

Panasonic

Hybrid IP PBX

Feature Guide



KX-TDA100

Model **KX-TDA200**



Please read this manual before connecting the Hybrid IP PBX and save this manual for future reference.
Thank you for purchasing the Panasonic KX-TDA100/KX-TDA200, Hybrid IP PBX.

Introduction

About this Feature Guide

This Feature Guide is designed to serve as an overall feature reference for the Panasonic Hybrid IP PBX.

It explains what this PBX can do, and how to obtain the most out of its many features and facilities.

This manual contains the following sections:

Section 1, Call Handling Features

Provides details about the call handling features.

Section 2, System Configuration and Administration Features

Provides details about the system configuration and administration features.

Section 3, Programming

Provides system programming instructions.

Section 4, Appendix

Provides tables listing tones and ring tones.

Section 5, Index

Provide feature titles, important words to help you access the required information easily.

Terms used in this Feature Guide

Installation Manual References

The required installation instruction titles described in the *Installation Manual* are noted for your reference.

Feature Guide References

The related feature titles described in this *Feature Guide* are noted for your reference.

User Manual References

The operation required to implement the feature described in the *User Manual* is noted for your reference.

Abbreviations

There are many abbreviations used in this manual (e.g., "PT" which stands for proprietary telephone). Please refer to Section 5 Index in this manual for the meaning of each abbreviation.

About the other manuals

Along with this Feature Guide, the following manuals are available to help you install, and use this PBX:

Installation Manual

Provides instructions for installing the hardware and maintenance of the PBX.

User Manual

Provides operating instructions for end users using PTs, SLTs or DSS Consoles.

Note

There are some optional service cards, PTs, and features which are not available in some areas. Please consult your authorised Panasonic dealer for more information.

Feature Highlights

Automatic Route Selection (ARS)

Automatically selects the carrier available at the time an outgoing trunk call is made.

Budget Management

Limits the telephone usage to a preprogrammed budget.

Call Charge Fee Reference

Allows a user to see call charges and to print out them.

Remote Extension Lock

Allows a manager extension to lock an extension so that inappropriate trunk calls cannot be made.

Trunk Answer From Any Station (TAFAS)

Ringling occurs over the external paging device; the call can be answered from any extension (station).

Caller ID

Allows a user to see the name or telephone number of a caller on the telephone display before answering a call.

ISDN Line Service

The PBX can manage calls received from ISDN lines by point-to-point or point-to-multipoint configuration.

TIE Line Service

A TIE line is a privately leased communication line between two or more PBXs, which provides cost effective communications between company at different locations.

E1 Line Service

The E1 line is at the bottom of the digital transmission hierarchy. The E1 line carries 30 voice channels. Voice is digitised by Pulse Code Modulation.

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Section 1

Call Handling Features

1.1 Incoming Call Features

1.1.1 Incoming Trunk Call Features—SUMMARY

Description

Incoming calls via a trunk (public line) are distributed to their destination using a suitable distribution feature.

1. Available Networking Type for Each Optional Trunk Card Type

Each trunk port of an optional trunk card can be assigned its networking type: Public, Private, or VPN (Virtual Private Network).

Trunk Card Type	Networking Type	Public (DIL/DID/DDI/MSN)	Private (TIE)* ¹	Virtual Private Network (VPN)* ²
	Channel Type			
LCOT	—	●	×	×
T1	L-CO	●	×	×
	G-CO	●	×	×
	DID	●	×	×
	TIE (E & M)	○	●	×
	OPX (EXTN.)	×	×	×
E1	DR2	●	×	×
	E & M-C	○	●	×
	E & M-P	○	●	×
E&M	E & M-C	○	●	×
	E & M-P	○	●	×
BRI/PRI	CO	●	×	○
	EXTN.	×	×	×
	Q-SIG-Master	×	●	×
	Q-SIG-Slave	×	●	×
IP-GW	—	×	●	×

Note: ● : Enable (default), ○ : Enable, × : Disable

*¹: → 1.26.1 TIE Line Service

*²: → 1.26.2 Virtual Private Network (VPN)

2. Distribution Feature

One of the following features can be assigned to each trunk port:

Feature	Description	Details in
Direct In Line (DIL)	Directs a call to a preprogrammed single destination (e.g., Operator).	• Direct In Line (DIL)
Direct Inward Dialling (DID)	Directs a call with a DID number from a DID line to a preprogrammed destination.	• Direct Inward Dialling (DID)/ Direct Dialling Inward (DDI)
Direct Dialling Inward (DDI)	Directs a call with a DDI number from an ISDN line to a preprogrammed destination.	
Multiple Subscriber Number (MSN) Ringing Service	Directs a call with an MSN from an ISDN line to a preprogrammed destination.	• Multiple Subscriber Number (MSN) Ringing Service

3. Destination Change with the Caller's Identification Number

The Calling Line Identification (CLI) Distribution feature works in conjunction with the DIL/DID/DDI/MSN features

Feature	Description	Details in
Calling Line Identification (CLI) Distribution	Directs a call to a CLI destination if the caller's identification number has been assigned to the Caller ID Table.	• Calling Line Identification (CLI) Distribution

4. Available Distribution Feature for Each Optional Trunk Card Type

Trunk Card Type	Feature	DIL	DID	DDI	MSN
	Channel Type				
LCOT	—	●	×	×	×
T1	L-CO	●	×	×	×
	G-CO	●	×	×	×
	DID	○	●	×	×
	TIE (E & M)	●	○	×	×
E1	DR2	○	●	×	×
	E & M-C	●	○	×	×
	E & M-P	●	○	×	×
E&M	E & M-C	●	×	×	×
	E & M-P	●	×	×	×
BRI	CO	○	×	●	○
PRI	CO	○	×	●	×

Note: ● : Enable (default), ○ : Enable, × : Disable

5. Available Destination

Destination	Availability
Wired Extension (PT/SLT/ISDN Extension/T1-OPX)	○
Digital Wireless Extension (DWX)	○
Incoming Call Distribution Group	○
DWX Ring Group	○
VM Group (DTMF/DPT)	○
External Pager (TAFAS)	○
DISA	○
Analogue/ISDN Remote Maintenance	○
Idle Trunk Access no. + Phone no.	×
Trunk Group Access no. + Phone no.	×
Other PBX Extension (TIE with no PBX Code)	○
Other PBX Extension (TIE with PBX Code)	×

6. Intercept Routing

After distribution, the following features may be required.

Feature		Description	Details in
Intercept Routing	No Answer (IRNA)	If a called party does not answer a call within a preprogrammed period time (Intercept time), it is redirected to the preprogrammed destination.	• Intercept Routing
	Busy/DND	If a called party is busy or in DND mode, the call is redirected to the preprogrammed destination.	
	No Destination	If a destination is not assigned, the call is redirected to the operator.	• Intercept Routing—No Destination

7. Call Blocking Feature

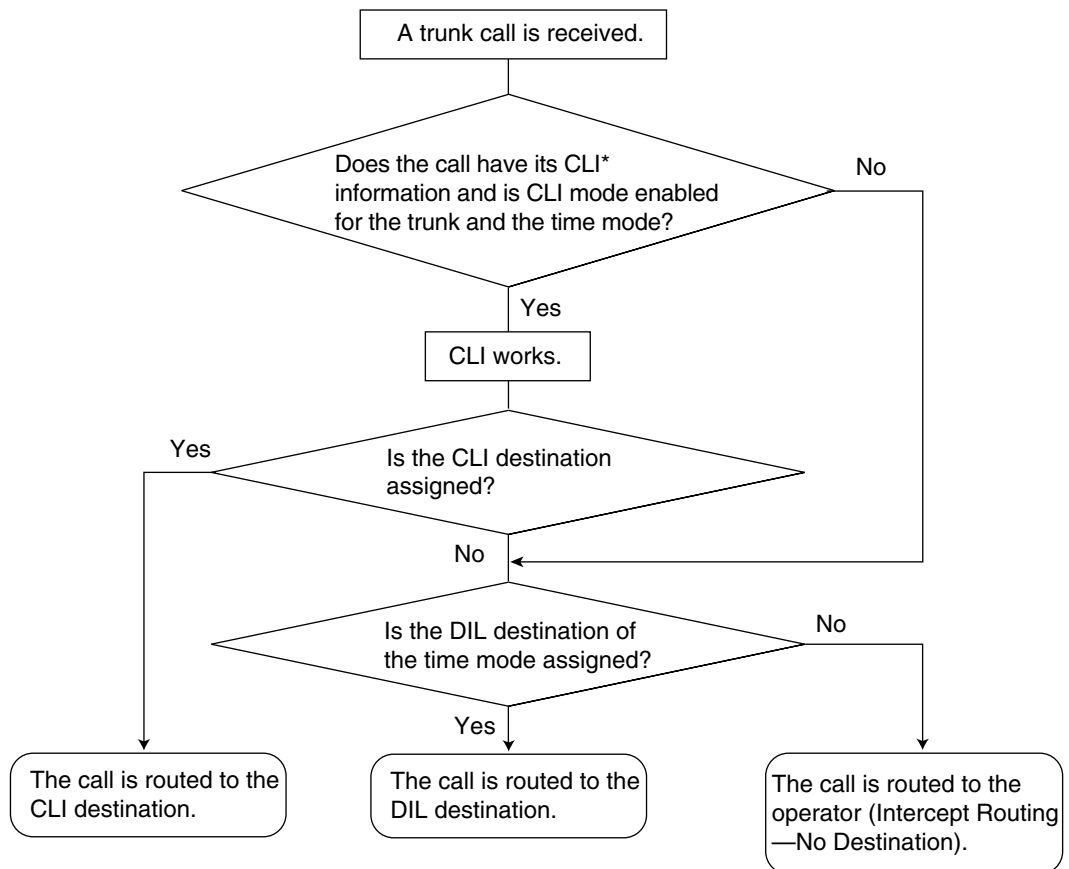
Feature	Description	Details in
Collect Call Block	Rejects collect calls via the specified trunk card.	• Collect Call Block (only for Brazil)

Direct In Line (DIL)

Description

Provides automatic direction of an incoming trunk call to a preprogrammed destination. Each trunk has a destination for each time mode (day/lunch/break/night).

[Method Flowchart]



*: Calling Line Identification (CLI) Distribution:

If the CLI routing is enabled and the caller's identification number is assigned in the Caller ID Table, the call will not be routed to the DIL destination, but routed to the CLI destination.

1.1 Incoming Call Features

[Programming Example of DIL Table]

The table can be programmed for each trunk.

Trunk No.	Tenant No. ^{*1}	CLI				Destination ^{*2}			
		Day	Lunch	Break	Night	Day	Lunch	Break	Night
01	1	Enable	Disable	Enable	Disable	101	100	101	100
02	1	Enable	Disable	Disable	Disable	102	100	102	100
:	:	:	:	:	:	:	:	:	:

^{*1}: The time mode (day/lunch/break/night) of the programmed tenant is applied to the trunk.

^{*2}: → DIL 1:1 Destination

Explanation:

If a trunk call is received from trunk 01;

In Day mode: CLI is enabled. Route to CLI destination.

In Lunch mode: CLI is disabled. Route to DIL destination, extension 100.

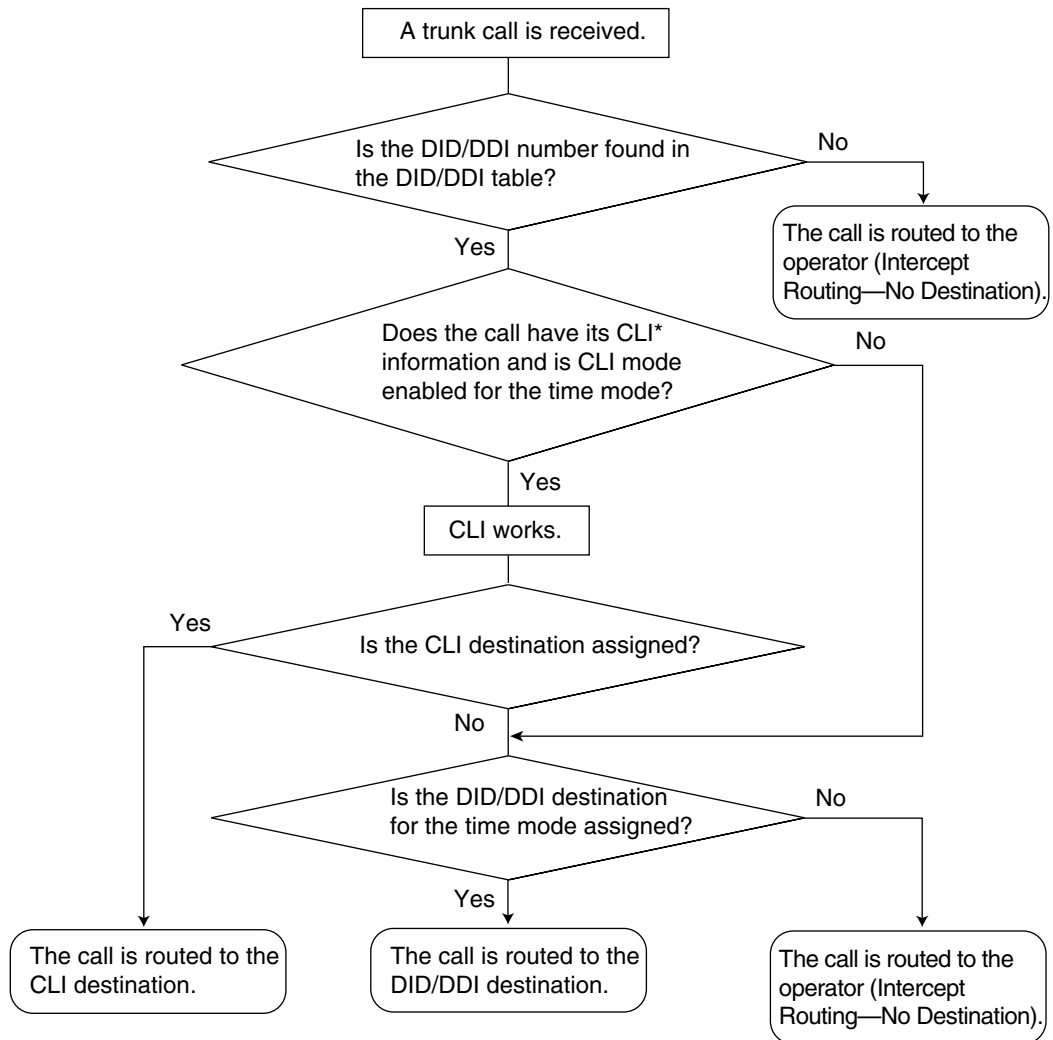
Direct Inward Dialling (DID)/Direct Dialling Inward (DDI)

Description

Provides automatic direction of an incoming call with a DID/DDI number to a preprogrammed destination. Each DID/DDI number has a destination for each time mode (day/lunch/break/night). DID and DDI are programmed the same way. The difference between DID and DDI is as follows:

Feature	Description	Hardware Requirement
Direct Inward Dialling (DID)	DID number is received using a DID line.	E1 or T1 Card
Direct Dialling Inward (DDI)	DDI number is received using an ISDN line. Point-to-point must be selected for the ISDN configuration (→ BRI Configuration).	BRI or PRI Card

[Method Flowchart]



*: Calling Line Identification (CLI) Distribution:

If the CLI routing is enabled and the caller's identification number is assigned in the Caller ID Table, the call will not be routed to the DID/DDI destination, but routed to the CLI destination.

[Programming Example of DID/DDI Table]

DID and DDI use the same table.

Location	DID/DDI No. ^{*1}	Tenant No. ^{*2}	CLI				DID/DDI Destination ^{*3}				DID/DDI Name ^{*4}
			Day	Lunch	Break	Night	Day	Lunch	Break	Night	
0001	123-4567	1	Enable	Disable	Enable	Disable	105	100	105	100	John White
0002	123-2468	1	Enable	Disable	Disable	Disable	102	100	102	100	Tom Smith
0003	123-456	1	Enable	Disable	Disable	Disable	101	101	101	100	A company

^{*1}: → DID Number

^{*2}: The time mode (day/lunch/break/night) of the programmed tenant is applied to the DID/DDI number.

^{*3}: → DID Destination

^{*4}: → DID Name

Explanation:

If the DID/DDI number is "123-4567":

1. Checks the number in the table.

→Matches the number in location 0001.

2. Checks the time mode.

In Day mode: CLI is enabled. Route to CLI destination.

In Lunch mode: CLI is disabled. Route to DID/DDI destination, extension 100.

The Inter-digit Time:

When the Inter-digit time expires, the PBX stops receiving DID/DDI number and starts to check the DID/DDI table.

Even if the Inter-digit time does not expire, the PBX stops receiving the DID/DDI number when the received number is found in the DID/DDI table. The PBX then routes the call to the corresponding destination. If the received number matches several DID/DDI numbers in the table, the DID/DDI number of the lowest numbered location has priority.

[Example] If a call is received in Lunch mode;

Received Number	Destination	Explanation
123-4567	Extn. 100	The PBX finds the match in location 0001 in the table after receiving "7". So the call is routed to extension 100.
123-456	Extn. 101	The Inter-digit time expired after receiving "6". The PBX finds the match in location 0003 in the table. So the call is routed to extension 101.

Conditions

- To use the DID or DDI service, "DID" or "DDI" must be assigned for a trunk port as the distribution method (→ BRI DIL/DID/MSN Selection *For BRI only).

- **DID/DDI Number Modification**

It is possible to modify a received DID/DDI number, which may be convenient when programming the DID/DDI table. Modification method (removed digit/added number) can be programmed on a trunk port basis.

[Modification Example]

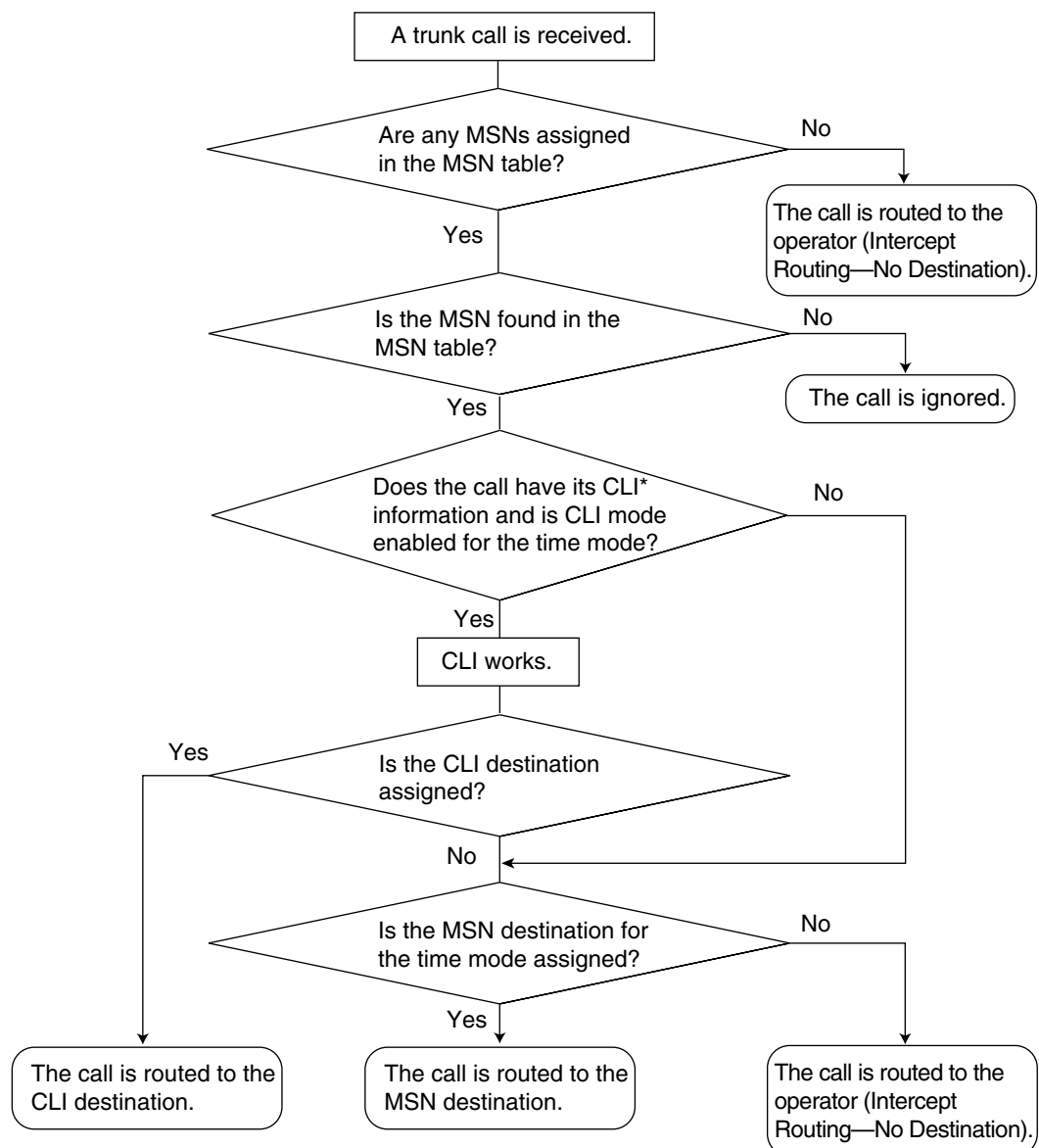


Multiple Subscriber Number (MSN) Ringing Service

Description

Provides automatic direction of an incoming ISDN-BRI (Basic Rate Interface) line call with an MSN to a preprogrammed destination. One ISDN-BRI port can support a maximum of 10 MSNs. Each MSN has a destination for each time mode (day/lunch/break/night). Point-to-multipoint must be selected for the ISDN configuration (→ BRI Configuration).

[Method Flowchart]



*: Calling Line Identification (CLI) Distribution:

If the CLI routing is enabled and the caller's identification number is assigned in the Caller ID Table, the call will not be routed to the MSN destination, but routed to the CLI destination.

1.1 Incoming Call Features

[Programming Example of MSN Table for ISDN BRI Port 1]

A table can be programmed for each ISDN-BRI port. Each BRI port has 10 MSN locations.

Location	MSN	Tenant No.*	CLI				MSN Destination				MSN Name
			Day	Lunch	Break	Night	Day	Lunch	Break	Night	
01	123-4567	1	Enable	Disable	Enable	Disable	101	100	101	100	A Company
02	123-2468	3	Enable	Disable	Disable	Disable	102	100	102	100	C Company
:	:	:	:	:	:	:	:	:	:	:	:
10	:	:	:	:	:	:	:	:	:	:	:

*: The time mode (day/lunch/break/night) of the programmed tenant is applied to the MSN.

Explanation:

If the MSN "123-4567" is received from BRI port 1:

1. Checks the number in the table.

→Matches the number in location 01.

2. Checks the time mode.

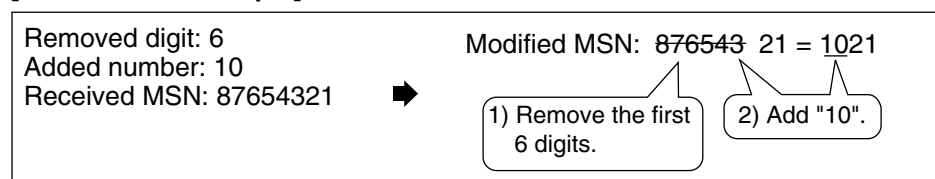
In Day mode: CLI is enabled. Route to CLI destination.

In Lunch mode: CLI is disabled. Route to MSN destination, extension 100.

Conditions

- To use the MSN service, "MSN" must be assigned for a trunk port as the distribution method (→ BRI DIL/DID/MSN Selection).
- **MSN Modification**
It is possible to modify a received MSN to make it shorter, which may be convenient when programming the MSN table. Modification method (removed digit/added number) can be programmed on a trunk port basis.

[Modification Example]



- When using point-to-multipoint configuration with a BRI, do not connect another ISDN terminal device in parallel with the PBX. As only two channels can be used at one time with the BRI, the other ISDN terminal device may monopolise both channels.

Calling Line Identification (CLI) Distribution

Description

Directs an incoming trunk call to a destination when the caller's identification number (e.g., Caller ID) matches the number in the System Speed Dialling Table which is used as the Caller ID Table. Each Caller ID (System Speed Dialling) number can have its own destination.

CLI Feature	Description	Details in
Caller ID	Caller's number is sent from an analogue trunk.	• 1.15.1 Caller ID
Calling Line Identification Presentation (CLIP)	Caller's number is sent from an ISDN line.	• Calling/Connected Line Identification Presentation (CLIP/COLP)
Automatic Number Identification (ANI)	Caller's number is sent from an E1 or T1 line.	• 1.19.1 E1 Line Service • 1.20.1 T1 Line Service

CLI always works in conjunction with the following call distribution methods:

- a) DIL
- b) DID
- c) DDI
- d) MSN Ringing Service

Each trunk (for DIL) and the DID/DDI/MSN number can enable or disable the CLI feature for each time mode (day/lunch/break/night).

When the call has its Caller ID and the CLI is enabled for the time mode, the call will be handled by the CLI method.

[Programming Example of System Speed Dialling Table for CLI]

Location (Speed Dialling No.)	System Speed Dialling No. ^{*1}	System Speed Dialling Name ^{*2}	CLI Destination
000	901234567890	ABC Company	200
001	:	:	:
:	:	:	:

*1: → System Speed Dialling Number

*2: → System Speed Dialling Name

1.1 Incoming Call Features

Explanation:

If the caller's number is "123-456-7890" (The Trunk Access number is disregarded.):

1. Checks the number in the table.
→ Matches the number in location 000.
2. The call is routed to the CLI destination, extension 200.

Conditions

- The Speed Dialling Number Table assigned by each tenant is applied.
- **Automatic Caller ID Number Modification:**
The Caller ID number is used after modification by the Automatic Caller ID Number Modification. (→ 1.15.1 Caller ID)

Intercept Routing

Description

Provides automatic redirection of incoming trunk calls. There are two types of Intercept Routing as follows:

Feature	Description
Intercept Routing—No Answer (IRNA)	If a called party does not answer a call within a preprogrammed time period (Intercept time) (→ Intercept Time), it is redirected to the preprogrammed destination.
Intercept Routing—Busy/DND	If a called party is busy or in DND mode, the call is redirected to the preprogrammed destination.

The available intercept destination is as follows:

Type 1: The destination assigned on the extension port which the original destination joins.
(→ Extension Intercept Destination)

Type 2: The destination assigned on the trunk group which receives the call.
(→ Trunk Group Intercept Destination)

Original Destination	The Available Intercept Destination
Wired Extension (PT/SLT/ISDN Extension/T1-OPX)	Type 1
Digital Wireless Extension (DWX)	Type 1
Incoming Call Distribution Group	Intercept Routing—Overflow in an Incoming Call Distribution Group works (→ Overflow Feature in Section 1.2.2 Incoming Call Distribution Group Features—SUMMARY). The overflow destination is assigned on the incoming call distribution group which the original destination joins (→ Overflow Destination on Time Out).
DWX Ring Group	Type 2
VM Group (DTMF/DPT)	Type 2
External Pager (TAFAS)	Type 2
DISA	Type 2*
Analogue/ISDN Remote Maintenance	Type 2
Idle Trunk Access no. + Phone no.	Not available
Trunk Group Access no. + Phone no.	Not available
Other PBX Extension (TIE with no PBX Code)	Type 2
Other PBX Extension (TIE with PBX Code)	Not available

1.1 Incoming Call Features

- *: This is applied only when the call does not reach the DISA line (e.g., busy), in other words, when it does not reach the destination (e.g., extension) by using the DISA feature. Once the call reaches the destination by using the DISA feature, the Intercept Routing feature of the destination works.

Each of them can have different intercept destinations for each time mode (day/lunch/break/night).

[Available Intercept Destination]

Intercept Destination	Availability
Wired Extension (PT/SLT/ISDN Extension/T1-OPX)	○
Digital Wireless Extension (DWX)	○
Incoming Call Distribution Group	○
DWX Ring Group	○
VM Group (DTMF/DPT)	○
External Pager (TAFAS)	○
DISA	○
Analogue/ISDN Remote Maintenance	×
Idle Trunk Access no. + Phone no.	○
Trunk Group Access no. + Phone no.	○
Other PBX Extension (TIE with no PBX Code)	○
Other PBX Extension (TIE with PBX Code)	○

Conditions

- **Intercept Routing—Busy/DND on/off**
Each Intercept Routing—Busy and Intercept Routing—DND can be enabled or disabled through system programming.
If disabled, one of the following is activated depending on the trunk card type which a call arrives through:
 - a) **LCOT or T1 (L-CO/G-CO) Card:** The call will be sent back to the original destination.
 - b) **Other Trunk Cards:** Busy tone will be sent to the caller.
- **If the intercept destination cannot receive the call:**
 - a) **Intercept Routing—No answer:** Intercept timer will restart at the original destination, until the call is answered.
 - b) **Intercept Routing—Busy/DND:** The call will be sent back to the original destination when the call arrives through the LCOT or T1 (L-CO/G-CO) Card. When the call arrives through other trunk cards the caller will hear busy tone.

Intercept Routing—No Destination

Description

Provides automatic redirection of an incoming trunk call which does not have a destination assigned. The intercept destination is an operator (tenant/PBX) (→ Operator Assignment *For PBX operator only).

Conditions

- **Intercept Routing—No Destination on/off**
The Intercept Routing—No Destination feature can be enabled or disabled through system programming.
If disabled, reorder tone will be sent to the caller. However, the Intercept Routing—No Destination feature always works for calls through the LCOT or T1 (L-CO/G-CO) Card even when disabled.
- **If an operator (tenant/system) is not assigned:**
The lowest jack numbered extension will be the intercept destination.
- **Intercept Routing—No Destination also applies to:**
Calls from doorphones.

Collect Call Block (only for Brazil)

Description

A collect call is rejected if the destination is assigned to reject the collect call on a COS basis.

This service is only provided with the following trunk cards:

Type 1: The service works when a collect call is received.

Type 2: The service works when a collect call is answered.

Type	Trunk Card Type	Description
Type 1	E1*	A collect call is rejected before it arrives at the destination. Only assignment on a COS basis for the destination is required.
Type 2	LCOT	A collect call is rejected by sending the Collect Call Blocking (flash) signal after going off-hook.
	E1*	It is required to enable the Collect Call Block mode to each trunk group first. Assignment on a COS basis for the destination is also required. If the telephone company does not support this service , do not enable the Collect Call Block mode, or normal calls are also disconnected.

*: When the trunk card type is the E1 Card, Type 1 or Type 2 depends on the service of the telephone company.

[Available Destination]

The destinations which can receive collect calls are as follows:

COS programming determines to enable or disable accepting collect calls (disable: Collect Call Block mode).

Destination	Receiving Collect Calls	Required COS Assignment
Wired Extension (PT/SLT/ISDN Extension/T1-OPX)	○	COS for each extension
Digital Wireless Extension (DWX)	○	
Incoming Call Distribution Group	○	COS for each incoming call distribution group
DWX Ring Group	×	—
VM Group (DTMF/DPT)	×	—
External Pager (TAFAS)	×	—
DISA	×	—
Analogue/ISDN Remote Maintenance	○	No COS assignment required
Idle Trunk Access no. + Phone no.	—	—
Trunk Group Access no. + Phone no.	—	—

Destination	Receiving Collect Calls	Required COS Assignment
Other PBX Extension (TIE with no PBX Code)	○	COS for each trunk group of the destination
Other PBX Extension (TIE with PBX Code)	—	—

Conditions

[General]

- The availability of this feature is depending on the service of the telephone company.
- The COS assignment of the first target destination, not the answered extension, will be effective.

[LCOT/DID/E1]

- The Flash Signal Start time and the duration are programmable.

1.1.2 Internal Call Features—SUMMARY

Description

The following incoming calls reach their destination:

Feature	Description	Details in
Intercom Call	A call from one extension to another.	• 1.5.6 Intercom Call
Doorphone Call	When a call from a doorphone reaches its destination, the recipient can talk to the visitor.	• 1.14.1 Doorphone Call

[Available Destination]

The destinations of doorphone calls can be assigned for each time mode (day/lunch/break/night) on a doorphone port basis (→ Doorphone Call Destination).

Destination	Calling from	
	Extension	Doorphone
Wired Extension (PT/SLT/ISDN Extension/T1-OPX)	○	○
Digital Wireless Extension (DWX)	○	○
Incoming Call Distribution Group	○	○
DWX Ring Group	○	○
VM Group (DTMF/DPT)	○	○
External Pager (TAFAS)	○	○
DISA	×	○
Analogue/ISDN Remote Maintenance	○	×
Idle Trunk Access no. + Phone no.	○	○
Trunk Group Access no. + Phone no.	○	○
Other PBX Extension (TIE with no PBX Code)	○	○
Other PBX Extension (TIE with PBX Code)	○	○

Internal Call Block

Description

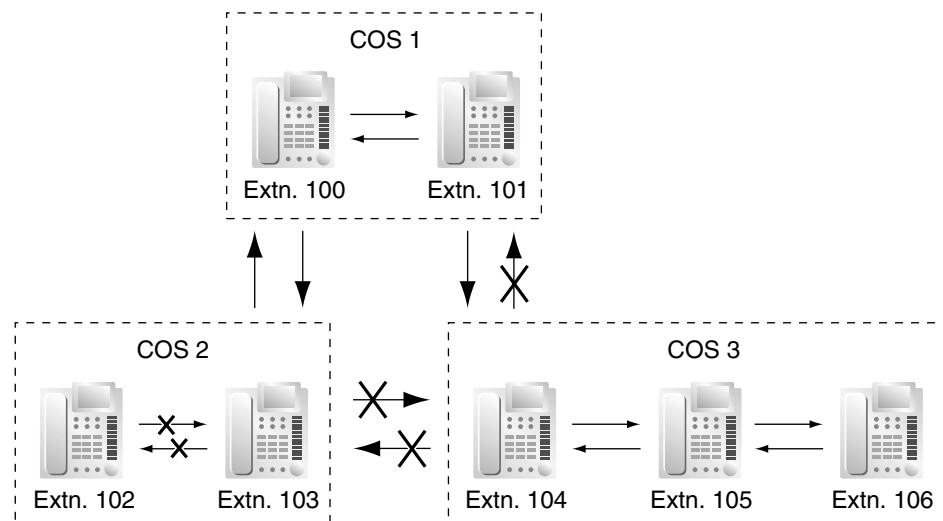
Internal calls can be restricted on a COS basis. Each COS of the caller can enable or disable this feature for each COS of the called party.

[Programming Example]

Caller	Called Party			
	COS 1	COS 2	COS 3	...
COS 1	○	○	○	○
COS 2	○	×	×	×
COS 3	×	×	○	×
:	:	:	:	:

Explanation:

- COS 1 can make calls to all extensions.
- COS 2 can make calls to COS 1 only. (COS 2 cannot make calls to COS 2)
- COS 3 can make calls to COS 3 only.



Conditions

- Restricted extension numbers cannot be the parameter of the feature settings (e.g., Walking Extension).
- All extensions can make an Operator Call regardless of the Internal Call Block.

1.1.3 Incoming Call Indication Features—SUMMARY

Description

Incoming calls are indicated by various methods as follows:

Type	Feature	Description	Details in
Ring Tone	Ring Tone Pattern Selection	A telephone rings when receiving a call. The ring tone patterns can be changed for each incoming call type.	• Ring Tone Pattern Selection
Voice-Calling	Alternate Receiving—Ring/Voice	A PT user can select to receive intercom calls by ring tone or by voice, through personal programming.	• 1.5.6 Intercom Call
LED (LED: Light Emitting Diode)	LED Indication	The light shows line conditions with a variety of light patterns.	• 1.17.3 LED Indication
Display (Caller's Information)	Display Information	The display shows the caller's information.	• 1.17.4 Display Information
External Pager	Trunk Answer from Any Station (TAFAS)	The external pager sends a ring tone when receiving a call.	• 1.14.3 Trunk Answer From Any Station (TAFAS)
Tone/Voice during a Conversation	Call Waiting	A busy extension hears a tone, or voice from the handset/built-in speaker indicating that another incoming call is waiting.	• Call Waiting

Conditions

- **Parallellled Telephone**
With a parallellled telephone connection, two extensions ring on one extension number. (→ 1.9.9 Parallellled Telephone)

Ring Tone Pattern Selection

Description

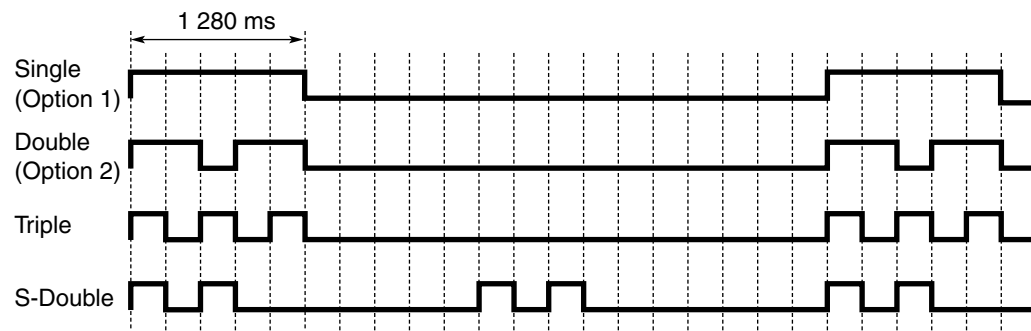
A ring tone pattern can be selected for each incoming call type on a Ring Tone Pattern Table basis, which can be assigned for each extension.

[Patterns]

Telephone Type	Ring Tone Pattern					
	Single	Double	Triple	S-Double*	Option-1	Option-2
PT	Cannot be changed. Refer to the [Ring Tone Patterns for a PT] below.				Same as Single	Same as Double
SLT/T1-OPX	Each pattern and its ringing cycle can be changed.					
DWX	Can set the ringing pattern on the DWX based on the ring tone pattern from the PBX.					

*: S-Double can be assigned for call back ring only.

[Ring Tone Patterns for a PT]



[Programming Example of Ring Tone Pattern Table]

There are a specified number of programmable tables each of which allows the assignment of ring tone patterns for the following incoming call types:

For trunk calls (including trunk call hold recalls) and doorphone calls, select ring tone patterns on a trunk group or a doorphone port basis.

Table No.	Intercom Call/Hold Recall	Trunk Call/Hold Recall			Doorphone Call			Sensor	Alarm	Call Back	LCS
		TRG1	TRG2	...	Port 1	Port 2	...				
1	Double	Single			Single						
2	Single	Double			Double						
:	:	:	:	:	:	:	:	:	:	:	:

Each extension can select one of the tables.

Conditions

- The "bell off" setting can be enabled or disabled for PT through system programming. If disabled, PT users cannot set the bell off.

Call Waiting

Description

Used to inform a busy extension that another incoming call is waiting. The busy extension user can answer the second call by disconnecting the current call or placing it on hold. The following notification method can be assigned for each extension depending on the call waiting and the telephone type:

- a) **Call Waiting Tone:** Tone from the handset or built-in speaker
- b) **OHCA:** Voice from the built-in speaker
- c) **Whisper OHCA:** Voice from the handset
- d) **Off:** No notification.

Call Type	Notification Method	
	DPT	Other Telephone
Intercom call	Call Waiting tone/OHCA/Whisper OHCA/Off	Call Waiting tone/Off
Trunk call*	Call Waiting tone/Off	

*: Including a doorphone call, call from an incoming call distribution group, and a call from an extension that placed a trunk call on a consultation hold.

This feature is also known as Busy Station Signalling (BSS).

Conditions

- Call Waiting call for a VM group (DPT/DTMF) member is not available.
- **Data Line Security**
Setting Data Line Security cancels the Call Waiting setting.
- **Call Waiting Tone**
A PT user can set different Call Waiting tones for each trunk call and intercom call through personal programming (Call Waiting Tone Type Selection).
- **Caller Information**
With the Call Waiting tone, the caller's information flashes on the display for five seconds at 15-second intervals.
- **Call Waiting from the Telephone Company**
Besides the Call Waiting service within the PBX, the Call Waiting tone offered by an analogue line from your telephone company informs the extension user of another incoming trunk call that is waiting. He can answer the second call by disconnecting the current call or placing it on hold. For details, consult your telephone company.
Visual Caller ID:
With the Call Waiting tone from the telephone company, the Caller ID number can be received and flash on the display twice for five seconds at 15-second intervals.

1.2 Receiving Group Features

1.2.1 Idle Extension Hunting

Description

If a called extension is busy or in DND mode, Idle Extension Hunting redirects the incoming call to an idle member of the same idle extension hunting group, which can be programmed through system programming (→ Hunting Floating Extension Number). Idle extensions are automatically searched according to a preprogrammed hunting type (→ Idle Extension Hunting Type).

This feature is also known as Station Hunting.

Type	Description
Circular Hunting	An idle extension is searched for in the order specified in the idle extension hunting group in a circular way. <pre> graph LR IC[Incoming call] --> BE[Busy Extn.] BE --> E1[Extn.] E1 --> E2[Extn.] E2 --> E3[Extn.] E3 --> E1 AO[Assigned order] -.-> E1 </pre>
Terminated Hunting	An idle extension is searched for in the order specified in the idle extension hunting group until reaching the last assigned extension. <pre> graph LR IC[Incoming call] --> BE[Busy Extn.] BE --> E1[Extn.] E1 --> E2[Extn.] E2 --> E3[Extn.] E3 -- X --> End(()) AO[Assigned order] -.-> E1 </pre>

Conditions

- **Idle Extension Hunting applies to:**
Intercom, trunk, and doorphone calls to a single destination.
- An extension user can belong to only one idle extension hunting group.

- **If all the searched extensions are busy:**

The PBX redirects the call to an overflow destination which can be assigned for each idle extension hunting group.

[Available Destination]

Destination	Availability
Wired Extension (PT/SLT/ISDN Extension/T1-OPX)	○
Digital Wireless Extension (DWX)	○
Incoming Call Distribution Group	○
DWX Ring Group	○
VM Group (DTMF/DPT)	○
External Pager (TAFAS)	○
DISA	○
Analogue/ISDN Remote Maintenance	×
Idle Trunk Access no. + Phone no.	○
Trunk Group Access no. + Phone no.	○
Other PBX Extension (TIE with no PBX Code)	○
Other PBX Extension (TIE with PBX Code)	○

- **FWD/DND Mode**

While searching for an idle extension within an idle extension hunting group, any extension which has set FWD—All Calls or DND feature will be skipped, and the call will go to the next extension in the group.

1.2.2 Incoming Call Distribution Group Features—SUMMARY

Description

An incoming call distribution group is a group of extensions programmed through system programming (→ Incoming Call Distribution Group Extension Number). An incoming call distribution group receives calls directed to the group. Each incoming call distribution group has a floating extension number.

Incoming calls directed to an incoming call distribution group are distributed to the member extensions in the group using a distribution method. When a preprogrammed number of extensions in the group are busy, the incoming calls can wait in a queue.

Each incoming call distribution group and member extensions can be programmed as desired to handle incoming calls. Calls to the group can be monitored by an extension assigned as a supervisor (supervisor extension).

Programming Item Example for Incoming Call Distribution Group 1 with Diagramme

A through F in the table are described in the following diagramme.

A			B	C	D	E	F					
Group No.	Floating Extn. No. ¹	Group Name ²	Distribution Method ³	Answering Agent ⁴	Queuing Call ⁵	Hurry-up Level ⁶	Overflow Time ⁷	Overflow Destination ⁸				Tenant No. ⁹
								Day	...	...	Night	
1	290	Sales	Ring	3	3	3	60	100	...	...	100	1
2	291	Engineering	UCD	Max	8	8	90	200	...	...	200	5
3												
:												

¹: → Incoming Call Distribution Group Floating Extension Number

²: → Incoming Call Distribution Group Name

³: → Incoming Call Distribution Group Type

⁴: → Maximum Number of Agents

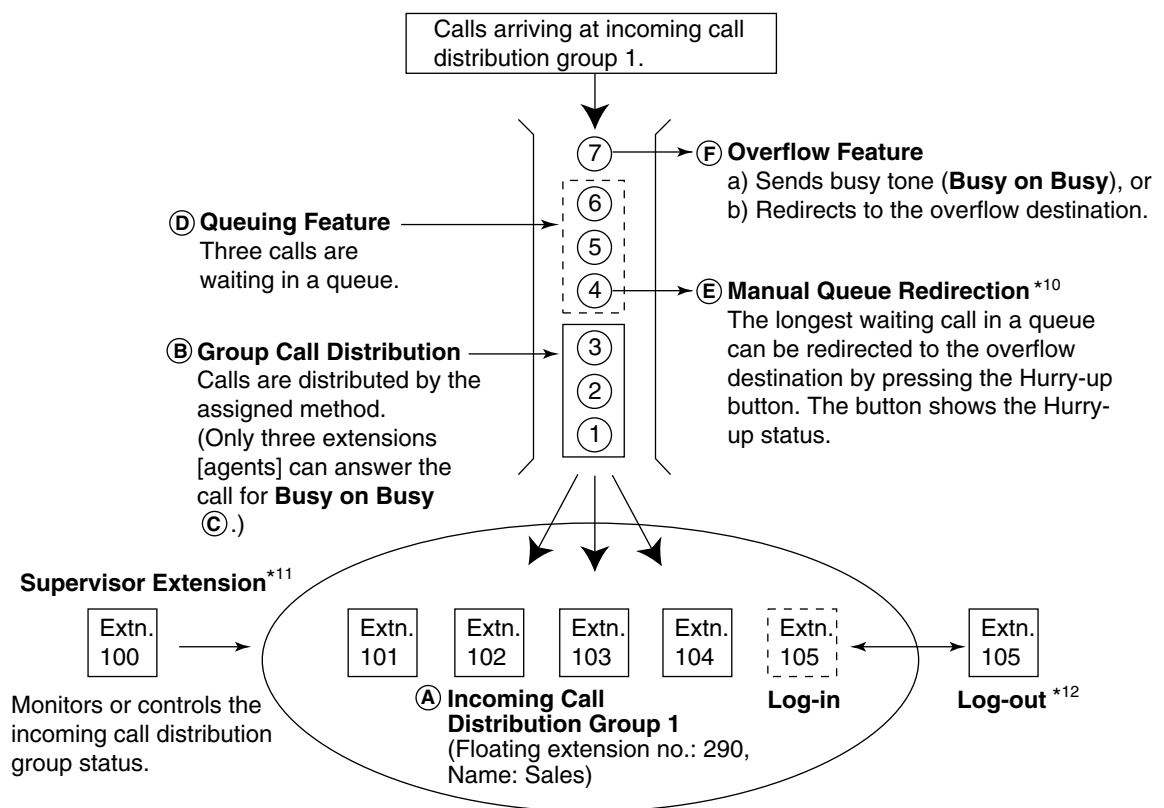
⁵: → Queuing Call Limit

⁶: → Queuing Hurry-up Level

⁷: → Overflow Time Assignment

⁸: → Overflow Destination on Time Out/Overflow Destination by Busy

⁹: Tenant number is required to determine the time mode (day/lunch/break/night) and the music source (for Music on Hold) for each group.



^{*10}: → Queuing Feature in Section 1.2.2 Incoming Call Distribution Group Features—SUMMARY

^{*11}: → Supervisory Feature in Section 1.2.2 Incoming Call Distribution Group Features—SUMMARY

^{*12}: → Log-in/Log-out in Section 1.2.2 Incoming Call Distribution Group Features—SUMMARY

1. Group Call Distribution [→ Group Call Distribution in Section 1.2.2 Incoming Call Distribution Group Features—SUMMARY]

Incoming calls are distributed using one of the following methods:

Distribution Method	Description
Uniform Call Distribution (UCD)	Calls go to a different extension uniformly each time a call is received.
Priority Hunting	An idle extension is searched in the specified order.
Ring	All extensions in the incoming call distribution group ring simultaneously.

2. Queuing Feature [→ Queuing Feature in Section 1.2.2 Incoming Call Distribution Group Features—SUMMARY]

If a preprogrammed numbers of extensions in an incoming call distribution group are busy, a preprogrammed number of additional calls can wait in a queue.

While calls are waiting in the queue, an outgoing message (OGM) or Music on Hold can

1.2 Receiving Group Features

be sent to the waiting callers.

3. VIP Call [→ VIP Call in Section 1.2.2 Incoming Call Distribution Group Features—SUMMARY]

It is possible to assign a priority to incoming call distribution groups so that an incoming call can be received from the groups in priority order.

4. Overflow Feature [→ Overflow Feature in Section 1.2.2 Incoming Call Distribution Group Features—SUMMARY]

A call is redirected to a preprogrammed destination when it cannot be answered or queued (**Intercept Routing—Overflow in an Incoming Call Distribution Group**). It is also possible to send busy tone (**Busy on Busy**) or disconnect the line.

5. Incoming Call Distribution Group Controlling Feature

Feature		Description	Details in
Log-in/Log-out		Member extensions can join the group to handle calls (log-in) or leave the group for a break (log-out). They can leave the group temporarily when they are away from their desks, to prevent calls being sent to their extensions.	• Log-in/Log-out
Supervisory Feature	Incoming Call Queue Monitor	The supervisor extension can monitor various information about the incoming calls for each incoming call distribution group on his display.	• Supervisory Feature
	Log-in/Log-out Monitor and Remote Control	Monitor: The supervisor extension can monitor the log-in/log-out status of the group members. Remote Control: The supervisor extension can change the status of the members.	

Conditions

- One extension can belong to multiple incoming call distribution groups.
- **G-DN button**
A Group Directory Number (G-DN) button can be assigned on a flexible button for each incoming call distribution group. It receives the incoming calls to the group.
One extension can have more than one G-DN button of the same or different incoming call distribution groups (**Multiple G-DN**). If all G-DN buttons in the same incoming call distribution group are occupied, the next incoming call will be held in a queue or will overflow. If the G-DN is not assigned, incoming calls will arrive at the INTERCOM or CO button.
Even though an extension can have a G-DN button for an incoming call distribution group that the extension has not been programmed to be included through system programming (→ Incoming Call Distribution Group Extension Number), the G-DN button will not receive calls to that group.
- **Group FWD**
The FWD feature can be assigned on an incoming call distribution group basis.

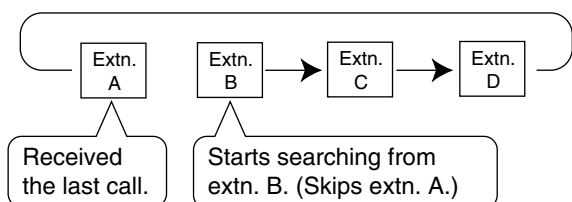
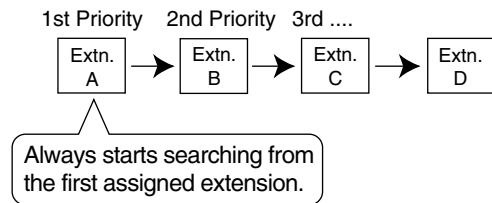
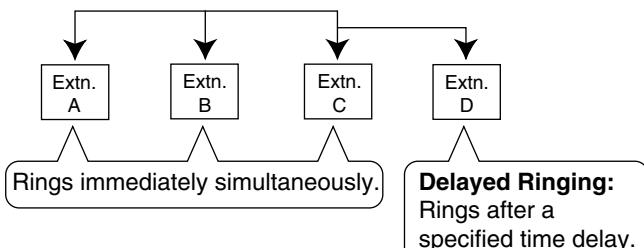
Group Call Distribution

Description

The Incoming calls directed to an incoming call distribution group are distributed to the member extensions using the distribution method until a preprogrammed number of extensions (agents) (→ Maximum Number of Agents) are available to accept a call. When incoming calls exceed the number, the calls enter a queue (→ Queuing Feature in Section 1.2.2 Incoming Call Distribution Group Features—SUMMARY).

1. Distribution Method

There are three distribution methods which can be assigned to each incoming call distribution group (→ Incoming Call Distribution Group Type).

Distribution Method	Description
Uniform Call Distribution (UCD)	Calls go to a different extension uniformly each time a call is received. Extensions are hunted in a circular way in the preprogrammed order for the group, starting at the extension after the extension which received the last call. 
Priority Hunting	An idle extension is searched for using the preprogrammed order for the group. 
Ring	All extensions in the group ring simultaneously. Delayed Ringing: Delayed ringing or no ringing can be programmed for each extension in the group (→ Delayed Ringing). The call can be answered by pressing the flashing button even if no ring or a delayed time is set. 

2. Call Waiting for Incoming Call Distribution Group (Group Call Waiting)

When there are no available extensions in distribute in a group, the group members can receive the Call Waiting tone. To use this feature:

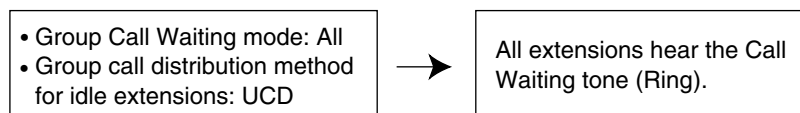
- Select the Group Call Waiting mode through system programming. This determines the distribution method for waiting calls.
- Member extensions must assign the Call Waiting mode individually, or they will not be notified. (→ Call Waiting in Section 1.1.3 Incoming Call Indication Features—SUMMARY)

[How the Group Call Waiting Feature Activates]

Programming Conditions		Result	
Group Call Waiting Mode	Group Call Distribution Method	Group Call Waiting Distribution Method	Capable Telephone
Distribution	UCD	UCD	PT/DWX with
	Priority Hunting	Priority Hunting	idle G-DN button
	Ring	Ring*	Any telephone
All	UCD/Priority Hunting/ Ring		

*: Delayed Ringing is not available.

[Example]



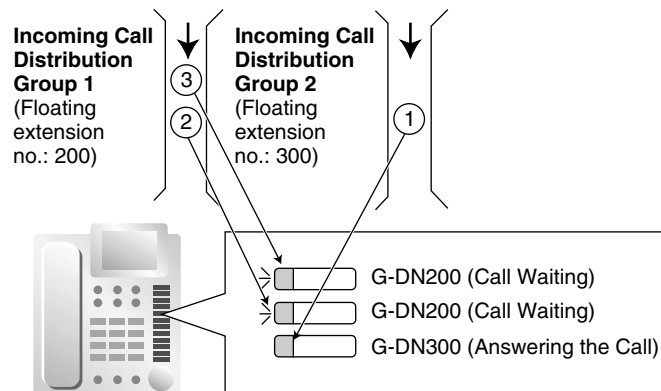
[G-DN Button for Group Call Waiting]

The way that the Group Call Waiting feature works depends on the Group Call Waiting Distribution method as follows:

- Ring:** The Group Call Waiting feature activates for all busy member extensions (even when the extensions do not have G-DN buttons) simultaneously for only one incoming call — additional calls will wait in a queue.
- UCD/Priority Hunting:** The Group Call Waiting feature activates on an idle G-DN button located on busy member extensions in a certain order. (This order depends on the type; UCD or Priority Hunting.) Calls will arrive at idle buttons until all G-DN buttons are occupied — additional calls will wait in a queue.

