Button code "87" N/A Button code "88" N/A Button code "8*" N/A Button code "8#" N/A Button code "9" N/A
006	Operator / Manager Extension Assignment	As Version 4	Manager not stored in default	Manager not stored in default
007	DSS Console Number	As Version 4	As Version 4	KXTD816 - 1 through 4 KXTD1232 - 1 through 4 (for Master) 5 through 8 (for Slave)
009	Quick Dial	As Version 4	As Version 4	N/A
010	Budget Management	As Version 4	As Version 4	N/A
011	Charge Margin & Tax Rate	As Version 4	As Version 4	N/A
012	ISDN Extn Number Set	As Version 4	As Version 4	N/A

N/A – not available

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PROGRAM STEP	DESCRIPTION	VERSION 3	VERSION 2	VERSION 1
013	ISDN Extn Name Set	As Version 4	As Version 4	N/A
014	Budget Management ISDN Extn	As Version 4	As Version 4	N/A
015	Charge Rate Fractional Point Assignment	N/A	N/A	N/A
016	Charge Rate Assignment	N/A	N/A	N/A
020	PS Flexible Button Assignment	N/A	N/A	N/A
100	Flexible Numbering	Changed Features : (and default settings) No.61 ~ 69 : Quick Dial Number Assignment. No.78 : SXDP - N/A	Changed Features : (and default settings) No.61 ~ 69 : Quick Dial Number Assignment. No.78 : SXDP - N/A	Changed Features : (and default settings) No.44 : (Data line security) : "730" No.54 : (CO I/C call info log) : "56" No.55 : (CO I/C call log lock) : "57" No.56 ~ 77 : N/A
104	Quick Dial Assignment	See Flexible Numbering Locations 61 ~ 68	See Flexible Numbering Locations 61 ~ 68	N/A
109	Expansion Card Type	As Version 4	No Primary Rate option (S3)	No Primary Rate option (S3)
111	DDI Add / Remove digit Assignment	As Version 4	N/A	N/A
112	Floating Number DDI Assignment	As Version 4	As Version 4 but includes ISDN extension Number assignment	N/A
120	Supervisor Password	As Version 4	As Version 4	Program steps 005 ~ 014 N/A
121	Pulse Dial Reception	As Version 4	As Version 4	N/A
122	Auto Door Opener	As Version 4	As Version 4	N/A
123	Hotel Application	As Version 4	As Version 4	N/A
125	Assignment of Denomination	As Version 4	As Version 4	N/A
126	Voice Mail Number Assignment	As Version 4	A fourth jack cannot be assigned for Voice Mail	N/A
127	Voice Mail Extension Number assignment	As Version 4	Voice Mail Extensions 13 ~ 16 are N/A	N/A

N/A – not available

PROGRAM STEP	DESCRIPTION	VERSION 3	VERSION 2	VERSION 1
128	Voice Mail Extension Groups	As Version 4	Additional 8 Groups (Groups 9 ~ 16)	N/A
129	Operator Queue	As Version 4	As Version 4	N/A
130	Phantom Extension Number Assignment	As Version 4	N/A	N/A
131	Hunt Group assignment (Ringing)	As Version 4	N/A (Refer to program step 602)	N/A (Refer to program step 602)
132	Hunt Group Name Assignment	As Version 4	N/A	N/A
133	Hunting Overflow	As Version 4	N/A	N/A
134	Hunting Intercept – Day	As Version 4	N/A	N/A
135	Hunting Intercept – Night	As Version 4	N/A	N/A
136	ISDN DDI Number Transformation Phantom Extn.	As Version 4	N/A	N/A
148	Off Hook Monitor	N/A	N/A	N/A
214	Message Waiting SLT Ring	As Version 4	Default setting : 10 min.	N/A
215	Ring off Detection Time	As Version 4	As Version 4	N/A
300	TRS Override System Speed Dial	N/A	N/A	Enable / Disable
416	Reverse Circuit Assignment	As Version 4	As Version 4	Refer to program step 420
	Ver 1 ISDN Line No. Assignment (Subscriber Number Assignment)			N/A for Analogue Lines (ISDN CO Lines only)
417	CLIR Assignment / CO	As Version 4	As Version 4	N/A per Extn. By COS (Enable / Disable by CO only)
418	ISDN DDI Service	As Version 4	N/A	Enable / Disable
419	Subscriber Number Assignment (Used for Analogue & ISDN lines)	N/A	As Version 4	Refer to program step 416
	Ver 1 Subscriber Name Assignment			10 characters max.

