

Digital Super Hybrid System

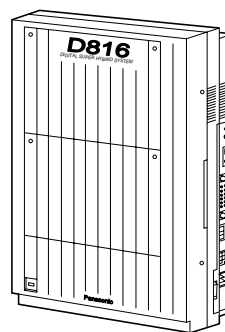
Panasonic

INSTALLATION MANUAL

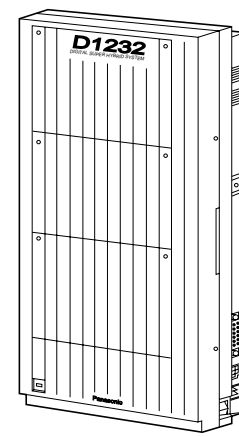
Please read this manual before connecting the
Digital Super Hybrid System.

MODEL

KX-TD816AL / KX-TD1232AL



KX-TD816AL



KX-TD1232AL

Thank you for purchasing the Panasonic Model
KX-TD816AL/KX-TD1232AL, Digital Super Hybrid System.

System Components

| | Model No. | Description |
|---------------------------|--|--|
| Service Unit | KX-TD816AL | Digital Super Hybrid System (Main Unit) |
| | KX-TD1232AL | Digital Super Hybrid System (Main Unit), including the KX-TD196 (Remote Card) |
| Telephone | KX-T7220AL | Digital Proprietary Telephone |
| | KX-T7230AL | Digital Proprietary Telephone with Display |
| | KX-T7235AL | Digital Proprietary Telephone with Large Display |
| | KX-T7250AL | Digital Proprietary Telephone |
| Optional Equipment | KX-T7240AL | Digital DSS Console |
| | KX-TD160* ¹ | Doorphone Card |
| | KX-TD170AL | 8-Station Line Unit |
| | KX-TD180AL | 4-CO Line Unit |
| | KX-TD180DAL* ³ | 4-CO Line Unit |
| | KX-TD181AL* ² | 8-CO Line Card |
| | KX-TD181DAL* ² / ³ | 8-CO Line Card |
| | KX-TD185AL | 4-DID Line Unit |
| | KX-TD192* ² | System Inter Connection Card (two cards with Connection Cable) |
| | KX-TD280AL | 2-ISDN S0 Line Unit |
| | KX-TD281AL* ² | 4-ISDN S0 Line Card |
| | KX-T30865 | Doorphone |
| | KX-A216* ¹ | Backup Battery and Adaptor Card |
| KX-A46 | Battery Adaptor | |

System Components Table

Note The models marked *¹ can be installed only in KX-TD816.
The models marked *² can be installed only in KX-TD1232.
The models marked *³ supports the Pay Tone service of your Central Office.
In this Installation Manual, the suffix "AL" of each model number is omitted.
The Digital Super Hybrid System is abbreviated as "DSHS."
The Digital Proprietary Telephone is abbreviated as "DPT."
A Single Line Telephone is abbreviated as "SLT."

Important Information

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

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, single line telephones (SLTs) will be directly connected to specific CO lines as follows:

KX-TD816 : CO 1 is connected to the extension jack 1

CO 2 is connected to the extension jack 2

CO 5 is connected to Power Failure Transfer jack

KX-TD1232 : three SLTs can be connected to CO 1, CO 2 and CO 9 which are connected to Power Failure Transfer jacks

- Set the Dialing Mode (Tone or Pulse) of your telephone, according to the CO line.
- 114 and 000 can be dialed on the apparatus for the purpose of making outgoing calls to the emergency (114) and (000) service.

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

114 and 000 can be dialed on the apparatus after accessing the CO line for the purpose of making outgoing calls to the emergency (114) and (000) service.

During dialing, 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.

Note:

No External TRC Terminal is provided due to an Internal Link between PE and TRC.

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 _____

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.

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 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) | 4 | 8 (2) | — |
| 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 and extensions.

EXtra Device Port (XDP)

Each extension jack in the system supports the connection of a digital proprietary telephone 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 digital 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 proprietary telephones, DSS Console 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 four 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 digital proprietary telephone or from a personal computer.

Voice Mail Integration

The system supports Voice Processing Systems with in-band DTMF signaling.

Automatic Route Selection (ARS)

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

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

Ringin 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.

Charge Fee Reference

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

Budget Management

Limits the telephone usage to a pre-assigned amount.

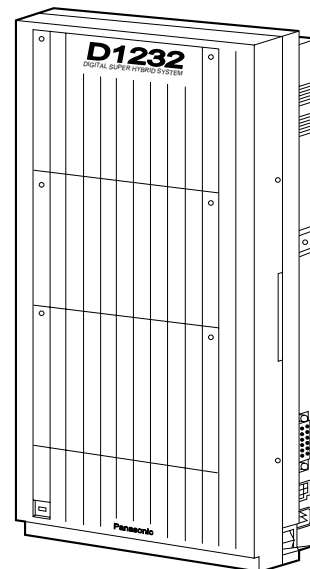
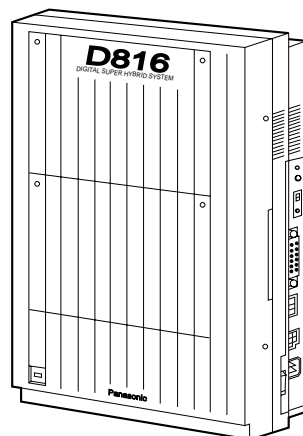
Hotel Application

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

1.2 Basic System Construction

The KX-TD816 Digital Super Hybrid System has a basic capacity of 4 CO lines and 8 extensions, and KX-TD1232 has 16 extensions. It is capable of supporting Panasonic digital 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 Digital Proprietary Telephones

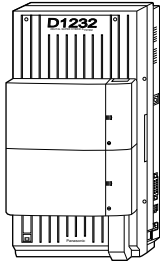
The following Panasonic digital proprietary telephones are available with this system.

| Proprietary Telephone | Description |
|------------------------------|------------------------------------|
| KX-T7220 | Speakerphone, 24 CO |
| KX-T7230 | Display, speakerphone, 24 CO |
| KX-T7235 | Large display, speakerphone, 12 CO |
| KX-T7250 | Monitor, 6 CO |

Note CO: CO line access button

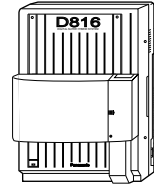
1.4 Options

8-Station Line Unit (KX-TD170)



8 or 16 extensions can be added.

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 extensions can be added.

4-CO Line Unit (KX-TD180/KX-TD180D) / 4-DID Line Unit (KX-TD185) / 2-ISDN S0 Line Unit (KX-TD280)

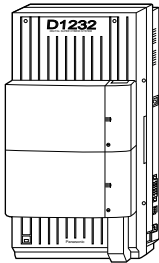
One of the following units can be installed per system.

KX-TD180 : Adds four CO lines.

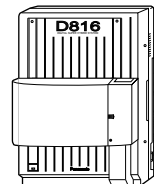
KX-TD180D: Adds four CO lines which support the Pay Tone service of your Central Office.

KX-TD185 : Adds four DID lines.

KX-TD280 : Adds two ISDN S0 lines.

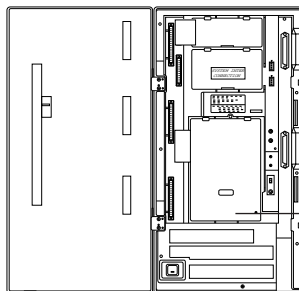


4 CO lines / 4 DID lines /
2 ISDN S0 lines can be added.



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

8-CO Line Card (KX-TD181/KX-TD181D)* / 4-ISDN S0 Line Card (KX-TD281)*



One of the following cards can be installed for KX-TD1232.

KX-TD181 : Adds eight CO lines.

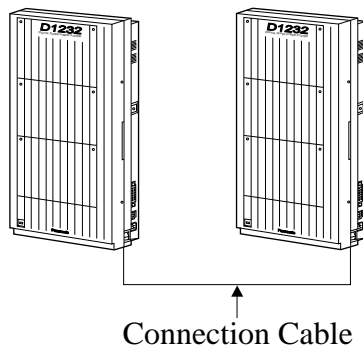
KX-TD180D: Adds four CO lines which support the Pay Tone service of your Central Office.

KX-TD281 : Adds four ISDN S0 lines.

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

1.4 Options

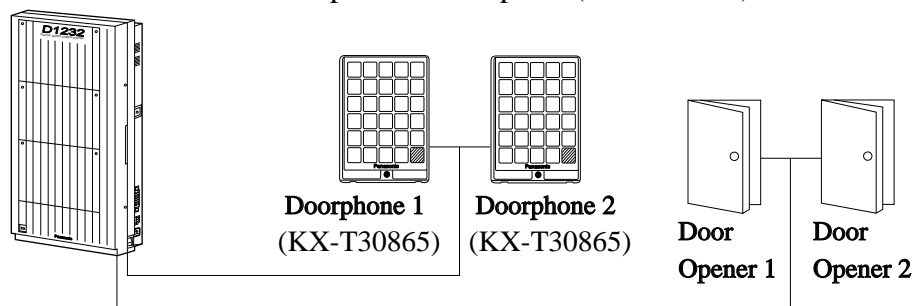
System Inter Connection Card (KX-TD192)*1



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

Doorphone Card (KX-TD160)

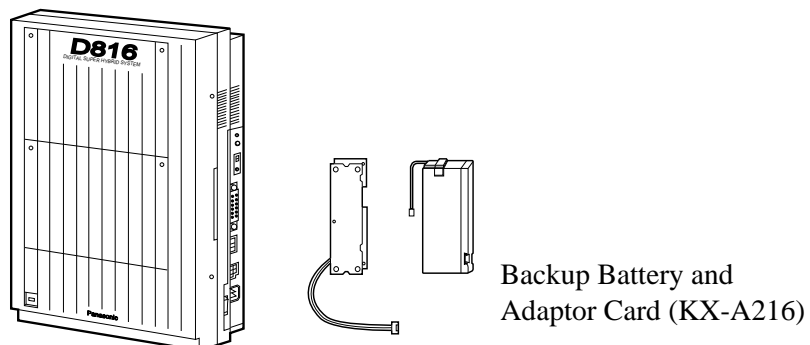
This card supports two doorphones and two door openers. The doorphone is an option (KX-T30865).



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

Backup Battery and Adaptor Card (KX-A216)*2

Operate all the features as a backup power supply in the event of a power failure.



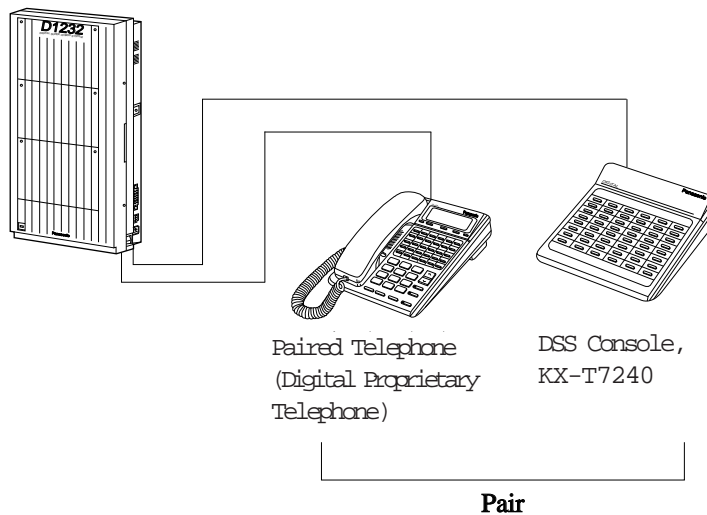
*1: Available for KX-TD1232 only.

*2: Available for KX-TD816 only.

1.4 Options

DSS Console (KX-T7240)

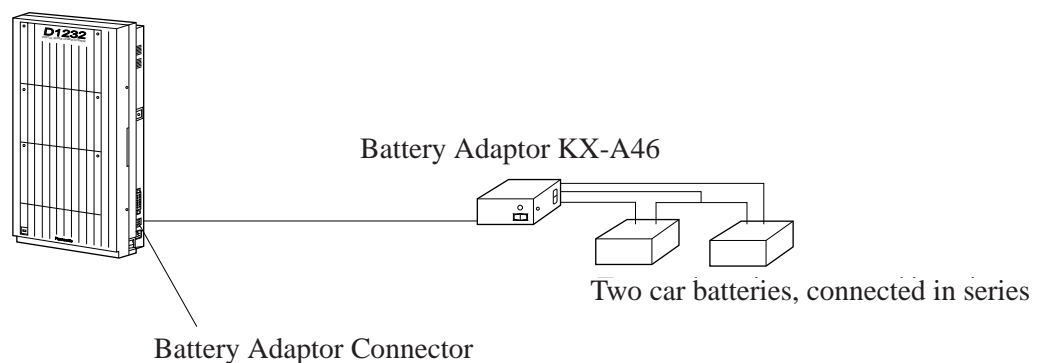
Permits easy and quick access to stations and features. The Busy Lamp Field shows the idle or busy state of each station. DSS Console is designed for use with a digital proprietary telephone. The system supports up to four DSS Consoles per system.



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

Battery Adaptor (KX-A46)

Supports the connection of two car batteries (12 VDC ~2) for power backup in case of a power failure.



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. (2 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 Sharing Switch | |
| Power Supplies | Primary | 240 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• 3 CO lines max. automatically assigned to SLTs (Power Failure Transfer)• System operation for several hours by recommended batteries (consisting of two 12 VDC car batteries) |
| | | |
| Dialing | Outward | Dial Pulse (DP) 10 pps, 20 pps Tone (DTMF) Dialing |
| | Internal | Dial Pulse (DP) 10 pps, 20 pps Tone (DTMF) Dialing |
| | Mode Conversion | DP-DTMF, DTMF-DP |
| Connector | KX-TD816 | |
| | CO lines | Modular jack |
| | Extensions | Modular jack |
| | KX-TD1232 | |
| | CO lines | 4-pin connector |
| | Extensions | Amphenol 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-T7220, KX-T7230, KX-T7235, KX-T7250 | 2 pair wire (L, H): A and B are not necessary or 2 pair wire (A, B, L, H) |
| KX-T7240 | 2 pair wire (L, H): A and B are not necessary |

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, Account Code |

1.5.2 Characteristics

| | |
|---------------------------|---|
| Station Loop Limit | KX-T7220 / KX-T7230 / KX-T7235 / KX-T7250.....40 ohms |
| | Single Line Telephone600 ohms including set |
| | Doorphone.....20 ohms |

Minimum Leakage Resistance 15 000 ohms

Maximum Number of Station Instruments per Line

1 for KX-T7220, KX-T7230, KX-T7235, KX-T7250 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 depending on the Ringing Load

Primary Power 240 VAC, 50 Hz

Central Office Loop Limit 1 600 ohms max.

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

1.5.3 System Capacity

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 Unit, 4-DID Line Unit or 2-ISDN S0 Line Unit | 1 | 1 | 2 |
| CO Line | 8 | 12 | 24 |
| ISDN S0 Line | 2 | 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 | 1 | 2 | 4 |
| External Music Source | 1 | 2 | 4 |

1.5.3 System Capacity

System Data

| Item | Max. Quantity | |
|------------------------|---------------|--|
| Operator | 2 | |
| System Speed Dialing | 500 | |
| One-Touch Dialing | 24 | per station (proprietary telephone) |
| Station Speed Dialing | 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 | |

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

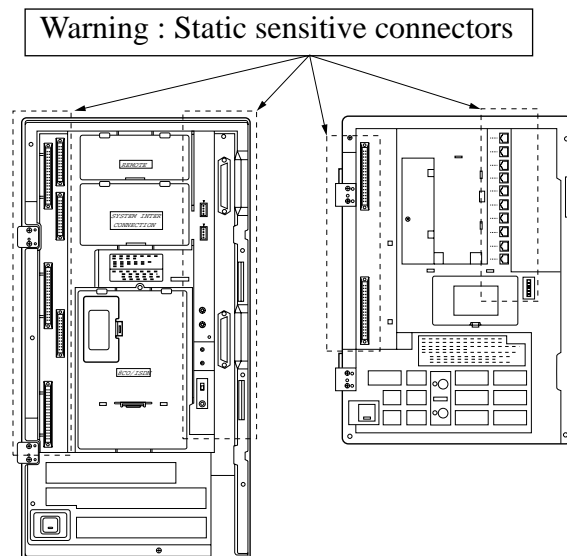
2.1 Before Installation

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 (KX-T7220, KX-T7230, KX-T7235, KX-T7250 etc.).
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

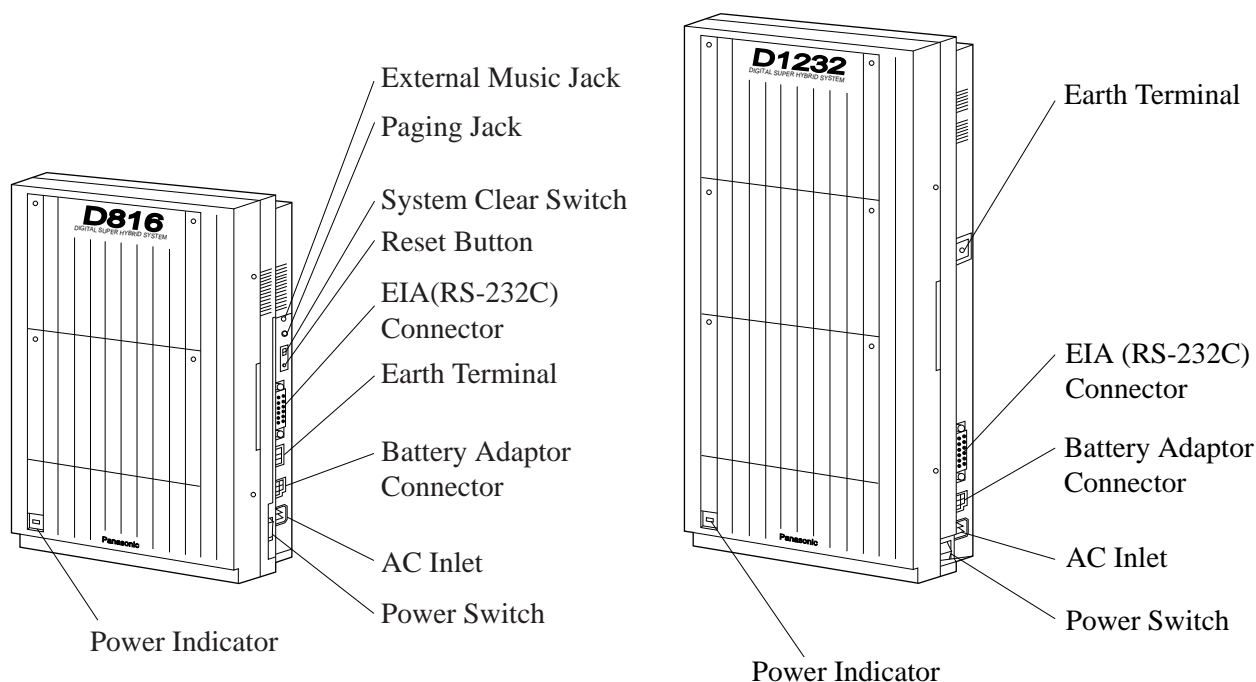
2.2.1 Unpacking

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 |
| Anchor Plug | three | four |
| Pager Connector | — | two |
| Music Source Connector | — | two |
| Expansion line cord holder | one | one |
| 4-pin plugs for doorphone or door opener connection | two | two |

2.2.2 Name and Location

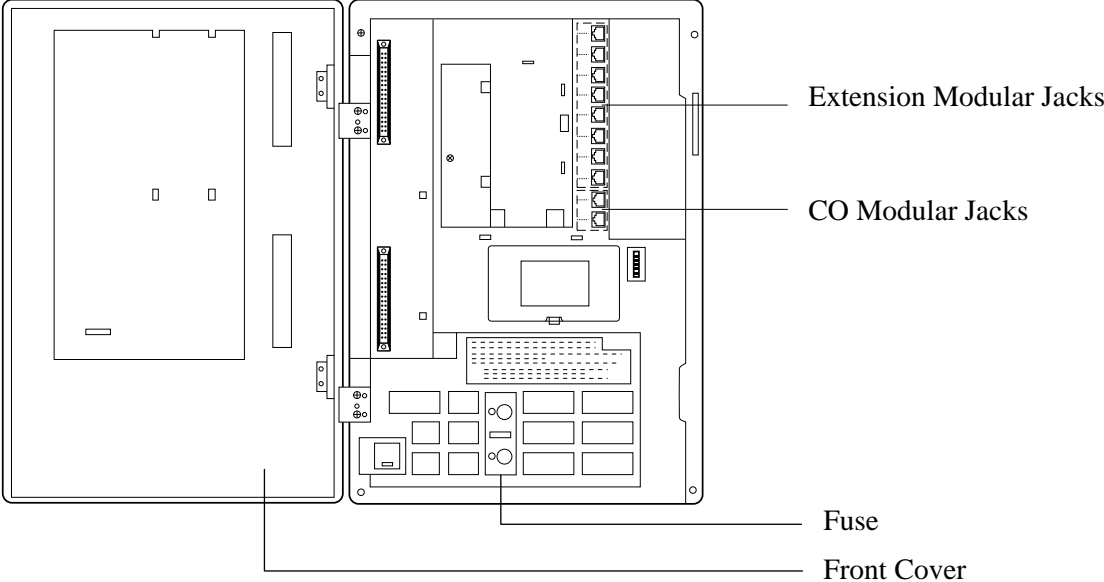
Overview of the Main Unit



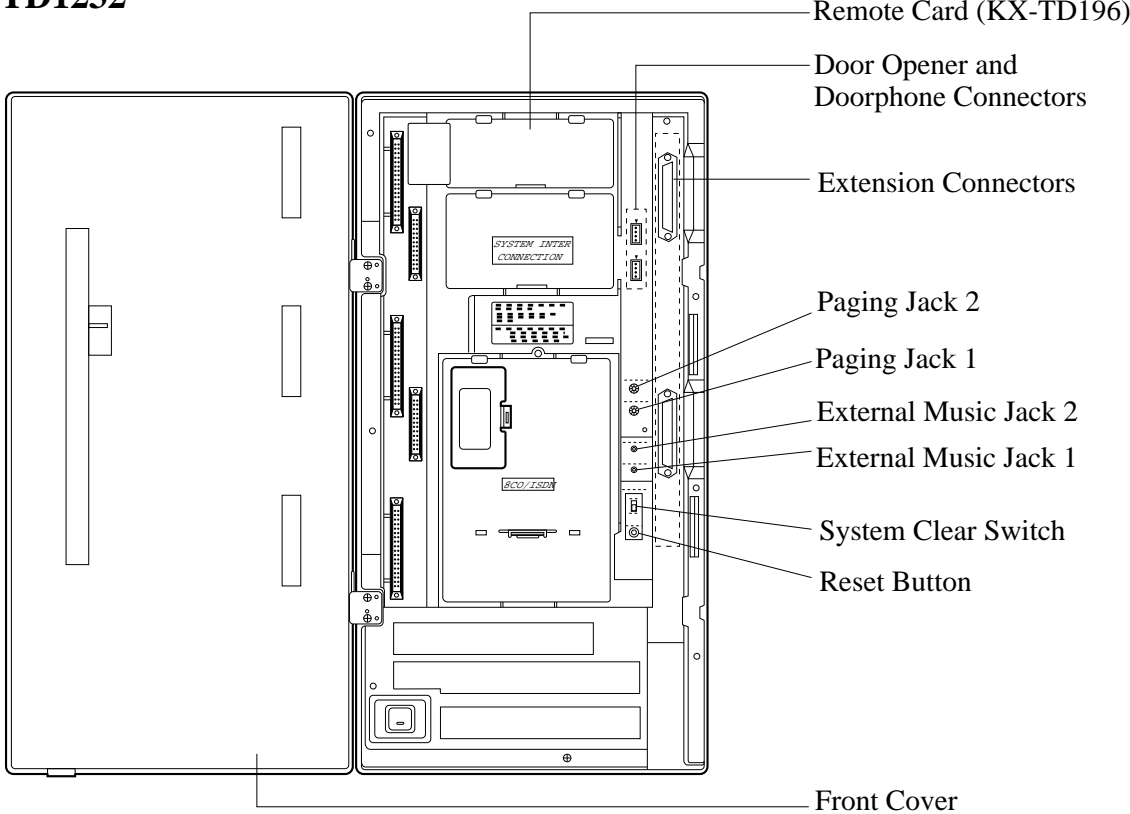
2.2 Installation of the Main Unit

Inside View of the Main Unit

KX-TD816



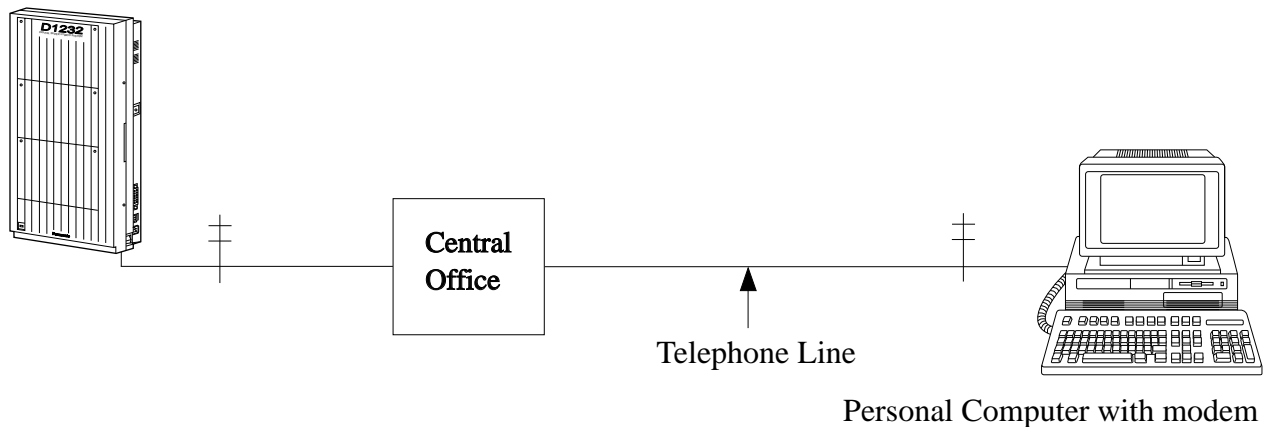
KX-TD1232



2.2 Installation of the Main Unit

2.2.3 About the Remote Card (KX-TD196)*

The Remote Card is already installed in KX-TD1232. It allows programming and maintenance of the system from a remote location.



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

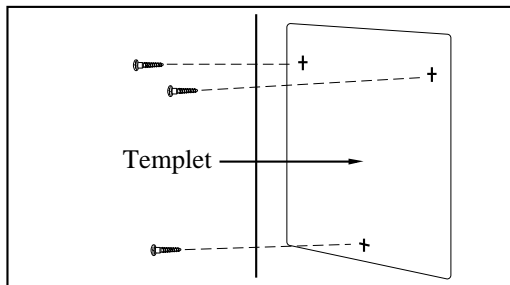
2.2.4 Wall Mounting

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

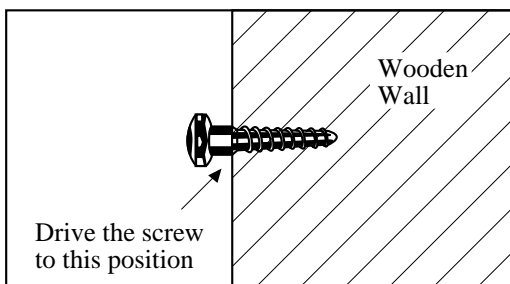
KX-TD816

Mounting on Wooden Wall

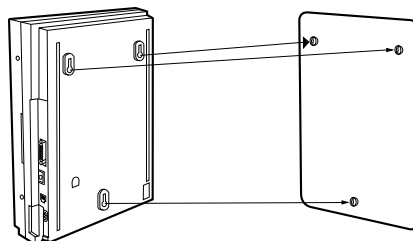
1. Place the templet (included) on the wall to mark the three screw positions.



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

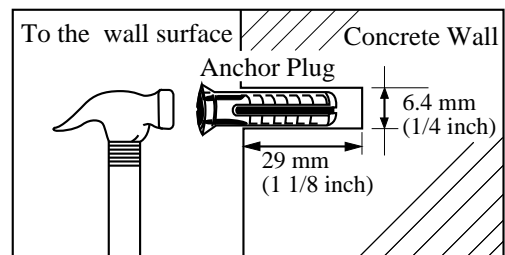


3. Hook the main unit on the screw heads.

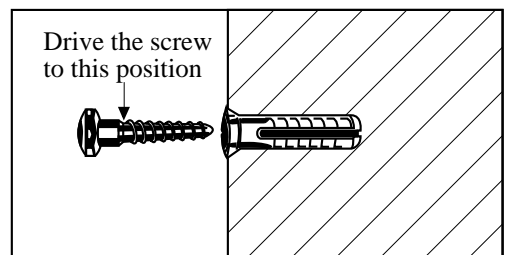


Mounting on Concrete or Mortar Wall

1. Place the templet (included) on the wall to mark the three screw positions.
2. Drill three holes and drive the anchor plugs (included) with a hammer, flush to the wall.



3. Install the three screws (included) into the anchor plugs.



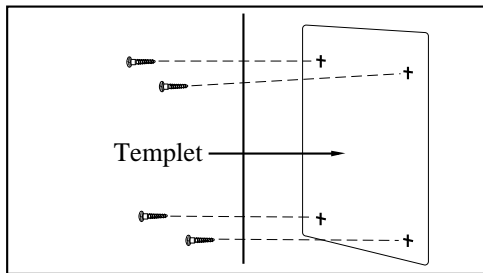
4. Hook the main unit on the screw heads.

2.2.4 Wall Mounting

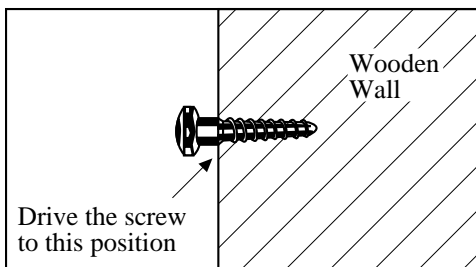
KX-TD1232

Mounting on Wooden Wall

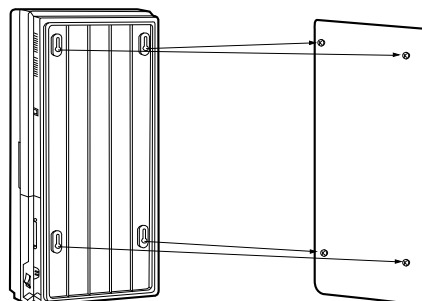
1. Place the templet (included) on the wall to mark the four screw positions.



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

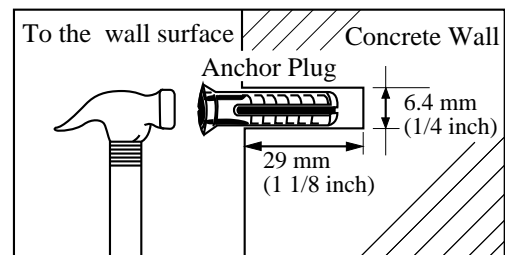


3. Hook the main unit on the screw heads.

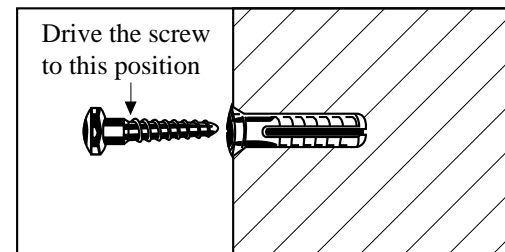


Mounting on Concrete or Mortar Wall

1. Place the templet (included) on the wall to mark the four screw positions.
2. Drill four holes and drive the anchor plugs (included) with a hammer, flush to the wall.



3. Install the four screws (included) into the anchor plugs.



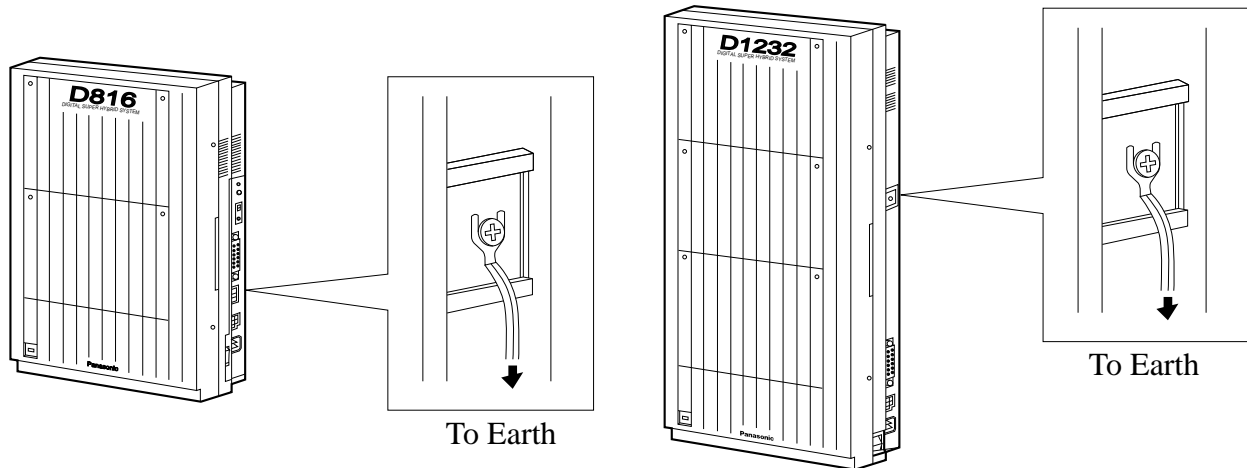
4. Hook the main unit on the screw heads.

2.2 Installation of the Main Unit

2.2.5 Frame Earth Connection

IMPORTANT!!!

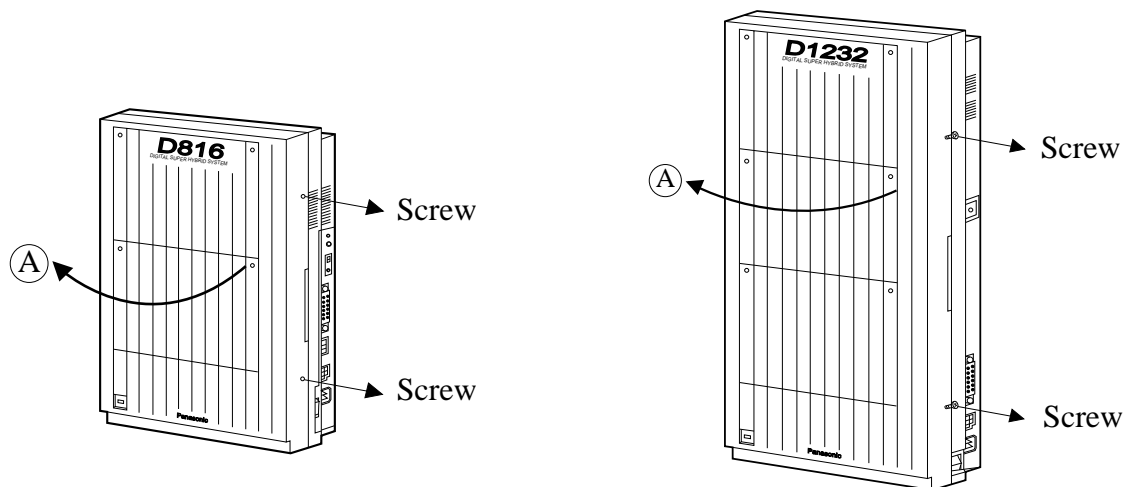
You must connect the frame of the main unit to Earth.



2.2.6 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:

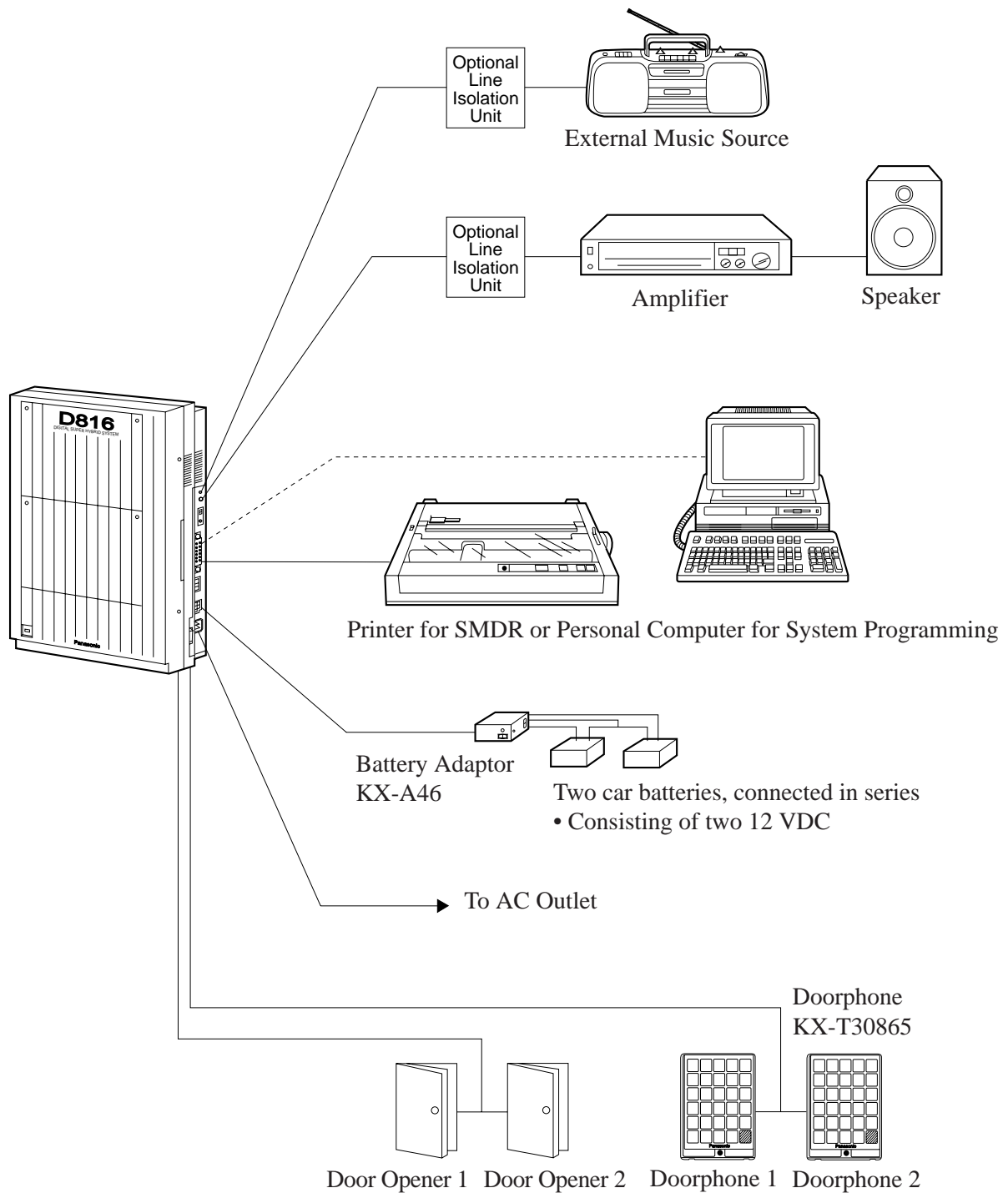
1. Loosen the two screws on the right side of the main unit.
2. Open the front cover in the direction of Arrow (A).