Note

In the method b), if an extension has only one G-DN button for an incoming call distribution group, the Group Call Waiting feature for the group will not work at the extension.



3. No Reply Redirection (UCD or Priority Hunting Method)

If a call received at a member extension is not answered within a preprogrammed time period (No Answer time), the call will be redirected to the next member extension. If there is no idle group member, the call queues at target extension until a group member becomes available.

Conditions

- FWD/DND Extension**
 System programming for each incoming call distribution group is required to skip or ring the extension which has FWD or DND feature set. If it rings, the FWD/DND settings are ignored.
- Group Call Waiting feature cannot be used with the VIP Call feature (→ VIP Call in Section 1.2.2 Incoming Call Distribution Group Features—SUMMARY) and/or Wrap-up feature (→ Log-in/Log-out in Section 1.2.2 Incoming Call Distribution Group Features—SUMMARY). Because to use the VIP Call feature and/or Wrap-up feature, Call Waiting mode on each extension should be off.

Queuing Feature

Description

When a preprogrammed number of extensions (→ Maximum Number of Agents) in an incoming call distribution group are busy, additional incoming calls can wait in a queue. The number of calls which can be in the waiting queue is programmable (→ Queuing Call Limit). While calls are waiting in the queue, the calls are handled by the Queuing Time Table, which can be assigned for each time mode (day/lunch/break/night) (→ Queuing Time Table Number). Each Queuing Time Table has a specified number of sequences. The following procedures are provided to make up a Queuing Time Table:

[Procedure Table]

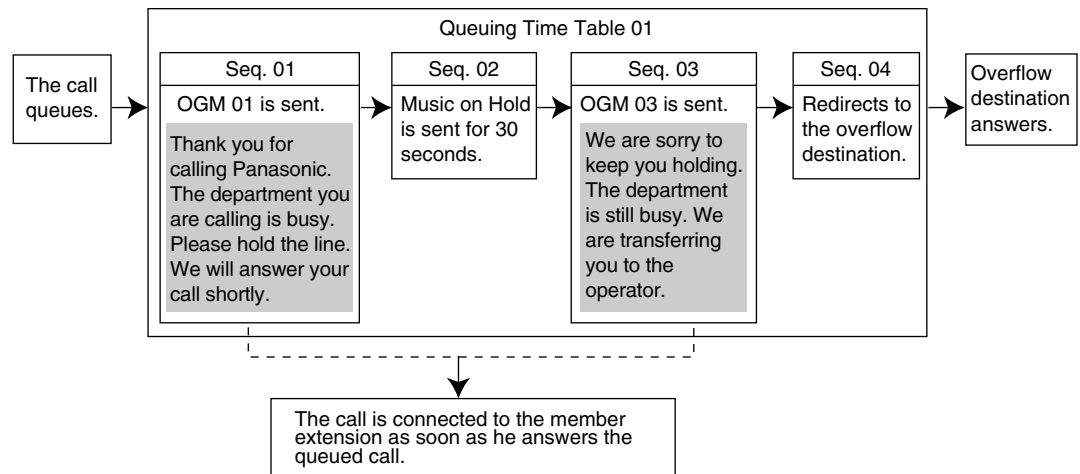
Command	Description	Condition
OGM a	An outgoing message (OGM) a (01-64) is sent to the caller.	After the outgoing message (OGM), Music on Hold will be sent and redirects to the next sequence.
b × 5 sec	Puts the caller in the waiting queue for b (01-16) × 5 seconds.	If an outgoing message (OGM) has not been sent to the caller, the caller hears a ringback tone. If an outgoing message (OGM) has been sent to the caller, the caller hears Music on Hold.
Seq c	Redirects to sequence c (01-16).	None
Intercept	Redirects to overflow destination.	None
Disconnect	Disconnects the line.	None
None (No command)	Redirects to the next sequence.	If assigned on sequence 01, the Time Table will not be activated.

[Programming Example of Queuing Time Table]

Time Table No.	Sequence ^{*1}					
	Seq.01	Seq.02	Seq.03	Seq.04	...	Seq.16 ^{*2}
01	OGM 01	6 × 5 sec	OGM 03	Overflow		
02						
03						
:	:	:	:	:	:	:

^{*1}: Queuing Time Table

^{*2}: The call will be disconnected if the destination is not determined after sequence 16.

Explanation for Queuing Time Table 01:**Conditions**

- **If the call is transferred to the incoming call distribution group and is handled by the Queuing Time Table:**
Transfer Recall will not occur even if the Transfer Recall time expires.
- **Manual Queue Redirection**
It is possible to redirect the longest waiting call in a queue to the overflow destination by pressing the Hurry-up button. (When the call is already ringing on any extension, the call is not redirected.)
This feature is also known as Hurry-up Transfer.
- **Hurry-up Button**
A flexible button can be customised as the Hurry-up button. The number of calls queuing before Manual Queue Redirection may be performed is programmable (→ Queuing Hurry-up Level). The button shows the current status as follows:

Light Pattern	Calls in the Waiting Queue
Off	No queued call
Red on	One up to the assigned number for Hurry-up
Rapid red flashing	Over the assigned number for Hurry-up

VIP Call

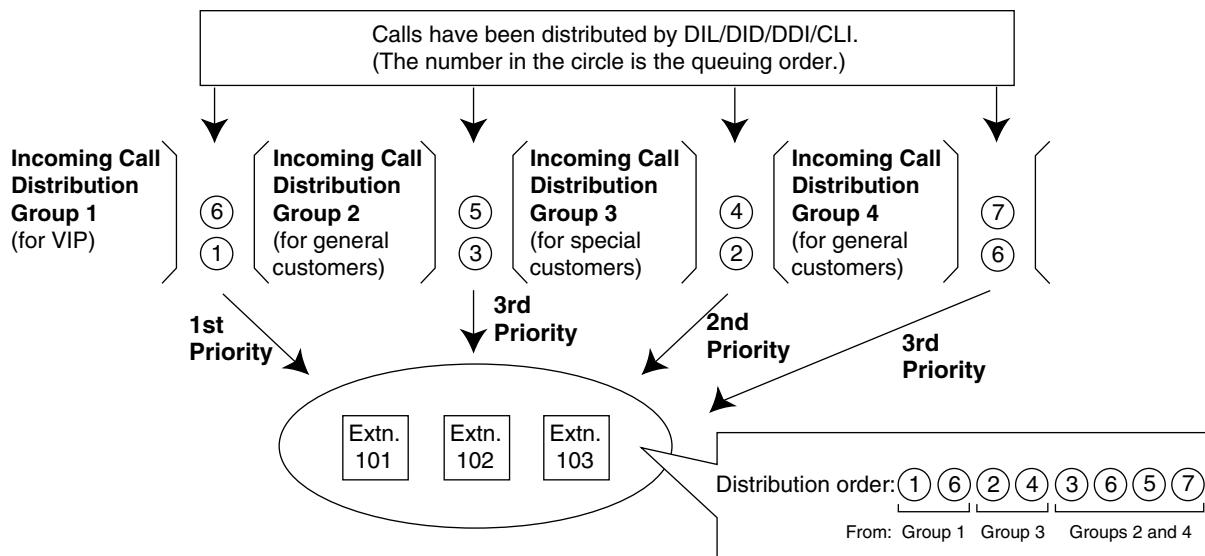
Description

It is possible to assign a priority to incoming call distribution groups. If an extension belongs to multiple groups and the extension becomes idle, queuing calls in the groups will be distributed to the extension in priority order.

Each incoming call distribution group can enable or disable the VIP Call mode. When multiple groups enable the VIP Call mode, the incoming call distribution group with the lowest numbered group has the highest priority. When multiple groups disable the VIP Call mode, queuing calls are distributed to extensions uniformly.

[Example]

In the call centre, incoming call distribution groups 1 and 3 enable the VIP Call mode, while incoming call distribution groups 2 and 4 disable the VIP Call mode.



Overflow Feature

Description

When waiting calls exceed the waiting queue capacity (→ Queuing Call Limit), they may be redirected to a preprogrammed destination or busy tone may be sent to the callers by the following features:

- 1) Intercept Routing—Overflow in an Incoming Call Distribution Group
- 2) Busy on Busy

1. Intercept Routing—Overflow in an Incoming Call Distribution Group

The Intercept Routing—Overflow in an Incoming Call Distribution Group works in one of following conditions:

- a) There is no space in the waiting queue.
- b) The Queuing Table is not assigned and there are no extensions logged-in.
- c) An Intercept command is assigned to the Queuing Time Table.
- d) The Overflow time (→ Overflow Time Assignment) expires.
- e) Manual Queue Redirection is performed.

[Available Destination]

The overflow destinations can be assigned for each incoming call distribution group and each time mode (day/lunch/break/night). The two different destinations can be assigned, one for the a) and b) (→ Overflow Destination by Busy), and one for c), d), and e) (→ Overflow Destination on Time Out).

Destination	Availability
Wired Extension (PT/SLT/ISDN Extension/T1-OPX)	☐
Digital Wireless Extension (DWX)	☐
Incoming Call Distribution Group	☐
DWX Ring Group	☐
VM Group (DTMF/DPT)	☐
External Pager (TAFAS)	☐
DISA	☐
Analogue/ISDN Remote Maintenance	☐
Idle Trunk Access no. + Phone no.	☐
Trunk Group Access no. + Phone no.	☐
Other PBX Extension (TIE with no PBX Code)	☐
Other PBX Extension (TIE with PBX Code)	☐

2. Busy on Busy

The Busy on Busy feature works when the destination for the Intercept Routing—Overflow in an Incoming Call Distribution Group feature is not assigned in one of the following conditions:

- a) There is no space in the Waiting queue.
- b) The Queuing Table is not assigned and there are no extensions logged-in.

[Example of a)]

When the answering agent number (→ Maximum Number of Agents) is "2", and the queuing call number (→ Queuing Call Limit) is "0":

There are five assistants in the shop. If two of them are engaged on the phone, the next caller will hear busy tone to prevent the caller from thinking that there is no one in the shop or that the shop is closed.

Conditions

[Intercept Routing—Overflow in an Incoming Call Distribution Group]

- **If the Overflow time expires, and the overflow destination is unavailable:**
If the trunk call arrives through the LCOT or T1 (L-CO/G-CO) Card: The line is disconnected.
If the call arrives through the other cards: Redirection is ignored and the Overflow timer activates again.

[Busy on Busy]

- If a trunk call arrives through the LCOT or T1 (L-CO/G-CO) Card, busy tone will not be sent to the caller.

Log-in/Log-out

Description

Incoming call distribution group members can join (log-in) or leave (log-out) the groups manually.

They can leave the group temporarily when they are away from their desks, to prevent calls being sent to their extensions. They can return to the group when they are ready to answer calls.

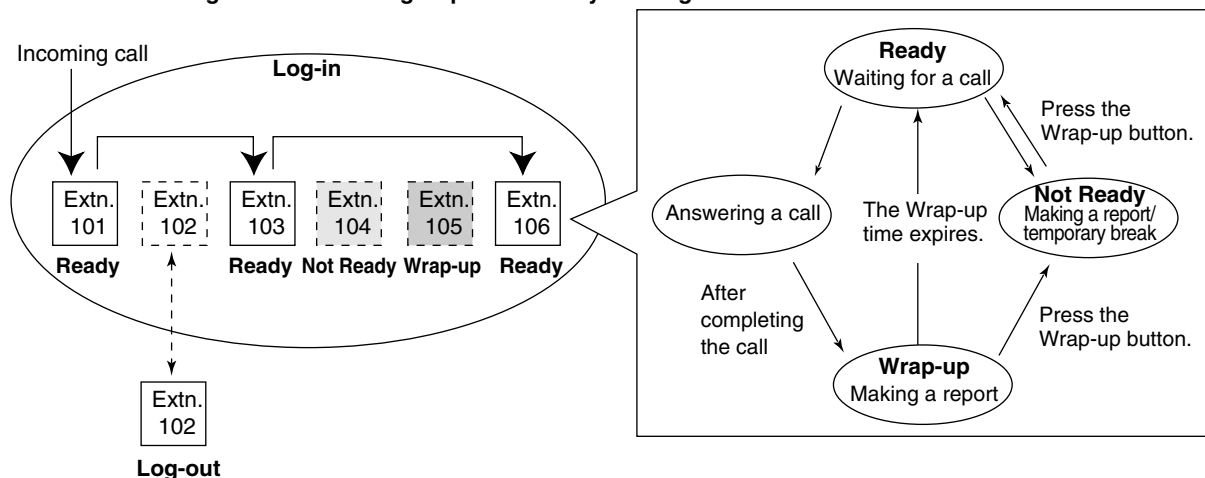
Wrap-up:

While logged-in, a member extension can have a preprogrammed time period automatically for refusing calls after completing the last call (Wrap-up time). While Wrap-up timer is active, calls to all incoming call distribution groups to which the extension belongs will skip the extension so that he can make some report or etc.

Wrap-up mode can also be activated manually (Not Ready) by pressing the Wrap-up button.

[Log-in/Log-out and Wrap-up Status Example]

<When the incoming call distribution group is in Priority Hunting distribution method>



Conditions

- Generally, there should be at least one extension in a group that is logged-in. However, all extensions can log-out if permitted through system programming.
- Log-in/Log-out Button**
A flexible button can be customised as the Log-in/Log-out button with the following parameters:

Parameter	Usage	Light Pattern	
		Red on	Off
No parameter	Used with a G-DN button	—	—
Specified incoming call distribution group number	Used to log-in or log-out from the specified incoming call distribution group.	Log-out Status	Log-in Status

1.2 Receiving Group Features

Parameter	Usage	Light Pattern	
		Red on	Off
✖ (All)	Used to log-in or log-out from all incoming call distribution groups to which you belong.	After Log-out Operation	After Log-in Operation

- If a G-DN button is assigned, it also shows the log-in/log-out status of the corresponding group. The light pattern is the same as the Log-in/Log-out button which includes the group number.
- **Wrap-up Button**
A flexible button can be customised as the Wrap-up button. It shows the current status as follows:

Light pattern	Status
Slow red flashing	Wrap-up
Red on	Not Ready
Off	Ready (Wrap-up mode cancel)

- **Automatic Log-out**
A member extension may be logged-out automatically, if the Unanswered time expires a preprogrammed number of times consecutively. The number of consecutive unanswered calls can be assigned for each incoming call distribution group. If the extension is a member of more than one incoming call distribution group, the unanswered number is counted across all corresponding incoming call distribution groups. It is possible to return to the log-in mode manually.
- **Log-in/Log-out Monitor**
The supervisor extension can monitor and control the log-in/log-out status of the incoming call distribution group members. (→ Supervisory Feature in Section 1.2.2 Incoming Call Distribution Group Features—SUMMARY)
- **Log-in/Log-out Information on SMDR**
Log-in/Log-out information can be printed out on SMDR. (→ 1.23.1 SMDR)

Supervisory Feature

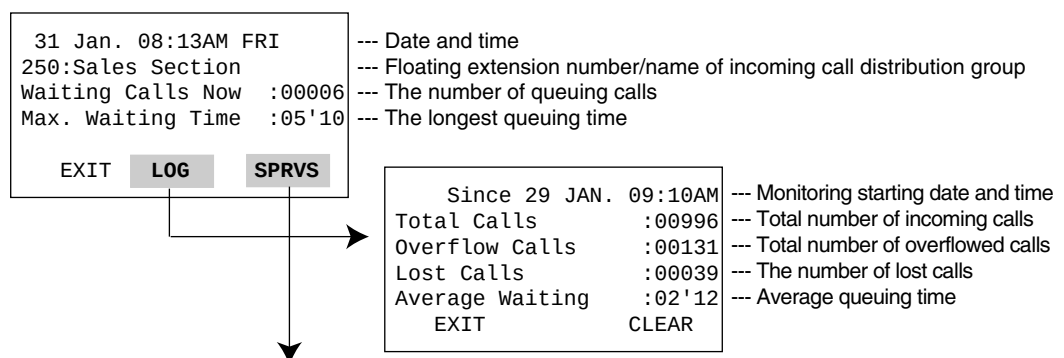
Description

An extension preprogrammed as a supervisor (supervisor extension) can monitor and control the each member's status within the incoming call distribution group using a 6-line display PT.

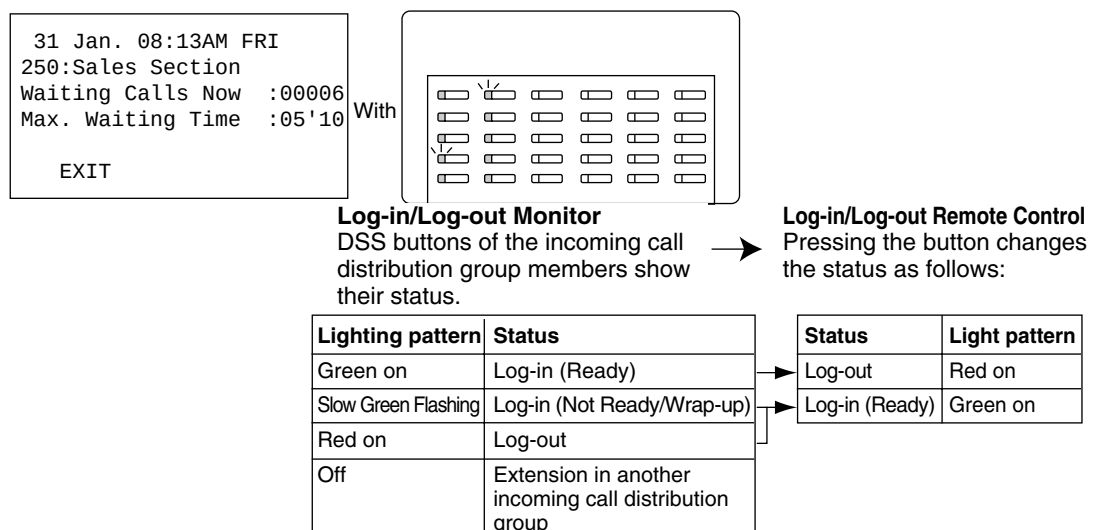
Feature	Description
Incoming Call Queue Monitor	The supervisor extension can monitor the status of an incoming call distribution group with the display.
Log-in/Log-out Monitor and Remote Control	Monitor: The supervisor extension can monitor the log-in/log-out status of the incoming call distribution group members through the corresponding DSS button light. Remote Control: The supervisor extension can change the status of the members by pressing the corresponding DSS button.

[Example]

<Incoming Call Queue Monitor Display>



<Log-in/Log-out Monitor/Remote Control Mode with DSS Button light>



Conditions

- **Available Extension as a Supervisor Extension**
 - a) One supervisor extension can be assigned for each incoming call distribution group, but it need not belong to the group.
 - b) One extension can be the supervisor extension of more than one incoming call distribution group.
- **Available Paired DSS Console**

The KX-T7640 is only available for this feature.
- **Accumulation Value Clear**

Accumulation value (total incoming calls/total overflowed calls/lost calls/average queuing time) can be cleared manually. The date and time of clearing is saved and it is shown on the display (monitoring starting date and time). When the value exceeds 99999, before clearing, "*****" will be shown.
- **If a call to an incoming call distribution group is overflowed:**

If the display is in idle status, it will change to monitor mode for the corresponding incoming call distribution group automatically.
If the display is monitoring another incoming call distribution group, it will not change.
- **Other Features while in Monitor Mode**

The supervisor extension can use other features (making calls, pressing the MESSAGE button, etc.) even while in monitor mode. When each operation is finished, his telephone returns to the queue monitor display.

1.3 Call Forwarding (FWD)/Do Not Disturb (DND) Features

1.3.1 Call Forwarding (FWD)/Do Not Disturb (DND) Features—SUMMARY

Description

When an extension user cannot answer calls (e.g., busy, not at the desk), it is possible to forward or refuse the calls using the following features:

- 1) Call Forwarding (FWD)
- 2) Do Not Disturb (DND)

1. FWD

Extensions and incoming call distribution groups can forward their incoming calls to preset destinations.

2. DND

An extension user can send the tone to let the caller know he is not available.

Conditions

- **FWD and DND features apply to:**
Intercom calls (including doorphone calls), and trunk calls (including a call from an extension that placed a trunk call on a consultation hold.)
- **FWD/DND Button**
Both the FWD and DND features for the extension can be customised on a flexible button. Only one of the features will work at a time.
Multiple types of FWD/DND buttons can be customised on an extension.
- **Group FWD Button**
The FWD feature for the incoming call distribution group can be customised on a flexible button. Multiple types of Group FWD buttons can be customised on an extension.

[FWD/DND Button and Group FWD Button Types]

Type		Description
FWD/DND for Extension	FWD/DND—Internal	Works for incoming intercom calls
	FWD/DND—External	Works for incoming trunk calls
	FWD/DND—Both	Works for all incoming calls
FWD for Incoming Call Distribution Group	Group FWD—Internal	Works for incoming intercom calls
	Group FWD—External	Works for incoming trunk calls
	Group FWD—Both	Works for all incoming calls

[Button Status]

The FWD/DND button and Group FWD button show the current status as follows:

The pattern can be changed through system programming.

1.3 Call Forwarding (FWD)/Do Not Disturb (DND) Features

Light pattern	Status (default)
Red on	FWD on
Slow red flashing	DND on
Off	FWD/DND off

[Mode Change]

When either the FWD or DND feature is assigned, pressing the FWD/DND button changes the on/off setting alternately. When both the features are assigned simultaneously, pressing the button changes the settings as follows:



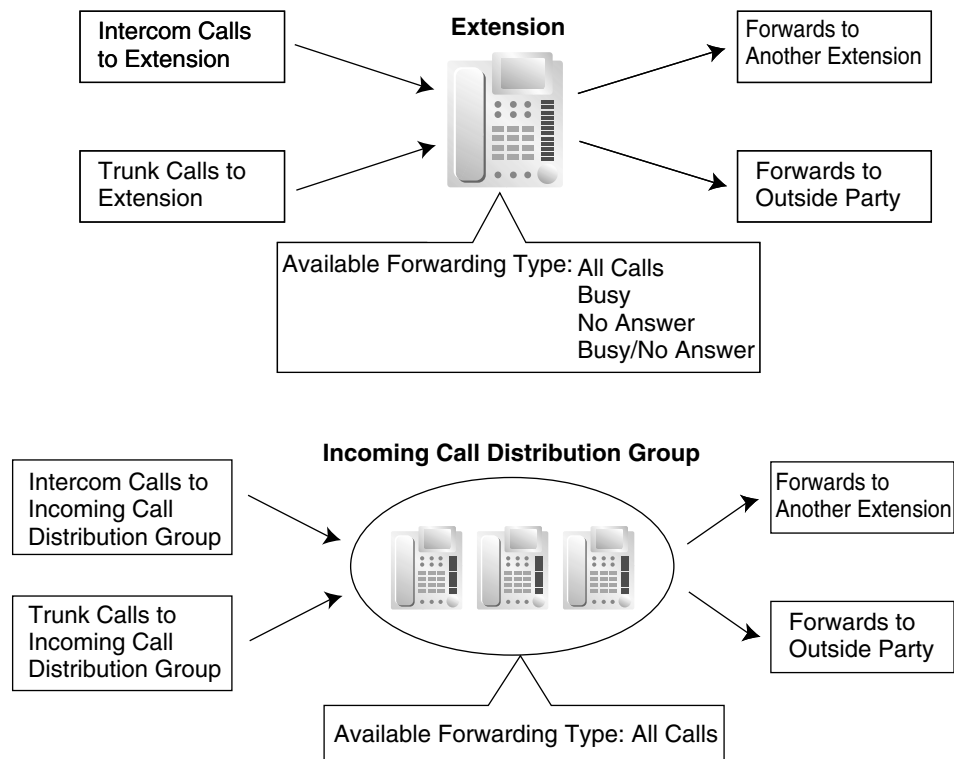
Call Forwarding (FWD)

Description

Extensions and incoming call distribution groups can forward their calls to preset destinations. The circumstances under which the calls are forwarded are as follows:

Type	Circumstance
All Calls	Any time Follow Me: When an extension user fails to set this feature before leaving the desk, this feature can be set from the destination extension.
Busy	When the extension user's line is busy.
No Answer	When the extension user does not answer within a preprogrammed time (→ Call Forwarding—No Answer Time).
Busy/No Answer	When the extension user's line is busy or the user does not answer within a preprogrammed time (→ Call Forwarding—No Answer Time).

Depending on the type of incoming intercom or trunk calls, it is possible to set different destination for each.



1.3 Call Forwarding (FWD)/Do Not Disturb (DND) Features

[Available Destination]

Destination	Availability	Condition for Original Extension/Incoming Call Distribution Group
Wired Extension (PT/SLT/ISDN Extension/T1-OPX)	○	Only available when FWD to extension is allowed through COS programming.*
Digital Wireless Extension (DWX)	○	
Incoming Call Distribution Group	○	
DWX Ring Group	○	—
VM Group (DTMF/DPT)	○	—
External Pager (TAFAS)	○	Only available when access to the resource is allowed through COS programming.
DISA	○	
Analogue/ISDN Remote Maintenance	○	—
Idle Trunk Access no. + Phone no.	○	Only available when FWD to trunk is allowed through COS programming.
Trunk Group Access no. + Phone no.	○	
Other PBX Extension (TIE with no PBX Code)	○	—
Other PBX Extension (TIE with PBX Code)	○	—

*: If an extension user cannot call certain extensions on a COS basis (→ Internal Call Block in Section 1.1.2 Internal Call Features—SUMMARY), the FWD feature to the extension does NOT work.

Conditions

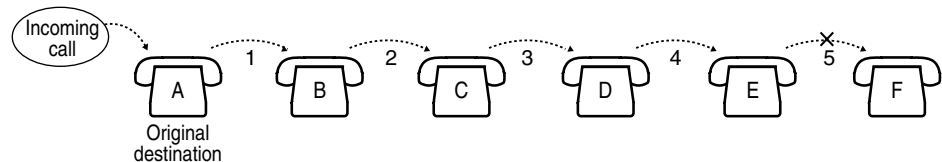
[General]

- **FWD for Trunk Calls/Intercom Calls**
The FWD feature can be set for trunk calls, for intercom calls, or for both of them by the extension user.
- **FWD from Incoming Call Distribution Group (Group FWD)**
COS programming determines the incoming call distribution groups that can use this feature.
- **FWD to Trunk**
COS programming determines the extensions or incoming call distribution groups that can forward calls externally (→ Call Forwarding on Trunk Calls).
The original extension's TRS/Barring and ARS still apply to the forwarded call.
- **Trunk Call Duration**
If a call between an extension user and an outside party, or between two outside parties is established, the call duration can be restricted by a system timer (→ Extension-to-Trunk Call Duration Time and Trunk-to-Trunk Call Duration Time). If the timer expires, the line will be disconnected. (→ 1.9.8 Trunk Call Limitation)

- **Multiple FWD**

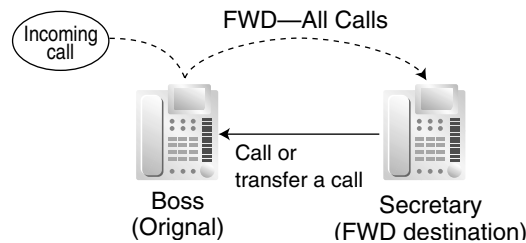
Calls can be forwarded up to four times. The following forwarding features are counted as Multiple FWD:

- a) FWD
- b) Idle Extension Hunting—Overflow
- c) Intercept Routing
- d) Incoming Call Distribution Group—Overflow



- **Boss & Secretary feature**

It is possible to call the original extension from the destination extension regardless of the forward setting.



- **Message Waiting**

While calls are forwarded, Message Waiting information is not forwarded. The MESSAGE button light turns on at the originally called extension.

- **Idle Extension Hunting**

Idle Extension Hunting applies to calls forwarded to a busy extension in an idle extension hunting group.

[All and Busy]

- If the forward destination is not available to answer a call, this feature is cancelled and the original destination will ring for the following type of call:
 - Doorphone call
 - Trunk calls via the LCOT or T1 (L-CO/G-CO) Cards

[No Answer and Busy/No Answer]

- **No Answer Time**

The number of rings before the call is forwarded is programmable for each extension (→ Call Forwarding—No Answer Time).

[Follow Me]

- This feature is only available when the original extension is allowed on a COS basis.

Do Not Disturb (DND)

Description

An extension user can make use of the DND feature. If this feature is set, calls will not arrive at the extension, but arrive at other extension by using the Idle Extension Hunting feature (→ 1.2.1 Idle Extension Hunting) or the Intercept Routing—Busy/DND feature (→ Intercept Routing in Section 1.1.1 Incoming Trunk Call Features—SUMMARY). When a destination cannot be found, the calling extension will hear the DND tone, while the calling outside party will hear busy tone.

Conditions

- **DND for Trunk Calls/Intercom Calls**
The DND feature can be set for trunk calls, for intercom calls, or for both of them by the extension user.
- **DSS button in DND Mode**
The DSS button light will turn red if the assigned extension has set DND.
- **DND Override**
An extension in DND mode can be called by other extension users who are allowed to override DND in their COS (→ DND Override).
- **Paging DND**
It is programmable whether the PBX pages extensions in DND mode through system programming.
- **Intercept Routing—Busy/DND**
If a call arrives at the extension in DND mode, the call can be redirected to the preprogrammed destination by the Intercept Routing—Busy/DND feature.
- **Idle Extension Hunting**
While searching for an idle extension within an idle extension hunting group, any extension which has DND set will be skipped. The call will go to the next extension in the group, not the Intercept Routing—Busy/DND destination.
- If (1) the trunk call via the LCOT or T1 (L-CO/G-CO) Card arrives at the extension in DND mode and (2) the Intercept Routing—Busy/DND destination is not available and (3) there is no available extension in the idle extension hunting group, then the original extension in DND mode will ring.
- Calls from a doorphone arrive at the extension even when the extension is in DND mode.

1.4 Answering Features

1.4.1 Answering Features—SUMMARY

Description

An extension user can answer incoming calls by the following methods:

Destination	Feature	Description	Details in
At the own extension (PT only)	Line Preference—Incoming	A user can select the line seized when going off-hook.	• Line Preference—Incoming
	Direct One-touch Answering	A user can answer an incoming call simply by pressing the flashing button.	–
	Hands-free Answerback	A user can receive a call automatically and establish a hands-free conversation.	• Hands-free Answerback
At another extension	Call Pickup, Directed/Group	A user can pick up a specified extension's call or a call in a specified call pickup group.	• Call Pickup

Line Preference—Incoming

Description

A PT user can select the method used to answer incoming calls from the following three line preferences:

Each of these line preferences can be assigned on each extension through personal programming (Preferred Line Assignment—Incoming).

Type	Description
No Line	Selects a line by pressing the desired Line Access button to answer an incoming call after you go off-hook.
Prime Line	Answers a call arriving at a Flexible CO, G-DN (on which the "prime line" is assigned) or the INTERCOM button simply by going off-hook. This works even when multiple calls are received simultaneously.
Ringing Line (default)	Answers the longest ringing call at the own telephone simply by going off-hook.

Conditions

[Prime Line]

- The priority of the incoming call is as follows:
 - 1) The call arriving at a button on which the "prime line" is assigned.
 - 2) The call arriving at the INTERCOM button.

Call Pickup

Description

An extension user can answer a call ringing at any other extension.
The following types are available:

Type	Picking up Call Type
Directed	A specified extension's call.
Group	A call within a specified call pickup group.

Call Pickup Deny:

Preventing other extensions from picking up calls ringing at your extension is also possible.

Conditions

- **Call Pickup applies to:**
Intercom, trunk, and doorphone calls
- **Internal Call Block**
An extension which cannot call certain extensions on a COS basis (→ Internal Call Block in Section 1.1.2 Internal Call Features—SUMMARY) also cannot pick up any calls ringing at those extensions.

[Call Pickup, Directed]

- A user can also pick up a specified extension's call (except an ISDN extension's call) by pressing the corresponding DSS button. COS programming determines the extensions that can use this feature.

[Call Pickup, Group]

- A specified number of call pickup groups can be created (→ Pickup Group for Extension Group), each of which consists of extension groups. One extension group can belong to several call pickup groups.

Hands-free Answerback

Description

A PT user with a speakerphone can talk to a caller without lifting the handset. If the user receives a call in Hands-free Answerback mode, a hands-free conversation is established in the following method:

Type	Answering Method
Intercom Call	Established immediately after a beep tone at the called extension and the caller hears a confirmation tone.
Trunk Call*	Established after a specified number of rings, a called extension hears a beep tone and the caller hears a confirmation tone.

*: Including a call from an extension that placed a trunk call on a consultation hold.

Conditions

- **Hands-free Answerback applies to:**
Intercom calls and trunk calls to a single destination, and incoming call distribution group calls in UCD or Priority Hunting distribution method.
- **Hands-free Answerback for Trunk Calls**
Personal programming is required to use this feature (Hands-free Answerback Selection—for Outside Calls).
- **Secret Monitor**
The beep tone which the called party hears before answering can be eliminated through system programming.
- **Alternate Receiving/Calling Mode (Ring/Voice) Override**
Hands-free Answerback overrides the Alternate Receiving mode preset on the telephone and the Alternate Calling mode from the caller.
- **Hands-free Answerback with Headset**
The Hands-free Answerback feature can also be used with a headset.

1.5 Making Call Features

1.5.1 Predialling

Description

A display PT user can check and correct the number to be dialled on-hook. The call will be initiated after going off-hook.

1.5.2 Automatic Extension Release

Description

After going off-hook, if an extension user fails to dial any digits within a preprogrammed time period, the call will be terminated by the PBX and the user will hear reorder tone. To make a call, the user must go back on-hook and then off-hook. This operation applies to intercom calls only.

This feature is also known as Automatic Station Release.

Conditions

- **This feature works in the following cases:**
 - When making an intercom call
 - a) The first digit has not been dialled within a preprogrammed time period.
 - b) After a digit is dialled, if subsequent digits are not dialled within a preprogrammed time period.

1.5.3 Line Preference—Outgoing

Description

A PT user can select the outgoing line he prefers to originate calls on, from the following line preferences, through personal programming (Preferred Line Assignment—Outgoing):

Feature	Description
Intercom	When an extension user goes off-hook, an intercom line is selected automatically.
Idle Line	When an extension user goes off-hook, an idle trunk is selected automatically from the assigned trunk groups.
No Line	When an extension user goes off-hook, no line is selected. He must select the desired line to make a call.
Prime Line	When an extension user goes off-hook, the preset line is selected automatically. A prime line can be selected from the Line Access buttons: S-CO, G-CO, L-CO, G-DN.

Conditions

- **Line Preference Override**
A user can override the preset Line Preference temporarily by pressing the desired Line Access button or Memory Dialling button (e.g., One-touch Dialling) before going off-hook.
- To select Idle Line Preference, the trunk groups available to the extension should be programmed on a COS basis (→ Outgoing Trunk Group Number). Also trunk groups available for Idle Trunk Access should be assigned (→ Automatic Trunk Group Access Assignment).

1.5.4 Automatic Callback Busy (Camp-On)

Description

If the line is busy when a call is made, callback ringing will inform the caller when the line becomes free using this feature. After the extension answers the callback ringing, the dialled number is automatically redialled.

Conditions

- If the callback ringing is not answered within a preprogrammed time period, the callback is cancelled.
- If the extension hears busy tone before dialling the telephone number, only the trunk or trunk group is reserved. After answering the callback ringing, the extension should dial the telephone number.
- An extension can set only one feature at a time.
- Multiple extension users can set this feature to one trunk simultaneously. However, a maximum of four extension users can set this feature to one extension.
- The priority of the callback is the setting order.

1.5.5 Executive Busy Override

Description

Allows an extension user to interrupt an existing call to establish a three-party conference call.

Executive Busy Override Deny:

It is possible for extension users to prevent their calls from being intercepted by another extension user.

Conditions

- COS programming determines extension users who can use the Executive Busy Override (→ Executive Busy Override) and set the Executive Busy Override Deny mode (→ Executive Busy Override Deny).
- This feature does not work if the busy extension has set Executive Busy Override Deny or Data Line Security.
- This feature is not available for a trunk-to-trunk call via DISA.

1.5.6 Intercom Call

Description

An extension user can call another extension user.

Conditions

- **Extension Number/Name Assignment**
Extension numbers (→ Extension Number) and names (→ Extension Name) are assigned to all extensions. The assigned number and a name are shown on display PTs during intercom calls.
- **Call Directory—Extension Dialling**
Display PT users can make a call by selecting stored numbers and/or names on the display.
- **Alternate Receiving—Ring/Voice**
A PT user can select to receive intercom calls by ring tone or by voice, through personal programming (Alternate Receiving—Ring/Voice). If a user selects voice-calling, the calling party talks to the user immediately after a confirmation tone. Denying voice-calling can also be selected.
- **Alternate Calling—Ring/Voice**
A caller can change the called party's preset call receiving method (ring tone or voice). By doing so, ring-calling is switched to voice-calling, or vice versa, at the called party. The called party may deny voice-calling.
- **Tone after Dialling**
After dialling an extension number, a user will hear one of the following:

Type	Description
Ringback Tone	Indicates the called party is being called.
Confirmation Tone	Indicates the called party has set voice-calling.
Busy Tone	Indicates the called party is busy.
DND Tone	Indicates the called party has set DND.

1.5.7 Second Call Notification to Busy Extension— SUMMARY

Description

When attempting to call a busy extension (ringing or having a conversation), an extension user can send call waiting indication to the busy extension (**Call Waiting**). The notification receiving method depends on the called extension's personal setting and the telephone type:

Notification Receiving Method	Description	Details in
Call Waiting Tone	Sends the Call Waiting tone to the busy extension.	• Call Waiting Tone
Off-Hook Call Announcement (OHCA)	Talk with the busy extension using the built-in speaker and microphone of the called extension while the existing call is made using the handset.	• Off-Hook Call Announcement (OHCA)
Whisper OHCA	Give a message to the busy extension through the handset.	• Whisper OHCA

Conditions

- Each extension user can choose to receive Call Waiting tone, OHCA, Whisper OHCA, or none of these.
- OHCA and Whisper OHCA are enabled or disabled by the COS of the calling extension.
- OHCA and Whisper OHCA do not work for some telephone types. In such cases, the Call Waiting tone will be sent to the called extension.

Calling Extension's OHCA COS Mode	Called Extension's Call Waiting Mode			
	OFF	ON		
	Cancel	Call Waiting Tone	OHCA	Whisper OHCA
Disable	Call Waiting disabled	Call Waiting tone	Call Waiting tone	Call Waiting tone
Enable	Call Waiting disabled	Call Waiting tone	OHCA (or Call Waiting tone)	Whisper OHCA (or Call Waiting tone)

- The notification receiving methods (Call Waiting tone, OHCA, and Whisper OHCA) are available when the called extension is having a conversation with other party. If not, the calling extension will be kept waiting until the called extension become available to receive the notification. Even while waiting, the calling extension will hear a ringback tone.
- If none of these notification receiving methods, Call Waiting tone, OHCA, or Whisper OHCA is set at the called party, the caller will hear reorder tone.

Call Waiting Tone

Description

When an extension user attempts to call a busy extension (ringing or having a conversation), the Call Waiting tone can be sent to the called extension to let him know another call is waiting.

Conditions

- This feature only works if the called extension has activated Call Waiting. If it is activated, the calling extension will hear a ringback tone.
- Call Waiting tone can be selected (Tone 1 or Tone 2) through personal programming (Call Waiting Tone Type Selection).

Off-Hook Call Announcement (OHCA)

Description

An extension user can talk with a busy extension through the built-in speaker and microphone of the called party's PT. If the existing call is using a handset, a second conversation is made using the speakerphone and microphone so that the called extension can talk to both parties.

Conditions

- COS programming determines which extensions can use this feature.
- This feature is available only when the called extension uses one of the following telephones:
 - KX-T7620, KX-T7630, KX-T7633, KX-T7636
 - KX-T7536
 - KX-T7436
 - KX-T7235 (except KX-T7235G/FR/SL/NE)
- If the KX-T7235G/FR/SL/NE are connected to the PBX, the OHCA feature for the KX-T7235 should be disabled through system programming.
- If the OHCA feature cannot be used due to COS or called extension's telephone type, the Call Waiting tone will be sent to the called extension.

Whisper OHCA

Description

An extension user can give a message to a busy extension through the handset.

Conditions

- COS programming determines which extensions can use this feature.
- This feature is available only when the calling and called extension use one of the following telephones:
 - KX-T7600 series
 - KX-T7500 series
 - KX-T7400 series (except KX-T7451)
- If the Whisper OHCA feature cannot be used due to COS or telephone type, the Call Waiting tone will be sent to the called extension.
- If the called extension does not use a KX-T7600, KX-T7500, or KX-T7400 series telephone but forces Whisper OHCA, the announcement may be heard by the other party.
- It is possible to enable the Whisper OHCA on any telephone. However, it may not work properly. (e.g., The voice may be heard by the other party.)

1.5.8 Trunk Access

Description

There are the following features to access a trunk.

Feature	Description	Accessing method
Idle	Selects an idle trunk automatically from the assigned trunk groups.	Dial the Idle Trunk Access number. Or press a L-CO button.
Trunk Group	Selects an idle trunk from the assigned trunk group.	Dial the Trunk Group Access number. Or press a G-CO button.
Individual	Selects the desired trunk directly.	Dial the Individual Trunk Access number. Or press the S-CO button.

Conditions

- COS programming determines the trunk groups available for making calls (→ Outgoing Trunk Group Number).
- An Individual Trunk Access Number can be assigned on a trunk port basis (→ Trunk Access Number Reference).

- **Button Assignment**

A flexible button can be customised as a G-CO, L-CO, or S-CO button as follows:

Type	Assignable parameter
Loop-CO (L-CO)	No parameter (All assigned trunk groups through system programming are applied.)
Group-CO (G-CO)	A trunk group is assigned.
Single-CO (S-CO)	A specified trunk is assigned.

It is possible to assign trunks in the following ways:

- The same trunk to the S-CO button and to a G-CO button
- The same trunk group to more than one G-CO button
- More than one L-CO button

Dialling the Trunk Access number selects a CO button according to the priority: S-CO → G-CO → L-CO

- **Direct Trunk Access**

By pressing an idle CO button, it automatically switches on the hands-free operation mode and allows a user to use On-hook Dialling. The user need not press the SP-PHONE button, MONITOR button, or lift the handset.

- **Group Hunting Order for Idle Trunk Access**

An idle trunk is selected from the trunk groups assigned for Idle Trunk Access. If multiple trunk groups are available, the trunk group hunting sequence can be determined through system programming.

- **Trunk Hunting Order for Idle Trunk Access and Trunk Group Access**

The trunk hunting sequence in a trunk group; from lowest numbered trunk, from highest numbered trunk or rotation, can be determined through system programming.

1.5 Making Call Features

- A company name or customer name can be assigned on a trunk port basis (→ Trunk Name) so that the operator or extension user can view the destination which the caller is trying to reach before answering.
- It is possible to identify the trunk port that has a trunk connected to it (→ Trunk Connection). This prevents extension users from originating a call to a trunk which is not connected.

1.5.9 Emergency Call

Description

An extension user can dial the preprogrammed emergency numbers (→ Emergency Dialling Number) after seizing a trunk regardless of the restrictions imposed on the extension.

Conditions

- A specified number of emergency numbers can be stored (some may have default values).
- Emergency numbers may be called even when:
 - in Account Code—Forced mode
 - in any TRS/Barring levels
 - after the preprogrammed call charge limit is reached
 - in Extension Lock

1.5.10 Account Code Entry

Description

An account code is used to identify outgoing trunk calls for accounting and billing purposes. The account code is appended to the SMDR call record. Therefore, for example, the firm uses an account code for each client so that the firm can determine what calls were made for the client, and can submit a bill to the client according to the client's account code on the SMDR call record.

There are two methods of entering account codes as follows:

One of the methods is selected for each extension on a COS basis (→ Account Code Mode).

Mode	Description
Option	A user can enter an account code if needed at any time desired.
Forced	A user must always enter an account code before seizing a trunk so as not to forget entering the code.

Conditions

- An account code can be stored into Memory Dialling (e.g., One-touch Dialling).
- **Account Button**
A flexible button can be customised as the Account button. The Account button is used in place of the feature number for entering an account code. This button is useful because it can be used at any time, while the feature number entry is allowed only when hearing a dial tone before seizing a trunk.
- Account code entry after receiving a disconnection signal from a trunk must be done while hearing reorder tone. Otherwise the SMDR call record is output and entry becomes impossible afterwards.
- If the account code is entered more than once, the code entered last is printed out in the SMDR.
- Even in Forced mode, emergency numbers can be dialled out without an account code.
- PT users can also enter an account code for incoming trunk calls during a conversation.
- **Verified Code Entry**
To identify who made a trunk call for accounting and billing purpose, a verified code is used. This code can be used at any extension. (→ 1.7.6 Verified Code Entry)

1.5.11 Dial Type Selection

Description

The dialling mode (rotary or tone) can be selected for each analogue trunk through system programming (→ LCOT Dialling Mode) regardless of originating extension (under contract with the telephone company).

There are the following modes:

Mode	Description
DTMF (Dual Tone Multi-Frequency)	The dialling signal from an extension is converted to tone dialling. DTMF signals are transmitted to the trunk.
Pulse Dial (Rotary)	The dialling signal from an extension is converted to rotary dialling. Rotary pulses are transmitted to the trunk.

Conditions

- Pulse to Tone Conversion**
 It is possible for an extension user to temporarily convert the Pulse mode to DTMF mode so that the user can access special services such as computer-accessed long distance calling or voice mail services. Conversion type can be selected. This feature works only on trunks set to Pulse mode. DTMF mode cannot be changed to Pulse mode.
- It is possible to select a pulse rate for the trunk port which has been set to Pulse mode (→ LCOT Pulse Speed). There are two pulse rates; Low (10 pps) and High (20 pps).
- It is possible to assign the minimum duration of the DTMF signal sent to the trunk port which has been set to DTMF mode (→ LCOT DTMF Duration).

1.5.12 Dial Tone Detection

Description

A dialled number is sent to the trunk after detecting the dial tone. If the preprogrammed Detection time expires, the trunk will be disconnected.

Conditions

- This feature is enabled or disabled for each trunk.

1.5.13 Pause Insertion

Description

A preprogrammed Pause time (→ LCOT Pause Time) will be inserted manually or automatically.

Manual Insertion: Pressing the PAUSE button.

Automatic Pause Insertion: A pause will be automatically inserted between the user-dialled codes below and the following digits.

- a) Host PBX Access code
- b) Special Carrier Access code
- c) Second Dial Tone Waiting code

Conditions

- The Pause time is programmable for each trunk group.
- Pause can be stored in Memory Dialling.
- Pressing the PAUSE button while dialling a number inserts a pause for a preprogrammed time.
- When a preprogrammed Second Dial Tone Waiting code is dialled after seizing a trunk, pauses are inserted a preprogrammed number of times after the code.

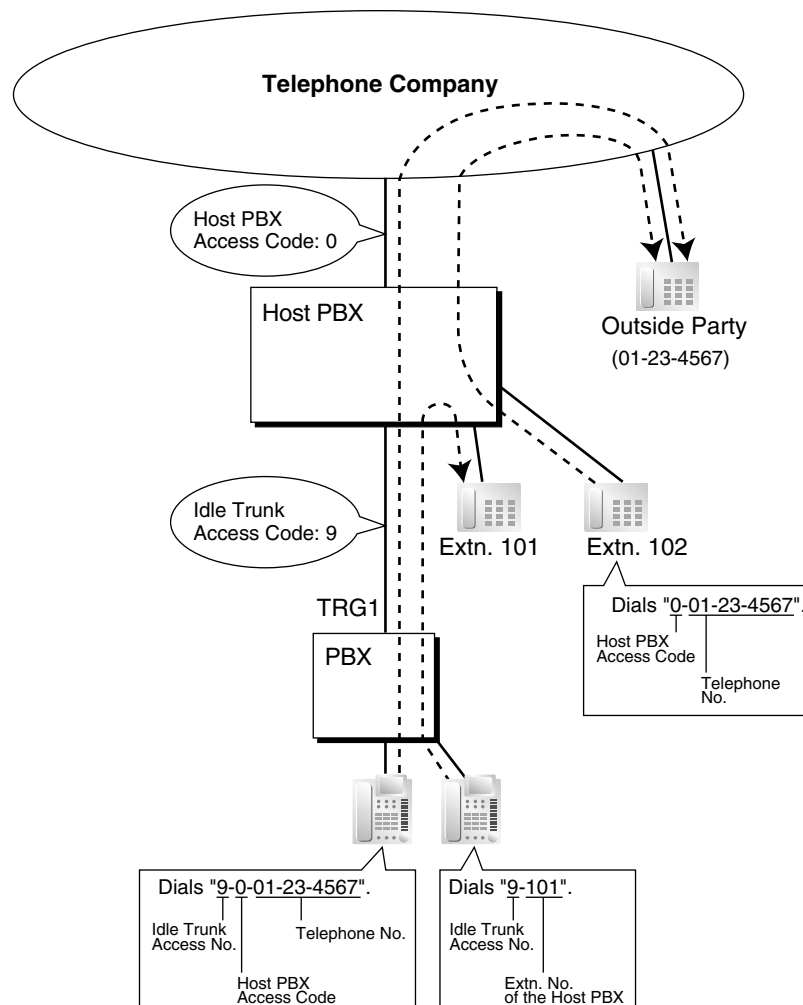
1.5.14 Host PBX Access Code (Access Code to the Telephone Company from a Host PBX)

Description

This PBX can be installed behind an existing host PBX. This is performed by connecting extension ports of the host PBX to trunk ports of this PBX. A Host PBX Access code assigned through system programming (→ Host PBX Access Code) is required to access the telephone company from the host PBX. The Trunk Access number of the host PBX should be stored as a Host PBX Access code on a trunk group of this PBX basis.

A preprogrammed Pause time (→ LCOT Pause Time) will be automatically inserted between the user-dialled Host PBX Access code and the following digits. (→ 1.5.13 Pause Insertion).

[Example]



Note: "0" should be assigned as a Host PBX Access code for trunk group (TRG) 1 of this PBX.

Conditions

- **TRS/Barring**
TRS/Barring checks only the dialled telephone number excluding the Host PBX Access code when accessing the telephone company through the host PBX.
- **SMDR**
The dialled number including the Host PBX Access code can be recorded on the SMDR when accessing the telephone company through the host PBX.
- To record on the SMDR only long distance calls (not local calls) originated via the specific trunk group, assign the long distance call code as a Host PBX Access code to the trunk group.

1.5.15 Special Carrier Access Code

Description

If the PBX has access to multiple telephone companies, a Special Carrier Access code assigned through system programming (→ Special Carrier Access Code) is required every time when a trunk call is made.

A preprogrammed Pause time (→ LCOT Pause Time) will be automatically inserted between the user-dialled Special Carrier Access code and the following digits. (→ 1.5.13 Pause Insertion)

Conditions

- **TRS/Barring**
TRS/Barring checks only the dialled telephone number excluding the Special Carrier Access code.
- **If this PBX is installed behind an existing host PBX:**
A special Carrier Access code and a Host PBX Access code should be assigned separately: these codes cannot be assigned together as one code.

1.6 Memory Dialling Features

1.6.1 Memory Dialling Features—SUMMARY

Description

An extension user can store frequently dialled numbers in the PBX extension data and/or the PBX system data. A stored number is dialled automatically with a simple operation.

1. Features

Feature		Storing Method	Storing Place	Details in
One-touch Dialling		- Personal Programming - System Programming (PC Programming only)	PBX Extension Data	• One-touch Dialling
Last Number Redial (Outgoing Call Log)		The last dialled telephone number(s) is automatically stored.	PBX Extension Data	• Last Number Redial
Speed Dialling	Personal	- Personal Programming - Personal Operation with the Feature Number	PBX Extension Data	• Speed Dialling—Personal/System
	System	System Programming	PBX System Data	
Quick Dialling		System Programming	PBX System Data	• Quick Dialling
Hot Line		- Personal Programming - Personal Operation with the Feature Number	PBX Extension Data	• Hot Line
Incoming Call Log		Incoming call information is automatically stored.	PBX Extension Data	• 1.15.2 Incoming Call Log

2. Valid Input

Input	Display while Entering	Description
0-9/*/#	0-9/*/#	Stores the digits, * and #.
PAUSE (Pause)	P	Stores a pause by pressing the PAUSE button.
FLASH/RECALL (Hooking)*	F	Stores a flash/recall signal (EFA mode) by pressing the FLASH/RECALL button at the beginning of the number.

1.6 Memory Dialling Features

Input	Display while Entering	Description
INTERCOM (Secret)*	[/]	Conceals all or part of the number by pressing the INTERCOM button at the beginning and at the end of the number to be concealed. It is programmable whether the concealed part will appear on the display and SMDR.
TRANSFER (Transfer)*	T	Stores a transfer command by pressing the TRANSFER button at the beginning of the number (used only for a one-touch dialling). [Example] Storing "T + 305"= Transferring a call to extension 305.

*: Available only when in the system/personal programming mode

[Example]

When storing the number "9-123-456-7890" and concealing all of numbers,

Enter INTERCOM → 9 → 1 2 3 4 5 6 7 8 9 0 → INTERCOM.

Notes

- It is possible to store a Memory Dialling feature number in the beginning of the Memory Dialling numbers.
- It is possible to store several feature numbers in one Memory Dialling location.

Conditions

- **Trunk Access by Memory Dialling**

A specific Trunk Access number can be stored with the telephone number in Memory Dialling. However, if Memory Dialling is done after selecting a trunk, the stored Trunk Access number is ignored and the telephone number is sent using the selected trunk.

One-touch Dialling

Description

A PT user can access a person or feature by one-touch. This is activated by storing the number (e.g., extension number, telephone number, or feature number) in a One-touch Dialling button.

Conditions

- A flexible button can be customised as a One-touch Dialling button.
- **Full One-touch Dialling**
There is no need to go off-hook before pressing the One-touch Dialling button.