N/A – not available

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PROGRAM STEP	DESCRIPTION	VERSION 3	VERSION 2	VERSION 1
420	Direct Dialling in - Day Mode	As Version 4	No separation for Day and Night modes	Refer to program step 418
Ver 1	Reverse Circuit Assignment			Enable / Disable
421	Subscriber Name Assignment	As Version 4	As Version 4	Refer to program step 419
422	ISDN Port Type	As Version 4	As Version 4	N/A
423	Layer 1 Activation Mode	As Version 4	Used for Extension only	N/A
424	ISDN Configuration	As Version 4	Used for Extension only	N/A
425	ISDN Data Link Mode	As Version 4	Used for Extension only	N/A
426	ISDN TEI Mode	As Version 4	Used for Extension only	N/A
427	MSN ISDN Extension	As Version 4	As Version 4	N/A
428	ISDN Extn Progress Tone	As Version 4	As Version 4	N/A
429	Direct Dialling In - Night	As Version 4	N/A	N/A
437	Multiple Subscriber Number	As Version 4	N/A	N/A
438 / 439	Extension Ringing Assignment for ISDN MSN Day / Night	As Version 4	N/A	N/A
450	Primary Rate Configuration	As Version 4	N/A	N/A
451	Primary Rate Reference CO	As Version 4	N/A	N/A
509 / 510	Toll Restriction System Speed Dial Day / Night	As Version 4	As Version 4	Refer to program step 300
511	Door Opener Access	As Version 4	As Version 4	N/A
513	Night Service Access	As Version 4	As Version 4	Not programmable (Operator function only)
514	DND for DDI	As Version 4	As Version 4	N/A
516	CLI Restriction	As Version 4	As Version 4	N/A
517	COL Restriction	As Version 4	As Version 4	N/A
518	CFU / CFB / CFNR (Call FWD Unconditional / Busy / No reply Network Feature, Enable/ Disable by COS)	As Version 4	N/A	N/A
519	Off Hook Call Announce (OHCA) Can be assigned on a COS basis	See 990 Field 47	See 990 Field 47	N/A

N/A – not available

PROGRAM STEP	DESCRIPTION	VERSION 3	VERSION 2	VERSION 1
601	Class of Service	As Version 4	As Version 4	One Class of Service only (No Primary/Secondary COS)
602	Extension Group Assignment	As Version 4	Includes Group Ringing Assignment (1 Group max. per Extn.)	Includes Group Ringing Assignment (1 Group max. per Extn.)
603 / 604	Ringing DIL 1 : N Day / Night	As Version 4	As Version 4	“ 2 ring delay ” N/A
610	DDI Number Transformation	Refer to program step 618	Refer to program step 618	Maximum length 6 digits
611	Extension Connected	As Version 4	As Version 4	N/A
612	Data Line Security	As Version 4	As Version 4	Not programmable (Station Feature only)
613	ISDN Extension COS	As Version 4	As Version 4	N/A
615 / 616	O/G Permitted ISDN Extension Day / Night	As Version 4	As Version 4	N/A
617	Live Call Screening Mode	As Version 4	As Version 4	N/A
618	ISDN DDI Number / Extension Number Transformation	As Version 4	As Version 4	Refer to program step 610
619	ISDN DDI Number / ISDN Extension Number Transformation	As Version 4	Refer to program step 112	N/A
620	Extension Intercept Routing - Day	As Version 4	N/A	N/A
621	Extension Intercept Routing - Night	As Version 4	N/A	N/A
622	Incoming Call Display	As Version 4	N/A	N/A
623	CLIP / CLOP Number Assignment	As Version 4	N/A	N/A
624	CLIP / CLOP Number Assignment for ISDN Extension	As Version 4	N/A	N/A
625	Doorphone Call Forwarding - Day	As Version 4	N/A	N/A
626	Doorphone Call Forwarding - Night	As Version 4	N/A	N/A
650	PS Registration	N/A	N/A	N/A
651	PS Termination	N/A	N/A	N/A
653	PS Extension Name Set	N/A	N/A	N/A
654	SXDP Assignment	N/A	N/A	N/A