2.3 Connection

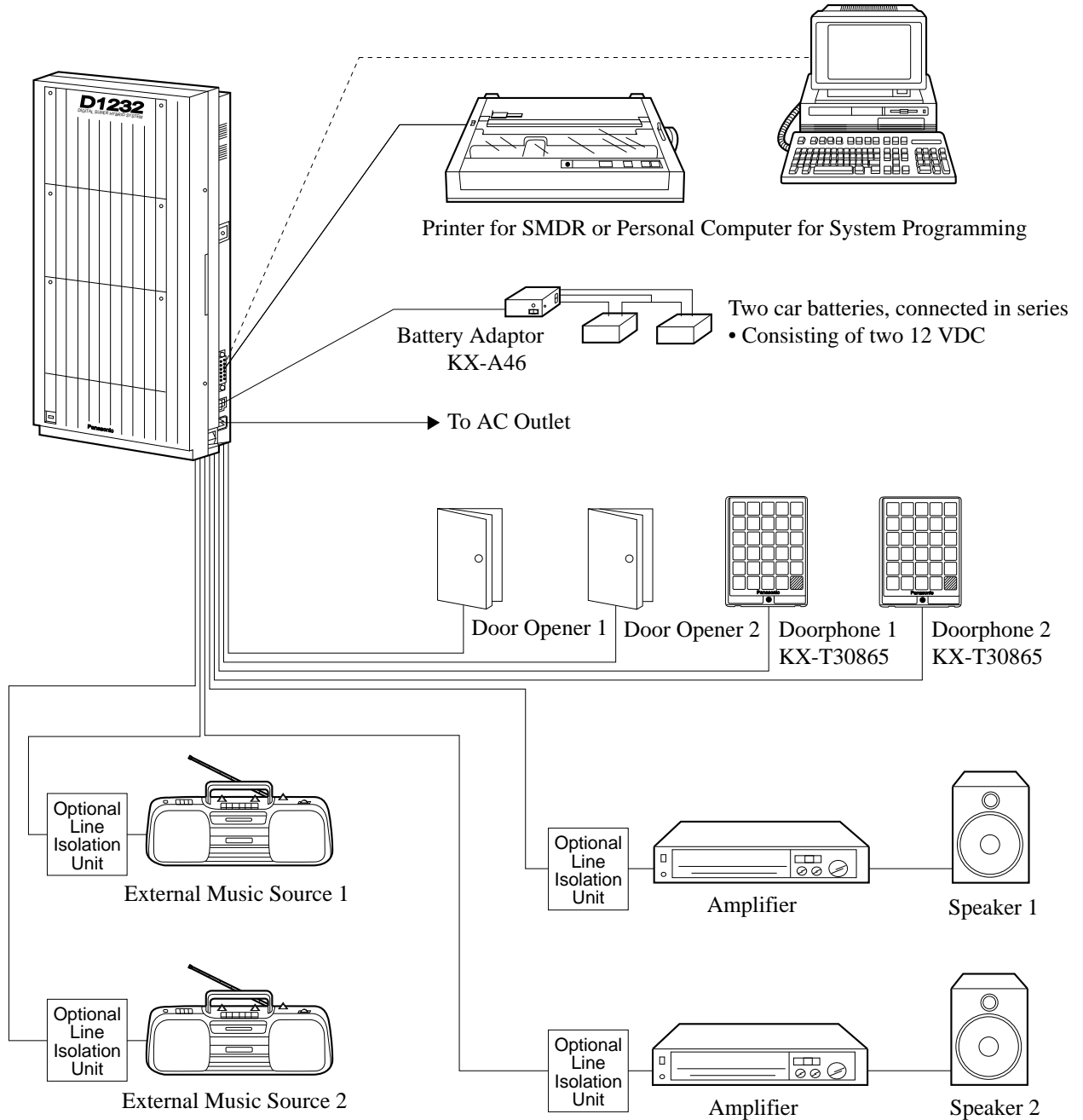
2.3.1 System Connection Diagram

KX-TD816



2.3.1 System Connection Diagram

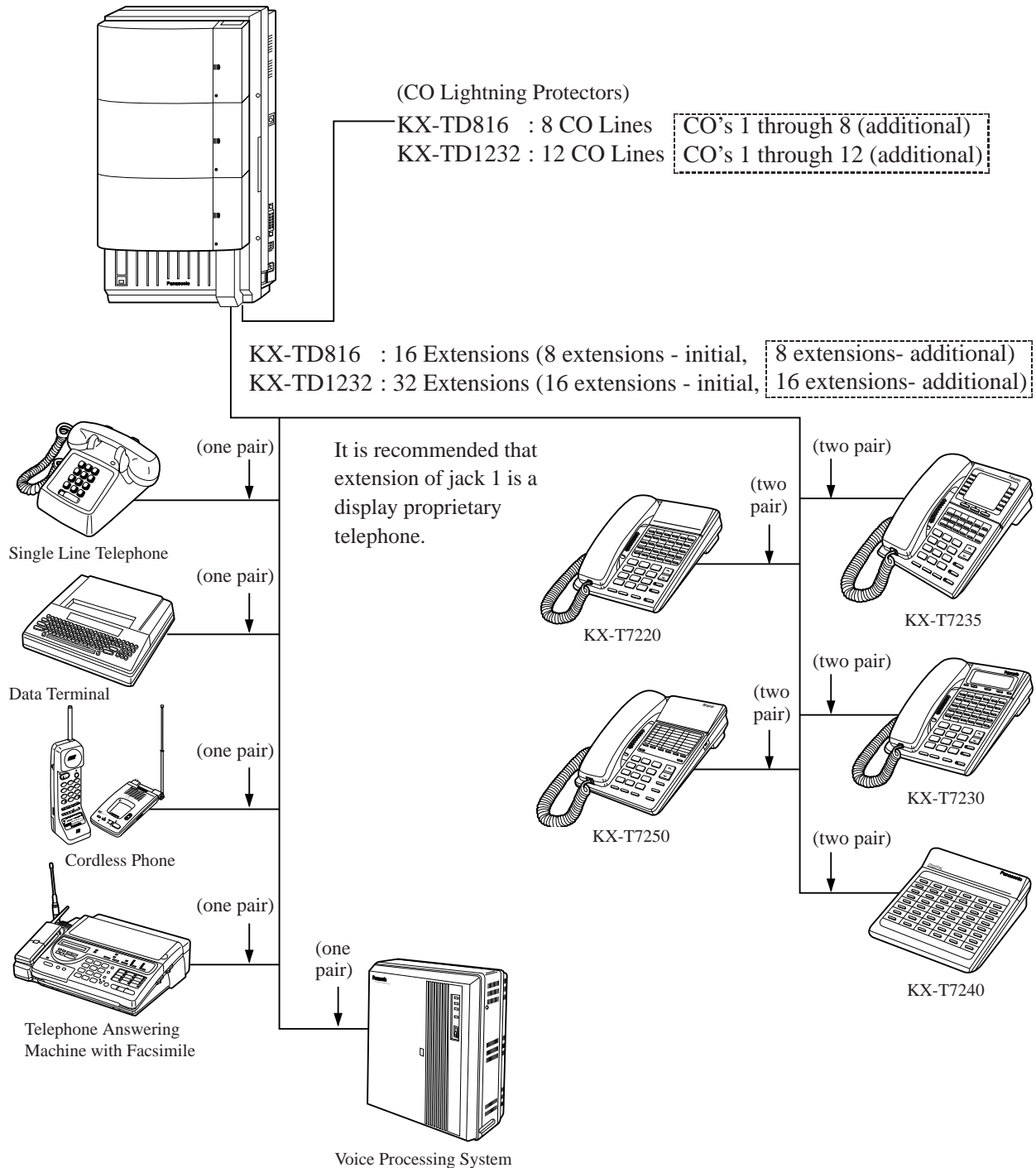
KX-TD1232



Note It is an Austel requirement that an optional Line Isolation Unit, obtainable from your installer, be fitted between the External Music Jack and the External Music Source and between the Paging Jack and the Paging Equipment.

2.3.1 System Connection Diagram

KX-TD816 / KX-TD1232



Notes

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

2.3.2 CO Line Connection (KX-TD816: CO1 through CO4)

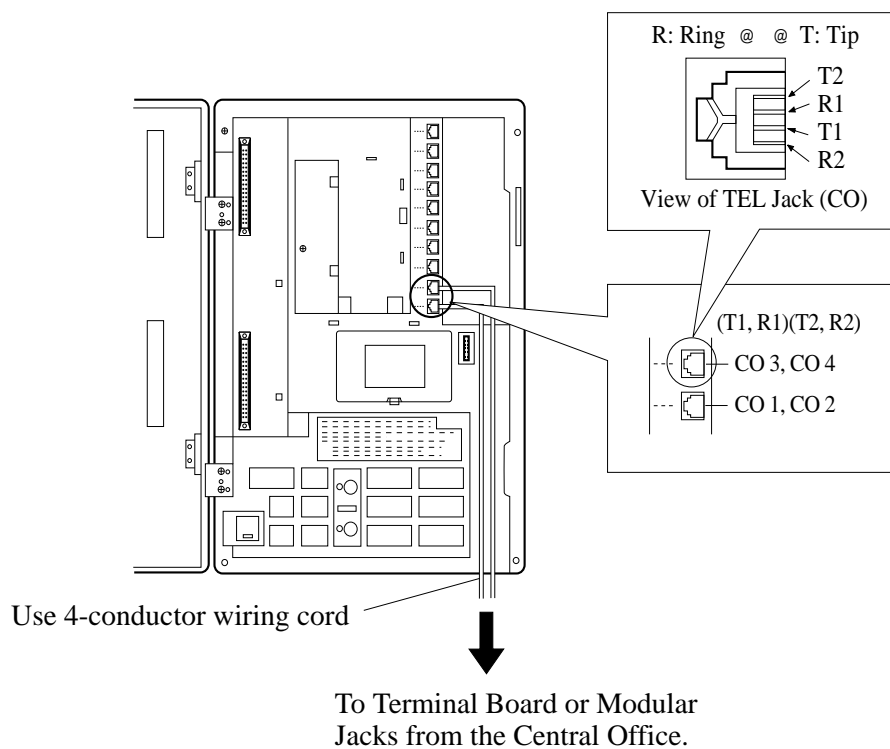
Wire Specifications

Use twisted pair cable for installation. The wire specifications for extensions are as follows:

| | |
|-----------------------------------|---------------------------------|
| Wire | Solid wire |
| Diameter of conductor | ø0.4 – ø0.65 mm (22, 24, 26AWG) |
| Diameter including coating | ø0.66 – ø1.05 mm |

Connection

Insert the modular plugs of the telephone line cords (4-conductor wiring) into the modular jacks on the system.



Notes

- Mis-connection may cause the system to operate improperly. See Section 6.1.1 “Installation” and 6.1.2 “Connection” before connection.
- Optional card or unit is required to connect CO lines to KX-TD1232. See Section 2.4 “Optional Cards and Units Installation.”

2.3.3 Extension Connection

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

1. Extension Connection for KX-TD816

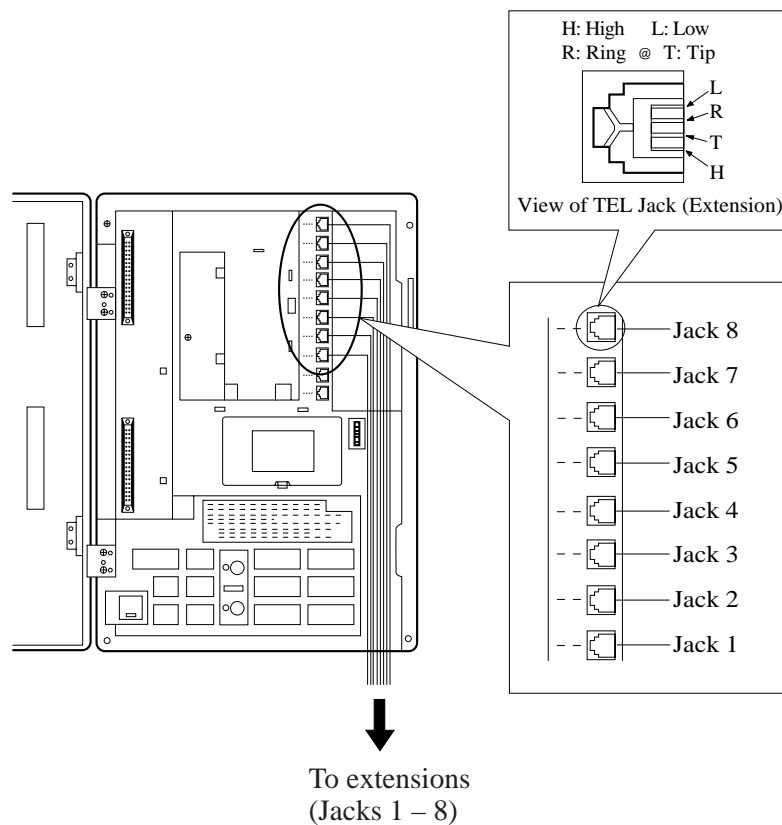
Wire Specifications

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

Insert the modular plugs of the telephone line cords (4-conductor wiring) into the modular jacks on the system. Mis-connection may cause the system to operate improperly. See Section 6.1.1 “Installation” and 6.1.2 “Connection” before connection.



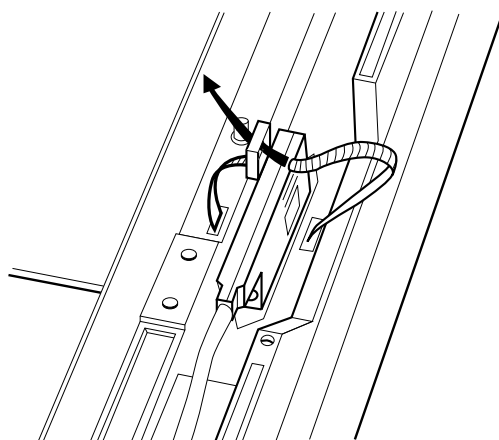
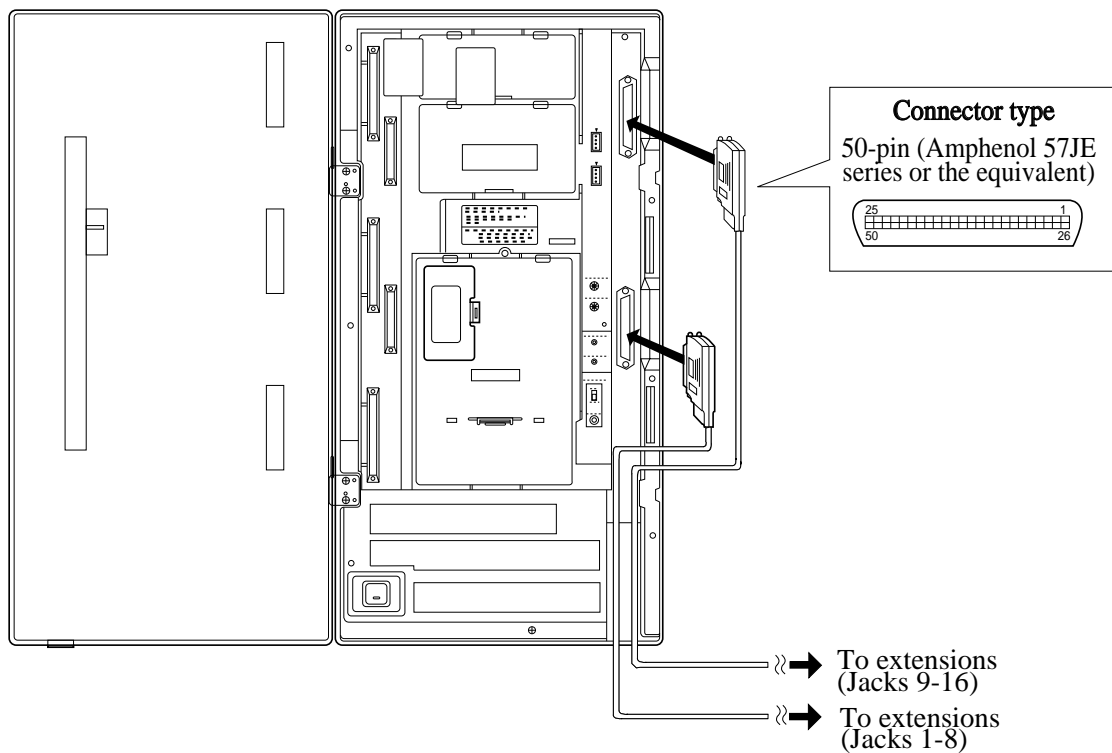
2.3.3 Extension Connection

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

2. Extension Connection for KX-TD1232

Connection

Insert the connectors to the system as shown. For Cable Pin Numbers to Be Connected, see page 2-16. Mis-connection may cause the system to operate improperly. See Section 6.1.1 “Installation” and 6.1.2 “Connection” before connection.



After inserting the connector, fasten the connector with the nylon tie.

2.3.3 Extension Connection

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

Cable Pin Numbers to Be Connected

| CONN. PIN | EXTN. 1-8 | | EXTN. 9-16 | | 8EXTN† | | 8EXTN† | |
|--------------|--------------|----|---------------|----|---------------|----|---------------|----|
| 26 1 | Jack No.1 | T | Jack No.9 | T | Jack No.17 | T | Jack No.25 | T |
| 27 | | R | | R | | R | | |
| 2 | | D1 | | D1 | | D1 | | |
| 28 | | D2 | | D2 | | D2 | | |
| 3 | | P1 | | P1 | | P1 | | P1 |
| 3 | | P2 | | P2 | | P2 | | P2 |
| 29 4 | Jack No.2 | T | Jack No.10 | T | Jack No.18 | T | Jack No.26 | T |
| 30 | | R | | R | | R | | |
| 5 | | D1 | | D1 | | D1 | | |
| 31 | | D2 | | D2 | | D2 | | |
| 6 | | P1 | | P1 | | P1 | | P1 |
| 6 | | P2 | | P2 | | P2 | | P2 |
| 32 7 | Jack No.3 | T | Jack No.11 | T | Jack No.19 | T | Jack No.27 | T |
| 33 | | R | | R | | R | | |
| 8 | | D1 | | D1 | | D1 | | |
| 34 | | D2 | | D2 | | D2 | | |
| 9 | | P1 | | P1 | | P1 | | P1 |
| 9 | | P2 | | P2 | | P2 | | P2 |
| 35 10 | Jack No.4 | T | Jack No.12 | T | Jack No.20 | T | Jack No.28 | T |
| 36 | | R | | R | | R | | |
| 11 | | D1 | | D1 | | D1 | | |
| 37 | | D2 | | D2 | | D2 | | |
| 12 | | P1 | | P1 | | P1 | | P1 |
| 12 | | P2 | | P2 | | P2 | | P2 |
| 38 13 | Jack No.5 | T | Jack No.13 | T | Jack No.21 | T | Jack No.29 | T |
| 39 | | R | | R | | R | | |
| 14 | | D1 | | D1 | | D1 | | |
| 40 | | D2 | | D2 | | D2 | | |
| 15 | | P1 | | P1 | | P1 | | P1 |
| 15 | | P2 | | P2 | | P2 | | P2 |
| 41 16 | Jack No.6 | T | Jack No.14 | T | Jack No.22 | T | Jack No.30 | T |
| 42 | | R | | R | | R | | |
| 17 | | D1 | | D1 | | D1 | | |
| 43 | | D2 | | D2 | | D2 | | |
| 18 | | P1 | | P1 | | P1 | | P1 |
| 18 | | P2 | | P2 | | P2 | | P2 |
| 44 19 | Jack No.7 | T | Jack No.15 | T | Jack No.23 | T | Jack No.31 | T |
| 45 | | R | | R | | R | | |
| 20 | | D1 | | D1 | | D1 | | |
| 46 | | D2 | | D2 | | D2 | | |
| 21 | | P1 | | P1 | | P1 | | P1 |
| 21 | | P2 | | P2 | | P2 | | P2 |
| 47 22 | Jack No.8 | T | Jack No.16 | T | Jack No.24 | T | Jack No.32 | T |
| 48 | | R | | R | | R | | |
| 23 | | D1 | | D1 | | D1 | | |
| 49 | | D2 | | D2 | | D2 | | |
| 24 | | P1 | | P1 | | P1 | | P1 |
| 24 | | P2 | | P2 | | P2 | | P2 |
| 50 | | | | | | | | |
| 25 | | | | | | | | |

2.3.3 Extension Connection

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

- Notes** † “8EXTN” in the table indicates an extension expansion area for KX-TD1232. There are three expansion areas on the main unit of KX-TD1232. Up to two 8-Station Line Units and a 4-CO Line Unit can be installed to any area. It is required to designate which is 8-Station Line Unit 1 and which is 2 by system programming.
- 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.

Digital Proprietary Telephone Connection

With the 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.)

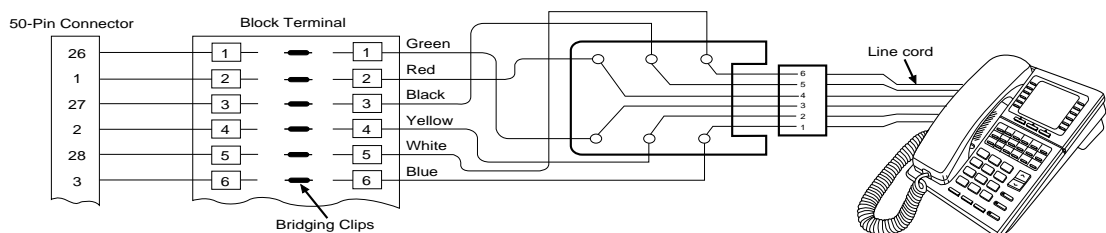
Single Line Telephone Connection

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

Station Wiring (3-pair twisted cabling) :



2.3.3 Extension Connection

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

Programming References

Section 4, System Programming,

[007] DSS Console Port and Paired Telephone Assignment

[109] Expansion Card / Unit Type

Feature References

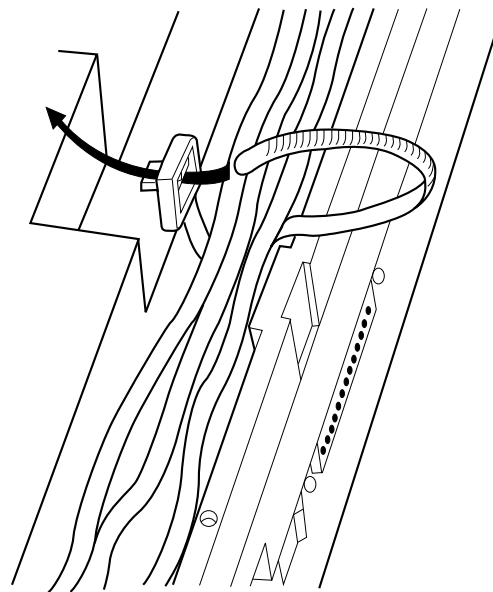
Section 3, Features,

DSS Console (KX-T7240)

Module Expansion

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.

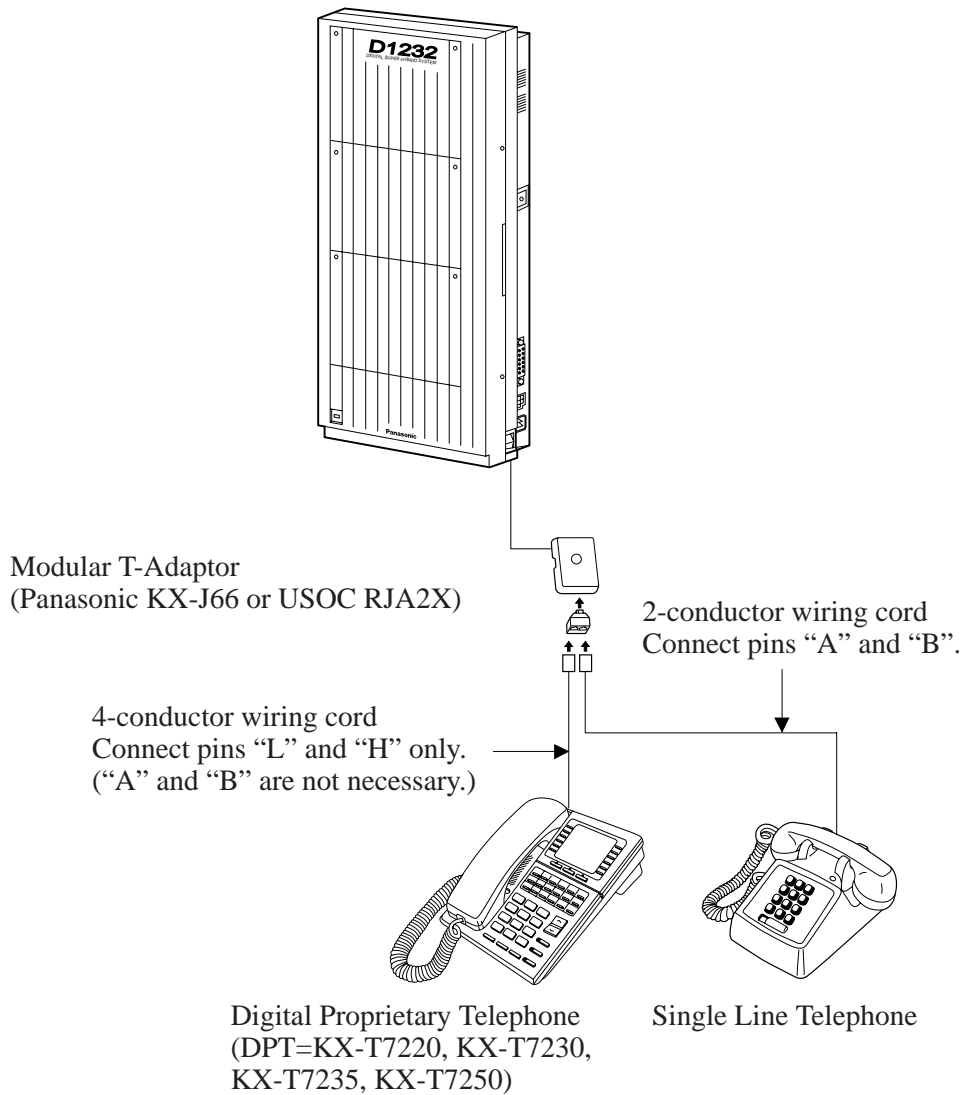


2.3.4 Paralleled Telephone Connection

for a Digital Proprietary Telephone and a Single Line Telephone

Any single line telephone can be connected in parallel with a digital proprietary telephone as follows:

Method 1: Using a Modular T-Adaptor

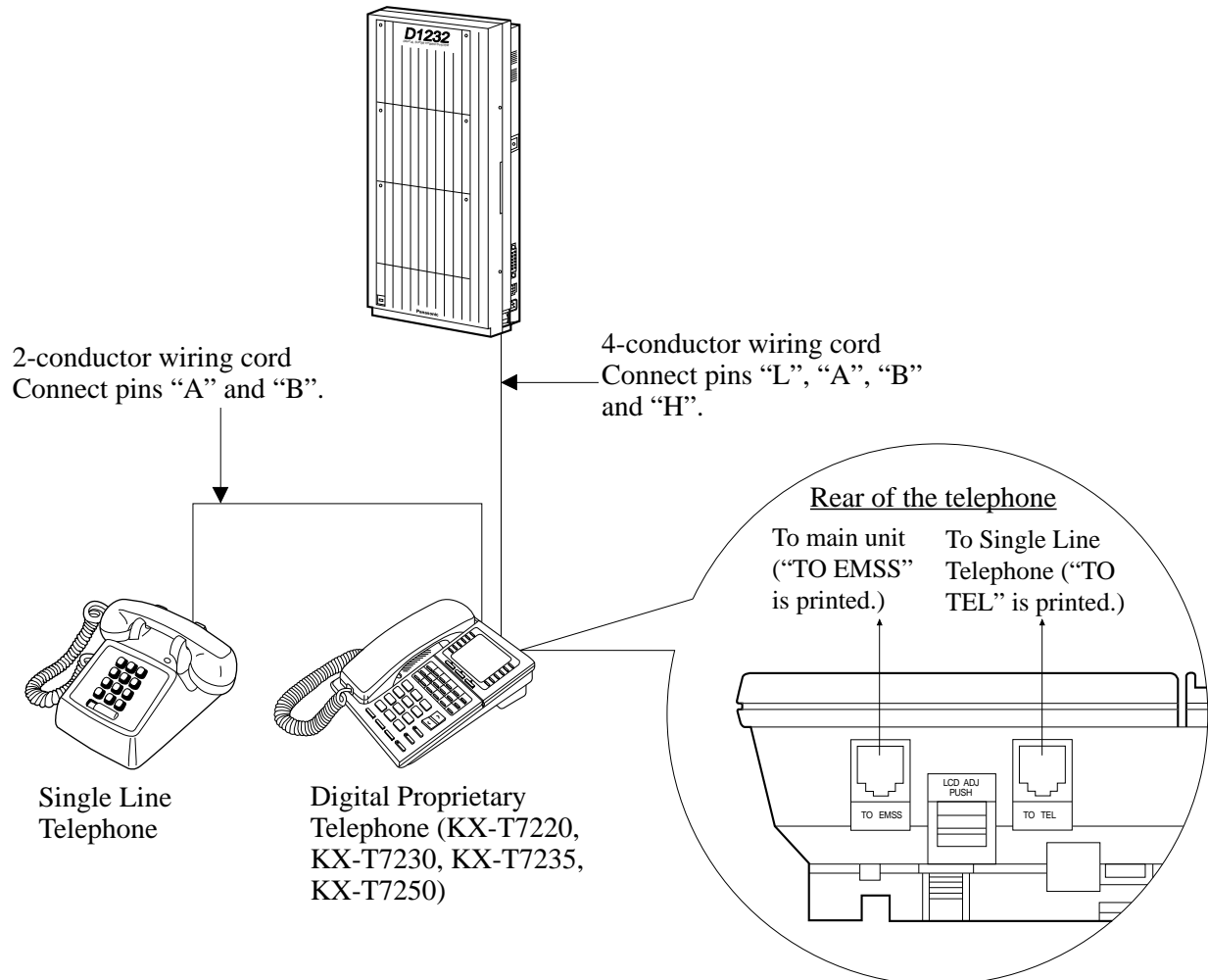


Note The KX-TD1232 is illustrated as a main unit.

2.3.4 Paralleled Telephone Connection

for a Digital Proprietary Telephone and a Single Line Telephone

Method 2: Using a "TO TEL" Jack



- 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

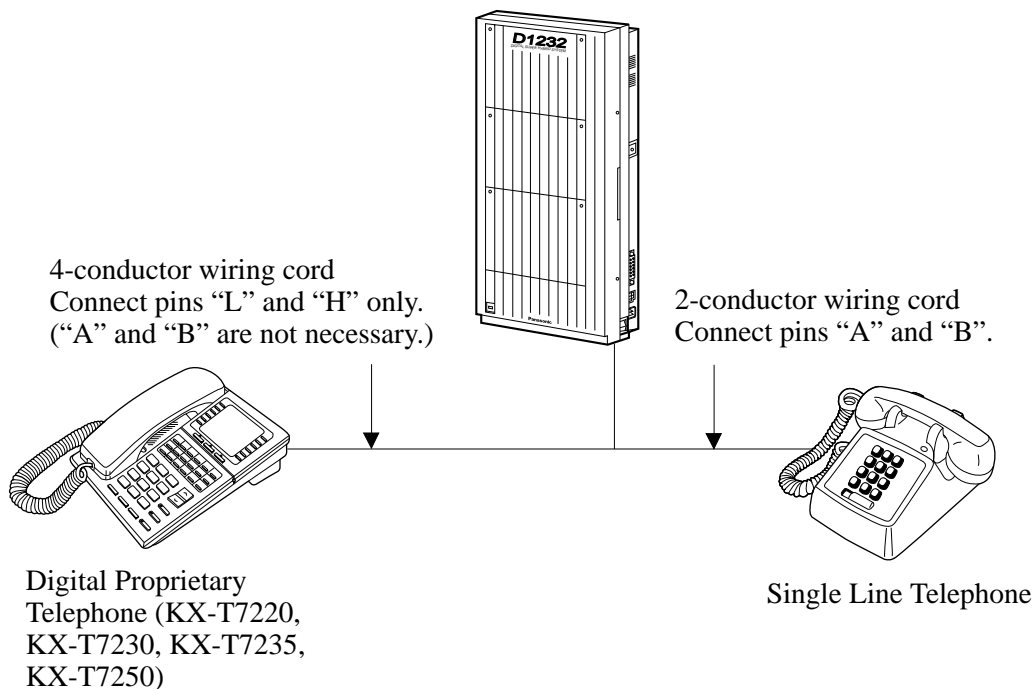
Section 3, Features,
Paralleled Telephone

2.3.5 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 (KX-T7220, KX-T7230, KX-T7235, or KX-T7250) 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.



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

Programming References

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

Feature References

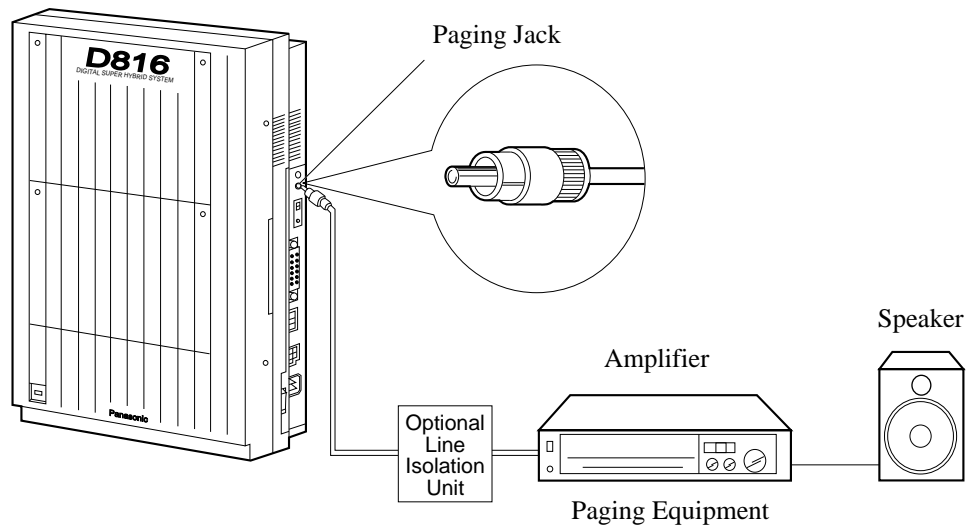
Section 3, Features,
EXtra Device Port (XDP)

2.3.6 External Pager Connection

KX-TD816

One external pager (user-supplied) can be connected to KX-TD816 as illustrated below. 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

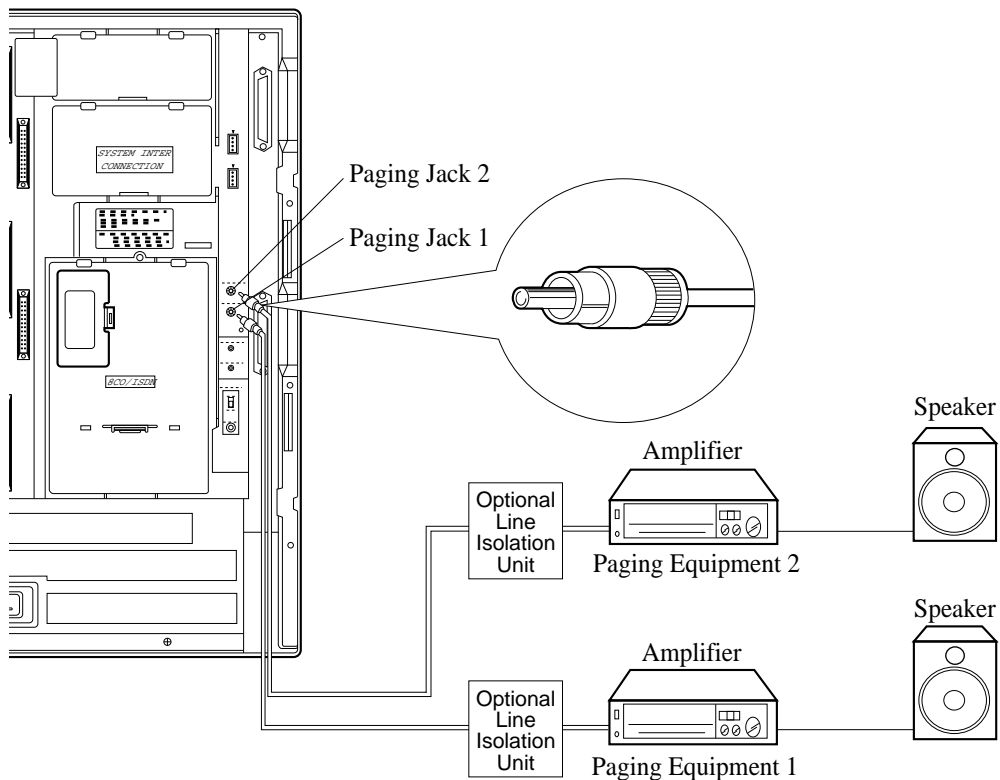


2.3.6 External Pager Connection

KX-TD1232

Up to two external pagers (user-supplied) can be connected to KX-TD1232 per system as illustrated below. 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



Note It is an Austel requirement that an optional Line Isolation Unit, obtainable from your installer, be fitted between the Paging jack and the Paging equipment.

Programming References

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

Feature References

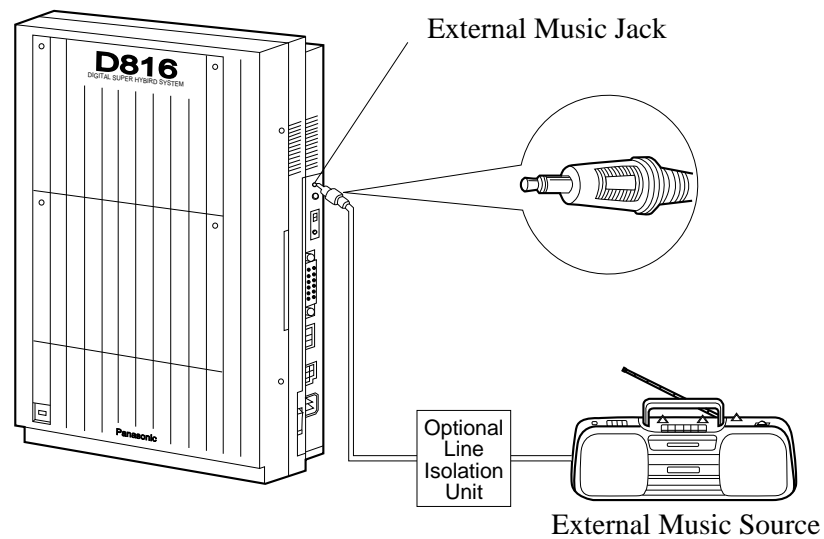
Section 3, Features,
Background Music (BGM) – External Paging – External
Paging – All
Trunk (CO Line) Answer From Any Station (TAFAS)

2.3.7 External Music Source Connection

KX-TD816

One music source such as a radio (user-supplied) can be connected to KX-TD816 as illustrated below. Use a two-conductor plug (3.5 mm in diameter). Insert the plug to the earphone / headphone jack on the external music source.

- Input impedance: 8 k Ω

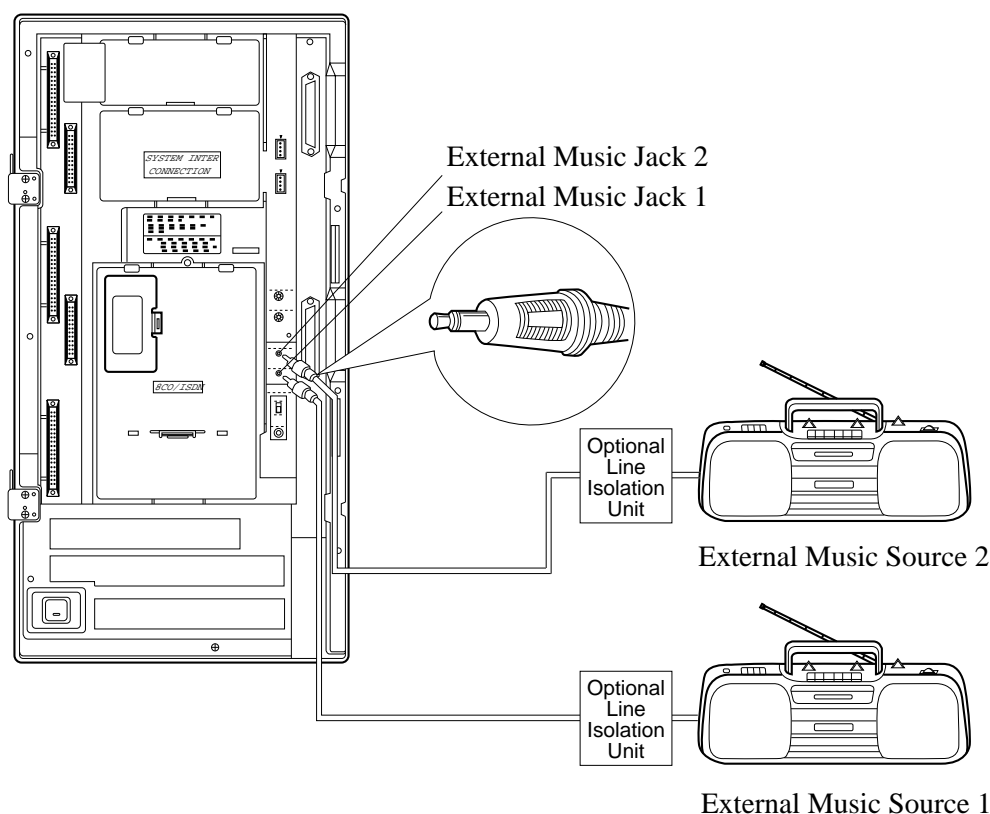


2.3.7 External Music Source Connection

KX-TD1232

Up to two music sources such as a radio (user-supplied) can be connected to KX-TD1232 per system as illustrated below. Use a two-conductor plug (3.5 mm in diameter). Insert the plug to the earphone / headphone jack on the external music source.

- Input impedance: 8 k Ω



- Notes**
- System Programming of music sources used for Music on Hold and Background Music is required.
 - To adjust the sound level of the Music on Hold, use the volume control on the external music source.
 - It is an Austel requirement that an optional Line Isolation Unit, obtainable from your installer, be fitted between the External Music Jack and the external Music Source.

Programming References

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

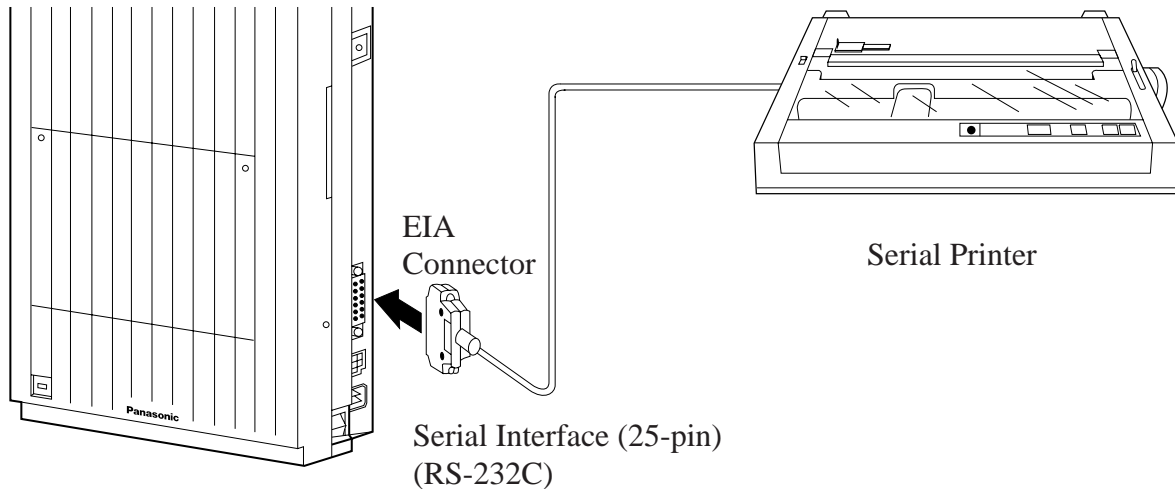
Feature References

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

2.3.8 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.