Last Number Redial

Description

Every extension automatically saves the last external telephone number dialled to allow the same number to be dialled again.

Automatic Redial:

If Last Number Redial is performed in hands-free mode and the called party is busy, redialling will be automatically repeated a preprogrammed number of times (→ Automatic Redial Repeat Times) at preprogrammed intervals (→ Automatic Redial Interval). The redial call no-answer ring duration is programmable.

This feature is only available for PT users with the SP-PHONE button.

Outgoing Call Log:

The last ten dialled numbers are automatically stored at each extension. A display PT user can redial easily any of the stored numbers.

Conditions

- The memorised telephone number is replaced by a new one.
- If any dialling operation is done or an incoming call is answered during Automatic Redial, Automatic Redial is cancelled.
- Automatic Redial is not available for some countries/areas when using an analogue trunk.
- **Interrupt Redial**
When the called party or the seized trunk is busy, it is possible to press the REDIAL button continuously until the called party or the trunk becomes idle. There is no need to go off-hook, before pressing the REDIAL button.
- It is possible to select the trunk to be used for redialling: idle line or the line previously used, through system programming.

Speed Dialling—Personal/System

Description

An extension user can make calls using abbreviated dialling for frequently dialled numbers which are stored in the PBX extension data, or the PBX system data (→ System Speed Dialling Number).

Personal Speed Dialling is also known as Station Speed Dialling.

Conditions

[General]

- Any number (e.g., telephone number, feature number) can be stored in a speed dialling number. A name can be assigned to each Personal Speed Dialling number, and System Speed Dialling number (→ System Speed Dialling Name).
- **Call Directory—Speed Dialling**
Display PT users can make a call by selecting stored numbers and/or names on the display.

[Personal Speed Dialling]

- **Personal Speed Dialling Display Lock**
An extension user can lock the Personal Speed Dialling number display to prevent other users from viewing the number. In this case, the Incoming Call Log information display is also locked. A Personal Password is required to use this feature.
- **Storing the Predialled Number in the Personal Speed Dialling**
The predialled number can be stored in the Personal Speed Dialling by pressing the AUTO/STORE button. In this case, the extension will enter into the personal programming mode automatically so that a name can be assigned for the stored number.

[System Speed Dialling]

- **TRS/Barring Override for System Speed Dialling**
It is possible to override the TRS/Barring using the System Speed Dialling (→ Speed Dialling TRS/Barring Level).
- **Memory Division for Tenant**
Each tenant can share the memory as desired through system programming.
(→ 2.2.3 Tenant Service)

Quick Dialling

Description

An extension user can access a person or feature easily. This is enabled by storing the number (e.g., extension number, telephone number or feature number) for Quick Dialling.

Conditions

- Quick Dialling is convenient in the following cases:
 - a)** Room service calls in a hotel
 - b)** Calling another branch via the public network. The extension user needs to dial only the extension number of another branch.
- Quick Dialling number follows the flexible numbering plan.
(→ 2.3.5 Flexible Numbering/Fixed Numbering)
- The storing example is as follows:

Location No.	Quick Dialling No.	Desired Number
Quick Dialling 01	110	9110 (Trunk Call)
Quick Dialling 02	5	5001 (Room Service)
Quick Dialling 03	2011	90123456789 (Another Branch)
:	:	:

Hot Line

Description

An extension user can make an outgoing call by only going off-hook, if the user has previously stored the telephone number or the extension number.

If the Hot Line feature is set and the user goes off-hook, a dial tone is generated for a specified Waiting time assigned through system programming (→ Hot Line Waiting Time) and then dialling starts. During the Waiting time the user can dial another party, overriding the Hot Line feature.

This feature is also known as Pickup Dialling.

Conditions

- **Capable Telephone**
PT, SLT, and T1-OPX

1.7 Toll Restriction (TRS)/Call Barring (Barring) Features

1.7.1 Toll Restriction (TRS)/Call Barring (Barring)

Description

TRS/Barring can prohibit an extension user from making certain trunk calls by COS programming. It is applied when the user goes off-hook, a trunk is seized and then a dialled number is sent to the trunk.

Each COS is programmed to have a TRS/Barring level for each time mode (day/lunch/break/night).

There are seven levels available. Level 1 is the highest level and the level 7 is the lowest. That is, level 1 allows all trunk calls and level 7 prohibits all trunk calls. Levels 2 through 6 are used to restrict calls by combining preprogrammed Denied and Exception Code Tables.

Denied Code Tables

An outgoing trunk call made by an extension with a level between 2 and 6 is first checked against the applicable Denied Code Tables. If the leading digits of the dialled number (not including the Trunk Access number) are not found in the table, the call is made. There are five Denied Code Tables for Levels 2 through 6 respectively.

Complete every table by storing numbers that are to be prohibited. These numbers are defined as denied codes.

Exception Code Tables

These tables are used to override a programmed denied code. A call denied by the applicable Denied Code Tables is checked against the applicable Exception Code Tables, and if a match is found, the call is made.

There are five Exception Code Tables for Levels 2 through 6 respectively.

Complete every table by storing numbers that are exceptions to the denied codes. These numbers are defined as exception codes.

TRS/Barring Override by System Speed Dialling

If the call is made using System Speed Dialling, the call can override the TRS/Barring. Each COS is programmed to have a TRS/Barring level for System Speed Dialling (→ TRS/Barring Override by System Speed Dialling).

Once this feature is set, it permits all extension users to make System Speed Dialling calls with the level for System Speed Dialling. Any extension which sets Extension Lock can also make a call using System Speed Dialling.

TRS/Barring Level

TRS/Barring level is determined by the applicable levels of Denied Code Tables and Exception Code Tables.

	Denied Code Tables ^{*1}	Exception Code Tables ^{*2}
Level 1	Not Programmable	Not Programmable
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 through 4	Tables for Levels 4 through 6
Level 5	Tables for Levels 2 through 5	Tables for Levels 5 through 6
Level 6	Tables for Levels 2 through 6	Tables for Level 6
Level 7	Not Programmable	Not Programmable

^{*1}: → TRS/Barring Denied Code

^{*2}: → Exception Code

Explanation:

Level 1: Allows all calls.

Level 2: Denies codes stored in the Denied Code Table for Level 2 except the codes stored in Exception Code Tables for Levels 2 through 6.

Level 3: Denies codes stored in the Denied Code Tables for Levels 2 and 3 except the codes stored in Exception Code Tables for Levels 3 through 6.

-
-
-

Level 7: Allows intercom calls only.

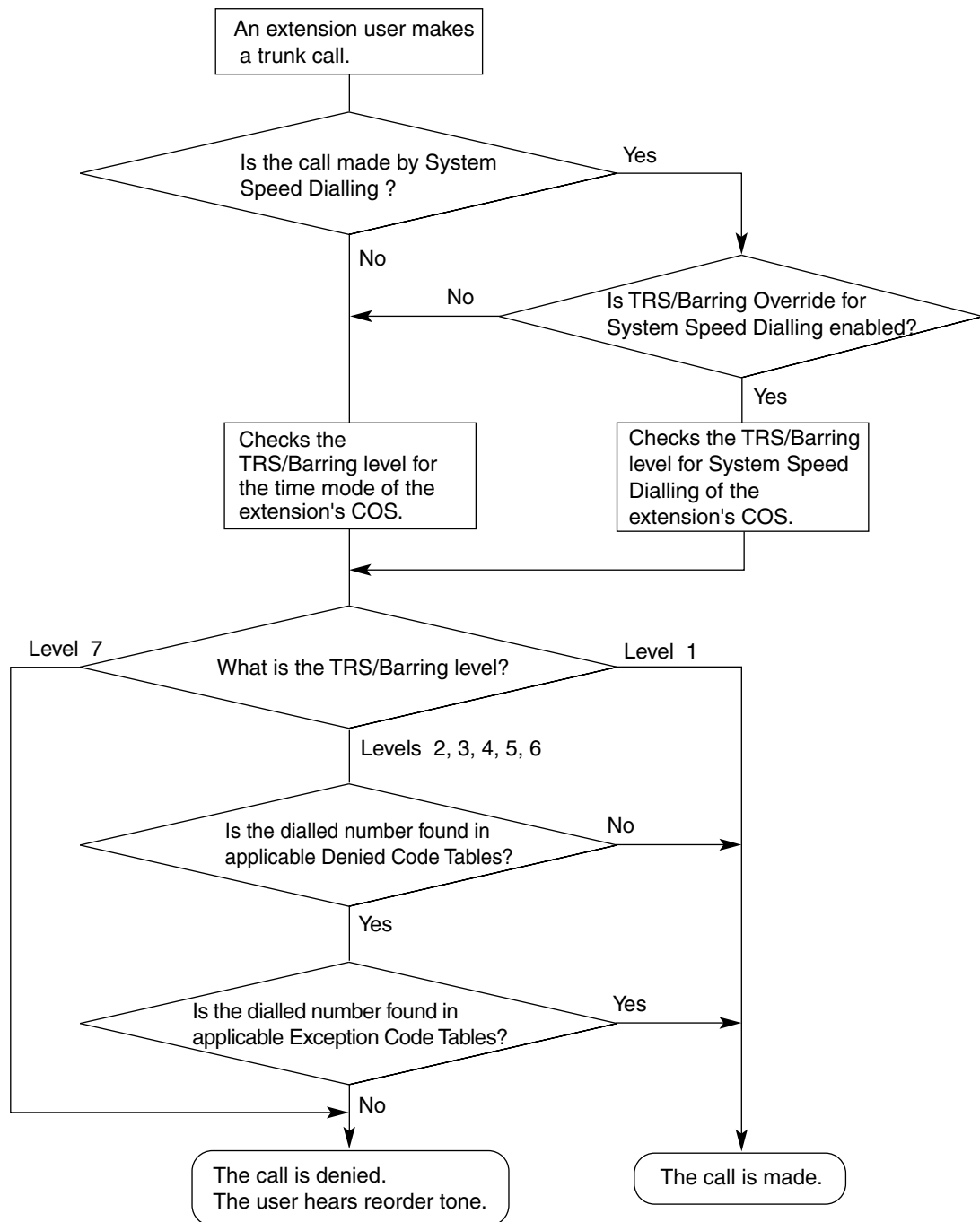
[Programming Example]

COS No.	Level for Time Mode ^{*1}				Level for System Speed Dialling ^{*2}
	Day	Lunch	Break	Night	
1	1	1	1	6	1
2	2	2	2	6	1
:	:	:	:	:	:

^{*1}: → TRS/Barring Level

^{*2}: → Speed Dialling TRS/Barring Level

[Flowchart]



Conditions

WARNING

The software contained in the TRS/Barring feature to allow user access to the network must be upgraded to recognise newly established network area codes and exchange codes as they are placed into service.

Failure to upgrade the premises PBXs or peripheral equipment to recognise the new codes as they are established will restrict the customer and the customer's employees from gaining access to the network and to these codes.

KEEP THE SOFTWARE UP-TO-DATE WITH THE LATEST DATA.

- A COS should be assigned for each extension (→ Class of Service)
- TRS/Barring checks are applied to the following:
 - ARS
 - Trunk Access (Idle/Trunk Group/Individual)
- It is programmable whether "*" or "#" is checked by the TRS/Barring. This is useful in preventing unauthorised calls which could be possible through certain telephone company exchanges.
- TRS/Barring checks the digits dialled after a flash/recall signal during a trunk call. It is programmable whether TRS/Barring checks the digits dialled after the External Feature Access signal during a trunk call.
- **Host PBX Access Code/Special Carrier Access Code**
 TRS/Barring checks for numbers dialled with a Host PBX Access code or a Special Carrier Access code in the following cases:

Type	Stored		Not stored
	Found	Not found	
Host PBX Access Code	Deletes the code. A TRS/Barring check is carried out on the following digits.	The call is made (excepted from TRS/Barring).	TRS/Barring checks the whole number.
Special Carrier Access Code	Deletes the code. A TRS/Barring check is carried out on the following digits.	TRS/Barring checks the whole number.	TRS/Barring checks the whole number.

- **ARS**
 If ARS is applied to a dialled number, TRS/Barring will check the user-dialled number (not the modified number by ARS). In this case, a Host PBX Access code and/or a Special Carrier Access code will not be checked.
- **Dialled Digit Restriction During Conversation**
 Dialled digits can be restricted while engaged on a received trunk call. If the dialled digits exceed the preprogrammed limitation, the line will be disconnected.
- A TRS/Barring level can be changed by some features. The priority of features, when multiple features are used, is as follows:
 - 1) Dial Tone Transfer
 - 2) Budget Management
 - 3) TRS/Barring Override for System Speed Dialling
 - 4) Remote COS Access/Verified Code Entry
 - 5) Extension Lock

1.7.2 Budget Management

Description

Limits the telephone usage to a preprogrammed budget. If the amount of the call charge reaches the limit, an extension user cannot make further trunk calls. A manager may increase the limit or clear the amount of the call charge.

Conditions

- If the limit is reached, TRS/Barring Level 7 is applied.
- **Budget Management for Verified Call**
If an extension user make a trunk call with a verified code, the call charge will be counted on the verified code (not the extension). The limit of the call charge can be assigned on each verified code.
- The pay tone service or ISDN Advice of Charge (AOC) service is required for this feature.

1.7.3 Extension Lock

Description

An extension user can change the TRS/Barring level of the telephone so that other users cannot make inappropriate trunk calls. Any numeric code (10 digits max.) can be used as a password to lock the telephone. The same code is used as a password to unlock it.

This feature is also known as Electronic Station Lockout.

Conditions

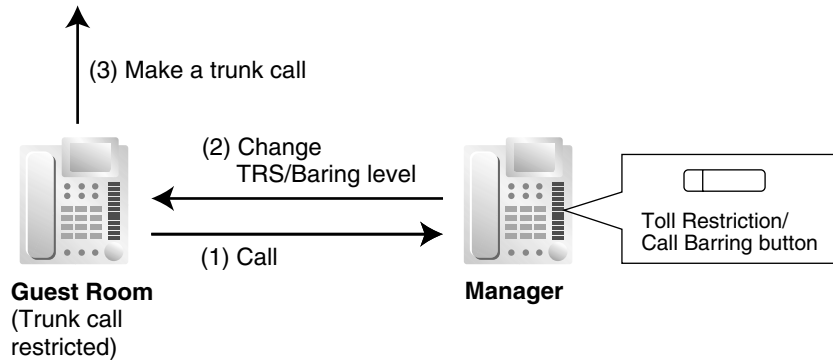
- This feature also restricts setting of DND and FWD.
- **Remote Extension Lock**
Overrides Extension Lock. If an extension assigned as the manager sets Remote Extension Lock on an extension that has already been locked by the extension user, the user cannot unlock it.
This feature is also known as Remote Station Lock Control.
- **TRS/Barring Level**
COS programming determines the TRS/Barring level for Extension Lock (→ Extension Lock TRS/Barring Level).

1.7.4 Dial Tone Transfer

Description

An extension assigned as the manager can change the TRS/Barring level for the extension user temporarily. After that, the extension user can make his call.

[Example] An extension user can call a manager to release the restriction on outgoing call (e.g., overseas calls).



Conditions

- The changed level effective just one time.
- **Toll Restriction/Call Barring Button**
A manager extension must store the desired TRS/Barring level in the Toll Restriction/Call Barring button. A flexible button can be customised as the Toll Restriction/Call Barring button.

1.7.5 Remote COS Access

Description

An extension user can use another extension telephone with the COS assigned on his own extension temporary. The extension accesses his own extension from another telephone and operates features with the same conditions which are assigned his own extension. It is one of the remote operations. A personal password is required to use this feature.

This feature is also known as Remote COS Access.

Conditions

- The following items are applied:
 - COS programming
 - Budget Management
 - Itemised Billing code for ARS
 - Extension number recorded on the SMDR.
- **Remote COS Access through DISA**
This feature is also available through the DISA.
- **Personal Password Lock**
If the wrong password is entered incorrectly three times, the line will be disconnected. If the incorrect password is entered a preprogrammed number of times successively, the password against the extension will be locked. Only an extension assigned as the manager can unlock it. In this case, the password will be unlocked and cleared.
This feature is also known as Station Password Lock.

1.7.6 Verified Code Entry

Description

An extension user can make a trunk call with a verified code from his own or any other extension to change the TRS/Barring level or to identify the call for accounting and billing purposes. A verified code password is required to use this feature.

Conditions

- The following items are applied:
 - COS programming
 - Budget Management
 - Itemised Billing code for ARS
 - The ✕ + verified code recorded on the SMDR instead of the extension number.
- Verified Code Entry through DISA**
This feature is also available through the DISA.
- Verified Code Password Lock**
If the wrong password is entered incorrectly three times, the line will be disconnected. If the incorrect password is entered a preprogrammed number of times successively, the password against the verified code will be locked. Only an extension assigned as the manager can unlock it. In this case, the password will be unlocked and cleared.
- Budget Management for Verified Calls**
A limit of the call charge can be assigned on each verified code.

[Example of Verified Codes and Their Programming]

Location No.	Verified Code ^{*1}	User Name ^{*2}	Verified Code Password ^{*3}	COS No. ^{*4}	Itemised Billing Code for ARS	Budget Management
0001	1111	Tom Smith	1234	1	2323	5000Yen
0002	2222	John White	9876543210	3	4545	3000Yen
:	:	:	:	:	:	:

^{*1}: → Verified Code Number

^{*2}: → Verified Code Name

^{*3}: → Verified Code Password

^{*4}: → Verified Code COS Number

1.8 Automatic Route Selection (ARS) Features

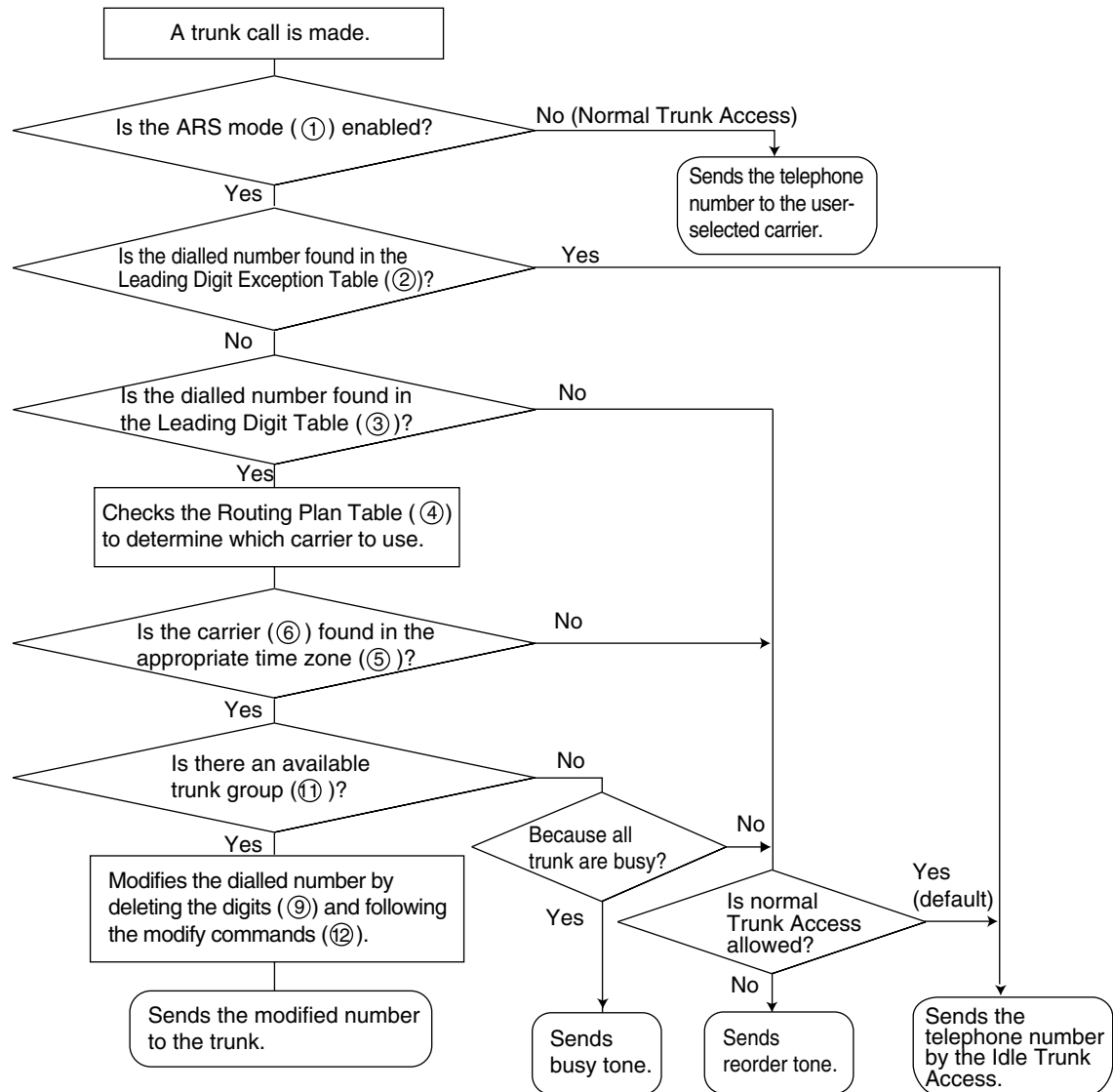
1.8.1 Automatic Route Selection (ARS)

Description

ARS automatically selects the carrier available at the time an outgoing trunk call is made according to preprogrammed settings. The dialled number will be checked and modified to connect the appropriate carrier.

[Carrier Selection Procedure Flowchart]

The numbers ① in the flowchart correspond to the Programming Procedures on the following pages.



[Programming Procedures]

1. ARS Mode ① Assignment (→ ARS Mode)

If "Automatic access" is selected, ARS operates when an extension user makes a call using any of the Idle Trunk Access methods.

If "Any method" is selected, ARS operates when an extension user makes a call using any Trunk Access method.

2. Leading Digit Exception Table ② Assignment

Store the telephone numbers that will avoid using the ARS feature.

② ARS Leading Digit Exception Table

Location No.	Leading Digit Exception ^{*1}
001	033555
002	06456
:	:

^{*1}: → ARS Exception Number

3. Leading Digit Table ③ Assignment

Store the area codes and/or telephone numbers as leading digits that will be routed by the ARS feature. In this table, the Routing Plan (refer to "4. Routing Plan Table ④ Assignment") is selected for each number.

The additional number of digits must be assigned only when "#", for example, is needed after a dialled number. The "#" is added after the assigned number of digits of dialled number (excluding a leading digit).

③ ARS Leading Digit Table

Location No.	Leading Digits ^{*1}	Additional No. of Digits	Routing Plan Table No. ^{*2}
0001	039	7	1
0002	03	0	4
0003	0444	5	5
:	:	:	:

^{*1}: → ARS Leading Digits

^{*2}: → ARS Routing Plan Number

If a dialled number matches a leading digit, the number will be modified according to the corresponding Routing Plan Table and the modified number will be sent to the trunk when the assigned additional number of digits are dialled or the Inter-digit time expires.

If a dialled number matches multiple leading digits entries, the leading digit entry with the lowest numbered location will have priority.

1.8 Automatic Route Selection (ARS) Features

[Example]

Dialled Number	Corresponding Routing Plan Table No.	Description
039-123-4567	1	"039" is found in location 0001 and seven digits (assigned additional number of digits in location 0001) were dialed. The Routing Plan Table 1 is selected just after the seventh digit.
039-654-321	1	"039" is found in location 0001 and the Inter-digit time expired before the seventh digit is received. The Routing Plan Table 1 is selected after the Inter-digit time expired.
038	4	"03" is found in two locations (locations 0001 and 0002), so the PBX waits for the next digit "8". "038" is not found in any location, then "03" (location 0002) is selected. The Routing Plan Table 4 is selected.
03	4	The Inter-digit time expired after receiving "3". "03" is found in location 0002. The Routing Plan Table 4 is selected after the Inter-digit time expired.

4. Routing Plan Table ④ Assignment

Arrange the time schedule as desired and store the carrier priority.

Time Table ⑤

As the best carrier may vary with the day of the week and the time of day, four time zones (Time-A through D) can be programmed for each day of the week.

Carrier Priority ⑥

Assign the appropriate carrier (refer to "5. Carrier Table ⑦ Assignment") and their priority in each time zone. The carrier is selected in the entry order (the order in which entries are listed).

③ ARS Leading Digit Table

Location No.	Leading Digits	Additional No. of Digits	Routing Plan Table No.
0001	03	8	①
:	:	:	:

④ ARS Routing Plan Table

Routing Plan Table 1					
⑤ Time Table*1			⑥ Carrier*2		
			Priority 1	Priority 2	...
SUN	Time-A	9:00	1 (A telecom)	4 (D telecom)	...
	Time-B	12:00	1 (A telecom)	2 (B telecom)	...
	Time-C	15:00	1 (A telecom)	2 (B telecom)	...
	Time-D	21:00	3 (C telecom)	1 (A telecom)	...
:	:	:	:	:	...
SAT	Time-A	9:00	3 (C telecom)	2 (B telecom)	...
	Time-B	12:00	3 (C telecom)	1 (A telecom)	...
	Time-C	15:00	3 (C telecom)	1 (A telecom)	...
	Time-D	21:00	3 (C telecom)	2 (B telecom)	...

*1: → ARS Routing Plan Time Table

^{*2}: → ARS Routing Plan Table (1–16) Assignment

5. Carrier Table ⑦ Assignment

A specified number of carriers can be programmed. Assign the following items for each Carrier Table:

Carrier Name ⑧: Assign the carrier name.

Delete Digit ⑨: Assign the number of digits to delete from the beginning of the user-dialled number.

Carrier Access Code ⑩: Assign the code to access the carrier.

Trunk Group ⑪: Assign the trunk groups which connect to each carrier.

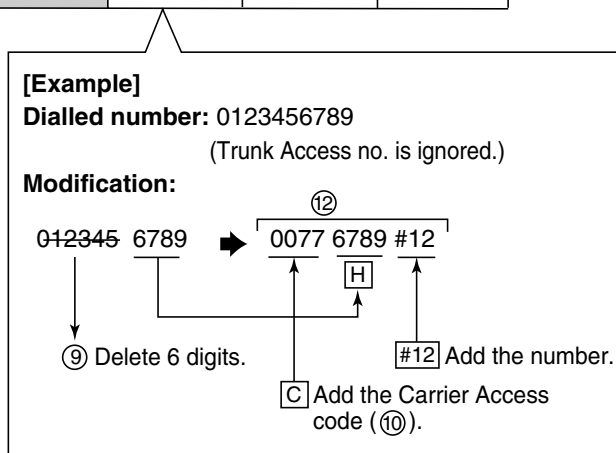
Modify Commands ⑫: Assign the commands to modify the dialled number to access the carrier.

[Command Explanation]

Command	Description
Number	Add the number.
C	Add the Carrier Access code.
P	Insert a pause and change to tone (DTMF) signal.
A	Add the Authorisation code for a tenant (⑬).
G	Add the Authorisation code for a trunk group (⑭).
I	Add the Itemised Billing code (⑮).
H	Add the dialled number after the digits are deleted (Home position).

[Programming Example]

⑦ Carrier Table	1	2	..
⑧ Name ^{*1}	A telecom	B telecom	..
⑨ Delete Digits ^{*2}	6	0	..
⑩ Carrier Access Code ^{*3}	0077	0088	..
⑪ Trunk Groups ^{*4}	1, 2, 3	1, 2	..
⑫ Modify Command	CH#12	CH	..



^{*1}: → ARS Carrier Name

^{*2}: → ARS Removed Digits for Carrier Access code

- *3: → ARS Added Number for Carrier Access code
- *4: → ARS Outgoing Trunk Group for Carrier Access

6. Optional Assignment

Authorisation Code for a Tenant ¹³

An Authorisation code can be assigned for each carrier and each tenant.

Authorisation Code for a Trunk ¹⁴

An Authorisation code can be assigned for each trunk group and each carrier.

Itemised Billing Code ¹⁵

An Itemised Billing code can be assigned for each extension.

If a call is not made from an extension (e.g., DISA or TIE) and no verified code is used, the Itemised Billing code assigned in the location 1 of the verified code will be used.

Conditions

WARNING

The software contained in the ARS feature to allow user access to the network must be upgraded to recognise newly established network area codes and exchange codes as they are placed into service.

Failure to upgrade the premises PBXs or peripheral equipment to recognise the new codes as they are established will restrict the customer and the customer's employees from gaining access to the network and to these codes.

KEEP THE SOFTWARE UP-TO-DATE WITH THE LATEST DATA.

- **The Dialed Number on the SMDR**

It is possible to choose to print either the user-dialed number or the modified number on the SMDR through system programming.

- **ARS Data Download/Upload**

It is possible to download or upload the following ARS data to the PBX using PC programming:

- ③ ARS Leading Digit Table
- ④ ARS Routing Plan Table

This is useful when a carrier has changed the call charge, and the updated data can be used for multiple customers.

- A TRS/Barring check is done before ARS is applied.

1.9 Conversation Features

1.9.1 Hands-free Operation

Description

A PT user can talk to another party without lifting the handset. Pressing specific buttons (e.g., REDIAL) automatically activate hands-free mode.

Conditions

- **PTs with the MONITOR Button**
PTs with the MONITOR button can only dial in hands-free mode and cannot be used for hands-free conversations.

1.9.2 Off-Hook Monitor

Description

A PT user can let others listen to the user's conversation through the built-in speaker, during a conversation using the handset.

Conditions

- **Capable Telephone**
Display PTs/all KX-T7600 series telephones
To enable this feature, system programming is required. If disabled, hands-free conversation is performed instead.

1.9.3 Mute

Description

During a conversation, a PT user can disable the speaker microphone or the handset microphone to consult privately with others while listening to the other party on the phone through the built-in speaker or the handset receiver. The user can hear the other party's voice during Mute. Only your voice will be muted.

Conditions

- This feature is available with all PTs that have the AUTO ANSWER/MUTE button.

1.9.4 Headset Operation

Description

This PBX provides headset compatible PTs. A PT user can talk to another party without lifting the handset.

For connection and operation, refer to the Operating Instructions for the headset.

This feature is also known as Handset/Headset Selection.

Conditions

- A headset is an option.
- If the headset mode is on, pressing the SP-PHONE button activates the headset, not the built-in speaker.
- To set the headset mode on a DPT, use personal programming (Headset Operation) or press the Headset button. To set headset mode on an APT, use the handset/headset selector provided on the set and/or on the headset.
- **Headset Button**
A flexible button on a DPT can be customised as the Headset button. The Headset button can be also assigned to a flexible button on an APT, but the button does not work.
- It is possible to switch the headset mode to the hands-free mode or vice versa during a conversation by pressing the Headset button.

1.9.5 Data Line Security

Description

Once Data Line Security is set on an extension, communication between the extension and the other party is protected from signals such as Call Waiting, Hold Recall and Executive Busy Override. Extension which have data devices connected (e.g., facsimile) may set this feature to maintain secure data transmission against tones or interruptions from other extensions during communication.

Conditions

- If one extension in a conversation has set Data Line Security, it applies to both extensions.

1.9.6 Flash/Recall/Terminate

Description

The FLASH/RECALL button (Disconnect mode or Terminate mode) or Terminate button (Terminate mode) is used when a PT user disconnects the current call and originates another call without hanging up first. It performs the same function as going on-hook and then going off-hook.

[Function of Each Mode]

Disconnect Mode: Disconnects the line and the extension user hears the dial tone from the line used last. For example, if a trunk call is disconnected, the extension user will hear a new dial tone from the telephone company.

Terminate Mode: Disconnects the line and the extension user hears the dial tone determined by the Line Preference—Outgoing setting.

Conditions

- **FLASH/RECALL Button Mode**
One of the following modes can be selected for each extension:
 - a) Disconnect mode
 - b) Terminate mode
 - c) External Feature Access (EFA) mode. (→ 1.9.7 External Feature Access (EFA))
- **Terminate Button**
A flexible button can be customised as the Terminate button.
- **Disconnect Time (Only for Disconnect Mode)**
The amount of time between successive accesses to the same trunk is programmable for each trunk group (→ LCOT Disconnect Time).
- This feature outputs an SMDR call record, restarts the call timer, inserts the automatic pause, and checks the TRS/Barring level again.
- If the ARS mode is on, the Terminate mode will be always effective even though the Disconnect mode has been set.

1.9.7 External Feature Access (EFA)

Description

An extension user can have access to the features of a host PBX or the telephone company, such as Transfer, Hold, Call Waiting, etc. A flash/recall signal is sent to the host PBX or the telephone company. This is only available on trunk calls (including Host PBX Access).

Conditions

- **Flash/Recall Time**
The Flash/Recall time can be assigned for each trunk group (→ LCOT Flash Time).
- **EFA Button**
A flexible button can be customised as the EFA button.
- Pressing the FLASH/RECALL button which is set to EFA mode (→ 1.9.6 Flash/Recall/Terminate) or the EFA button performs this feature. It is also possible to perform this feature by entering the feature number when the current call is placed on a Consultation Hold.
(**Consultation Hold:** Allows an extension user to place a call on hold temporarily to perform Call Transfer, Conference, or Call Splitting.)

1.9.8 Trunk Call Limitation

Description

Trunk calls are limited by the following features:

Feature	Description
Extension-to-Trunk Call Duration	If a call between an extension user and an outside party is established, the call duration can be restricted by a system timer selected for each trunk group (→ Extension-to-Trunk Call Duration Time). Both parties will hear an alarm tone 15 seconds before the time-limit at five second intervals. If the timer expires, the line will be disconnected. COS programming determines to enable or disable this feature (→ Trunk Call Duration Limitation). Whether this feature is applied to outgoing calls only or all calls is also programmable.
Trunk-to-Trunk Call (except Unattended Conference Call) Duration	If a call between two outside parties is established, the call duration can be restricted by a system timer selected for each trunk group (→ Trunk-to-Trunk Call Duration Time). Both parties will hear an alarm tone 15 seconds before the time-limit at five second intervals. If the timer expires, the line will be disconnected. The timer is applied for a trunk call which is made via the PBX. If both call is made by the extension (e.g., a trunk call made by an extension is transferred to an outside party), the shorter limit will apply to the call.
Budget Management	If the preprogrammed call charge limit is reached, an extension user cannot make further trunk calls. Whether the line is disconnected after an alarm tone is programmable.
Dialling Digit Restriction during Conversation	While engaged on a received trunk call, the dialling of digits can be restricted. If the number of dialled digits exceeds the limitation, the line will be disconnected.

Conditions

- During an Unattended Conference Call, both the Unattended Conference Recall time and the Extension-to-Trunk Call Duration time are applied.

1.9.9 Paralleled Telephone

Description

Two telephones can be connected in parallel to one port in the following combinations:

Main Telephone	Sub Telephone
APT or DPT	SLT
APT, DPT or SLT	DWX (e.g., KX-TD7XXX series)

When parallel mode is used, the two telephones work as follows:

- Both share one extension number (main telephone's extension number)
- Either telephone can make or answer a call
- Transfers calls (If one goes off-hook while the other is on a call, the call is switched to the former.).

Conditions

[General]

- **SLT Ring Assignment**
If an SLT is the sub telephone, whether it rings for incoming calls is programmable.
Ring on Mode: Both telephones ring except when the PT is in Hands-free Answerback mode or Voice Calling mode.
Ring off Mode: Only the PT rings. However, the SLT can answer the call.
- If one telephone is in the following situation, the call will be transferred to the other telephone by going off-hook (DPT + SLT, and APT/DPT/SLT + DWX only):
 - During a conversation (except during Consultation Hold, Conference, and Two-way Recording)
 - While hearing a ringback tone after dialling an extension or telephone number.**(Consultation Hold:** Allows an extension user to place a call on hold temporarily to perform Call Transfer, Conference, or Call Splitting.)

[APT + SLT]

- If one telephone goes off-hook while the other telephone is on a call, a three-party call is established. If one user goes on-hook, the other user continues the call.
- An extension user cannot originate a call from the SLT if the APT is:
 - playing BGM
 - receiving a paging announcement over the built-in speaker.

[DPT + SLT]

- A DPT and an SLT must be connected to one super hybrid port of the DHLC Card.
- If the eXtra Device Port (XDP) Parallel mode is enabled, each telephone can act as completely different extensions with their own extension number (→ 2.1.1 Extension Port Configuration).
- When in the parallel mode, the XDP mode of the super hybrid port should be off through system programming.

[APT/DPT/SLT + DWX]

- This connection is called the Wireless XDP Parallel Mode (→ 1.22.5 Wireless XDP Parallel Mode).

1.9.10 Calling Party Control (CPC) Signal Detection

Description

The Calling Party Control (CPC) signal is an on-hook indication (disconnect signal) sent from the analogue trunk when the other party is hung up. To maintain efficient utilisation of trunks, the PBX monitors their state and when CPC signal is detected from a line, the PBX disconnects the line and alerts the extension with reorder tone.

Conditions

- CPC signal detection is programmable for incoming trunk calls (→ LCOT CPC Signal Detection Time—Incoming), and for outgoing trunk calls (→ LCOT CPC Signal Detection Time—Outgoing).
- If your telephone company sends signals similar to CPC, it is recommended not to enable CPC signal detection on outgoing trunk calls.
- If CPC signal is detected during a Conference call, the line is disconnected. The remaining parties stay connected.
- If CPC signal is detected during a call between a caller using the DISA feature and an extension or an outside party, the line is disconnected.

1.10 Transferring Features

1.10.1 Call Transfer

Description

An extension user can transfer a call to another extension or an outside party. The following features are available:

Feature	Transferring method
With Announcement	Transfer is completed after announcing the destination party.
Without Announcement	Transfer is completed without an announcement. After dialling the destination, while hearing a ringback tone, the originator can replace the handset.

Call Transfer with Announcement is also known as Call Transfer—Screened.

Call Transfer without Announcement is also known as Call Transfer—Unscreened.

Conditions

- If Music on Hold is enabled, music can be sent to the held party while the call is transferred. It is programmable whether a ringback tone or music is sent (→ Music Source Selection for Transfer).
- If the transferred destination extension has set FWD to an outside party, the call will be transferred to the outside party.
- COS programming determines the extensions that are able to transfer a call to an outside party except a TIE line call (→ Call Transfer on Trunk Calls).
- **Transfer Recall for Call Transfer without Announcement**
If the transferred destination party does not answer within the preprogrammed Transfer Recall time (→ Transfer Recall Time), the call will be redirected to the destination assigned on each extension. If the destination is not assigned, it will return to the extension who transferred the call. If the destination is engaged in a call, the hold alarm will be heard.

[Available destination]

Destination	Availability
Wired Extension (PT/SLT/ISDN Extension/T1-OPX)	○
Digital Wireless Extension (DWX)	○
Incoming Call Distribution Group	○
DWX Ring Group	×
VM Group (DTMF/DPT)	×
External Pager (TAFAS)	×
DISA	×

Destination	Availability
Analogue/ISDN Remote Maintenance	×
Idle Trunk Access no. + Phone no.	×
Trunk Group Access no. + Phone no.	×
Other PBX Extension (TIE with no PBX Code)	×
Other PBX Extension (TIE with PBX Code)	×

- **One-touch Transfer**

The DSS Console and the PT user can hold a call and quickly transfer it to an extension by pressing the DSS button directly. A One-touch Dialling button can also be used if the TRANSFER command is stored with a number.

1.11 Holding Features

1.11.1 Call Hold

Description

An extension user can put a call on hold. The following features are available depending on the result.

Feature	Description
Call Hold General	Any extension can retrieve a held call.
Exclusive Call Hold	Only the extension user who held the call can retrieve it.

The result of the holding operation can be determined through system programming. Pressing the HOLD button again just after the first time alternates the mode between General and Exclusive Call Hold.

Conditions

- A PT user can hold an intercom call and multiple trunk calls simultaneously. An SLT user can hold either an intercom call or a trunk call. To hold multiple intercom calls on a PT simultaneously, use the Call Park feature. Call Park feature can also be used to hold multiple intercom calls and/or trunk calls simultaneously on an SLT.
- It is possible to put a call on hold while dialling a trunk call or hearing a ringback tone.
- **Music on Hold**
Music, if available, is sent to the held party.
- **Hold Recall**
If a call on hold is not retrieved within a preprogrammed time period (→ Hold Recall Time), Hold Recall is heard at the extension which put the call on hold. If the extension is engaged in a call, the hold alarm will be heard.
- If an outside party is placed on hold and not retrieved within a preprogrammed time period, the call is automatically disconnected. This timer starts when Hold Recall activates.
- **Automatic Call Hold**
A PT user can programme holding of the a current call when pressing another CO/G-DN/INTERCOM button. If this feature is not enabled, the current call will be disconnected.
[Example]
It is possible to receive a call by pressing the flashing G-DN button, this puts the current intercom call (on the INTERCOM button) on hold. To return to the held call, press the INTERCOM button.
- **Call Hold Retrieve Deny**
If an extension user cannot call certain extensions on a COS basis (→ Internal Call Block in Section 1.1.2 Internal Call Features—SUMMARY), he cannot retrieve the held call which the extensions made.
- **SLT Hold Mode**
It is possible to choose how to hold a line and transfer a call with an SLT in the following methods:

	Hold	Transfer to Trunk	Transfer to Extension
Mode 1	Flashing the hookswitch + Going on-hook	Flashing the hookswitch + Trunk Access No.	Flashing the hookswitch + Extension No.
Mode 2 (Default)	Flashing the hookswitch + Hold Feature No. + Going on-hook	Flashing the hookswitch + Trunk Access No.	Flashing the hookswitch + Extension No.
Mode 3	Flashing the hookswitch + Hold Feature No. + Going on-hook	Flashing the hookswitch + Hold Feature No. + Trunk Access No.	Flashing the hookswitch + Extension No.
Mode 4	Flashing the hookswitch + Hold Feature No. + Going on-hook	Flashing the hookswitch + Hold Feature No. + Trunk Access No.	Flashing the hookswitch + Hold Feature No. + Extension No.

If the following occur frequently with an SLT, choose "Mode 2", "Mode 3", or "Mode 4".

- a)** Nobody answers when a call is received.
- b)** Busy tone is heard even though nobody is using the trunk.

If a call is not terminated after going on-hook, the above cases occur. To avoid these problems, choose "Mode 2", "Mode 3", or "Mode 4". Every call will be terminated unless the Hold feature number is entered after flashing the hookswitch in Mode 2, Mode 3, and Mode 4.

1.11.2 Call Park

Description

An extension user can place a held call into a common parking area of the PBX. This releases the user from the parked call to perform other operations. The parked call can be retrieved by any extension user.

Conditions

- **Automatic Call Park**
It is possible to select an idle parking area automatically.
- **Retry**
If the specified parking area is occupied or there is no vacant area for Automatic Call Park, the originator will hear busy tone. Retrying is possible while hearing busy tone by selecting parking area or a vacant area.
- **Call Park Recall**
If a parked call is not retrieved within a preprogrammed time period, Call Park Recall will be heard at the extension assigned as the Transfer Recall destination. If the extension is engaged in a call, the hold alarm will be heard.
- If a parked call is not retrieved within a preprogrammed time period (Default: 30 minutes), it is automatically disconnected.
- **Call Park Button**
Pressing the Call Park button parks or retrieves a call in a preset parking area.
A flexible button can be customised as the Call Park button. It shows the current status of the preset parking area as follows:

Light pattern	Status
Slow red flashing	Parked in the preset parking area
Off	No parked call

- **Call Park Retrieve Deny**
If an extension user cannot call certain extensions on a COS basis (→ Internal Call Block in Section 1.1.2 Internal Call Features—SUMMARY), he cannot retrieve the parked call which the extensions made.

1.11.3 Call Splitting

Description

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

Conditions

- While having a conversation with one party, the other party is in Consultation Hold. (**Consultation Hold:** Allows an extension user to place a call on hold temporarily to perform Call Transfer, Conference, or Call Splitting.)

1.11.4 Music on Hold

Description

Music can be played to any party on hold. The following music sources are available:

- a) Internal music source
- b) External music source
- c) Cyclic tone

BGM number or cyclic tone can be selected for the Music on Hold (→Music Source Selection for Call Hold).

BGM numbers are the same as the external music port numbers (e.g., External music port 1 is BGM1.) However BGM2 includes internal music sources 1 and 2 as well as external music port 2. It is possible to choose what music source will be used as BGM2 (→Music Source Selection for Port 2).

[BGM Number and the Music Source]

BGM No.	Music Source
1	External music port 1
2	External music port 2/Internal music source 1 or 2
:	:

Conditions

- **Hardware Requirement:** User-supplied music source
- **Volume Control**
It is possible to change the volume of an internal and/or external music source.
- It is also possible to choose a different music source for each tenant.

1.12 Conference Features

1.12.1 Conference Features—SUMMARY

Description

A conference call allows a conversation between three or more parties simultaneously. The following features are available to establish a conference call:

Feature	Description	Details in
Conference	During a two-party conversation, an extension user can add other parties to establish a conference call with up to eight parties.	• 1.12.2 Conference
Executive Busy Override	An extension user can interrupt an existing call to establish a three-party conference call.	• 1.5.5 Executive Busy Override
Privacy Release	During a conversation with an outside party on the S-CO button, a PT user can allow another extension to join the conversation.	• 1.12.3 Privacy Release

Conditions

- One PBX supports 30 simultaneous calls which are engaged in conference calls.
(e.g., 10 three-party conferences, 3 eight-party conferences + 2 three-party conferences)

1.12.2 Conference

Description

This PBX supports three through eight-party conference calls. During a two-party conversation, an extension user can add other parties to their conversation, thereby establishing a conference. More than four-party conferences are only possible when a PT user originates the conference.

Unattended Conference:

A PT user can leave a conference to allow other parties to continue the conversation. The user may return to the conference, if he desires.

Conditions

- **CONF (Conference) Button**
For a PT which does not have the CONF button, a flexible button can be customised as the Conference button.
- **Unattended Conference Call Duration**
The call duration can be restricted by the Unattended Conference Recall time. The Unattended Conference Recall time consists of the following programmable timers:
 - a) **Unattended Conference Recall Start Time:**
When the timer expires, Unattended Conference Recall starts to be heard at the conference originator. If the originator does not return to the conference, 1st Unattended Conference Recall Continuation time will start.
 - b) **1st Unattended Conference Recall Continuation Time:**
When the timer expires, an alarm tone starts to be heard at parties in the Unattended Conference. If the originator does not return to the conference, 2nd Unattended Conference Recall Continuation time will start.
 - c) **2nd Unattended Conference Recall Continuation Time:**
When the timer expires, the Unattended Conference call is disconnected.
If the originator returns to the conference before the Unattended Conference call is disconnected, the timer will be cancelled. If not, Unattended Conference Recall and an alarm tone will continue to be emitted until the Unattended Conference call is disconnected.

1.12.3 Privacy Release

Description

By default, all conversations which take place on trunk, extension lines and doorphone lines are protected by privacy (**Automatic Privacy**).

Privacy Release allows a PT user to suspend Automatic Privacy for an existing trunk call on the S-CO button in order to establish a three-party call.

System programming is required to enable or disable this feature.

Conditions

- **S-CO Button**
A flexible button can be customised as the S-CO button.
- **Privacy Release Time**
Privacy is released for five seconds to allow the conversation to be joined.
- This feature overrides Data Line Security and Executive Busy Override Deny.

1.13 Paging Features

1.13.1 Paging

Description

An extension user can make a voice announcement to many people simultaneously. The message is announced over the built-in speakers of PT and/or external speakers (external pagers) which belong to the paging group. The paged person can answer the page from a nearby telephone. It is possible to page with a call on hold in order to transfer the call.

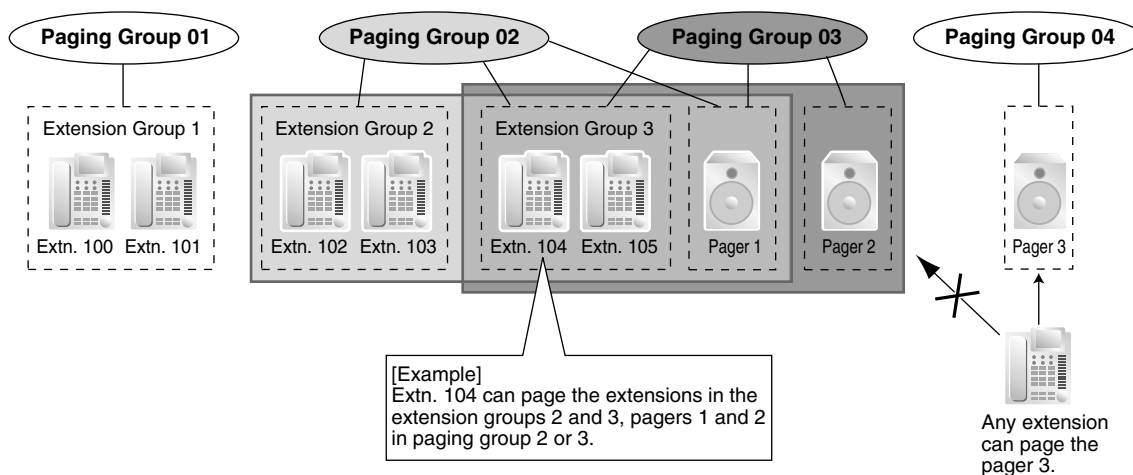
Paging Deny:

It is possible to deny being paged on an extension basis.

Paging Group

Each paging group consists of extension groups and external pagers. One extension group or external pager can belong to several paging groups. An extension can page the extension members and the external pagers of the same paging group only. If any extension group is not assigned in a paging group, any extension can page external pager(s) in the group.

[Example]



[Programming Example]

Paging Group No.	Extension Group No. ^{*1}				External Pager No. ^{*2}			
	001	002	003	...	1	2	3	...
01	○			...				...
02		○	○	...	○			...
03			○	...	○	○		...
04				...			○	...
05	○	○	○	...	○	○	○	...
:	:	:	:	...	:	:	:	...

*1: → Paging Group for Extension Group

*2: → Paging Group for External Pager

Explanation:

Paging Group No.	Explanation
01	Extensions in extension group 001 can page or be paged.
02	Extensions in extension groups 002 and 003 can page or be paged. They can also page through an external pager 1.
03	Extensions in extension group 003 can page or be paged. They can also page through the external pagers 1 and 2.
04	All extensions (all extension groups) can page through the external pager 3.
05	All extensions (all extension groups) can page or be paged. All external pagers can also be paged.
:	:

Conditions

- Extensions which cannot be paged are:
 - SLTs
 - Ringing or busy PTs
 - PTs in Paging Deny mode
 - PTs in Paging DND mode

These extensions cannot be paged but can answer the page.

- External Pager Priority**
External pagers can be used with the following priorities:
TAFAS → Paging → BGM

1.13 Paging Features

- **Volume Control**
Paging volume from the PTs and the external pagers can be changed through PC programming.
- **Paging DND**
When DND is set for incoming calls, it is programmable whether your extension receives paging through system programming.

1.14 Optional Device Features

1.14.1 Doorphone Call

Description

Calls from doorphones reach the preprogrammed destination and he can talk to the visitor. Any extension user can call a doorphone.

Conditions

- **Hardware Requirement:** An optional Doorphone, the OPB Card and DPH Card.
- Each doorphone port must be assigned to one tenant. The Time Table (day/lunch/break/night) of the tenant is applied.
- **Call Destination**
The incoming doorphone call destination(s) can be assigned for each time mode (day/lunch/break/night) for each doorphone port (→ Doorphone Call Destination). Destinations can be selected. (→ 1.1.2 Internal Call Features—SUMMARY)
- COS programming determines the doorphone ports that are able to make an outgoing trunk call.
- **Ring Duration**
If an incoming call is not answered within a preprogrammed time period, ringing stops and the call is cancelled.
- **Call Duration**
The call duration can be restricted by a system timer. If the timer expires, the call will be disconnected.
- **Door Open**
While engaged on a doorphone call, the extension user can unlock the door to let the visitor in. (→ 1.14.2 Door Open)
- A doorphone/door opener number can be assigned for each doorphone port (→ Door Number Reference).

1.14.2 Door Open

Description

An extension user can unlock the door for a visitor using his telephone. The door can be unlocked by extension users who are allowed to unlock the door in the COS programming (→ Door Open Assignment) and tenant service. However, while engaged on a doorphone call, any extension user can unlock the door to let the visitor in.

Conditions

- **Hardware Requirement:** A user-supplied door opener on each door.
- The door opener will unlock the door even if a doorphone is not installed.
- **Door Open Duration**
The door can remain unlocked for a preprogrammed time period (→ Door Open Duration Time).

1.14.3 Trunk Answer From Any Station (TAFAS)

Description

A ring tone is sent through the external pager when an incoming call is received. Any extension user can answer the call.

Conditions

- **Hardware Requirement:** A user-supplied external pager
- **Floating Extension Number**
A floating extension number can be assigned for an external pager (→ External Pager Floating Extension Number). It is possible to access an external pager by dialling their floating extension numbers.
- **Pager Volume**
It is possible to change the volume of an external pager.

1.14.4 Background Music (BGM)

Description

A PT user can listen to BGM through the built-in speaker while on-hook and idle.

BGM—External:

BGM can also be broadcast in the office through the external pagers, this can be turned on and off by an extension assigned as the manager.

Conditions

[BGM]

- **Hardware requirement:** A user-supplied external music source, such as a radio
- The music through the PT is interrupted when going off-hook.
- Each extension user can select the music source.

[BGM—External]

- **Hardware requirement:** A user-supplied external pager
- Only the pagers which are assigned to be used by the tenant can be selected.
- External pagers can be used with the following priorities:
TAFAS → Paging → BGM

1.14.5 Outgoing Message (OGM)

Description

An extension assigned as the manager (manager extension) can record outgoing messages (OGMs) for the following features:

Feature	Usage	Details in
Direct Inward System Access (DISA)	When a call arrives on a DISA line, the caller will hear a message.	• 1.14.6 Direct Inward System Access (DISA)
Queuing Feature	If assigned in the Queuing Time Table of the incoming call distribution group (→ Queuing Time Table), any caller who is waiting in a queue will hear a message.	• Queuing Feature
Timed Reminder	When answering the Timed Reminder alarm, the user will hear a message.	• 1.24.4 Timed Reminder

Conditions

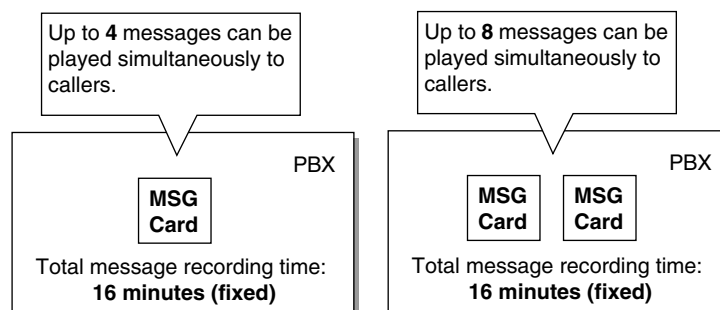
- **Hardware Requirement:** The OPB Card and MSG Card.
- **The Number of Messages and the Recording Time**
The number of messages and Recording time can be selected from the following patterns (The total recording time in the PBX is 16 minutes.):
 - 64 messages × 15 seconds
 - 32 messages × 30 seconds
 - 16 messages × 60 seconds

Note

If the Recording time pattern is changed, any prerecorded messages will be cleared. All necessary messages must be recorded again.