N/A – not available

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PROGRAM STEP	DESCRIPTION	VERSION 3	VERSION 2	VERSION 1
655	PS Budget Management	N/A	N/A	N/A
656	PS Charge Verification Assignment	N/A	N/A	N/A
657	PS Class of Service	N/A	N/A	N/A
658	PS Extension Group Assignment	N/A	N/A	N/A
659 ~ 660	PS DIL 1 : N Extension – Day / Night	N/A	N/A	N/A
661 ~ 662	PS Outgoing Permitted CO Line – Day / Night	N/A	N/A	N/A
663 ~ 664	PS Doorphone Ringing – Day / Night	N/A	N/A	N/A
665	PS Voice Mail Access Code	N/A	N/A	N/A
667	PS Extension Connection Assignment	N/A	N/A	N/A
668	PS Data	N/A	N/A	N/A
670	PS DDI Number Translation	N/A	N/A	N/A
671	PS Extension Number Set	N/A	N/A	N/A
672	PS Password Set	N/A	N/A	N/A
673	PS CLIP / COLP	N/A	N/A	N/A
674	PS Intercept - Day	N/A	N/A	N/A
675	PS Intercept – Night	N/A	N/A	N/A
676	PS I/C Display	N/A	N/A	N/A
681	PBX Radio System – ID Set	N/A	N/A	N/A
7001	DELETED. LCR Area Leading Digits (First digit has been included in 7X0Y)	LCR First Digit Default '0'	LCR First Digit Default '0'	LCR First Digit Default setting : '01'
800	SMDR Output	As Version 4	As Version 4	Default setting : On
813	Floating Number Assignment	As Version 4	Hunt Groups 01 ~ 32 N/A (Use Extn. Groups 1 ~ 16)	Hunt Groups 01 ~ 32 N/A
815	System Working Reports	Operator / Manager function	Operator / Manager function	Start / Stop

N/A – not available

Program step – 990

Option Programming PBX version changes

FIELD	DESCRIPTION	VERSION 3	VERSION 2	VERSION 1
1 ~ 23	Various descriptions	See Version 4 description	See Version 4 description	See Version 4 description
24	Prevents or allows a call originated by an AA port of a VPS to another AA port	0 : Prevent 1 : Allow (default)	0 : Prevent 1 : Allow (default)	0 : Prevent (default) 1 : Allow
25 ~ 27	Various descriptions	See Version 4 description	See Version 4 description	See Version 4 description
28	Version 1 description : Enables or Disables the sending of dial tone after the CO has been seized	See Version 4 description	See Version 4 description	0 : Disable (default) 1 : Enable
29	Enables or Disables if the VPS will receive the Follow On ID when call is directed to it by Call Forwarding	As Version 4	As Version 4	N/A
30	Version 1 description : Connects or Disconnects the CO line if nothing is dialled within the pre-set time, after seizing the CO line	See Version 4 description	See Version 4 description	0 : Disconnect (default) 1 : Do not disconnect
31	Version 1 description : Assigns whether the system transforms an incoming DDI call number directly to a specific extension	See Version 4 description	See Version 4 description	0 : Transform (default) 1 : Do not transform
32	Version 1 description : Assigns whether the LCR is applied to any CO line or only to CO lines selected by Automatic Line Access Program Step [103]	See Version 4 description	See Version 4 description	0 : Automatic 1 : Any CO (default)
33	Version 1 description : Assigns if pressing the HOLD twice acts as Exclusive Hold or Hold Retrieval	See Version 4 description	See Version 4 description	0 : Hold Retrieval 1 : Exclusive Hold (default)
34	Version 1 description : Assigns whether the system displays the LCR Authorisation Code while programming	See Version 4 description	See Version 4 description	0 : display 1: do not display (default)
35 ~ 36	Various descriptions	See Version 4 description	See Version 4 description	N/A