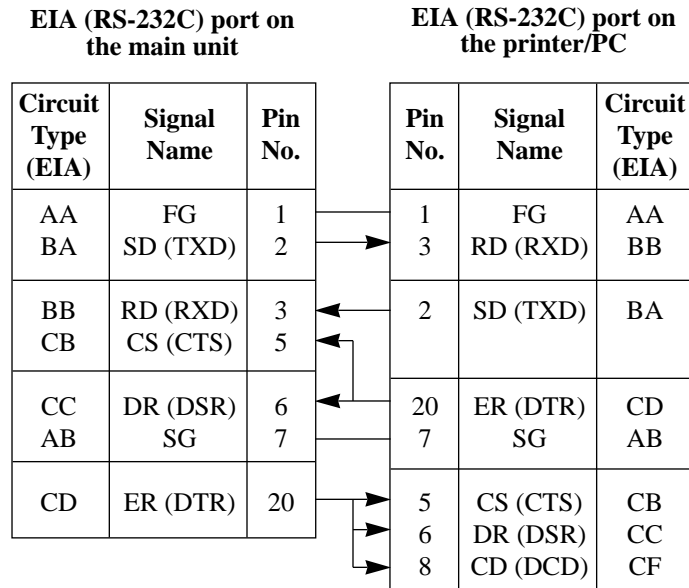
Note The KX-TD1232 is illustrated as a main unit.

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 |

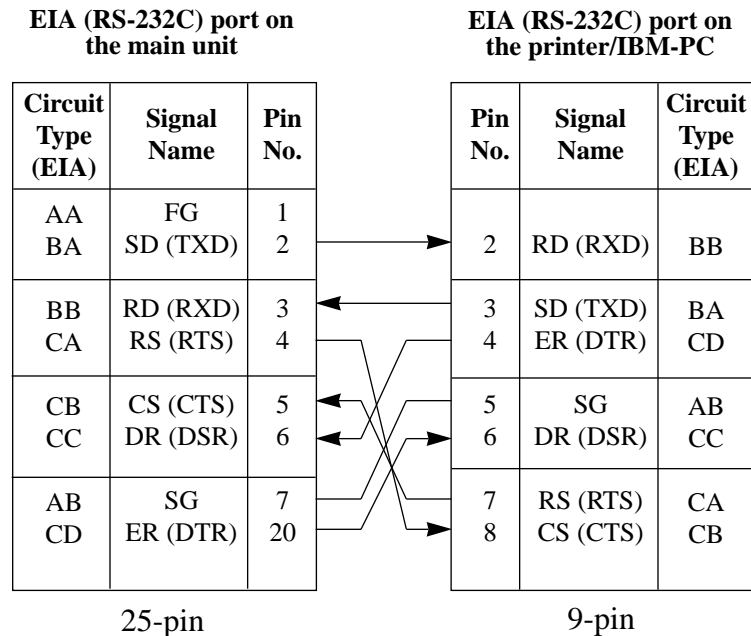
2.3.8 Printer Connection

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.

2.3.8 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 CR (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: CR (DSR)(input)

An ‘ON’ condition of the CR (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

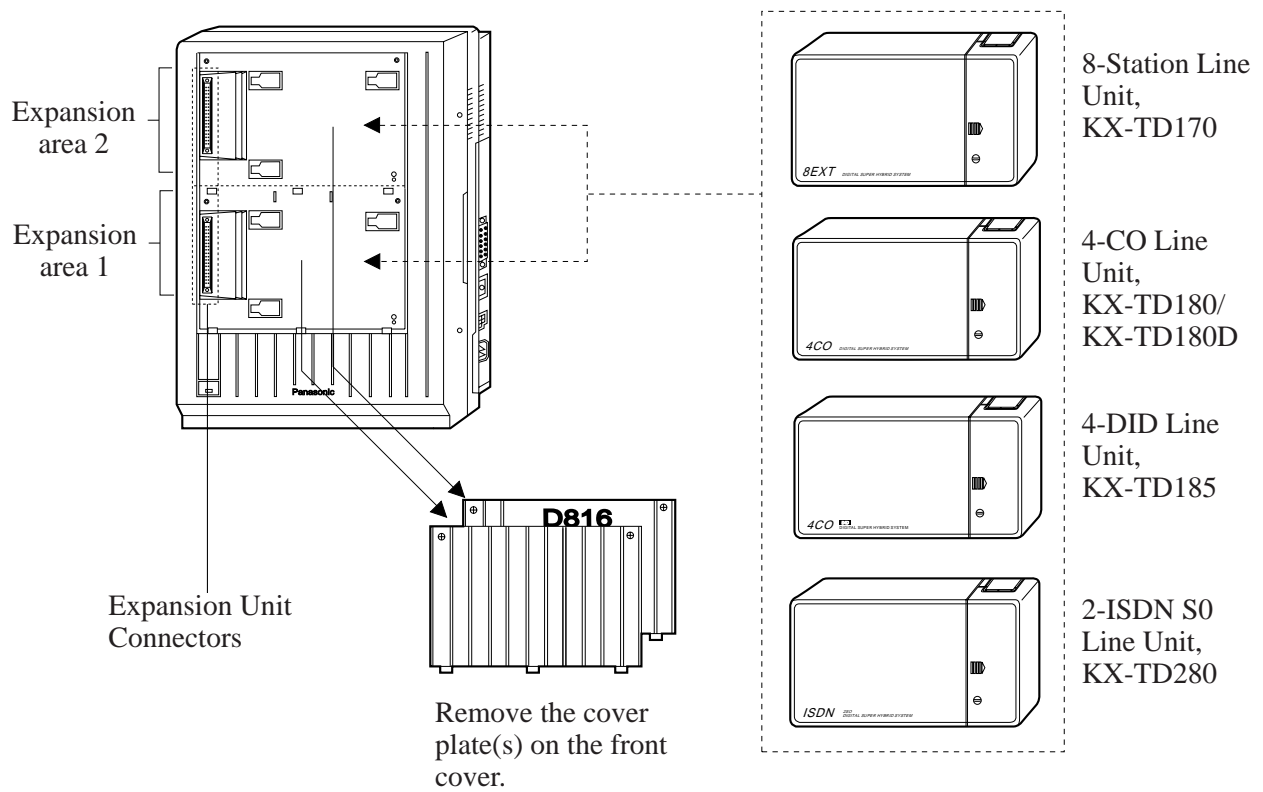
2.4.1 Location of Optional Cards and Units

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

One 8-Station Line Unit (KX-TD170) and / or one of 4-CO Line Unit (KX-TD180/KX-TD180D), 4-DID Line Unit (KX-TD185) or 2-ISDN S0 Line Unit (KX-TD280) can be installed to any of the two expansion areas.

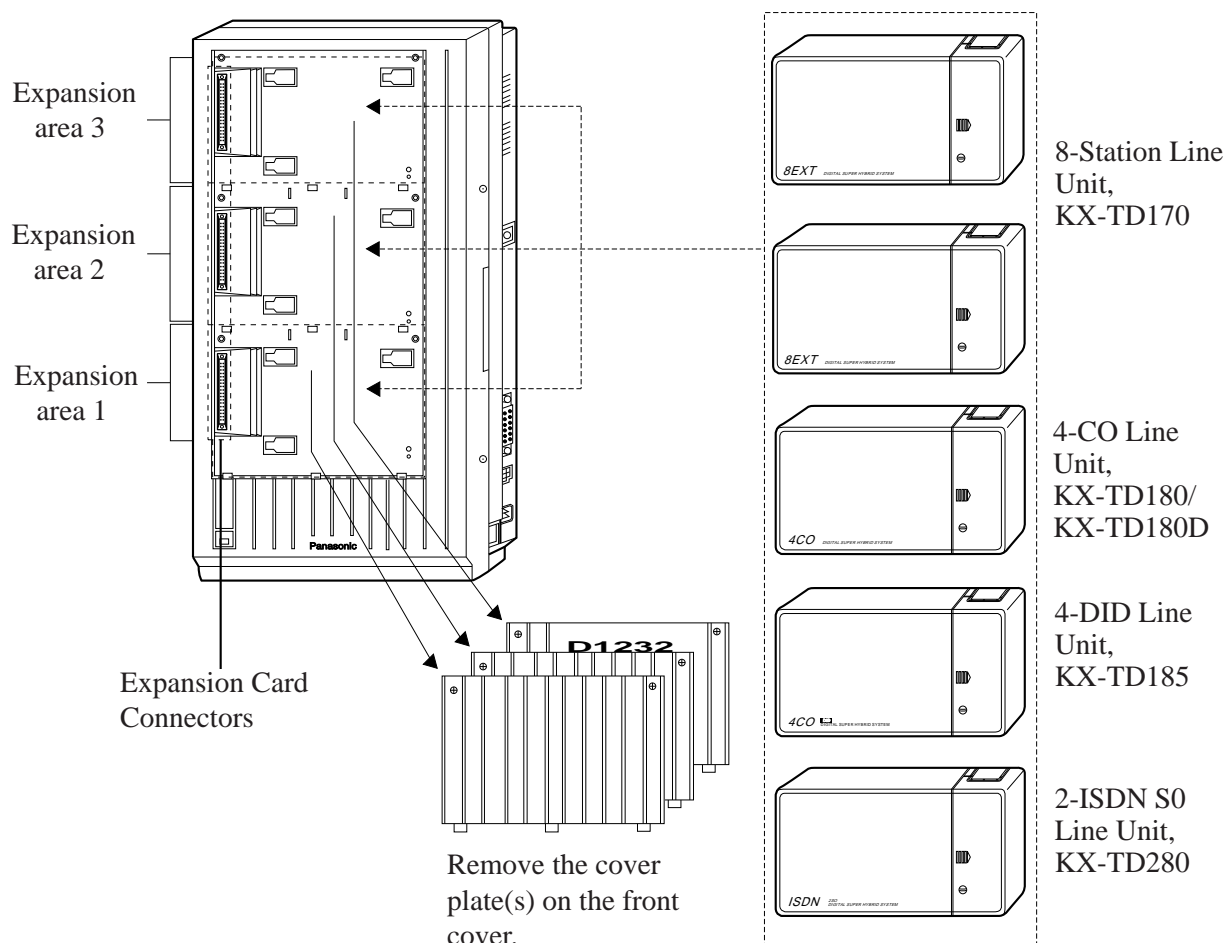


Note System Programming is required for expansion unit location. Refer to Section 4.3 [109] "Expansion Card / Unit Type."
Default : Area 1 = 4-CO Line Unit,
Area 2 = 8-Station Line Unit.

2.4.1 Location of Optional Cards and Units

KX-TD1232

A maximum of two 8-Station Line Units (KX-TD170) and / or one of 4-CO Line Unit (KX-TD180/KX-TD180D), 4-DID Line Unit (KX-TD185) or 2-ISDN S0 Line Unit (KX-TD280) can be installed to any of the three expansion areas.

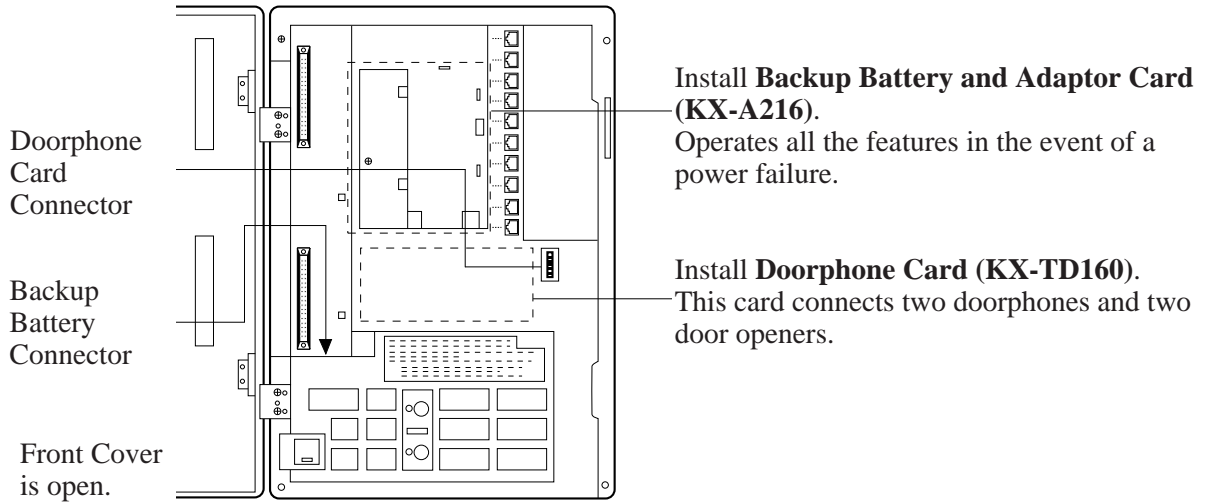


Note System Programming is required for expansion unit location. Refer to Section 4.3 [109] "Expansion Card / Unit Type."

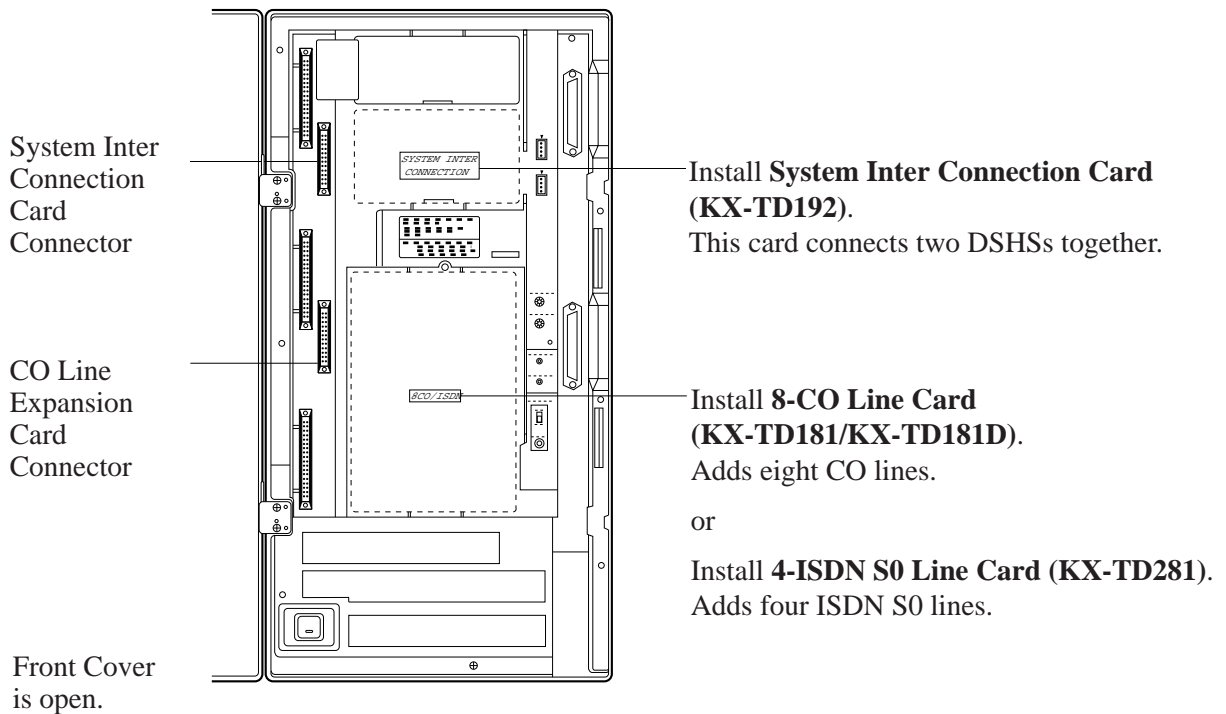
Default : Area 1 = 4-CO Line Unit,
Area 2, 3 = 8-Station Line Unit.

2.4.1 Location of Optional Cards and Units

Backup Battery and Adaptor Card / Doorphone Card for KX-TD816



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



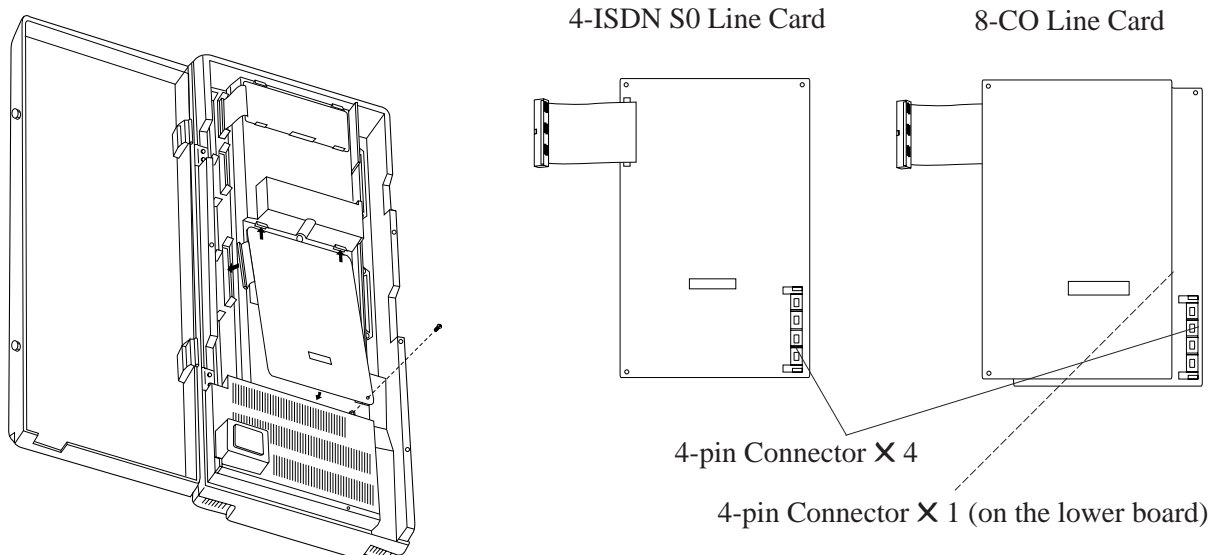
2.4.2 CO Line Connection (KX-TD1232: CO1 through CO8)

Card Installation

To connect CO 1 through CO 8 to KX-TD1232, install the optional 8-CO Line Card (KX-TD181/KX-TD181D).

To connect four ISDN S0 lines to KX-TD1232, 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 |

- Note**
- 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: 8-CO Line Card

2.4.2 CO Line Connection (KX-TD1232: CO1 through CO8)

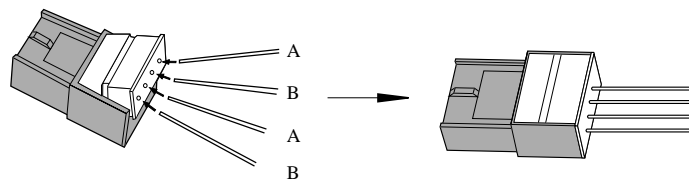
8-CO Line Connection with KX-TD181/KX-TD181D

Use 4-pin plugs (included) to connect CO lines. There are four plugs to connect eight CO lines. 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.

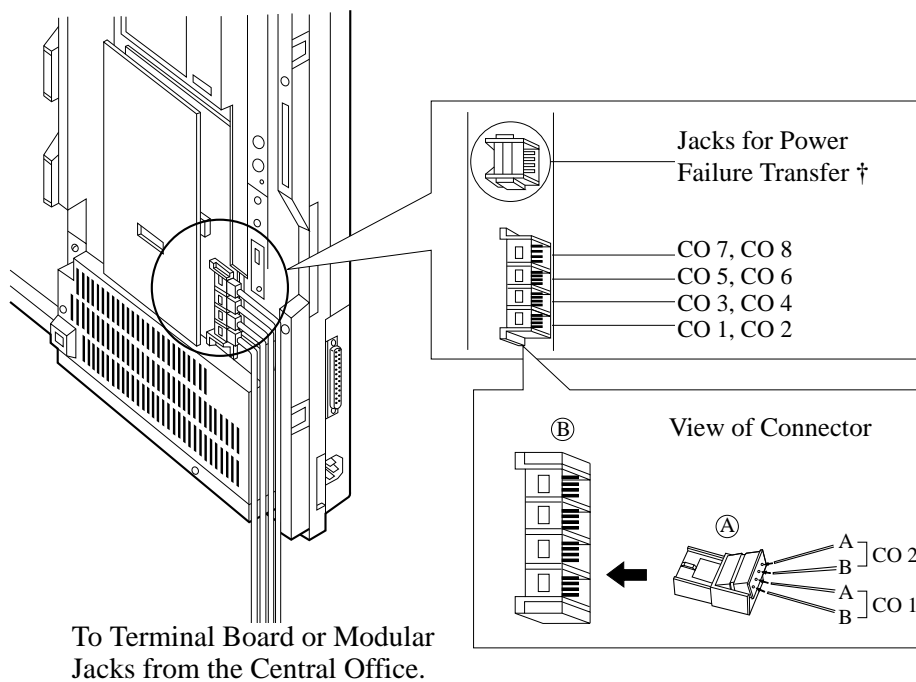
1. Insert required telephone wires into the holes in a plug.
Fix the transparent part into the black part.

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.



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

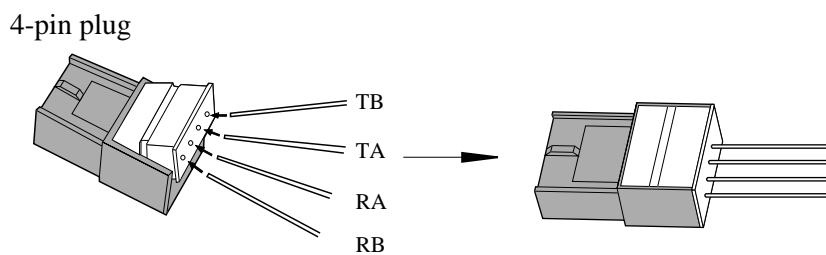
2.4.2 CO Line Connection (KX-TD1232: CO1 through CO8)

4-ISDN S0 Line Connection with KX-TD281

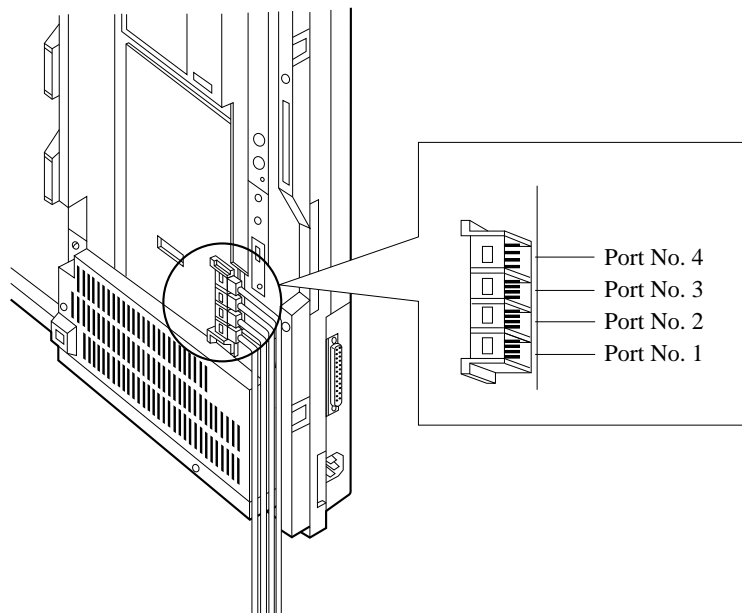
Use 4-pin plugs (included) to connect ISDN S0 lines. There are four plugs to connect four ISDN S0 lines. A single plug is able to connect one ISDN S0 line. Mis-connection may cause the system to operate improperly. See Section 6.1.2 "Connection" before connection.

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.



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



To Terminal Board or Modular
Jacks from the Central Office.

2.4.3 Lightning Protector Installation

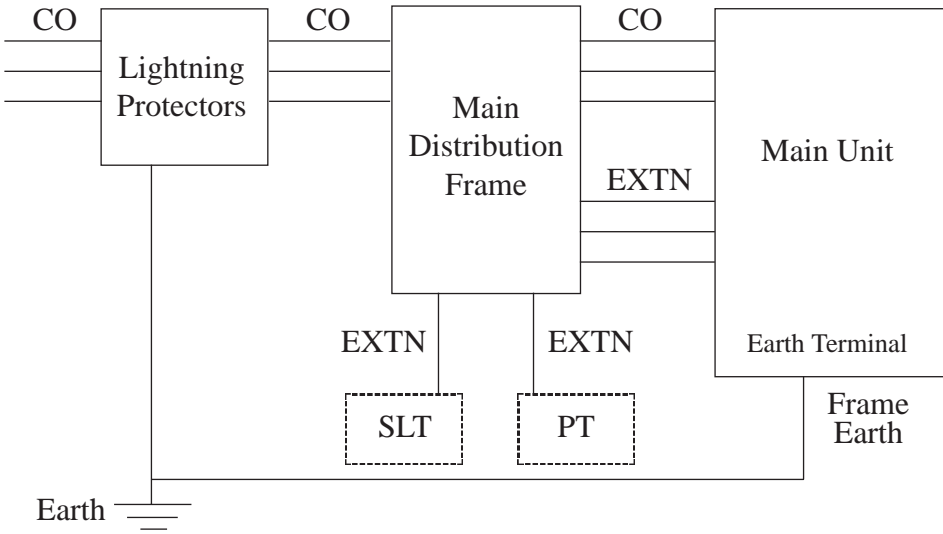
A lightning protector is a device to be installed on a CO line to prevent a dangerous surge from entering the building and damaging equipment.

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

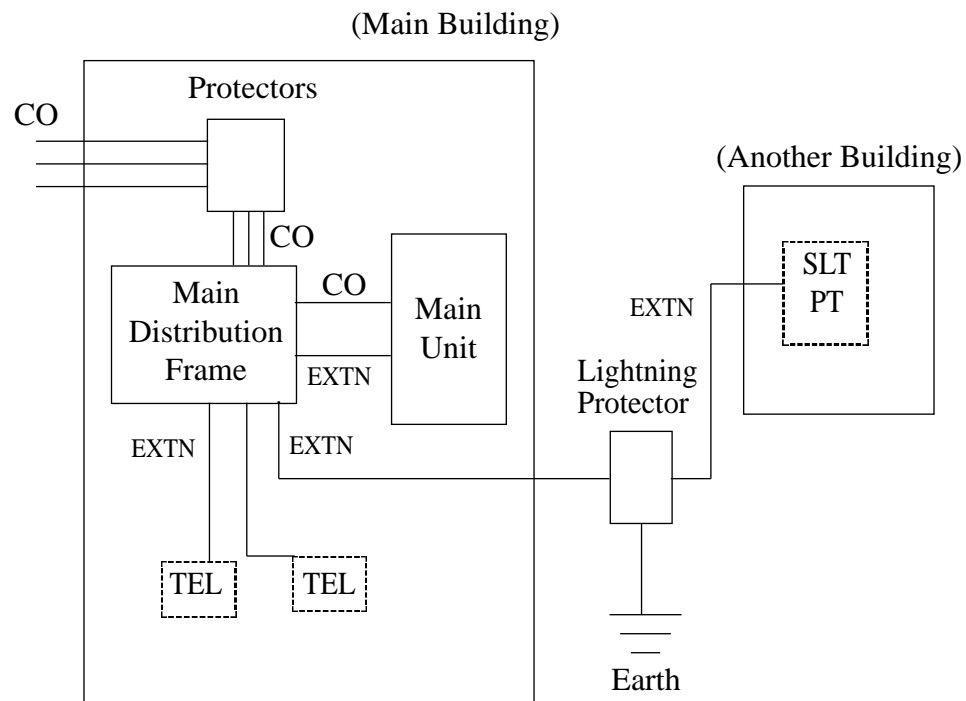


2.4.3 Lightning Protector Installation

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.

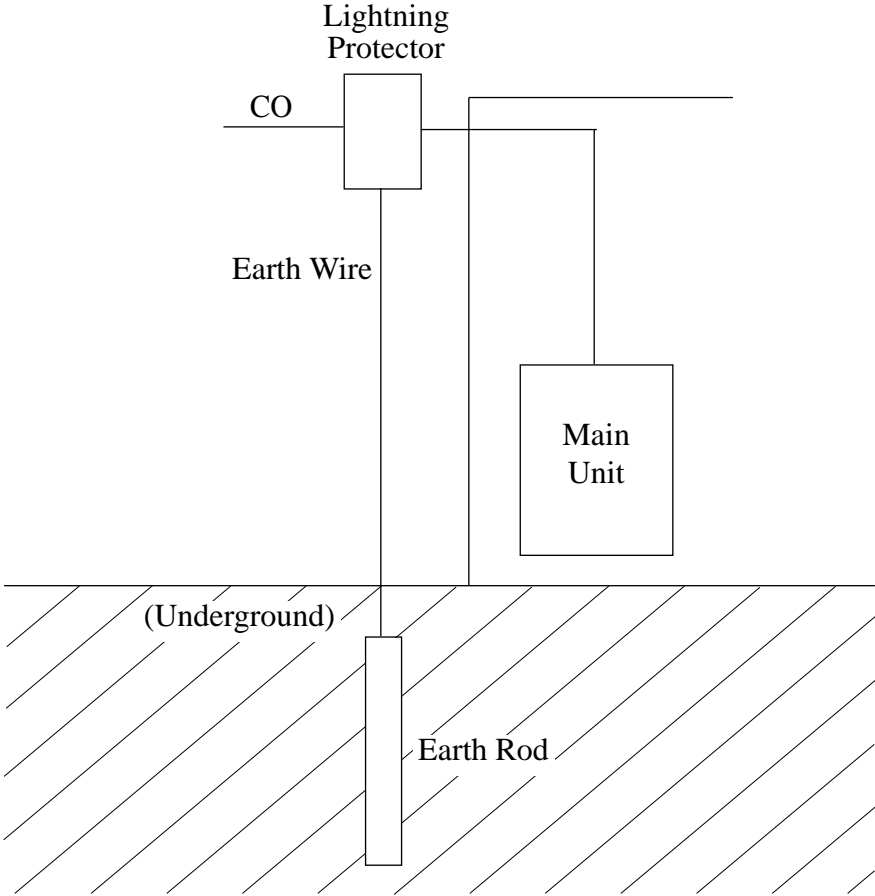


Note The lightning protector for an extension is different from that for CO.

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 rod.....Near 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 8-Station Line Unit Connection

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 for KX-TD1232 (jacks 17 through 32), use two KX-TD170s.

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

For the unit installation, see Section 2.4.8 “Installing Expansion Unit (KX-TD170/KX-TD180(D)/KX-TD185/KX-TD280).”

2.4.5 4-CO Line Unit Connection

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/KX-TD180D). This unit can be installed in any of the expansion areas provided on the front of the main unit.

For the unit installation, see Section 2.4.8 “Installing Expansion Unit (KX-TD170/KX-TD180(D)/KX-TD185/KX-TD280).”

2.4.6 4-DID Line Unit Connection

To add four DID lines (KX-TD816: CO 5 through CO 8, KX-TD1232: CO 9 through CO 12), use the optional 4-DID Line Unit (KX-TD185). This unit can be installed in any of the expansion areas provided on the front of the main unit.

For the unit installation, see Section 2.4.8 “Installing Expansion Unit (KX-TD170/KX-TD180(D)/KX-TD185/KX-TD280).”

2.4.7 2-ISDN S0 Line Unit Connection

To add two ISDN S0 lines (KX-TD816: ISDN 1 and ISDN 2, KX-TD1232: ISDN 5 and ISDN 6), use the optional 2-ISDN S0 Line Unit (KX-TD280). This unit can be installed in any of the expansion areas provided on the front of the main unit.

For the unit installation, see Section 2.4.8 “Installing Expansion Unit (KX-TD170/KX-TD180(D)/KX-TD185/KX-TD280).”

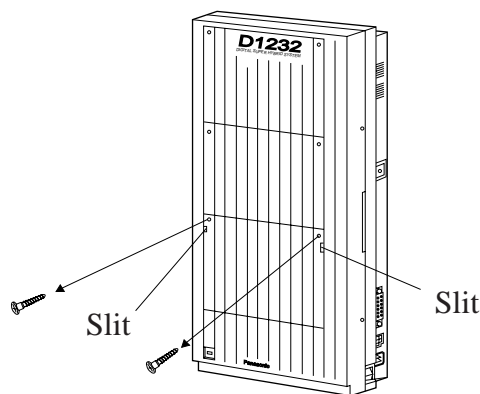
2.4.8 Installing Expansion Unit (KX-TD170 / KX-TD180(D) / KX-TD185 / KX-TD280)

The following procedures can be used to install either 8-Station Line Unit (KX-TD170), 4-CO Line Unit (KX-TD180/KX-TD180D), 4-DID Line Unit (KX-TD185) or 2-ISDN S0 Line Unit (KX-TD280). System programming is required for unit location identification.

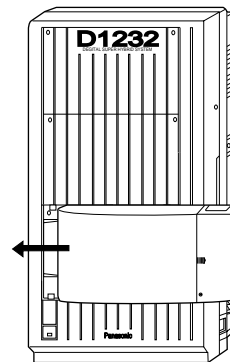
Default KX-TD816: bottom = 4-CO Line Unit,
top = 8-Station Line Unit
KX-TD1232: bottom = 4-CO Line Unit,
middle and top = 8-Station Line Unit

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

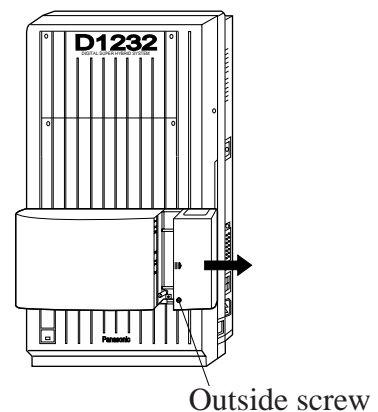
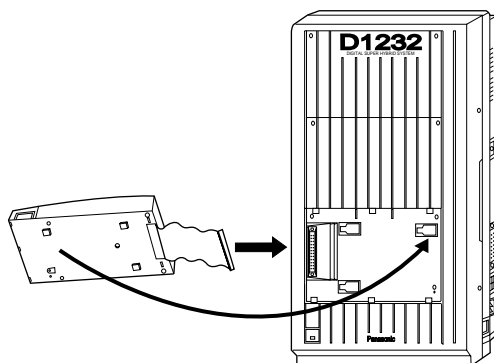
1. Loosen the two the screws on the cover plate. Insert fingers into the slits to remove the cover plate.
3. Hook the cabinet to the main unit and slide the cabinet to the left until it is fixed.



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

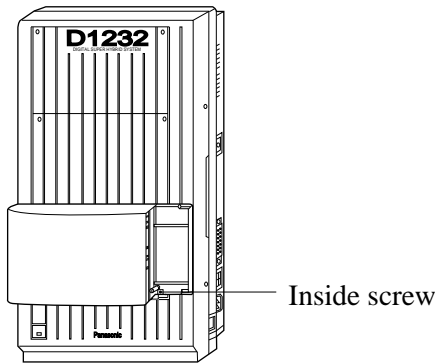


2. Connect the cabinet cord to the connector in the main unit firmly.
4. Loosen the outside screw and slide the cover to the right.



2.4.8 Installing Expansion Unit (KX-TD170 / KX-TD180(D) / KX-TD185 / KX-TD280)

- Secure the inside screw (include) 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.

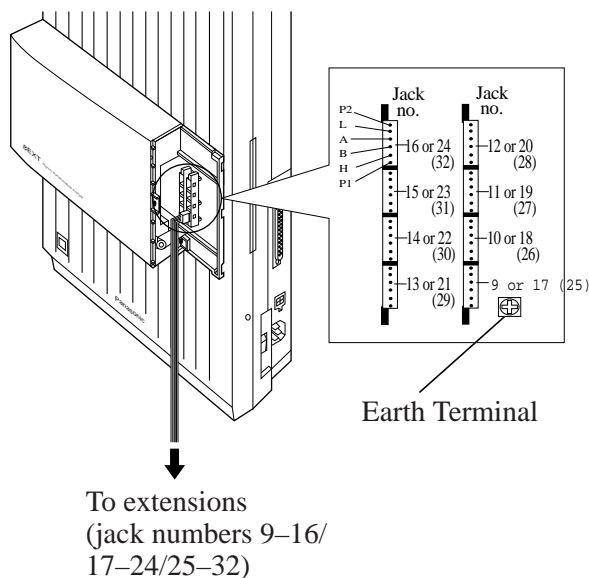
- Prepare the required plugs. Two 4-pin plugs are included in KX-TD180(D) or KX-TD280 to connect four CO lines. Eight 6-pin plugs are included in KX-TD170 to connect eight extensions.

- To prepare a 4-pin plug for KX-TD180(D), perform step 1 on page 2-32.
- To prepare a 4-pin plug for KX-TD280, perform step 1 on page 2-33.
- To prepare a 6-pin plug for KX-TD170, perform step 1 on page 2-15.

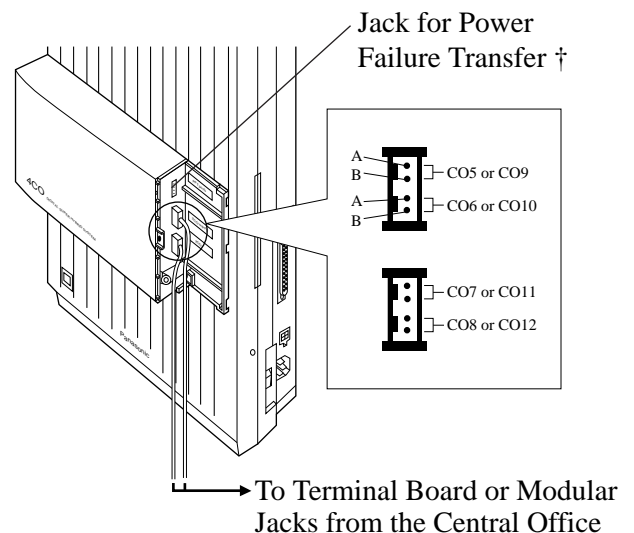
- Insert the plug into a jack on the unit.

Connect an earth wire to the earth terminal on the extension expansion unit.

KX-TD170



KX-TD180(D)

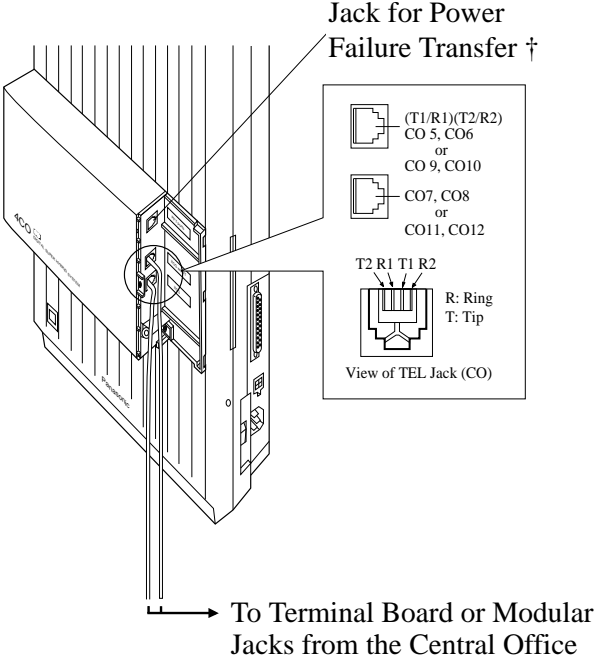


† For details, refer to Section 2.5 “Power Failure Transfer Connection.”

2.4.8 Installing Expansion Unit (KX-TD170 / KX-TD180(D) / KX-TD185 / KX-TD280)

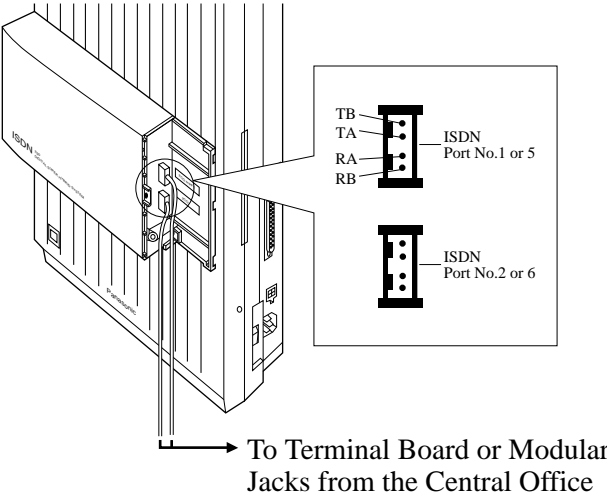
7. (Continued)

KX-TD185



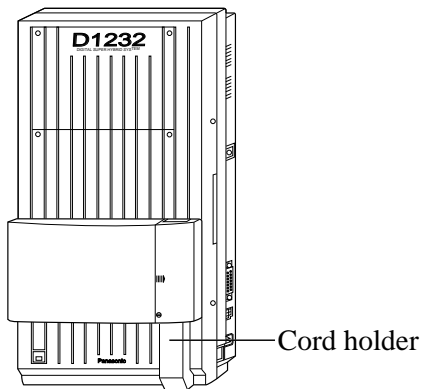
† For details, refer to Section 2.5 “Power Failure Transfer Connection.”

KX-TD280

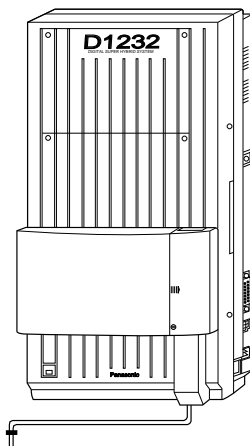


2.4.8 Installing Expansion Unit (KX-TD170 / KX-TD180(D) / KX-TD185 / KX-TD280)

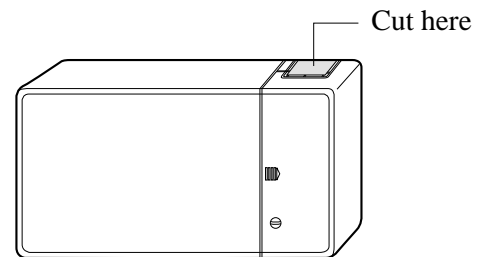
8. Tie all of the cords into a bundle. If other cords are exposed in the upper cabinets, tie them also.
9. Close the cabinet cover and secure the outside screw.
10. Cover the cords with the cord holder (included).



11. Fix the cords to the wall as shown so that the front cover can be opened.



- Notes**
- If two or three expansion units are installed, cut the cabinet covers on the lower cabinets to allow the cords from the upper cabinet to go down through the cabinet covers. To protect the cords, smooth the cut edges.