- A floating extension number can be assigned to each outgoing message (OGM) (→ Outgoing Message (OGM) Floating Extension Number).
- One MSG Card allows four messages to play simultaneously. The MSG Card expansion does not increase the total recording time or the number of messages. It increases the number of messages that can be played simultaneously.

[Example]



Note

When the MSG Card expansion has been done, all necessary messages must be recorded again.

- The same message can also be played simultaneously to multiple callers.
- **Recording Methods**
 - a) Record voice messages through the extension telephone
 - b) Record a back ground music through an external music source.
- After recording messages, a manager extension can also play them back for confirmation.
- Progress tone is sent to a manager extension before recording messages during a preprogrammed time period, or during clearing the prerecorded message stored at the floating extension number of desired message. The longer one is applied.
- If someone hears a message when a manager extension is trying to record messages, a ringback tone will be sent to the manager extension before progress tone until all ports on the MSG Card(s) become idle.

1.14.6 Direct Inward System Access (DISA)

Description

An outside caller can access specific PBX features as if the caller is an SLT extension user on the PBX, when the incoming call destination is a DISA floating extension number assigned to each DISA message. The caller can have direct access to features such as:

- Placing an intercom call to an extension, operator or any floating extensions (e.g., modem for remote system administration, an external pager for TAFAS).
- Calling an outside party via the PBX.
- Operating some PBX remote features (e.g., FWD)

Outgoing Message (OGM)

When a call arrives on a DISA line, a prerecorded DISA message will greet and guide the caller.

Any extension assigned as the manager can record outgoing messages (OGMs). (→ 1.14.5 Outgoing Message (OGM))

DISA Intercept—No Dial

If the caller fails to dial any digits within a preprogrammed time period (DISA 1st Dial Time for Intercept) (→ DISA Intercept Time) following the outgoing message (OGM), the call is redirected to the operator extension.

DISA Built-in Automated Attendant Number (DISA AA Service)

After listening to the outgoing message (OGM), the caller may dial a single digit (DISA AA number). The destination for each DISA AA number can be assigned for each message. It is also possible to assign other DISA floating extension number as the destination (**Multistep DISA AA Service**).

If the caller dials a second digit within a preprogrammed time period (DISA 2nd Dial Time for AA), the DISA AA service is not employed.

DISA Security Mode and Available Features

If the DISA AA service is not employed, the caller may access the PBX features by entering the feature numbers. To prevent others from accessing the PBX features, it is possible to assign DISA security (→ DISA Security Mode). The features available depend on the preprogrammed DISA security mode as follows:

Security Mode	Intercom Call	TIE Line Call		Trunk Call
		Without PBX Code	With PBX Code	
All Security	×	×	×	×

1.14 Optional Device Features

Security Mode	Intercom Call	TIE Line Call		Trunk Call
		Without PBX Code	With PBX Code	
Trunk Security	○	○	×	×
No Security	○	○	○	○

If trunk call is available, Account Code Entry is also available.

Security Mode Override:

If the caller operates with the following features while hearing a DISA message, the security mode can be changed to the No Security mode temporarily:

- Remote COS Access: Remote COS Access feature number + extension number + personal password
- Verified Code Entry: Verified Code Entry feature number + * + verified code + verified code password

After changing mode, the mode remains in force for the duration of the call.

Available PBX Features with Security Mode Override:

After Security Mode Override is done with the Remote COS Access feature, the following features are available (It regards a remote operation from the assigned extension):

- FWD
- DND
- Log-in/Log-out
- Absent Message
- Extension Lock
- Time Service Mode Switch

DISA Intercept Routing—Busy/DND

If the destination called by the outside party is busy or in DND mode, and if (1) the busy destination does not set Call Waiting, FWD, or Idle Extension Hunting or (2) the destination is in DND mode and Idle Extension Hunting is not available, one of the following can be selected through system programming:

- Busy Tone:** Busy tone is sent to the caller.
- Intercept Routing:** Intercept Routing—Busy/DND (→ Intercept Routing in Section 1.1.1 Incoming Trunk Call Features—SUMMARY) will work and the call will be redirected to the preprogrammed destination.
- Outgoing Message (OGM):** An outgoing message (OGM) will be sent to the caller. The message for busy/DND mode can be assigned for each outgoing message (OGM) which has a DISA floating extension number.

DISA Intercept Routing—No Answer

If a destination is not available to answer a DISA call within a preprogrammed time period (DISA Intercept time) (→ DISA Intercept Time) after the call is reached, the call will be redirected to the programmed destination by the Intercept feature (→ Trunk Group Intercept Destination or Extension Intercept Destination).

If the intercept destination is not available to answer the call within a preprogrammed time period (DISA Disconnect Time after Intercept) after the DISA Intercept time expires, the call will be disconnected.

SMDR

The call information for DISA is recorded as the one of the DISA floating extension numbers.

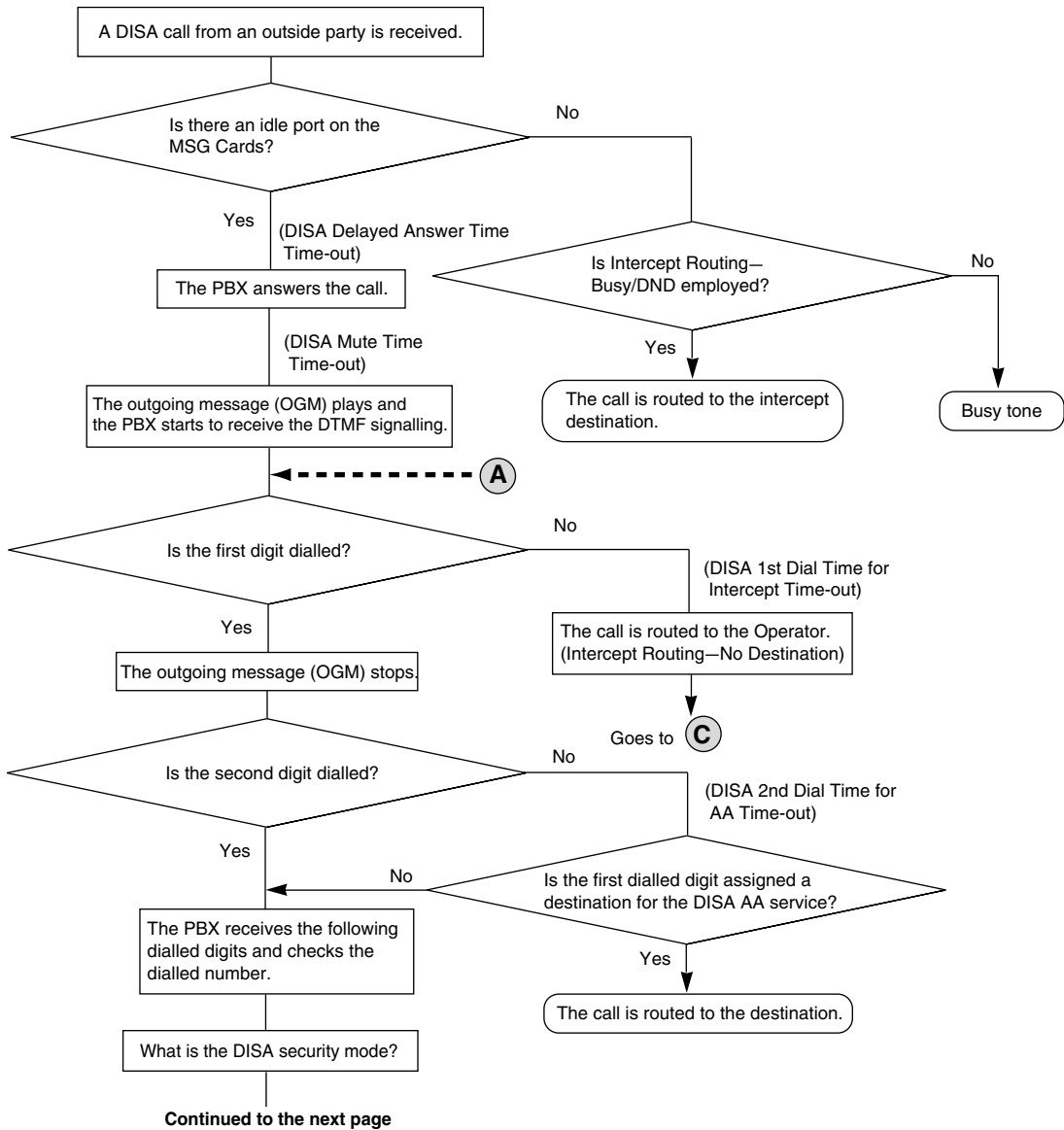
[Programming Example]

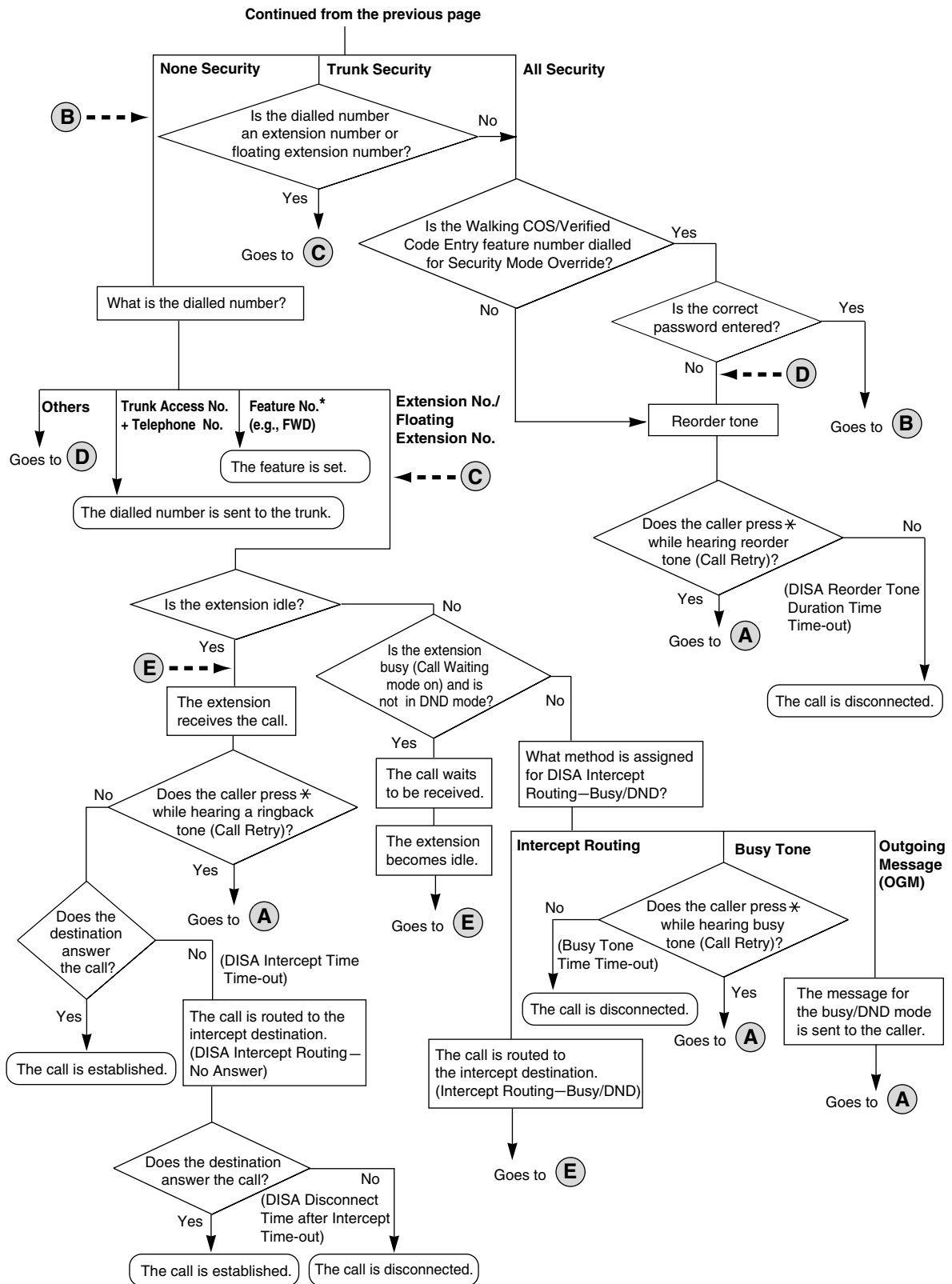
The following items can be assigned to each outgoing message (OGM):

Outgoing Message (OGM) No.	Floating Extn. No. ^{*1}	Automated Attendant No.										Busy/DND Message No.
		0	1	2	3	4	5	6	7	8	9	
01	300	100	301	200	103	202	101	102	400	104	205	04
02	301											05
:	:	:	:	:	:	:	:	:	:	:	:	:

*1: → Outgoing Message (OGM) Floating Extension Number

[Flowchart]





*: Feature numbers are available only when the Remote COS Access feature is used for Security Mode Override.

Conditions

WARNING

When you enable the Trunk-to-Trunk Call feature of DISA, and a third party discovers the password (verified code/personal password) of the PBX, there will be a risk that they will make fraudulent phone calls using the telephone line, and the cost will be charged to your own account. In order to avoid this problem, we strongly recommend the following points:

- a) Carefully maintain the secrecy of the password.
 - b) Specify a complicated password as long and random as you can make it.
 - c) Change the password frequently.
- **Hardware Requirement:** The OPB Card and MSG Card.
 - **DISA Delayed Answer Time**
It is possible to set the Delayed Answer time (→ DISA Delayed Answer Time) so that the caller will hear a ringback tone within a preprogrammed time period first before hearing an outgoing message (OGM).
 - **DISA Mute Time**
It is possible to set the Mute time until the outgoing message (OGM) plays and the PBX starts to receive the DTMF signalling after the caller reaches the DISA line.
 - **Trunk-to-Trunk Call Duration**
If a call between two outside parties is established, the call duration can be restricted by a system timer. If the timer expires, the line will be disconnected unless the originating caller retries by pressing "*" or extends the time by sending any DTMF signalling. (→ 1.9.8 Trunk Call Limitation) The caller can prolong the call duration within the preprogrammed time period (→ DISA Extend Time) and preprogramming number of times.
 - **Tone Detection**
The following three types of tone detection can be enabled for each trunk group to disconnect a trunk-to-trunk call via DISA.
 - Silence Detection (→ DISA Silence Detection)
 - Continuous Signal Detection (→ DISA Continuous Tone Detection)
 - Cyclic Signal Detection (→ DISA Cyclic Tone Detection)
 - **Call Retry**
While hearing a ringback, reorder, or busy tone, retrying the call is possible by pressing "*". During a trunk-to-trunk conversation, the result of pressing "*" is programmable: retry mode or DTMF mode.
 - **DISA Reorder Tone Duration**
It is possible to set the DISA Reorder Tone Duration time. Reorder tone will be sent to the caller for a preprogrammed time period. When the timer expires the call will be disconnected. Retrying the call is possible by pressing "*" during the DISA Reorder Tone Duration time.
 - **Call Deny**
Extensions can deny DISA calls on a COS basis.
 - **Verified Code Password Lock/Personal Password Lock**
If the wrong password is entered incorrectly three times, the line will be disconnected. If the incorrect password is entered a preprogrammed number of times successively, the password against the verified code or the extension will be locked. Only an extension assigned as the manager can unlock it. In this case, the password will be unlocked and will be cleared.

- Each outgoing message (OGM) call have a name through system programming (→ Outgoing Message (OGM) Name) for programming reference.

1.15 Caller ID Features

1.15.1 Caller ID

Description

The PBX receives caller's information, such the caller's name and telephone number, on trunks assigned to receive Caller ID. A display PT user can see the information. The PBX can modify the received number according to preprogrammed tables so that he can call back or memorise it. For example, if the area code is sent and it is not required to call, store the area code in the table so that the area code is deleted automatically.

1. Feature

Caller ID includes the following features:

Feature	Description	Details in
Caller ID	Caller's information which is sent from an analogue trunk .	–
Calling Line Identification Presentation (CLIP)	Caller's information which is sent from an ISDN line .	• Calling/ Connected Line Identification Presentation (CLIP/COLP)
Automatic Number Identification (ANI)	Caller's information which is sent from an E1 or T1 Card .	• 1.19.1 E1 Line Service • 1.20.1 T1 Line Service

2. Service Features

Features	Description	Details in
Calling Line Identification (CLI) Distribution	Directs a DIL/DID/DDI/MSN call to a CLI destination if the caller's identification (Caller ID/CLIP/ANI) has been assigned to the Caller ID Table.	• Calling Line Identification (CLI) Distribution
Incoming Call Log	Caller's information is automatically recorded in the call log of the called extension. This information is used for confirming the caller, calling back the caller, or storing the number and name in the Personal Speed Dialling.	• 1.15.2 Incoming Call Log

3. Number/Name Assignment

3.1 Automatic Caller ID Number Modification

This PBX automatically modifies the incoming caller's number according to preprogrammed tables. The modified number will be recorded for calling back. The PBX supports a specified number of modification tables, and each trunk group can select a table for use. Each table has ten locations for local/international call data and one for long distance call data. The PBX checks the local/international call data first. If a match is not found, the long distance call data is applied.

[Example]

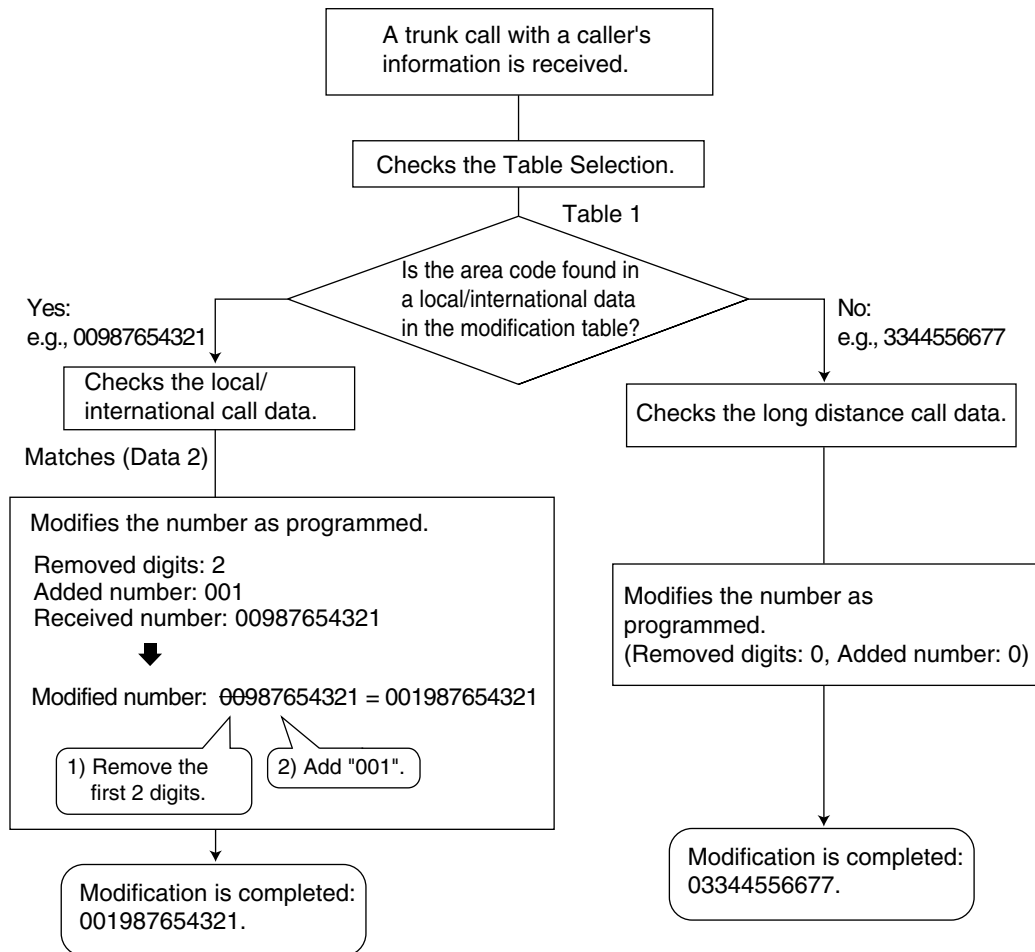
<Table Selection>

Trunk Group No.	Modification Table
TRG 01	1
TRG 02	3
:	:

<Modification Table>

Modification Table 1			
	Area Code	Removed Digits	Added No.
Local/International Call Data 1	012	3	Blank
Local/International Call Data 2	00	2	001
:	:	:	:
Local/International Call Data 10			
Long Distance Call Data 1	Not programmable	0	0

<Modification Flowchart>



3.2 Caller ID Table Assignment

The System Speed Dialling Table is also used as the Caller ID Table. In each location of the table, the following items can be assigned:

- a) System Speed Dialling number (Trunk Access number + caller's telephone number)
- b) System Speed Dialling name (caller's name)
(shown on the display or SMDR)
- c) CLI destination
(used for CLI feature)

When a caller's modified telephone number matches a System Speed Dialling number (the Trunk Access number is disregarded.) in the table, the call is sent to the assigned CLI destination.

[Example]

Location (Speed Dialling No.)	System Speed Dialling No. ^{*1}	System Speed Dialling Name. ^{*2}	CLI Destination
000	90123456789	ABC Company	200
001	:	:	:
:	:	:	:

*1: → System Speed Dialling Number

*2: → System Speed Dialling Name

3.3 Caller's Name Reference

A name can also be shown on the display or SMDR. The PBX searches for the name in the following order:

- 1) Personal Speed Dialling data of the original called extension
- 2) System Speed Dialling (Caller ID) Table of the tenant
- 3) Caller ID name received from the public line (Caller ID Name Reference)

If the name is not found, it will not be displayed.

Conditions

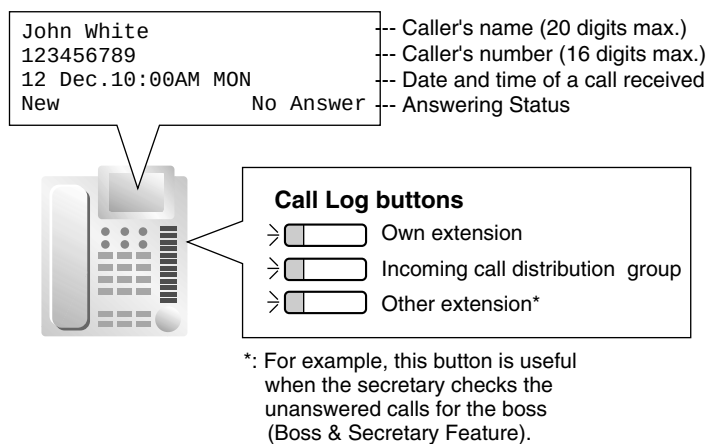
- **Hardware Requirement:** The LCOT Card and CID Card for calls from analogue trunk.
- Caller ID signalling type can be selected through system programming (→ Caller ID Signal Type).
- The Caller ID Name Reference is only available for calls from the public network.

1.15.2 Incoming Call Log

Description

When an incoming public trunk call with the caller's information (e.g., Caller ID) is directed to an extension, the information is automatically recorded in the call log of the called extension. This information is shown on the telephone display and is used for confirming the caller, calling back, or storing the number and name in the Personal Speed Dialling.

[Example]



Conditions

- **Call Log Button**

A flexible button can be customised as the Call Log button for the extension, other extensions, or an incoming call distribution group. The button light shows the current status as follows:

Light pattern	Status
Red on	There is unchecked information.
Off	All information has been checked.

- **If the answering destination is not the original extension (e.g., FWD, Call Pickup):**
If a call is forwarded or another extension picks up the call, the information is logged in the call logs of both the original destination and the answering destination.
- **Call Log for Incoming Call Distribution Group Calls**
If a call for an incoming call distribution group is not answered, the information is logged in the call log for the incoming call distribution group. If it is answered, the information is logged in the call log for the answering extension.
- **Incoming Call Log Display Lock**
An extension user can lock the incoming call log display to prevent other users from referring to the call information at his extension. In this case, the Outgoing Call Log display and the Personal Speed Dialling number display is also locked. A personal password is required to use this feature.
- **Storing the Call Log Information in Personal Speed Dialling**
When storing the number and name into Personal Speed Dialling from the call log

information, the Idle Trunk Access number is automatically attached to the telephone number.

- **Incoming Call Log Memory**

The total memory for the Incoming Call Log is determined in the PBX. The maximum number that can be logged is also determined for each extension and incoming call distribution group. If the memory becomes full, the new call record overwrites the oldest one.

1.16 Message Features

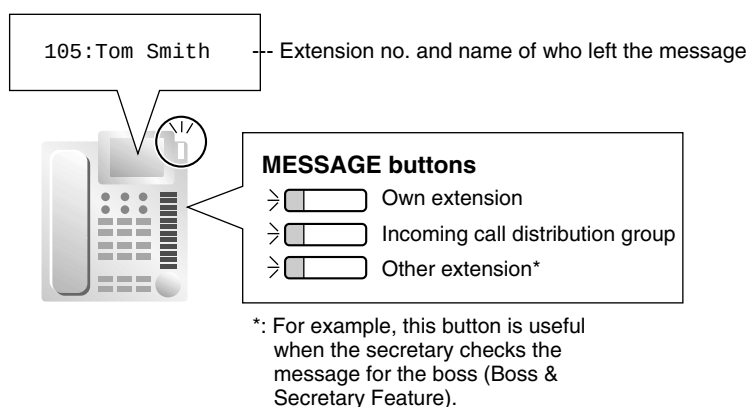
1.16.1 Message Waiting

Description

An extension user can notify another extension user that he wishes to talk to the user. The notified extension user can return the call or listen to the messages left in his mailbox of the VPS.

When a message is left on a PT, the MESSAGE button on it lights or the Message/Ringer Lamp on it turns on red. Pressing the lit MESSAGE button while on-hook shows the caller's information as shown below:

[Example]



Conditions

- **MESSAGE Button**
A flexible button can be customised as the Message button for the extension, other extensions, or an incoming call distribution group.
- **Distinctive Dial Tone for Message Waiting**
If the Distinctive Dial mode is enabled, dial tone 4 will be sent to an extension when a message has been left on the extension. (→ 1.25.1 Dial Tone)
- **SLT with a Message Waiting Lamp**
The lamp activates in the same way as the MESSAGE button on a PT, if an MSLC Card is connected to the PBX. The Message Waiting Lamp light pattern can be selected from the twelve patterns. System programming for each extension port is required to use this feature.
- It is possible to set Message Waiting while hearing a ringback tone, busy tone, or DND tone.
- Messages are always left on the original extension. Messages cannot be sent to their FWD or intercept destination.
- Both the message sending extension and receiving extension can cancel a left message.
- If the message receiving extension calls the sending extension and is answered, the message will be cleared automatically. However, if the message has been left on the VPS, it depends on the VPS.

1.16.2 Absent Message

Description

The extension users can set the message (e.g., the reason for absence, where he is) on his telephone. When display PT user calls the extension, the message is shown on the caller's telephone.

The following messages can be programmed as desired:

Type	Message No.	Message (Example)	Description
System message	1	Will Return Soon	Messages may be edited through system programming (→ Absent Message). They are used for every extension user commonly.
	2	Gone Home	
	3	At Extn %% (Extension Number)	
	4	Back at %:%% (Hour:Minute)	
	5	Out until %/%% (Month/Day)	
	6	In a Meeting	
	7		
	8		
Personal message	9		A message is programmable at each extension through personal programming (Personal Absent Message), which can only be used by that extension user.

Note

The "%" means a parameter to be entered when assigning a message at an individual extension.

Up to seven "%"s can be stored for each message.

Conditions

- An extension user can select only one message at a time. The selected message is displayed at the extension while on-hook.

1.17 Proprietary Telephone (PT) Features

1.17.1 Fixed Buttons

Description

PTs, DSS Consoles, Add-on key modules, and DWXs are provided with the following feature/Line Access buttons:

Depending on your device type, some buttons may not be provided.

[PT and Add-on Key Module]

Button		Usage
Navigator Key, Jog Dial, Volume Key		Used to adjust the ringer, speaker, handset and headset volume and the display contrast. Navigator Key and Jog Dial can also be used to select data from the Call Directory and the System Feature Access Menu on the display.
		
		
ENTER		Used to confirm the selected item.
CANCEL		Used to cancel the selected item.
PROGRAM	<i>PROG.</i>	Used to enter and exit the programming mode.
FLASH/ RECALL	R	Used to disconnect the current call and make another call without hanging up (Disconnect mode or Terminate mode) or used to send a flash/recall signal to the telephone company or host PBX to access their features (External Feature Access mode).
HOLD		Used to place a call on hold.
SP-PHONE (Speakerphone)		Used for hands-free operation. Also used to switch between handset and hands-free operation.
MONITOR		Used for a hands-free dialling. Also used to monitor the party's voice in hands-free mode.
MESSAGE		Used to leave a message waiting indication or call back the party who left the message waiting indication.
REDIAL		Used to redial the last dialled number.
TRANSFER		Used to transfer a call to another party.
Flexible CO (Trunk)		Used to make or receive a trunk call or can be reassigned to a different trunk or to another feature button.

Button		Usage
INTERCOM	<i>INT'</i>	Used to make or receive intercom calls.
AUTO ANSWER/MUTE	 / 	Used to receive an incoming call in hands-free mode, or used for microphone or handset mute during a conversation. (Dual feature button)
VOICE CALL/MUTE	 / 	Used to monitor an intercom call automatically (a hands-free conversation is not possible). Also used for handset microphone mute during a conversation.
AUTO DIAL/STORE	 / 	Used for System/Personal Speed Dialling and storing programme changes.
CONF (Conference)		Used to establish a multiple-party conversation.
FWD/DND	 / 	Used to perform FWD or DND. (Dual feature button)
PAUSE		Used to insert a pause in a stored number. With an APT, it is used as the PROGRAM button.
Soft		Used to perform the feature or operation appearing above the button at the bottom line of the display.
SELECT		Used to select the displayed feature or to call the displayed number.
SHIFT		Used to access the second level of Soft button features.
MODE		Used to shift the display to access various features.

[DSS Console]

Button		Usage
ANSWER		Used to answer an incoming call or place the current call on hold and answer another call with one-touch.
RELEASE		Used to disconnect the line during or after a conversation or to complete a Call Transfer.
Flexible CO (Trunk)		Used to make or receive a trunk call or can be reassigned to a different trunk or to another feature button.
Flexible DSS (Direct Station Selection)		Used to access an extension with one-touch. Every button is programmed to correspond to an extension. DSS buttons can also be reassigned to other features.
PF (Programmable Feature)		Used to access a preprogrammed feature with one-touch. (no default)

1.17 Proprietary Telephone (PT) Features

[DWX]

Button		Usage
INTERCOM	<i>INT'</i>	Used to make or receive intercom calls.
TALK		Used to make or receive calls.
CANCEL/ POWER		Used to end calls, or exit the Directory or Function modes. Also used to switch the power (ON/OFF) by pressing for about 5 seconds.
CLEAR/ TRANSFER		Used to clear incorrect digits while entering numbers in predialling or to return to the display to the previous step or group. And used to transfer a call to another party.
AUTO/OK	→•/OK	Used for System Speed Dialling and storing programme changes.
SELECT		Used to select the displayed function or to call the displayed telephone number.
Navigator Key		Used to adjust the volume and the display contrast or select desired items for each function.
Flexible CO (Trunk)		Used to make or receive a trunk call. F1 button is already assigned as a L-CO button (Default: L-CO). Pressing this button seizes an idle line automatically. F1 to F3 buttons can be used as the desired feature buttons. (Button assignment is required.) If the term is in parentheses like (<i>DSS</i>), it means this button has been made into the "DSS" button.
FUNCTION/ KEY-LOCK	F	Used to enter into the Function mode or access features by pressing additional keys. And used to set "KEYPAD LOCK/ UNLOCK" by pressing for about 2 seconds.
UP/DOWN		Used to select the ringer volume (seven levels) while on-hook or ringing, or receiver volume (four levels) during a conversation. And used to shift the display.
Soft		Used to perform the function or operation appearing above the button at the bottom of the display.

A DWX user can use some special features by a combination of buttons (button + a specified number, *, or #).

Feature	Usage
TONE	Used to change the dialling mode temporarily to tone. (Pulse to Tone Conversion)
WAVESEARCH	Used to search the best Cell Station on idle status. (Wave Search)

Feature	Usage
FKEY LIST	Used to display the selected features of the Flexible CO Buttons.
PS-PROGRAM	Used to enter the PS Programming mode in the programming mode.
EDIT MODE	Used to select a mode to edit the Directories (except the PBX Extension Dialling Directory) or in predialling.

Conditions

- Certain buttons are equipped with a light to show line or feature status.

1.17.2 Flexible Buttons

Description

Flexible buttons are customised by either system or personal programming. The following types of flexible buttons are provided on PTs, DSS Consoles, Add-on Key Modules, and/or DWXs:

- a) Flexible CO buttons
- b) Flexible Direct Station Selection (DSS) buttons
- c) Programmable Feature (PF) buttons

[Button Usage]

Button	Usage
Single-CO (S-CO)	Used to access a specified trunk for making or receiving calls.
Group-CO (G-CO)	Used to access an idle trunk in a specified trunk group for making calls. Incoming calls from trunks in the assigned trunk group arrive at this button.
Loop-CO (L-CO)	Used to access an idle trunk for making calls. Incoming calls from any trunk arrive at this button.
Direct Station Selection (DSS)	Used to access an extension with one-touch.
One-touch Dialling	Used to access a preprogrammed party or feature with one-touch.
Group Directory Number (G-DN)	Used to access a specified incoming call distribution group for making or receiving calls.
Message	Used to leave a message waiting indication or call back the party who left the message waiting indication.
FWD/DND (External/Internal/Both) *	Used to perform the FWD or DND feature for the extension. The feature is applied to trunk calls, intercom calls, or both.
Group FWD (Both/External/Internal)	Used to perform the FWD feature for a specified incoming call distribution group. The feature is applied to trunk calls, intercom calls, or both.
Account Code Entry (Account)	Used to enter an account code.
Conference	Used to establish a multiparty conversation.
Terminate	Used to disconnect the current call and make another call without hanging up.
External Feature Access (EFA)	Used to send a flash/recall signal to the telephone company or host PBX to access their features.
Charge Reference	Used to check the total call charge for your own extension.
Call Park	Used to park or retrieve a call in a PBX parking area.
Call Log	Used to show the incoming call information.

Button	Usage
Log-in/Log-out *	Used to switch between the log-in and log-out mode.
Hurry-up	Used to redirect the longest waiting call in the queue of an incoming call distribution group to the overflow destination.
Wrap-up *	Used to switch the Wrap-up/Not Ready and Ready modes.
Time Service *	Used to switch the assigned time modes; day, lunch, break or night. Also used to check the current time mode status.
System Alarm	Used to confirm a PBX error.
Answer	Used to answer an incoming call.
Release	Used to disconnect the line during or after a conversation, or to complete a Call Transfer.
Toll Restriction/Call Barring	Used to change the TRS/Barring level of other extension users temporarily.
ISDN Service	Used to access an ISDN service.
Calling Line Identification Restriction (CLIR) *	Used to switch between the CLIP and CLIR service.
Connected Line Identification Restriction (COLR) *	Used to switch between the COLP and COLR service.
ISDN Hold	Used to transfer a call using the telephone company.
Headset	Used to turn on/off the headset mode while idle. Used to switch between hands-free mode and headset modes during a conversation.
Two-way Record	Used to record a conversation into your own mailbox.
Two-way Transfer	Used to record a conversation into the mailbox of a specified extension.
One-touch Two-way Transfer	Used to record a conversation into the mailbox of a specified extension with one-touch.
Live Call Screening (LCS)	Used to monitor your own voice mailbox while an incoming caller is leaving a message and, if desired, intercept the call.
Voice Mail Transfer	Used to transfer a call to the mailbox of a specified extension.

*: **One-touch Feature Setting Buttons:** Pressing these buttons while on-hook changes the feature settings. The new mode will be displayed for a preprogrammed time period.

Conditions

- The Flexible DSS button lights of the KX-T7040 and KX-T7240 shows only "Off" or "Red On". If the button is customised as a button which shows other light patterns, the other light patterns also show only as "Red On".

1.17.3 LED Indication

Description

The light (LED: Light Emitted Diode) of the Message/Ringer Lamp and following buttons (Line Status Buttons and Corresponding Extension Status Button) show line conditions with a variety of light patterns.

Line Status Buttons: S-CO, G-CO, L-CO, INTERCOM, G-DN

Corresponding Extension Status Button: DSS

1. Light Pattern of the Message/Ringer Lamp

- Incoming call from a trunk: Red flashing
- Incoming call from another extension: Green flashing
- Message(s) present (no incoming call): Red on
- No Message(s) present (no incoming call): Off

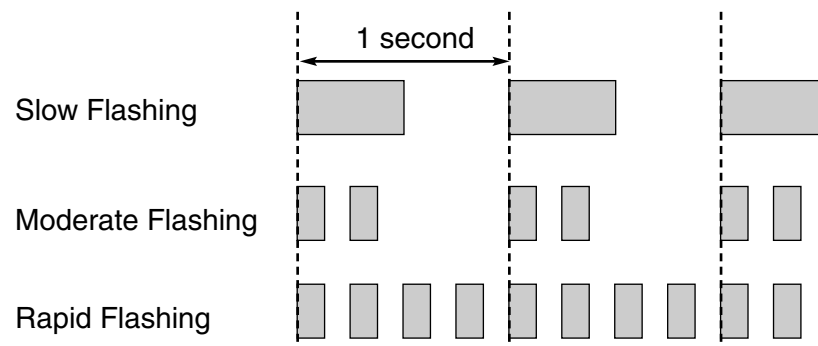
2. Light Pattern of the Line Status Buttons

Line Status Button: Light Pattern	Trunk Status			Intercom Line Status	Incoming Call Distribution Group Line Status
	S-CO	G-CO	L-CO	INTERCOM	G-DN
Off	Idle				
Green on	This extension is using the line.				
Slow green flashing	This extension is holding the line.				
Moderate green flashing	This extension is holding the line using Exclusive Hold or using the line for an Unattended Conference.				
Rapid green flashing	Incoming call/Privacy Release	Incoming call			
Red on	Incoming call for another extension/ Another extension is using the line/Another extension has the line on Exclusive Hold.	Other extensions are using all trunks in the trunk group.	—	—	This extension is logged out of the incoming call distribution group.
Slow red flashing	Another extension is holding the line.	—	—	—	—
Rapid red flashing	Incoming call to the incoming call distribution group in Ring distribution method			—	—

3. Light Pattern of the Corresponding Extension Status Button

Corresponding Extension Status Button	DSS
Light Pattern	
Off	Idle
Red on	Busy/DND for trunk calls
Rapid red flashing	Incoming call

4. Flashing Light Patterns



Conditions

- The incoming call shows on the buttons in the following priority:
G-DN → S-CO → G-CO → L-CO → INTERCOM

1.17.4 Display Information

Description

A display PT shows the user the following information while making or receiving calls if they are available:

Display Item	Display Example	Condition
The extension number and name of the calling or called extension, or incoming call distribution group	123: Tom Smith	—
Status of the called extension	123: Busy	—
The number and name of the optional device	Door 02: 1st Door	—
The dialled telephone number	1234567890	—
The received call information a) Caller's name b) Caller's number c) Original Destination, if the call is forwarded d) Trunk number/name e) DDI/DID/MSN name or number	ABC Company 12345678 →102:Mike Line-001: Sales Panasonic	The first line message can be either (a), (d), or (e) at each extension.
Call charge fee during a trunk call.	12.35 EUR	The currency (→ Currency), position of the currency symbol, and the decimal point (→ Decimal Point for Currency) are programmable.
Call duration during a trunk call.	Line-001 12:02'28	—

Conditions

- **Multilingual Display**
Each extension can select its display language through personal programming (Display Language Selection).
- **Display Contrast**
It is possible to adjust the display contrast through personal programming (Display Contrast Selection).

1.18 Integrated Services Digital Network (ISDN) Service Features

1.18.1 Integrated Services Digital Network (ISDN)—SUMMARY

Description

ISDN is a digital switching and transmission network. ISDN transmits voice, data, and image in digital format. ISDN lines, if available, can be connected to public line (trunk), private line (QSIG), or ISDN terminal devices (extension).

1. ISDN Interface and Configuration

Interface Type	Description	Port Mode ¹	Configuration Type ²
Basic Rate Interface (BRI)	Provides two 64 kbps B channels for communication and one 16 kbps D channel for signalling (2B + D).	Trunk, QSIG (Master, Slave), Extension	Point-to-Point/ Point-to-multipoint
Primary Rate Interface (PRI)	Provides thirty or twenty-three 64 kbps B channels for communication and one 64 kbps D channel for signalling (30B + D/23B + D).	Trunk, QSIG (Master, Slave), Extension	Point-to-Point

¹: → BRI Port Type *For BRI only

²: → BRI Configuration *For BRI only

Notes

- **Point-to-Point (P-P):**
One ISDN terminal device can be connected to one ISDN port.
- **Point-to-multipoint (P-MP):**
A maximum of eight ISDN terminal devices can be connected to one ISDN port.

2. ISDN Supplementary Service Table for Public Network

Service	Description	Details in
Direct Dialling Inward (DDI)	Directs a call with a DDI number to a preprogrammed destination. (P-P only)	• Direct Inward Dialling (DID)/ Direct Dialling Inward (DDI)
Multiple Subscriber Number (MSN)	One ISDN port can support a maximum of 10 MSNs for routing incoming calls. (P-MP only)	• Multiple Subscriber Number (MSN) Ringing Service
Calling Line Identification Presentation (CLIP)	Sends the caller's telephone number to the network when making a call. The called party can see the number on his telephone display before answering the call.	• Calling/ Connected Line Identification Presentation (CLIP/COLP)
Connected Line Identification Presentation (COLP)	Sends the telephone number of the answered party to the network when answering a call. The caller can see the number on his telephone display when the line is connected.	
Calling Line Identification Restriction (CLIR)	Stops the caller's CLI being presented to the called party by the caller.	
Connected Line Identification Restriction (COLR)	Stops COLP being sent by the answered party.	
Subaddressing (SUB)	You may add digits after the telephone number. These digits will be passed to ISDN terminal device.	—
User-to-user Signalling Type 1 through 3 (UUS-1 through UUS-3)	Transmits a specified volume of the data through the D channel between the ISDN terminal devices of different PBXs using UUS types 1 through 3.	—
Advice of Charge (AOC)	The PBX can receive the call charge information on ISDN lines from the telephone company.	• Advice of Charge (AOC)
Call Forwarding (CF)—by ISDN	Forwards an incoming call to another outside party using the ISDN service of telephone company.	• Call Forwarding (CF)—by ISDN (P-MP) • Call Forwarding (CF)—by ISDN (P-P)
Call Hold (HOLD)—by ISDN	Puts one ISDN call on hold.	• Call Hold (HOLD)—by ISDN

Service	Description	Details in
Call Transfer (CT)—by ISDN	Transfers an ISDN call to an outside party. Call Transfer with Announcement and Call Transfer without Announcement are available.	• Call Transfer (CT)—by ISDN
Malicious Call Identification (MCID)	An extension user can ask the telephone company to trace a malicious caller. Information on the malicious call will be received later on.	• Malicious Call Identification (MCID)
Completion of Calls to Busy Subscriber (CCBS)	If an outside called party is busy, an extension can receive callback ringing when the called party becomes free.	• Completion of Calls to Busy Subscriber (CCBS)

3. ISDN Centrex Service

An extension user can have access to the features of the ISDN Centrex Service of the telephone company (e.g., Call Transfer). This is used by putting the current ISDN call on hold by sending a flash/recall signal. This feature is enabled or disabled for each ISDN port.

4. Private Networking Connection (QSIG)

Private networking with QSIG is possible using an ISDN line. The QSIG mode, Master or Slave, can be enabled on an ISDN port basis.

5. ISDN Extension (→ ISDN Extension in Section 1.18.1 Integrated Services Digital Network (ISDN)—SUMMARY)

An ISDN (BRI/PRI) port can be used for extension connection. While the extension connection is enabled, ISDN terminal devices (e.g., ISDN telephone, G4 Facsimile, personal computer) or a behind PBX can be connected to the port.

When the ISDN port is in P-P configuration, one ISDN terminal device can be connected to the port. When the ISDN port is in P-MP configuration, a maximum of eight ISDN terminal devices can be connected to the port. However, only a maximum of two devices can be used simultaneously.

Conditions

- **Overlap/En bloc**
ISDN call dialling mode, Overlap or En bloc, can be selected for each ISDN port. When "Overlap" is selected, the PBX sends each dialled digit individually. When "En bloc" is selected, the PBX sends all of dialled digits at once after the extension user completes dialling. The PBX recognises end of dialling as follows:
– Dialling #, if programmed
– Dialling a preprogrammed telephone number
– Inter-digit timer expires.
- Some supplementary services are provided by the key protocol (→ ISDN Service Access by Keypad Protocol in Section 1.18.1 Integrated Services Digital Network (ISDN)—SUMMARY).
- **Extension Number**
An extension number can be assigned to each ISDN port.

- **ISDN Extension Progress Tone**
The PBX can be programmed to send the call progress tone to ISDN extensions on an ISDN port basis (→ BRI Extension Tone *For BRI only).
- **Network Type**
Each ISDN port can be set to the requirements of each country/area (→ BRI Network Type *For BRI only).
- **L1 Active Mode and L2 Data Link Mode**
The active mode of Layer 1 (L1) (→ BRI Layer 1 Active Mode *For BRI only) and the data link mode of Layer 2 (L2) (→ BRI Layer 2 Active Mode *For BRI only) can be selected individually, Permanent or Call by Call, on an ISDN port basis.
- **TEI Assignment Mode**
The Terminal Endpoint Identifier (TEI) assignment mode can be selected on an ISDN port basis (→ BRI TEI Mode *For BRI only).
- **Bearer Mode**
The bearer mode can be assigned on an ISDN port basis.
- **Automatic ISDN Configuration**
ISDN (BRI) port configuration can be set automatically (→ BRI Automatic Configuration). The following items will be set by making and receiving a call using the subscriber number assigned for each ISDN (BRI) port:
 - a) L1 Active Mode
 - b) L2 Data Link Mode
 - c) Access Mode (Point-to-Point/Point-to-Multipoint)
 - d) TEI Assignment Mode (Fix 00-63/Automatic)

ISDN Service Access by Keypad Protocol

Description

ISDN provides some supplementary services by key protocol, and they may require a service access code to be dialled.

This feature complies with the following European Telecommunication Standard (ETS) specifications: ETS 300 122 Generic keypad protocol for the support of supplementary service (ISDN Service Access).

Conditions

- **ISDN Service Button**
A flexible button can be customised as an ISDN Service button. A service access code can also be assigned on this button for a quick operation.
- This feature is not available to an SLT.

Advice of Charge (AOC)

Description

The PBX can receive the call charge information on ISDN lines from the telephone company. There are the following types:

Type	Description
Advice of Charge During Call (AOC-D)	AOC is received during the call and when the call is completed.
Advice of Charge At End of Call (AOC-E)	AOC is received when the call is completed.

This feature complies with the following European Telecommunication Standard (ETS) specifications: ETS 300 182 Advice of Charge (AOC) supplementary service Digital Subscriber Signalling System No. One (DSS1) protocol.

Conditions

- A DPT user can see the call charge information on the display during the call.
- **Budget Management**
If the amount of call charge reaches the preprogrammed limit, an extension user cannot make further calls (→ 1.7.2 Budget Management).
- **AOC for ISDN extension**
An ISDN extension also receives AOC.

Call Forwarding (CF)—by ISDN (P-MP)

Description

An extension user can forward the incoming ISDN call to another outside party using the ISDN service of the telephone company, instead of the PBX feature, when the call is received through an ISDN line.

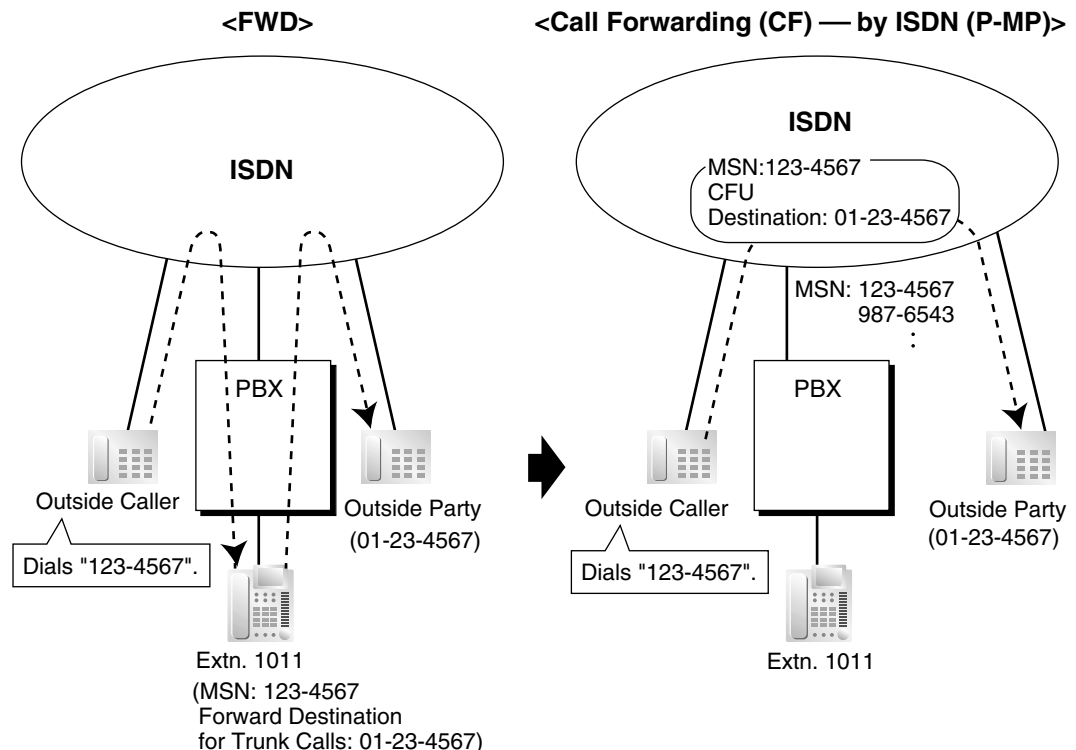
Extension users can set the forward destination to the network on an MSN basis. The setting must have been done beforehand to use this feature. There are the following types:

Type	Description
Call Forwarding—Unconditional (CFU)	Incoming calls are forwarded unconditionally.
Call Forwarding—Busy (CFB)	An incoming call is forwarded when the destination on the PBX is busy.
Call Forwarding—No Reply (CFNR)	An incoming call is forwarded when the destination on the PBX does not answer within a preprogrammed time period.

When the CFB or CFNR has been set, the network determines to forward the incoming call to the preprogrammed destination after the call reached the PBX once. When the CFU has been set, the network forwards the call directly to the preprogrammed destination.

This feature complies with the following European Telecommunication Standard (ETS) specifications: ETS 300 207 Diversion supplementary service.

[Example]



Conditions

- The availability of this feature is dependent on the contract with the telephone company.
- The feature requires the MSN service.
- COS programming determines the extensions that are able to use this feature.

Call Forwarding (CF)—by ISDN (P-P)

Description

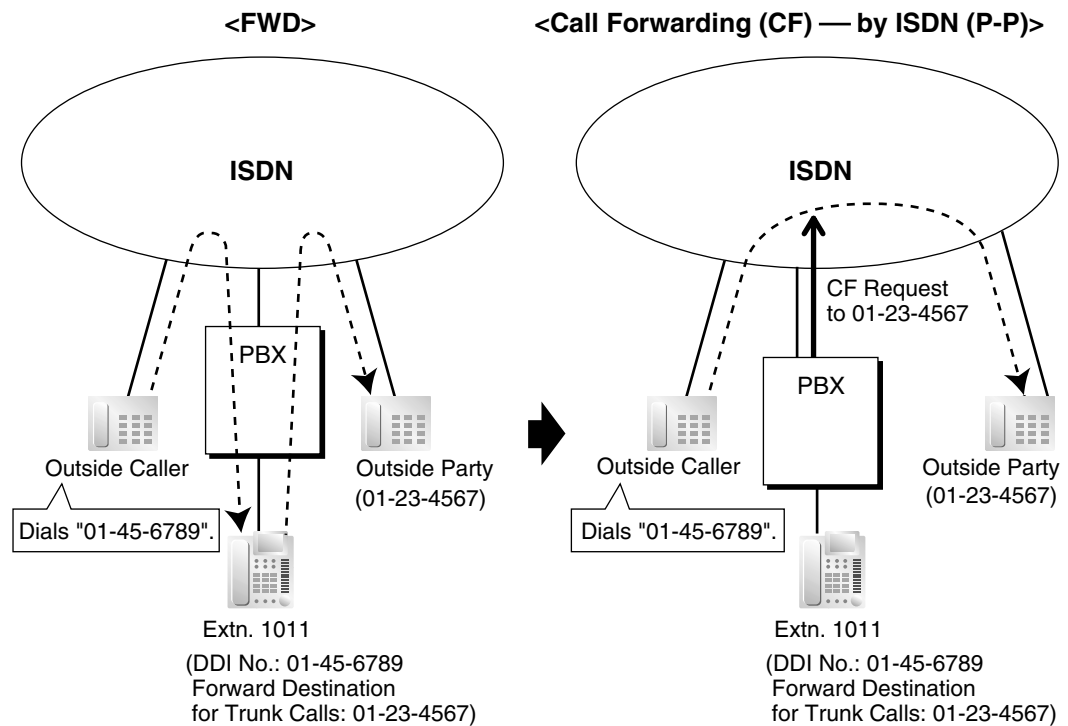
An extension user can forward the incoming ISDN call to another outside party using the ISDN service of the telephone company, instead of the PBX feature, when the call is received through an ISDN line.