N/A – not available

Program step – 990

Option Programming PBX version changes

FIELD	DESCRIPTION	VERSION 3	VERSION 2	VERSION 1
37	Version 2 description : Assigns whether to add the extension number to the subscriber number for the CLIP and CLOP	See Version 4 description	0 : Do not add 1 : Add (default)	N/A
38	Assigns how to transform the received DDI number. (Uses the new program step 111)	As Version 4	N/A	N/A
39 ~ 41	Various descriptions	See Version 4 description	See Version 4 description	N/A
42	Version 4 : Reserved Version 3 description : Assigns if the DDI is transformed to a specific ext.	0 : Transform (default) 1 : do not transform	As Version 3	N/A
43 ~ 46	Various descriptions	See Version 4 description	See Version 4 description	N/A
47	Version 4 : Reserved (New Prog Step 519) Version 3 description : Selects whether to activate BSS or OHCA for T7235	0 : BSS 1 : OHCA (default)	As Version 3	N/A
48	Assigns whether hunting works when an incoming call directly reaches an extension which is a member of a Termination or Circular Hunting Group	0 : Hunting does not work (default) 1 : Hunting works	0 : Hunting does not work (default) 1 : Hunting works	N/A
49	Enables or Disables CO Pulse feedback tone	As Version 4	As Version 4	N/A
50	Day Mode destination for the assigned Operator DDI number or an unrecognised or unassigned DDI Number	0 : DIL 1 : N (default) 1 : Operator	0 : DIL 1 : N 1 : Operator (default)	N/A
51	Night Mode destination for the assigned Operator DDI number or an unrecognised or unassigned DDI Number	0 : DIL 1 : N (default) 1 : Operator	0 : DIL 1 : N 1 : Operator (default)	N/A

N/A – not available

Program step – 990

Option Programming PBX version changes

FIELD	DESCRIPTION	VERSION 3	VERSION 2	VERSION 1
52 ~ 57	Various descriptions	See Version 4 description	See Version 4 description	N/A
58	Selects if a Call to Hunt group rings an extension in that group if the phone is set to Call Forward	As Version 4	N/A	N/A
59	Version 3 description : Selects which itemisation code is used by a Doorphone with the Call Forwarding feature	0 : Operator 1 : Jack 01-1 (default)	N/A	N/A
60	Enables or Disables the SMDR printout of the margin rate	N/A	N/A	N/A
61	Selects which itemisation code is used by a Doorphone with the Call Forwarding feature	See Field 59	N/A	N/A
62	Assigns if the Operator can set DND feature	N/A	N/A	N/A
63	Reserved	N/A	N/A	N/A
64	Enables or Disables LCR with DTMF function	N/A	N/A	N/A
65	Assigns incoming bell frequency for SLT's	N/A	N/A	N/A
66 ~ 68	Reserved	N/A	N/A	N/A
69	Determines the telephone which can activate Whisper OHCA	N/A	N/A	N/A
70	Select Beep Tone or Music for Music On Hold Source 1	N/A	N/A	N/A
71	Select whether 3.1Audio or 64K Speech for SLT's	N/A	N/A	N/A

N/A – not available