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

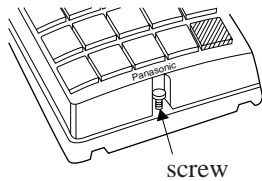
Feature References
Section 3, Features,
Module Expansion

2.4.9 Doorphone and Door Opener Connection

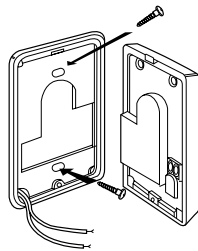
A maximum of two doorphones (KX-T30865) and two door openers (user-supplied) is permitted. A Doorphone Card (KX-TD160) is required for KX-TD816.

Installing the Doorphone



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



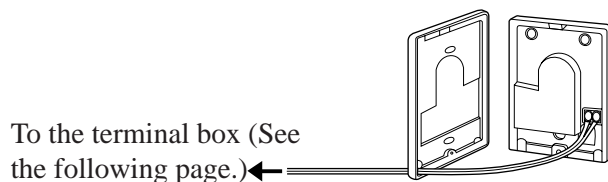
2. Install the base cover to the wall with two screws.



Note Two kinds of screws are included. Please choose an appropriate one 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.

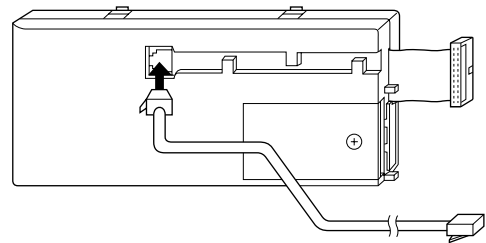
3. Connect the wires from the terminal box to the screws located in the front cover.



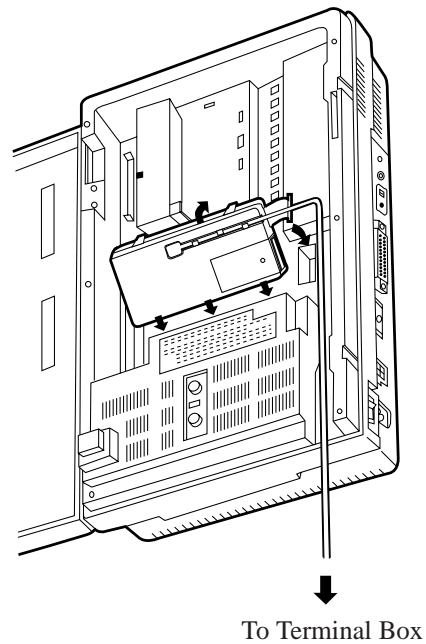
4. Secure both halves together and re-install the screw.

Doorphone Card Installation

1. Connect a 4-conductor modular connector to the Doorphone Card Cabinet, and pass the cord through the groove on the cabinet.



2. Attach the Doorphone Card Cabinet to the main unit and press it down.
3. Connect the cord to the Doorphone Card Connector.

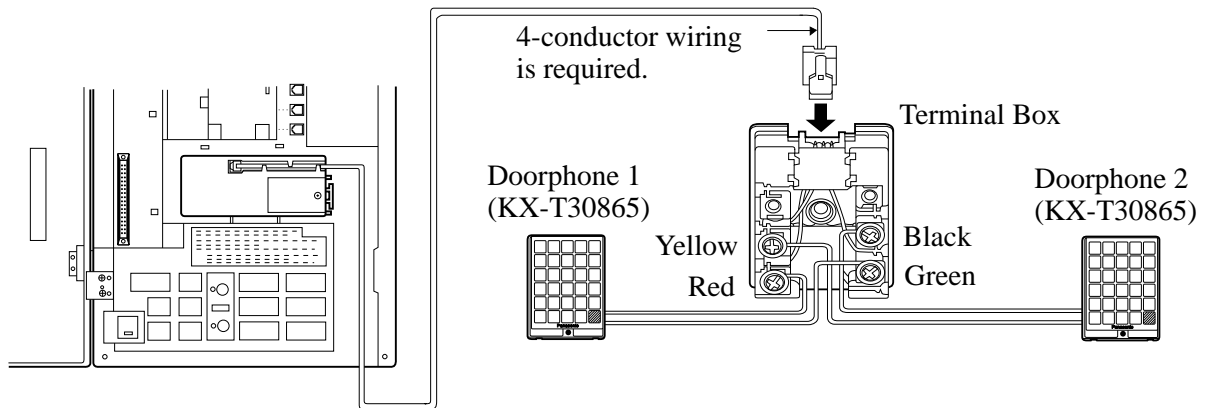


2.4.9 Doorphone and Door Opener Connection

2. Connection for KX-TD816

Wiring of the Doorphone

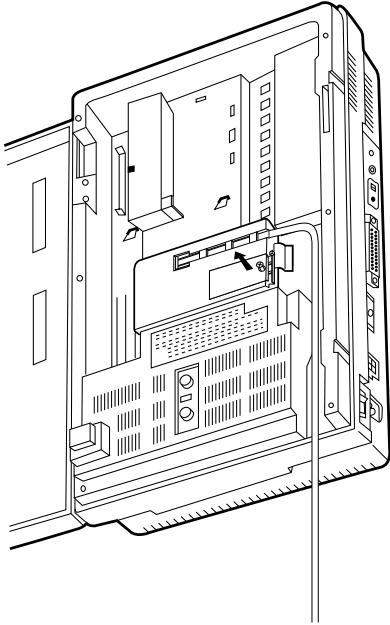
1. Connect the Doorphone Card to the terminal box using a 4-conductor modular connector.
2. Connect the wires of doorphone 1 to the red and green screws of the terminal box.
3. Connect the wires of doorphone 2 to the yellow and black screws of the terminal box.



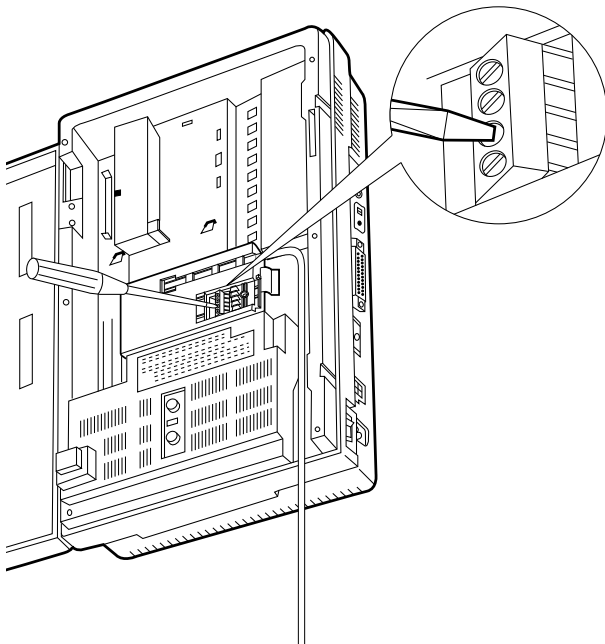
2.4.9 Doorphone and Door Opener Connection

Connecting Door Openers

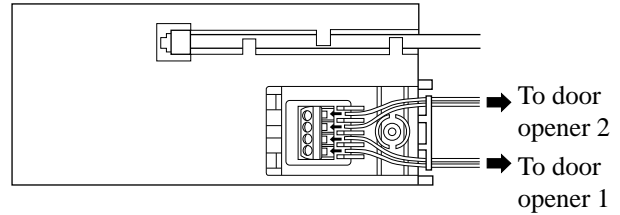
1. Loosen the screw to remove the cover.



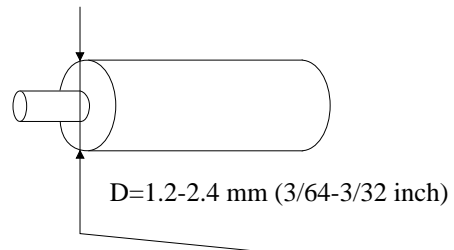
2. Loosen the screws.



3. Insert the wires coming from the door openers into holes and tighten the screws.



- Notes**
- For wiring, it is recommended to use UL 1015, AWG 22 twisted wire or the equivalent.
 - The wire should be between 1.2 and 2.4 mm (3/64 and 3/32 inch) in diameter including the coating.



- Set the door opener paired with the doorphone.

2.4.9 Doorphone and Door Opener Connection

2. Connection for KX-TD1232

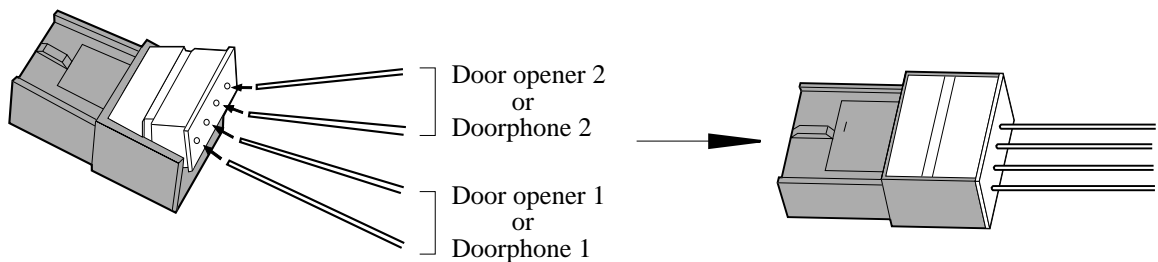
Use 4-pin plugs (included) to connect doorphone or door opener. A plug is able to connect up to two doorphones or door openers. 4-conductor wiring is required.

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.

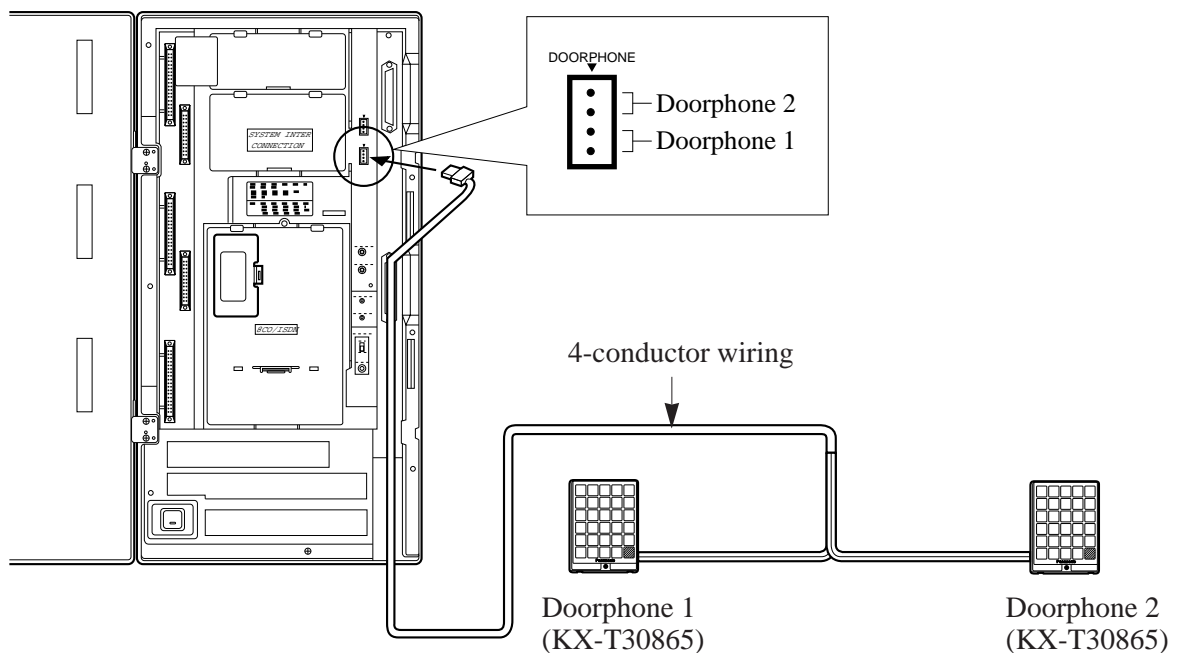
4-pin plug



2. Insert the plug into the connector in the main unit.

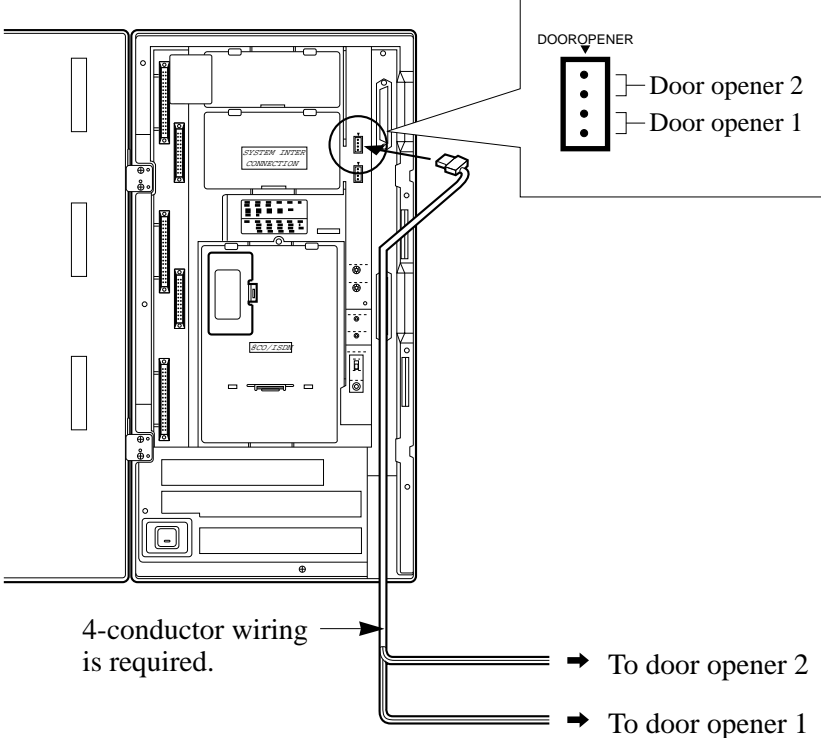
3. Connect the wires to the doorphone (1 or/and 2) or door opener (1 or/and 2).

■ Doorphone

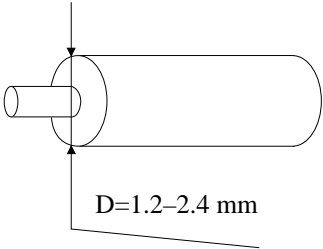


2.4.9 Doorphone and Door Opener Connection

■ Door Opener



- 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.

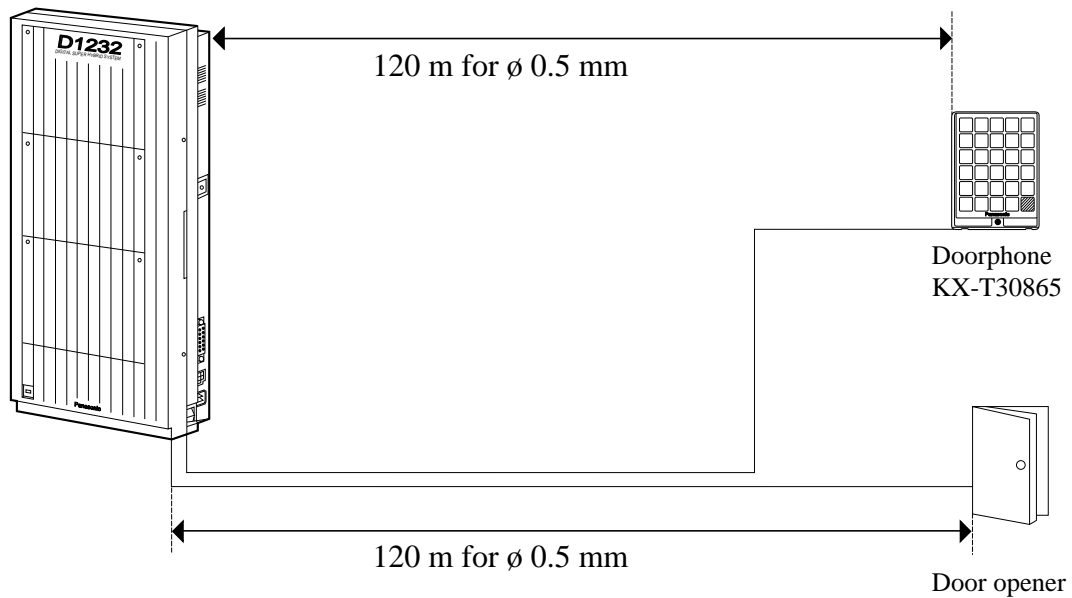


- Pair the door opener with the doorphone.

2.4.9 Doorphone and Door Opener Connection

Maximum distance of doorphone and door opener line

The maximum length of the doorphone and door opener line that connects to the main unit is as follows:



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

Programming References

Section 4, System Programming,
[607–608] Doorphone Ringing Assignment — Day / Night

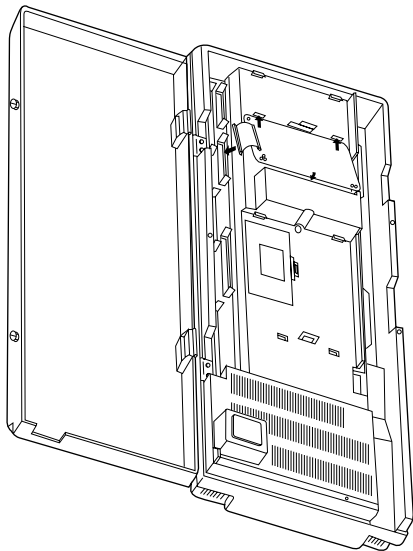
Feature References

Section 3, Features,
Door Opener

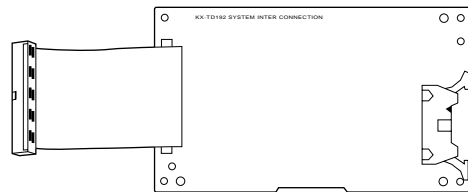
Doorphone Call

2.4.10 System Connection*

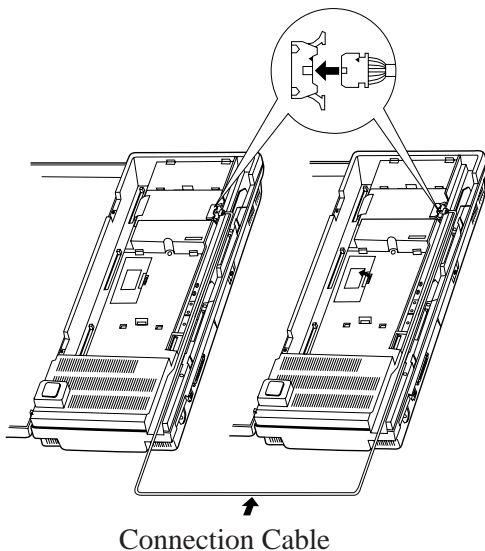
To connect two main units, use the optional System Inter Connection Cards (two) and the Connection Cable (included in the cards).



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

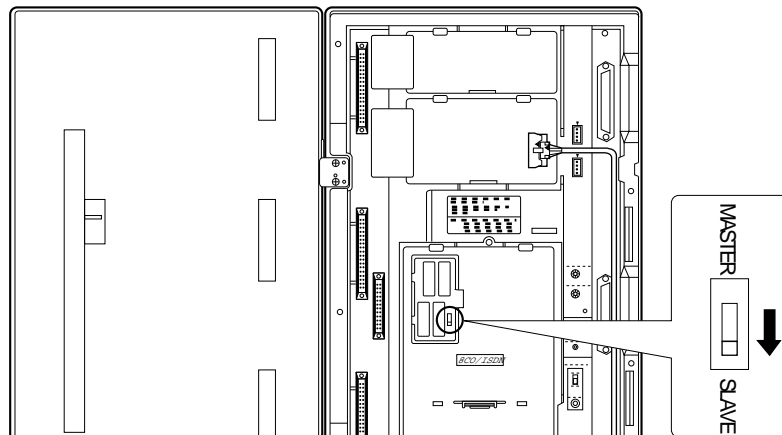


4. Open the latch on the card.
5. Repeat steps 1 through 4 for the Slave System, using the other card.
6. Insert one connection cable end to the Master System and insert the other end into the Slave System.
7. Close the latches on both systems.

*: Available for KX-TD1232 only.

2.4.10 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.”

*: Available for KX-TD1232 c

Programming References

Section 4, System Programming,
[115] Adjust Time

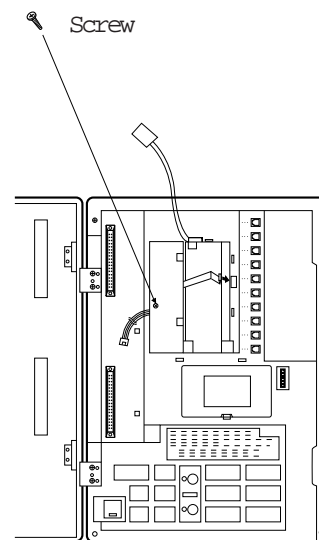
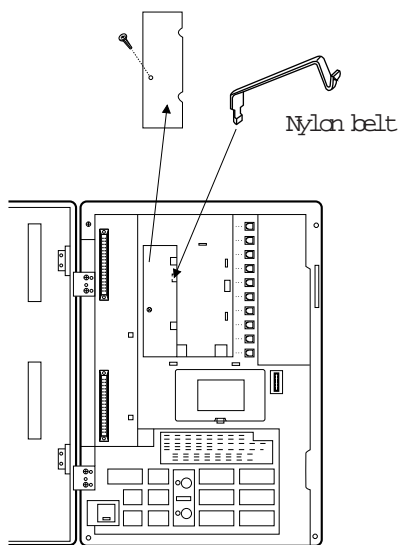
Feature References

Section 3, Features,
System Connection

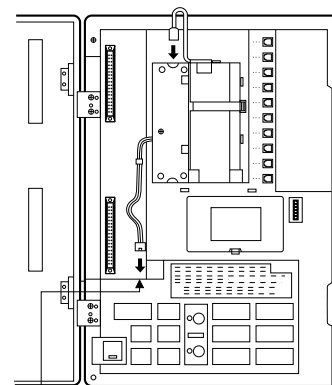
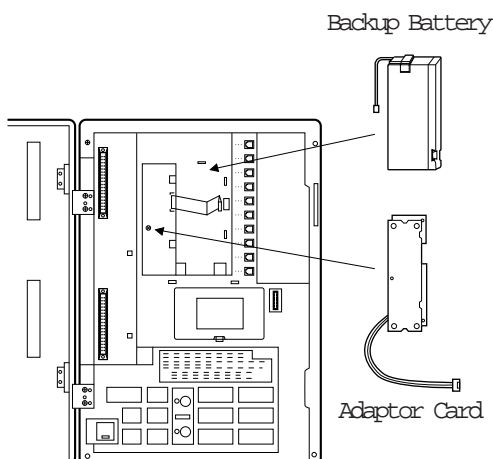
2.4.11 Backup Battery and Adaptor Card Connection*

The optional Backup Battery and Adaptor Card (KX-A216) are available for KX-TD816. It is a backup power supply to operate all the features in the event of a power failure. In case of power failure, the battery automatically maintains the power to the main unit instantly for about 10 minutes. The battery charges automatically by itself when it is discharged. You can choose KX-A216 or KX-A46 for a backup power supply. For connection of KX-A46, see the next page.

1. Loosen the screw of the adaptor card cover and remove the adaptor card cover from the main unit. Then attach the nylon belt.
3. Fasten the nylon belt to fix the battery. Fix the adaptor card by a screw (included).



2. Insert the battery and adaptor card into the frame.
4. Connect the cord of battery to the adaptor card. Remove the backup battery connector cover on the main unit. Then connect the cord of the adaptor card to the backup battery connector.



Note Make sure of the polarities of the battery.

Backup Battery Connector

*: Available for KX-TD1232 only.

2.4.12 Battery Adaptor Connection

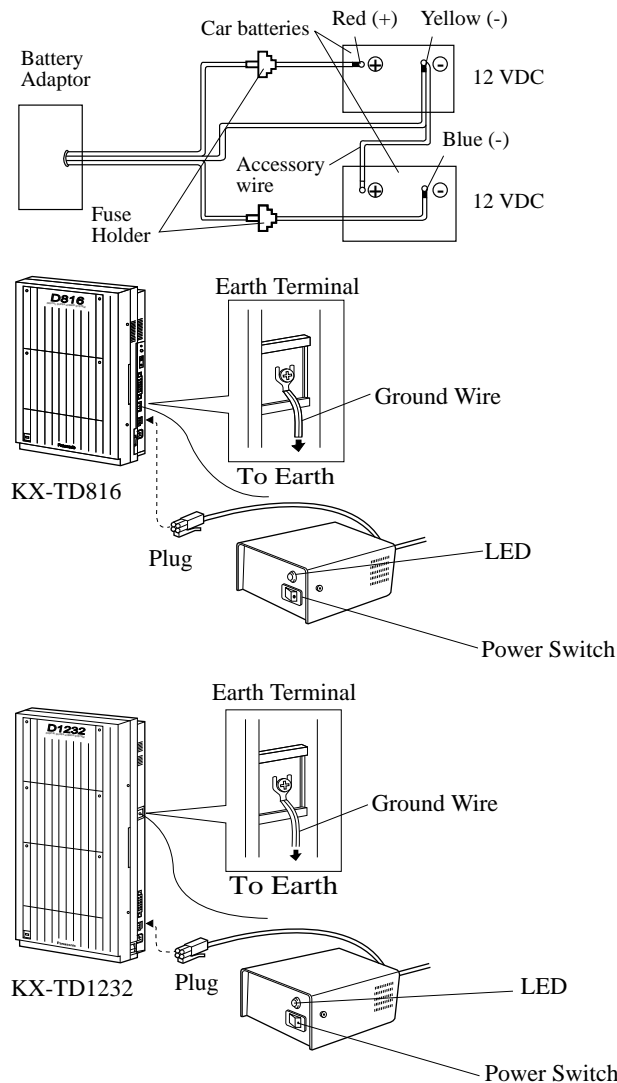
User-supplied car batteries can be used as a backup power supply in the event of a power failure. In case of power failure, the batteries automatically maintain the power to the main unit instantly. The optional Battery Adaptor, model KX-A46, is required.

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.



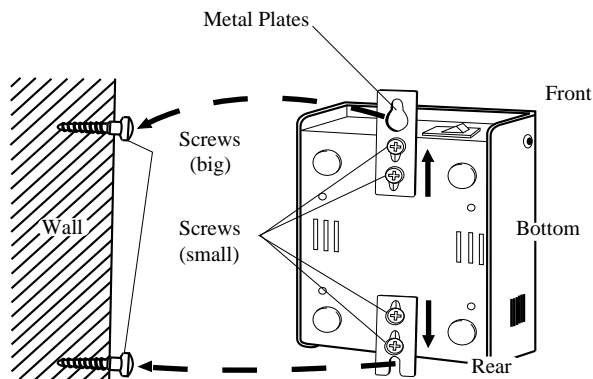
1. Assemble the cords and two car batteries (12VDC each) as shown.

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.

2.4.12 Battery Adaptor Connection

Wall Mounting

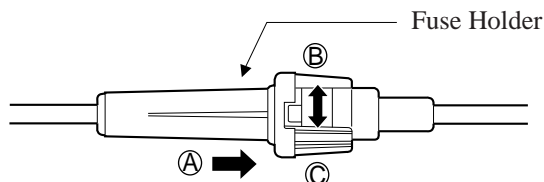


1. Drive the accessory four small screws on the bottom of the unit.
2. Place the metal plates so that the screw heads insert into the slots as shown.
3. Slide the metal plates in the directions of the arrows, and drive the screws.
4. Place the templet on the wall to mark two screw positions, and install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

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 specific extension jacks or Power Failure Transfer jacks are connected directly to CO lines, as follows:

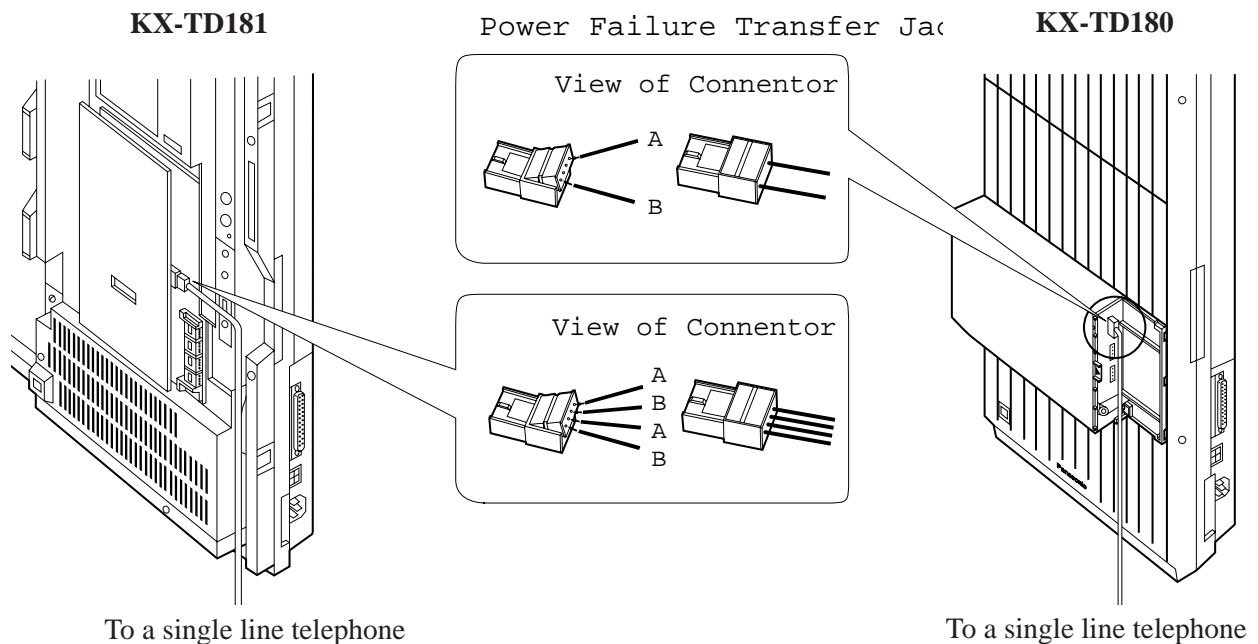
KX-TD816

CO 1 – Extension jack 1
CO 2 – Extension jack 2
CO 5 – Power Failure Transfer jack

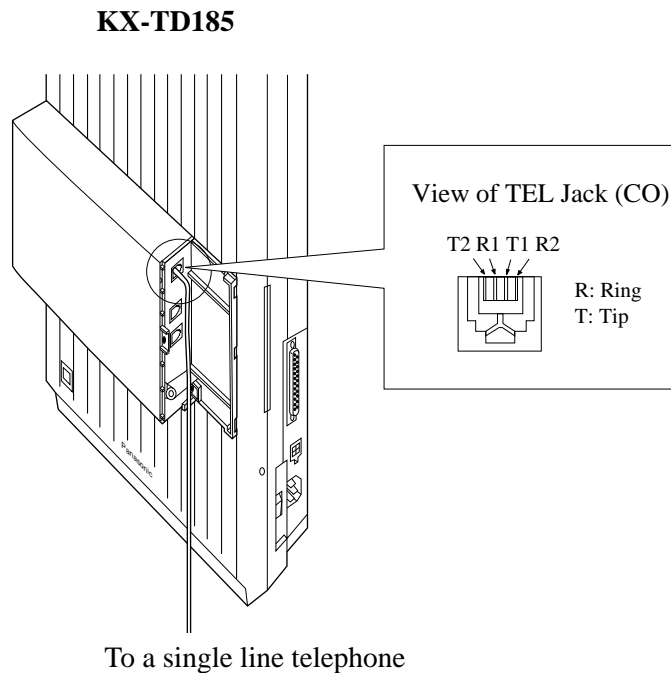
KX-TD1232

CO 1, CO 2, CO 9 – Power Failure Transfer jacks of Master System
CO 13, CO 14, CO 21 – Power Failure Transfer jacks of Slave System

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



2.5 Power Failure Transfer Connection



- 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

None

Feature References

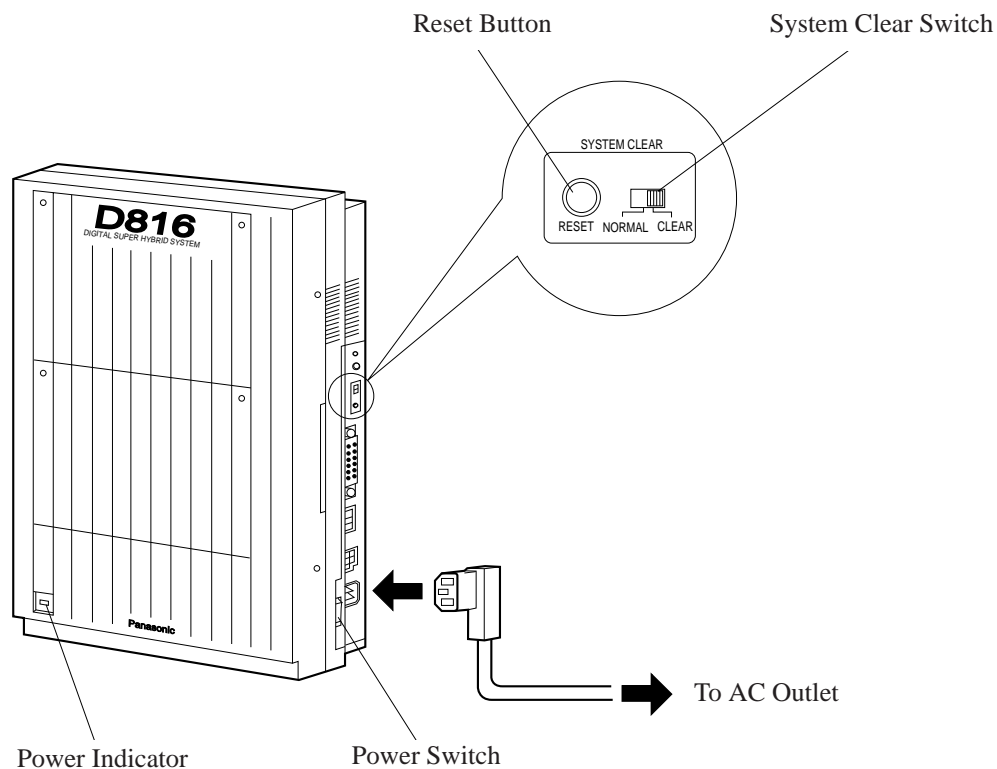
Section 3, Features,
Power Failure Transfer

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).

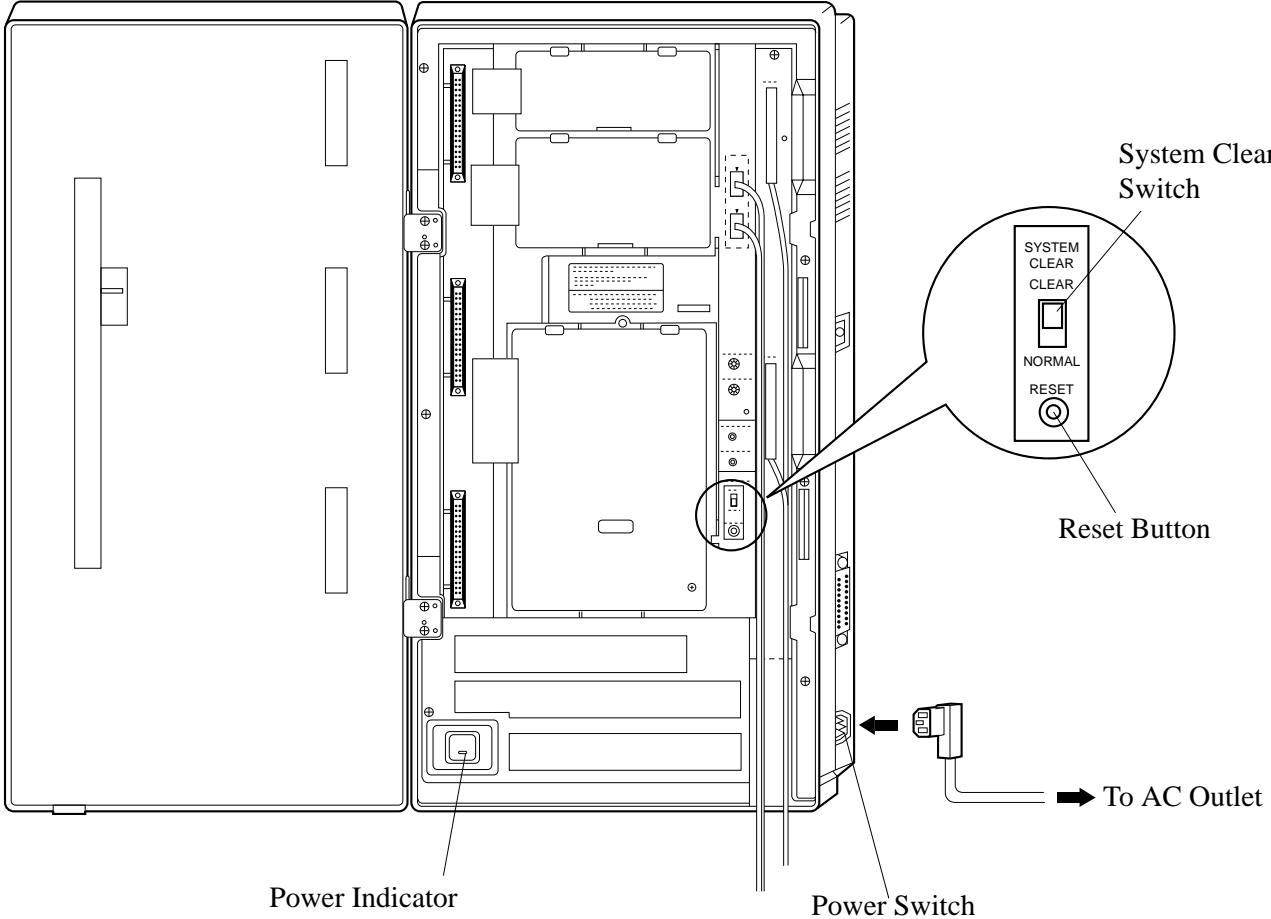
The system will be initialized with default values. The system will also check the CO lines, extensions, and optional cards and units.

KX-TD816



2.6 Starting the System for the First Time

KX-TD1232



Notice 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.

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.

Notice 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.”

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).

Notice 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.

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 set / cancel

Feature References

None

Operation References

—User Manual

DPT Features, SLT Features;

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
- One-Touch Dialing
- Pickup Dialing
- Saved Number Redial
- Station Speed Dialing
- System Speed Dialing

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 Dialing (System / Station Speed Dialing; One-Touch Dialing; Pickup Dialing; 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 Set can be dialed out without an account code entry.

Programming References

Section 4, System Programming,
[005] Flexible CO Button Assignment
[100] Flexible Numbering, Account code entry
[508] Account Code Entry Mode
[990] System Additional Information, Fields (3), (15)
Station Programming.....User 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 **DPT Features, SLT Features;**
—User Manual Account Code Entry

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 called extension user, if a proprietary telephone, can select tone or voice calling. 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
—User Manual

DPT Features, SLT Features;
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 has completed the current call.

Automatic Callback – Extension

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

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

- Off-hook prior to the start of callback ringing cancels this function. 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

No programming required.

Feature References None

Operation References **DPT Features, SLT Features;**
—User Manual Automatic Callback Busy (Camp-On)

Automatic Route Selection (ARS)

Description

Automatic Route Selection (ARS) is a system programmable feature that automatically selects the least expensive route available at the time an outgoing outside call is made. Previous programming eliminates the necessity for the user to dial the access code of the least expensive carrier. All the user has to do is to dial the feature number for ARS, and the number. The appropriate CO line group is selected and an appropriate access code is added before the number is outpulsed.

Conditions

- Toll Restriction check is done before ARS is applied.
- ARS works according to the selected dialing plan. Thus, if the user-dialed number is not found in the dialing plan (Leading Digit Tables), the dialed number is sent out with Local Access (Automatic line access) Code.
- ARS is not applied to a call made by specifying a CO line group. In other words, it is possible to make an outside call by assigning a CO line group directly (ARS Override).
- This feature also applies to Call Forwarding – to CO Line.

Programming References

Section 4, System Programming,

[100] Flexible Numbering, Automatic line access / ARS

[312] ARS Mode

[313] ARS Time

[314]–[321] ARS Leading Digit Entry for Plans 1 through 8

[322]–[329] ARS Routing Plans 1 through 8

[330] ARS Modify Removed Digit

[331] ARS Modify Added Number

Programming Example

The following is an example to show how to program ARS so that the user can call the XYZ Company via the least expensive line.

Step 1. Program ARS to work when the feature number for ARS is dialed by the user. Use the program [312] ARS Mode to enable it.

Step 2. Store the telephone number of an outside party that will use the ARS feature. For example, if the XYZ Company's telephone number is "1-234-567-8910" (not including the line access code), store the leading seven digits of the number "1234567." To store the numbers, use one of the programs [314] through [321] ARS Leading Digit Entry for Plans 1 through 8 (Leading Digit Tables 1 through 8). Here it is supposed that we have selected Leading Digit Table 1 to store the number. Remember that Table number "1" matches Route Plan Table 1.