The network directly forwards the call to the destination which the extension user has set on the PBX as the forward destination for trunk calls; the network is instructed by the PBX. This feature is available only when the call is received through an ISDN port which supports this feature.

Call Forwarding—Unconditional (CFU), Call Forwarding—Busy (CFB), and Call Forwarding—No Reply (CFNR) are applied to this feature.

This feature complies with the following European Telecommunication Standard (ETS) specifications: ETS 300 207 Diversion supplementary service.

[Example]



Conditions

- The availability of this feature is dependent on the contract with the telephone company.
- This feature can be enabled or disabled on each ISDN port of the PBX.
- This feature is available when the same trunk group is used for the incoming call and the forwarded call.

Call Hold (HOLD)—by ISDN

Description

An ISDN call can be put on hold using the ISDN service of the telephone company, instead of the PBX feature. This can be a part of a Call Transfer (CT)—by ISDN. This feature allows an ISDN call to be held, and a call to be made to another outside party using only one communication channel of ISDN. A PT user can easily use this feature by pressing the ISDN Hold button.

This feature complies with the following European Telecommunication Standard (ETS) specifications: ETS 300 141 Call Hold (HOLD) supplementary service.

Conditions

- **ISDN Hold Button**
A flexible button can be customised as the ISDN Hold button.
- The availability of this feature is dependent on the contract with the telephone company.
- The TRS/Barring feature is applied when making a call after activating this feature.
- ARS cannot be applied to the call dialled after activating this feature.
- It is impossible to seize any other trunk during this feature.
- The number dialled after activating this feature will not be recorded by SMDR. The call charge fee will be treated as part of the original call you made or received.

Call Transfer (CT)—by ISDN

Description

An ISDN call can be transferred to an outside party using the ISDN service of the telephone company, instead of the PBX feature, without occupying a second ISDN line.

This feature can be used only when the network supports the "explicit linkage" option.

This feature complies with the following European Telecommunication Standard (ETS) specifications: ETS 300 369 Explicit Call Transfer (ECT) supplementary service.

Conditions

- The availability of this feature is dependent on the contract with the telephone company.
- This feature can be enabled or disabled on an ISDN port basis.
- Call Transfer with Announcement and Call Transfer without Announcement is possible.
- The call charges after completing this feature will not be recorded by the PBX.

Calling/Connected Line Identification Presentation (CLIP/COLP)

Description

Calling Line Identification Presentation (CLIP):

The PBX can send a preprogrammed telephone number to the network when an extension user makes a call. The called party can see the number on his telephone display before answering the call.

Connected Line Identification Presentation (COLP):

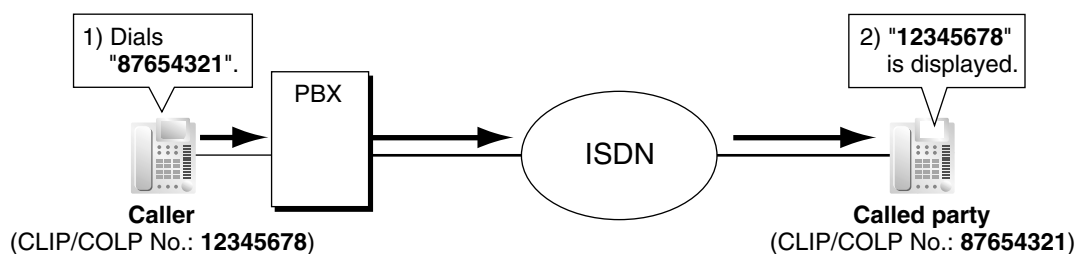
The PBX sends a preprogrammed telephone number to the network when the extension user answers an incoming call. The caller can see the number of the answering party on his telephone display when the call is answered.

These features comply with the following European Telecommunication Standard (ETS) specifications:

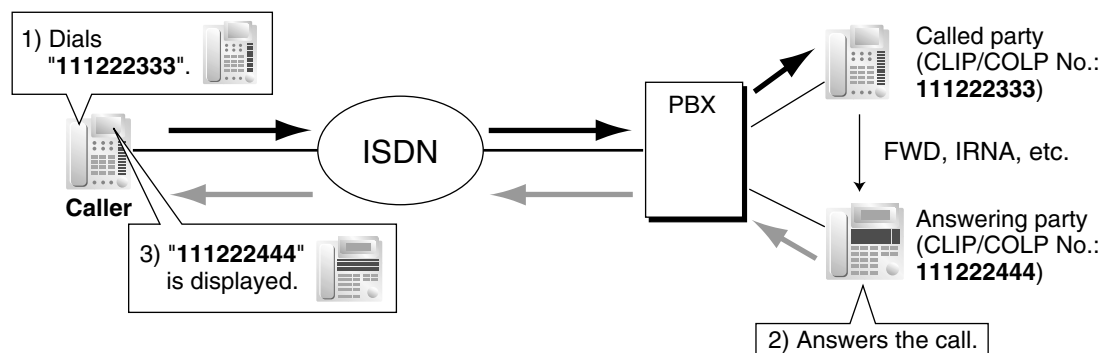
ETS 300 092 Calling Line Identification Presentation (CLIP) supplementary service.

ETS 300 097 Connected Line Identification Presentation (COLP) supplementary service.

[CLIP Example]



[COLP Example]



CLIP/COLP Number:

The telephone numbers sent to the network for CLIP/COLP feature can be assigned as follows:

- CLIP/COLP number for each ISDN port (subscriber's number) (→ BRI Subscriber Number *For BRI only)
- CLIP/COLP number for each extension (→ CLIP/COLP Number Assignment)
- CLIP/COLP number for each incoming call distribution group

Each extension can select either the CLIP/COLP number for the ISDN port or the extension to be used. The CLIP/COLP number for the incoming call distribution group is used when making a call by pressing the G-DN button or receiving a call which arrives at the G-DN button.

Calling/Connected Line Identification Restriction (CLIR/COLR):

It is possible for each extension to restrict to send his telephone number to the network by pressing the CLIR button, COLR button, or entering the feature number.

These features comply with the following European Telecommunication Standard (ETS) specifications:

ETS 300 093 Calling Line Identification Restriction (CLIR) supplementary service.

ETS 300 098 Connected Line Identification Restriction (COLR) supplementary service.

Conditions

- The availability of this feature is dependent on the contract with the telephone company.
- The CLIP/COLP number for the connected ISDN port can be used for the ISDN terminal devices which cannot be assigned their own CLIP/COLP number, such as a doorphone.
- **COLP/CLIR/COLR Assignment for Each Port**
Each service can be enabled or disabled on each ISDN port of the PBX.
- **CLIR Button and COLR Button**
It is possible to switch between CLIP and CLIR by pressing the CLIR button, and COLP and COLR by pressing the COLR button. A flexible button can be customised as the CLIR or COLR button.
- The CLIP/COLP number must match the telephone number provided by the telephone company. Otherwise it will be ignored or replaced by another number.
- The CLIP/COLP method differs when using a private network. (→ 1.26.1 TIE Line Service)

Malicious Call Identification (MCID)

Description

An extension user can ask the telephone company to trace a malicious caller during a call or while hearing reorder tone after the caller hangs up. Information on the malicious call will be received later on.

This feature complies with the following European Telecommunication Standard (ETS) specifications: ETS 300 130 Malicious Call Identification (MCID) supplementary service.

Conditions

- **MCID Signal Waiting Time**
The time allowed for sending an MCID signal while hearing reorder tone is programmable.

Completion of Calls to Busy Subscriber (CCBS)

Description

If the called party is busy and the call has been made using an ISDN line, an extension user can set to receive callback ringing when the called party becomes free. When the user answers the callback ringing, that party's number is automatically dialed.

This feature complies with the following European Telecommunication Standard (ETS) specifications: ETS 300 359 Completion of Calls to Busy Subscriber (CCBS) supplementary service.

Conditions

- This feature is available under the following conditions:
 - a)** The caller's PBX is capable of using CCBS and the service is provided by the network.
 - b)** The called party's PBX is capable of accepting CCBS.
- To receive and send CCBS, receiving and sending CCBS must be enabled individually on an ISDN port basis through system programming.
- An extension user can set only one CCBS at a time.
- The CCBS setting is cancelled if there is no callback ringing within 60 minutes or callback ringing is not answered within 10 seconds.
- **CCBS Signal Waiting Time**
The time allowed for sending a CCBS signal while hearing busy tone is programmable.

ISDN Extension

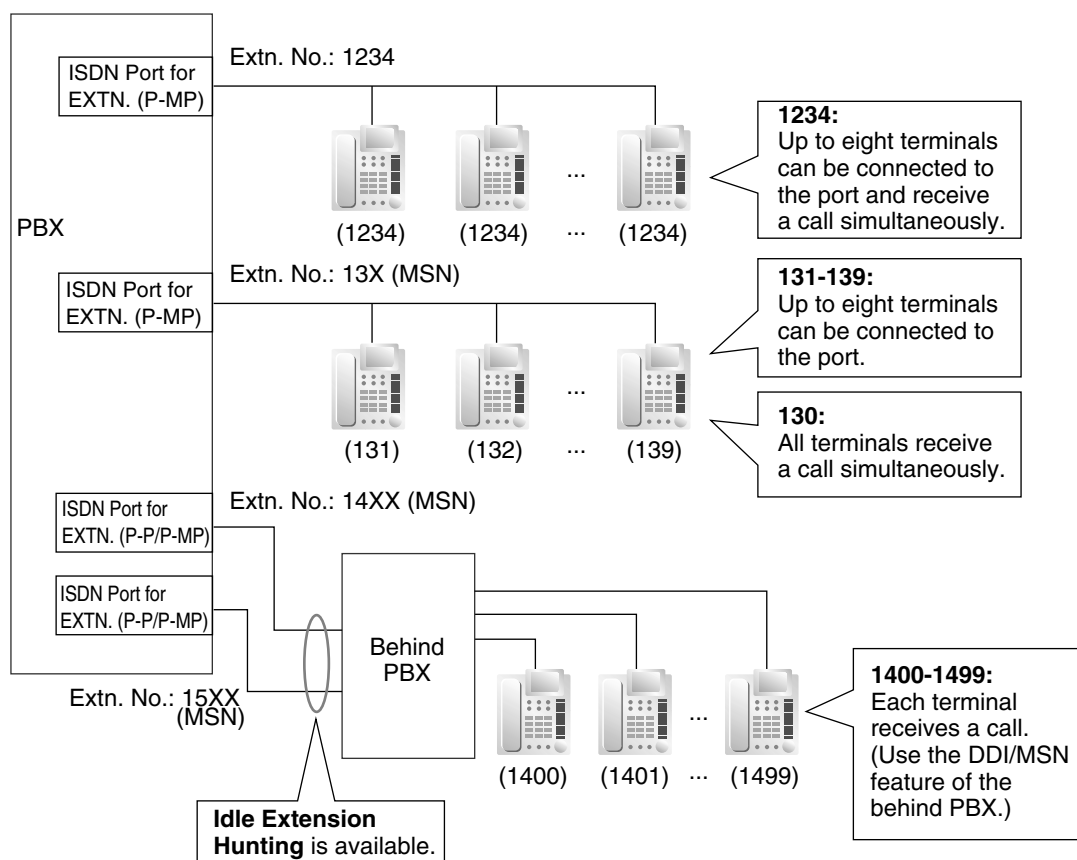
Description

An ISDN (BRI/PRI) port can be used for either trunk or extension connection. When extension connection is enabled, ISDN terminal devices (e.g., ISDN telephone, G4 facsimile, personal computer) or a behind PBX can be connected to the port.

If the ISDN port is in point-to-point (P-P) configuration, one terminal device can be connected to the port. If the ISDN port is in point-to-multipoint (P-MP) configuration, a maximum of eight terminal devices can be connected to the port. However, only a maximum of two devices can be used simultaneously.

Individual terminal devices on a behind PBX can be addressed with Multiple Subscriber Number (MSN). The MSN consists of the ISDN extension number and an additional digit, 0 through 9 or 00 through 99.

[Example]



Conditions

- **Subaddressing**
Subaddressing is possible between ISDN terminal devices. The subaddress goes through the PBX to the ISDN terminal devices directly.
- ISDN extensions can belong to an incoming call distribution group or idle extension hunting group. In this case, an MSN can be assigned.

- If the last digit of the MSN is "0", all terminal devices on the same ISDN port receive the call simultaneously, if the specification of each terminal device is available. To use the MSN whose last digit is "0" as an individual MSN, system programming is required for each ISDN port.

1.19 E1 Line Service Features

1.19.1 E1 Line Service

Description

The E1 line is at the bottom of the digital transmission hierarchy.

The E1 line carries thirty 64 kbs-voice channels at 2.048 Mbps transmission speed as a trunk or private line. Voice is digitised by Pulse Code Modulation (PCM).

1. Channel Type

[DR2 (Digital System R2)/E & M-C (Continuous E & M)/E & M-P (Pulsed E & M)]

The E1 Card supports three different channel types to provide connection at minimum expense. One of the three channel types can be assigned to one of the 30 channels of the E1 Card individually according to tariffs and customer needs.

2. E1 Features

The following table shows the features available for each channel type:

[Feature Table]

Channel Type	(1) TIE	(2) DID	(3) DIL	(4) ANI	(5) Call Charge Information
DR2		✓	✓	✓ ^{*1}	✓
E & M-C	✓	✓	✓	✓ ^{*2}	
E & M-P	✓	✓	✓	✓ ^{*2}	

✓: The feature is available.

*1: Receiving Dial Mode should be MFC-R2.

*2: Available only when this PBX is connected to the KX-TDA100, KX-TDA200, or KX-TD500.

[Explanation]

Number in the table	Feature	Description
(1)	TIE Line Service	Refer to the TIE Line Service feature. (→ 1.26.1 TIE Line Service)
(2)	Direct Inward Dialling (DID)	Refer to the DID feature. (→ Direct Inward Dialling (DID)/ Direct Dialling Inward (DDI) in Section 1.1.1 Incoming Trunk Call Features—SUMMARY)
(3)	Direct In Line (DIL)	Refer to the DIL feature. (→ Direct In Line (DIL) in Section 1.1.1 Incoming Trunk Call Features—SUMMARY)
(4)	Automatic Number Identification (ANI)	Outgoing ANI: Sends the caller's number to the E1 line. The sending method is the same as ISDN CLIP service. (→ Calling/ Connected Line Identification Presentation (CLIP/COLP) in Section 1.18.1 Integrated Services Digital Network (ISDN)—SUMMARY) Incoming ANI: Receives the caller's number from the E1 line. When the ANI number is received, it can be treated the same as a Caller ID number. (→ 1.15.1 Caller ID)
(5)	Call Charge Information	The call charge meter pulses can be received during a conversation. (→ 1.23.2 Charge Metre)

Conditions

- **Hardware Requirement:** an optional E1 Card
- If an E1 line is used as a trunk, the channel type depends on the contract with the telephone company.

1.20 T1 Line Service Features

1.20.1 T1 Line Service

Description

The T1 line is at the bottom of the digital transmission hierarchy.

The T1 line carries twenty-four 64 kbps-voice channels at 1.5 Mbps transmission speed as a trunk or private line. Voice is digitised by Pulse Code Modulation (PCM).

1. Channel Type

[LCO/GCO/DID/TIE/OPX]

The T1 Card supports five different channel types to provide connection at minimum expense. One of the five channel types can be assigned to one of the 24 channels of the T1 Card individually according to tariffs and customer needs.

2. T1 Features

The following table shows the features available for each channel type:

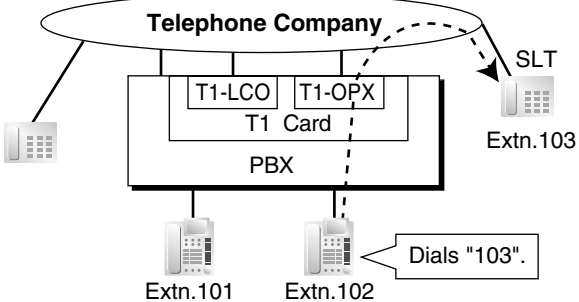
[Feature Table]

Channel Type	(1) TIE	(2) DID	(3) DIL	(4) OPX	(5) ANI
LCO			✓		
GCO			✓		
DID		✓	✓		
TIE (E & M)	✓	✓	✓		✓
OPX				✓	

✓: The feature is available.

[Explanation]

Number in the Table	Feature	Description
(1)	TIE Line Service	Refer to the TIE Line Service feature. (→ 1.26.1 TIE Line Service)
(2)	Direct Inward Dialling (DID)	Refer to the DID feature. (→ Direct Inward Dialling (DID)/ Direct Dialling Inward (DDI) in Section 1.1.1 Incoming Trunk Call Features—SUMMARY)
(3)	Direct In Line (DIL)	Refer to the DIL feature. (→ Direct In Line (DIL) in Section 1.1.1 Incoming Trunk Call Features—SUMMARY)

Number in the Table	Feature	Description
(4)	Off Premise Extension (OPX)	An SLT which is installed off site can perform as if it were installed locally. The SLT makes and receives a call through the PBX. An extension number can be given to the OPX, and extension data such as COS is also applied. When incoming calls reach the OPX, the ringing pattern is the same as the pattern for an SLT installed directly into the PBX. [Example] 
(5)	Automatic Number Identification (ANI)	Receives the caller's number from the T1 line. When the ANI number is received, it can be treated the same as a Caller ID number. (→ 1.15.1 Caller ID)

Conditions

- **Hardware Requirement:** an optional T1 Card
- If a T1 line is used as a trunk, the channel type depends on the contract with the telephone company.
- For the T1E (E & M) channel type, it is programmable whether the PBX sends a dial tone to extensions when a trunk is seized on a trunk basis.

1.21 Voice Mail Features

1.21.1 Voice Mail (VM) Group

Description

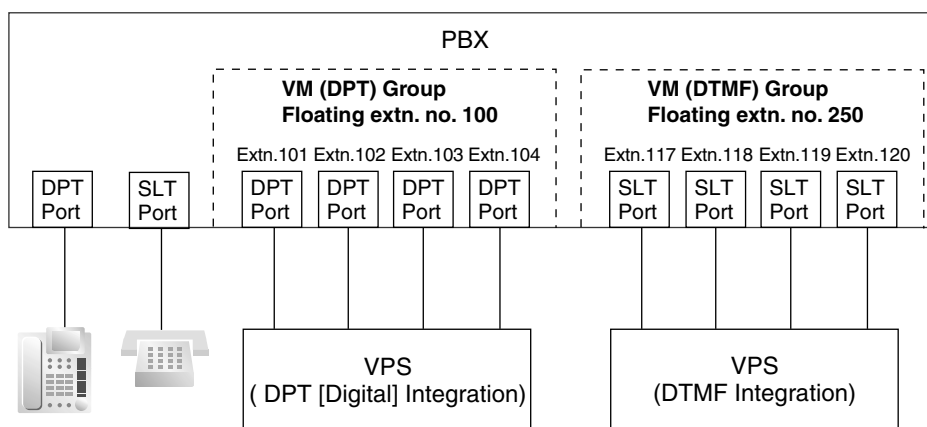
A VPS can be connected to extension ports on the PBX. The extension ports make a group, called a VM group. This group has a floating extension number. The VM group can be the destination for transferred calls and incoming calls. When receiving a call, the VPS can greet the caller offering them the option to leave a message or dial a number to reach the desired party. The VPS can record the message for each extension and leave notification on the corresponding extension, if the called extension is not able to answer calls.

1. VM Group Type

Type	Description
VM (DTMF) Group	A group of SLT ports which use the Voice Mail DTMF Integration features.
VM (DPT) Group	A group of DPT ports which use the Voice Mail DPT (Digital) Integration features. A maximum of 12 ports (24 channels) of the VPS can form each group. One Panasonic KX-TVS/KX-TVP system can be in only one group.

A maximum of two VPSs can be connected to each PBX. One VPS must be in its own VM (DTMF) group and/or VM (DPT) group. Thus each PBX can support a maximum of two VM (DTMF) groups and two VM (DPT) groups.

[Example]



[VM (DTMF) Group Assignment]

Assign a floating extension number to the desired VM (DTMF) group. Incoming calls will hunt starting at the lowest location number. A name can be assigned to each VM (DTMF) group.

[Example]

VM Group 1	
Floating Extn. No.	250
Group Name	A Company (VPS)
Location No.	Extension No.
-01	117
-02	118
:	:

[VM (DPT) Group Assignment]

Assign the VM (DPT) group number and the location number to the desired extension port as its attribute. Incoming calls will hunt starting at the lowest location number. A floating extension number and a name can be assigned to each VM (DPT) group. All extension ports for one VM (DPT) group should be connected to only one DHLC Card or only one DLC Card.

The PBX port which assigned the DPT attribution as "01" in a VM (DPT) group (e.g., VPSG 02-**01**) must be connected to VPS port 01. The digital integration is performed between these ports.

[Example]

Extn. Port No.	Attribute*1		VM Group 1	
10101	VPSG1-01		Floating Extn. No.*2	100
10102	Normal		Group Name	B Company (VPS)
10103	VPSG1-02		Location No.	Extn. Port No.
10104	VPSG2-01		-01	10101
10105	DSS-Console		-02	10103
:			:	:

*1: → VPS/DSS Console/PC Console Assignment

*2: → VM Group Floating Extension Number

2. Incoming Calls to VM Group

When incoming calls are received at the floating extension number of the VM group, calls will hunt starting at the lowest location number. In this case, the FWD and DND settings for each extension port are disregarded.

It is programmable whether the calls queue when all extension ports in the group are busy through system programming. If "Disable" is selected, the call will be redirected to the preprogrammed destination by the Intercept Routing feature. If "Disable" is selected and Intercept Routing feature is not set, busy tone will be sent.

Conditions

- It is possible to call an extension (extension port) in a VM group directly. If the calls are routed directly to the extension in the group, it is possible to enable some features (e.g., FWD, Idle Extension Hunting) on the extension in the group. The Voice Mail DTMF/DPT (Digital) Integration (e.g., command transmit) is also available on the extension.

1.21 Voice Mail Features

- **One-touch Voice Mail Feature Access**

It is possible to assign a One-touch Dialling button for direct access to a Voice Mail feature. For example, to access a mailbox (mailbox number 123) of the VPS (extension number 165) directly, assign "**165#6**123**" to a One-touch Dialling button. When pressing this button, the outgoing message (OGM) of the mailbox will be heard.**

1.21.2 Voice Mail DTMF Integration

Description

The PBX and the VPS connected to the PBX can transmit commands using DTMF signals to each other. The PBX sends preprogrammed commands using DTMF to the VPS automatically to change the answering service between Voice Mail (VM) service mode and Automated Attendant (AA) service mode or to inform the extension status (e.g., busy). The VPS sends the commands to the PBX like an SLT.

The following answering services and features are available:

1. Voice Mail (VM) Service Mode

When a caller reaches the VPS, the VPS greets and guides the caller to leave a voice message for a specified mailbox.

[Example]

The VPS sends the message to the caller, "Thank you for calling Panasonic. Please enter the mailbox number of the person you wish to leave your message for."



The caller dials the mailbox number. Then, the dialled number is sent to the VPS via the PBX.



The VPS sends the personal greeting to the caller, "You have reached Mike's voice mail. I am sorry I cannot take your call right now. Please leave a message and I will call you back."



The caller leaves a message.

If the call reroutes to the floating extension number of the VM (DTMF) Group or the extension in the VM (DTMF) group by such as the FWD feature, when the VPS answers the call, the PBX will dial the mailbox number of the corresponding group or extension and any other digits required to the VPS automatically using the caller-dialled number (Follow on ID). In this case, the caller can reach a mailbox without knowing the mailbox number.

[Available Features for Follow on ID]

- a) FWD to a Mailbox
- b) Intercept Routing to a Mailbox
- c) Call Transfer to a Mailbox
- d) Listening to a Message in a Mailbox

2. Automated Attendant (AA) Service Mode

The VPS greets and guides the caller to the desired extension directly without operator assistance.

3. VM → AA Service, AA → VM Service

It is possible to switch the service mode assigned on the VPS port, from the VM service to AA service or vice versa.

System Explanation

1. Service Mode Assignment

Assign the service mode, VM service or AA service, to the VM (DTMF) group to correspond with the assignment of the VPS.

2. DTMF Command Assignment

Assign the DTMF command to suit the VPS settings.

	Command (Default)
Switching to VM	#6
Switching to AA	#8
Recording message	H
Listening message	×H

Note: H = Mailbox Number

3. VM Service

a) FWD to a Mailbox of the VPS

The PBX sends a mailbox number of the corresponding extension to the VPS when a call is forwarded from an extension to the VPS. Therefore the caller can leave a message for the called extension without knowing the mailbox number.

[FWD to the VPS Sequence Selection]

If an extension user sets FWD to the VPS, any incoming call will be forwarded to the VPS.

It is also possible to send the AA command, even in the VM service mode, when calls are forwarded so that the caller can be directed to an extension rather than a mailbox. This can be performed by selecting "AA" through system programming.

Parameter	Transmitted Command	
	In AA Service Mode	In VM Service Mode
Answer by Mailbox (Default)	Switching to VM command + Recording message command (#6 + H [H = Mailbox No.])	Recording message command (H [H = Mailbox No.])
AA	Switching to AA command (#8)	Switching to AA command (#8)
None	(DTMF commands are not sent. Work with default of the VPS.)	

b) Intercept Routing to a Mailbox of the VPS

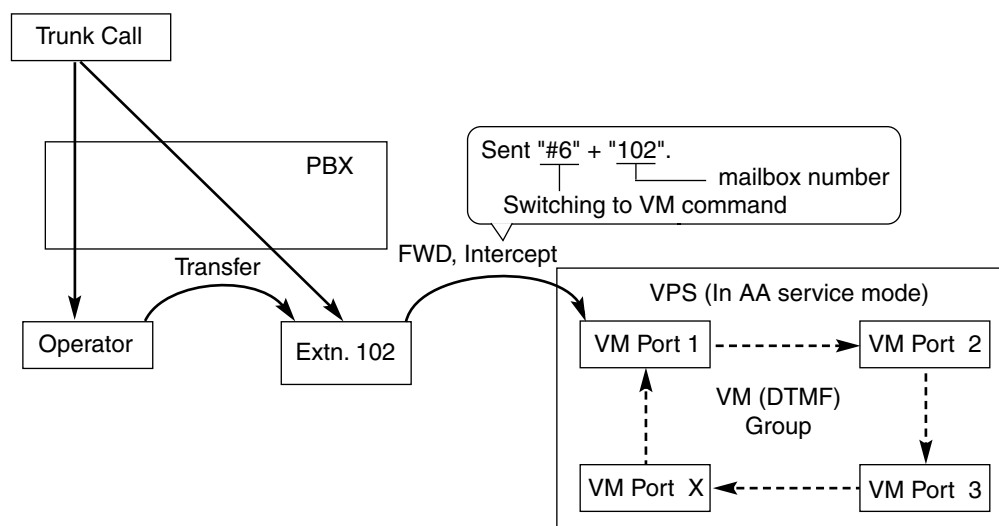
The PBX sends a mailbox number of the corresponding extension to the VPS when a trunk call is intercepted from an extension to the VPS. Therefore the caller can leave a message for the called extension without knowing the mailbox number.

[Intercept Routing to the VPS Sequence Selection]

If an extension user sets Intercept Routing to the VPS, the intercepted trunk calls will be redirected to the VPS.

It is also possible to send the AA command, even in the VM service mode, when calls are intercepted so that the caller can be directed to an extension rather than a mailbox. This can be performed by selecting "AA" through system programming.

Parameter	Transmitted Command	
	In AA Service Mode	In VM Service Mode
Answer by Mailbox	Switching to VM command + Recording message command (#6 + H [H = Mailbox No.])	Recording message command (H [H = Mailbox No.])
AA	Switching to AA command (#8)	Switching to AA command (#8)
None (Default)	(DTMF commands are not sent. Work with default of the VPS.)	

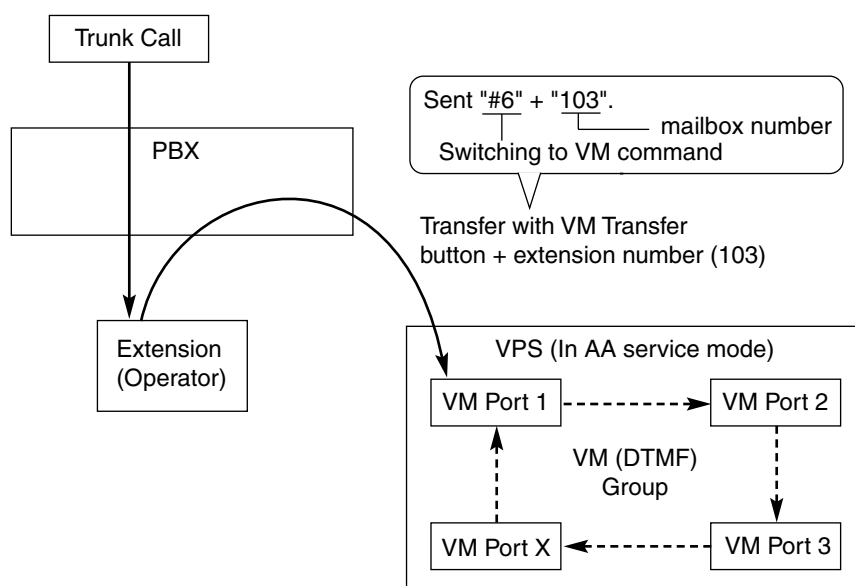
[Example of a) & b)]**c) Transferring to a Mailbox of the VPS**

An extension user can transfer a call to a mailbox of the VPS so that the caller can leave a 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 mailbox of the VPS. When the extension user presses this button and enters the desired extension number, the PBX will transfer the call to the VM group and dial the mailbox number of the desired extension with the required command (after the VPS answers the call). Therefore the caller can leave a message without knowing the mailbox number.

[Performance of Pressing the VM Transfer Button and Entering an Extension Number]

Transmitted Command	
In AA Service Mode	In VM Service Mode
Switching to VM command + Recording message command (#6 + H [H = Mailbox No.])	Recording message command (H [H = Mailbox No.])

[Example]

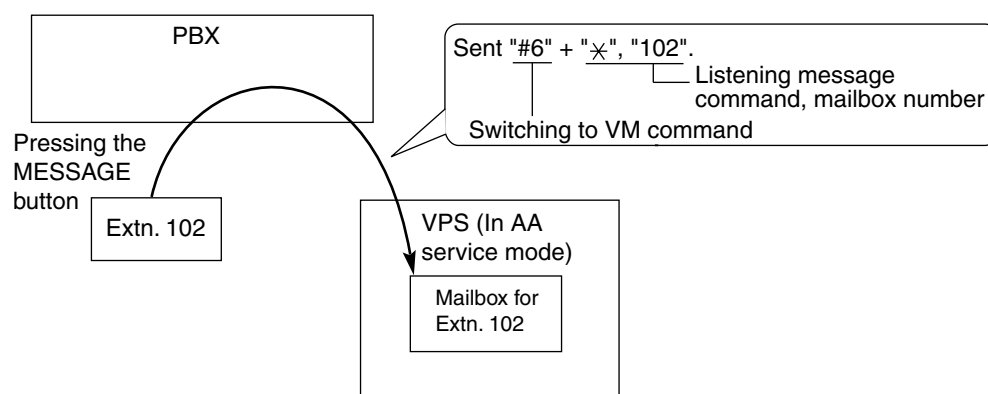


d) Listening to a Recorded Message

If the VPS receives a message, the VPS will set the Message Waiting feature (e.g., turning on the MESSAGE button light) on the corresponding telephone as notification. Thereby, the VPS notifies the extension user that there is a message waiting in his mailbox. When the MESSAGE button light turns on, pressing the button allows the extension user to play back the messages stored in his mailbox without dialling such as a mailbox number. It is programmable whether the PBX or the VPS cancels the Message Waiting feature (e.g., turning off the MESSAGE button light). When the PBX is selected, the Message Waiting feature is cancelled after the extension user has accessed the VPS. When the VPS is selected, the Message Waiting feature is cancelled after the extension user has listened to messages stored in his mailbox.

[Performance of Pressing the MESSAGE Button]

Transmitted Command	
In AA Service Mode	In VM Service Mode
Switching to VM command + Listening message command (#6 + *H [H = Mailbox No.])	Listening message command (*H [H = Mailbox No.])

[Example]**4. AA Service**

If the VPS transfers the call using the AA service, the PBX will inform the VPS of the status of the called destination with the preprogrammed DTMF status signal so that the VPS can confirm the status of the extension without listening to the system tones (e.g., ringback tone).

Assign the DTMF status signal to suit the VPS settings.

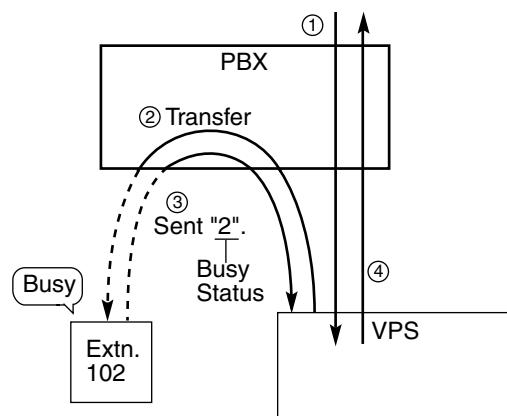
[The DTMF Status Signal and Condition]

Status	Condition	Default Command
RBT (ringback tone)	The PBX is ringing the corresponding extension.	1
BT (busy tone)	The called extension is busy.	2
ROT (reorder tone)	The dialled number is invalid.	3
DND (DND tone)	The called extension has set DND.	4
Answer	The called extension has answered the call.	5
FWD VM RBT (FWD to Voice Mail ringback tone)	The called extension has set FWD to VPS and the PBX is calling another port of the VPS.	6
FWD VM BT (FWD to Voice Mail busy tone)	The called extension has set FWD to VPS and all ports of the VPS are busy.	7

1.21 Voice Mail Features

Status	Condition	Default Command
FWD EXT RBT (FWD to extension ringback tone)	The PBX is calling an extension other than the one dialled. FWD or Idle Extension Hunting may be assigned by the called extension.	8
Confirm (confirmation tone)	The PBX receives confirmation that the feature has been successfully set or cancelled (e.g., Message Waiting) on the extension.	9
Disconnect	The caller has hung up.	#9

[Example]



- ① An incoming call reaches the VPS. The VPS greets the caller: "Thank you for calling Panasonic. If you know the extension number of the person you wish...".
- ② The caller dials the extension number (extn. 102). The VPS will transfer the call to the extension via the PBX.
- ③ If the extension is not available, the PBX sends DTMF status signal of the extension (busy status) to the VPS.
- ④ The VPS receives the DTMF status signal and send the appropriate message to the caller: "Sorry. The extension is busy. Would you like to leave a message...".

Conditions

- **Voice Mail (VM) Transfer Button**
A flexible button can be customised as the Voice Mail (VM) Transfer button with the floating extension number of the VM group as the parameter.
- It is possible to assign the time period between when the VPS answers the call and the PBX sends the Follow on ID to the VPS.
- It is possible to assign the time period between when the VPS transfers the call using the AA service to the PBX and the PBX sends the DTMF status signal to the VPS.
- It is possible to select whether the mailbox number is the same as the extension number, or the mailbox number is programmable for each extension number and incoming call distribution group (Mailbox Access ID).
- The Inter-digit time for the DTMF command is programmable.
- The Pause time for the VPS is programmable.
- Data Line Security is set automatically on the extensions in the VM (DTMF) group to achieve proper recording.

1.21.3 Voice Mail DPT (Digital) Integration

Description

A Panasonic VPS that supports DPT (Digital) Integration (e.g., the KX-TVP200) can be connected to this PBX in a tightly integrated fashion.

DPT (Digital) Integration features can be used when the VPS is connected through DPT ports of the PBX.

Feature Explanation

1. Automatic Configuration—Quick Setup

The PBX informs the VPS of its extension numbers and the floating extension numbers of the incoming call distribution groups so that the VPS can create mailboxes with this data automatically.

2. FWD to a Mailbox of the VPS

If an extension user sets FWD to the VPS, incoming calls are forwarded to the VPS. The PBX sends a mailbox number of the forwarding extension to the VPS. Therefore the caller can leave a message in the mailbox of the extension without knowing the mailbox number.

3. Intercept Routing to a Mailbox of the VPS

If an extension user sets Intercept Routing to the VPS, the intercepted trunk calls will be redirected to the VPS. If the Intercept to Mailbox setting is enabled through system programming, the PBX sends the mailbox number of the intercepted extension to the VPS. Therefore the caller can leave a message in the mailbox of the extension without knowing the mailbox number.

4. Transferring to a Mailbox of the VPS

An extension user can transfer a call to a mailbox of the VPS so that caller can leave a 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 mailbox of the VPS. When the extension user presses this button and enters the desired extension number, the PBX will transfer the call to the VM group and dial the mailbox number of the desired extension number with the required command (after the VPS answers the call). Therefore the caller can leave a message without knowing the mailbox number.

5. Listening to a Recorded Message (Direct Mailbox Access)

If the VPS receives a message, the VPS will set the Message Waiting feature (e.g., turning on the MESSAGE button light) on the corresponding telephone as notification. Thereby, the VPS notifies the extension user that there is a message waiting in his mailbox. When the MESSAGE button light turns on, pressing the button allows the extension user to play back the messages stored in his mailbox without dialling such as a mailbox.

When the extension user dials an extension number of the VM (DPT) extension port or the floating extension number of the VM (DPT) group from his extension, he can listen to the messages stored in his mailbox without dialling his mailbox number (Direct Mailbox Access). It is possible to disable this feature by COS programming on the VPS.

6. VPS Trunk Service & Automatic Time Mode Notification for Incoming Call

Multiple tenants can share a single VPS; each tenant does not require a dedicated VPS port. If the destination of the incoming trunk call is a VM (DPT) group, the PBX sends the VPS trunk group number (message number) and time mode (day/lunch/break/night) of the tenant assigned for the call to the VPS. Therefore the VPS can send the assigned message (company greeting) to the caller. Corresponding VPS trunk group number and

tenant number are determined by the setting of the incoming trunk call as follows:

- a) **DIL/TIE**: the setting of each trunk port
- b) **DID/DDI**: the setting of each location number for DID/DDI
- c) **MSN**: the setting of each MSN

[Example]

For DID Calls:

Each location number can have its VPS trunk group number (message number) and tenant number.

[DID Programming Example]

Location No.	DID No.	DID Destination				DID Name	VPS Trunk Group No.	Tenant No.
		Day	Lunch	Break	Night			
0001	123-4567	105	100	105	100	John White	1	1
0002	123-2468	102	100	102	100	Tom Smith	2	3
:	:	:	:	:	:	:	:	:

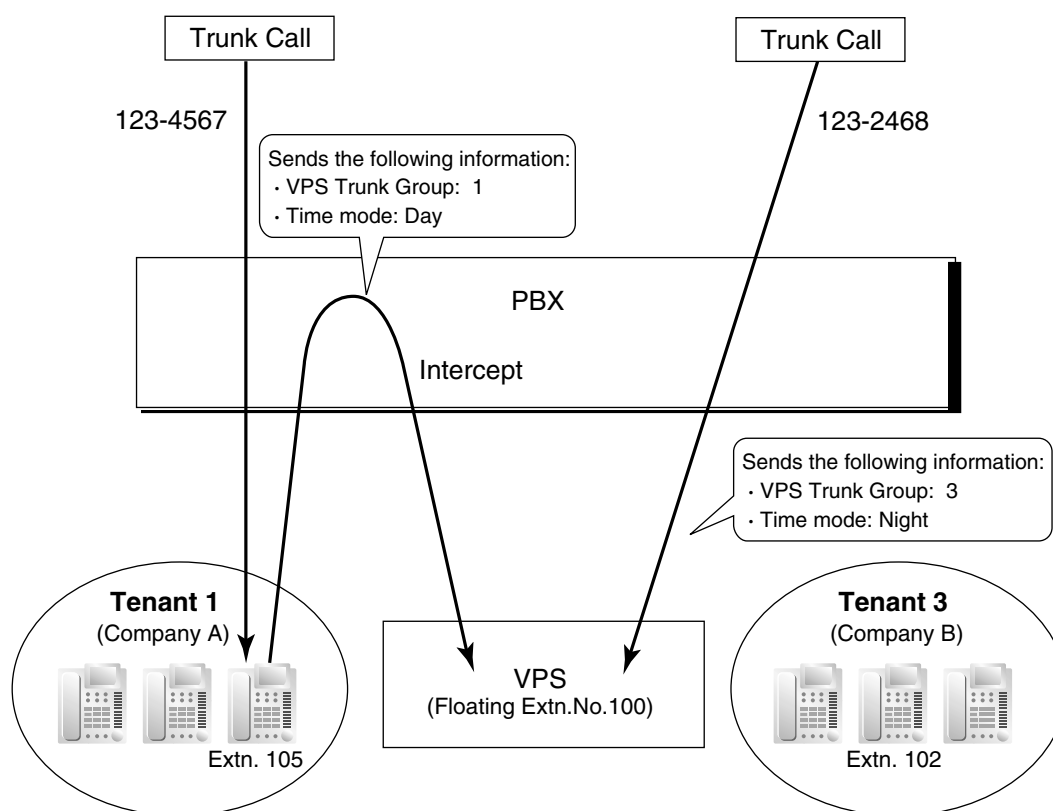
[VPS Programming—Programming Example of Trunk Group Assignment]

Trunk Group No.		Company Greeting No.		Incoming Call Service	..
1	Day	1		Custom Service 11	..
	Lunch	2		Custom Service 29	..
	Break	3		Custom Service 31	..
	Night	4		Custom Service 12	..
2	Day	5		Custom Service 21	..
	Lunch	6		Custom Service 15	..
	Break	7		Custom Service 42	..
	Night	8		Custom Service 30	..
:	:	:		:	..

Explanation:

A DID call reaches a VM (DPT) group directly or by the Intercept Routing feature. According to the [DID Programming Example] and [VPS Programming—Programming Example of Trunk Group Assignment], a caller will hear a corresponding company greeting of the VPS.

Time mode (day/lunch/break/night) of the preprogrammed tenant is applied to the DID destination and company greeting number.



7. Caller's Identification Notification to the VPS

When receiving a trunk call, the PBX sends the caller's identification number/name to the VPS.

8. Status Notification to the VPS

After the call is transferred by the VPS, the PBX sends the status of the transferred extension (e.g., busy) to the VPS.

9. Paging by the VPS

The VPS can perform the paging feature using the recorded message.

10. Live Call Screening (LCS)

PT users can monitor his own mailbox while a caller is leaving a message and, if desired, answer the call by pressing the LCS button. When the caller is leaving a message in the mailbox, monitoring can be carried out in two ways: Each extension user may choose which through personal programming (Live Call Screening Mode Set).

Hands-free mode: The user can monitor the call automatically through the built-in speaker.

Private mode: The user will hear an alarm tone. To monitor the call, the user goes off-hook with the handset or speakerphone.

11. Two-way Recording into the VPS

A PT user can record a conversation into his own mailbox or another mailbox, while talking on the phone.

Use the Two-way Record button to record into his own mailbox. Use the Two-way Transfer button to record into someone else's mailbox.

Note

When you record Two-way telephone conversations, you should inform the other party that the conversation is being recorded.

12. VPS Data Control by the PBX

The data of date and time is controlled by the PBX.

13. Remote PBX Data Control by the VPS

The FWD of an extension can be controlled by the VPS.

Conditions

[General]

- **Voice Mail (VM) Transfer Button**

A flexible button can be customised as the Voice Mail (VM) Transfer button with the floating extension number of the VM group as the parameter.

- If there are extensions with five-digit extension numbers, DPT (Digital) Integration does not work.

[Live Call Screening (LCS)]

- An SLT, which is connected to an LCS activated PT in parallel, can also be used to monitor message recording. Even if the SLT user is using a cordless telephone, an alarm tone through the handset lets him know that a message is being recorded. To intercept the call, press Flash/Recall button or flash the hookswitch.
- **LCS Button**
A flexible button can be customised as the LCS button.
- **Live Call Screening Password Control**
To prevent unauthorised monitoring, a personal password must be set by the LCS user. If the user forgets the password, it can be cleared by a manager.
- Each extension can be programmed to either end recording or continue recording the conversation after the call is intercepted, through personal programming (LCS Mode Set [After Answering]).

[Two-way Recording into the VPS]

- **Two-way Record/Two-way Transfer Button**

A flexible button can be customised as the Two-way Record or the Two-way Transfer button. An extension number can be assigned to the Two-way Transfer button so that it can be used as a one-touch record button for the mailbox of the specified extension.

- When all of the VPS ports are busy:
 - a) Pressing the Two-way Record button sends an alarm tone
 - b) Pressing the Two-way Transfer button followed by an extension number sends an alarm tone.

1.22 Digital Wireless Extension (DWX) Features

1.22.1 Digital Wireless Extension (DWX) Connection

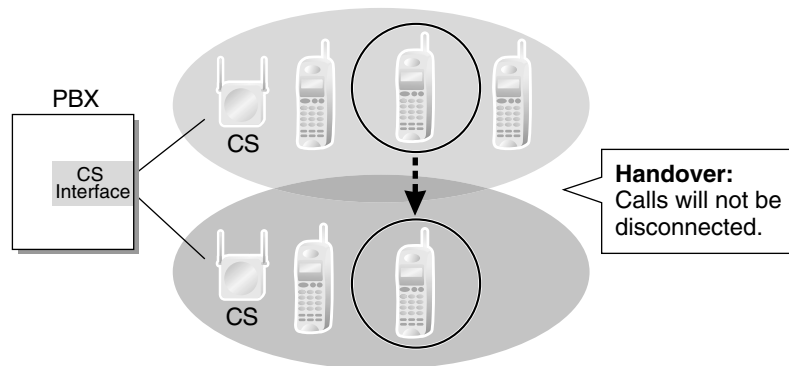
Description

This PBX supports the connection of a DWX (e.g., KX-TD7590, KX-TD7690). It is possible to use the PBX features using the DWX like a PT.

DWX is also known as the Digital Portable Station (PS).

Conditions

- **Hardware Requirement:** CSIF Card and a Cell Station (CS).
- The DWX registration is required through the system programming (→ DWX (Digital Wireless Extension) Registration). The registration can be cancelled (→ DWX Termination).
- **Handover**
Even if a DWX user moves during a conversation, the portable will automatically switch between cells without disconnecting the call (**Handover**). Handover is not available when a cell is busy or there is no CS within range.

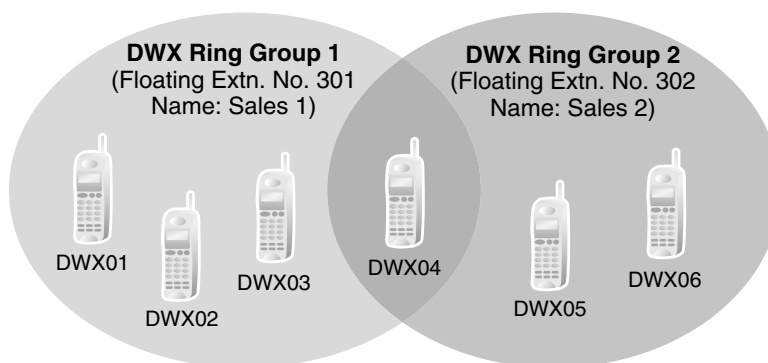


1.22.2 DWX Ring Group

Description

DWX ring group is a group of DWX extensions which receives incoming calls. Each group has a floating extension number and name. If all DWXs are called using the extension number assigned for each DWX (→ DWX (Digital Wireless Extension) Registration), all channels for the DWX ring group may be used and a DWX user in the group may not be able to make another call. If the multiple DWXs in a DWX ring group will be called using a floating extension number assigned to the group, only one channel will be used. One DWX can belong to multiple groups.

	DWX Ring Group 01	DWX Ring Group 02	DWX Ring Group 03	..
Floating Extn. No.	301	302	303	..
Group Name	Sales 1	Sales 2	Sales 3	..
DWX01	○	×	×	..
DWX02	○	×	×	..
DWX03	○	×	×	..
DWX04	○	○	×	..
DWX05	×	○	×	..
DWX06	×	○	×	..
DWX07	×	×	○	..
:	:	:	:	:



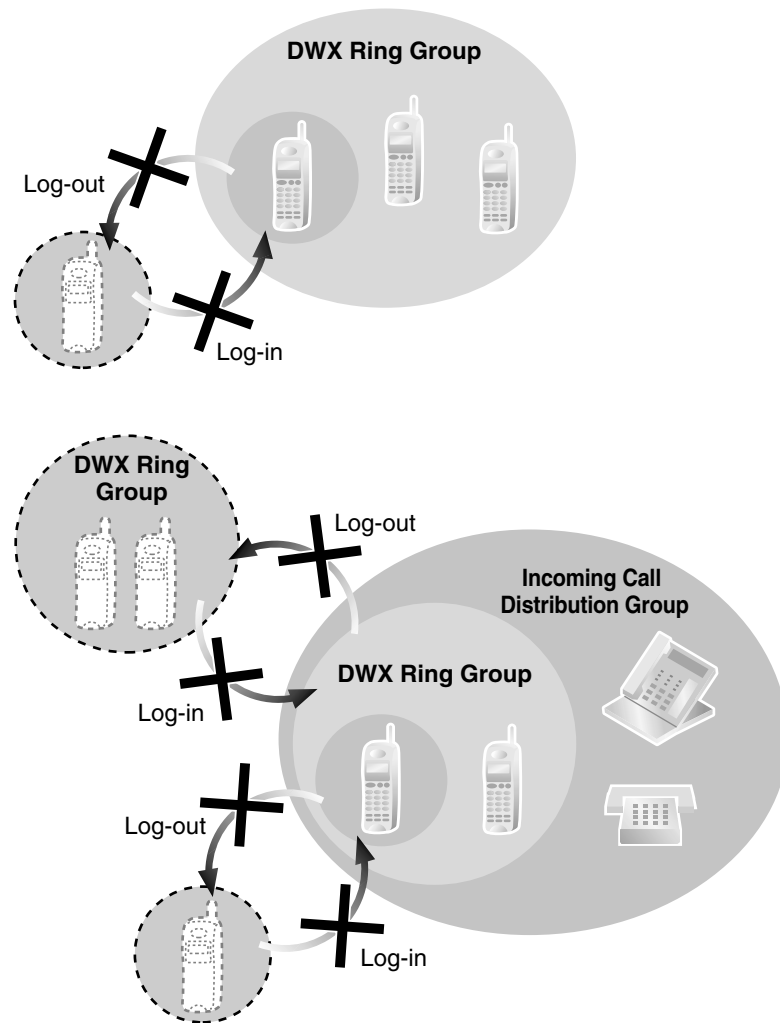
Conditions

- **DWX Ring Group;**
A maximum of 24 groups for the KX-TD7580 and 32 groups for other DWXs can be created.
- When a DWX joins a DWX ring group, the following personal settings are disregarded:
 - a) When the DWX ring group is called:
 - Delayed Ringing
 - Display information when the incoming calls arrive;
The settings (e.g., display priority) are disregarded. It is also not possible to switch the displayed items manually.

- The setting which is assigned on the DWX (e.g., FWD)
- The status of the DWX (e.g., busy)
- b) Log-in/log-out setting (from the DWX ring group/from the incoming call distribution group which the DWX ring group belongs to).

Note

Log-in/log-out setting of the DWX ring group from the incoming call distribution group is also disregarded.



- When the DWX ring group is called using the floating extension number, the group becomes busy to other callers using the floating extension number. However, the individual group members may be called directly using their extension number.

1.22.3 DWX Directory

Description

A DWX user can store numbers and/or names in the directory. A stored number is dialled by selecting a name or number in the directory.

The DWX user will use the following directories for easy operation depending on the DWX type:

Type	Description
DWX Dialling Directory	Makes a call by selecting from a private directory of names and telephone numbers.
PBX System Speed Dialling Directory	Makes a call by selecting from a common directory of names (→ System Speed Dialling Name) and numbers (→ System Speed Dialling Number).
PBX Extension Dialling Directory	Makes a call by selecting from a common directory of extension names (→ Extension Name).
Shortcut Directory	Accesses a feature by selecting from a private directory of feature names and numbers.

1.22.4 DWX Feature Buttons

Description

A DWX user can use PBX feature using a combination of buttons (button + a specified number, *, or #) and/or display operation. The flexible buttons and the display are customised through DWX programming. The button assignment is the same for PT. (→ 1.17.2 Flexible Buttons). Some special feature buttons (e.g., WAVESEARCH button) may be customised depending on the DWX type.

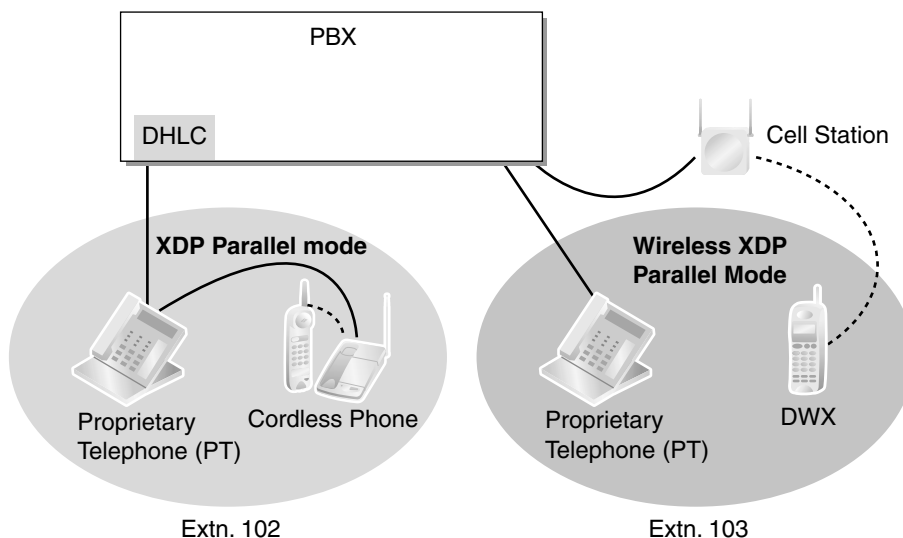
1.22.5 Wireless XDP Parallel Mode

Description

A DWX can be used in parallel with a wired telephone (PT/SLT/ISDN Extension/T1-OPX). In this case, the wired telephone is the main telephone and the DWX is the sub telephone. When Wireless XDP Parallel Mode is enabled, the two telephones share one extension number (main telephone's extension number) like XDP Parallel mode for a DPT and an SLT.