Example: Program Address [314] Leading Digit Table 1

| Location | Entry |
|----------|---------|
| 01 | 1234567 |
| 02 | |
| • | |
| • | |
| • | |
| 50 | |

Table 1

Step 3. Check all carriers available to call the stored telephone number and their CO line groups. Suppose there are three carriers available to call the XYZ Company and each carrier's line is assigned to a CO line group as follows:

- Carrier E — CO Line Group 1
- Carrier F — CO Line Group 2
- Carrier G — CO Line Group 3

Then check the fee charged by each carrier:

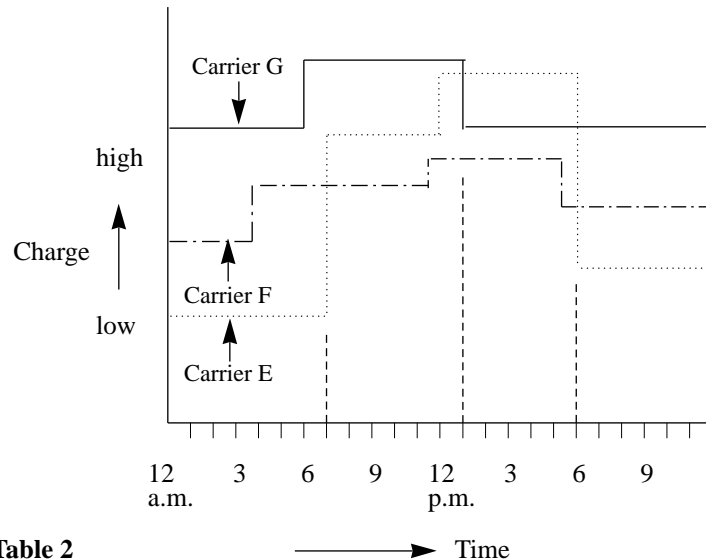


Table 2

As shown in Table 2, the least costly route varies with the time of day. To select the least expensive line at a certain time, split the day into three zones as follows:

- (1) 7:00 a.m. - 1:00 p.m.
- (2) 1:00 p.m. - 6:00 p.m.
- (3) 6:00 p.m. - 7:00 a.m.

To program the time zones above, use the program [313] "ARS Time." Four time zones (Time-A, Time-B, Time-C, Time-D) are provided here.

Example: Program Address [313] ARS Time Table

| Time Zones | Entry |
|------------|-----------|
| Time-A | 7:00 a.m. |
| Time-B | 1:00 p.m. |
| Time-C | 6:00 p.m. |
| Time-D | Disable |

← Enter the starting time of each zone. If a zone is not necessary, select "Disable."

Table 3

Enter the starting hour for each zone.

Step 4. Determine the priority of the CO line groups in each time zone. The table below shows the carrier and CO line groups selected for each priority and time zone:

| | Time –A (7:00-13:00) | Time –B (13:00-18:00) | Time –C (18:00-7:00) |
|--|-------------------------|--------------------------|-------------------------|
| Least Costly Carrier / CO Line Group (Priority 1) | Carrier F/Group 2 | Carrier F/Group 2 | Carrier E/Group 1 |
| Next Less Costly Carrier / CO Line Group (Priority 2) | Carrier E/Group 1 | Carrier G/Group 3 | Carrier F/Group 2 |
| Most Costly Carrier / CO Line Group (Priority 3) | Carrier G/Group 3 | Carrier E/Group 1 | Carrier G/Group 3 |

Table 4

To have the system use the priorities shown above, use one of the programs [322] through [329] “ARS Routing Plans 1 through 8” (Route Plan Tables 1 through 8).

As we have already selected Leading Digit Table 1, select Route Plan Table 1. Enter the CO line group numbers in priority order. If the specified CO line group requires digit modification, designate a digit modification table number from 1 through 8.

This table is required to have the system automatically add a specific carrier access code to the user-dialed number.

Example: Program [322] Route Plan Table 1

| | Time –A | | Time –B | | Time –C | | Time –D | |
|------------|---------|--------|---------|--------|---------|--------|---------|--------|
| | COG | Modify | COG | Modify | COG | Modify | COG | Modify |
| Priority 1 | 2 | 2 | 2 | 2 | 1 | 1 | | |
| Priority 2 | 1 | 1 | 3 | 3 | 2 | 2 | | |
| Priority 3 | 3 | 3 | 1 | 1 | 3 | 3 | | |

Table 5

COG: CO Line Group
Modify: Modification Table Number

Step 5. Make up the Digit Modification Table. Carriers E, F and G match CO line groups and Modification Tables as follows and have the following Access Code:

| Carrier | COG | Mod. Table | Access Code |
|---------|-----|------------|-------------|
| E | 1 | 1 | 1-0-333 |
| F | 2 | 2 | 1-0-555 |
| G | 3 | 3 | 1-0-666 |

Table 6

According to Table 6, enter the Access Codes in the respective Modification Tables using the programs [330] “ARS Modify Removed Digit” and [331] “ARS Modify Added Number” as follows:

Example: Program [330] Digit Modification Tables

Modification Table 1

| | |
|--------|-------|
| Remove | 0 |
| Add | 10333 |

Modification Table 2

| | |
|--------|-------|
| Remove | 0 |
| Add | 10555 |

Modification Table 3

| | |
|--------|-------|
| Remove | 0 |
| Add | 10666 |

← Enter the number of the digits to be deleted.

← Enter the digits to be added.

Eventually, if Modification Table 1 is applied, the user-dialed number “9-1-234-567-8910” is modified to “9-10333-1-234-567-8910” to access the least expensive Carrier E.

Similarly, if Modification Table 2 is applied, it is modified to “9-10555-1-234-567-8910” to access Carrier F.

Enter the “Removed Digit” program when it is necessary to delete some leading digits from the user-dialed number. For example, if the user manually dials a Carrier Access Code but the carrier is not the least expensive, modification is required. For example, to delete “10333” from the beginning of the user-dialed number and to add “10555,” enter “5” in “Removed Digit” program. Enter “10555” in “Added Number” program. When “9-10333-1-234-567-8910” is dialed,

9-10333-1-234-567-8910



Five digits are deleted and “10555” is added here. “10555-1-234-567-8910” is sent to the CO line.

Feature References

Section 3, Features,
Line Access, Automatic

Operation References

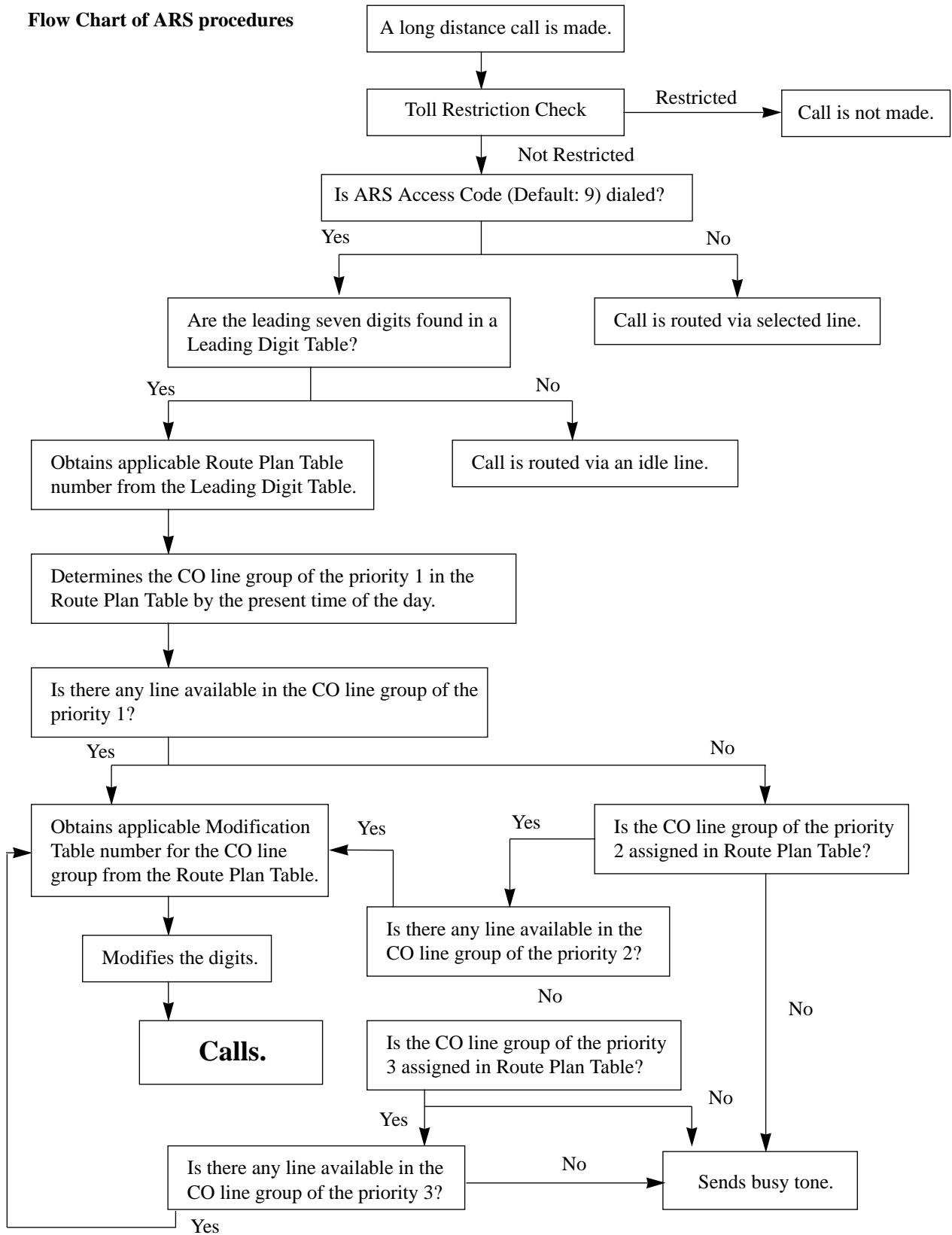
—User Manual

DPT Features, SLT Features;
Outward Dialing – Line Access, Automatic

3 Features



Flow Chart of ARS procedures



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 dialed within 10 seconds.
- (2) After a digit is dialed, the next one is not dialed within five seconds (Intercom call only).

Programming References

No programming required.

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. One external music source can be connected to KX-TD816, and up to two sources can be connected to KX-TD1232 per system.
- 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,
2.3.7 External Music Source Connection

Programming References

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

Feature References

Section 3, Features,
Music on Hold

Operation References —User Manual **DPT Features,**
Background Music (BGM)

Background Music (BGM) – External

Description

Background music (BGM) can be broadcasted in your office through external pagers. The BGM can be turned on and off by the operator only.

Conditions

- It is required to connect an external pager. The pager is a user-supplied item. One pager and one external music source can be installed in KX-TD816, and up to two pagers and up to two external music sources can be installed in KX-TD1232 per system.
- For Music Source 1, it is possible to select the internal or external music source by system programming.
- Each pager can be programmed to send BGM or not.
- Priority of access to external pager is: (1)TAFAS; (2)Paging; (3)BGM. Higher priorities will override BGM.

Connection References

Section 2, Installation,
2.3.6 External Pager Connection
2.3.7 External Music Source Connection

Programming References

Section 4, System Programming,
[100] Flexible Numbering, Background music – external on / off
[803] Music Source Use
[804] External Pager BGM
[990] System Additional Information, Field (20)

Feature References

Section 3, Features,
Background Music (BGM)

Operation References

—User Manual

Operator Service Features
Background Music (BGM) — External

Budget Management

Description

Limits the telephone usage to a pre-assigned amount. For example, the limit may be the amount deposit during a hotel at check-in. If the pre-assigned 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

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 or busy.

Conditions

- This function is available for DSS buttons on DSS Consoles and for flexible CO buttons assigned as DSS buttons on digital proprietary telephones (DPT).
- A DSS button indicator lights red if the corresponding extension is busy.

Programming References

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

Feature References **Section 3, Features,**
Button, Direct Station Selection (DSS) DSS Console (KX-T7240)

Operation References Not applicable.

Busy Station Signaling (BSS)

Description When attempting to call a busy extension, Busy Station Signaling allows you to signal the user on the phone to answer your call. The called extension user hears a Call Waiting tone and is able to answer the call.

Conditions

- This feature is effective if the called extension has enabled Call Waiting. If Call Waiting is enabled, the caller will hear ringback tone; if not, the caller will hear reorder tone.
- If the called party is provided with Off-Hook Call Announcement (OHCA) function, the caller can announce the call through the speaker.

Programming References

No programming required.

Feature References

Section 3, Features,
Call Waiting Off-Hook Call Announcement
(OHCA)

Operation References —User Manual

DPT Features, SLT Features;
Busy Station Signaling (BSS)

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 Console 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
Button
DSS Console (KX-T7240)

Operation References —User Manual
Basic Operation,
Making Calls
DSS Console Features,
Location of Controls

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 digital proprietary telephones (DPT) and DSS Console:

- Flexible CO buttons (provided on DPT 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.

| Button | CO | DSS | PF |
|--------------------------------|--------------|--------------|--------------|
| Features to be assigned | (DPT) | (DSS) | (DSS) |
| Single-CO | ✓ | | |
| Group-CO | ✓ | | |
| Loop-CO | ✓ | | |
| Direct Station Selection (DSS) | ✓ | ✓ | |
| Message Waiting | ✓ | ✓ | |
| Account Code Entry | ✓ | ✓ | ✓ |
| Conference | ✓ | ✓ | ✓ |
| FWD/DND | ✓ | ✓ | ✓ |
| One-Touch Dialing | ✓ | ✓ | ✓ |
| Saved Number Redial | ✓ | ✓ | ✓ |
| 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

Feature References

Section 3, Features,
Buttons on Digital Proprietary DSS Console (KX-T7240)
Telephones

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 DPT. 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 DPT.
- 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 group basis.
- The DPT 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 Access, Direct |
| CO Line Group | Ringing, Delayed |
| LED Indication, CO Line | Ringing Tone Selection for CO |
| Line Access, CO Line Group | Buttons |

Operation References

—User Manual

DPT Features,

| |
|--|
| Answering, Direct CO Line |
| Outward Dialing – Line Access, CO Line Group |

Button, Loop-CO (L-CO)

Description

All CO lines can be assigned to a flexible CO button on a digital proprietary telephone (DPT). 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 S-CO or G-CO buttons associated with the line or unless the button is already in use. To make an outside call, the DPT user can simply press the dedicated L-CO button.

Conditions

- No L-CO button is originally provided on a DPT. 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 DPT.
- Pressing the L-CO button provides the same operation as dialing the automatic line access code. This results in Automatic Line Access or Automatic Route Selection (ARS), if programmed.
- Immediate, delayed, no ringing or no incoming call (disable) can be selected on an extension–CO line group basis.
- The DPT 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 ProgrammingUser Manual, |
| Flexible Button Assignment – Loop-CO (L-CO) Button |
| Ringing Tone Selection for CO Buttons |

Feature References

Section 3, Features,

| | |
|---------------------------|---------------------|
| Answering, Direct CO Line | Line Access, Direct |
| LED Indication, CO Line | Ringing, Delayed |

| | | |
|---|--|---------------------------------------|
| | Line Access, Automatic | Ringing Tone Selection for CO Buttons |
| Operation References —User Manual | DPT Features, Outward Dialing – Line Access, Automatic | |

Button, Single-CO (S-CO)

Description A Single-CO (S-CO) button is a CO line access button. This allows the digital 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 Automatic Route Selection (ARS) is set, it is overridden by an outgoing call made by pressing the S-CO button.
 - Incoming calls appear on the digital 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 group basis.
 - The DPT 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 Programming.....User 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 |
|---------------------------|--|--|

| | |
|---|--|
| Operation References —User Manual | Basic Operation, Making Calls DPT Features, Outward Dialing – Line Access, Individual |
|---|--|

Buttons on Digital Proprietary Telephones

Description

Digital proprietary telephones are provided with the feature / line access buttons listed below:

Digital Proprietary Telephones KX-T:

| Buttons | 7220 | 7230 | 7235 | 7250 |
|----------------------|--------|--------|--------|-------|
| AUTO ANSWER / MUTE † | ✓ | ✓ | ✓ | |
| AUTO DIAL / STORE † | ✓ | ✓ | ✓ | ✓ ! |
| CO † * | ✓ (24) | ✓ (24) | ✓ (12) | ✓ (6) |
| CONF † | ✓ | ✓ | ✓ | |
| Function | | | ✓(10) | |
| FWD / DND † | ✓ | ✓ | ✓ | |
| HOLD | ✓ | ✓ | ✓ | ✓ |
| INTERCOM † | ✓ | ✓ | ✓ | ✓ |
| MESSAGE † | ✓ | ✓ | ✓ | |
| MONITOR | | | | ✓ |
| PAUSE | | ✓ | ✓ | |
| PROGRAM | ✓ | ✓ | ✓ | ✓ |
| RECALL | ✓ | ✓ | ✓ | ✓ |
| REDIAL | ✓ | ✓ | ✓ | ✓ |
| SHIFT † | | ✓ | ✓ | |
| Soft | | ✓(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 Dialing and storing program changes.

CO (Central Office line): Can be re-assigned to a different CO or to various feature buttons.

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

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.
- MESSAGE:** Used to send a message or display current message.
- MONITOR:** Used for handsfree operation.
- PAUSE:** Inserts a pause in a speed dial number.
- PROGRAM:** Used to enter / exit programming mode.
- 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 dialed telephone number for Saved Number Redial.
- 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 Programming.....User Manual,
Flexible Button Assignment

Feature References

None

Operation References

—User Manual Refer to respective operating instructions.

CALL FORWARDING FEATURES – SUMMARY

| | |
|--------------------|---|
| Description | <p>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:</p> <ul style="list-style-type: none"> 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 – All Calls

| | |
|--------------------|--|
| Description | This feature is used when you want all your calls to be automatically re-directed to another extension. |
| Conditions | <ul style="list-style-type: none"> • Types of calls which are forwarded by this feature are: <ul style="list-style-type: none"> Outside calls – DIL 1:1; 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. |

Programming References

Section 4, System Programming,
[005] Flexible CO Button Assignment
[100] Flexible Numbering, Call forwarding / Do not disturb set / cancel
Station ProgrammingUser Manual,
Flexible Button Assignment – FWD/DND Button

| | |
|---------------------------|------|
| Feature References | None |
|---------------------------|------|

3 Features

Operation References DPT Features, SLT 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 – DIL 1:1; 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.

Programming References

Section 4, System Programming,
[005] Flexible Button Assignment
[100] Flexible Numbering, Call forwarding / Do not disturb set / cancel
Station Programming.....User Manual,
Flexible Button Assignment – FWD/DND Button

Feature References None

Operation References DPT Features, SLT Features;
—User Manual Call Forwarding — Busy

- Conditions**
- Same as the conditions of Call Forwarding – All Calls.
 - It is programmable to enable or disable this feature on Class of Service basis.

Programming References

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

Feature References **Section 3, Features,**
Call Forwarding – All Calls

Operation References **DPT Features, SLT Features;**
—User Manual 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 – DIL 1:1; 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.
 - No Answer timer is activated in the following cases:
 - Busy Station Signaling (BSS)
 - While the caller hears dial tone

Programming References

Section 4, System Programming,
 [005] Flexible CO Button Assignment
 [100] Flexible Numbering, Call forwarding / do not disturb set / cancel
 [202] Call Forwarding – No Answer Time
Station Programming.....User Manual,
 Flexible Button Assignment – FWD/DND Button

Feature References

None

Operation References

—User Manual **DPT Features, SLT Features;**
 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; DID; DDI
 Intercom calls – Extension; Transfer
- The forwarding extension’s Toll Restriction, Automatic Route Selection 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 set / cancel

[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 Features;**
—User Manual Call Forwarding — to CO Line

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 Features;**
—User Manual Call Hold

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

Operation References **DPT Features, SLT 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, Field (16)

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

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

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 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).

Programming References

Section 4, System Programming,
[416] ISDN Line Number Assignment
[417] ISDN Outgoing CLIR Service Assignment

Feature References None

Operation References Not applicable.

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 in a specific period of time, Transfer Recall starts.
 - If a parked call 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, Field (16)

Feature References None

Operation References **DPT Features, SLT 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 dialing 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.)

- CPC Signal Detection is effective only with the 4-DID Line Unit (KX-TD185) (KX-TD816: CO05 through CO08, KX-TD1232: CO09 through CO12 or CO21 through CO24). In this case, “D (4DID)” must be selected in program [109] “Expansion Card / Unit Type.”
- If your Central Office does not send CPC-like signals, it is also effective to limit the dialed 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 —User Manual | DPT Features, SLT Features; Call Pickup, CO Line |

Call Pickup, Directed

Description Allows any extension user to answer a call ringing at any other extension.

- Conditions**
- 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.

Programming References

Section 4, System Programming,
[100] Flexible Numbering, Call pickup, directed
[990] System Additional Information, Field (16)

Feature References None

Operation References **DPT Features, SLT Features;**
—User Manual 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**
- 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 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 set / cancel

| | | |
|---------------------------|--|--------------------|
| Feature References | Section 3, Features, Call Pickup, CO Line Call Pickup, Directed | Call Pickup, Group |
|---------------------------|--|--------------------|

| | |
|---|--|
| Operation References —User Manual | DPT Features, SLT Features; 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 —User Manual | DPT Features, SLT Features; Call Splitting |
|---|--|

CALL TRANSFER FEATURES – SUMMARY

Description 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:

- 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 call.

Conditions

- Class of Service programming determines the extensions that are able to perform it.
- Transferring a call to an external party cannot be performed from a single line telephone.

Programming References

Section 4, System Programming,
[205] Extension-to-CO Line Call Duration Time
[206] CO-to-CO 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 **DPT Features,**
—User Manual 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 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 dialing 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 intercom call ringing.
- It is possible for any extension user to transfer a call to the floating modem.*
- 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

3 Features

C

Operation References DPT Features, SLT Features;
—User Manual Call Transfer — to Extension

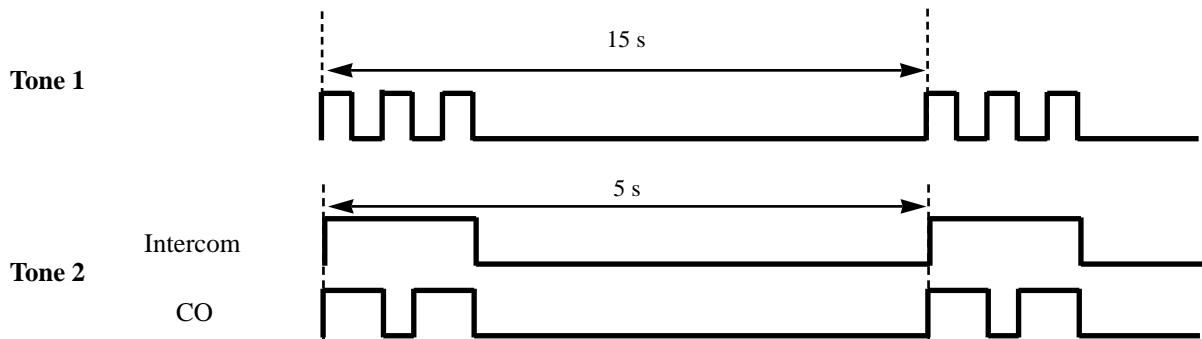
Call Waiting

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 dialing 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 Signaling.
- Setting Data Line Security temporarily cancels Call Waiting which has been turned on by an extension user.
- For proprietary telephone users, two types of call waiting tone are provided to prevent them from missing the tone as shown below: A digital proprietary telephone user can select the desired type by station programming.



Programming References

Section 4, System Programming,
[100] Flexible Numbering, Call waiting set / cancel
Station Programming.....User Manual,
Call Waiting Tone Type Assignment

Feature References

Section 3, Features,
Busy Station Signaling (BSS)

Operation References
—User Manual

DPT Features, SLT 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 AS \$.

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 AS \$ – is selected by system programming. This can be switched manually at each extension.
- Exchange rate between pulse counter and AS \$ is changeable by station programming.

Programming References

Section 4, System Programming,

[117] Charge Display Selection

[118] Charge Verification Assignment

[119] Charge Verification ID Code Set

Station Programming.....User Manual,
Charge Fee Reference

Feature References

None

Operation References

—User Manual

Station Programming,
Charge Fee Reference

Class of Service (COS)

Description COS is used to define the features which are allowed for a group of extensions. For Check-In / Check-Out feature, primary and secondary COS numbers can be assigned per extension. Eight Classes of Service are available.

- Conditions**
- A list of the programmable items is given below:
 - (1) The ability to forward a call to an outside party – enable / disable
 - (2) The ability to transfer a call to an outside party – enable / disable
 - (3) The ability to override Do Not Disturb of the called station – enable / disable
 - (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 – enable / disable
 - (7) The number of permitted dialing digits during an outside call
 - (8) The ability to set Call Forwarding – Follow Me – enable / disable

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
[601] Class of Service
[991] COS Additional Information

Feature References **Section 3, Features,**
HOTEL APPLICATION – Check-In / Check-Out

Operation References Not applicable.

CO Incoming Call Information Display

Description

Provides the display proprietary telephone user with the preset CO line name if an incoming outside call arrives at the telephone. If the CO name is not assigned and the CO line is an ISDN S0 line provided with CLIP (Calling Line Identification Presentation) feature, shows the caller's telephone number and name on the display.

Conditions

- It is required to give names to CO lines by system programming.
- With the CLIP feature, the ISDN S0 line informs the system of the caller's telephone number only. To display the name, the system compares the informed number with the System Speed Dialing Numbers stored in program [001] and if a match is found, decides the caller's name by using the System Speed Dialing Names stored in program [002].
- The display of CO line name has the precedence on the operator's telephone.
- The display DPT (KX-T7230 or KX-T7235) user can record the information of the call received by CLIP feature (CO Incoming Call Information Log feature).

Connection References

Section 2, Installation,

2.4.2 CO Line Connection (KX-TD1232 : CO 1 through CO 8)

2.4.7 2-ISDN S0 Line Unit Connection

Programming References

Section 4, System Programming,

[001] System Speed Dialing Number Set

[002] System Speed Dialing Name Set

[416] ISDN Line Number Assignment

[417] ISDN Outgoing CLIR Service Assignment

[419] CO Line Name Assignment

Feature References

Section 3, Features,

Calling Line Identification Restriction (CLIR)

CO Incoming Call Information Log

Operation Reference

—User Manual

DPT Features,

CO Incoming Call Information Display

CO Incoming Call Information Log

Description

If the display digital proprietary telephone (KX-T7230 or KX-T7235) 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 record 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 (KX-TD1232 : CO 1 through CO 8)
2.4.7 2-ISDN S0 Line Unit Connection

Programming References

- Section 4, System Programming,**
[001] System Speed Dialing Number Set
[002] System Speed Dialing Name Set
[100] Flexible Numbering, CO incoming call information log mode/CO incoming call information log lock
[416] ISDN Line Number Assignment
[417] ISDN Outgoing CLIR Service Assignment
[419] CO Line Name Assignment

| | |
|--|--|
| Feature References | Section 3, Features, Calling Line Identification Restriction (CLIR) 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

- 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

Section 4, System Programming,
[605]–[606] Outgoing Permitted CO Line Assignment — Day / Night

Feature References None

Operation References Not applicable.

CO Line Group

Description

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:

- The destination of Intercept Routing
- Disconnect Time
- Register Recall Signal Time
- Host PBX Access Code
- Pause Time (used in Speed Dialing and Recall)

Conditions

- 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,
[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.

*: Available for KX-TD1232 only.

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

Section 3, Features,

Conference, Unattended

Operation References

—User Manual

DPT Features, SLT Features;

Conference

Conference, Unattended

Description

When a proprietary telephone user is in a conference with two outside parties, the user can leave the conference to allow the other two parties to continue conversation. This is called an Unattended Conference. The user may return to the conference, if desired.

Conditions

- An Unattended Conference can be established when the extension is allowed to transfer a call to a CO line.
- The duration of an unattended conference is restricted by a system timer. Hold Recall results to the extension user who left the conference 50 seconds before the time-out. Alarm tone is generated to both outside parties 15 seconds before the time-out. The call is disconnected at the time-out unless the extension returns to the call.

Programming References

Section 4, System Programming,
[206] CO-to-CO Call Duration Time
[502] Extension-to-CO Line Call Duration Limit
[503] Call Transfer to CO Line

Feature References

Section 3, Features,
Conference Limited Call Duration
Hold Recall

Operation References —User Manual

DPT Features,
Conference, Unattended

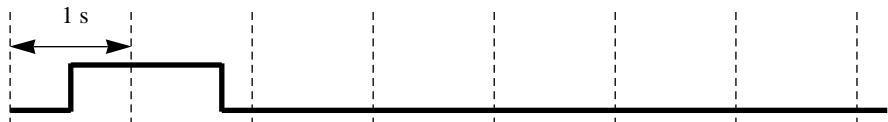
Confirmation Tone

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.

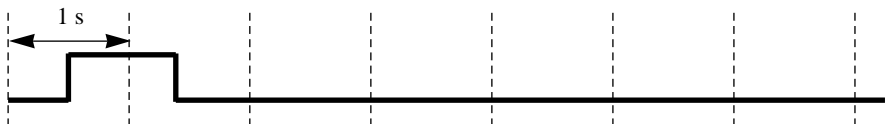
Confirmation tone 1:

- (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 dialing. For example, when accessing the following features by the feature numbers:

- Call Park Retrieve
- Call Pickup
- Hold Retrieve

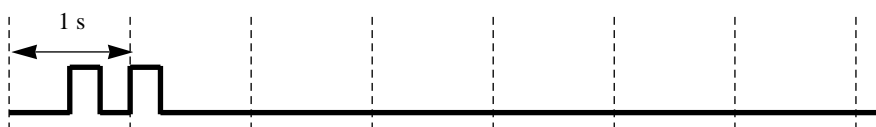
- Paging / Paging Answer
- TAFAS Answer

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.

Consultation Hold

Description

Allows the extension user to place a call on hold temporarily to transfer it or make a Conference call or make Call Splitting. The held call can be retrieved from other extensions.

Conditions

- With a digital proprietary telephone, Consultation Hold is established by pressing TRANSFER or CONF button. With a single line telephone, it is established by pressing the Register Recall button.
- With a single line telephone, the user can hold a call only to transfer it.
- Doorphone calls and paging calls cannot be placed on Consultation Hold.

Dial Tone, Distinctive

Description

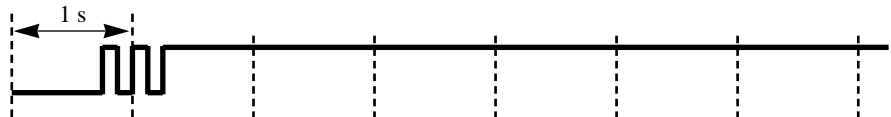
Four types of dial tone patterns are available to give some information about features enabled on the telephone set.

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.

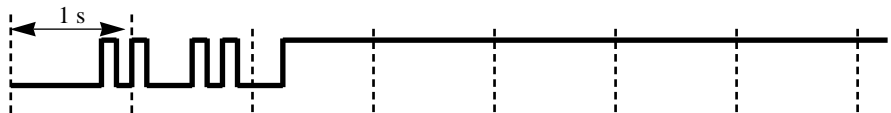
- Absent Message Capability
- Background Music (BGM) (for digital proprietary telephones only)
- Call Forwarding
- Call Pickup Deny
- Call Waiting
- Data Line Security
- Do Not Disturb (DND)
- Electronic Station Lockout
- Pickup Dialing
- Timed Reminder



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 dialing mode for each CO line regardless of the type of extension originating the call (pulse or tone).

There are three dialing modes available:

DTMF (Dual Tone Multi-Frequency) Mode

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

Pulse Dial (Rotary) Mode

The dialing signal from an extension, either in tone or pulse, is converted to pulse dialing. 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 dialing only. When dialing 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 dialing 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 dialing 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

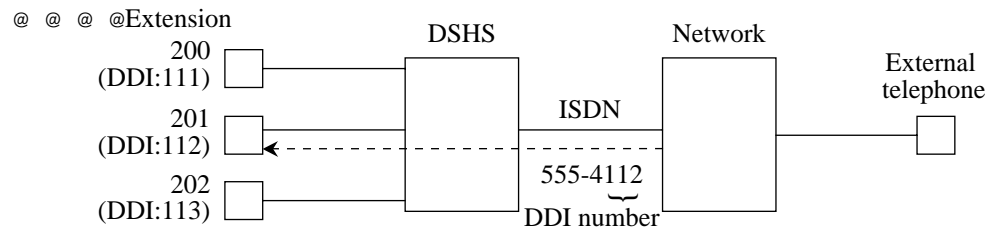
[404] DTMF Time
 [990] System Additional Information, Fields (17), (21)

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

Operation References Not applicable.

Direct Dialing In (DDI)

Description Provides an automatic direction of an incoming ISDN S0 line call to a specific extension. This requires a DDI number informed from the ISDN network. The DDI number is converted to a specific extension number by using a pre-programmed conversion table.



Explanation

1. An incoming call from the ISDN network reaches your DSHS (Digital Super Hybrid System). The ISDN network informs DSHS of the DDI number.
2. DSHS converts the DDI number to an extension number and directs the call to the extension.

Conditions

- The 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 DDI number cannot be converted to an extension number, the call is put to IRNA destination.

Connection References

Section 2, Installation,
 2.4.2 CO Line Connection (KX-TD1232 : CO 1 through CO 8)
 2.4.7 2-ISDN S0 Line Unit Connection

3 Features

D

Programming References

Section 4, System Programming,
[418] ISDN DDI Service Assignment
[610] ISDN DDI Number/Extension Number Transformation

Feature References None

Operation References Not applicable.

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*; (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 sounds the pager 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.

*: Available for KX-TD1232 only.

Direct Inward Dialing (DID)

Description

Incoming calls can be put through directly to destinations in accordance with the subscriber numbers sent from the Central Office. You can also make outside calls through this feature. Assignable destinations are: (1) extension; (2) external pager (for TAFAS); (3) modem* (for remote system administration).

Conditions

- Exactly how a subscriber number received from the exchange is converted into an extension number programmed in [433] “DID Subscriber Number Removed Digit and Received Digit” and [434] “DID Added Number” is explained below using an example.

<Example>

DID Table settings Received Digit: 4
 Deleted Digit: 2
 Added Dial No.: 2

Subscriber number received from the exchange: 43112

Processing

<1> “2” in 43112 is ignored since there are four received digits.

This leaves 4311.

<2> “43” is deleted since there are two deleted digits. This leaves 11.

<3> Added Dial No. “2” makes the final number 211 which serves as the extension number. Note that digits are inserted at the beginning of the number.

- An optional 4-DID Line Unit (KX-TD185) must be installed for this feature.
- If the destination is in Do Not Disturb mode:
 - 1) if IRNA is employed — the call is sent to the IRNA destination.
 - 2) if IRNA is not employed — the system sends the busy tone.

Connection References

Section 2, Installation,

2.4.8 Installing Expansion Unit (KX-TD170 / KX-TD180 / KX-TD185 / KX-TD280)

Programming References

Section 4, System Programming,

[109] Expansion Card / Unit Type

[401] CO Line Group Assignment

[430] DID Table Number Assignment

[431] DID Incoming Assignment

[432] DID Outgoing Assignment

[433] DID Subscriber Number Removed Digit and Received Digit

[434] DID Added Number

[435] DID Wink Time Out Assignment

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

Dialed telephone number

This is shown when dialing 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.

A display example: 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 call.

A display example: 201:00005

Charge Fee

This is shown during an established call.

A display example: CO01:\$00001.15

Call duration

This is shown during an established 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.

Programming References

Section 4, System Programming,

- [003] Extension Number Set
- [004] Extension Name Set
- [117] Charge Display Selection
- [212] Call Duration Count Start Time
- [419] CO Line Name Assignment

Feature References

Section 3, Features,

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 Dialing 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 Dialing is enabled on the telephone Full One-Touch Dialing 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 Programming.....User 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: Month, Day, Time: 1 Jan 12:00AM
Display example 2: Month, Day, 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 Soft buttons and Volume button are used to sharpen the contrast to one of three levels.

Programming References
Configuration.....User Manual,
Display Contrast Adjustment (KX-T7230 and KX-T7235 only)

Feature References None

Operation References Not applicable.

Do Not Disturb (DND)

Description Allows an extension user to appear busy to incoming CO or extension calls. This can be set or cancelled by the extension user.

Conditions

- If your digital proprietary telephone (DPT) 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 or calls directed by Intercept Routing.
- Setting DND cancels any Call Forwarding feature currently set.
- A DPT 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).

Programming References

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

Feature References

Section 3, Features,
Do Not Disturb (DND) Override

Operation References —User Manual

DPT Features, SLT Features;
Do Not Disturb (DND)

Do Not Disturb (DND) Override

Description

Permits the pre-assigned extension user to call another user who sets the Do Not Disturb feature. Dialing “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 —User Manual

DPT Features, SLT Features;
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.

Connection References

Section 2, Installation,
2.4.9 Doorphone and Door Opener Connection

Programming References

Section 4, System Programming,
[100] Flexible Numbering, Door opener
[607]–[608] Doorphone Ringing Assignment — Day / Night

Feature References

Section 3, Features,
Doorphone Call

Operation References —User Manual

DPT Features, SLT 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

- It is needed 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

2.4.9 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 Features;

Doorphone Call

DSS Console (KX-T7240)

Description

The Direct Station Selection (DSS) Console provides direct access to stations and busy lamp display as well as providing 16 PF (Programmable Feature) buttons.

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

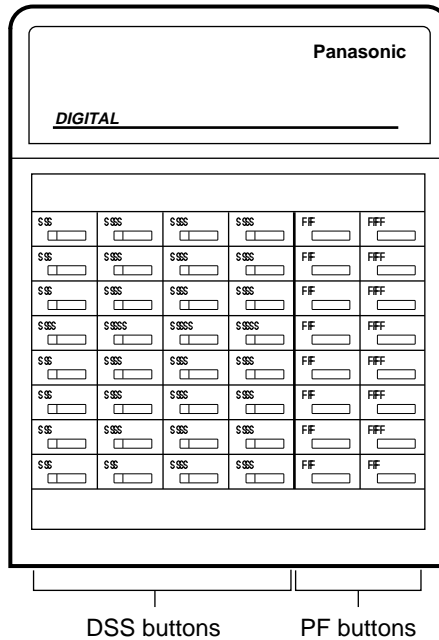
Up to four consoles can be installed per system. A DPT can be paired with up to four DSS Consoles. The paired telephone user can carry out the following operations using the DSS Console:

- Direct access to an extension (Direct Station Selection)
- Quick access to an outside party (One-Touch Dialing)
- 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 enabled simply by pressing buttons on the console which were pre-programmed as function buttons.

A DSS Console has two types of buttons.

DSS Console KX-T7240



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 |

Busy Lamp Field Table

To meet the user's various needs, DSS buttons can be changed to the other function buttons.

PF (Programmable Feature) buttons printed as F1 through F16: These buttons are provided with no default setting. The paired telephone user can program the buttons for the other function buttons.

Conditions

- Programming the DSS and PF buttons can be done only from the paired telephone using station programming or programming with a personal computer. System programming with Proprietary Telephone is not available.
- If the extension number assigned to a DSS button is changed to another number, the DSS button automatically follows the new number. (Re-programming is not necessary.)
- During System Connection*, DSS Consoles must be paired with telephones in the same system.

Connection References

Section 2, Installation,
2.3.3 Extension Connection

Programming References

Section 4, System Programming,
[007] DSS Console Port and Paired Telephone Assignment
Station ProgrammingUser Manual,
Flexible Button Assignment

Feature References

Section 3, Features,,
Button, Flexible
One-Touch Transfer by DSS
Button

Operation References

—User Manual

DSS Console Features

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 Set” can be dialed on a locked station.

*: Available for KX-TD1232 only.

Programming References

Section 4, System Programming,

[100] Flexible Numbering, Electronic station lockout set / cancel

[990] System Additional Information, Field (15)

Feature References

Section 3, Features,

Remote Station Lock Control

Operation References

—User Manual

DPT Features, SLT Features;

Electronic Station Lockout

End-to-End DTMF Signaling (Tone Through)

Description

DTMF signaling 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 dialing 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 dialing 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 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). In addition, there are Paging – Group and Station Hunting features.

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) 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 SLT is 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.

Connection References

Section 2, Installation,
2.3.5 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.

3 Features

F

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 / ARS | 9 |
| 19 | CO line group line access | 8 |
| 20 | System speed dialing | * |
| 21 | Station speed dialing | 6* |
| 22 | Station speed dialing 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 |
| 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 set / cancel / callback | 70 |
| 42 | Call forwarding / do not disturb set / cancel | 710 |
| 43 | Call pickup deny set / cancel | 720 |
| 44 | Data line security set / cancel | 730 |
| 45 | Call waiting set / cancel | 731 |
| 47 | Pickup dialing program set / cancel | 74 |
| 48 | Absent message set / cancel | 750 |
| 49 | Timed reminder set / cancel / confirm | 76 |
| 50 | Electronic station lockout set / cancel | 77 |
| 51 | Night service mode set / cancel | 78 |
| 52 | Parallel telephone mode set / cancel | 69 |
| 53 | Background music – external on / off | 65 |
| 54 | CO incoming call information log mode | 56 |
| 55 | CO incoming call information log lock | 57 |
| 56 | Timed reminder, remote | 7* |

Default feature numbers are shown above.

In addition to the flexible feature numbers above, fixed feature numbers are provided.

Fixed Feature Numbers

| Feature | Default |
|---------------------------------------|---------|
| While busy tone is heard | |
| Busy Station Signaling (BSS) | 2 |
| Off-Hook Call Announcement (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 | |
| Background music on / off | 1 |
| Time display / date display switching | ✖ |
| Day / night mode display | # |

Conditions

- Flexible feature numbers can only be dialed 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, one FN is 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) An extension number to call the modem.

- (3) 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.

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 Dialing

Description

Allows the digital 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 Dialing. Handsfree operation is automatically provided by pressing the One-Touch Dialing, 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 large display operation of KX-T7235 (Special Display Features for KX-T7235).

Programming References

Station Programming.....User Manual,
Full One-Touch Dialing Assignment

Feature References

Section 3, Features,
Button, Direct Station
Selection (DSS) Redial, Saved Number
One-Touch Dialing Special Display Features for
Redial, Last Number KX-T7235

Operation References

—User Manual

DPT Features,
Full One-Touch Dialing

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 (DPT), use station programming. To set headset mode on an analog PT, use the handset / headset selector provided on the set and / or on the headset.

Programming References

Station Programming.....User Manual,
Handset/Headset Selection

Feature References

None

Operation References

None

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.

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 digital 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-T7250 can be used for handsfree dialing 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 Dialing is enabled.

Programming References
No programming required.

Feature References **Section 3, Features,**
Full One-Touch Dialing

Operation References **DPT Features,**
—User Manual Handsfree Operation

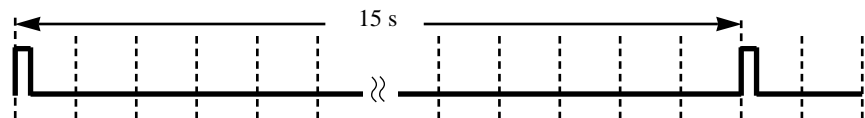
Hold Recall

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 digital proprietary telephone (DPT) 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, Exclusive – CO Line
Call Hold – Intercom 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.