Conditions

- If one of the telephones goes off-hook while the other telephone is on a call, the call is switched to the telephone going off-hook.
- Wireless XDP Parallel Mode can only be set from a DWX. The wired telephone can accept or deny this feature through COS programming (→ Wireless XDP Parallel Mode for Paired Telephone). Once this feature is set, the setting at the wired telephone cannot be changed unless a DWX changes the setting.
- PT extensions with XDP Parallel mode (DPT + SLT) cannot be paired with a DWX.



1.23 Administrative Information Output Features

1.23.1 SMDR

Description

Automatically records detailed information for each extension.

1. SMDR Output Port

The Serial Interface (RS-232C) port can be used to output the SMDR data.

The following devices can be connected:

- **Serial Interface (RS-232C) port:** Personal computer, printer, etc.

2. SMDR Output Data

The following data will be recorded and sent to the SMDR output port:

- a) Trunk call information (incoming/outgoing)
- b) Intercom call information (outgoing)
- c) Log-in/Log-out information
- d) System error log (→ 2.4.3 Local Alarm Information)

Memory for SMDR: A specified number of call information can be memorised for each PBX. If more calls are originated or received, the oldest data is overwritten by the newest one.

3. SMDR Format Type and Contents

There are the following three types of output format which can be selected through system programming:

Pattern A: 80 digits without call charge information

Date (8 digits)	Time (7)	Ext (5)	CO (2)	Dial Number (25)	Ring (4)	Duration (8)	ACC Code (10)	CD (3)
01/02/02	10:03AM	12005	01	<I>12345678901234567890	5'15	00:00'00		NA
01/02/02	10:07AM	12005	01	<I>	0'05	00:01'05	9876543210	
01/02/02	10:15AM	12005	01	1234567890123456-123		00:01'05	9876543210	TR
01/02/02	10:30AM	*123	01	1234567890123456		00:01'05	9876543210	
01/02/02	01:07PM	12345	01	<I>ABC COMPANY12345678	0'05	00:01'05	9876543210	
01/02/02	01:07PM	12345	01	<D>CDE9876<I>Q COMPANY	0'05	00:01'05	9876543210	
01/02/02	01:07PM	12345	01	ABC COMPANY12345678		00:01'05		
01/02/02	01:07PM	12345	01	123.....		00:01'05		
01/02/02	01:07PM	12345	01	123456XX		00:12'05	98765	
01/02/02	08:33AM	12345		In the office				
01/02/02	01:07PM	12345		LOG IN				
01/02/02	03:35PM	12345		LOG OUT				
01/02/02	03:45PM	12345		EXT12355				
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

Pattern B: 80 digits with call charge information

Date (8 digits)	Time (7)	Ext (5)*	CO (2)	Dial Number (20)	Duration (8)	Cost (8+2)	ACC Code (10)	CD (3)
01/02/02	10:03AM	12101	01	<I>				NA
01/02/02	10:07AM	2005	01	12345678901234567890	00:00'05	00560.00	EU 9876543210	
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
(1)	(2)	(3)	(4)	(5)	(7)	(10)	(8)	(9)

*: If an extension number is five digits long, there is no space between "Time" and "Ext".

Pattern C: 120 digits

Date (8 digits)	Time (7)	Ext (5)	CO (4)	Dial Number (50)	Ring (4)	Duration (8)	Cost (8+3)	ACC Code (10)	CD (3)
01/02/02	10:03AM	12301	0001	123456789012345678901234567890		00:00'05	00560.00	EUR 9876543210	TR
01/02/02	10:07AM	12301	0001	<I>1234567890123456789012345	0'05	00:00'05		9876543210	TR
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(10)	(8)	(9)

[Explanation]

The following table explains the SMDR contents which are based on the numbers in the previous pattern examples. For the programmable items, refer to the following [Programmable Items].

Number in the Pattern	Item	Description
(1)	Date	Shows the date of the call.
(2)	Time	Shows the end time of a call as Hour/Minute/AM or PM.
(3)	Ext (Extension)	Shows the extension number, floating extension number, etc., which was engaged in the call. Also shows the following codes: Dxxx : Outgoing trunk call from a doorphone (xxx=doorphone number) Txxx : Outgoing trunk call by TIE line service (xxx=trunk group number) *xxx : Verified call (xxx=verified code)
(4)	CO (Trunk)	Shows the trunk number used for the call. For patterns A and B, "00" will be shown for trunk numbers over hundred.
(5)	Dial Number	[Trunk Call] Outgoing Trunk Call Shows the dialled telephone number. Valid digits are as follows: 0 through 9,* , # P : Pause F : Flash/recall/EFA signal = : A Host PBX Access code . (dot) : Secret dialling X : Privacy dial
		Incoming Trunk Call Shows <I> + the caller's identification name/number. It is also possible to show the DDI/DID/MSN call information. In this case, <D> + DDI/DID/MSN name/number is added before <I> .
		[Outgoing Intercom Call] Shows the dialled extension number followed by "EXT".
		[Log-in/Log-out] Shows the log-in or log-out status.
(6)	Ring	Shows the ring duration before answering a call in Minutes/Seconds.
(7)	Duration	Shows the duration of the call in Hours/Minutes/Seconds.
(8)	Acc Code (Account Code)	Shows the account code appended to the call.

1.23 Administrative Information Output Features

Number in the Pattern	Item	Description
(9)	CD (Condition Code)	Shows other call information with the following codes: CL: Collect call TR: Transfer FW: FWD to trunk D0: Call using DISA or TIE line service RM: Remote maintenance (modem) NA: Not answered call
(10)	Cost	Shows the call charge.

[Programmable Items]

Item	Description
Outgoing trunk call	Controls whether the outgoing trunk calls are shown. This setting is common throughout the PBX (→ SMDR Outgoing Call Printing). COS programming is also required.
Incoming trunk call	Controls whether the incoming trunk calls are shown (→ SMDR Incoming Call Printing).
Outgoing intercom call	Controls whether the outgoing intercom calls are recorded.
Log-in/Log-out status	Controls whether the log-in/log-out status is recorded.
ARS code	Controls whether the user-dialled number or the modified number is shown.
Caller's identification	Controls whether the caller's identification number, name, number and name, or none is shown. If "none" is selected, only <I> will be shown.
DID/DDI/MSN number	Controls whether the DID/DDI/MSN number, name, number and name, or none is shown. If "none" is selected, <D> will not be shown.
Secret dialling	Controls secret dialling. If enabled, the dialled number will be shown as dots.
Privacy dial	Enables or disables privacy dial. If enabled, the last two digits of the dialled telephone number and any additional digits after connection will be shown as "X". (e.g., 123-456-78XX)
Date order	The date order is changeable; month/day/year, day/month/year, year/month/day, year/day/month.
Language	The display language can be selected.

Conditions

- **SMDR Format**
The following SMDR format can be set through system programming in order to match the paper size being used in the printer:
 - a) **Page Length:** determines the number of lines per page (→ SMDR Page Length).
 - b) **Skip Perforation:** determines the number of lines to be skipped at the end of every page (→ SMDR Skip Perforation).
 - c) **Character Code:** determines which code to be used; IBM ASCII or ISO-8859-1.
- The SMDR data is not deleted even if the PBX is reset.
- If the PBX is reset during a conversation, the call will not be recorded on the SMDR.
- If "" marks are displayed for the date, time, ring, and duration (e.g., **/**/ **.*), the date and time setting has been changed four or more times during the ring and duration are counted.
- The following calls are regarded as two separated calls in the SMDR:
 - a) Calls before and after the flash/recall/EFA signal is manually sent during a conversation
 - b) Trunk-to-trunk calls by Call Transfer, FWD or DISA (recording each as "incoming call" and "outgoing call")
- The PBX waits for a preprogrammed time period (→ Call Duration Count Start Time) between the end of dialling and start of the SMDR timer for outgoing trunk calls. When the PBX has sent out all dialled digits to the telephone company and this timer expires, the PBX starts counting the call. A display PT shows the elapsed time of the call. The starting time and the total duration of the call are recorded on SMDR.
If the reverse signal detection has been set (→ LCOT Reverse Circuit), the PBX will start counting the call after detecting the reverse signal from the telephone company regardless of the above timer.
- **Serial Interface (RS-232C) Parameters**
The following communication parameters can be assigned for the Serial Interface (RS-232C) port (→ New Line, Baud Rate, Data Bits, Parity, Stop Bits).
 - a) **New Line Code:** Select the code for the personal computer or printer. If the personal computer or printer automatically feeds lines with carriage return, select "CR." If not, select "CR+LF."
 - b) **Baud Rate:** A baud rate code indicates the data transmission speed from the PBX to the personal computer or printer.
 - c) **Word Length:** A word length code indicates how many bits compose a character.
 - d) **Parity Bit:** 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 the personal computer or printer.
 - e) **Stop Bit Length:** A stop bit code indicates the end of a bit string which composes a character. Select an appropriate value depending on the requirements of the personal computer or printer.

1.23.2 Charge Metre

Description

The PBX receives a call charge signal during or after a conversation with an outside party. The call charge information is shown on the telephone display and the SMDR.

1. Call Charge Signal Service

Call charge signal service from the telephone company depends on the trunk being used.

Trunk	Service
Analogue trunk	Pay Tone* (CID/Pay Card is required.)
ISDN line	Advice of Charge (AOC)
E1 line	Metre Pulse

*: When the pay tone service is used, pay tone type (12 kHz/16 kHz) should be selected (→ Pay Tone Signal Type).

2. Call Charge Display

- Up to 7 digits (e.g., 88888.75)
- The decimal point position (the number of significant decimal digits) for currency is programmable. (→ Decimal Point for Currency)
- Up to 3 currency characters are programmable.
(e.g., EUR or € for Euro) (→ Currency).
- The currency position either front or back of the call charge is programmable.
(e.g., € 45.12 or 45.12 €)

3. Margin/Tax Rate Assignment

It is possible to add a margin (→ Charge Margin) and the tax (→ Charge Tax) to the call charges. The call charge rate per meter indication is programmable on a trunk group basis (→ Charge Rate per Unit).

[Calculation Method]

The margin or tax rate must be xx.xx % (whole number part: two digits, decimal fraction: two digits). A calculation method depends on the information which is sent from the telephone company; meter indication or charge.

a) Call charge with tax and margin in meter indication:

$$\frac{[\text{Meter indication received from the telephone company}] \times [\text{Call Charge Rate}]}{[1 - \text{Tax Rate}] \times [1 - \text{Margin Rate}]}$$

b) Call charge with tax and margin in charge:

$$\frac{[\text{Charge received from the telephone company}]}{[1 - \text{Tax Rate}] \times [1 - \text{Margin Rate}]}$$

The calculation result is rounded up to the least significant decimal digit.

4. Total Call Charge

- A PT user can show the total call charges on the display.
- The call charge is totalled on an extension, trunk, or verified code basis.

- The call charge on a verified code is not totalled for each extension.

5. Budget Management

It is possible to limit telephone usage to a preprogrammed budget on each extension or verified code. For example, an extension in a rented office has a prepaid limit for the telephone usage. If the amount of the call charge reaches the limit, the extension user cannot make further trunk calls. A manager may increase the limit or clear the previous call charge [→ 1.7.2 Budget Management].

6. Call Charge Management

An extension assigned as the manager can use the following call charge management features in Manager Programming mode:

- Call Charge Fee Reference and Clear, for Each Extension/Verified Code
- Call Charge Fee Reference for Each Trunk
- Call Charge Rate Set for Each Trunk Group
- All Clear
- Call Charge Fee Print Out
- Budget Management for Each Extension/Verified Code.

[Examples of Call Charge Fee Reference]

```
*****
*   Charge Meter Print Out - Total & All CO   *
*****
Total Charge:  €00175.95

CO Line
001:  €00194.00    002:  €00073.00    003:  €00161.00    004:  €00033.00
```

```
*****
*   Charge Meter Print Out - All Extensions   *
*****
Extension & Verified Code
*775:  €00194.00    *102:  €00073.00    *776:  €00161.00    ← (Verified Code)
104:  €00194.00    105:  €00073.00    106:  €00161.00    107:  €00033.00
```

Note: *XXX : Call Charge Fee Reference for a verified code (XXX = verified code)

Conditions

[General]

- **Call Charge Fee Reference by Charge Reference Button**
A display telephone user can check the total call charge for his own extension using the Charge Reference button. A flexible button can be customised as the Charge Reference button.
- It is possible to select whether to disconnect the line after an alarm tone or only to send an alarm tone when the amount of the call charge reaches the preprogrammed limit

1.23 Administrative Information Output Features

during a conversation. However even if disconnecting the line after an alarm tone is selected, the line will not be disconnected properly when multiple callers, who used the same extension number or the same verified code to make a trunk call, are in a conversation.

[Pay Tone Service]

- It is possible to select whether the PBX starts counting the call charge from when the PBX detects the answer signal from the telephone company.
- It is possible to enable the PBX sends the flash/recall signal to the telephone company after a conversation (in on-hook status) to receive the call charge information.

1.24 Extension Controlling Features

1.24.1 Personal Password

Description

Each extension user can have his own password through system programming (→ Personal Password) or personal programming (Personal Password) to set features or access his own telephone remotely.

The following features cannot be used without the password:

- a) Live Call Screening (LCS)
- b) Incoming and Outgoing Call Log Display Lock, Personal/Speed Dialling Display Lock
- c) Walking Extension
- d) Remote Extension Control and Remote COS Access
- e) Remote Extension Control and Remote COS Access using DISA

Conditions

- **Personal Password Lock**
If the wrong password is entered incorrectly three times, the line will be disconnected. If the incorrect password is entered a preprogrammed number of times successively, the password against the extension will be locked. Only an extension assigned as the manager can unlock it. In this case, the password will be cleared.
- **Remote Personal Password Clear**
If an extension user forgets his password, a manager can clear the password. Then the extension user can assign a new password.
- **Personal Password Display**
It is possible to select whether to show the personal password on the display through system programming. By default, it is shown as dots.

1.24.2 Personal Programme Clear

Description

Extension users can cancel all the following features set on their own telephone at once:

Features	After Setting
Absent Message	Off
Automatic Callback Busy	Cleared
BGM	Off
FWD*/DND*	Off
Call Pickup Deny	Allow
Call Waiting*	Disable
Data Line Security	Off
Executive Busy Override Deny	Allow
Log-in/Log-out	Log-in
Message Waiting	All messages left by other extensions will be cleared.
Paging Deny	Allow
Paralleled Telephone	Paired SLT will ring.
Hot Line*	Off
Timed Reminder	Cleared

Note: The features with "*" can be programmed not to be cancelled by this feature.

This feature is also known as Station Programme Clear.

Conditions

- Extension Lock and the personal password will not be cleared by this feature.

1.24.3 Walking Extension

Description

It is possible to use any extension and have your extension settings available to you. Settings such as extension number, one-touch dialling memory, and COS are all available to you at the new location.

[Example] This feature is useful when;

- Moving location
- There is no specific desk for your use.

This feature is also known as Walking Station.

Conditions

- This feature is available by switching the telephone between PT and PT, SLT and SLT, PT and SLT. Moving across the tenants is also possible.
- The incoming calls to your extension will also reach you at your new location.
- A personal password is required to use this feature.

1.24.4 Timed Reminder

Description

Each extension user can set an alarm for any time as a wake-up call or reminder. This feature can be programmed to activate only once or daily. If the user goes off-hook during the alarm, he hears special dial tone. If a voice message is used, he hears a prerecorded voice message.

Conditions

- Be sure that the PBX clock works.
- Setting a new time clears the previous time.
- **Programmable Time**
The Alarm Ringing Duration time, the number of alarm repeat times, and intervals are programmable through system programming.
- **To use the voice message feature:**
The MSG Card is required and the message must be recorded. An extension assigned as the manager can record messages. (→ 1.14.5 Outgoing Message (OGM)) The different message can be assigned for each time mode (day/lunch/break/night).

1.24.5 Remote Extension Control by User

Description

A user can remotely change the feature settings (e.g., FWD) and time service mode for his own extension from inside or outside the PBX using DISA. This feature can be used only on the extensions which are allowed to be controlled remotely on a COS basis.

The following features are available:

- a) FWD/DND
- b) Log-in/Log-out
- c) Absent Message
- d) Extension Lock
- e) Time Service Mode Switch

This feature is also known as Remote Station Control by User.

Conditions

- **Personal Password**
A personal password (→ Personal Password) is required to use this feature. If the wrong password is entered three times, the line will be disconnected.
- If the feature number for changing the personal password is entered after entering the verified code (* + verified code), the password for the verified code will be changed.
- Remote operation is not available for the extensions in the Internal Call Block mode (→ Internal Call Block in Section 1.1.1 Incoming Trunk Call Features—SUMMARY).

1.25 Audible Tone Features

1.25.1 Dial Tone

Description

The following dial tones inform extensions about features activated on the extensions:
Each dial tone type has two frequencies (e.g., dial tone 1A and dial tone 1B).

Type	Description
Tone 1A/1B	A normal dial tone is heard when: a) No features listed for dial tones 2 through 4 has been set, or b) ARS is used.
Tone 2A/2B	Any one of the features below is set. • Absent Message • BGM • FWD • Call Pickup Deny • Call Waiting • DND • Extension Lock • Executive Busy Override Deny • Hot Line • Timed Reminder
Tone 3A/3B	Any one of the features below is performed. • Account Code Entry • Consultation Hold • Answering a Timed Reminder call with no message • Answering a DISA call with no message
Tone 4A/4B	Messages are waiting for the extension.

Conditions

- **Dial Tone Type A/B**
It is possible to select dial tone type A or B for dial tones 1 through 4. If "Type A" is selected, all dial tones 1 through 4 will become dial tone type A.
The dial tone type for the ARS feature can be selected separately. If "Type A" is selected for the ARS, dial tone 1A will be heard. If "Type B" is selected, dial tone 1B will be heard
- **Distinctive Dial tone**
Distinctive dial tone mode can be disabled. In this case, dial tone 1 will be sent.
- **Tone Patterns and Frequencies**
All tone patterns and frequencies can be arranged as desired. For default patterns, refer to the Appendix in Section 3.1.
- Only dial tone 1 is sent to the extensions in the VM (DPT/DTMF) group.

1.25.2 Confirmation Tone

Description

At the end of feature operations, the PBX confirms the success of the operation by sending a confirmation tone to extension users.

Type	Description
Tone 1	a) Sent when the setting is accepted. b) Sent when a call is received in Voice Calling mode. The caller's voice will be heard after the tone.
Tone 2	a) Sent from an external paging device or an extension before being paged. b) Sent when a call is received in Hands-free Answerback mode.
Tone 3-1	a) Sent before a conversation is established when using the Paging feature. b) Sent when a conversation is established with the extension in the following modes after the call making operation: • Hands-free Answerback mode • Voice Calling mode
Tone 3-2	Sent just before a conversation is established when accessing the following features by the feature numbers: • Call Park Retrieve • Call Pickup • Hold Retrieve • Paging Answer • TAFAS
Tone 4-1	Sent when moving from a two-party call to a three-party call. (e.g., Executive Busy Override, Conference, Privacy Release, Two-way Recording.)
Tone 4-2	Sent when moving from a three-party call to a two-party call. (e.g., Executive Busy Override, Conference, Privacy Release, Two-way Recording.)
Tone 5	Sent when a call is placed on hold (including Consultation Hold).

Conditions

- **Confirmation Tone Patterns and Frequencies**
All confirmation tone patterns and frequencies can be arranged as desired. For default patterns, refer to the Appendix in Section 3.1.
- It is possible to eliminate each tone.

1.26 Networking Features

1.26.1 TIE Line Service

Description

A TIE line is a privately leased communication line between two or more PBXs, which provides cost effective communications between company members at different locations. The TIE lines can be used to call through the PBX to reach another switching system (PBX or telephone company). By using TIE lines, the PBX can support not only communications with the public network but with other company members in the private network where the PBX is included.

Interface

The following interfaces can be used to establish a private network:

Interface	Network Type
E & M	Analogue
T1 (E & M)	Digital (64 kbps × 24 channels)
E1 (E & M)	Digital (64 kbps × 30 channels)
BRI/PRI (QSIG)	Digital (ISDN 2B+D/30B+D/23B+D)
VoIP	Internet Protocol (IP)

A trunk which is used for a private network should be assigned "Private" as the networking type. (→ 1.1.1 Incoming Trunk Call Features—SUMMARY)

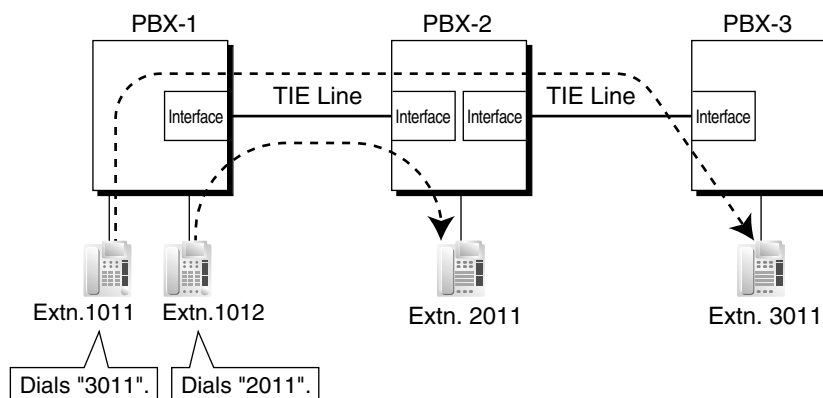
Explanation

1. Making a TIE Line Call

One of the following two methods can be used to make a TIE line call.

a) Extension Number Method (Access without PBX Code)

Dial the [Extension Number] only.

[Example]**Explanation:**

To use this method, it is necessary to change the first one or two digits of extension numbers of either PBX (e.g., 10XX for PBX-1, 20XX for PBX-2) to avoid having the same extension number.

Case 1:

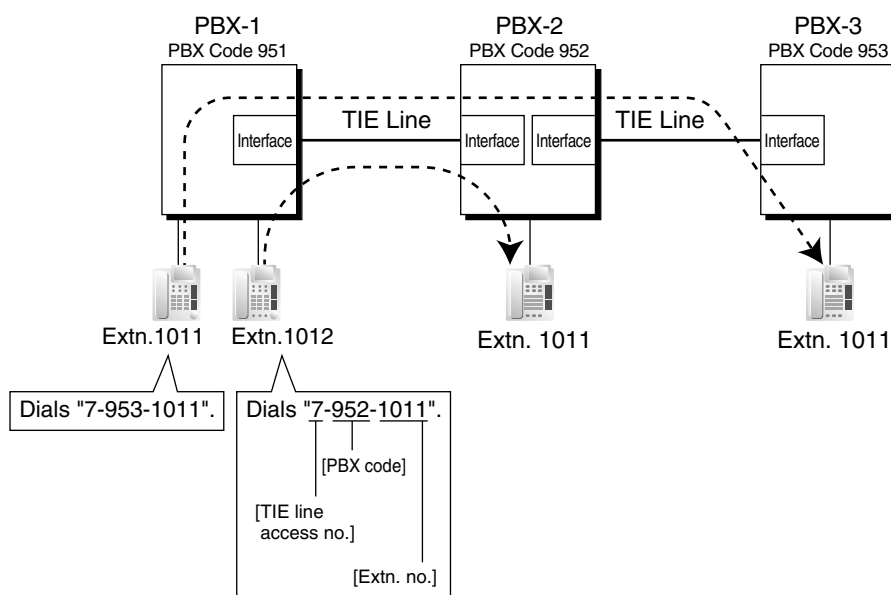
Extension 1012 of PBX-1 dials extension number "2011".
 → Extension 1012 of PBX-1 is connected to extension "2011" of PBX-2.

Case 2:

Extension 1011 of PBX-1 dials extension number "3011".
 → Extension 1011 of PBX-1 is connected to extension "3011" of PBX-3.

b) PBX Code Method (Access with PBX Code)

Dial the [TIE line access number] + [PBX Code] + [Extension Number].

[Example]

Explanation:

To use this method, it is necessary to know each PBX code in order to identify the location of an extension.

Case 1:

Extension 1012 of PBX-1 dials TIE line access number "7", PBX code "952", and extension number "1011".

→ Extension 1012 of PBX-1 is connected to extension "1011" of PBX-2.

Case 2:

Extension 1011 of PBX-1 dials TIE line access number "7", PBX code "953", and extension number "1011".

→ Extension 1011 of PBX-1 is connected to extension "1011" of PBX-3.

2. TIE Line Routing and Modification Table

2.1 To Make a TIE Line Call

The TIE Line Routing and Modification Table is referenced by the PBX to identify the trunk route when an extension user makes a TIE line call.

It is necessary to make unified tables with all PBXs in the TIE line network.

The routing pattern appropriate for each call is decided by the dialled number.

There are two system programmes for the tables:

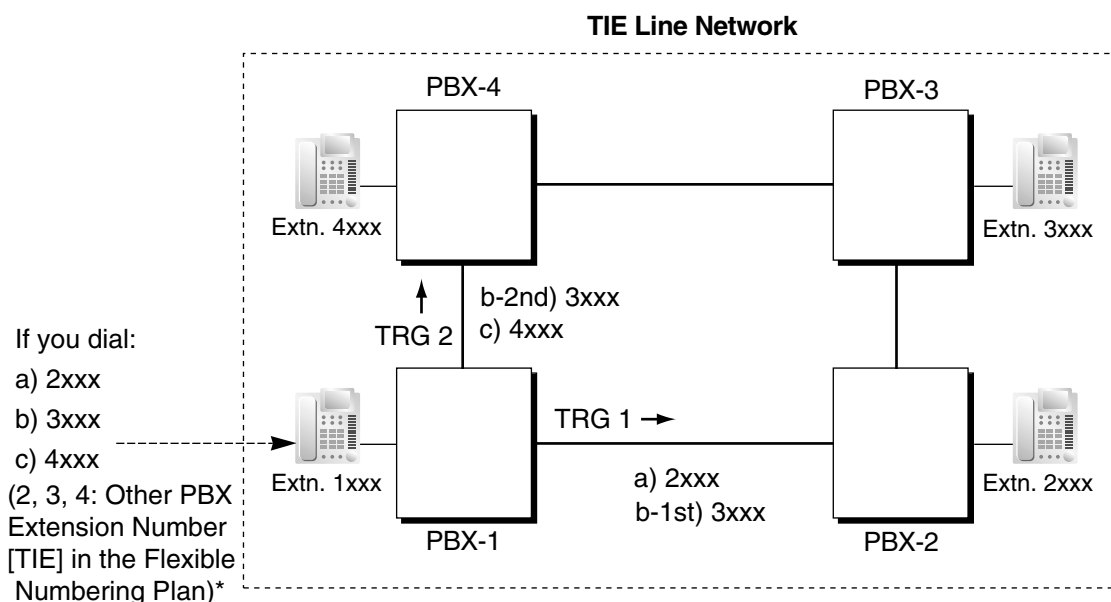
TIE Line Routing Table: used to assign the leading digits (PBX code or extension number) and trunk group hunt sequence.

TIE Modify Removed Digits/Added Number: used to remove digits from and add a number to the dialled number of the TIE line call. This modification may be needed depending on the TIE line network configuration.

[Programming Examples]

Your PBX is PBX-1 and there are four PBXs in your TIE line network. To identify the trunk route as illustrated, you should make the following tables.

a) Extension Number Method (Access without PBX Code)



[TIE Line Routing and Modification Table of PBX-1]

Location No.	Leading Digits	Priority 1			Priority 2			..
		Trunk Group	Dial Modification		Trunk Group	Dial Modification		..
			Removed Digits	Added No.		Removed Digits	Added No.	..
01	2	1	0					..
02	3	1	0		2	0		..
03	4	2	0					..
:	:	:	:	:	:	:	:	:

Explanation:

Location 01: The hunt sequence by dialling [2XXX]:

The 1st route—trunk group (TRG) 1 ➡ Sending no. to PBX-2: 2XXX

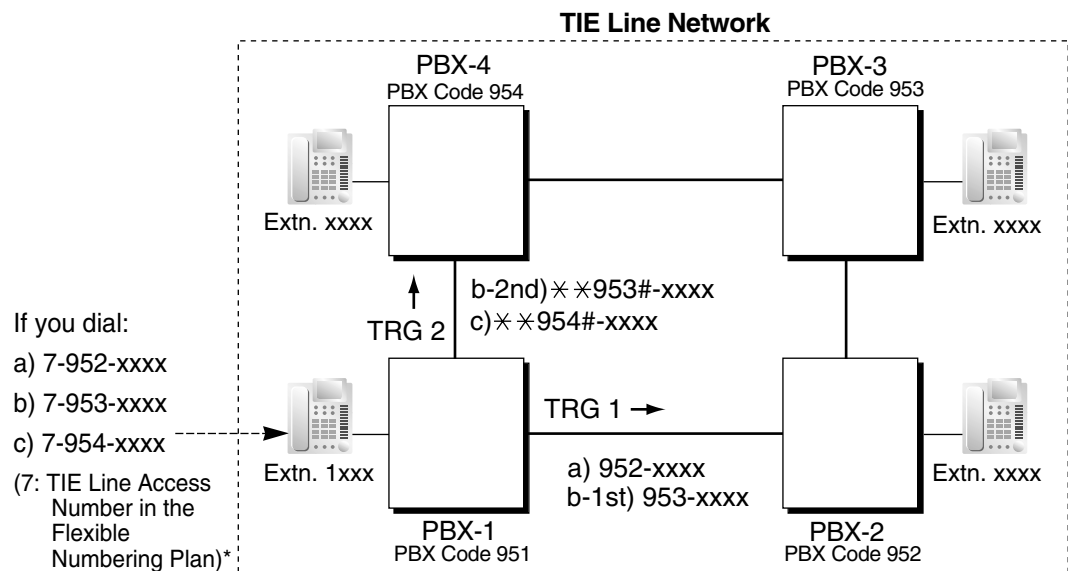
Location 02: The hunt sequence by dialling [3XXX]:

The 1st route—trunk group (TRG) 1 ➡ Sending no. to PBX-2: 3XXX

The 2nd route—trunk group (TRG) 2 ➡ Sending no. to PBX-4: 3XXX

Location 03: The hunt sequence by dialling [4XXX]:

The 1st route—trunk group (TRG) 2 ➡ Sending no. to PBX-4: 4XXX

b) PBX Code Method (Access with PBX Code)

*: ➡ 2.3.5 Flexible Numbering/Fixed Numbering

[TIE Line Routing and Modification Table of PBX-1]

Location No.	Leading Digits	Priority 1			Priority 2			..
		Trunk Group	Dial Modification		Trunk Group	Dial Modification		..
			Removed Digits	Added No.		Removed Digits	Added No.	..
01	952	1	0					..
02	953	1	0		2	3	* *953#	..
03	954	2	3	* *954#				..
:	:	:	:	:	:	:	:	:

Explanation:

Location 01: The hunt sequence by dialling [7+PBX Code 952+XXXX]:

The 1st route — trunk group (TRG) 1

➡ Sending no. to PBX-2: 952-XXXX

Location 02: The hunt sequence by dialling [7+PBX Code 953+XXXX]:

The 1st route — trunk group (TRG) 1

➡ Sending no. to PBX-2: 953-XXXX

The 2nd route — trunk group (TRG) 2

➡ Sending no. to PBX-4: * *953#-XXXX

Location 03: The hunt sequence by dialling [7+PBX Code 954+XXXX]:

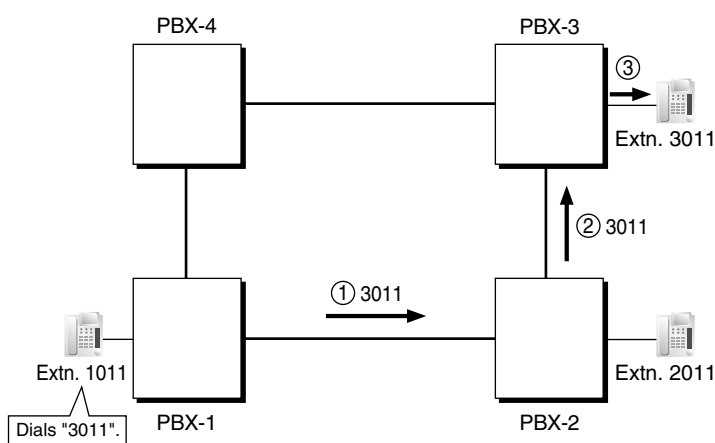
The 1st route — trunk group (TRG) 2

➡ Sending no. to PBX-4: * *954#-XXXX

2.2 To Receive a TIE Line Call

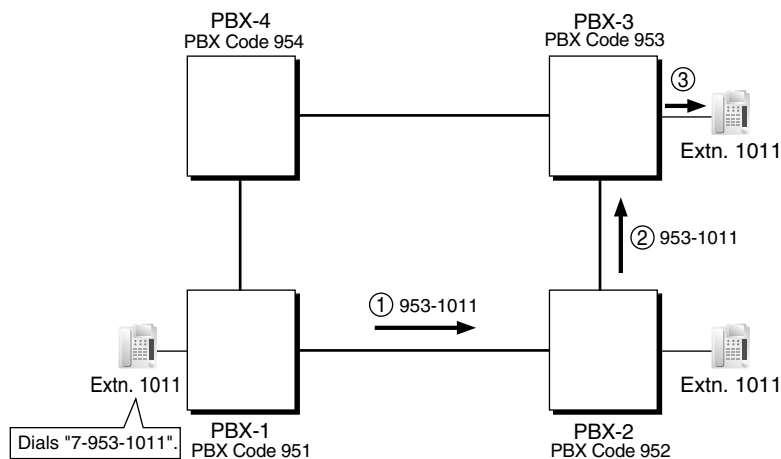
a) Extension Number Method (Access without PBX Code)

[Example]



- ① PBX-2 removes digits from and/or adds number to the number sent from PBX-1 "3011" according to the assignment for each trunk port of PBX-2. If the modified number is an extension number of PBX-2 (e.g., 2011), the call will be received at extension "2011". If not, PBX-2 checks the modified number in the TIE Line Routing and Modified Table of PBX-2.
- ② If the match is found in the table, the call will be modified according to the table and send to the corresponding PBX (PBX-3).
- ③ PBX-3 removes digits from and/or adds number to the number sent from PBX-2 "3011" according to the assignment for each trunk port of PBX-3. The modified number "3011" is an extension number of PBX-3. The call is received at extension "3011".

b) PBX Code Method (Access with PBX Code) [Example]



- ① PBX-2 removes digits from and/or adds number to the number sent from PBX-1 "953-1011" according to the assignment for each trunk port of PBX-2. If the modified number has the PBX code of PBX-2 "952", the call will be received at the corresponding extension of PBX-2 (e.g., 1011 of PBX-2). If not, PBX-2 checks the modified number in the TIE Line Routing and Modified Table of PBX-2.
- ② If the match is found in the table, the call will be modified according to the table and send to the corresponding PBX (PBX-3).
- ③ PBX-3 removes digits from and/or adds number to the number sent from PBX-2 "953-1011" according to the assignment for each trunk port of PBX-3. The modified number "953-1011" has the PBX code of PBX-3 "953". The call is received at extension "1011" of PBX-3.

3. TIE Line and Trunk Connection

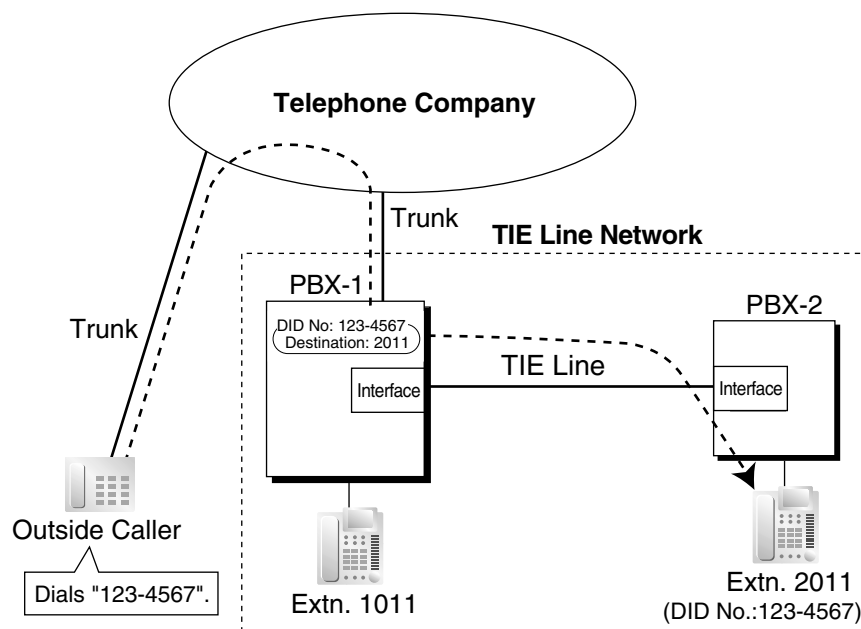
To connect the TIE line with the trunk, the following patterns are available:

- 1) Trunk-to-TIE Access
- 2) TIE-to-Trunk Access
- 3) Trunk-to-TIE-to-Trunk Access

3.1 Trunk-to-TIE Access

It is possible to assign an extension of other PBX as the destination of incoming trunk calls to the own PBX.

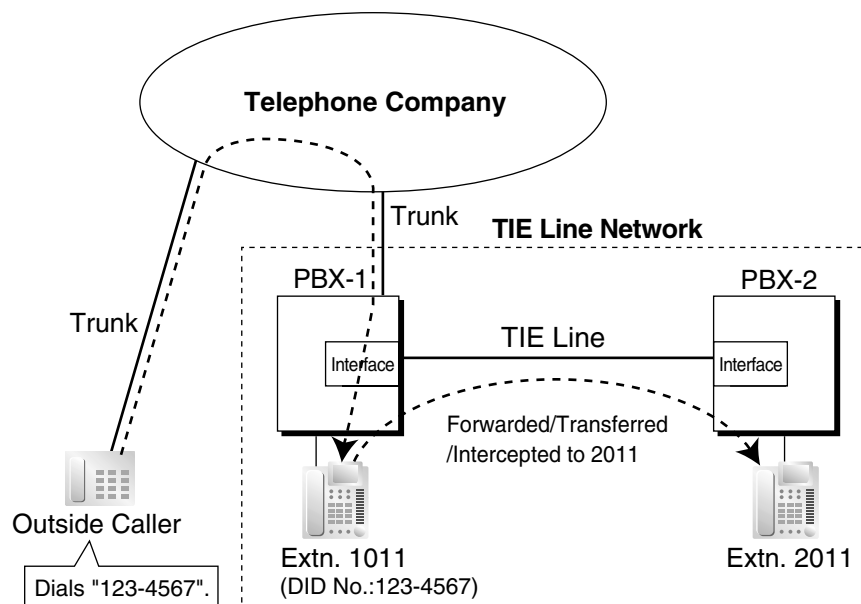
a) Incoming Trunk Call Destination Assignment
[Example]



Explanation:

An outside caller dials the DID number "123-4567". The call is sent to extension "2011" of PBX-2 through the TIE line according to the assignment of the DID call destination (→ DID Destination) of PBX-1.

b) FWD/Call Transfer/Intercept Routing to the TIE Line
[Example]

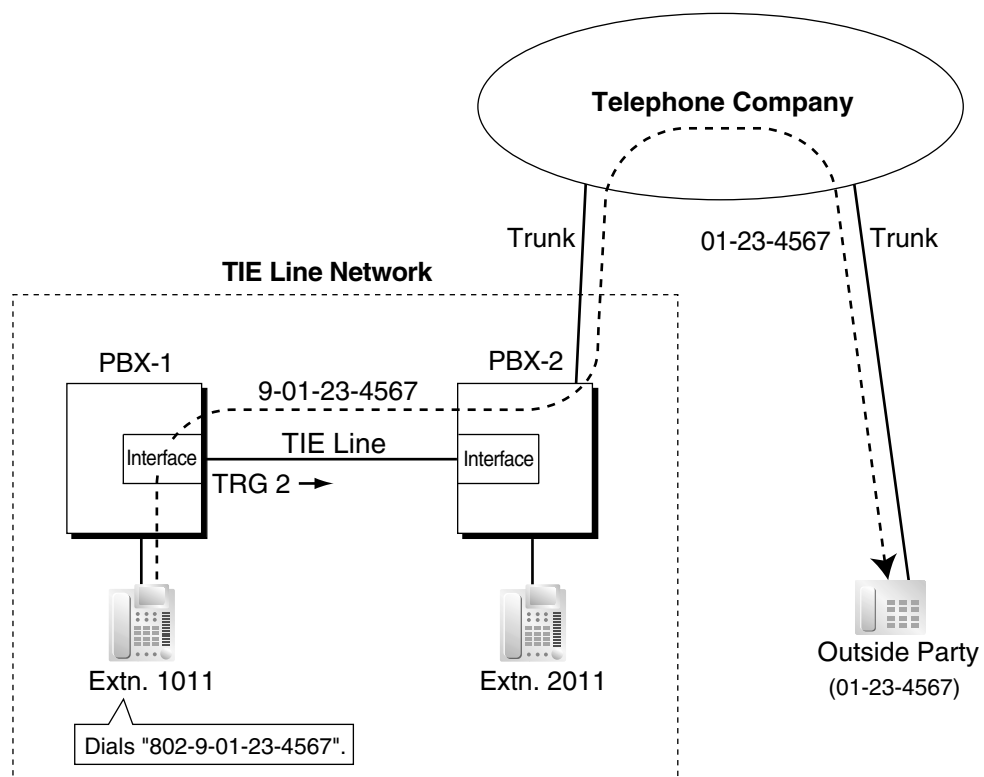


Explanation:

An outside caller dials the DID number "123-4567". The call reaches the destination (extension 1011 of PBX-1), and the call is forwarded, transferred, or intercepted to extension "2011" of PBX-2 through the TIE line.

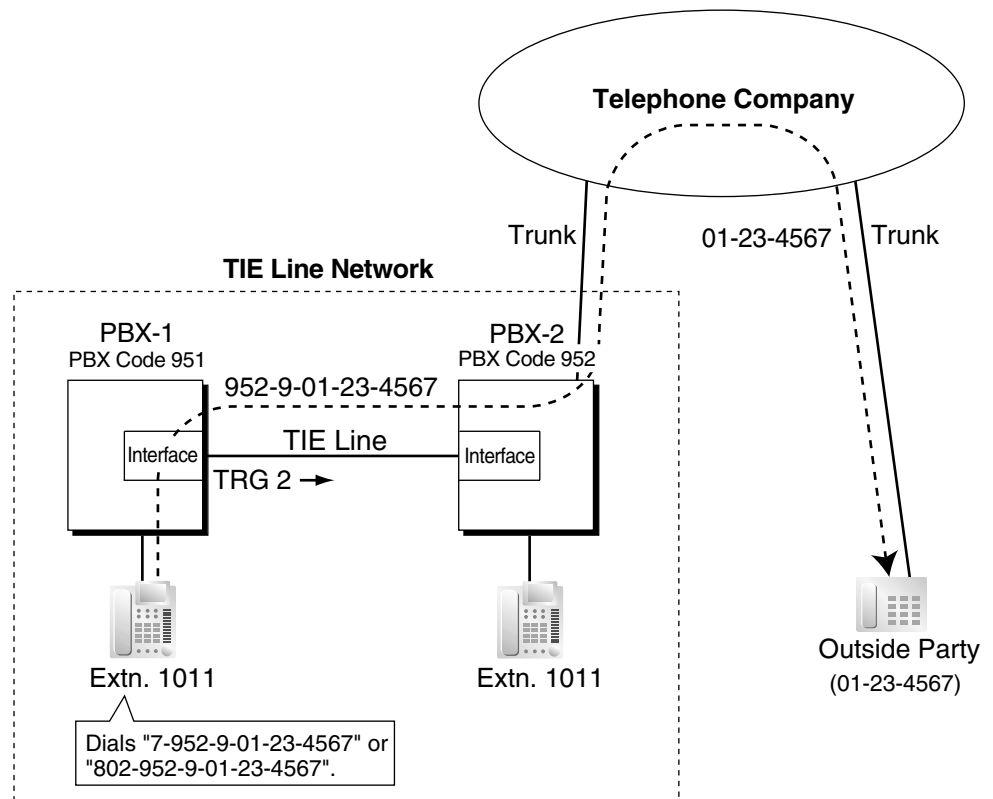
3.2 TIE-to-Trunk Access

The PBX sends TIE line calls to the trunks of another PBX through the TIE lines.

a) Trunk Call through Other PBXs—by Making a TIE Line Call Method
[Example]
<Extension Number Method (Access without PBX Code)>

Explanation:

1. Extension 1011 of PBX-1 dials the Trunk Group Access number of PBX-1 "8", trunk group number "02" (TRG2), Idle Trunk Access/ARS number of PBX-2 "9", and telephone number "01-23-4567".
2. PBX-1 sends the call to PBX-2 through the trunk group (TRG) 2 (TIE line).
3. PBX-2 sends the call to the outside party "01-23-4567".

<PBX Code Method (Access with PBX Code)>

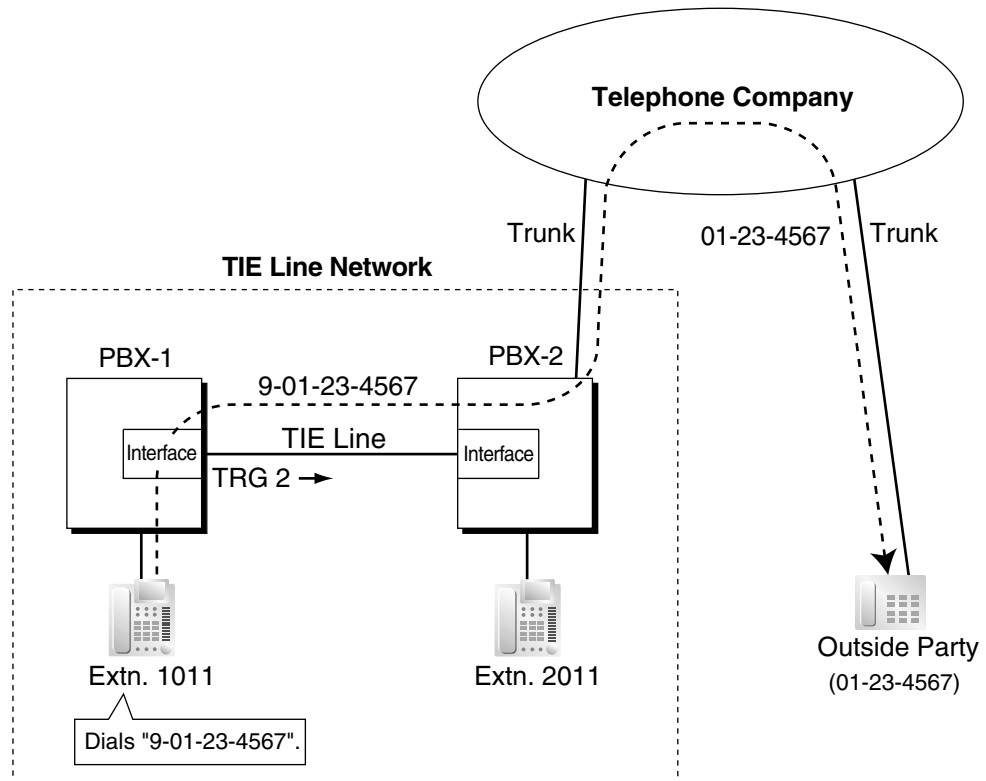
**Explanation:**

1. Extension 1011 of PBX-1 dials the TIE line access number "7", PBX code "952", Idle Trunk Access/ARS number of PBX-2 "9", and telephone number "01-23-4567"; or dials the Trunk Group Access number of PBX-1 "8", trunk group number "02" (TRG2), PBX code "952", Idle Trunk Access/ARS number of PBX-2 "9", and telephone number "01-23-4567".
2. The call is connected to the outside party "01-23-4567" through PBX-2 which has PBX code "952".

b) Trunk Call through Other PBXs—by the ARS feature

[Example]

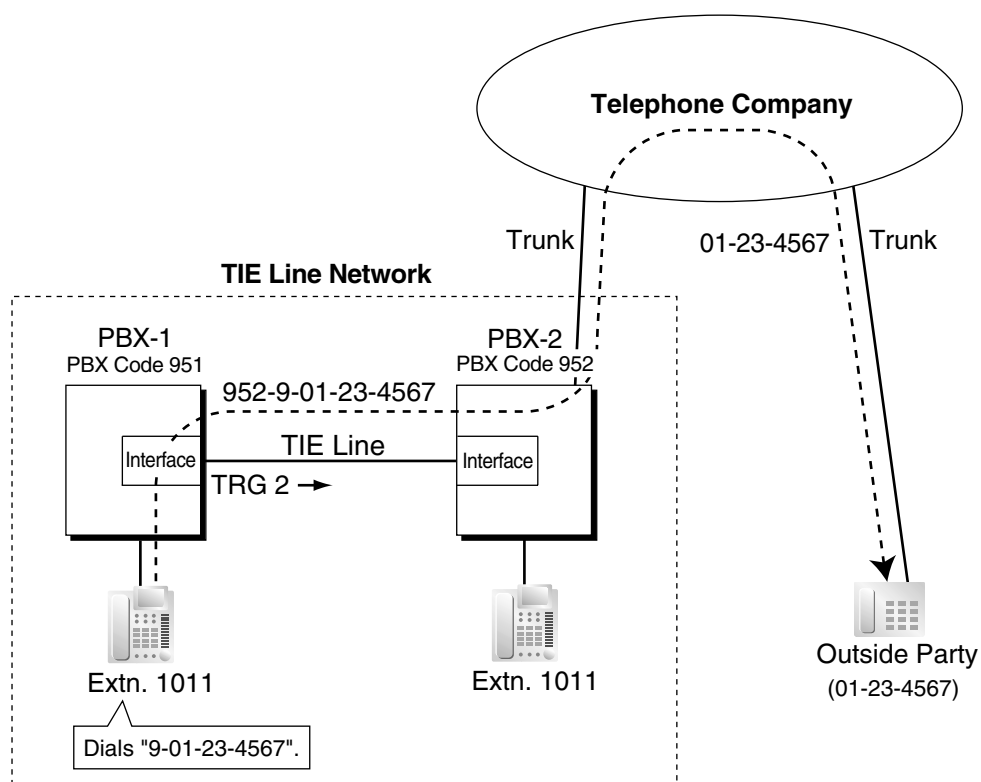
<Extension Number Method (Access without PBX Code)>



Explanation:

1. Extension 1011 of PBX-1 dials the Idle Trunk Access/ARS number of PBX-1 "9" and telephone number "01-23-4567".
2. PBX-1 modifies the call (adds the Idle Trunk Access/ARS number of PBX-2 "9") and sends the call to PBX-2 through the TIE line (trunk group [TRG] 2) according to the ARS programming of PBX-1.
3. PBX-2 sends the call to the outside party "01-23-4567".

<PBX Code Method (Access with PBX Code)>

**Explanation:**

1. Extension 1011 of PBX-1 dials the Idle Trunk Access/ARS number of PBX-1 "9" and telephone number "01-23-4567".
2. PBX-1 modifies the call (adds "952" and the Idle Trunk Access/ARS number of PBX-2 "9") and sends the call to PBX-2 which has PBX code "952" through the TIE line (trunk group [TRG] 2) according to the ARS programming of PBX-1.
3. PBX-2 sends the call to the outside party "01-23-4567".

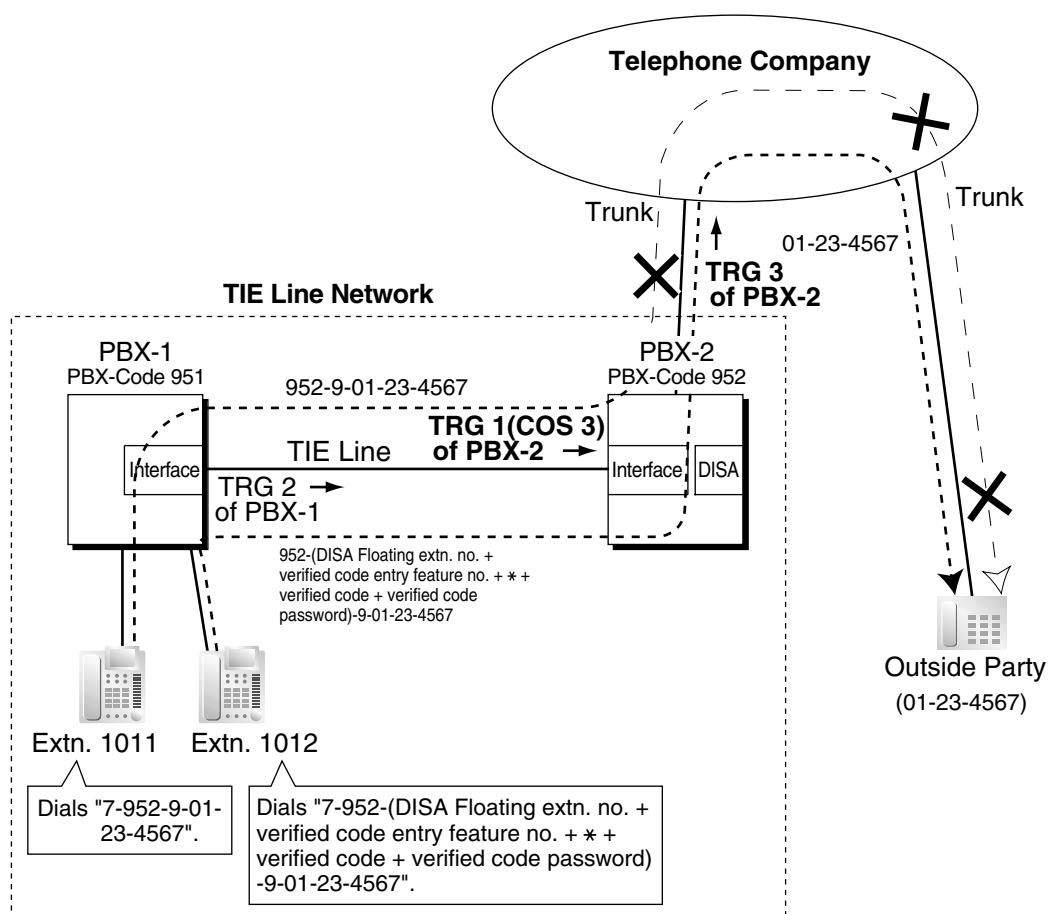
c) Blocking of Trunk Call through Other PBXs and How to Override It

To prohibit a TIE line call to go through PBX-2 for making a trunk call, if PBX-2 is Panasonic Hybrid IP PBX (e.g., KX-TDA100 or KX-TDA200), PBX-2 should disable the trunk group of the outgoing call from PBX-2 against the COS of the trunk group of the incoming call to PBX-2 (→ Outgoing Trunk Group Number) like the programming example shown below. TRS/Barring applies to a TIE line call on a COS of the trunk group of the incoming call basis. To override this prohibition, access the DISA floating extension number of PBX-2 and enter a verified code to change to the COS temporarily.