- If the operator uses the paired DSS console, the operator can refer to the check-in status on the DSS console.
- It is possible to give a header to the printed bill such as the hotel's name or greeting or to assign the starting location of output data with a personal computer.
- A new page is started for each print-out.
- It is possible to limit telephone usage to a pre-assigned amount by System Programming.
- The KX-TD1232 with the KX-TD180D or KX-TD181D supports the Pay Tone service of the Central Office.
- Your Central Office sends the pay tone or the ISDN S0 line sends pay message so that the counting for fee starts for the call.

Programming References

Section 4, System Programming,

- [009] Budget Management
- [010] Charge Margin Rate
- [121] Hotel Application
- [436] Pay Tone Assignment
- [601] Class of Service

Feature References

Section 4, Features,
Budget Management

Charge Fee Reference

Operation References —User Manual

Operator Service Features,
Hotel Application

Timed Reminder, Remote (Wake-Up Call)

Description

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

Conditions

When either an operator or the extension sets a new time, the pre-set time is cleared.

Programming References

Section 4, System Programming,

- [100] Flexible Numbering, Timed reminder, remote

Feature References

Section 3, Features,
Timed Reminder

Operation References —User Manual

Operator Service Features,
Hotel Application

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 on 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).

- 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 for night modes. There are three possible destinations:
 - 1) an extension
 - 2) an external pager
 - If the destination is in Do Not Disturb, Do Not Disturb does not function and the call is placed there.

Programming References

Section 4, System Programming,
[203] Intercept Time
[409]–[410] Intercept Extension — Day / Night

Feature References None

Operation References Not applicable.

Intercom Calling

Description Allows the extension user to call another extension user within the system.

- Conditions**
- Extension numbers are assigned to all extensions by system programming. An extension number is programmed to be two, three, or four digits.
 - Names can be given to extension numbers by system programming. An extension number and a name, if programmed, is shown on the display DPT during an intercom call.
 - DSS buttons permit one-touch access to an extension and provide Busy Lamp Field.
 - KX-T7235 user can make an extension call with an extension dialing directory on the display.

- After dialing an extension number, the user will hear one of the following:
 - Ringback tone: indicates that the other extension is being called.
 - Confirmation tone: indicates that the user can perform Voice Calling.
 - Busy tone: indicates that the other extension is busy.
 - Do Not Disturb tone: indicates that the other extension has DND assigned.

Programming References

- Section 4, System Programming,**
 - [003] Extension Number Set
 - [004] Extension Name Set
 - [005] Flexible CO Button Assignment
 - [100] Flexible Numbering, 1st through 16th hundred extension blocks
- Station Programming**.....User Manual, Flexible Button Assignment – DSS Button

Feature References

- Section 3, Features,**
 - Busy Lamp Field Button, Direct Station Selection (DSS)

Operation References

- User Manual **DPT Features, SLT Features;** Intercom Calling

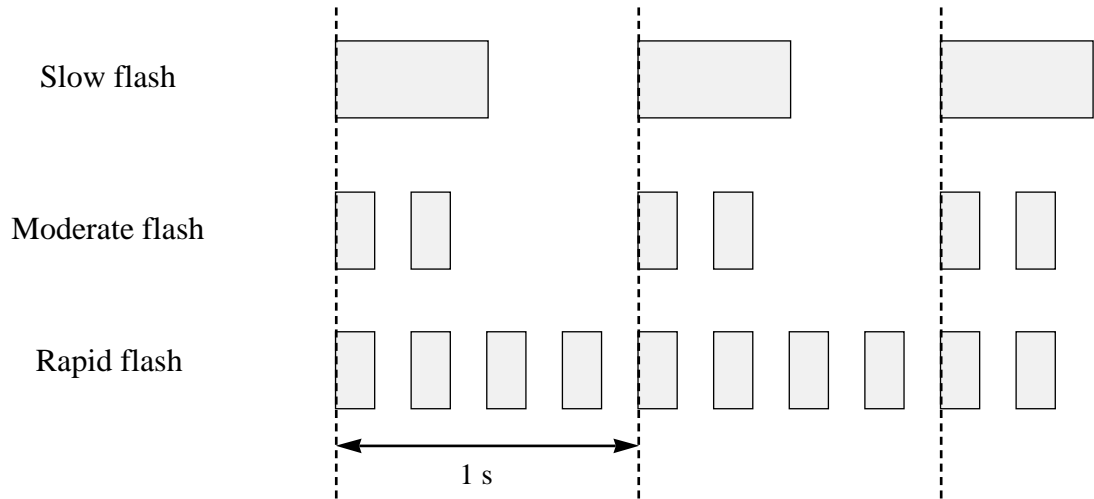
LED Indication, CO Line

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 below 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 / CO-to-CO call / Unattended Conference |
| 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

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 on the next page 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

- Any outside call except CO-to-CO call is limited by this feature. For CO-to-CO calls, CO-to-CO Call Duration is activated.
- 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 Conference, Unattended
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 digital proprietary telephone user can use the Loop-CO button in place of the access number.

Conditions

- This feature functions with Automatic Route Selection (ARS), if ARS 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 digital proprietary telephone (DPT). Dialing the line access code selects a CO button on a DPT 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 dialing after a CO line is seized.

Programming References

Section 4, System Programming,
[100] Flexible Numbering, Automatic line access / ARS
[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 Features;
Outward Dialing – 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 digital 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 ProgrammingUser 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 Features;
Outward Dialing – Line Access, CO Line Group

Line Access, Direct

Description

Allows the digital 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 Dialing. 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 Tim
[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 —User Manual

DPT Features,
Outward Dialing – Line Access, Automatic, Line Access, CO Line
Group, Line Access, Individual

Line Access, Individual

Description

Allows the digital 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 dialing after a CO line is seized.

3 Features

L

Programming References

Station Programming.....User Manual,
Preferred Line Assignment – Incoming

Feature References None

Operation References **Basic Operation,**
—User Manual Receiving Calls

Line Preference – Outgoing (Idle Line / No Line / Prime Line)

Description

A digital 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 Dialing is enabled, press One-Touch Dialing, 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 |

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 dialled 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 Features;**
—User Manual Lockout

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 digital proprietary telephone user is regarded as the manager.

Programming References
Section 4, System Programming,
[006] Operator / Manager Extension Assignment

Microphone Mute

| | |
|---|---|
| Description | Allows the digital proprietary telephone user to turn off the microphone, for privacy reasons. |
| Conditions | <ul style="list-style-type: none">• This is effective for the microphone only; your voice will only 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) 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. |
| Connection References | Section 2, Installation, 2.3.3 Extension Connection 2.4.4 8-Station Line Unit Connection |
| Programming References | No programming required. |
| Feature References | None |
| Operation References | Not applicable. |

Module Expansion

Description

The KX-TD816 starts with 4 CO line and 8 extension jacks. The KX-TD1232 starts with 16 extension jacks. They can be expanded by installing expansion cards and units.

- A 8-Station Line Unit adds 8 extension jacks.
- A 8-CO Line Card adds 8 CO line jacks.
- A 4-CO Line Unit adds 4 CO line jacks.
- A 4-DID Line Unit adds 4 DID line jacks.
- A 4-ISDN S0 Line Card adds 4 ISDN S0 lines.
- A 2-ISDN S0 Line Unit adds 2 ISDN S0 lines.

The KX-TD816 can have one 8-Station Line Unit and one of 4-CO Line Unit, 4-DID Line Unit or 2-ISDN S0 Line Unit. The KX-TD1232 can have one of 8-CO Line Card or 4-ISDN S0 Line Card, a maximum of two 8-Station Line Units and one of 4-CO Line Unit, 4-DID Line Unit or 2-ISDN S0 Line Unit.

Conditions

- The number of extension jacks may be different from the number of telephones if the Paralleled Telephone or the eXtra Device Port feature is enabled. These features allow one extension jack to have two telephones.
- When an expansion unit is installed, the unit identification is set by system programming.

Connection References

Section 2, Installation,

2.4.2 CO Line Connection (KX-TD1232 : CO 1 through CO 8)

2.4.4 8-Station Line Unit Connection

2.4.5 4-CO Line Unit Connection

2.4.6 4-DID Line Unit Connection

2.4.7 2-ISDN S0 Line Unit Connection

Programming References

Section 4, System Programming,

[109] Expansion Card / Unit Type

Feature References

Section 3, Features,

EXtra Device Port (XDP)

Paralleled Telephone

Operation References

Not applicable.

Music on Hold

Description

While a party is on hold, music is automatically sent.

Conditions

- Operations such as Call Hold, Exclusive Call Hold, Consultation Hold, or Call Transfer generates Music on Hold.
- The system has an internal music source. However it may be necessary to connect a user-supplied external music source such as a radio to the system. Up to two music sources for KX-TD1232, and one external music source for KX-TD816 can be connected per system.
- The music source is used for Music on Hold and / or BGM. In the case of KX-TD1232, elect a music source for each usage.

Connection References

Section 2, Installation,
2.3.7 External Music Source Connection

Programming References

Section 4, System Programming,
[803] Music Source Use
[990] System Additional Information, Fields (1), (20)

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 operator at any time desired.

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 operator can switch the Day / Night mode by dialing the feature number.

Conditions

The following programming items may be assigned in a different way between day mode and night mode:

- [407]–[408] DIL 1:1 Extension — Day / Night
- [409]–[410] Intercept Extension — Day / Night
- [500]–[501] Toll Restriction Level — 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

Programming References

Section 4, System Programming,

- [100] Flexible Numbering, Night service mode set / cancel
- [101] Day / Night Service Switching Mode
- [102] Day / Night Service Starting Time

Feature References

None

Operation References —User Manual

DPT Features, SLT Features;
Night Service
Operator Service Features,
Night Service On / Off

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 Signaling (BSS). It depends on the telephone type used by the called party whether BSS or OHCA is activated by the operation. If the called telephone is one of the following, OHCA becomes active: KX-T7235.

Conditions

This feature is only effective if the called extension has set the Call Waiting. If this is not set, the caller will hear reorder tone.

Programming References

Section 4, System Programming,

- [100] Flexible Numbering, Call waiting set / cancel

| | |
|---|---|
| Feature References | Section 3, Features, Call Waiting |
| Operation References —User Manual | DPT Features, Off-Hook Call Announcement (OHCA) |

One-Touch Dialing

Description One-Touch Dialing offers the digital proprietary telephone (DPT) 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 Dialing button. The number of buttons available depends on the type of DPT. One-Touch Dialing 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 Dialing button.
 - Speed Dialing, One-Touch Dialing, manual dialing, 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 Dialing buttons. In this case, a line access code should not be stored on the second button.
 - If the Full One-Touch Dialing is enabled, there is no need to go off-hook, before pressing the One-Touch Dialing button.

Programming References

| | |
|--|---|
| Section 4, System Programming, [005] Flexible CO Button Assignment | |
| Station Programming | User Manual, Flexible Button Assignment – One-Touch Dialing Button |
| Full One-Touch Dialing Assignment | |
| DSS Console Features | User Manual, Station Programming – One-Touch Dialing Assignment |

| | |
|---|--|
| Feature References | Section 3, Features, Full One-Touch Dialing |
| Operation References —User Manual | DPT Features, One Touch Dialing DSS Console Features, One Touch Dialing One-Touch Access for System Features |

One-Touch Transfer by DSS Button

Description This feature, if programmed, allows the DSS Console and the digital 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. Any extension can be appointed as an operator. The extension assigned as an operator has the ability to perform the following operations:

- Switching Day / Night mode manually
- Setting / clearing station lockout remotely
- Turning Background Music – External on and off
- Controlling CO Incoming Call Information Log Lock mode
- Handling Hotel Application

- 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.

Programming References

Section 4, System Programming,
[006] Operator / Manager Extension Assignment
[100] Flexible Numbering, Operator call
[121] Hotel Application
[990] System Additional Information, Field (11)

Feature References None

Operation References **Operator Service Features**
—User Manual

Operator Call

Description Allows the extension user to call an extension operator by dialing the feature number, if at least one operator is assigned. There can be one or two extensions assigned as Operator 1 and 2.

Conditions None

Programming References

Section 4, System Programming,
[006] Operator / Manager Extension Assignment
[100] Flexible Numbering, Operator call

Feature References None

Operation References **DPT Features, SLT 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 digital 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).

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 digital 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 digital 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,
2.3.6 External Pager Connection

Programming References

Section 4, System Programming,
[100] Flexible Numbering, Paging – external, Paging – external answer / TAFAS answer, Paging – group, Paging – group answer
[805] External Pager Confirmation Tone
[990] System Additional Information, Field (16)

Feature References None

*: Available for KX-TD1232 only.

Operation References —User Manual **DPT Features, SLT Features;**
Paging — All
Paging — ANSWER
Paging and Transfer

Paging – External

Description

Allows you to make a voice announcement using external paging devices (external pagers). One pager for KX-TD816, and up to two pagers for KX-TD1232 can be contained. For KX-TD1232, 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,
2.3.6 External Pager Connection

Programming References

Section 4, System Programming,
[100] Flexible Numbering, Paging – external, Paging – external answer / TAFAS answer
[805] External Pager Confirmation Tone
[990] System Additional Information, Field (16)

Feature References None

Operation References —User Manual **DPT Features, SLT Features;**
Paging — External
Paging — ANSWER
Paging and Transfer

Paging – Group

Description

Allows you to select an extension group and make a voice announcement. All the digital 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
[990] System Additional Information, Field (16)

Feature References

Section 3, Features,
Extension Group

Operation References —User Manual

DPT Features, SLT Features;
Paging — Group
Paging — ANSWER
Paging and Transfer

Paralleled Telephone

Description

Any digital proprietary telephone can be connected in parallel with a single line telephone. The following combination of telephones is available: 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 digital proprietary telephone (DPT) 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.
- When receiving a call;
The SLT is enabled; Both the DPT and the SLT ring except when the DPT is in Handsfree Answerback mode or Voice Alerting mode.
The SLT is disabled; DPT 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 DPT will show in the same way as if the DPT is in operation.
- If eXtra Device Port feature is available, a DPT+ SLT can act as completely different extensions.
- Call Waiting tone can be heard only by DPT.

Connection References

Section 2, Installation,
2.3.4 Paralleled Telephone Connection

Programming References

Section 4, System Programming,
[100] Flexible Numbering, Parallel telephone mode set / cancel

Feature References

Section 3, Features,
EXtra Device Port (XDP)

Operation References

—User Manual

DPT Features, SLT Features;
Paralleled Telephone Connection

Pause Insertion, Automatic

Description

This function is used to insert a pre-assigned pause between the CO line access number, the host PBX, or carrier access code and the successively dialed digits.

Conditions

- This feature requires previous programming of CO line access number and host PBX access codes as well as assignment of the pause duration.
- This feature works for Speed Dialing, One-Touch Dialing, Last Number Redial, Saved Number Redial, Pickup Dialing, Call Forwarding – to CO Line as well as for ordinary calls.
- Pressing the PAUSE button in dialing number inserts a pause for a pre-assigned time.

Programming References

Section 4, System Programming
[100] Flexible Numbering, Automatic line access / ARS, CO line group line access
[411] Host PBX Access Codes
[412] Pause Time

Feature References

Section 3, Features,
Host PBX Access Toll Restriction

Operation References

Not applicable.

Pickup Dialing

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**
- A LD telephone without the “#” button cannot program this feature. For programming the phone number, replace the LD telephone to the telephone with the “#” button temporarily.
 - The user uses a feature number to enable or disable pickup dialing.
 - If the feature is enabled and the user goes off-hook, dial tone is generated for the waiting time and then dialing starts. During the waiting time the user can dial another party, overriding the Pickup Dialing function.
 - If the user answers an incoming call or retrieves a call on hold, the Pickup Dialing feature does not work.

Programming References

Section 4, System Programming,
[100] Flexible Numbering, Pickup dialing program set / cancel
[204] Pickup Dial Waiting Time

Feature References None

Operation References **DPT Features, SLT Features;**
—User Manual Pickup Dialing (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.

Programming References

No programming required.

Feature References None

*: Available for KX-TD1232 only.

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 : CO 1 is connected to extension jack 1

CO 2 is connected to extension jack 2

CO 5 is connected to the power failure transfer jack

KX-TD1232 : CO 1, 2 and 9 are connected to the power failure transfer jacks of Master System

CO 13, 14 and 21 are connected to the power failure transfer jacks of Slave System

Conditions

- Only SLT is available during a power failure.

Connection References

Section 2, Installation,

2.3.2 CO Line Connection (KX-TD816 : CO 1 through CO 4)

2.4.2 CO Line Connection (KX-TD1232 : CO 1 through CO 8)

2.4.5 4-CO Line Unit Connection

2.4.6 4-DID Line Unit Connection

2.5 Power Failure Transfer Connection

Programming References

No programming required.

Feature References

Section 3, Features,

Power Failure Restart

Operation References Not applicable.

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 Dialing 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 —User Manual

DPT Features, SLT Features;
Pulse to Tone Conversion

Recall

Description

The RECALL 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 button with a digital proprietary telephone works as External Feature Access. By changing the programmed data, it works as Recall (disconnection).
- Pressing the RECALL 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

3 Features

R

Programming References

Section 4, System Programming,
[100] Flexible Numbering, Last number redial

Feature References

Section 3, Features,
Redial, Automatic

Operation References —User Manual

DPT Features, SLT Features;
Redial, Last Number

Redial, Saved Number

Description

Allows the digital proprietary telephone user to save a telephone number and redial the number afterwards. The user can store it while in conversation on a CO line. The saved number can be redialed many times until another one is stored.

Conditions

- Certain types of digital proprietary telephones (DPT) allow automatic multiple redialing (Automatic Redial).
- If the SAVE button is not provided on your DPT, it is possible to assign a flexible button to be the SAVE button.

Programming References

Section 4, System Programming,
[005] Flexible CO Button Assignment
Station Programming.....User Manual,
Flexible Button Assignment – SAVE Button

Feature References

Section 3, Features,
Button, Flexible
Redial, Automatic

Operation References —User Manual

DPT Features,
Redial, Saved Number

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 an outside call. This is useful for determining the start and completion of CO line calls.

Conditions This feature needs system programmings for each CO line.

Programming References

Section 4, System Programming,
[420] 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.

Ringing, 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; Unattended Conference 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 digital proprietary telephones (DPT), 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.
- The DPT user can select a desired tone frequency for each CO button.

Programming References

No programming required.

Feature References

Section 3, Features,
Ringing Tone Selection for CO Buttons

Operation References Not applicable.

Operation References DPT Features,
—User Manual Secret Dialing

Special Display Features for KX-T7235

The KX-T7235 is provided with a large 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:

CO Outgoing Call Log
Extension Dialing
Station Speed Dialing
System Feature Access Menu
System Speed Dialing

CO Outgoing Call Log

Description Provides a display of the last dialed telephone numbers and allows the user to perform redialing 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 Special Display Features (— for KX-T7235),
—User Manual CO Outgoing Call Log

Extension Dialing

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
[100] Flexible Numbering, 1st through 16th hundred extension blocks

Feature References None

Operation References **Special Display Features (— for KX-T7235),**
—User Manual Extension Dialing

Station Speed Dialing

Description A list of the names and telephone numbers stored for One-Touch Dialing 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 Dialing 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 Programming.....User Manual,
Station Speed Dialing Number / Name Assignment (KX-T7235 only)

Feature References **Section 3, Features,**
One-Touch Dialing

Operation References **Special Display Features (— for KX-T7235),**
—User Manual Station Speed Dialing

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 features available to access are:
Absent Message Capability
Call Pickup, Group
Call Forwarding (set / cancel)
Do Not Disturb (set / cancel)

- 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
 - Call Park
 - Night Service

Programming References

No programming required.

Feature References

None

Operation References

—User Manual

Special Display Features (— for KX-T7235),
System Feature Access Menu

System Speed Dialing

Description

A list of the names stored for System Speed Dialing is displayed. This allows the user to dial by name without having to know the telephone number. All the user needs to do is pressing the button associated with the desired name.

Conditions

- The numbers and names for System Speed Dialing 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 Dialing Number Set
[002] System Speed Dialing Name Set

Feature References

Section 3, Features,
System Speed Dialing

Operation References

—User Manual

Special Display Features (— for KX-T7235),
System Speed Dialing

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
- Background Music that has been turned on
- Call Forwarding
- Call Pickup Deny
- Call Waiting enabled
- Data Line Security
- Do Not Disturb (DND)
- Message Waiting – All the messages that have been left by other extension users
- Paralleled Telephone enabled
- Pickup Dialing
- 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 Features;
Station Feature Clear

Station Hunting

Description

If a called extension is busy, Station Hunting redirects the incoming call to an idle member of the extension group. Idle extensions are automatically hunted according to the programmed type. There are four hunting types available – Circular, Termination, Voice Mail (VM), and Automated Attendant (AA).

Circular hunting: The extensions are hunted until an idle one is found, regardless of jack number.

Termination hunting: The extensions are hunted until reaching the extension which has the highest jack number in the group.

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'.
- (6) ANS: shows the time between the start of ringing and answer.
- (7) Duration: shows the duration of the call as Hours:Minutes:Seconds.
- (8) Cost: shows the cost of the call.
- (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

To print out the record of system programming items that have been assigned, use the program [802] "System Data Printout."

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 ARS 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.

Connection References

Section 2, Installation,
2.3.8 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

Feature References None

Operation References Not applicable.

Station Programming

Description

Allows the digital proprietary telephone (DPT) user to customize the extension to their needs. The following are the programming items available:

For DPT (KX-T7220; KX-T7230; KX-T7235; KX-T7250)

Call Waiting Tone Type Assignment

Flexible Button Assignment

Full One-Touch Dialing Assignment

Intercom Alerting Assignment

Preferred Line Assignment – Incoming / Outgoing

Station Programming Data Default Set

Handset / Headset Selection

Ringing Tone Selection for CO Buttons

For display DPT (KX-T7230; KX-T7235) only,

Charge Fee Reference (pre-assigned extensions only)

Self-Extension Number Confirmation

For large display DPT (KX-T7235) only,

Station Speed Dialing Number / Name Assignment

For operator extension DPT only,

CO Incoming Call Information Log Lock Clear

Remote Station Lock Control

Detailed information and programming instructions are described in the User Manual, Station Programming.

Conditions During Station Programming, the DPT is considered to be in busy status.

Programming References

Station Programming.....User Manual
Operator Service Features.....User Manual
Remote Station Lock Control

Feature References None

Operation References Not applicable.

Station Programming Data Default Set

Description Allows the digital 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 Dialing 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 Programming.....User Manual,
Station Programming Data Default Set

Feature References **Section 3, Features,**
Station Programming

Operation References Not applicable.

Station Speed Dialing

Description

Allows an extension user to store frequently dialed numbers in order to place a call with abbreviated dialing. It is performed by dialing 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 Dialing can be followed by manual dialing to supplement the dialed digits.
- You may make a call with One-Touch Dialing button, instead of Station Speed Dialing.
- The single line telephone (SLT) may be replaced to a digital proprietary telephone (DPT) temporarily to store one-touch dialing 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 dialing, Station speed dialing programming

Feature References

Section 3, Features,
One-Touch Dialing

Operation References —User Manual

DPT Features, SLT Features;
Station Speed Dialing

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.

*: Available for KX-TD1232 only.

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.

Connection References Section 2, Installation,
2.4.10 System Connection

Programming References

No programming required.

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

Remote Card is required (already installed in the main unit).

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. Remote Card is required (already installed in the main unit). Assign the floating number of the modem in system programming.

Starting system administration from a remote location can be done in the following ways.

- 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 digital 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.)

Programming References

Section 4, System Programming,

- [107] System Password
- [813] Floating Number Assignment
- [814] Modem Standard*

Feature References

Section 3, Features,

- | | |
|--|--|
| System Programming with Digital Proprietary Telephone | Station Message Detail Recording (SMDR) |
|--|--|

Operation References Not applicable.

System Programming with Digital Proprietary Telephone

Description

This system can be programmed with a personal computer or a digital proprietary telephone (DPT).
DPTs available for system programming are: KX-T7235 and KX-T7230 (Display DPTs).
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 DPT 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
- [107] System Password

3 Features

S

Feature References **Section 3, Features,**
System Programming and Diagnosis with Personal Computer

Operation References Not applicable.

System Speed Dialing

Description This feature supports 500 abbreviated dial numbers available to all users. A system speed dial number is dialed out by pressing the AUTO button and a 3-digit code (000 through 499). It is possible to store one hundred 24-digit telephone numbers per system (maximum).

Conditions

- Overriding Toll Restriction for System Speed Dialing can be enabled or disabled by system programming.
[For digital proprietary telephone users only]
- Speed Dialing, One-Touch Dialing, manual dialing, 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 Dialing Number Set
[002] System Speed Dialing Name Set
[100] Flexible Numbering, System speed dialing
[300] TRS Override for System Speed Dialing

Feature References **Section 3, Features,**
Toll Restriction Override for System Speed Dialing

Operation References **DPT Features, SLT Features;**
—User Manual System Speed Dialing

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. System programming is required to print out the system working report.

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 dialed calls

These records can be deleted by system programming and new data will be recorded thereafter.

Conditions

Connect a printer provided with an 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
2.3.8 Printer Connection

Programming References

Section 4, System Programming,
 [806]–[807] EIA (RS-232C) Parameters — Port 1/Port 2
 [815] System Working Report Printout
 [816] System Working Report Clear

Feature References

Section 3, Features,
 Station Message Detail Recording (SMDR)

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 – 30 times |
| Call Forwarding – No Answer Time-Out | 1 – 12 rings |
| CO Dial Starting Time | n ~100 ms, n: 0 – 40 |
| CO-to-CO Duration Time | 1 – 64 min |
| 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 Dialing Waiting Time | 1 – 5 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 s |

CO Line Timer Items

| | |
|---|---------------------|
| CPC Signal Detection Time (Incoming) | n ~8 ms, n: 02 – 75 |
| DTMF Digit Time | 80 / 160 ms |

Extension Timer Items

Delayed Ringing Count Disable / Immediate /
4 / 6 / 8 rings / No ring

Voice Mail Integration Timer Items

DTMF Signal Duration 80 / 160 ms
DTMF Signal Waiting Time 0.5 / 1.0 / 1.5 / 2.0 s
 after VPS Answer
DTMF Signal Waiting Time 0.5 / 1.0 / 1.5 / 2.0 s
 after VPS calls Extension

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
[206] CO-to-CO 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
[213] Message Waiting Ring Interval 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 digital proprietary telephone, press any button.

Programming References

Section 4, System Programming,
[100] Flexible Numbering, Timed reminder set / cancel / confirm

Feature References

Section 3, Features,
HOTEL APPLICATION – Timed Reminder, Remote (Wake-Up Call)

Operation References

—User Manual

DPT Features, SLT Features;
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 seven 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 five 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.

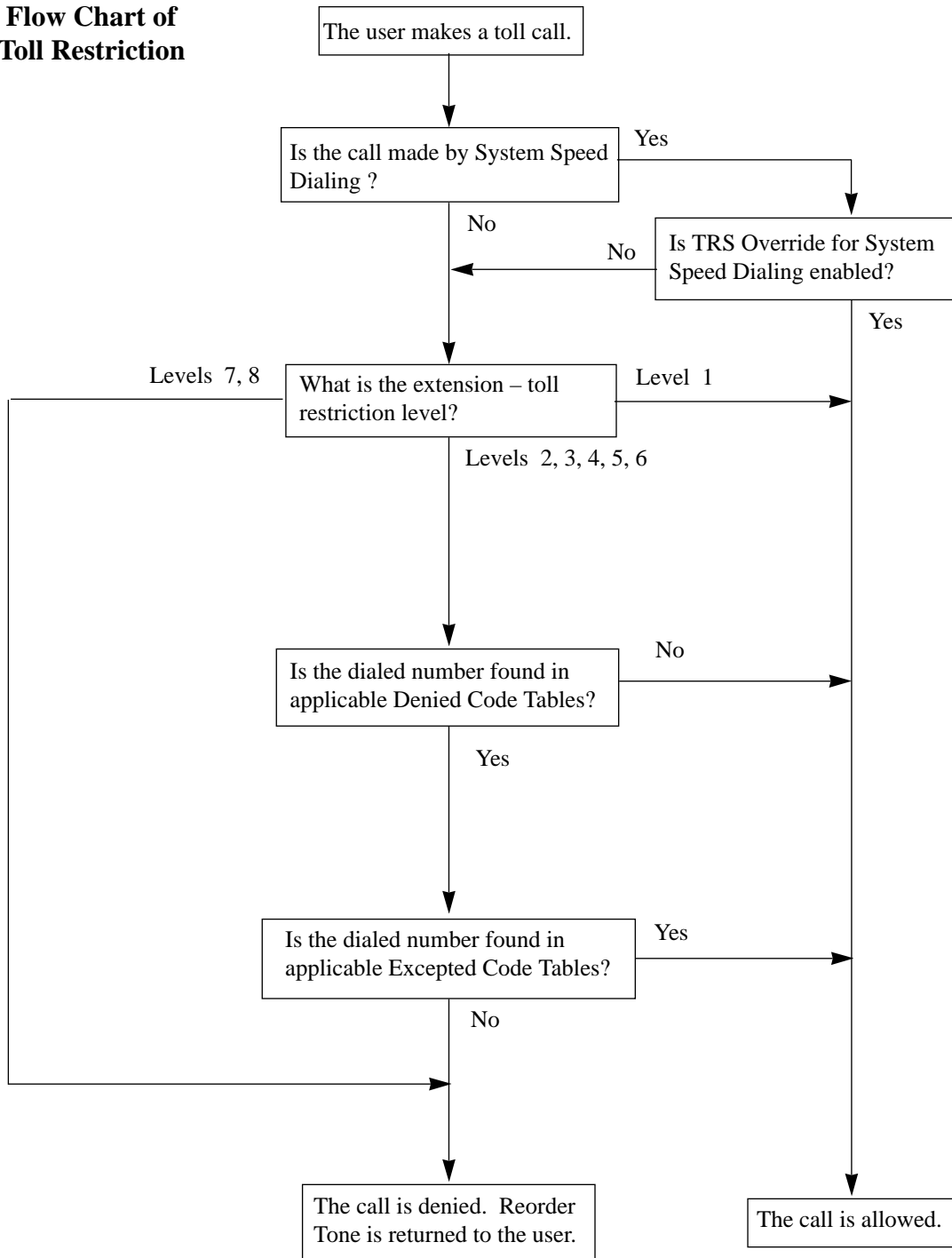
Level 4: denies the codes stored in the Denied Code Tables for Levels 2 through 4 except the codes stored in Excepted Code Tables for Levels 4 through 6.

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) Automatic Route Selection (ARS)
 - (3) Dial Access, Automatic
 - (4) Line Access, CO Line Group
 - (5) Line Access, Individual
 - (6) System Speed Dialing
- Emergency call numbers such as Police or Fire Department numbers should be stored in program [311] “Emergency Dial Set” so that they are excepted from toll restriction.
- If a stored Host PBX access code is found in the dialed number, a toll restriction check starts for succeeding telephone number.
- Toll restriction for System Speed Dialing can be cancelled for the whole system.
- 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 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
- [300] TRS Override for System Speed Dialing
- [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
- [601] Class of Service
- [990] System Additional Information, Field (14)

Feature References

Section 3, Features,

- | | |
|---|--|
| Toll Restriction Override by Account Code Entry | Toll Restriction Override for System Speed Dialing |
|---|--|

Operation References Not applicable.

Toll Restriction Override by Account Code Entry

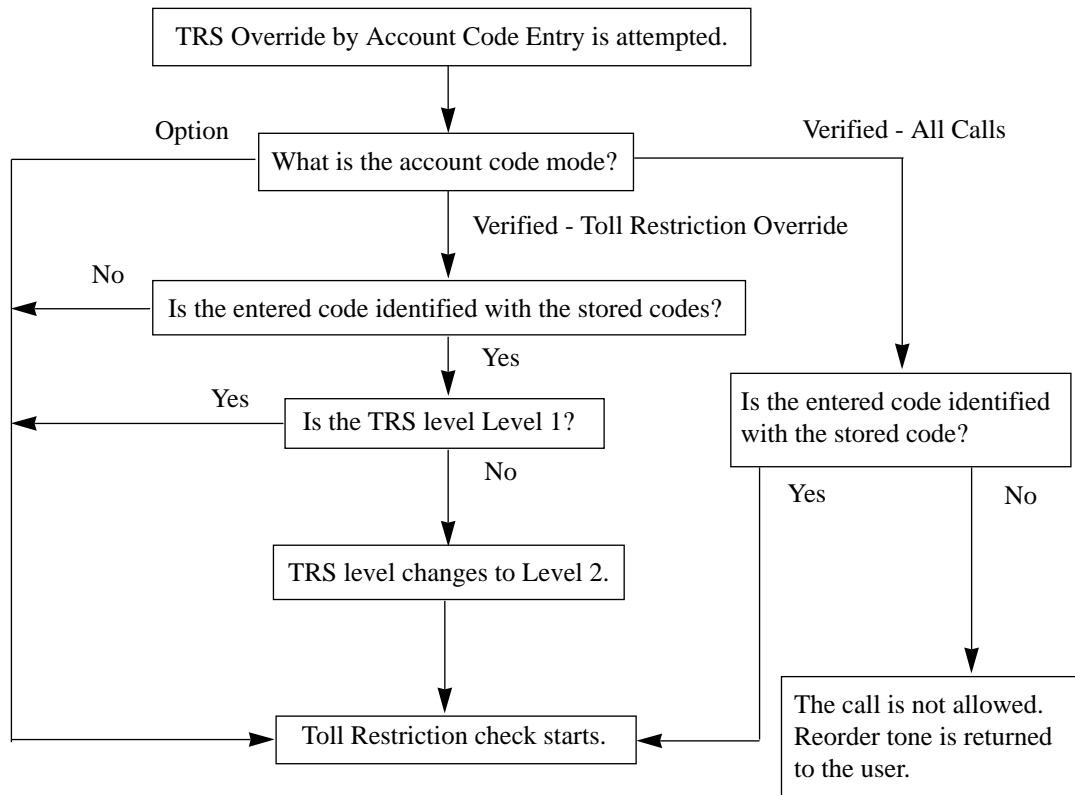
Description

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 dialing 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 6. 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 by station programming 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



Programming References

Section 4, System Programming,
[100] Flexible Numbering, Account code entry
[508] Account Code Entry Mode
Station Programming.....User Manual
Charge Fee Reference

Feature References

Section 3, Features,
Account Code Entry Toll Restriction

Operation References

—User Manual **DPT Features, SLT Features;**
Toll Restriction Override — Toll Restriction Override by Account Code
Entry

Toll Restriction Override for System Speed Dialing

Description

Allows you to cancel Toll Restriction on System Speed Dialing. Normally, calls originated by System Speed Dialing are restricted depending on the extension's toll restriction level. Once this function is enabled, it permits all extension users to make System Speed Dialing calls with no restriction.

Conditions

None

Programming References

Section 4, System Programming,
[300] TRS Override for System Speed Dialing
Station Programming.....User Manual
Charge Account Code Set

Feature References

Section 3, Features,
System Speed Dialing Toll Restriction

Operation References

—User Manual **DPT Features, SLT Features;**
Toll Restriction Override – Toll Restriction Override for System Speed
Dialing

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.
- One external pager can be installed in KX-TD816. Two external pagers can be installed in KX-TD1232 per system, and 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.
- Confirmation tone is sent to the user before being connected to the caller. Eliminating the tone is programmable.

Connection References

Section 2, Installation,
2.3.6 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 Features;
Trunk (CO Line) Answer From Any Station (TAFAS)

*: Available for KX-TD1232 only.

Voice Mail Integration

Description

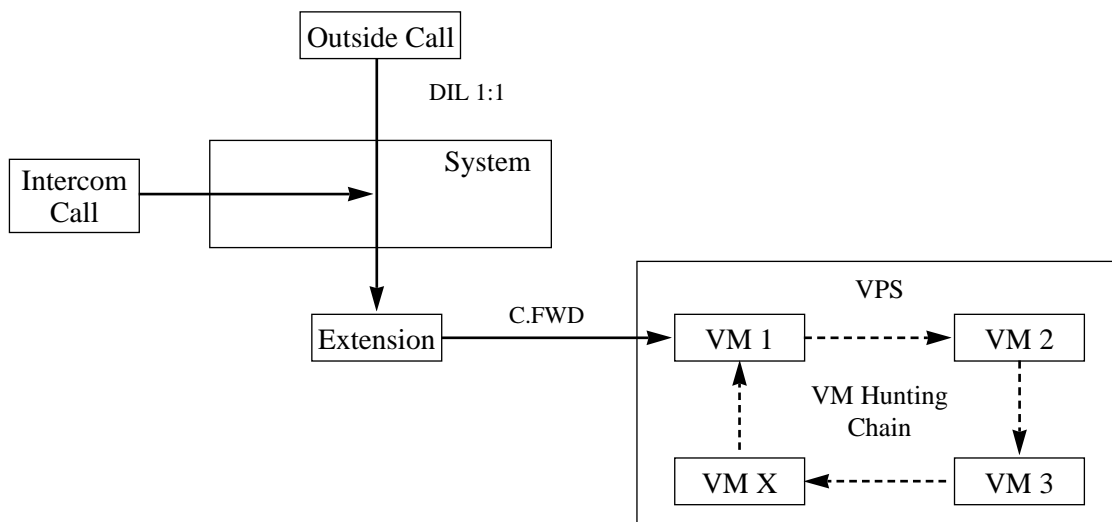
This system can accommodate Voice Processing System (VPS) equipment, which offers the user a Voice Mail and an Automated Attendant Services. If an extension user has set Call Forwarding destination to the VPS, a calling party will be forwarded to the VPS and can leave a voice message in the mailbox of 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.

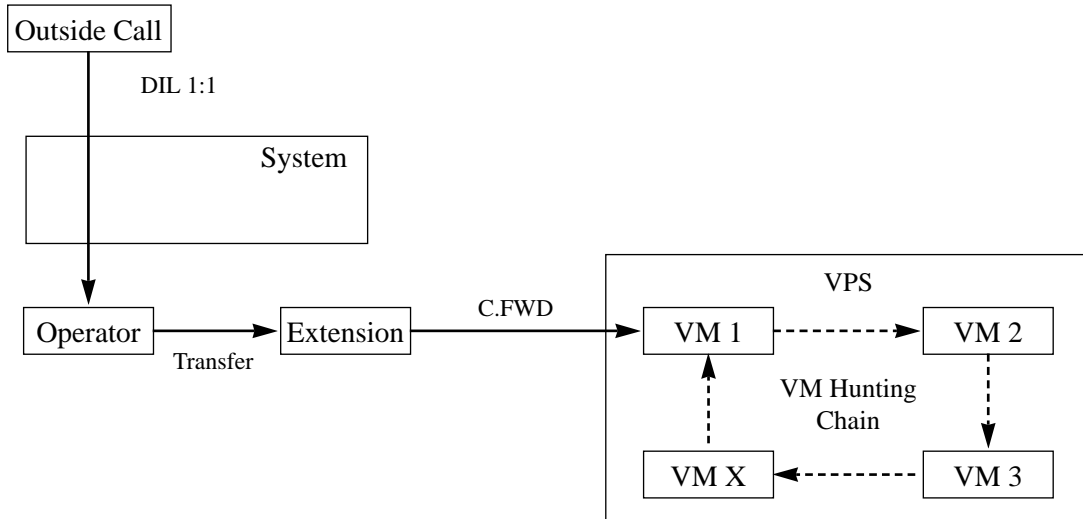
System Explanation

1. Voice Mail Service

1.1 Call Forwarding to VM

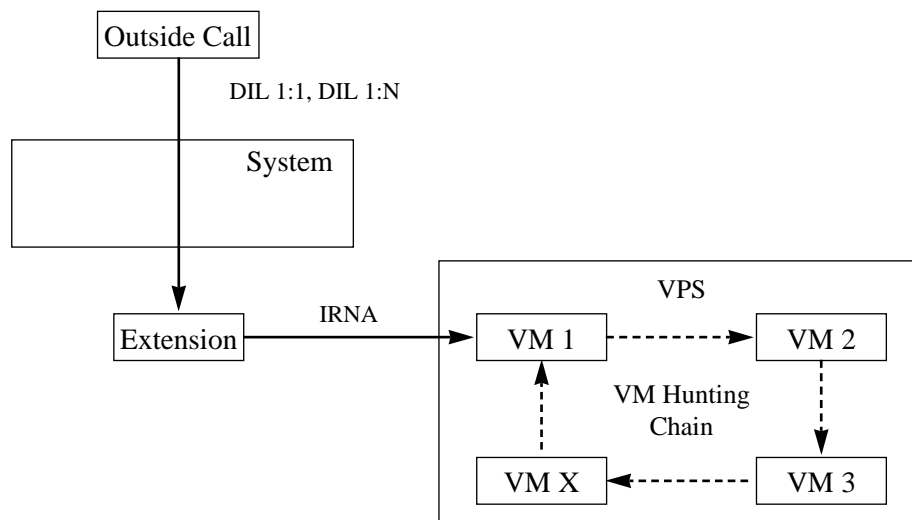
If an extension user sets Call Forwarding (C. FWD) whose destination is the VPS, an incoming call is forwarded to the VPS under the proper conditions. The system sends to the VPS a mailbox number of the corresponding extension at that time. Therefore the calling party can leave his / her message in the mailbox of the desired extension without knowing the mailbox number.