[Programming Example of PBX-2]

Trunk Group No.	COS No.
1	3
2	2
3	2
:	:

TRG of Incoming Call	Outgoing Call			
	TRG 1	TRG 2	TRG 3	...
COS 1	○	×	×	○
COS 2	×	×	○	×
COS 3	○	×	×	×
:	:	:	:	:

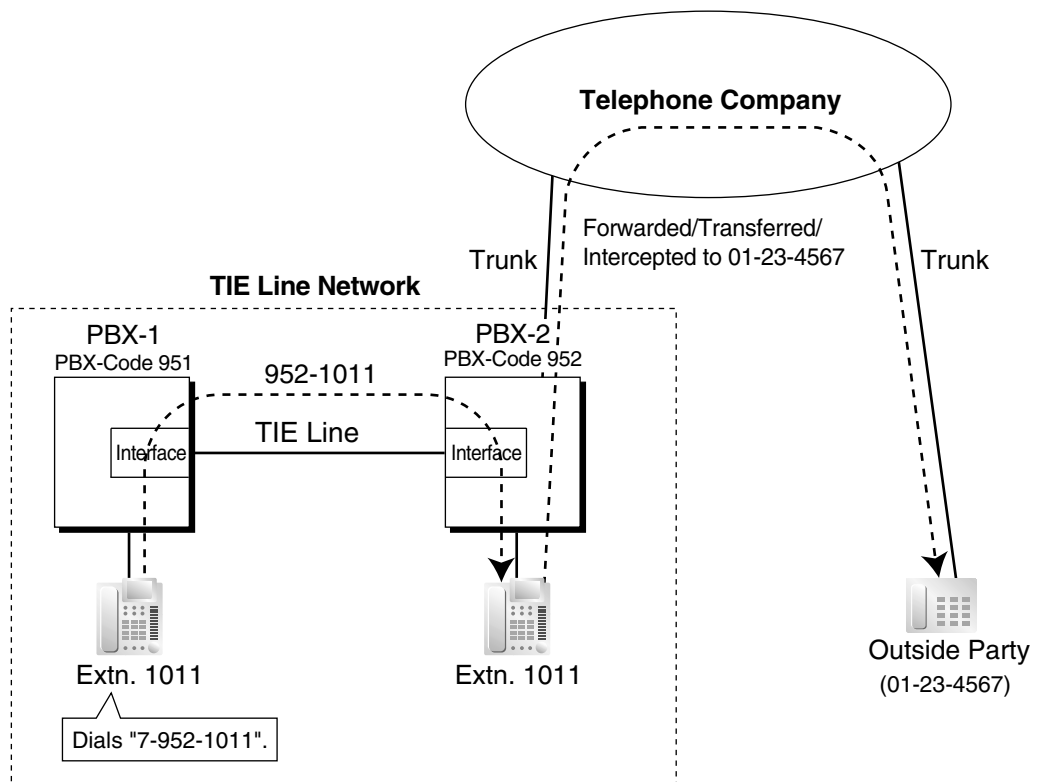
[Example]**Explanation:****Case 1:**

1. Extension 1011 of PBX-1 dials the TIE line access number "7", PBX code "952", Idle Trunk Access/ARS number of PBX-2 "9", and telephone number "01-23-4567".
2. The call is not connected to the outside party "01-23-4567" through PBX-2 which has PBX code "952" due to the COS assignment of the trunk groups of PBX-2.

Case 2:

1. Extension 1012 of PBX-1 dials the TIE line access number "7", PBX code "952", "DISA floating extension number of PBX-2 + verified code entry feature number + * + verified code + verified password", Idle Trunk Access/ARS number of PBX-2 "9", and telephone number "01-23-4567".
2. The call overrides the COS assignment of the trunk groups of PBX-2, and the call is connected to the outside party "01-23-4567" through PBX-2 which has PBX code "952".

d) FWD/Call Transfer/Intercept Routing to the Trunk
[Example]



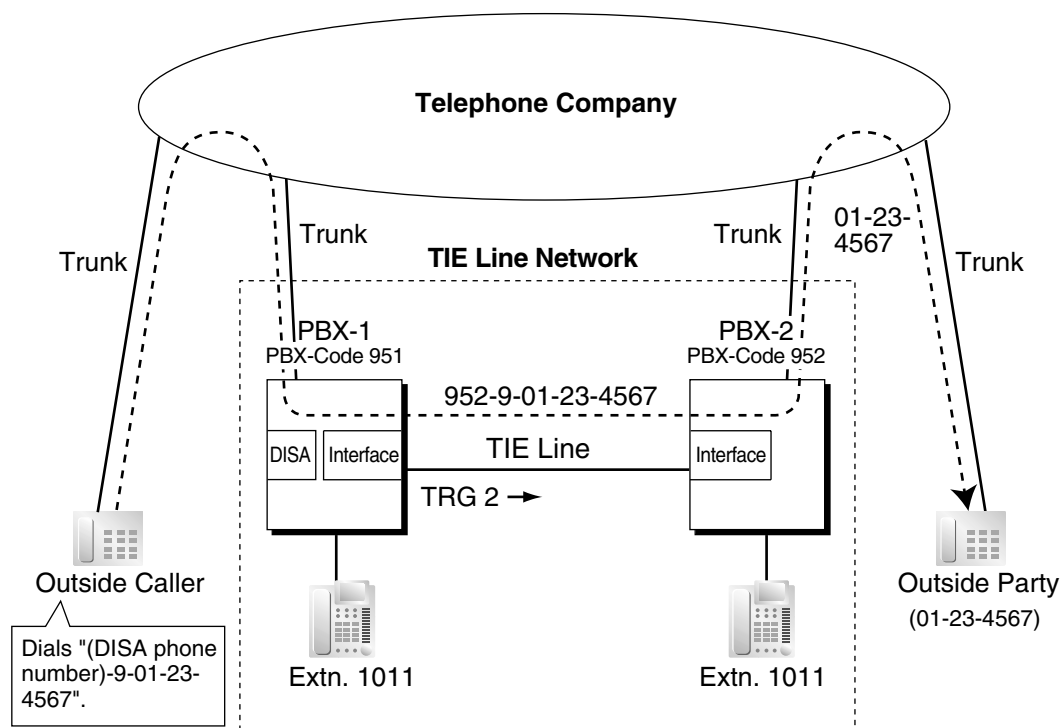
Explanation:

1. Extension 1011 of PBX-1 dials the TIE line access number "7", PBX code "952", and extension number "1011".
2. The call reaches the destination (extension 1011 of PBX-2) through the TIE line, and the call is forwarded, transferred or intercepted to the outside party "01-23-4567" through the trunk.

3.3 Trunk-to-TIE-to-Trunk Access

An outside caller can be connected to an outside party through the TIE line by using the DISA feature.

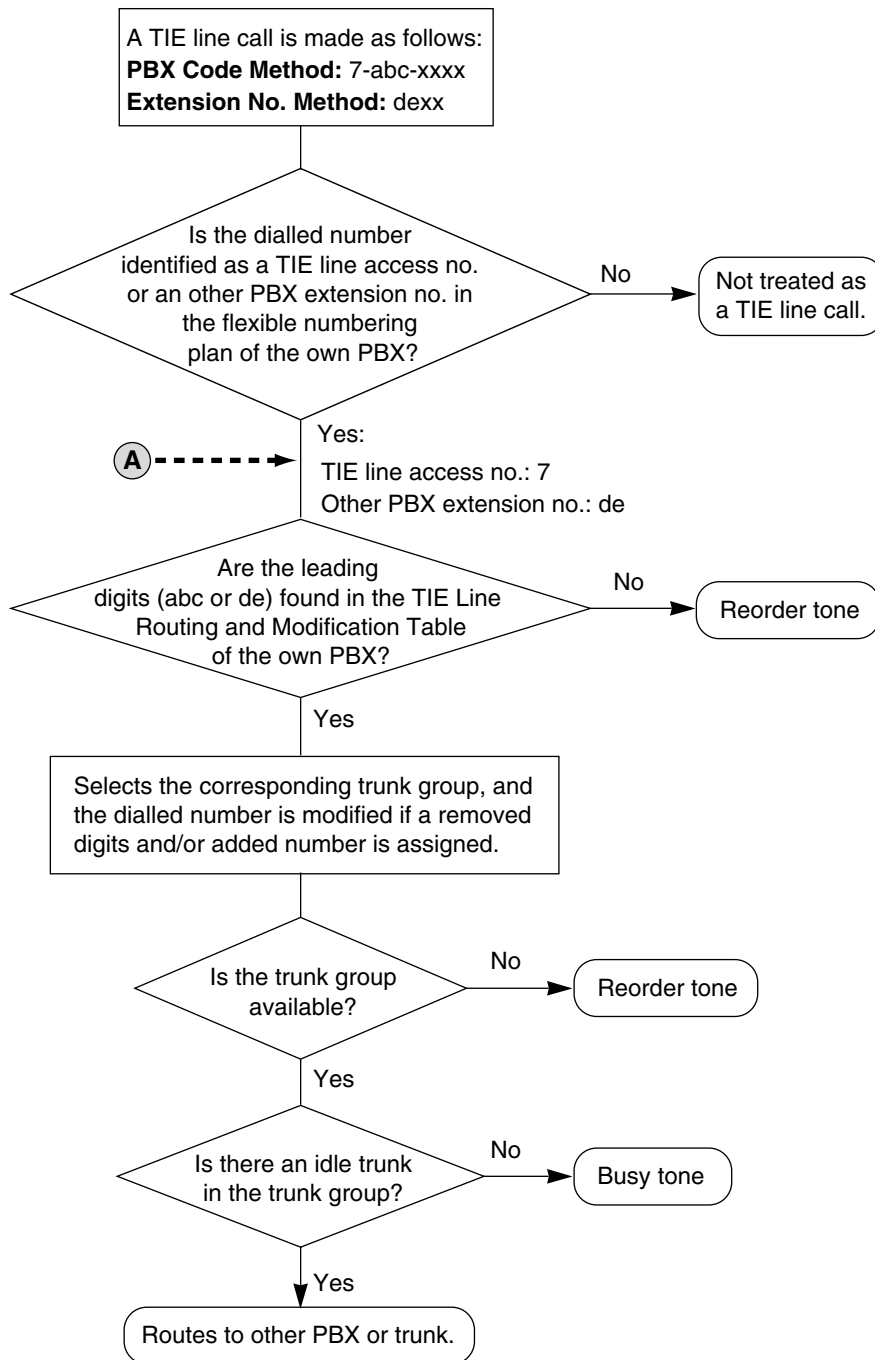
[Example]



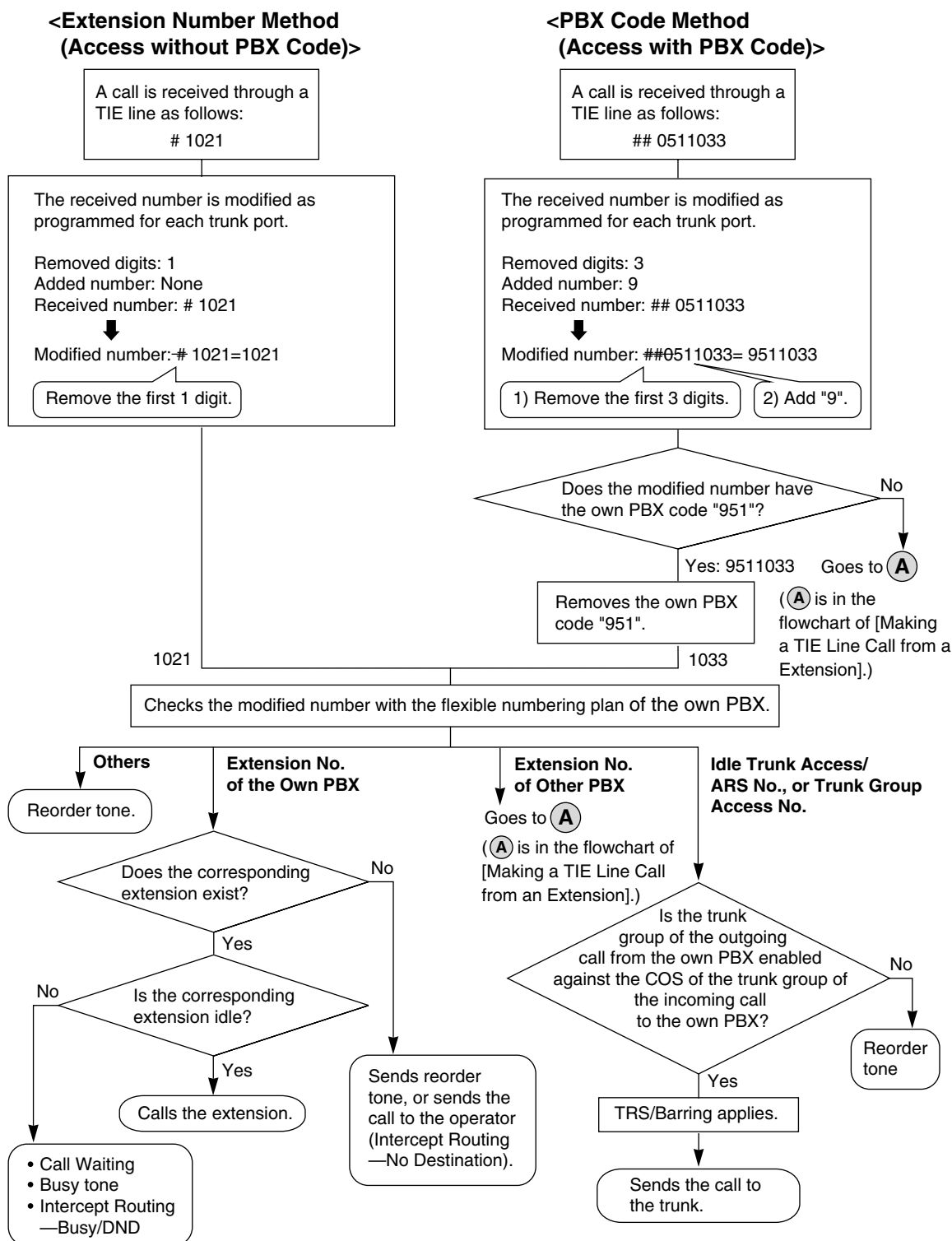
Explanation:

1. The outside caller dials the "DISA phone number of PBX-1", Idle Trunk Access/ARS number of PBX-1 "9", and telephone number "01-23-4567".
2. PBX-1 modifies the call (adds "952" and the Idle Trunk Access/ARS number of PBX-2 "9") and sends the call to PBX-2 which has PBX code "952" through the TIE line (trunk group [TRG] 2) according to the ARS programming of PBX-1.
3. PBX-2 sends the call to the outside party "01-23-4567".

4. TIE Line Routing Flowchart [Making a TIE Line Call from an Extension]



[Receiving a Call through a TIE Line]



Conditions

- When a TIE line call arrives at a busy extension which has disabled Call Waiting, the caller will hear busy tone. If required, Intercept Routing—Busy/DND can be activated.
- The Inter-digit time can be assigned for TIE line calls.

1.26.2 Virtual Private Network (VPN)

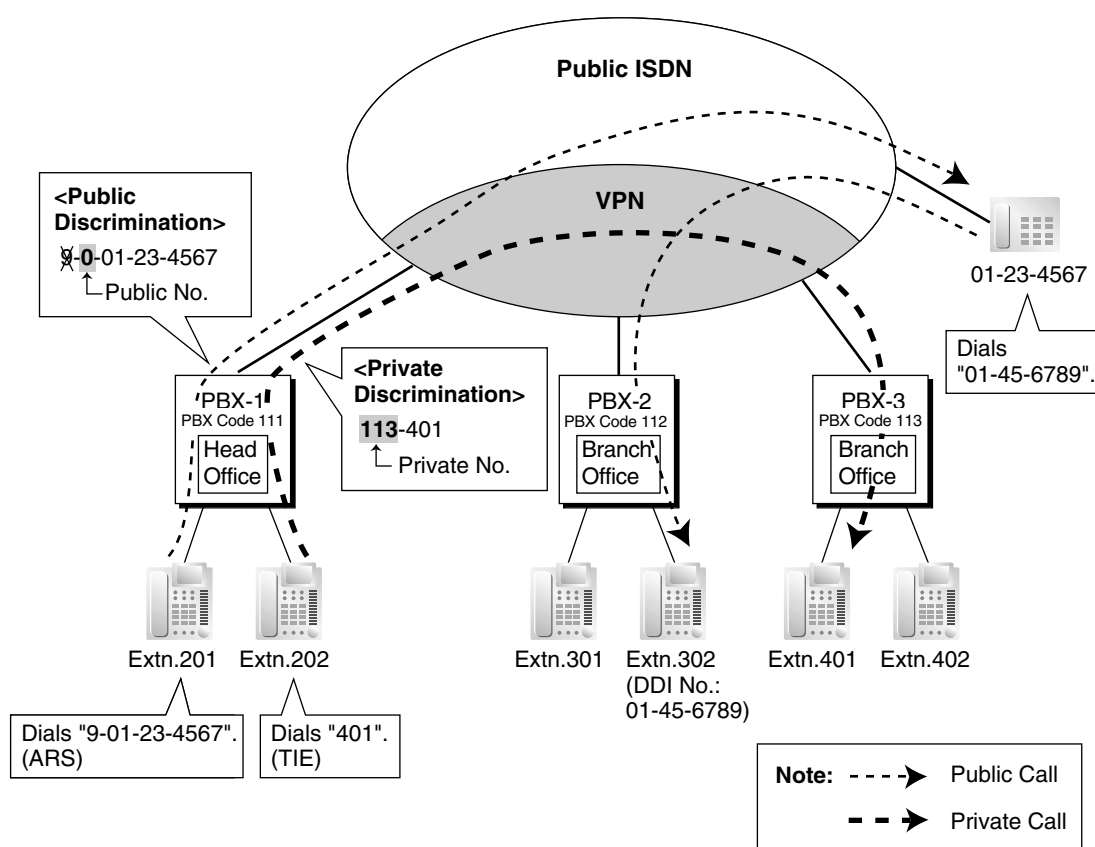
Description

Virtual Private Network (VPN) is a service provided by the telephone company. It uses an existing line as if it were a private line. There is no need to set up a private line or to lease a line from the telephone company. Making and receiving both public and private calls is possible using the same line.

Public/Private Discrimination:

- a) **When making a call:** The public/private discrimination number is required before sending the dialed number to the telephone company. The public/private discrimination number can be dialed manually, or automatically by ARS programming (→ 1.8.1 Automatic Route Selection (ARS)) and/or TIE line service programming (→ 1.26.1 TIE Line Service).
- b) **When receiving a call:** The telephone company distinguishes the call type. If it is a private call, the call is received by the TIE line service method. If it is a public call, the call is received by the Incoming Trunk Call Distribution method (DIL/DDI/MSN) which is assigned on the trunk.

[Example]



Conditions

- Each trunk has its service type; public, private, or VPN. Select VPN to use this service through system programming.
- Even if the telephone company does not support the VPN service, it is possible to use the same kind of service when making a call by TIE line service programming, and/or Quick Dialling programming (→ Quick Dialling in Section 1.6.1 Memory Dialling Features—SUMMARY).

[Quick Dialling Programming Example]

Location No.	Quick Dialling No.	Desired No.
Quick Dialling 01	2345 (extension no. of other PBX)	9-123-4321 (Public no. of extension 2345)
:	:	:

Explanation:

When an extension user dials "2345", he is connected to extension "2345" of other PBX whose public number is "123-4321".

1.26.3 QSIG Network

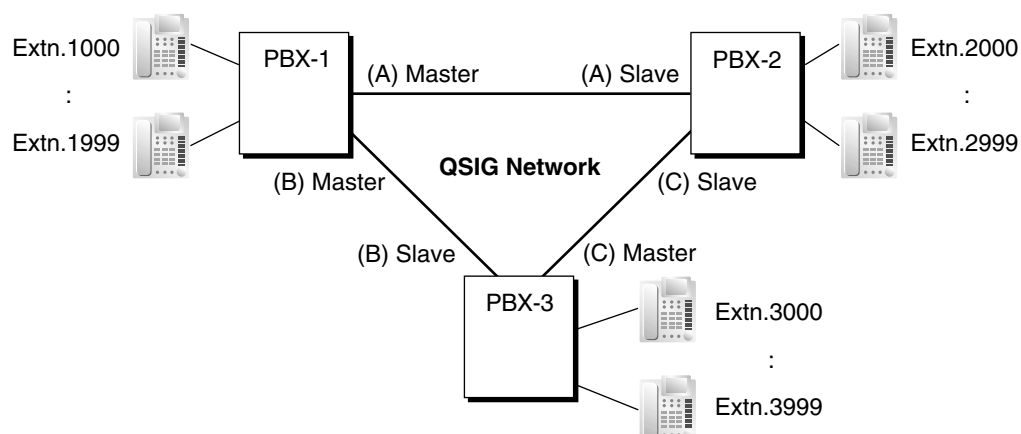
Description

QSIG is a protocol which is based on ISDN (Q.931), and it offers enhanced PBX features in the private network.

QSIG service can be used as a standard for ISDN-TIE line network.

To establish a QSIG network, a master and slave PBX must be determined for each ISDN port between PBXs. The QSIG network supports private communications by the TIE line service method. (→ 1.26.1 TIE Line Service)

[Connection Example]



System programming controls the following services individually for each ISDN port.

[Service Table]

Service	Description	Details in
Calling Line Identification Presentation (CLIP)	Sends the caller's number to the QSIG network when making a call.	Calling/Connected Line Identification Presentation (CLIP/COLP)
Connected Line Identification Presentation (COLP)	Sends the number of the answered party to the QSIG network when answering a call.	
Calling Line Identification Restriction (CLIR)	Stops the caller's CLI being presented to the called party by the caller.	
Connected Line Identification Restriction (COLR)	Stops COLP being sent by the answered party.	

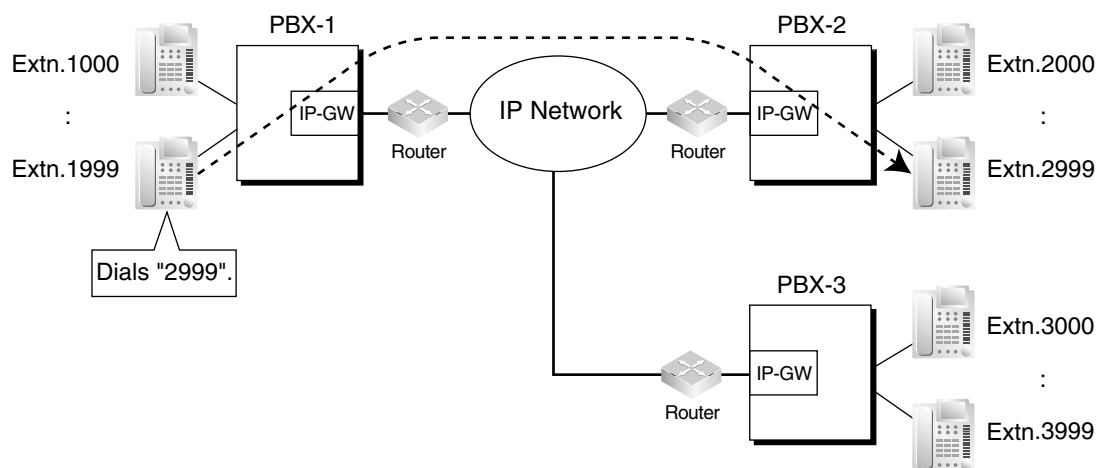
Service	Description	Details in
Calling Name Identification Presentation (CNIP)	Sends the caller's name to the QSIG network when making a call.	–
Connected Name Identification Presentation (CNOP)	Sends the name of the answered party to the QSIG network when answering a call.	
Calling Name Identification Restriction (CNIR)	Stops the caller's name being presented to the called party by the caller.	
Connected Name Identification Restriction (CNOR)	Stops CNOP being sent by the answered party.	
Call Forwarding (CF)	Forwards a call in the private network using the Call Forwarding (CF)—by ISDN (P-P) feature.	• Call Forwarding (CF)—by ISDN (P-P)
Call Transfer (CT)	Transfers a call to an extension in another PBX.	• Call Transfer (CT)—by ISDN
Completion of Calls to Busy Subscriber (CCBS)	Receives callback ringing when a busy called party on the private network becomes free.	• Completion of Calls to Busy Subscriber (CCBS)
Advice of Charge (AOC)	Sends the call charge information of the public ISDN to the private network.	• Advice of Charge (AOC)

1.26.4 Voice over Internet Protocol (VoIP) Network

Description

The PBX can connect to another PBX or outside party by Internet Protocol (IP). In this case, voice communication is converted to IP and send as packets of the data onto the IP network. VoIP network supports the private network communications by the TIE line service method.

[Example]



[Required Programming]

Device	Programming
PBX	For making a call: - ARS programming (→ Section 1.8.1 Automatic Route Selection (ARS)) or TIE line service programming (→ 1.26.1 TIE Line Service) For receiving a call: - TIE line service programming
IP-GW (IP Gateway Circuit)	IP address assignment for the own PBX and other PBXs.

Conditions

- Hardware requirement:** the IP-GW (IP Gateway Circuit) Card
- QSIG service is available.

Section 2

System Configuration and Administration Features

2.1 System Configuration—Hardware

2.1.1 Extension Port Configuration

Description

There are three types of extension ports as follows:

- a) **DPT Port:** DPT, DSS Console, or Panasonic VPS (KX-TVS/TVP series [DPT (Digital) Integration]) can be connected.
- b) **SLT Port:** SLT or KX-TVS/TVP series (DTMF Integration) can be connected.
- c) **Super Hybrid Port:** DPT, APT, DSS Console, KX-TVS/TVP series, or SLT can be connected.

EXtra Device Port (XDP) of Super Hybrid Ports:

A DPT and SLT can be connected to one super hybrid port (TR: SLT, HL: DPT). In this case, the SLT port (TR) of the super hybrid port can be used as an XDP port to connect an SLT as a sub telephone. There are two modes for the XDP port as follows:

Mode	Description
Parallel Mode	The DPT and SLT have the same extension number so that they can act as one extension. They use the main telephone's (DPT's) extension data (e.g., extension number, COS). (→ 1.9.9 Paralleled Telephone)
XDP Mode	The DPT and SLT have different extension numbers so that they can act as completely different extensions. To use XDP mode, XDP mode must be enabled (on) the port through system programming (→ XDP Assignment).

Conditions

- **Automatic Detection on Super Hybrid Port**
A DPT, APT, or SLT can be connected to a super hybrid port without programming.
- A DSS Console or a VPS (Panasonic KX-TVS/TVP series [DPT (Digital) Integration]) can also be connected with an SLT in XDP mode.
- **APT and SLT in Parallel Mode**
An APT and an SLT can also be connected to a super hybrid port and used in parallel mode.
- **Wireless XDP Parallel Mode**
A DWX can be used in parallel mode with a wired telephone.
(→ 1.22.5 Wireless XDP Parallel Mode)
- **DSS Console and Pared Telephone Assignment**
When a DSS Console is connected, a pared extension must be assigned through system programming (→ Console and Paired Telephone Assignment).

2.2 System Configuration—Software

2.2.1 Class of Service (COS)

Description

Each extension is assigned a COS number (→ Class of Service). Several features are controlled on a COS basis.

Conditions

- **Remote COS Access**
Extension users can make a call from other extensions of the lower level COS by using their own higher level COS temporarily.

2.2.2 Group

Description

This PBX supports various types of groups.

1. Trunk Group

Trunks can be grouped into a specified number of trunk groups (e.g., for each carrier, trunk type, etc.) (→ Trunk Group). Several settings can be assigned on a trunk group basis. All trunks belonging to a trunk group follow the assignment determined for that trunk group.

One trunk can belong to only one trunk group on a port or channel basis.

Port basis: LCOT/DID/E & M/ISDN-BRI/ISDN-PRI23/ISDN-PRI30

Channel basis: E1/T1

2. Extension Group

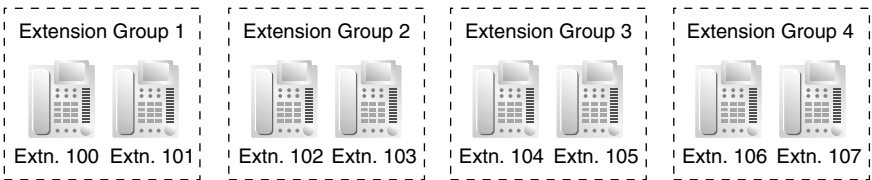
The PBX supports extension groups (→ Extension Group Assignment), each of which is used to compose the following groups:

- a) Tenant (→ 2.2.3 Tenant Service)
- b) Call Pickup Group (See below.)
- c) Paging Group (See below.)

Every extension must belong to one extension group, but cannot belong to more than one extension group.

Assignable Extensions: PT/SLT/DWX/ISDN Extension/T1-OPX

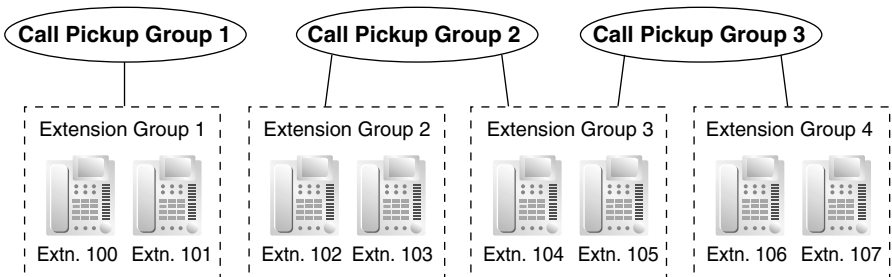
[Example]



2.1 Call Pickup Group (→ Pickup Group for Extension Group)

Using the Group Call Pickup feature, extensions can answer any calls within a specified group. One extension group can belong to several call pickup groups. (→ Call Pickup in Section 1.4.1 Answering Features—SUMMARY)

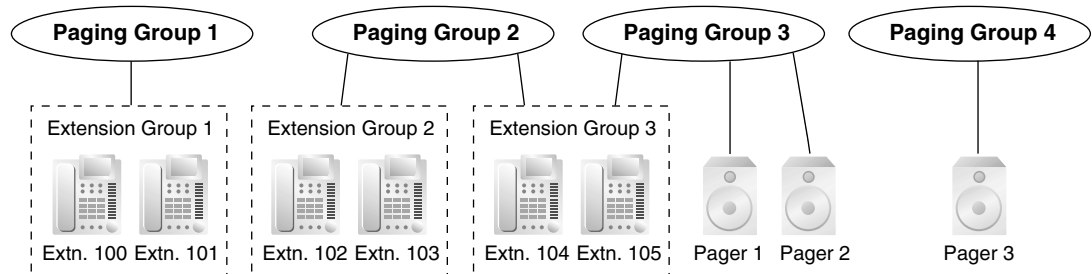
[Example]



2.2 Paging Group (→ Paging Group for Extension Group)

Using the Paging feature, extensions can page or answer a page within their groups. One extension group or external pager can belong to several paging groups. (→ 1.13.1 Paging)

[Example]

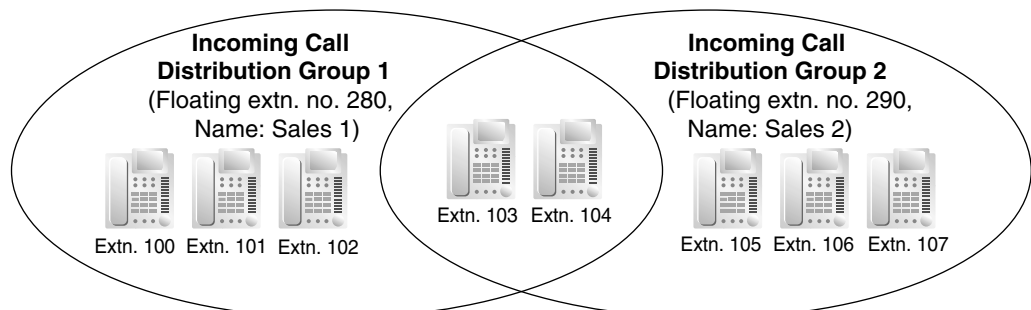


3. Incoming Call Distribution Group

An incoming call distribution group is a group of extensions which receives incoming calls directed to the group (→ Incoming Call Distribution Group Extension Number). Each incoming call distribution group has a floating extension number (→ Incoming Call Distribution Group Floating Extension Number) and name (→ Incoming Call Distribution Group Name). One extension can belong to multiple groups. In the case of multiple connection, an incoming call distribution group must be composed of the extensions in one system.

Assignable Extensions: PT/SLT/DWX/ISDN Extension/T1-OPX/DWX Ring Group (→ 1.2.2 Incoming Call Distribution Group Features—SUMMARY)

[Example]



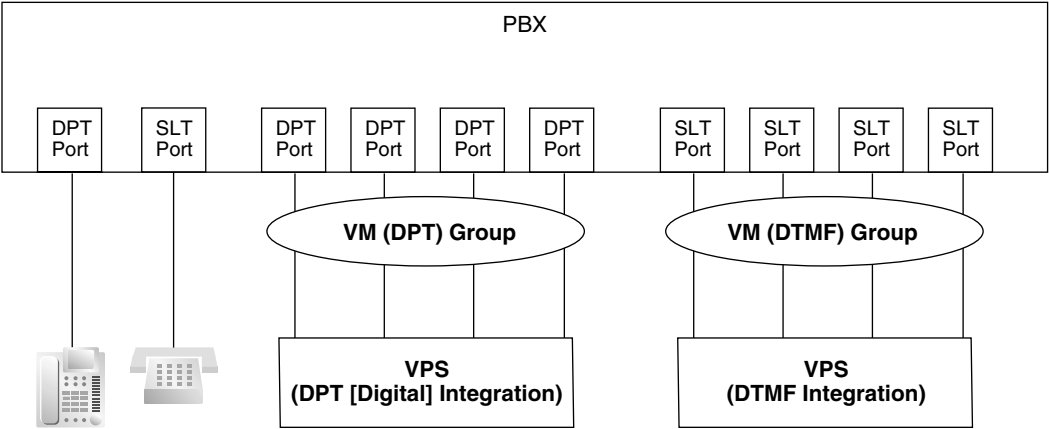
4. VM Group

There are two types of VM groups as follows:

Type	Description
VM (DTMF) Group	A group of SLT ports which use the Voice Mail DTMF Integration features. One SLT port can belong to only one group.
VM (DPT) Group	A group of DPT ports (→ VM Group Floating Extension Number) which use the Voice Mail DPT (Digital) Integration features. One DPT port can belong to only one group.

(→ 1.21.1 Voice Mail (VM) Group)

[Example]



2.2.3 Tenant Service

Description

This PBX can be shared with certain number of tenants. When tenant service is used, each tenant can use the resources differently and independently from other tenants. This enables the PBX to be configured like multiple PBXs which, in each case, are suited to different tenants.

Some resources can be common and some can be divided among tenants.

1. Tenant Configuration

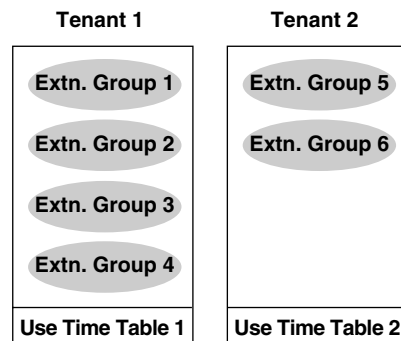
1.1 Tenant Member

The tenant members consist of extension groups. One extension group can belong to only one tenant. Therefore, one extension can belong to only one tenant.

1.2 Time Service

Each tenant has a Time Table. The Start and/or End time of each time mode (day/lunch/break/night) can be set for each day of the week. The Time Table numbers correspond to the tenant numbers respectively.

[Example]



2. System Management

Each of the following system management items can be assigned to each tenant.

- a) Tenant Operator (extension number/incoming call distribution group number/none [due to the system assignment (→ Operator Assignment)])
- b) ARS Mode (Off/Local Access/All Access/System [due to the system assignment (→ ARS Mode)])
- c) Music Source for Music on Hold (System [due to the system assignment (→ Music Source Selection for Call Hold)]/BGM Number/Cyclic Tone)

[Programming Example]

Tenant No.	Operator	ARS Mode	Music Source
1	Extn.101	Local Access	System
2	None	System	Cyclic Tone
3	Floating extn. no. 200	Off	BGM1
:	:	:	:

3. Resource Use

3.1 Resources which can be divided

Each of the following resources can be enabled or disabled for each tenant. If enabled, the resource can be used by extensions within the tenant.

- a) Outgoing Message (OGM)
- b) External Pager for TAFAS

[Programming Example]

Resource	Tenant 1	Tenant 2	...
OGM 1	Enable	Enable	...
OGM 2	Disable	Enable	...
:	:	:	:

3.2 Doorphone/Door Opener

Each doorphone port can be assigned to one tenant. Calling a doorphone and opening the door can be performed only by the extensions in the assigned tenant. A call from a doorphone can be received by the extensions regardless of tenancy.

[Programming Example]

Resource	Tenant No.
Doorphone 1	3
Doorphone 2	2
:	:

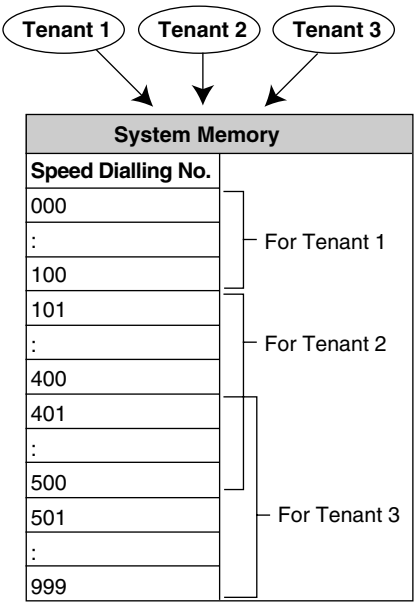
4. System Memory Division for the System Speed Dialling

Location numbers for the System Speed Dialling can be divided for each tenant.

[Programming Example of System Memory Division]

Data	Location No.	Tenant 1	Tenant 2	Tenant 3	...
System Speed Dialling	From	000	101	401	...
	To	100	500	999	...

[System Memory Division Example]



Conditions

- **Tenant-to-Tenant Call Block**
The following can be restricted on a COS basis by the Internal Call Block feature (→ Internal Call Block in Section 1.1.2 Internal Call Features—SUMMARY):
 - a) Calling extensions in the restricted tenant(s)
 - b) Picking up calls ringing in the restricted tenant(s)
 - c) Retrieving a call held within the restricted tenant(s).
- An incoming call distribution group must belong to one tenant because the following features are determined on a tenant basis:
 - a) Music on Hold while a call is waiting in the queue
 - b) The Time Table which determines the overflow destination.

2.2.4 Time Service

Description

This PBX supports day, night, lunch, and break modes of operation. TRS/Barring can be arranged separately. The destination of incoming calls can be set differently for each mode.

1. Time Service Switching Mode

Day/lunch/break/night mode can be switched either automatically or manually (→ Time Service Switching Mode). The switching mode can be assigned for each tenant.

Type	Description
Automatic	The PBX will switch mode according to the preprogrammed Time Table.
Manual	A manager, or preprogrammed extension on a COS basis (→ Time Service Switching Mode) can switch mode by dialling the feature number or pressing the Time Service button.

Even while in the Automatic Switching mode, day/lunch/break/night mode can be changed manually.

2. Time Table

Each tenant has a Time Table used for the Automatic Switching mode. The Start and/or End time of each mode can be set for each day of the week. The Time Table numbers correspond to the tenant numbers respectively.

[Time Table Example]

Time Schedule		Time Table No. (Tenant No.)				
		1	2	3	4	...
MON	Day start	08:00	11:00	08:00	08:00	...
	Lunch start	12:00	NONE	16:00	12:00	...
	Lunch end (Day restart)	13:00	NONE	NONE	NONE	...
	Break start	NONE	NONE	NONE	NONE	...
	Break end (Day restart)	NONE	NONE	NONE	NONE	...
	Night start	16:00	20:00	12:00	NONE	...
TUE	Day start	08:00	11:00	08:00	08:00	...
	Lunch start	12:05	NONE	13:00	13:00	...
	Lunch end (Day restart)	13:00	NONE	NONE	NONE	...
	Break start	NONE	NONE	NONE	NONE	...
	Break end (Day restart)	NONE	NONE	NONE	NONE	...
	Night start	16:31	20:00	17:00	NONE	...
:	:	:	:	:	:	...

**<Time Service Image of Monday and Tuesday>**

Time Table No.	00:00 08:00 11:00 12:00 13:00 16:00 20:00 24:00 08:00									
1	Night	Day		Lunch	Day		Night			Day
2	Night			Day				Night		
3	Night	Day		Night		Lunch			Day	
4	Night	Day		Lunch					Day	

3. Features Using Time Service

The following features can be set in each time mode (day/lunch/break/night):

- a) Destination of incoming trunk calls (DIL/DID/DDI/MSN)
- b) Destination of the Intercept Routing
- c) Overflow destination for incoming call distribution groups
- d) Destination of incoming doorphone calls
- e) PBX operator
- f) COS for TRS/Barring and for Trunk Access
- g) Outgoing Message (OGM) for Timed Reminder

[Programming Examples of DID/DDI Table and DIL Table]

DID/DDI table can be programmed for each DID/DDI number, and a tenant (Time Table) number is assigned to each DID/DDI number. DIL table can be programmed for each trunk, and a tenant (Time Table) number is assigned to each trunk.

<DID/DDI Table>

Location	DID/DDI No.	Tenant (Time Table) No.	DID/DDI Destination			
			Day	Lunch	Break	Night
001	123-4567	1	105	100 (VPS)	105	100 (VPS)
002	123-2468	1	102	100 (VPS)	102	100 (VPS)
:	:	:	:	:	:	:

<DIL Table>

Trunk No.	Tenant (Time Table) No.	DIL Destination			
		Day	Lunch	Break	Night
01	1	101	100 (VPS)	101	100 (VPS)
02	2	102	100 (VPS)	102	100 (VPS)
:	:	:	:	:	:

Explanation:

If a trunk call with a DID number (123-4567) is received at 20:00;

- 1) Tenant (Time Table) number 1 will be used.
- 2) The call is received during night mode in Time Table 1.
- 3) The call will be routed to the extension 100 (VPS).

4. Holiday Mode

The holiday mode activates automatically using the Automatic Switching mode. Up to 24 holidays (start and end dates) can be stored, and one time mode can be selected for all holidays.

5. Time Service Button:

A flexible button can be customised as the following buttons:

- a) Day/Night button
- b) Day/Night/Lunch button
- c) Day/Night/Break button
- d) Day/Night/Lunch/Break button

Each of these buttons is used for switching between modes. For example, pressing the Day/Night button switches between day and night modes. All of these buttons show the current status as follows:

Light Pattern	Status
Off	Day mode
Red on	Night mode
Green on	Lunch mode
Slow green flashing	Break mode
Slow red flashing	Holiday mode

Note

Any extension user (except extension users allowed to change the mode) can only check the current status on the display by pressing the Time Service button.

Conditions

- System programming (→ Time Service Start Time) can set the Start and/or End time of the following:
 - a)** Day-1 (Day Start time)
 - b)** Lunch (Lunch Start time)
 - c)** Day-2 (Lunch End time)
 - d)** Night (Night Start time)

PC programming can also set the following three time periods for break mode per day.

- e)** Break-1 Start
- f)** Break-1 End (Day restart)
- g)** Break-2 Start
- h)** Break-2 End (Day restart)
- i)** Break-3 Start
- j)** Break-3 End (Day restart)

2.2.5 Operator Features

Description

This PBX supports a PBX operator and a tenant operator. Any extension and incoming call distribution group can be designated as a PBX and/or a tenant operator.

Type	Description
PBX operator	An extension or incoming call distribution group can be assigned as a PBX operator for each time mode (day/lunch/break/night) (→ Operator Assignment).
Tenant operator	An extension or incoming call distribution group can be assigned as a tenant operator. The tenant operator may be the extension or incoming call distribution group of another tenant. [Example] Extension 110 in tenant 1 is the tenant operator of tenant 3.

Operator Call:

An extension user can call an operator with a simple operation. When an operator call is made, the call is routed to the tenant operator. If no tenant operator exists, the call will be routed to the PBX operator. The time mode depends on the tenant of the calling extension. If neither the tenant operator nor the PBX operator exists, the caller will hear reorder tone.

Conditions

- An extension or incoming call distribution group can be assigned as both the tenant and PBX operator.
- A tenant operator can be assigned for multiple tenants.

2.2.6 Manager Features

Description

An extension assigned as the manager (manager extension) is allowed to use the specified features. COS programming determines the extensions which can use the following manager features (→ Manager Assignment):

Feature		Description	Manager Password	Details in
Manager Programming	Call Charge Management	Sees, clears, and prints the call charge data.	Required	• 1.23.2 Charge Metre
	Remote Password Clear	Clears the personal password of an extension remotely, and a verified code password. Password Lock is also unlocked.	Required	• 1.24.1 Personal Password • 1.7.6 Verified Code Entry
	Remote Extension Lock	Sets or cancels the Extension Lock on an extension remotely.	Required	• 1.7.3 Extension Lock
Dial Tone Transfer		Changes the TRS/Barring level of the extension temporarily. [Example] An extension user can call a manager to release the restricted outgoing call (e.g., international call).	Not required	• 1.7.4 Dial Tone Transfer
Outgoing Message (OGM)		Records and plays back outgoing messages (OGMs).	Not required	• 1.14.5 Outgoing Message (OGM)
Time Service		Switches the time mode (day/lunch/break/night) manually.	Not required	• 2.2.4 Time Service
BGM—External		Sets the External BGM on and off.	Not required	• 1.14.4 Background Music (BGM)

Conditions

- **Manager Password**
One manager password can be assigned per PBX (→ Manager Password).

2.3 System Data Control

2.3.1 PC Programming

Description

This PBX can be programmed and administered using a personal computer (PC). There are two programming methods:

- 1) **On-site Programming:** System programming/diagnosis can be performed locally by connecting a PC to the PBX directly.
- 2) **Remote Programming:** System programming/diagnosis and data upload can be performed from a remote location.

1. On-site Programming:

Method	Description
Using the Serial Interface (RS-232C) port	The PBX has a Serial Interface (RS-232C) port which can be used for either system administration or SMDR.
Using the USB port	The PC is connected to the PBX or a DPT using a USB port.
Using the LAN interface	A CTI-LINK Card must be installed.
Using a modem through an SLT port	Any trunk card and a RMT Card must be installed. Assign the floating extension number of the analogue remote maintenance (→ Modem Floating Extension Number), and dial this number from the PC to connect to the PBX.
Using an ISDN TA interface (64 kbps) through an ISDN Extension Line	A BRI or PRI Card must be installed. Assign the floating extension number of the ISDN remote maintenance (→ ISDN Remote Floating Extension Number), and dial this number from the PC to connect to the PBX. The RMT Card is not required for this method.

2. Remote Programming:

Method	Description
Using a modem	A RMT Card must be installed. The floating extension number of the analogue remote maintenance must be assigned (→ Modem Floating Extension Number). PC programming, using a telephone connected in parallel with the modem, can be done in the following ways: • Direct Access Dial the DIL/DID/DDI number whose destination is the floating extension number of the analogue remote maintenance. • Through DISA Dial the floating extension number of the analogue remote maintenance using the DISA feature. • Call Transfer Call an extension (probably the operator), and request a transfer to the floating extension number of the analogue remote maintenance.
Using an ISDN TA interface (64 kbps) through an ISDN Trunk	A BRI or PRI Card must be installed. The floating extension number of the ISDN remote maintenance must be assigned (→ ISDN Remote Floating Extension Number), and dial the DIL/DID/DDI/MSN number whose destination is the floating extension number of the ISDN remote maintenance. The RMT Card is not required for this method.

Conditions

- Access to system programming is allowed only one at a time.
- **System Programming Password Level**
To access system programming, a valid password must be entered. There are two types of passwords, each of which is factory preprogrammed (default) and can be changed. If the wrong password is entered over a preprogrammed number of times remotely, access will be locked.

Type	Description
Dealer Password	All system programming is accessible (→ System Password for Dealer).
User Password	Permitted system programming is accessible (→ System Password for User). Each system programming can be determined whether to be accessed by the end users.

- **Remote Programming Limitation**
It is possible to disable remote access through system programming (→ Remote Programming Assignment).
- A name can be assigned to the floating extension numbers of the analogue/ISDN remote maintenance respectively.

2.3.2 PT Programming

Description

A PT user can perform the following programming:

- a) **Personal Programming:** Customising the extension according to his needs.
- b) **System Programming:** Customising the PBX according to organisational needs.
- c) **Manager Programming:** Customising specified frequently changing items (e.g., Charge Management and Remote Extension Lock).

Conditions

- COS programming determines what programming can be performed (→ Programming Mode Level):
 - a) System programming and personal programming
 - b) Personal programming only
 - c) No programming
- The extension which is connected to the lowest numbered extension port can perform both personal programming and system programming regardless of the COS.
- The extension(s) assigned as the manager COS can perform manager programming.
- During programming, the PT is considered to be busy.
- Access to system programming and manager programming is allowed only one at a time. However, one PBX supports up to 16 simultaneous programmers (one system programmer + 15 personal programmers, one manager programmer + 15 personal programmers, or 16 personal programmers).
- **System Programming Password Level**
To access system programming, a valid password must be entered. There are two types of passwords, each of which is factory preprogrammed (default) and can be changed.

Type	Description
Dealer Password	All system programming available for PT programming is accessible (→ System Password for Dealer).
User Password	Permitted system programming is accessible (→ System Password for User). Each access to system programming can be controlled.

- **Personal Programming Data Default Set**
A user can return all of the items programmed on the telephone to default.

2.3.3 Automatic Setup

Description

There are two automatic setup features as follows:

- 1) Automatic ISDN Configuration
- 2) Automatic Time Adjustment

1. Automatic ISDN Configuration

The ISDN (BRI) port configuration can be set automatically (→ BRI Automatic Configuration).

The following items will be set by making and receiving a call using the subscriber number assigned for each ISDN (BRI) port:

- a) L1 Active Mode
- b) L2 Data Link Mode
- c) Access Mode (Point-to Point/Point-to-Multipoint)
- d) TEI Assignment Mode (Fix 00-63/Automatic)

2. Automatic Time Adjustment

It is possible to adjust the PBX clock automatically in the following two ways:

a) Summer Time (Daylight Saving Time) Setting:

The start and end dates of the summer time can be programmed. The PBX clock will be adjusted (one hour forward or backward) at 3:05AM of the programmed date, if enabled through system programming. It means 3:05 AM will become 4:05 AM on the start date of the summer time, and 3:05 AM will become 2:05 AM on the end date.

Note

If the Timed Reminder (Wake-up call) is set;

- On the summer time start date, the setting between 3:05 AM and 4:05 AM will not happen.
- On the summer time end date, the setting between 2:05 AM and 3:05 AM will ring twice.

b) Time Information from Telephone Company:

Time information can be received on the following calls:

- An incoming call through an ISDN line
- An incoming call through an analogue line with Caller ID which includes the time information.

The PBX clock will be adjusted everyday when the first call after 3:05AM is received, if enabled through system programming.

Note

If the Timed Reminder (Wake-up call) is set, the setting will not happen or will ring twice depending on the adjustment.

Conditions

- SMDR will record the call information using the PBX clock so that the recording time will be overlapped at the end of summer time.

2.3.4 Quick Setup

Description

It is possible to set up the basic PBX parameters using a personal computer (PC). When a PC accesses the PBX for the first time, Quick Setup display will appear automatically. The following items can be programmed as desired:

Item	Parameter	Description
Date Set	Year/Month/Date	The date set on the PC will be used.
Time Set	Hour/Minute	The time set on the PC will be used.
Dealer Password	4-10 digits	Enter the dealer password. All system programming items are accessible by entering this password.
Extension Numbering	1. Automatic 2. Manual	Extension numbers can be assigned automatically or manually. If "Automatic" is selected, extension numbers are automatically assigned.
Operator & Manager	Extension number	(Only when in Automatic Extension Numbering mode) - Assign the PBX operator to all time modes (day/lunch/break/night). - The PBX operator's COS level will be set to COS 64. - Manager operation will be allowed on COS 64.
Flexible Numbering Type	1. Pattern 1 (with *) 2. Pattern 2 (without *)	If "Pattern 1 (with *)" is selected, "*" will prefix all feature numbers. [Example] Call Pickup feature number Pattern 1 (with *): *47 Pattern 2 (without *): 47 For default of the flexible numbers, refer to the [Flexible Numbering Table (available while a dial tone is heard)] (→ 2.3.5 Flexible Numbering/Fixed Numbering).
Operator/ Local Access	1. 0/9 2. 9/0	The feature numbers for Operator Call and Idle Trunk Access/ARS can be selected. They will be "0" or "9".
Language Data Upload	—	Select and upload multiple languages into five language areas.
LCD Language	1. English 2. ? 3. ? 4. ? 5. ?	Select the language used on each PT. This is only available when multiple languages are loaded.

2.3.5 Flexible Numbering/Fixed Numbering

Description

To dial another extension user or to access PBX features, the access numbers (extension numbers or feature numbers) are required.