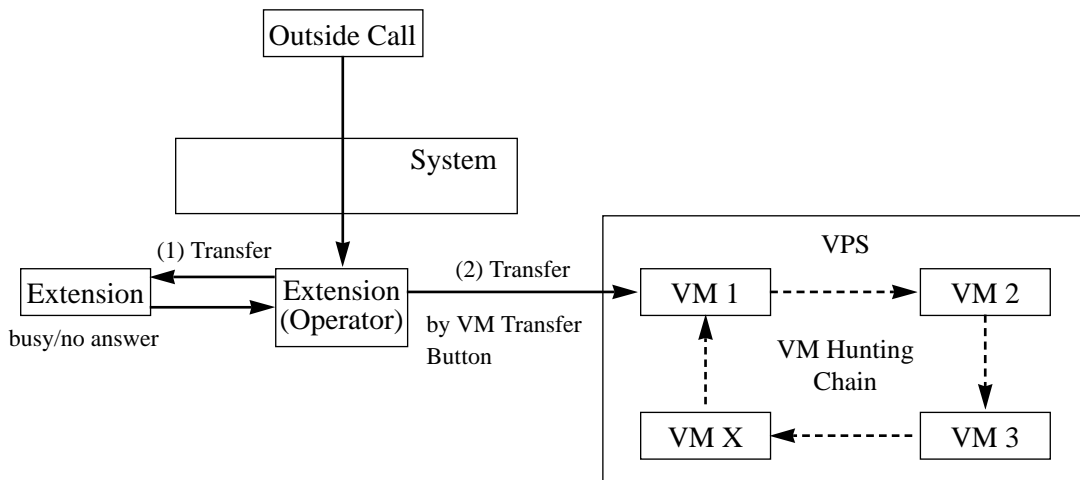
1.2 Intercept Routing to VM

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

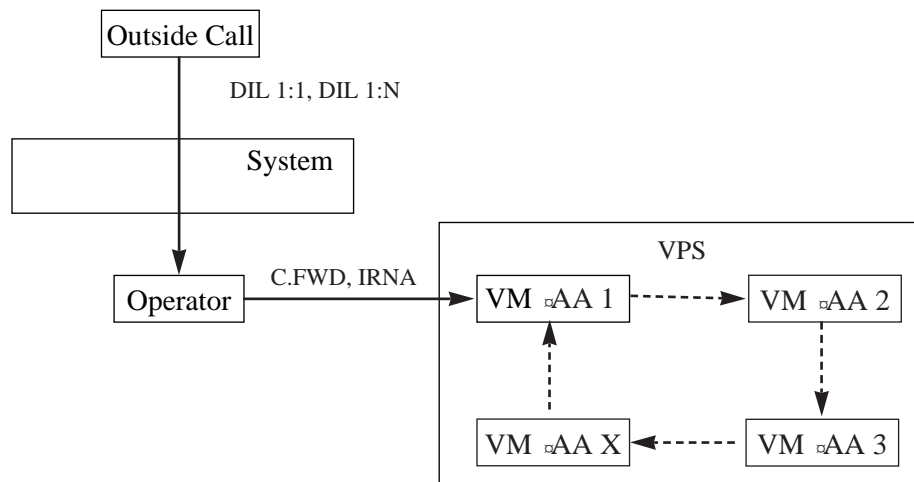
The extension user can transfer an outside call to the VPS so that calling party can leave his / her message in the mailbox of the desired extension. The extension user should use the Voice Mail (VM) Transfer button, when transferring a call to the VPS. Pressing this button and entering the extension 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.



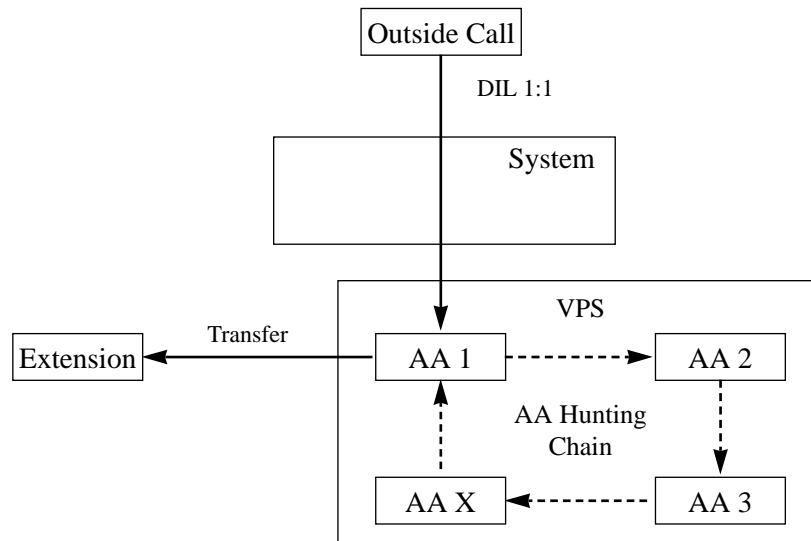
1.5 Listening to a Recorded Message

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 dialing 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-TD816 has one Extension Cards and can have one 8-Station Line Unit. 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 unit.

Connection References

- Section 2, Installation,**
- 2.3.3 Extension Connection
- 2.4.4 8-Station Line Unit Connection

Programming References

Common

- Section 4, System Programming,**
- [005] Flexible CO Button Assignment
- [100] Flexible Numbering, Call forwarding / do not disturb set / cancel, Message waiting set / cancel / callback
- [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, Field (10)

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 – Busy
- Call Forwarding – Busy / No Answer
- Call Forwarding – No Answer
- Intercept Routing
- Station Hunting

3 Features

V

Operation References DPT Features, SLT Features;
—User Manual Voice Mail Integration
Voice Mail Transfer

Volume Control – Speaker / Handset Receiver / Headset / Ringer

Description Allows the digital proprietary telephone user to turn up or down the following volumes as desired:
Handset receiver volume
Headset volume
Ringer volume
Speaker volume

Conditions With a digital proprietary telephone, press the volume control button (VOLUME ^ / √ UP / DOWN) to select a desired volume level. However the ringer volume of KX-T7220 and KX-T7250 is selected with Ringer Volume Selector (OFF / LOW / HIGH).

Programming References
No programming required.

Feature References None

Operation References Configuration,
—User Manual Volume Control – Handset Receiver/Headset/Ringer/Speaker

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 on “Programming Tables.”

Required Telephone Set

One of the following digital proprietary telephone (DPT) is required for system programming: KX-T7235, KX-T7230

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.”

User Programming Mode

Some programming items are allowed to any display DPT user in the system. See Section 4.1.4 “User Programming Mode.”

4.1.1 Using the Digital Proprietary Telephone

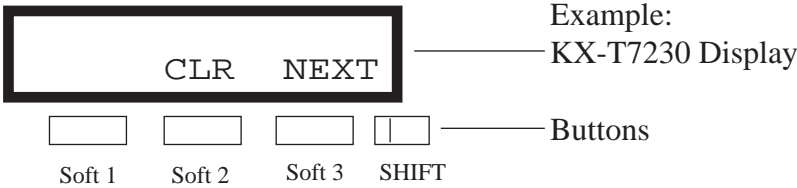
Soft Buttons and SHIFT Button on the Display DPT

Three soft buttons are provided just below the display on the display Digital Proprietary Telephones (DPT). The functions of these soft buttons vary as the programming procedures advance from step to 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.)

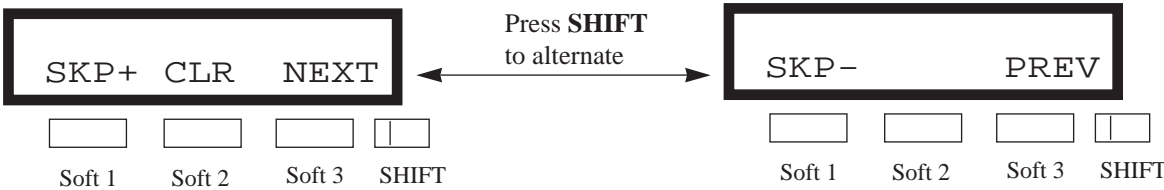
If the **SHIFT** button indicator is on, two functions are available with each soft button. To alternate between the two functions, press the **SHIFT** button on the right side of the display.

Soft button variations

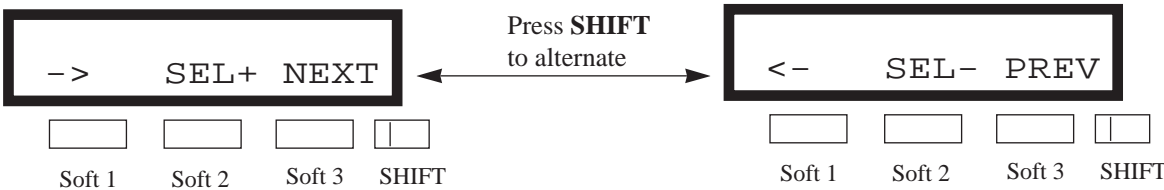
Type 1



Type 2

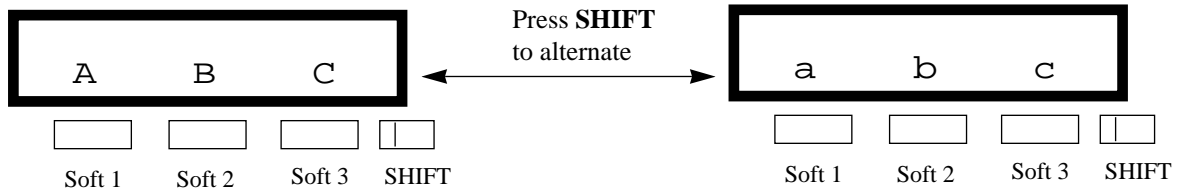


Type 3

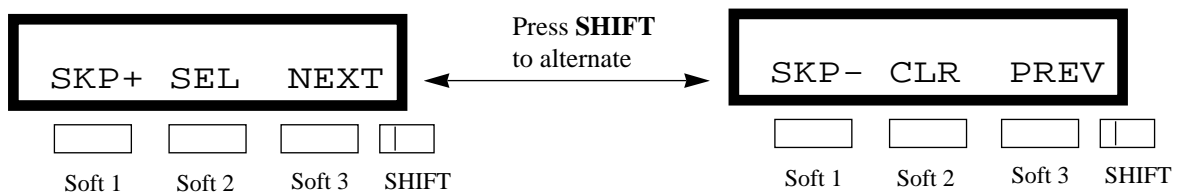


4.1.1 Using the Digital Proprietary Telephone

Type 4



Type 5



You can use either the soft buttons or the overlay buttons. (For overlay buttons, refer to “Using the Overlay” below.) Throughout the programming you will see instructions such as “Press **PREV.**” If you use the soft buttons, this means press **SHIFT**, release **SHIFT** and then press **Soft 3**. The (PREV) function is performed.

Note If you use the 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 names are in parentheses.)

4.1.1 Using the Digital Proprietary Telephone

During Operation

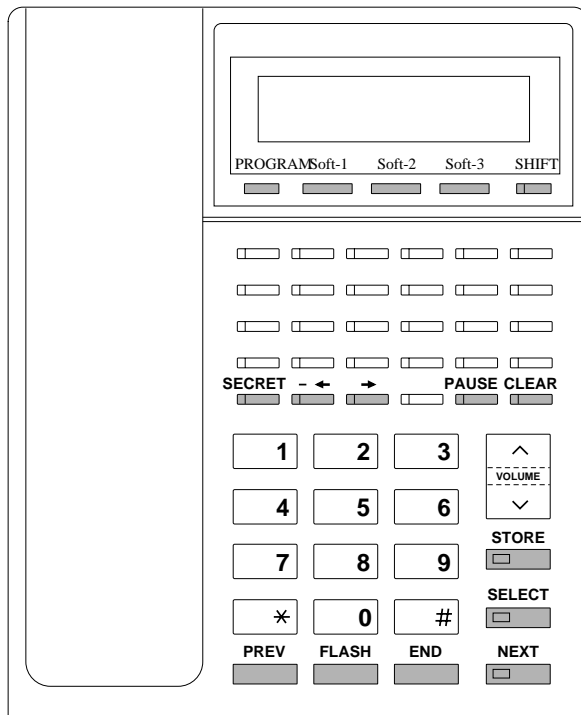
- (PAUSE)
- (SP-PHONE)
- (REDIAL)
- (AUTO ANSWER / MUTE)
- (RECALL)
- (TRANSFER)
- (FWD/DND)
- (CONF)
- (INTERCOM)
- (AUTO DIAL / STORE)
- (HOLD)

During Programming

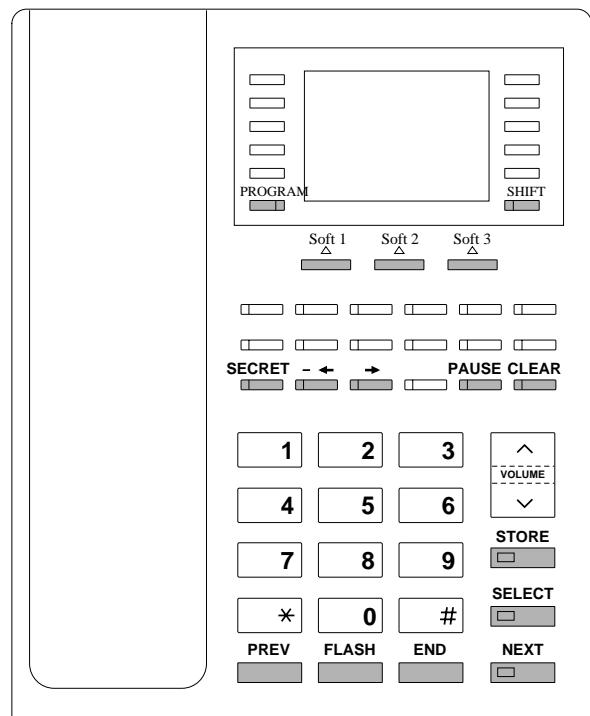
- PROGRAM**
- NEXT**
- PREV (PREVIOUS)**
- SELECT**
- RECALL**
- CLEAR**
- ➡**
- / ⬅**
- SECRET**
- STORE**
- END**

Location of Controls with the Overlay

The pictures below show the functions of the buttons of the KX-T7230 and KX-T7235 while in programming mode.



KX-T7230



KX-T7235

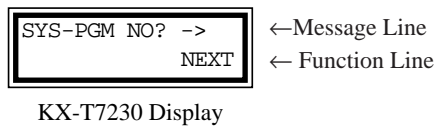
4.1.1 Using the Digital Proprietary Telephone

Viewing the Display

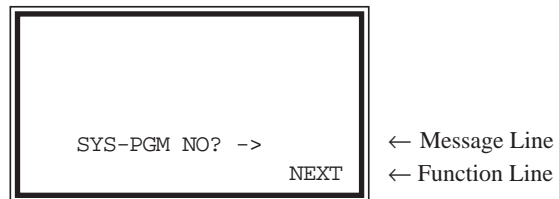
The display gives you helpful information, such as what you should do now, what you have done, etc..

The KX-T7230 and the KX-T7235 both 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.



KX-T7230 Display



KX-T7235 Display

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 + * + #** and enter your **System Password (default=1234)**.

- The display shows the Initial Message: SYS-PGM NO? ->

- Notes**
- If nothing is entered in five seconds after the **PROGRAM** 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 digital proprietary telephone can be in programming mode at any one time.

4.1.2 Programming Ways

Advancing to the next stage

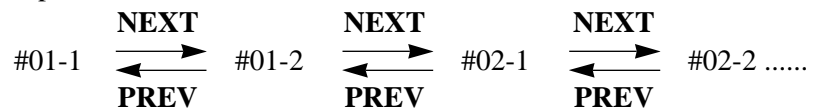
When “SYS-PGM NO? ->” is displayed, you can select one of the following:

- To go to program [000], press the **NEXT** button.
- To go to another program, enter the program address.

Rotation of jack number

Each jack of our Digital Super Hybrid System supports the connection of a digital proprietary telephone and an analog 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] and [601] through [609].

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 confirmation tone sounds.

* **Confirmation tone (one beep)**

After pressing **STORE**, you will hear a beep. This informs you that your storage is completed.

* **Alarm tone (three beeps)**

If you hear the alarm, check that your entry is 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 (DOWN)**. You can move in reverse order from [008] to [007], etc. by pressing the **SKP-** or **VOLUME (UP)**. This method can also be used to move between neighboring program groups: For example, you can move between the program addresses [008] and [100], [120] and [200], and so on. Also, you can move between the smallest program address [000] and the largest one [992].

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 (DOWN)** nor **SKP- / VOLUME (UP)** is convenient in this case. So you should press **END** and enter 301.

| |
|---|
| Note The following programming instructions suppose that you have already entered 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** button.
(To display the Initial Message, press **END**.)

4.1.3 Entering Characters

You can enter characters to store names for speed dial numbers, extension numbers, etc., by using the dialing key pad and the buttons.

Each of twelve dialing keys on the dialing key pad has seven characters assigned. See the Combination Tables below.

| Step 1. Press | Step 2. Press | Soft 1 (SHIFT) | Soft 2 (SHIFT) | Soft 3 (SHIFT) |
|------------------|------------------|-------------------|-------------------|-------------------|
| 1 | | Q | Z | ! |
| | | q | z | ? |
| 2 | | A | B | C |
| | | a | b | c |
| 3 | | D | E | F |
| | | d | e | f |
| 4 | | G | H | I |
| | | g | h | i |
| 5 | | J | K | L |
| | | j | k | l |
| 6 | | M | N | O |
| | | m | n | o |
| 7 | | P | R | S |
| | | p | r | s |
| 8 | | T | U | V |
| | | t | u | v |
| 9 | | W | X | Y |
| | | w | x | y |
| 0 | | . | , | : |
| | | ' | : | ; |
| * | | / | - | < |
| | | + | = | > |
| # | | \$ | & | (|
| | | % | @ |) |

Combination Table 1

* Press **SHIFT** to alternate between capital and small letters.

| Pressing SELECT (Times) | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|-------------------------------|---|----|---|---|---|---|---|
| 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 | R | r | S | s |
| 8 | 8 | T | t | U | u | V | v |
| 9 | 9 | W | w | X | x | Y | y |
| 0 | 0 | . | , | ' | : | ; | |
| * | * | / | + | - | = | < | > |
| # | # | \$ | % | & | @ | (|) |

Combination Table 2

4.1.3 Entering Characters

To select a desired character, press the key which has.
For example, to select the letter “M”:
Select either of the following two methods:

- (1) Using the **SHIFT** and **Soft** buttons
* 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 2.
 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.

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**.

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 |

4.1.3 Entering Characters

9. Press **Soft 2** (e).

| | | |
|---|------|---|
| | Mike | |
| d | e | f |

Using method (2)

* See Combination Table 2.

The display shows:

- | | |
|------------------------------------|------|
| 1. Enter 6 . | 6 |
| 2. Press SELECT . | M |
| 3. Enter 4 . | M4 |
| 4. Press SELECT six times. | Mi |
| 5. Enter 5 . | Mi5 |
| 6. Press SELECT four times. | Mik |
| 7. Enter 3 . | Mik3 |
| 8. Press SELECT four times. | Mike |

- Notes**
- To erase all the letters, press **CLEAR**.
 - To erase the last letter, press **←**.

4.1.4 User Programming Mode

Some programming items are permitted to any display digital proprietary telephone user in the system.

The programming items are listed below:

[000] Date and Time Set

[001] System Speed Dialing Number Set

[002] System Speed Dialing Name Set

[003] Extension Number Set

[004] Extension Name Set

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** + * + * 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.

- Notes**
- If nothing is entered in five seconds after the **PROGRAM** 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 digital proprietary telephone can be in programming mode at any one time.

4.1.5 Example of Programming

The following programming instructions suppose that you have already entered 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>System Speed Dialing Number Set</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> <p>1. Enter 001.⁽⁸⁾ Display: SPD Number Set⁽⁹⁾</p> <p>2. Press NEXT.⁽¹⁰⁾ Display: SPD Code?->⁽¹¹⁾</p> <p>3. Enter a speed dial number. To enter speed dial number 000, you can also press NEXT. Display example: 000:Not Stored⁽¹²⁾</p> <p>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.</p> <p>5. Press STORE.⁽¹⁵⁾</p> <p>6. To program another speed dial number, press NEXT or PREV, or SELECT and the desired speed dial number.⁽¹⁶⁾</p> <p>7. Repeat steps 4 through 6. ⁽¹⁷⁾</p> <p>8. Press END. ⁽¹⁸⁾</p> <p>Conditions⁽¹⁹⁾ • There is a maximum of 500 speed dial numbers. Each speed dial</p> | <p>(1) Program address: This address is printed at the top of every page to allow you to quickly find the desired program.</p> <p>(2) Running title: tells you which group the program belongs to.</p> <p>(3) Program title.</p> <p>(4) Provides a more detailed description of the program.</p> <p>(5) Shows you choices that you can assign.</p> <p>(6) Shows you the default (factory setting).</p> <p>(7) Shows you programming procedures step by step.</p> <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.) <p>(8) Enter the program address.</p> <p>(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.</p> <p>(10) Press either Soft 3 (NEXT) shown on the display or the NEXT shown on the overlay.</p> <p>(11) The message line advises you to enter a speed dial number.</p> <p>(12) If the telephone number has already been stored, the number is displayed.</p> <p>(13) Enter the telephone number that you want to store. Your entry is displayed as you enter the digits.</p> <p>(14) Pressing CLEAR erases the whole entry.</p> <p>(15) Your entry is now stored. The indicator lights red and confirmation tone lets you know that the storage is completed.</p> <p>(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</p> |

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>number has a maximum of 24 digits. The valid characters are 0 through 9, * and # keys, FLASH, PAUSE, SECRET and – (hyphen) buttons.</p> <ul style="list-style-type: none"> • • • • • <p>Feature References⁽²⁰⁾ Section 3, Features, Special Display Features for KX-T7235 — System Speed Dialing 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] – [010] | Manager Programming | These programs may meet frequent changes requested by the customer. |
| [100] – [121] | System Programming | Entire system programming. |
| [200] – [213] | Timer Programming | Flexible system timer setting. |
| [300] – [331] | TRS/ARS Programming | Assignment of Toll Restriction and ARS. |
| [400] – [435] | CO Line Programming | Setting of CO line and CO line group values. |
| [500] – [508] | COS Programming | Setting of Class of Service (COS). |
| [600] – [610] | Extension Programming | Setting of extension values. |
| [800] – [816] | 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 Dialing Number Set

| | |
|--------------------|---|
| Description | Used to program the System Speed Dial numbers. These numbers are available to all extension users. There are 500 numbers from 000 through 499. |
| 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, PAUSE, SECRET and – (hyphen) buttons.<ul style="list-style-type: none">– To store the register recall signal, press RECALL. 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 Dialing 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 Dialing.”)
- If you are storing an external number, include the line access code (default=9, 81 through 88) before the number. When dialing, pause is automatically inserted after the 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 Dialing 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 Dialing Name Set” is used to give names to speed dial numbers.

Feature References

Section 3, Features,
Special Display Features for KX-T7235 — System Speed Dialing
System Speed Dialing

System Speed Dialing Name Set

| | |
|---------------------------|---|
| Description | Assigns names to the system speed dial numbers assigned in program [001] “System Speed Dialing Number Set.” The large display telephone (KX-T7235) shows the stored name when performing System Speed Dialing. |
| Selection | <ul style="list-style-type: none">• Speed dial number: 000 through 499• Name: 10 characters (max.) |
| Default | All speed dial numbers – Not stored |
| Programming | <ol style="list-style-type: none">1. Enter 002. Display: SPD Name 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 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 name5. 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">• Speed dial numbers are programmed in program [001] “System Speed Dialing Number Set.”• There is a maximum of 500 names. Each name has a maximum of 10 characters.• The stored names are applied to the CO Incoming Call Information Display / Log feature.• To go to another speed dial number at steps 3 through 6, press SELECT and start with step 3. |
| Feature References | Section 3, Features, Special Display Features for KX-T7235 — System Speed Dialing |

*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 [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 for KX-T7235 — Extension Dialing

Extension Name Set

| | |
|--------------------|--|
| Description | Assigns names to the extension numbers programmed in program [003] “Extension Number Set.” |
| 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)• Name: 10 characters (max.) |
| Default | All jacks – Not stored |
| Programming | <ol style="list-style-type: none">1. Enter 004. Display: EXT Name Set2. 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: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 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 names for KX-TD816, and 128 names for KX-TD1232. Each name has a maximum of 10 characters.• Program [003] “Extension Number Set” is used to assign extension numbers. |

Extension Name Set (contd.)

- 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,
Display, Call Information
Intercom Calling
Special Display Features for KX-T7235 — Extension Dialing

*Flexible CO Button Assignment***Description**

Used to determine the use of the flexible CO buttons on digital 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 08 (CO line number) KX-TD1232: 01 through 24 (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 |
| 8 (Voice Mail Transfer) | 2 through 4 digits (Extension number) |
| * (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
- 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

Flexible CO Button Assignment (contd.)

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."
- 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 Digital Proprietary Telephones.") To program 24 CO buttons, use the digital proprietary telephone, KX-T7230.
- If you press the same CO button again at 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 Digital Proprietary Telephones

Operator / Manager Extension Assignment

| | |
|---------------------------|--|
| 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) / OPE-2 (operator 2) / MNGER (manager) • Jack number: KX-TD816 – 01 through 16 KX-TD1232 – 01 through 64 |
| Default | Operator 1 – Jack 01; Operator 2 and Manager – Not stored |
| Programming | <ol style="list-style-type: none"> 1. Enter 006. Display: Operator/Manager 2. Press NEXT to program operator 1. Display: OPE-1: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 digital proprietary telephone jack is treated as the manager / operator extension. • If there is no operator or manager, press CLEAR at step 3. |
| Feature References | <p>Section 3, Features, Manager Extension</p> <p style="text-align: right;">Operator</p> |

4.2 Manager Programming

007

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; 1 through 4 KX-TD1232; 1 through 4 (for Master), 5 through 8 (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 Asn2. Press NEXT. Display: DSS NO?->3. Enter a DSS Console number. To enter DSS Console number 1, you can also press NEXT. Display example: DSS-1:# 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-1:#02 P:#037. Press STORE.8. To program another DSS Console, press NEXT or PREV, or SELECT and the desired DSS Console number. |

DSS Console Port and Paired Telephone Assignment (contd.)

9. Repeat steps 4 through 8.
10. Press **END**.

Conditions

- There is a maximum of four DSS Consoles per system. System Connection* permits eight DSS Consoles. Each DSS Console must be assigned to a DSS Console jack and paired with a digital proprietary telephone jack in the same system.
- For KX-TD816, DSS Consoles 1 through 4 must be assigned to a jack number between 02 and 16.
- For KX-TD1232, DSS Consoles 1 through 4 must be assigned to a jack number between 02 and 32 and DSS Consoles 5 through 8 must be assigned to a jack number between 33 and 64, if available.
- DSS Consoles in the out-of-service system are unassignable. Jack numbers in the out-of-service system are unacceptable.
- 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 digital 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."
- If all incoming CO 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.

Feature References

Section 3, Features,
DSS Console (KX-T7240)

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 Asn2. Press NEXT. Display: MSG NO?->3. Enter a message number. To enter message number 1, you can also press NEXT. Display example: MSG1:Will Return4. 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 | | | | | | | | |

Absent Messages (contd.)

through 99, * 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

Budget Management

| | |
|---------------------------|--|
| Description | Assigns the charge limitation of a call 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)• Charge limitation (Pulse) : 0 through 59999 |
| Default | All jacks – 0 Pulse |
| Programming | <ol style="list-style-type: none">1. Enter 009. Display:Charge Limit2. Press NEXT. Display:Jack NO?->3. Enter a jack number. To enter jack number 01, you can also press NEXT. Display example: #01-1: 04. 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. Press END. |
| Conditions | <ul style="list-style-type: none">• If the charge limitation is set to “0,” no restriction is applied.• 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, Budget Management |

Charge Margin Rate

| | |
|---------------------------|--|
| Description | Assigns the margin rate of a telephone charge. |
| Selection | Margin (%): 0 through 999 |
| Default | 0% |
| Programming | <ol style="list-style-type: none">1. Enter 010. Display: Charge Margin2. Press NEXT. Display: Margin: 0%3. Enter a charge margin rate. To delete the charge limitation, press CLEAR.4. Press STORE.5. Press END. |
| Conditions | $\text{Telephone charge} = \text{Real charge} \times \left(\frac{100 + \text{rate}}{100} \right)$ <p>The telephone charge will be printed out when checking out.</p> |
| Feature References | Section 3, Features, HOTEL APPLICATION – Check-In / Check-Out |

Flexible Numbering

Description

Assigns the leading digits of extension numbers and feature numbers for system features.

Selection

- Selection number: **01 through 56** (See “Feature Number List” on page 4-35 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 56)

Default

See “Feature Number List” on page 4-35.

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**.

Flexible Numbering (contd.)

3. Enter **00**.

Display: All Feature CLR?

4. Press **STORE**.

5. Press **END**.

Conditions

- There is a maximum of 16 extension blocks, and 39 feature numbers for KX-TD816 and 37 feature numbers for KX-TD1232.
- 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” 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 dialing 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 program [003] “Extension Number Set” and program [813] “Floating Number Assignment.”

Feature References

Section 3, Features,
Flexible Numbering

Flexible Numbering (contd.)

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 / ARS | 9 |
| 19 | CO line group line access | 8 |
| 20 | System speed dialing | * |
| 21 | Station speed dialing | 6* |
| 22 | Station speed dialing 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 |
| 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 set / cancel / callback | 70 |
| 42 | Call forwarding / do not disturb set / cancel | 710 |
| 43 | Call pickup deny set / cancel | 720 |
| 44 | Data line security set / cancel | 730 |
| 45 | Call waiting set / cancel | 731 |
| 47 | Pickup dialing program set / cancel | 74 |
| 48 | Absent message set / cancel | 750 |
| 49 | Timed reminder set / cancel / confirm | 76 |
| 50 | Electronic station lockout set / cancel | 77 |
| 51 | Night service mode set / cancel | 78 |
| 52 | Parallel telephone mode set / cancel | 69 |
| 53 | Background music – external on / off | 65 |
| 54 | CO incoming call information log mode | 56 |
| 55 | CO incoming call information log lock | 57 |
| 56 | Timed reminder, remote | 7* |

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 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 Time2. 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 PM4. 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 Access2. Press NEXT. Display example: Access:123456783. 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 Automatic Route Selection mode is turned off in program [312] “ARS Mode.” |
| Feature References | Section 3, Features, Line Access, Automatic Line Access, Direct Line Preference – Outgoing |

*Station Hunting Type***Description**

Used to enable or disable hunting and set the Station Hunting type for each extension group. There are four Station Hunting types available: Circular, Termination, Voice Mail (VM), and Automated Attendant (AA). If circular hunting is assigned for a group, all the extensions in the group are hunted until an idle one is found. If termination hunting is assigned, hunting stops at the extension which has the largest jack number in the group. If VM hunting is assigned, all 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 the AA ports of an extension group are hunted until an idle one is found to permit AA Service.

Selection

- Extension group number: **01 through 16**, * (* =all extension groups)
- **Disable** (no hunting) / **Terminate** (termination) / **Circular** / **VM** (voice mail) / **AA** (automated attendant)

Default

All extension groups – Disable

Programming

1. Enter **106**.
Display: Call Hunting
2. Press **NEXT**.
Display: EXT GRP NO?->
3. Enter an **extension group number**.
To enter extension group number 1, you can also press **NEXT**.
Display example: Group1: Disable
4. Keep pressing **SELECT** until the desired selection is displayed.
5. Press **STORE**.
6. To program another extension group, press **NEXT** or **PREV**, or **SELECT** and the desired **extension group number**.
7. Repeat steps 4 through 6.
8. Press **END**.

Conditions

- Program [602] “Extension Group Assignment” is used to assign the extension group members.
- The system supports a maximum of 8 jacks (16 jacks during System Connection for KX-TD1232) for connection to a Voice Processing System as VM or AA ports.

Feature References

Section 3, Features,
Station Hunting

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 Digital 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 digital 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 digital 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 system. This allows the system to identify the card and/or unit in each expansion location.

Selection

KX-TD816

- Areas 1; 2 (Expansion Area) = **C (4CO) / S (2S0) / E (EXT) / D (4DID)**

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) / E1 (EXT1) / E2 (EXT2) / D (4DID)**

Default

KX-TD816: 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;E
3. Keep pressing **SELECT** until the desired selection is displayed.
4. Press **STORE**.
5. 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
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.

Expansion Card / Unit Type (contd.)

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

- 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.
- There are two expansion areas in KX-TD816, areas 1 and 2 from bottom to top.
- For KX-TD1232, there is one expansion area inside the system, area 1, and there are three expansion area 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

VM Status DTMF Set

| | |
|--------------------|--|
| Description | <p>Sets the DTMF signals transmitted to your Voice Processing System (VPS) to inform the VPS of the VPS ports states quickly: The following signals are sent to the VPS with the assigned DTMF signals:</p> <p>RBT (ringback tone) : This signal is sent when calling an extension.</p> <p>BT (busy tone) : This is sent when the called extension is busy.</p> <p>ROT (reorder tone) : This is sent when the dialed number is invalid.</p> <p>DND (DND tone) : This is sent when the other extension has DND assigned.</p> <p>Answer : This is sent when the other extension answers the call.</p> <p>Disconnect : This is sent when the other extension hangs up.</p> <p>Confirm (confirmation tone) : This is sent when the feature number for “Message Waiting Lamp” is valid.</p> <p>FWD VM RBT (FWD to VM ringback tone) : Not available (reserved).</p> <p>FWD VM BT (FWD to VM busy tone) : This is sent when the called extension has set Call Forwarding to VPS.</p> <p>FWD EXT RBT (FWD to extension ringback tone) : Not available (reserved).</p> |
| Selection | <ul style="list-style-type: none"> • RBT / BT / ROT / DND / Answer / Disconnect / Confirm / FWD VM RBT / FWD VM BT / FWD EXT RBT • DTMF signal number: 3 digits (max.) |
| Default | <p>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</p> |
| Programming | <ol style="list-style-type: none"> 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**

- 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

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

- A command signal number can have a maximum of 16 digits, consisting of **0 through 9, *, #, RECALL** and **PAUSE**.
- The **RECALL** 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: P011A30101A

| | |
|---------|------|
| P011A30 | 101A |
| 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 | Assigns the initial display format of charge fee on a display telephone. |
| Selection | AS \$ / Pulse |
| Default | AS \$ |
| Programming | <ol style="list-style-type: none">1. Enter 117. Display: Charge Meter2. Press NEXT. Display example: AS \$3. 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 Verification Assignment

| | |
|--------------------------|---|
| Description | Assigns the extension which is allowed to refer or clear for the call information on the extension, CO line, account code, and the total. |
| 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 Ext 2. Press NEXT. Display: Jack NO?-> 3. Enter a jack number. To enter jack number 01, you can also press NEXT. Display example: #01:Enable 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. 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. • 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 Reference | Section 3, Features, Charge Fee Reference |

Charge Verification ID Code Set

| | |
|--------------------------|---|
| Description | Assigns an ID code required to refer the charge information. |
| Selection | 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.4. Press STORE.5. Press END. |
| Conditions | None |
| Feature Reference | Section 3, Features, Charge Fee Reference |

User Password

| | |
|---------------------------|--|
| Description | <p>Assigns the password required for entering User Programming mode.</p> <p>In the User Programming Mode, any display digital proprietary telephone user in the system can set the following programs:</p> <ul style="list-style-type: none">[000] Date and Time Set[001] System Speed Dialing Number Set[002] System Speed Dialing Name Set[003] Extension Number Set[004] Extension Name Set |
| 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 References | None |

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 121. 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 and the “Check-In / Check-Out” feature is available. |
| Feature Reference | Section 3, Features, HOTEL APPLICATION |

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 Dialing. If the telephone user lifts the handset, the programmed party is called when the time expires. |
| Selection | Time (seconds): 1 through 5 |
| 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 dialing process takes place. |
| Feature References | Section 3, Features, Pickup Dialing |

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 |

CO-to-CO Call Duration Time

| | |
|---------------------------|--|
| Description | Sets the maximum time allowed for a conversation between two outside parties. When the timer expires, the CO-to-CO call is disconnected. |
| Selection | Time (minutes): 1 through 64 |
| Default | 10 min |
| Programming | <ol style="list-style-type: none">1. Enter 206. Display: CO-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 | You cannot leave the entry empty. |
| Feature References | Section 3, Features, Call Forwarding – to CO Line Call Transfer, Screened – to CO Line |

First Digit Time

| | |
|---------------------------|--|
| Description | Sets the maximum time allowed between the start of CO 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 redialing of the last dialed or saved number is done up to the specified number of times. |
| Selection | Number of times: 1 through 30 |
| 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 |

4.4 Timer Programming

211

Dial Start Time

| | |
|---------------------------|---|
| Description | Sets the number of milliseconds the system waits before dialing 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 dialing 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 dialed. 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 | Set the interval time of Message Waiting ring for a single line telephone. |
| Selection | Time (minutes) : 0 through 64 |
| Default | 10 min |
| Programming | <ol style="list-style-type: none">1. Enter 213. 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 to “0,” the telephone does not ring for Message Waiting notification. |
| Feature References | Section 3, Features, Message Waiting |

TRS Override for System Speed Dialing

| | |
|---------------------------|---|
| Description | Allows you to enable toll restriction override for System Speed Dial Numbers. If this is enabled, all extension users can make System Speed Dialing calls with no restriction. |
| Selection | Enable / Disable |
| Default | Disable |
| Programming | <ol style="list-style-type: none">1. Enter 300. Display: SPD Override2. Press NEXT. Display example: Override:Disable3. Keep pressing SELECT until the desired selection is displayed.4. Press STORE.5. Press END. |
| Conditions | Select "Enable" for toll restriction override; Select "Disable" for toll restriction. |
| Feature References | Section 3, Features, Toll Restriction Override for System Speed Dialing |

4.5 TRS/ARS Programming 301-305

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> <ul style="list-style-type: none">Program [301]: restricts levels 2 through 6Program [302]: restricts levels 3 through 6Program [303]: restricts levels 4 through 6Program [304]: restricts levels 5 through 6Program [305]: restricts level 6 |
| 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-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 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 |

306-310 4.5 TRS/ARS Programming

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: 1 through 5• 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 1, you can also press NEXT. Display example: 1: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 Set

| | |
|---------------------------|--|
| Description | Stores up to 10 emergency call numbers. Emergency numbers are not subject to toll restriction, Account Code – Verified mode or Electronic Station Lockout. |
| Selection | <ul style="list-style-type: none">• Location number: 01 through 10• Emergency number: 3 digits (max.) |
| Default | Location 01= 114 / Location 02= 000 |
| Programming | <ol style="list-style-type: none">1. Enter 311. Display: Emergency Dial2. Press NEXT. Display: Location NO?->3. Enter a location number. To enter location number 01, you can also press NEXT. Display example: 01: 1144. 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 maximum of 10 emergency numbers. Each number has a maximum of three digits, consisting of 0 through 9 . |
| Feature References | Section 3, Features, Automatic Route Selection (ARS) Toll Restriction |

ARS Mode

| | |
|---------------------------|--|
| Description | Allows you to turn on or off the Automatic Route Selection (ARS) mode. ARS, 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 312. Display: ARS Mode2. Press NEXT. Display example: ARS:Off3. Press SELECT until the desired selection is displayed.4. Press STORE.5. Press END. |
| Conditions | <ul style="list-style-type: none">• If “Off” is selected, the Automatic Line Access feature functions in place of ARS.• Programs [313] through [331] are used to program ARS. |
| Feature References | Section 3, Features, Automatic Route Selection (ARS) Line Access, Automatic |

ARS Time

| | |
|---------------------------|---|
| Description | Assigns times for the four ARS time schedules. It is possible to split a day into four time zones (maximum) 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 | <ul style="list-style-type: none">• Time schedule: Time-A / Time-B / Time-C / Time-D• Time (hour) : 1 through 12 / Disable (no schedule)• AM / PM |
| Default | Time-A – 8:00 AM; Time-B – 5:00 PM; Time-C – 9:00 PM; Time-D – Disable |
| Programming | <ol style="list-style-type: none">1. Enter 313. Display: ARS Time2. Press NEXT to program Time-A. Display example: Time-A: 8:00 AM To program another time schedule, keep pressing NEXT or PREV until the desired time schedule is displayed.3. Enter the hour. To set no schedule (Disable), press SELECT, and go to step 6. If “Disable” is selected, pressing SELECT shows the previous stored hour. To change the current entry, press CLEAR and the new hour.4. Press ➡ to select AM / PM.5. Press SELECT for AM or PM.6. Press STORE.7. To program another time schedule, keep pressing NEXT or PREV until the desired time schedule is displayed.8. Repeat steps 3 through 7.9. Press END. |
| Conditions | <ul style="list-style-type: none">• The times must be programmed in sequence from Time-A to Time-D. Enter a starting time for each time schedule. Select “Disable” for an unnecessary schedule.• You cannot leave the entry empty. |
| Feature References | Section 3, Features, Automatic Route Selection (ARS) |

314-321 4.5 TRS / ARS Programming

ARS Leading Digit Entry for Plans 1 through 8

| | |
|---------------------------|---|
| Description | <p>By entering numbers into each leading digit plan (programs below) you are starting the process to determine which CO line group will be used to route the call.</p> <p>Program: [314] [315] [316] [317] [318] [319] [320] [321] Plan: 1 2 3 4 5 6 7 8</p> <p>These eight plans are used to analyze the number which the user dials and to decide the route plan for the call. If the user-dialed number is registered in plan 1, then Routing Plan 1 is selected for the call. ARS Leading Digit Entry for Plans 1 through 8 match ARS Routing Plans 1 through 8 (programs [322] through [329]) respectively.</p> |
| Selection | <ul style="list-style-type: none">• Location number: 01 through 50• Leading digit number: 7 digits (max.) |
| Default | All locations – Not stored |
| Programming | <ol style="list-style-type: none">1. Enter a program address (314 through 321). Display example: ARS Leading PL-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 | <p>There is a maximum of 50 leading digit numbers for each plan. Each number has a maximum of seven digits, consisting of 0 through 9, and *. The character “*” can be used as a wild card character.</p> |
| Feature References | <p>Section 3, Features, Automatic Route Selection (ARS)</p> |

4.5 TRS / ARS Programming 322-329

ARS Routing Plans 1 through 8

Description

Assigns the CO line group and modification plan to be used for each route plan and time schedule.

Program: [322] [323] [324] [325] [326] [327] [328] [329]

Plan: 1 2 3 4 5 6 7 8

Selection

- Time schedule: **A / B / C / D**
- CO line group number: **1 through 8**
- Modification table number: **1 through 8**

Default

All time schedules – Not stored

Programming

1. Enter a **program address (322 through 329)**.
Display example: ARS Route PL-1
2. Press **NEXT** to program time schedule A.
To program another time schedule, keep pressing **NEXT** or **PREV** until the desired time schedule is displayed.
Display example: A:G M , G M , G M
3. Enter a **CO line group number**.
To delete the current entry, press **CLEAR**.
To change the current entry, enter the new number.
4. Press **➡** to enter the paired modification table number.
5. Enter a **modification table number**.
To delete the current entry, press **CLEAR**.
To change the current entry, enter the new modification table number.
6. Press **➡** to enter the next priority CO line group number.
7. Repeat steps 3 through 6 to enter other CO line group numbers and modification table numbers.
8. Press **STORE**.
9. To program another time schedule, keep pressing **NEXT** or **PREV** until the desired time schedule is displayed.
10. Repeat steps 3 through 9.
11. Press **END**.

322-329 4.5 TRS / ARS Programming

ARS Routing Plans 1 through 8 (contd.)

Conditions

- Up to three CO line groups and modification plans can be assigned for each time schedule. A CO line group number and a modification table number must be entered together. The highest priority CO line group number and modification table number is entered first (left to right).
- Programs [330] “ARS Modify Removed Digit” and [331] “ARS Modify Added Number” are used to make up eight Modification Tables.

Feature References

Section 3, Features,
Automatic Route Selection (ARS)

ARS Modify Removed Digit

| | |
|---------------------------|--|
| Description | Determines how the dialed number should be modified before sending to the central office. You can delete the digits from the beginning of the dialed number. |
| Selection | <ul style="list-style-type: none">• Modification table number: 1 through 8• Number of digits to be deleted: 0 through 9 (0=no deleting) |
| Default | All modification tables – 0 |
| Programming | <ol style="list-style-type: none">1. Enter 330. Display: ARS Modify Remov2. Press NEXT. Display: Modify Table?->3. Enter a modification table number. To enter table number 1, you can also press NEXT. Display example: 1:04. Enter the number of digits to be deleted. To change the current entry, enter the new number.5. Press STORE.6. To program another modification table, press NEXT or PREV, or SELECT and the desired modification table number.7. Repeat steps 4 through 6.8. Press END. |
| Conditions | There is a maximum of eight Modification Tables. Each table has a 1-digit number of digits to be deleted. |
| Feature References | Section 3, Features, Automatic Route Selection (ARS) |

ARS Modify Added Number

| | |
|---------------------------|---|
| Description | Determines how the dialed number should be modified before sending to the central office. Digits are added to the beginning of the dialed number. |
| Selection | <ul style="list-style-type: none"> • Modification table number: 1 through 8 • Number to be added: 20 digits (max.) |
| Default | All modification tables – Not stored |
| Programming | <ol style="list-style-type: none"> 1. Enter 331. Display: ARS Modify Add 2. Press NEXT. Display: Modify Table?-> 3. Enter a modification table number. To enter table number 1, you can also press NEXT. Display example:1: 4. Enter the number to be added. 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 modification table, press NEXT or PREV, or SELECT and the desired modification table number. 7. Repeat steps 4 through 6. 8. Press END. |
| Conditions | <ul style="list-style-type: none"> • There is a maximum of eight Modification Tables, each of which can be given a number to be added. • Each number has a maximum of 20 digits, consisting of 0 through 9, *, #, and PAUSE. |
| Feature References | Section 3, Features , Automatic Route Selection (ARS) |

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: KX-TD816 – 01 through 08, * (* =all CO lines) KX-TD1232 – 01 through 24, * (* =all CO lines)• Connect / No Connect |
| Default | All CO lines – Connect |
| Programming | <ol style="list-style-type: none">1. Enter 400. Display: CO Connection2. 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:Connect4. 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. |
| 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 | <ul style="list-style-type: none"> • CO line (CO) number: KX-TD816 – 01 through 08, * (*=all CO lines) KX-TD1232 – 01 through 24, * (*=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 – TRG 8 (for KX-TD816); CO08 through CO24 – TRG 8 (for KX-TD1232) |
| Programming | <ol style="list-style-type: none"> 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 | <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 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 to each line.</p> <p>DTMF: The dialing signals from an extension, either tone or pulse, are converted to tone signals and transmitted to the CO line.</p> <p>Pulse: The dialing 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 dialing 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.• 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: <ul style="list-style-type: none"> 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 Speed 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: CO01:10pps 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 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): 80 / 160 |
| Default | All CO lines – 80 ms |
| Programming | <ol style="list-style-type: none">1. Enter 404. Display: DTMF Time2. 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: 80msec4. 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.)

Feature References Section 3, Features,
 Calling Party Control (CPC) Signal Detection

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 | <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) • Extension number: 2 through 4 digits / Disable (no DIL 1:1) |
| Default | All CO lines – Disable — Day / Night |
| Programming | <ol style="list-style-type: none"> 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 | <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. 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” or floating numbers of pagers and the modem 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 |

4.6 CO Line Programming

409-410

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 Day2. 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:Disable4. 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” 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: TRG1:01,08,10,22 6. 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

Register Recall Signal Time

| | |
|---------------------------|---|
| Description | Assigns the length of the register recall signal time. If your system is installed behind a host PBX, External Feature Access (EFA) is necessary to obtain its services. To enable it, select a required register recall signal sending time for the CO line group. |
| Selection | <ul style="list-style-type: none">• CO line group (TRG) number: 1 through 8, * (* =all CO line groups)• Time (milliseconds): Disable (no EFA) / 80 / 96 / 112 / 200 / 300 / 400 / 500 / 600 / 700 / 800 / 900 / 1000 / 1100 / 1200 |
| Default | All CO line groups – 96 ms |
| Programming | <ol style="list-style-type: none">1. Enter 413. Display: Register Recall2. 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: 600msec4. 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">• You may disable EFA, if not required. The Recall feature will be in effect in place of EFA. Program [414] “Disconnect Time” is used to select the time required for the Recall feature.• The register recall signal time required is determined by the central office or the host PBX lines.• 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, External Feature Access Recall |

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 Time 2. 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: TRG1:2.0sec 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"> • 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 dialing sequence and an attempt to make a call may be terminated. If your CO is such a type, select “Disable.” • CPC Signal Detection is effective only with the 4-DID Line Unit (KX-TD185) (KX-TD816: CO05 through CO08, KX-TD1232: CO09 through CO12 – Master / CO21 through CO24 – Slave). In this case, “D (4DID)” must be selected in program [109] “Expansion Card / Unit Type.” |

CPC Signal Detection Outgoing Set (contd.)

- Program [405] “CPC Signal Detection Incoming Set” is used to set CPC Signal Detection Time.
- 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

ISDN Line Number Assignment

| | |
|---------------------------|---|
| Description | Assigns your telephone number of the ISDN network line. Your telephone number is informed to the called party with the CLIP (Calling Line Identification Presentation) feature offered by the ISDN network service. |
| Selection | <ul style="list-style-type: none">• CO line number: KX-TD816 – 05 through 08 KX-TD1232 – 01 through 24• Telephone number: 16 digits (max.) |
| Default | All CO lines – Not stored |
| Programming | <ol style="list-style-type: none">1. Enter 416. Display: ISDN CO NO.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 Stored4. Enter the 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, 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 display parts of the number which have scrolled off the display, press ▶ or ◀.• Your telephone number is informed to the called party if outgoing CLIR feature is disabled for the ISDN S0 line by program [417] “ISDN Outgoing CLIR Service Assignment.” |
| Feature References | Section 3, Features, CO Incoming Call Information Display CO Incoming Call Information Log Direct Dialing In (DDI) |

ISDN Outgoing CLIR Service Assignment

| | |
|---------------------------|---|
| Description | Assigns whether ISDN CLIR (Calling Line Identification Restriction) service is enabled or disabled for outgoing outside calls. If disabled, the subscriber's number of your system is informed to the called party. |
| Selection | <ul style="list-style-type: none"> • CO line number: KX-TD816 – 05 through 08, * (*=all CO lines) KX-TD1232 – 01 through 24, * (*=all CO lines) • Enable / Disable |
| Default | All CO lines – Enable |
| Programming | <ol style="list-style-type: none"> 1. Enter 417. Display: ISDN CLIR Send 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:Enable 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. • Program [416] "ISDN Line Number Assignment" is used to store the subscriber's number of your system that is informed to the called party. |
| Feature References | Section 3, Features, Calling Line Identification Restriction (CLIR) CO Incoming Call Information Display |

ISDN DDI Service Assignment

| | |
|---------------------------|---|
| Description | Enables or disables ISDN DDI service per CO line. |
| Selection | <ul style="list-style-type: none">• CO line number: KX-TD816 – 05 through 08, * (* =all CO lines) KX-TD1232 – 01 through 24, * (* =all CO lines)• Enable / Disable |
| Default | All CO lines – Disable |
| Programming | <ol style="list-style-type: none">1. Enter 418. Display: ISDN DDI2. 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:Disable4. 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. |
| Feature References | Section 3, Features, Direct Dialing In (DDI) |

CO Line Name Assignment

| | |
|---------------------------|---|
| Description | Used to set names to CO lines. The preset name is shown on a display proprietary telephone when an incoming outside call is placed to the telephone. |
| 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) • Name: 10 characters (max.) |
| Default | All CO lines – Not stored |
| Programming | <ol style="list-style-type: none"> 1. Enter 419. 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 | <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. • 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 at step 3. In this case, the display shows the contents programmed for CO01. |
| Feature References | Section 3, Features , Display, Call Information |

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 420. 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 |

DID Table Number Assignment

| | |
|---------------------------|--|
| Description | Assigns DID table number to each CO line group. |
| Selection | <ul style="list-style-type: none"> • CO line group (TRG) number: 1 through 8, * (*=all CO line groups) • DID table number: 1 through 4 |
| Default | All CO line groups – Not stored |
| Programming | <ol style="list-style-type: none"> 1. Enter 430. Display: DID Table 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:Not Stored 4. Enter a DID table number. To change the current entry, press CLEAR and the new number. 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 | This is the first and the basic programming for the DID feature. If the assignment is changed here, it affects the other programmings ([431] through [435]). |
| Feature References | Section 3, Features, Direct Inward Dialing (DID) |

DID Incoming Assignment

| | |
|---------------------------|--|
| Description | Assigns DID incoming method, immediate or wink, to each DID table in accordance with the service of your central office. Immediate: Incoming DID call can be received right after receiving signal arrives. Wink: Incoming DID call can be received after the wink signal is transmitted to the central office (after receiving signal arrives). |
| Selection | <ul style="list-style-type: none">• DID table number: 1 through 4, * (*=all DID tables)• Immediate / Wink |
| Default | All DID tables – Wink |
| Programming | <ol style="list-style-type: none">1. Enter 431. Display: DID In Asn2. Press NEXT. Display: DID Table NO?->3. Enter a DID table number. To enter DID table number 1, you can also press NEXT. Display example: 1:Wink4. Keep pressing SELECT until the desired selection is displayed.5. Press STORE.6. To program another DID table, press NEXT or PREV, or SELECT and the desired DID table number.7. Repeat steps 4 through 6.8. Press END. |
| Conditions | To assign all DID tables to one selection, press the * key at step 3. In this case, the display shows the contents programmed for DID table number 1. |
| Feature References | Section 3, Features, Direct Inward Dialing (DID) |

DID Outgoing Assignment

| | |
|---------------------------|---|
| Description | Assigns DID outgoing method, immediate or wink, to each DID table in accordance with the service of your central office. Immediate: Outgoing DID number can be transmitted right after seizing the CO line. Wink: Outgoing DID number can be transmitted after receiving the wink signal from the central office after seizing the CO line. |
| Selection | <ul style="list-style-type: none">• DID table number: 1 through 4, * (*=all DID tables)• Immediate / Wink |
| Default | All DID tables – Wink |
| Programming | <ol style="list-style-type: none">1. Enter 432. Display: DID Out Asn2. Press NEXT. Display: DID Table NO?->3. Enter a DID table number. To enter DID table number 1, you can also press NEXT. Display example: 1:Wink4. Keep pressing SELECT until the desired selection is displayed.5. Press STORE.6. To program another DID table, press NEXT or PREV, or SELECT and the desired DID table number.7. Repeat steps 4 through 6.8. Press END. |
| Conditions | <ul style="list-style-type: none">• The time the system waits for the confirmation wink signal can be programmed in program [435] “DID Wink Time Out Assignment.” The system disconnects the CO line when the time-out time expires.• To assign all DID tables to one selection, press the * key at step 3. In this case, the display shows the contents programmed for DID table number 1. |
| Feature References | Section 3, Features, Direct Inward Dialing (DID) |

DID Subscriber Number Removed Digit and Received Digit

| | |
|---------------------------|--|
| Description | Assigns received digits of DID subscriber number to each DID table. Besides, removed digits from the received digits can be programmed. In this case, digits are removed from the beginning of the received digits. |
| Selection | <ul style="list-style-type: none">• DID table number: 1 through 4• Number of digits to be deleted (RMV): 0 through 6 (0=no deleting)• Number of digits to be received (RCV): 1 through 7 |
| Default | <ul style="list-style-type: none">• All DID tables – RMV:0• DID table 1 – RCV:1, other DID tables – RCV:3 |
| Programming | <ol style="list-style-type: none">1. Enter 433. Display: DID RMV/RCV Dial2. Press NEXT. Display: DID Table NO?->3. Enter a DID table number. To enter DID table number 1, you can also press NEXT. Display example: 1:RMV:1,RCV:24. Enter the number of digits to be deleted or received. To change the current entry, press CLEAR and the new number.5. Press STORE.6. To program another DID table, press NEXT or PREV, or SELECT and the desired DID table number.7. Repeat steps 4 through 6.8. Press END. |
| Conditions | You cannot leave the entry empty. |
| Feature References | Section 3, Features, Direct Inward Dialing (DID) |

DID Added Number

| | |
|---------------------------|--|
| Description | Assigns added number to the DID subscriber number which is determined in program [433] “DID Subscriber Number Removed Digit and Received Digit” to make the final number which serves as the extension number. Note that digits are inserted at the beginning of the number. |
| Selection | <ul style="list-style-type: none">• DID table number: 1 through 4• Number of digits to be added: 3 digits (max.) |
| Default | All DID tables – Not stored |
| Programming | <ol style="list-style-type: none">1. Enter 434. Display: DID Add Dial2. Press NEXT. Display: DID Table NO?->3. Enter a DID table number. To enter DID table number 1, you can also press NEXT. Display example: 1:1024. Enter the number to be added. To change the current entry, press CLEAR and the new number.5. Press STORE.6. To program another DID table, press NEXT or PREV, or SELECT and the desired DID table number.7. Repeat steps 4 through 6.8. Press END. |
| Conditions | Each added number has a maximum of 3 digits, consisting of 0 through 9 . |
| Feature References | Section 3, Features, Direct Inward Dialing (DID) |

DID Wink Time Out Assignment

Description

DID outgoing method can be set to wink mode in program [432] “DID Outgoing Assignment.” This program sets the time the system waits for the confirmation wink signal after CO line is seized in accordance with the service of your central office. The system disconnects the CO line when the time-out time expires.

Selection

- DID table number: **1 through 4**, * (*=all DID tables)
- Time: **1 through 127** (× 64 milliseconds is the actual time)

Default

All DID tables – 16

Programming

1. Enter **435**.
Display: Wink Timeout
2. Press **NEXT**.
Display: DID Table NO?->
3. Enter a **DID table number**.
To enter DID table number 1, you can also press **NEXT**.
Display example: 1:16
4. Enter the **time**.
To change the current entry, press **CLEAR** and the new number.
5. Press **STORE**.
6. To program another DID table, press **NEXT** or **PREV**, or **SELECT** and the desired **DID table number**.
7. Repeat steps 4 through 6.
8. Press **END**.

Conditions

- You cannot leave the entry empty.
- To assign all DID tables to one selection, press the * key at step 3. In this case, the display shows the contents programmed for DID table number 1.

Feature References

Section 3, Features,
Direct Inward Dialing (DID)

*Pay Tone Assignment**

| | |
|---------------------------|--|
| Description | Enables Pay Tone of the Central Office. Your Central Office sends the pay tone or the ISDN S0 line sends pay message so that the counting for fee starts for the call. |
| Selection | <ul style="list-style-type: none"> • CO line number: 01 through 24, * (* =all CO lines) • Enable / Disable |
| Default | All CO lines – Disable |
| Programming | <ol style="list-style-type: none"> 1. Enter 436. Display: Pay-Tone 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"> • An optional 4-CO Line Unit (KX-TD180D) or 8-CO Line Card (KX-TD181D) must be installed to receive the pay tone. • An optional 2-ISDN S0 Line Unit (KX-TD280) or 4-ISDN S0 Line Card (KX-TD281) must be installed to receive pay message. • In the case of KX-TD1232, CO01 through CO12 are for the Master System and CO13 through CO24 are for the Slave. • 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, HOTEL APPLICATION |

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> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Call Forwarding – to CO Line</td> <td style="width: 50%;">Conference, Unattended</td> </tr> <tr> <td>Call Transfer, Screened – to CO Line</td> <td>Limited Call Duration</td> </tr> </table> | Call Forwarding – to CO Line | Conference, Unattended | Call Transfer, Screened – to CO Line | Limited Call Duration |
| Call Forwarding – to CO Line | Conference, Unattended | | | | |
| Call Transfer, Screened – to CO Line | Limited Call Duration | | | | |

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 an outside 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 |

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 Assign2. Press NEXT. Display: Jack NO?->3. Enter a jack number. To enter jack number 01, you can also press NEXT. Display example: #01:Disable4. 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. For Check-In Check-Out feature, a primary and secondary COS number can be assigned per extension.

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)
- COS number: **1 through 8**

Default All jacks-1/2 – Primary, Secondary – COS 1, COS 1

Programming

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 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 jack, press **NEXT** or **PREV**, or **SELECT** and the desired **jack number**.
9. Repeat steps 4 through 8.
10. Press **END**.

Class of Service (contd)

Conditions

- 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 [508] and [991].
- A secondary COS number can be assigned per extension only for Check-In / Check-Out feature. To program other extensions, you need only to enter a primary number.
- 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 at step 3. In this case, the display shows the contents programmed for Jack 01.

Feature References

Section 3, Features,
Class of Service (COS)

Extension Group Assignment

Description Assigns each extension to an extension group. Extension groups are used for Group Call Pickup, Station Hunting, and Paging – Group. This program is also used to assign all Voice Mail ports / Automated Attendant ports of your Voice Processing System, if available, to an extension group.

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)
- Extension group number: **01 through 16**

Default All jacks-1/2 – Extension group 1

Programming

1. Enter **602**.
Display: EXT Group Asn
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:EXG1
4. Enter the **extension group number**.
To change the current entry, enter the new extension group 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 16 extension groups. Each extension can only belong to one group.
- 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.
- To assign all jacks to one extension group, press the * key at step 3. In this case, the display shows the contents programmed for Jack 01.

Feature References

| | |
|----------------------|------------------------|
| Section 3, Features, | |
| Call Pickup, Group | Station Hunting |
| Extension Group | Voice Mail Integration |
| Paging – Group | |

603-604 4.8 Extension Programming

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) / **4RNG** (4 ring delay) / **6RNG** (6 rings delay) / **8RNG** (8 rings 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**.

4.8 Extension Programming **603-604**

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) 4 ring delay
 - (3) 6 rings delay
 - (4) 8 rings delay
 - (5) No ring: only the indicator flashes
 - (6) 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

*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 outside calls using the assigned CO lines.

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)
- **Enabl** (enable) / **Disab** (disable)

Default

All jacks-1/2 – all CO lines – Enable — Day / Night

Programming

1. Enter a **program address (605 for day or 606 for night)**.
Display example: CO Out 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:Enabl
4. 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**.

4.8 Extension Programming **605-606**

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

607-608 4.8 Extension Programming

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.• For an explanation of jack numbering, see “Rotation of jack number” on page 4-7. |

4.8 Extension Programming **607-608**

Doorphone Ringing Assignment — Day / Night (contd.)

- 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

- 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

1. Enter **609**.
Display: Mailbox ID 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 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

- 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 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

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 610. Display: DDI No. Trans2. 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: #01-1:0014. 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 Dialing In (DDI) |

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 | Outgoing calls – All; Incoming calls – On |
| Programming | <ol style="list-style-type: none"> 1. Enter 800. Display: Duration Log 2. Press NEXT to program outgoing calls. Display: Outgoing:All 3. Keep pressing SELECT until the desired selection is displayed. 4. Press STORE. 5. Press NEXT to program incoming calls. Display: Incoming:On 6. 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 / 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. For KX-TD816, one music source can be installed. For KX-TD1232, two music sources can be installed per system. 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 which 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 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 BGM 2. Press NEXT. Display: Pager NO?-> 3. Enter an external pager number. To enter pager number 1, you can also press NEXT. Display example: Pager1:Disable 4. 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"> • For KX-TD816, one external pager can be installed. Please skip steps 6 and 7. • The external pager is a user-supplied item. For KX-TD1232, two external pagers can be installed per system. 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">1. Enter 805. Display: Ext-Pag Ack-Tone2. Press NEXT. Display example: Tone:On3. Keep pressing SELECT until the desired selection is displayed.4. Press STORE.5. Press END. |
| Conditions | The external pager is a user-supplied item. For KX-TD816, one external pager can be installed, for KX-TD1232, two external pagers can be installed per system. 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 |

806-807 4.10 Resource Programming

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 (for 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.

4.10 Resource Programming

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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 Leng^t: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 External Pagers, modem,* and the Digital Test Access (DTA). 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 / DTA KX-TD1232 – Pager1 / Pager2 / Pager3 / Pager4 / MODEM / DTA • Floating number: 2 through 4 digits |
| Default | KX-TD816 – Pager 1=296; DTA=299 KX-TD1232 – Pager 1=296; Pager 2=297; Pager 3=396; Pager 4=397; MODEM=399; DTA=299 |
| 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 change the current entry, press CLEAR and 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 through four numerical digits, 0 through 9. • 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 cannot leave the entry empty. |
| 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 Working Report Printout

| | |
|---------------------------|--|
| Description | Starts or stops printing of the system working report. |
| Selection | Start / Stop |
| Default | Not applicable. |
| Programming | <ol style="list-style-type: none">1. Enter 815. Display: SWR 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.• 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.• You cannot restart the printout while records are being output. |
| Feature References | Section 3, Features, System Working Report |

System Working Report Clear

| | |
|---------------------------|---|
| Description | Clears all the recorded data of the System Working Reports. |
| Selection | None |
| Default | Not applicable. |
| Programming | <ol style="list-style-type: none">1. Enter 816. Display: SWR Data Clear2. Press NEXT. Display: Clear3. Press STORE. System Working Report is cleared.4. Press END. |
| Conditions | None |
| Feature References | Section 3, Features, System Working Report |

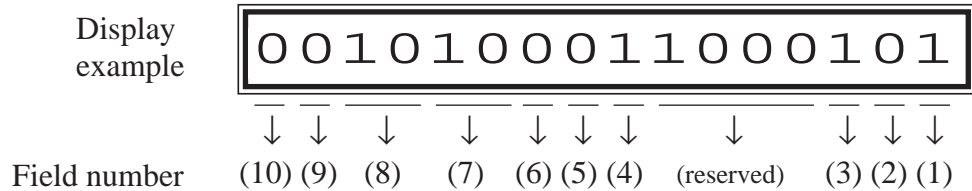
System Additional Information

Description

Adds the following programming items, if required:

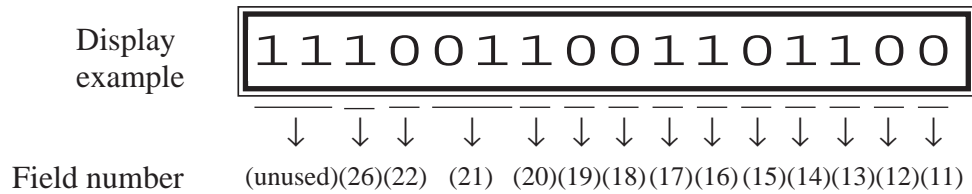
Area 1

There are 10 fields available in Area 1 as follows:



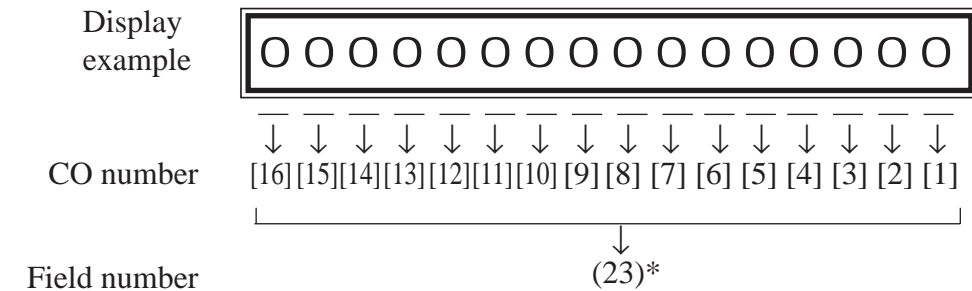
Area 2

There are 13 fields available in Area 2 as follows:



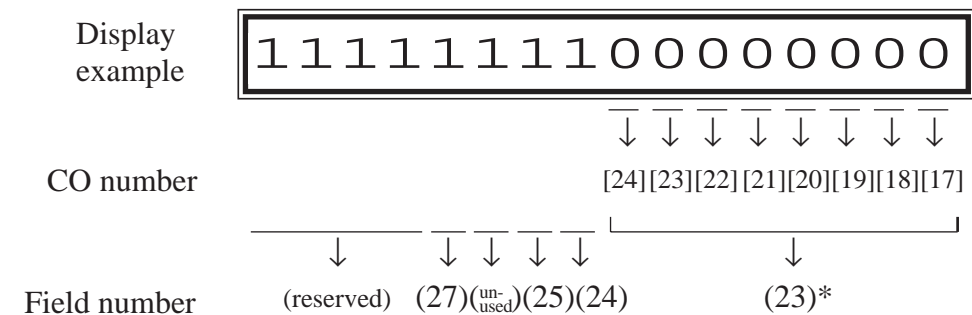
Area 3

KX-TD816 – [1] through [8] below match CO lines 1 through 8:
 KX-TD1232 – [1] through [16] below match CO lines 1 through 16:



Area 4

KX-TD1232 – [17] through [24] below match CO lines 17 through 24:



*: CO numbers [9] through [24] in the field number [23] are available for KX-TD1232 only.

4.11 Option Programming

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System Additional Information (contd.)

Area 5 There is 1 field available in Area 5 as follows:

Display example

| |
|-----------------------------------|
| 1 1 1 1 1 1 1 1 1 1 1 1 1 0 1 1 0 |
|-----------------------------------|

Field number

↓
(unused)

↓ ↓ ↓
(reserved)(30)(reserved)

Explanation for Areas 1 through 5

| Field | Description | Selection | Default | References |
|-------|--|--|---------|---|
| (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 a CO line call; single line telephones only). | 0 : Consultation Hold 1 : disconnection | 0 | Consultation Hold |
| (3) | Result of pressing the RECALL button on proprietary telephones (during a CO line 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 dialing 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 |

System Additional Information (contd.)

| Field | Description | Selection | Default | References |
|-------|---|---|---------|--|
| (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 |
| (11) | If an outside party is transferred and unanswered, assigns whether Transfer Recall occurs at the transfer originating extension or at Operator 1. | 0 : extension 1 : Operator 1 | 0 | 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 dialed “*” 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-dialed “*” 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 |
| (16) | Allows you to remove Confirmation Tone 3. This tone is sent when a conversation is established just after dialing 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 |

4.11 Option Programming

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System Additional Information (contd.)

| Field | Description | Selection | Default | References |
|-------|--|--|---------|--|
| (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 large display digital proprietary telephone (KX-T7235) in Station Speed Dialing. | 0 : names 1 : numbers | 0 | Special Display Features for KX-T7235 — Station Speed Dialing |
| (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 dialing. | 00 : 630 ms 01 : 830 ms 10 : 1030 ms | 01 | None |
| (22) | Selects intercom dial tone frequency. | 0 : normal 1 : distinctive | 0 | None |
| (23) | This field is provided to assign PAD Switch Control (volume control of received calls on a CO line). This can be assigned per CO line. The CO numbers [1] through [8] correspond to CO lines 1 through 8 for KX-TD816, and CO numbers [1] through [24] correspond to CO lines 1 through 24 for KX-TD1232 respectively. | 0 : 0 dB 1 : -3 dB | 0 | None |
| (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 dialing signals during an outside call. | 0 : prevent 1 : allow | 0 | None |

System Additional Information (contd.)

| Field | Description | Selection | Default | References |
|-------|---|---|---------|------------|
| (26) | Selects the extension–hooking signal detection time. | 0 : 32-1000 ms 1 : 32-136 ms | 1 | None |
| (27) | Enables or disables the Digital Test Access. | 0 : enable 1 : disable | 1 | None |
| (30) | Assigns whether the system disconnects the CO line or not if nothing is dialed after seizing a CO line. | 0 : disconnect 1 : do not disconnect | 1 | None |

Selection

- Area code: **01**through **12** (06 through 12 are reserved)
- Selection: See “**Selection**” shown above for each area.

Default

See “**Default**” shown above.

Programming

1. Enter **990**.
Display: System Add Inf.
2. Press **NEXT**.
Display: Area NO?->
3. Enter an **area code (01 through 05)**.
Display example: 0010100011000001
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 area, press **SELECT** and the desired **area code**.
9. Repeat steps 4 through 8.
10. Press **END**.

Conditions

None

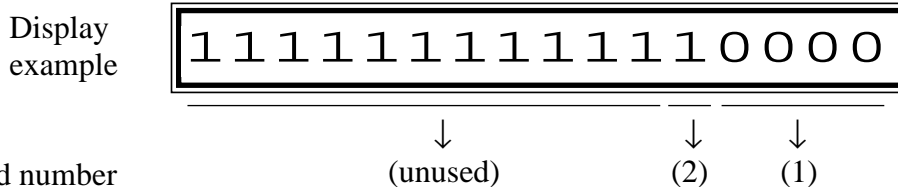
Feature References

See “**References**” shown above.

COS Additional Information

Description

- (1) Sets the number of digits allowed to dial out during an 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 digits are dialed. 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.



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
4. Keep pressing **➡** or **⬅** to move the cursor to the desired field.

COS Additional Information (contd.)

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

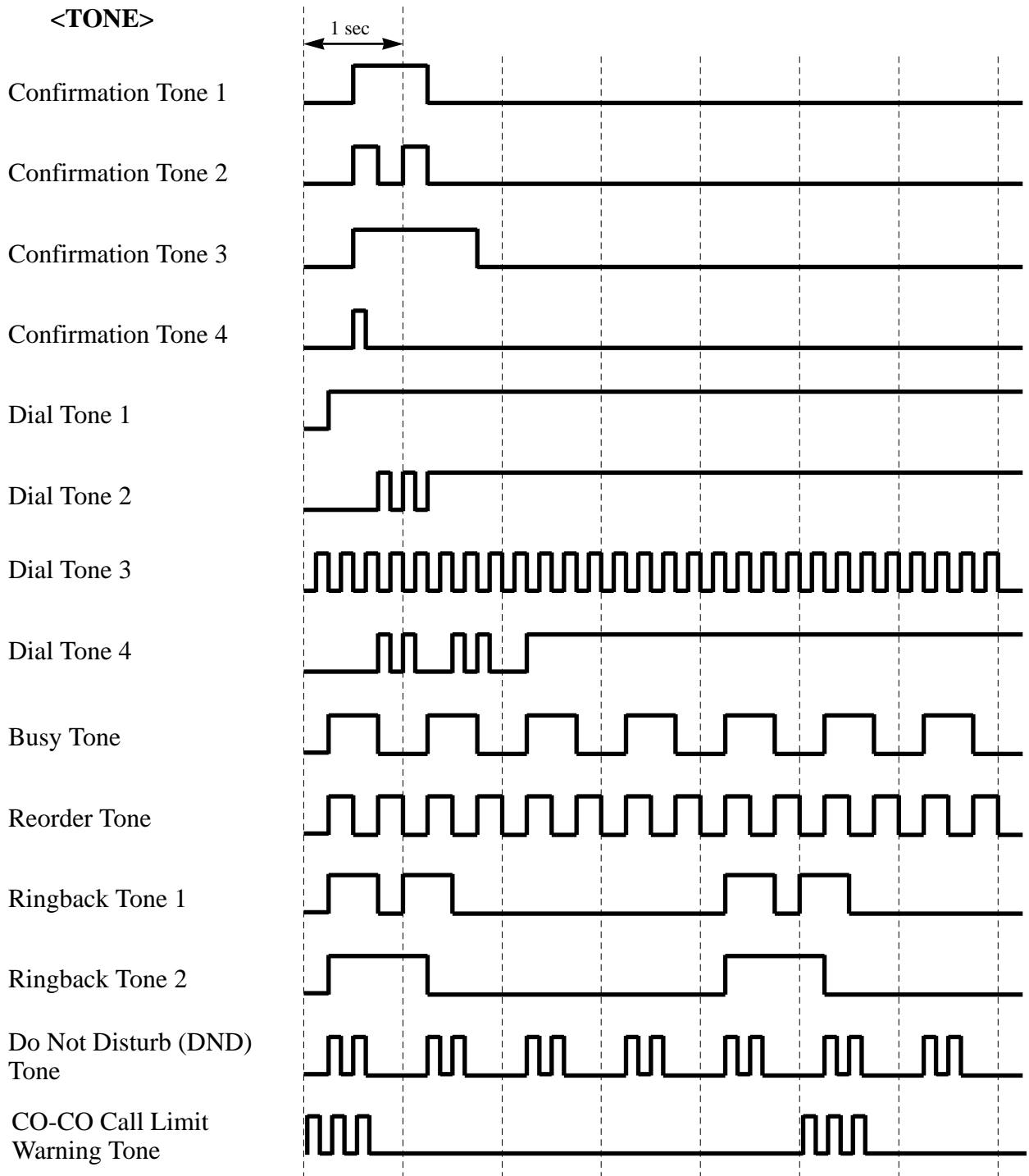
Section 3, Features,
Call Forwarding – Follow Me
Calling Party Control (CPC) Signal Detection
Class of Service (COS)

Section 5

List

This section lists tone, ring tone and default values of system programming.

5.1 Tone / Ring Tone



5.2 Default Values

| Address | Program | Default |
|---------|--|---|
| | Manager Programming | |
| [000] | Date and Time Set | 1 Jan. '94 12:00 am |
| [001] | System Speed Dialing Number Set | Not Stored |
| [002] | System Speed Dialing 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=Jack 01; Operator 2 and Manager=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] | Budget Management | 0 Pulse |
| [010] | Charge Margin Rate | 0 % |
| | System Programming | |
| [100] | Flexible Numbering | See page 4-35. |
| [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 |
| [106] | Station Hunting Type | All Extension Groups=Disable |
| [107] | System Password | 1234 |
| [108] | One-Touch Transfer by DSS Button | Enable |
| [109] | Expansion Card / Unit Type | <ul style="list-style-type: none"> • KX-TD816: C;E • KX-TD1232: Master and Slave=C;C;E1;E2 |

5.2 Default Values

| Address | Program | Default |
|----------------------------|--|--|
| [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 | AS \$ |
| [118] | Charge Verification Assignment | Enable |
| [119] | Charge Verification ID Code Set | 1234 |
| [120] | User Password | 1234 |
| [121] | Hotel Application | Disable |
| 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 |
| [206] | CO-to-CO 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 |
| [213] | Message Waiting Ring Interval Time | 10 min |
| TRS/ARS Programming | | |
| [300] | TRS Override for System Speed Dialing | Disable |
| [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 Set | Location 01=114; Location 02=000 |
| [312] | ARS Mode | Off |
| [313] | ARS Time | Time-A=8:00 am; Time-B=5:00 pm; Time-C=9:00 pm; Time-D=Disable |
| [314]–[321] | ARS Leading Digit Entry for Plans 1 through 8 | Not Stored |

5.2 Default Values

| Address | Program | Default |
|----------------------------|--|--|
| [322]–[329] | ARS Routing Plans 1 through 8 | Not Stored |
| [330] | ARS Modify Removed Digit | All Modification Tables=0 (digits) |
| [331] | ARS Modify Added Number | 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=TRG 8; (KX-TD1232) CO08 through CO24=TRG8 |
| [402] | Dial Mode Selection | All CO Lines=DTMF |
| [403] | Pulse Speed Selection | All CO Lines=10 pps |
| [404] | DTMF Time | All CO Lines=80 ms |
| [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=1.5 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] | ISDN Line Number Assignment | All CO Lines — Not Stored |
| [417] | ISDN Outgoing CLIR Service Assignment | All CO Lines — Enable |
| [418] | ISDN DDI Service Assignment | All CO Lines — Disable |
| [419] | CO Line Name Assignment | All CO Lines — Not Stored |
| [420] | Reverse Circuit Assignment | All CO Lines — Regular |
| [430] | DID Table Number Assignment | All CO Line Groups — Not Stored |
| [431] | DID Incoming Assignment | All DID Tables — Wink |
| [432] | DID Outgoing Assignment | All DID Tables — Wink |
| [433] | DID Subscriber Number Removed Digit and Received Digit | All DID Tables — RMV:0 DID Table 1 — RCV:1, Other DID Tables — RCV:3 |
| [434] | DID Added Number | All DID Tables — Not Stored |
| [435] | DID Wink Time Assignment | All DID Tables — 16 |
| [436]* | Pay Tone Assignment | All CO Lines — Disable |
| COS Programming | | |
| [500]–[501] | Toll Restriction Level—Day/ Night | All COS=Level 1—Day/Night |

5.2 Default Values

| Address | Program | Default |
|------------------------------|---|---|
| [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 |
| Extension Programming | | |
| [600] | EXtra Device Port | All Jacks=Disable |
| [601] | Class of Service | All Jacks-1/2=COS 1 |
| [602] | Extension Group Assignment | All Jacks-1/2=Extension Group 1 |
| [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 |
| [610] | ISDN DDI Number / Extension Number Transformation | Not Stored |
| Resource Programming | | |
| [800] | SMDR Incoming / Outgoing Call Log Printout | Outgoing Calls=All; Incoming Calls=On |
| [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; DTA=299 • KX-TD1232: Pager 1=296; Pager 2=297; Pager 3=396; Pager 4=397; MODEM=399; DTA=299 |
| [814]* | Modem Standard | CCITT |
| [815] | System Working Report Printout | Not Applicable |
| [816] | System Working Report Clear | Not Applicable |
| Option Programming | | |
| [990] | System Additional Information | See pages 4-139 through 4-142. |
| [991] | COS Additional Information | See page 4-143. |

*: Available for KX-TD1232 only.

Section 6

Troubleshooting

This section provides information for system and telephone troubleshooting.

6.1 Troubleshooting

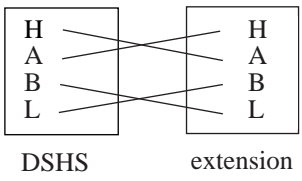
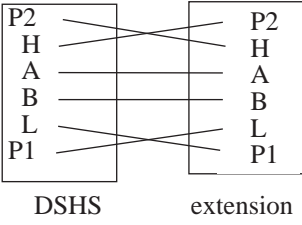
6.1.1 Installation

| PROBLEM | PROBABLE CAUSE | POSSIBLE SOLUTION |
|---|--|---|
| Extension does not operate. | <p>Bad printed circuit board (Extension Card).</p> <p>Bad connection between the system and extension.</p> <p>A telephone with an A-A1 relay is connected.</p> <p>Bad extension.</p> | <p>Exchange printed circuit board for another printed circuit board.</p> <p>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.</p> <p>Use a 2 wires cord. Set the A-A1 relay switch of the telephone to “OUT” or “OFF” position.</p> <p>Take that extension and plug it into another extension port that is working. If the telephone does not work, replace the phone.</p> |
| 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 Dialing or One-Touch Dialing does not function. | Bad programming. | Enter the CO line access number (9, 81 through 88) into programming. |

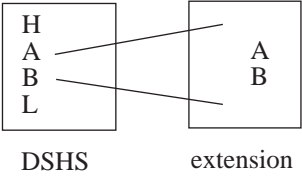
6.1 Troubleshooting

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." |
|------------|--|---|

(Continued to the following page.)

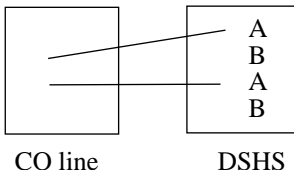
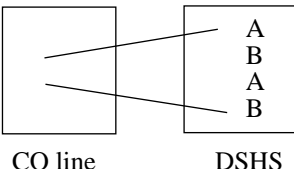
6.1 Troubleshooting

Connection between the central office and the DSHS:

(Continued from the previous page.)

Can you dial out on a CO line?

No

| CAUSE | SOLUTION |
|--|---|
| <p>CO lines are connected to the A/A.</p>  <p>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>CO line DSHS</p> | |

6.1.3 Operation

| PROBLEM | PROBABLE CAUSE | POSSIBLE SOLUTION |
|--|--|---|
| When using the speaker-phone/monitor mode with a DPT, KX-T7220/KX-T7230/KX-T7235/KX-T7250, nothing is audible. | The "HEADSET" mode is selected by station programming, "Handset/Headset Selection." | 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 interruption, extensions connected to Power Failure Transfer jacks do not operate. | <ul style="list-style-type: none"> A DPT is connected to the jack. The dialing mode (tone or pulse) is improper. | <ul style="list-style-type: none"> Disconnect the DPT and connect a single line telephone. Set the Tone / Pulse switch to the other position. |

6.1 Troubleshooting

| PROBLEM | PROBABLE CAUSE | POSSIBLE SOLUTION |
|--|--|---|
| During system connection* operation, originating an intercom/outside call from a system to the other system is not possible. | 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.

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, single line telephones are automatically connected straight to specific CO lines:

KX-TD816 :

CO 1 is connected to the extension jack 1

CO 2 is connected to the extension jack 2

CO 5 is connected to Power Failure Transfer jack

KX-TD1232 :

three SLTs can be connected to CO 1, CO 2 and CO 9 which are connected to Power Failure Transfer jacks

Matsushita Electric Industrial Co., Ltd.
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