There are three types of numbering plans:

- 1) Flexible Numbering (available while a dial tone is heard)
- 2) Flexible Numbering (available while busy, DND, or ringback tone is heard)
- 3) Fixed Numbering (available while dialling or talking)

1. Flexible Numbering (available while a dial tone is heard)

Extension numbers and feature numbers which are available while a dial tone is heard can be customised for easy use (→ Flexible Numbering). The numbers must not conflict. It is also possible to use default (Pattern 1 or Pattern 2) shown in the following table:

- a) **Extension numbers (Location numbers 1 through 32):** Up to five-digit number including the extension numbering scheme (up to three-digits number consisting of "0 through 9") + additional digits (up to two digits, default: two digits)

[Example]

If the number "3" as a 1st extension numbering scheme and the "2" as an additional digit have been programmed, the extension number 300 through 399 are available.

- b) **Feature numbers (Location numbers 33 through 250):** Up to four-digit number consisting of "0 through 9", "×", and "#"

[Flexible Numbering Table (available while a dial tone is heard)]

Location No.	Feature	Default	
		Pattern 1 (with ×)	Pattern 2 (without ×)
1	Extension numbering scheme -1	1	1
2	Extension numbering scheme -2	2	2
3	Extension numbering scheme -3	3	None
4	Extension numbering scheme -4	4	None
5	Extension numbering scheme -5	5	None
6	Extension numbering scheme -6	6	None
7-32	Extension numbering scheme -7-32	None	None
33	Operator Call	9 / 0	9 / 0
34	Idle Trunk Access/ARS	0 / 9	0 / 9
35	Trunk Group Access	8	8
36	TIE Line Access	7	None

2.3 System Data Control

Location No.	Feature	Default	
		Pattern 1 (with *)	Pattern 2 (without *)
37	Redial	#	#
38	Speed Dialling—System/Personal	* *	*
39	Personal Speed Dialling—Programming	*30	30
40	Doorphone Call	*31	31
41	Group Paging	*33	33
42	External BGM on/off	*35	35
43	Outgoing Message (OGM) playback/record	*36	36
44	Individual Trunk Access	*37	37
45	Parallel Telephone Mode	*39	39
46	Group Call Pickup	*40	40
47	Directed Call Pickup	*41	41
48	TAFAS—Calls through an External Pager	*42	42
49	Group Paging answer	*43	43
50	Reserved	—	—
51	Automatic Callback Busy cancel/CCBS cancel	*46	46
52	User Remote Operation/Remote COS Access/ Verified Code Entry	*47	47
53	Wireless XDP Parallel Mode set/cancel	*48	48
54	Account Code Entry	*49	49
55	Call Hold/Call Hold Retrieve	*50	50
56	Call Hold Retrieve—Intercom Calls (held at other extension)	*51	51
57	Call Park/Call Park Retrieve	*52	52
58	Call Hold Retrieve—Trunk Calls (held at other extension)	*53	53
59	Door Open	*55	55
60-61	Reserved	—	—
62	External Feature Access	*60	60
63	Reserved	—	—
64	ISDN Hold	*62	62

Location No.	Feature	Default	
		Pattern 1 (with *)	Pattern 2 (without *)
65	COLR	*7*0	7*0
66	CLIR	*7*1	7*1
67	CLIP/COLP	*7*2	7*2
68	MCID	*7*3	7*3
69	ISDN-FWD	*7*5	7*5
70	Reserved	—	—
71	Message Waiting set/cancel/callback	*70	70
72	FWD/DND set/cancel—Both	*710	710
73	FWD/DND set/cancel—External	*711	711
74	FWD/DND set/cancel—Internal	*712	712
75	FWD/DND No Answer Timer set	*713	713
76	Group FWD/DND set/cancel—Both	*714	714
77	Group FWD/DND set/cancel—External	*715	715
78	Group FWD/DND set/cancel—Internal	*716	716
79	Call Pickup Deny set/cancel	*720	720
80	Paging Deny set/cancel	*721	721
81	Walking Extension	*727	727
82	Data Line Security set/cancel	*730	730
83	Call Waiting for Intercom Calls set/cancel	*731	731
84	Call Waiting for Trunk Calls (including doorphone calls, calls for an incoming call distribution group) set/cancel	*732	732
85	Executive Busy Override Deny set/cancel	*733	733
86	Not Ready Mode/Ready Mode	*735	735
87	Log-in/Log-out	*736	736
88	Incoming Call Queue Monitor	*739	739
89	Hot Line programme/set/cancel	*740	740
90	Absent Message set/cancel	*750	750
91	BGM set/cancel	*751	751

2.3 System Data Control

Location No.	Feature	Default	
		Pattern 1 (with ✕)	Pattern 2 (without ✕)
92	Reserved	—	—
93	Timed Reminder confirm/set /cancel	✕760	760
94-96	Reserved	—	—
97	Extension Lock set/cancel	✕77	77
98	Time Service Switch	✕780	780
99	Reserved	—	—
100	Remote Extension Lock off	✕782	782
101	Remote Extension Lock on	✕783	783
102	Personal Programme Clear	✕790	790
103	Personal Password set/cancel	✕799	799
104	Dial Information (CTI)	None	None
105-140	Reserved	—	—
141-156	Other PBX Extension Number (TIE) -1-16	None	None
157-170	Reserved	—	—
171-250	Quick Dialling 1-80	None	None

2. Flexible Numbering (available busy, DND, or ringback tone is heard)

Feature numbers which are available while busy, DND, or ringback tone is heard can be customised for easy use. The numbers should be one digit ("0 through 9" , "✕" or "#") and must not conflict. For default, refer to the following table:

[Flexible Numbering Table (available while busy, DND, or ringback tone is heard)]

Feature	Default
Call Waiting/DND Override	1 or 2*
Executive Busy Override	3
Message Waiting set	4
Call Monitor	5
Automatic Callback Busy/CCBS	6
Alternate Calling—Ring/Voice	✕

*: To use Call Waiting/DND Override, both "1" and "2" are available by default.

3. Fixed Numbering (available while dialling or talking)

The features which are available while dialling or talking have fixed numbers as shown in

the following table:

[Fixed Numbering Table (available while dialling or talking)]

Feature	Fixed Numbering
Pulse to Tone Conversion	*
Conference	3
Door Open	5

Conditions

- The PBX has default for numbers.
- The following are examples of feature number conflicts: 1 and 11, 0 and 00, 2 and 21, 10 and 101, 32 and 321, etc.
- **Feature number + Additional number (Parameter)**
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".
- If a feature number includes "*" or "#", rotary SLT users cannot use it.

2.3.6 Floating Extension

Description

Virtual extension numbers can be assigned to resources to make them appear as extensions. These numbers are defined as floating extension numbers and can be assigned as a destination of incoming calls etc.

This feature is also known as Floating Station.

Resource		Description
Device	External Pager	Used as the destination for TAFAS feature (→ External Pager Floating Extension Number).
	Outgoing Message (OGM)	Used to send messages for DISA feature (→ Outgoing Message (OGM) Floating Extension Number).
	Analogue Remote Maintenance	Used to access the PC programming mode through a modem on a personal computer (→ Modem Floating Extension Number).
	ISDN Remote Maintenance	Used to access the PC programming mode through the ISDN interface on a personal computer (→ ISDN Remote Floating Extension Number).
Group	Incoming Call Distribution Group	Used to call an incoming call distribution group (→ Incoming Call Distribution Group Floating Extension Number).
	DWX Ring Group	Used to call a DWX ring group.
	VM (DPT) Group	Used to call a VM (DPT) group (→ VM Group Floating Extension Number).
	VM (DTMF) Group	Used to call a VM (DTMF) group.

Conditions

- It is possible to give names to floating extension numbers (→ Incoming Call Distribution Group Name, Outgoing Message (OGM) Name).

2.3.7 Software Upgrading

Description

It is possible to upload software from a personal computer to the PBX to upgrade the following:

Data File	Storing Area
Main Central Processing (MPR) software data	Operating system data area on the MPR Card
Default data of system programming for each country/area	Country/area data area on the MPR Card
Language data for PT display/SMDR	Each language data area on the MPR Card. There are two types: Type 1: PT display and SMDR data, except for PT system programming (five languages max.) Type 2: PT system programming data (one language max.)
LPR (software on a slot card) software data	Flash ROM on the slot card (e.g., BRI8)
Cell Station (CS) software data	Flash ROM on the CS

Conditions

The software version of the MPR Card can be confirmed through system programming (→ Main Processor Software Reference).

2.4 Fault Recovery/Diagnostics

2.4.1 Power Failure Transfer

Description

If a power failure should happen, or the PBX is in an off-line condition, specific SLTs are automatically connected to specific trunks (**Auxiliary Connections**).

Conditions

- Auxiliary Connections between Trunk Cards and Extension Cards should be done as per system programming so that conversation is maintained when the power is restored or the MPR is recovering.
- The Trunk Cards and Extension Cards and the number of ports which can be used for Auxiliary Connections are as follows:
Trunk Cards: LCOT16 (two ports), LCOT8 (one port), BRI8 (one port) and BRI4 (one port)
Extension Cards: MSLC16 (two ports), SLC16 (two ports), DHLC8 (one port) and SLC8 (one port).
- The PBX changes the current connections to Auxiliary Connections automatically when the power supply fails. All other conversations except for the Auxiliary Connections are disconnected during a power failure.
- **DC Power Source**
If the DC power is available from the backup batteries even if the AC power fails, the PBX will keep the current connections, not the Auxiliary Connections.
- Only the trunk conversations can operate during a power failure. All other features do not work.

2.4.2 Power Failure Restart

Description

When turning the electricity back on, the PBX restarts the stored data automatically. Before restarting, the PBX can record the event in the error log.

Conditions

- In the event of a power failure, PBX memory is protected by a factory-provided lithium battery. There is no memory loss except the memories of Automatic Callback Busy (Camp-On) and Call Park.

2.4.3 Local Alarm Information

Description

When a PBX error occurs and the PBX detects it, the System Alarm button light on the PT of an extension assigned as the manager turns on red. Pressing the button will show the error number on the display. If multiple errors occur, the error number will be displayed in order of highest priority to lowest and then the date.

[Error List (Priority Order)]

Error Number	Error Cause	Display indication	Priority	Alarm Light	Cabinet Light
001	Calendar IC failure	ALARM 001-x000	1	A	ON
002	DC power down	ALARM 002-x000	1	A	ON
003	Cabinet fan alarm	ALARM 003-x000	1	B	ON
004	Basic shelf heat alarm	ALARM 004-x000	1	B	ON
005	TSW clock down	ALARM 005-x000	1	A	ON
006	CPU RAM battery alarm	ALARM 006-x000	1	A	ON
007	AC power down	ALARM 007-x000	2	A	ON
008	Option Card failure	ALARM 008-xyy0	2	B	ON
009	Card disconnect	ALARM 009-xyy0	2	A	ON
010	Digital trunk AIS reception	ALARM 010-xyy0	2	C	—
011	Digital trunk frame failure	ALARM 011-xyy0	2	C	—
012	Digital trunk RAI reception	ALARM 012-xyy0	2	C	—
013	Digital trunk out of synchronisation	ALARM 013-xyy0	2	C	—
014	Option Card RAM failure	ALARM 014-xyy0	2	B	ON
015	Option Card ROM failure	ALARM 015-xyy0	2	B	ON
016	Modem failure	ALARM 016-xyye	2	B	ON
017	DISA message is lost	ALARM 017-xyy0	2	C	—
018	CS over load (Forced OUS)	ALARM 018-xyy0	2	C	—
019	Printer is not connected	ALARM 019-0000	2	A	ON

[Explanation]

- **Display Indication**
x: Cabinet Number (1-4)
yy: Slot Number (01-10)
e: Error Number (Depends on the error cause)
- **Priority**
1: Major Error
2: Minor Error
- **Alarm Light**
A: The System Alarm button light on the PT turns on red.
B: The System Alarm button light on the PT turns on red and the alarm information is displayed automatically.
C: The alarm information will only be recorded on SMDR and error log.

Conditions

- **System Alarm Button**
A flexible button can be customised as the System Alarm button.
- If a manager extension uses a PC Console or PC Phone, the alarm information will be displayed on the PC.
- If a manager extension uses a PC Console or PC Phone, the alarm information will be sent to the preprogrammed party via the PC Console or PC Phone. The PC Console and PC Phone use e-mail to send the information.
- The alarm information will be recorded on the SMDR.

Section 3

Programming Instructions

3.1 Introduction

These Programming Instructions are designed to serve as an overall system programming reference for the Panasonic Hybrid IP-PBX. The PBX has a default setting. You can change the default to meet your requirements. System Programming controls the system features described in this Feature Guide. It allows the PBX to be customised to the requirements. Only one person can programme at a time. Another person trying to enter programming mode will be rejected.

Ways to Programme

There are two programming methods:

- **PC (Personal Computer) programming**
PC programming is described in Section 3.2 PC Programming
- **PT (Proprietary Telephone) programming**
PT programming is described in Section 3.3 PT Programming. The extension user can programme by entering 3 digits programming numbers from the PT.

Password Security

A password is required to perform programming for security purposes. Do not disclose the password. This will avoid unauthorised access and possible fraudulent use of the PBX.

Warning to the Dealer regarding the system password

1. Please inform the customer of the importance of the password and the possible dangers.
2. Please maintain the secrecy of the password. This will avoid unauthorised access and possible fraudulent use of the PBX.
3. Please change the password periodically.
4. We strongly recommend that a password of 10 digits is used for maximum protection against hackers.
5. If the system password is forgotten you can examine the backup of the system programming.
 - If you have a backup system data, you can find the password by loading the backup system data onto the PC and check the password using the programming tool.
 - If you do not have a backup system data, you have to set the PBX to the factory default and reprogramme it.

3.2 PC Programming

PC Programming Software Installation

To programme and administer the KX-TDA100/200 by PC (Personal Computer), you need to install the PC programming software onto the computer from KX-TDA100/200 CD-ROM. The PC programming software starts the programme using the drive where you installed the software automatically.

System Requirements:

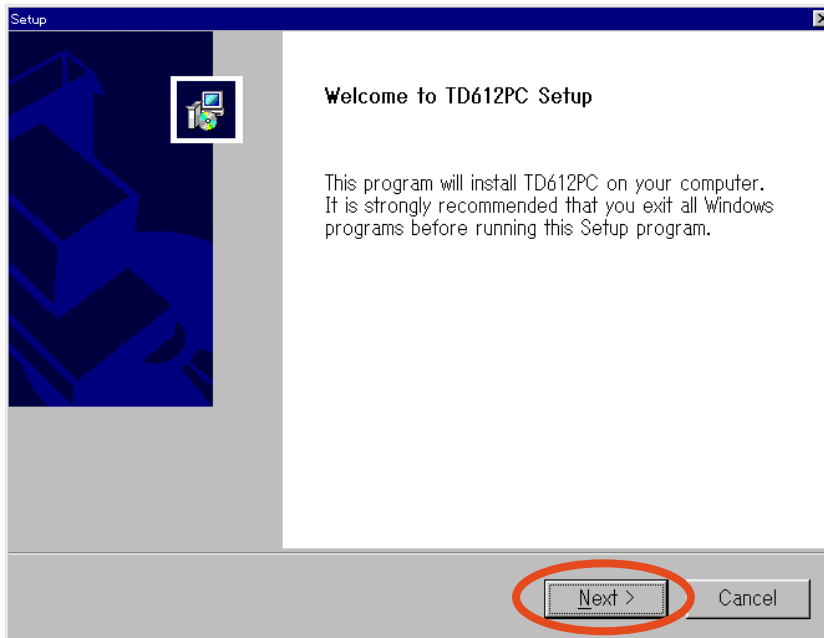
- Microsoft® Windows® 98, Windows NT® 4.0, 98SE, ME, 2000 or XP
- Internet Explorer 5.0 or later
- Minimum requirements
(for installing TDA100/200 PC programming software only)
CPU: Pentium® 133 MHz
RAM: 64 MB
HDD: 20 MB
- Recommendation of the ISDN cards for the remote maintenance
FRITZ!Card PCMCIA/AVM
FRITZ!Card PCI/AVM
FRITZ!Card classic/AVM
ELSA MicroLink™ ISDN USB/ELSA
Xircom® CreditCard™ ISDN Adapter/Intel®

Trademarks:

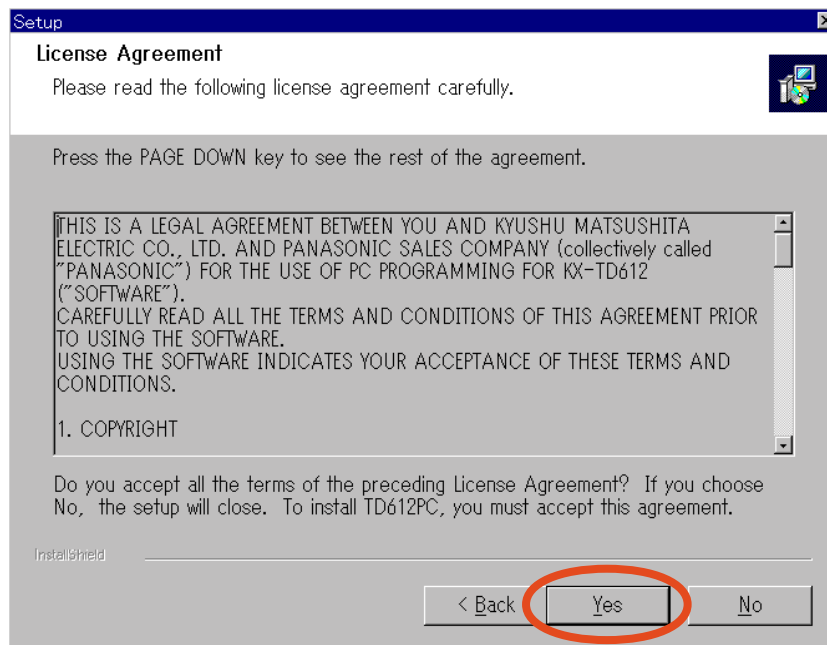
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Installation Procedure:

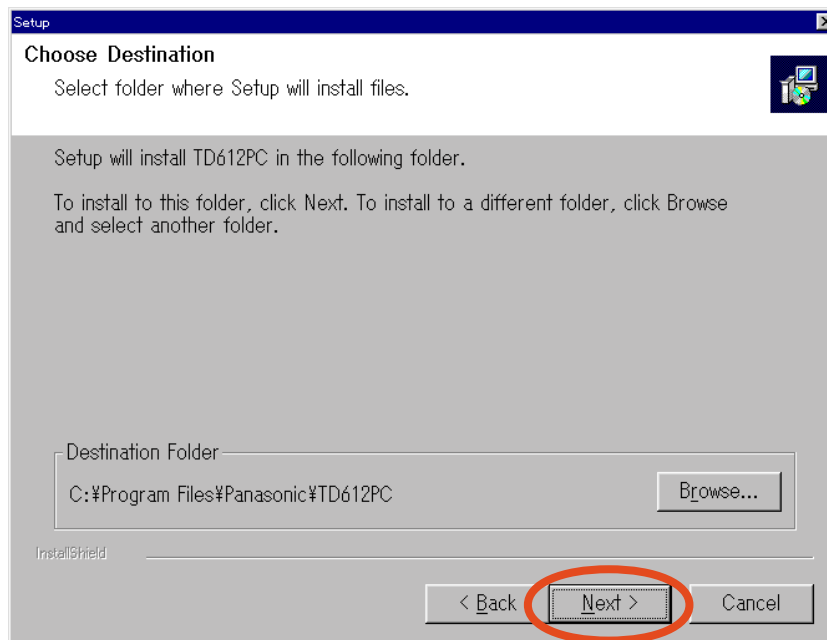
1. Start Windows.
2. After exiting all Windows programmes on your computer, insert the KX-TDA100/200 CD-ROM (included) into the CD-ROM drive. The KX-TDA100/200 CD-ROM will auto-run.
3. Click **[Install PC Programming Software]** on the initial screen.
4. Click **[Next]**.



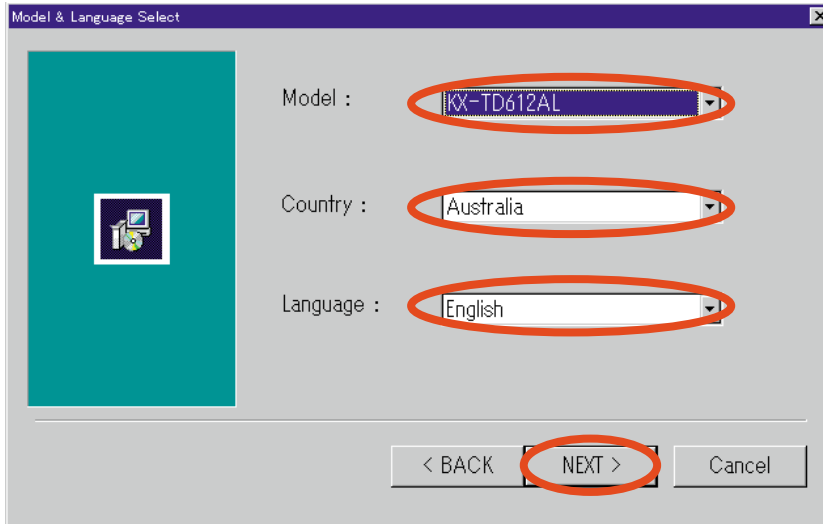
5. Read the license agreement. Click **[Yes]** if you agree with the terms. If you choose **[No]**, you cannot install the TDA100/200 PC programming software.



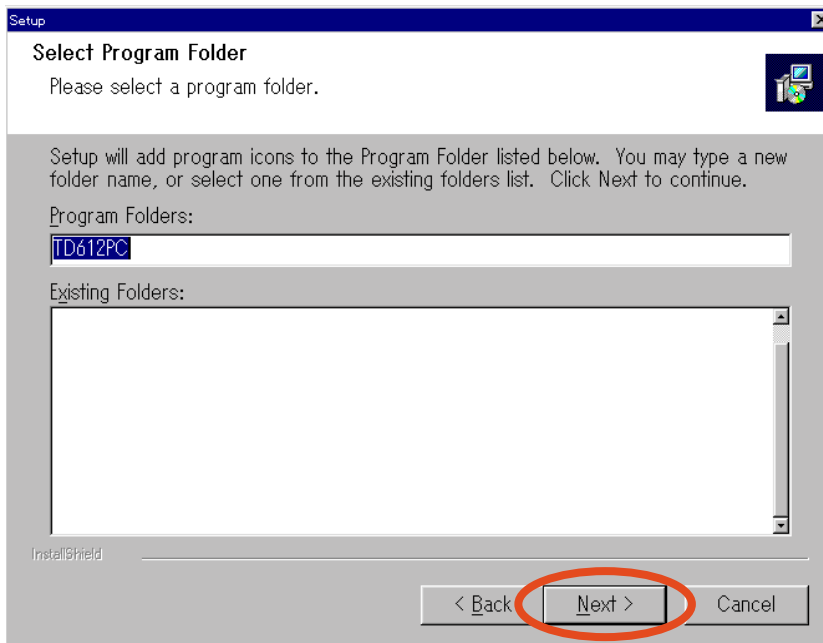
6. Select a folder to store the program. (You may accept the suggested folder.) Click **[Next]**.



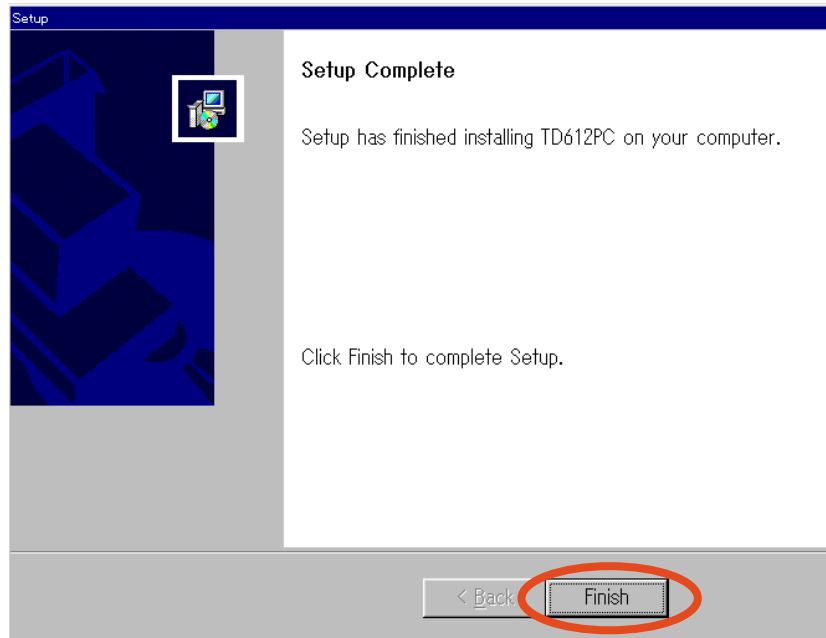
7. Choose the model, the country/area and the language, and then click **[Next]**.



8. Select a start menu folder where the software will be held. (You can accept the suggested folder.) Click **[Next]** to start installing.

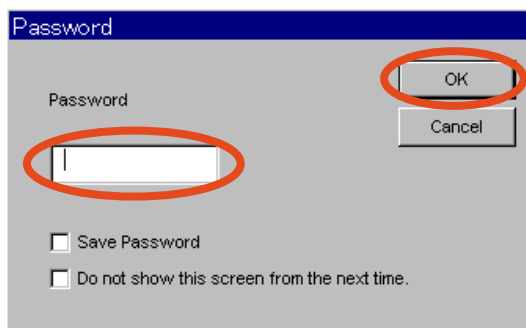


9. Click **[Finish]** to complete the installation.

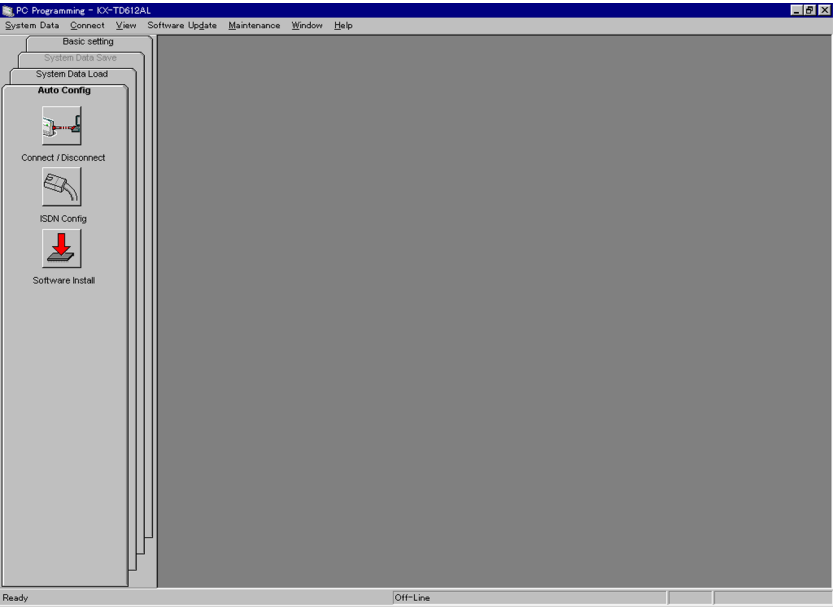


10. Run the PC programming software.

11. Enter the password to run the program in fully featured mode (**TDA100/200**), and click **[OK]**.



12. The initial screen is displayed.



3.2.1 Configuration

Configuration–Slot

Parameter	Description	Value Range	Note
Slot	Refers to the slot no. (Display only)	PBX No.–Slot No.1–11	
Card Type	Specifies the type of card installed in each slot of each cabinet.	None/DHLC8/DLC16/DLC8/MSLC16/SLC8/SLC16/CSIF8/LCOT16/LCOT8/BRI8/BRI4/PRI23/PRI30/T1/E1/E&M8/IP-GW4/OPB3/CTI-LINK	None (No cards)
			DHLC8 (8-Port Digital Hybrid Extension Card)
			DLC16 (16-Port Digital Extension Card)
			DLC8 (8-Port Digital Extension Card)
			MSLC16 (16-Port Single Line Telephone Extension with Message Lamp Card)
			SLC8 (8-Port Single Line Telephone Extension Card)
			SLC16 (16-Port Single Line Telephone Extension Card)
			CSIF8 (8-Port Cell Station Interface Card)
			LCOT16 (16-Port Analogue Trunk Card)
			LCOT8 (8-Port Analogue Trunk Card)
			BRI8 (8-Port BRI Card)
			BRI4 (4-Port BRI Card)
			PRI23 (PRI Card)
			PRI30 (PRI Card)
			T1 (T-1 Trunk Card)
			E1 (E-1 Trunk Card)
			E&M8 (8-Port E & M Trunk Card)
			IP-GW4 (4-Channel VoIP Gateway Card)
			OPB3 (Optional 3-Slot Base Card)
			CTI-LINK (CTI Link Card)

3.2 PC Programming

Parameter	Description	Value Range	Note	
Status	Refers to the status of the card. (Display only)	INS/OUS/Fault/ Fault-OVER/ Fault-DIF/Fault- UNACC/ Preinstall/Idle	INS	The card is in service.
			OUS	The card is out of service.
			Fault	Card was pulled out from the slot or the card is not communicating with the system.
			Fault-OVER	The number of trunk and/or extension ports exceeds the system capacity.
			Fault-DIF	The card is different from the card specified in programming.
			Fault-UNACC	The card inserted in a slot where the resources are already in use.
			Preinstall	There is no card fitted but the slot has been preprogrammed to accept a specific card.
			Idle	There is no card fitted and the slot has not been preprogrammed with a card type.
Command	Specifies the operating card command.	Delete/INS/ OUS/Preinstall	Delete	Card has been removed from the system.
			INS	It performs Automatic Configuration of the card, if the slot is in the "OUS" condition.
			OUS	Operation is suspended. (If the port is on-hook, the port is disabled. Otherwise the system will wait until the port becomes idle.)
			Preinstall	There is no card fitted but the slot has been preprogrammed to accept a specific card.

Configuration–Slot–OPB3

Parameter	Description	Value Range	Note	
Slot	Refers to the slot no. (Display only)	PBX No.–Slot No. (OPB3 designates the number.)		
Location	Refers to the optional port position. (Display only)	1–3		
Feature Card Type	Specifies the option card type.	None/MSG4/DPH4/DPH2/EIO4/ECHO16	None (No cards)	
			MSG4 (4-Channel Message Card)	
			DPH4 (4-Port Doorphone Card)	
			DPH2 (2-Port Doorphone Card)	
			EIO4 (4-Port External Input/Output Card)	
			ECHO16 (16-Channel Echo Canceller Card)	
Status	Refers to the status of the card. (Display only)	INS/OUS/Fault/ Fault-OVER/ Fault-DIF	INS	The card is in service.
			OUS	The card is out of service.
			Fault	Card was pulled out from the slot or the card is not communicating with the system.
			Fault-OVER	The number of trunk and/or extension ports exceeds the system capacity.
			Fault-DIF	The card is different from the card specified in programming.
Command	Specifies the operating card command.	Blank/Delete/ INS/OUS	Delete	Card has been removed from the system.
			INS	It performs Automatic Configuration of the card, if the slot is in the "OUS" condition.
			OUS	Operation is suspended. (If the port is on-hook, the port is disabled. Otherwise the system will wait until the port becomes idle.)
Doorphone No. (1–4)				
Port	Refers to the port no. (Display only)	Automatic setting/1–16		

Configuration–Slot–LCOT

Common

Parameter	Description	Value Range
Slot	Specifies the slot no.	PBX No.–Slot No. (Card type is only LCOT.)
Outgoing Guard Time	Specifies the length of outgoing guard time after receiving Reverse/Alert signal.	3–6 s
First Dial Time (Trunk)	Specifies the minimum waiting time after seizing the trunk line before sending dialed digits.	0.5–8.0 s
Tone Feed Back	Assigns whether to turn on or off the tone feedback.	Yes/No
Ring Detection		
Ring Start Detection Time	Specifies the minimum duration for the starting ring detection.	24–1200 ms
Ring Off Detection Time	Specifies the minimum duration for the finishing ring detection.	1.0–15.0 s
Pulse/DTMF (Dual Tone Multi-Frequency) Dialling		
DTMF Inter-digit Pause Time	Specifies the DTMF Inter-digit Pause Time.	64–304 ms
Pulse Inter-digit Pause Time	Selects the Pulse Inter-digit Pause Time.	630/830/1030 ms
Low Speed Pulse Dialling		
Pulse % Break	Selects the % break for pulse digits.	Other/60/67 %
Break Width	Specifies the width of Break signal.	24–80 ms
Make Width	Specifies the width of Make signal.	12–60 ms
High Speed Pulse Dialling		
Pulse % Break	Selects the % break for pulse digits.	Other/60/67 %
Break Width	Specifies the width of Break signal.	16–72 ms
Make Width	Specifies the width of Make signal.	12–60 ms
Pulse Type	Selects the pulse dialling signal type.	Normal/Sweden/ New Zealand

Parameter	Description	Value Range
Caller ID		
Caller ID Signal Type	Selects Caller ID signal type.	FSK (Frequency Shift Keying)/ FSK (with Visual Caller ID)/DTMF
Max. Caller ID	Selects the maximum number of time to receive Caller ID.	0/1/2/3
Caller ID (FSK) Carrier Detection	Assigns the detection of the carrier when receiving Caller ID.	Enable/Disable
Caller ID (FSK) END Detection	Selects the recognition of reception of Caller ID end.	Length + Time/Time
Caller ID (FSK) Header Examination	Assigns to check Caller ID header when receiving Caller ID.	Enable/Disable
Caller ID (FSK) Detection Start Time	Specifies the length of time after receiving a call before detecting Caller ID.	None/80–1200 ms
Caller ID (FSK) Detection Time	Specifies the length of time while detecting Caller ID.	1040–4000 ms
Caller ID (DTMF) preamble	Selects the Caller ID preamble.	None/*/#/A/B/C/D
Caller ID (DTMF) Information Code	Selects Caller ID (DTMF) information code.	None/*/#/A/B/C/D
Caller ID (DTMF) End Code	Selects the code signalling end of Caller ID.	None/*/#/A/B/C/D
Caller ID (DTMF) Information Code—Private	Specifies Caller ID (DTMF) Information Code—Private/Out of Area/Technical Reason/Unknown Number/Restricted Number.	Max. 16 digits
Caller ID (DTMF) Information Code—Out of Area		
Caller ID (DTMF) Information Code—Technical Reason		
Caller ID (DTMF) Information Code—Unknown Number		
Caller ID (DTMF) Information Code—Restricted Number		
Information Header	Selects the third information block in the header.	DDN/Caller ID

3.2 PC Programming

Parameter	Description	Value Range
Dial Tone		
Dial Tone Detection Time	Specifies the length of time to detect the dial tone.	0.5–20.0 s
Dial Tone Waiting Time	Specifies the length of time that the PBX should wait for dial tone to be presented.	400–2000 ms
Dial Tone Allowable Noise Duration	Specifies the maximum length of allowed noise.	8–200 ms
Pay Tone		
Pay Tone Single Type	Selects the frequency of pay tone.	12/16 KHz
Pay Tone Gain	Specifies the pay tone gain.	0–31 dB
Pay Tone Pulse—Min.	Specifies the minimum pulse width of pay tone.	8–2000 ms
Pay Tone Pulse—Max.	Specifies the maximum pulse width of pay tone.	None/8–2000 ms
Pay Tone Pulse—Interval	Specifies the minimum duration between pay tone signals.	8–2000 ms
Sending Flash on call completion	Assigns whether to send Flash on call completion and a demand for pay tone.	Enable/Disable

Port

Parameter	Description	Value Range
Slot	Specifies the slot no. (Display only)	PBX No.–Slot No. (LCOT designates the number).
Port	Refers to the port no. (Display only)	
Trunk Connection	Refers to the status of port connection. (Display only) Note To confirm the Trunk connection and programming using the PT, dial [×] [3] [7] + Trunk Access number (3 digits). You will hear a dial tone if it is available and connected.	INS/OUS
Command	Specifies the operating card command.	INS/OUS
Trunk Dialling Mode	Selects the trunk dialling mode.	DTMF/Pulse
Gain Adjustment	Selects the gain level applied to the trunk.	1–12
CPC Detection		
Outgoing	Specifies the length of time to detect outgoing CPC signal.	None/6.5/8–896 ms
Incoming	Specifies the length of time to detect incoming CPC signal.	None/6.5/8–896 ms
DTMF Duration	Selects the duration of the DTMF signals sent to the line.	80/160 ms
Pulse Speed	Selects the pulse speed.	Low/High
Reverse Detection	Selects when to detect polarity reversal.	Disable/Outgoing/ Both Incoming and Outgoing
Caller ID Detection	Assigns whether to detect the Caller ID.	Enable/Disable
Pay Tone Detection	Assigns whether to detect the pay tone.	Enable/Disable
Dial Tone Detection	Assigns whether to detect the dial tone.	Enable/Disable
Pause Time	Selects the length of Pause Time.	1.5/2.5/3.5/4.5 s
Flash Time	Specifies the length of Flash Time.	None/16 × n (n=1–80) ms
Disconnect Time	Selects the maximum length of waiting time after releasing the trunk line before getting it again.	0.5/1.5/2.0/4.0/12.0 s

Configuration–Slot–BRI

Common

Parameter	Description	Value Range
Slot	Specifies the slot no.	PBX No.–Slot No. (Card type is only BRI.)
BRI ISDN Time	Specifies the length of time for the ISDN protocol.	Please refer to the next Protocol Timer.

Protocol Timer

Parameter		Description	Value Range
ISDN line/ QSIG Master/ QSIG Slave	T200	Specifies the maximum waiting time after sending the L2 command to the ISDN, before expecting the reply to it.	*0–600 s
	T202	Specifies the maximum waiting time after resending the TEI request to the ISDN, before expecting the reply to it.	*0–600 s
	T203	Specifies the maximum time to detect no communication status of L2.	*0–600 s
	T301	Specifies the maximum waiting time after making a call to the ISDN, before expecting the reply to it.	*0–18000 s
	T302	Specifies the maximum time allowed between each digit on an incoming call. Applies to the overlap dialling.	*0–600 s
	T303	Specifies the maximum waiting time after sending the Setup message to the ISDN, before expecting the reply to it.	*0–600 s
	T304	Specifies the maximum time allowed between each digit on an outgoing call. Applies to the overlap dialling.	*0–3000 s
	T305	Specifies the maximum waiting time after sending the DISC message to the ISDN, before expecting the reply to it.	*0–3000 s

Parameter		Description	Value Range
ISDN line/ QSIG Master/ QSIG Slave	T308	Specifies the maximum waiting time after sending the Release message to the ISDN, before expecting the reply to it.	*0–600 s
	T309	Specifies the maximum time that the system tries to disconnect the data link, before saving the call.	*0–3000 s
	T310	Specifies the maximum waiting time after receiving the Incoming Call Proceeding message, before expecting the continuance message.	*0–3000 s
	T313	Specifies the maximum waiting time after sending the Connect message, before expecting the reply to it.	*0–600 s
	T316	Specifies the maximum waiting time after sending the Restart message, before expecting the reply to it.	*0–3000 s
	T318	Specifies the maximum waiting time after sending the Resume message, before expecting the reply to it.	*0–600 s
	T319	Specifies the maximum waiting time after sending the Suspend message, before expecting the reply to it.	*0–600 s
	T322	Specifies the maximum waiting time after sending the Status enquiry message, before receiving the reply to it.	*0–600 s
	T3D3	Specifies the time that the system tries to establish L2 in "Permanent" mode.	*0–3000 s
	T3D9	Specifies the time that the system tries to disconnect L2 in "Call by Call" mode.	*0–3000 s

Parameter		Description	Value Range
ISDN Extension	T200	Specifies the maximum waiting time after sending the L2 command to the ISDN, before expecting the reply to it.	*0–600 s
	T201	Specifies the maximum waiting time after resending the TEI check request to the ISDN, before expecting the reply to it.	*0–600 s
	T203	Specifies the maximum time to detect no communication status of L2.	*0–600 s
	T301	Specifies the maximum waiting time after making a call to the ISDN, before receiving the reply to it.	*0–18000 s
	T302	Specifies the maximum time allowed between each digit on an incoming call. Applies to the overlap sending.	*0–600 s
	T303	Specifies the maximum waiting time after sending the Setup message to the ISDN, before receiving the reply to it.	*0–600 s
	T304	Specifies the maximum time allowed between each digit on an outgoing call. Applies to the overlap dialling.	*0–3000 s
	T305	Specifies the maximum waiting time after sending the DISC message to the ISDN, before expecting the reply to it.	*0–3000 s
	T306	Specifies the maximum waiting time after sending the DISC message to the ISDN, before expecting the reply to it. This setting is used when inband tone is supplied.	*0–3000 s
	T307	Specifies the maximum waiting time after Suspending, before restarting.	*0–6000 s
	T308	Specifies the maximum waiting time after sending the Release message to the ISDN, before expecting the reply to it.	*0–600 s
	T309	Specifies the maximum time that the system tries to disconnect the data link, before saving the call.	*0–3000 s

Parameter		Description	Value Range
ISDN Extension	T310	Specifies the maximum waiting time after receiving the Incoming Call Proceeding message, before expecting the continuance message.	*0–3000 s
	T312	Specifies the maximum waiting time after sending the Setup message to the ISDN, before expecting the reply to it.	*0–600 s
	T316	Specifies the maximum waiting time after sending the Restart message, before expecting the reply to it.	*0–3000 s
	T320	Specifies the maximum time that the system waits for packet protocol.	*0–3000 s
	T322	Specifies the maximum waiting time after sending the Status enquiry message, before expecting the reply to it.	*0–600 s
	T3D3	Specifies the maximum time that the system tries to establish L2 in "Permanent" mode.	*0–3000 s
	T3D9	Specifies the maximum time that the system tries to disconnect L2 in "Call by Call" mode.	*0–3000 s

* 0 s setting means that the system timer suspended.

Port

Parameter	Description	Value Range
Slot	Refers to the slot no. (Display only)	PBX No.–Slot No. (BRI designates the number.)
Port	Refers to the port no. (Display only)	
Port Type	Selects the port type.	Trunk line/Extn./ QSIG-Master/ QSIG-Slave
Connection	Refers to the status of the port connection. (Display only)	INS/OUS
Command	Specifies the operating card command.	INS/OUS
Main		
LLC Information	Assigns whether the LLC (Low Level-Compatibility) Information will be sent to the network when the ISDN Bearer Mode of an outgoing call is "Speech" mode.	Enable/Disable
Sending Status Message	Selects whether to send Status Message to the ISDN.	No Transmission/ When error detection (Mandatory)/ When error detection (Option/Mandatory)
Receiving Status Message	Selects the treatment of the call when the Status Message provided by ISDN does not match the actual status of the call.	Ignore/ Forced Disconnect/ Disconnect
DTMF Duration	Selects the duration of the DTMF signals sent to the ISDN.	80/160 ms
DTMF Inter-digit Pause	Specifies the DTMF Inter-digit Pause Time.	$64 + 16 \times n$ (n=0–11) ms

Parameter	Description	Value Range
ISDN Trunk		
Trunk Number B1	Refers to the trunk number. (Display only)	1–512 (Auto-setting)
Trunk Number B2		
Subscriber Number	Specifies the trunk access number.	Max. 16 digits
Ringback Tone Service	Assigns the ringback tone service. Note It is not available when Channel Type is L-CO or G-CO.	Enable/Disable
ISDN Outgoing Dial Type	Selects ISDN outgoing dial type.	Overlap/En bloc
PBX Ringback Tone	Assigns whether the system sends ringback tone to the extension user	Enable/Disable
ISDN Centrex	Assigns whether the system sends an ISDN Flash signal to the ISDN while pressing the FLASH or EFA button.	Enable/Disable
CCBS (Completion of Calls to Busy Subscriber)	Assigns whether the system accepts an ISDN Flash signal.	Enable/Disable
BRI Data Link (P-MP) Mode	Selects the data link mode on ISDN port basis.	1-link/2-link
ISDN Extension		
Extension Number	Specifies the extension number.	Extension Number
ISDN TE Power	Assigns whether the system supplies an power to TE (Terminal Equipment).	Enable/Disable
MSN Mode (ISDN MSN 1 or 2 digits)	Selects the ring mode for MSN number last 1 digit or 2 digits.	Ring All Extensions for MSN/ Ring an Extension for MSN
ISDN Extension Progress Tone	Assigns whether the system sends the call progress tone to the ISDN extension.	Enable/Disable

Parameter	Description	Value Range
Network Configuration		
Network Type	Selects ISDN network type.	0: NTT INS NET/ 1: Europe (Germany)/ 2: Europe (UK 1)/ 3: Australia/ 4: New Zealand/ 5: Europe (Netherlands)/ 6: Swiss/7: Swiss Net 3/ 8: Czech/ 9: North America/ 10: Spain/ 11: Europe (Italy)/ 12: Mexico/ 13: South Africa/ 14: France/15: Greece/ 16: Portugal/17: Austria/ 18: Sweden/19: Finland/ 20: Norway/21: Denmark/ 22: Belgium/23: Bulgaria/ 24: Rumania/25: Russia/ 26: Europe (UK)/ 27: Europe (Australia)/ 28–37/ 38: Luxembourg/ 39: Hong Kong (M_law)/ 40: Hong Kong (A_law)/ 41: Taiwan (M_law)/ 42: Singapore/ 43: Spain 2nd carrier/ 44: Slovakia/ 45: Euro (France)/ 46–50/ 51: USA National 1/ 52: USA National 2/ 53: USA National 3/ 54: USA AT&T 5ESS/ 55: USA Northern Telecom/ 56: USA AT&T Custom
L1 Mode	Selects L1 mode.	Permanent/Call by Call
L2 Mode	Selects L2 mode.	Permanent/Call by Call
Access Mode	Selects the access mode.	P-P/P-MP
TEI Mode	Selects the TEI (Terminal Endpoint Identifier) mode.	Automatic/Fix 0–63

Parameter	Description	Value Range
Network Numbering Plan (Not available if Port Type is Extn.)		
Trunk Attribute	Selects the trunk attribute.	Public/Private/VPN Refer to ^{*1} .
Numbering Plan ID for Outgoing		
Public	Selects the Numbering Plan ID applied to outgoing Trunk calls via ISDN Public Switched Telephone Network.	Unknown/ ISDN-Telephony/ National Standard/ Private
Private	Selects the Numbering Plan ID applied to outgoing Trunk calls via ISDN Private Network.	Unknown/ ISDN-Telephony/ National Standard/ Private
Type of Number for Outgoing		
Public	Selects the Type of Number applied to the outgoing Trunk calls via ISDN Public Switched Telephone Network.	Unknown/ International/National/ Network/Subscriber
Private	Selects the Type of Number applied to the outgoing Trunk calls via ISDN Private Network.	Unknown/ International/National/ Network/Subscriber
Numbering Plan ID for Incoming		
Public	Selects the Numbering Plan ID applied to the Incoming calls via ISDN Public Switched Telephone Network.	Unknown/ ISDN-Telephony/ National Standard/ Private
Private	Selects the Numbering Plan ID applied to the Incoming calls via ISDN Private Network.	Unknown/ ISDN-Telephony/ National Standard/ Private
Type of Number for Incoming		
Public	Selects the Type of Number applied to the Incoming calls via ISDN Public Switched Telephone Network.	Unknown/ International/National/ Network/Subscriber
Private	Selects the Type of Number applied to the Incoming calls via ISDN Private Network.	Unknown/ International/National/ Network/Subscriber

^{*1} Value Range and Default of Trunk Attribute in Port Type.

Port type	Public	Private	VPN
Trunk line	Default	X	Option
Extn.	X	X	X
QSIG-Master	X	Default	X
QSIG-Slave	X	Default	X

X: Not possible

Parameter	Description	Value Range
Supplementary Service		
CLIP	Assigns Calling Line Identification Presentation (CLIP).	Yes/No
COLP	Assigns Connected Line Identification Presentation (COLP).	
CLIR	Assigns CLIR (Calling Line Identification Restriction) feature.	
COLR	Assigns COLR (Connected Line Identification Restriction).	
CNIP	Assigns Calling Name Identification Presentation (CNIP).	
CNOP	Assigns Connected Name Identification Presentation (CNOP).	
CNIR	Assigns Calling Name Identification Restriction (CNIR).	
CNOR	Assigns Connected Name Identification Restriction (CNOR).	
CFB	Assigns CFB (Call Forwarding Busy).	
CFNR	Assigns CFNR (Call Forwarding No Reply).	
CFU	Assigns CFU (Call Forwarding Unconditional).	
CD	Assigns CD (Call Deflection).	
CT	Assigns CT (Call Transfer).	
CCBS	Assigns Completion of Call to Busy Subscriber (CCBS).	
AOC-S	Assigns AOC-S (Advice of Charge At Call Setup Time).	
AOC-D	Assigns AOC-D (Advice of Charge During Call).	
AOC-E	Assigns AOC-E (Advice of Charge At End of Call).	
MWI	Assigns Message Waiting Indication.	
TC	Assigns Transit Counter.	

Configuration–Slot–PRI

Common

Parameter	Description	Value Range
Slot	Specifies the slot no.	PBX No.–Slot No. (Card type is only PRI.)

Protocol Timer

Parameter		Description	Value Range
ISDN line/ QSIG Master/ QSIG Slave	T200	Specifies the maximum waiting time after sending the L2 command to the ISDN, before expecting the reply to it.	*0–600 s
	T202	Specifies the maximum waiting time after resending the TEI demanding to the ISDN, before expecting the reply to it.	*0–600 s
	T203	Specifies the time to detect no communication status of L2.	*0–600 s
	T301	Specifies the maximum waiting time after making a call to the ISDN, before receiving the reply to it.	*0–18000 s
	T302	Specifies the maximum time allowed between each digit on an incoming call. Applies to the overlap receiving.	*0–600 s
	T303	Specifies the maximum waiting time after sending the SETUP message to the ISDN, before expecting the reply to it.	*0–600 s
	T304	Specifies the maximum time allowed between each digit on an outgoing call. Applies to the overlap sending.	*0–3000 s

Parameter		Description	Value Range
ISDN line/ QSIG Master/ QSIG Slave	T305	Specifies the maximum waiting time after sending the DISC message to the ISDN, before expecting the reply to it.	*0–3000 s
	T308	Specifies the maximum waiting time after receiving the Release message to the ISDN, before expecting the reply to it.	*0–600 s
	T309	Specifies the time that the system tries to disconnect the data link, before saving the call.	*0–3000 s
	T310	Specifies the maximum waiting time after receiving the Incoming Call Proceeding message, before expecting the continuance message.	*0–3000 s
	T313	Specifies the maximum waiting time after sending the Connect message, before expecting the reply to it.	*0–600 s
	T316	Specifies the maximum waiting time after sending the Restart message, before receiving the reply to it.	*0–3000 s
	T318	Specifies the maximum waiting time after sending the Resume message, before expecting the reply to it.	*0–600 s
	T319	Specifies the maximum waiting time after sending the Suspend message, before expecting the reply to it.	*0–600 s
	T322	Specifies the maximum waiting time after sending the Status enquiry message, before expecting the reply to it.	*0–600 s
	T3D3	Specifies the time that the system tries to establish L2 in "Permanent" mode.	*0–3000 s
	T3D9	Specifies the time that the system tries to disconnect L2 in "Call by Call" mode.	*0–3000 s

Parameter		Description	Value Range
ISDN Extension	T200	Specifies the maximum waiting time after sending the L2 command to the ISDN, before expecting the reply to it.	*0–600 s
	T201	Specifies the maximum waiting time after resending the TEI check demanding to the ISDN, before expecting the reply to it.	*0–600 s
	T203	Specifies the time to detect no communication status of L2.	*0–600 s
	T301	Specifies the maximum waiting time after making a call to the ISDN, before expecting the reply to it.	*0–18000 s
	T302	Specifies the maximum time allowed between each digit on an incoming call. Applies to the overlap receiving.	*0–600 s
	T303	Specifies the maximum waiting time after sending the SETUP message to the ISDN, before expecting the reply to it.	*0–600 s
	T304	Specifies the maximum time allowed between each digit on an outgoing call. Applies to the overlap sending.	*0–3000 s
	T305	Specifies the maximum waiting time after sending the DISC message to the ISDN, before expecting the reply to it. (No tone/announce)	*0–3000 s
	T306	Specifies the maximum waiting time after sending the DISC message to the ISDN, before receiving the reply to it. This setting is used when inband tone is supplied.	*0–3000 s
	T307	Specifies the time that the system waits after Suspending, before restarting.	*0–6000 s
	T308	Specifies the maximum waiting time after receiving the Release message to the ISDN, before expecting the reply to it.	*0–600 s
	T309	Specifies the time that the system tries to disconnect the data link, before saving the call.	*0–3000 s

Parameter		Description	Value Range
ISDN Extension	T310	Specifies the maximum waiting time after receiving the Incoming Call Proceeding message, before expecting the continuance message.	*0–3000 s
	T312	Specifies the maximum waiting time after sending the SETUP message to the ISDN, before expecting the reply to it.	*0–600 s
	T316	Specifies the maximum waiting time after sending the Restart message, before expecting the reply to it.	*0–3000 s
	T320	Specifies the time for packet protocol.	*0–3000 s
	T322	Specifies the maximum waiting time after sending the Status enquiry message, before expecting the reply to it.	*0–600 s
	T3D3	Specifies the time that the system tries to establish L2 in "Permanent" mode.	*0–3000 s
	T3D9	Specifies the time that the system tries to disconnect L2 in "Call by Call" mode.	*0–3000 s

* 0 s setting means that the system timer suspended.

Port

Parameter	Description	Value Range
Slot	Refers to the slot no. (Display only)	PBX No.–Slot No. (BRI designates the number.)
Port	Refers to the port no. (Display only)	1
Port Type	Selects the port type.	Trunk line/Extn./ QSIG-Master/ QSIG-Slave
Connection	Refers to the status of the port connection. (Display only)	INS/OUS
Command	Specifies the operating card command.	INS/OUS

Parameter	Description	Value Range
Main		
LLC Information	Assigns whether the LLC (Low Level-Compatibility) Information will be sent to the network when the ISDN Bearer Mode of an outgoing call is "Speech" mode.	Enable/Disable
Sending Status Message	Selects whether to send the Status Message to the ISDN.	No Transmission/ When error detection (Mandatory)/ When error detection (Option/Mandatory)
Receiving Status Message	Selects the treatment of the call when the Status Message provided by ISDN does not match the actual status of the call.	Ignore/Disconnect/ Forced Disconnect
CRC4 Mode	Assigns whether to use CRC4 for error checking. CRC (Cyclical Redundancy Check) is an error checking control technique using a specified binary prime divisor that results in a unique reminder. It usually is a 16- to 32-bit character. (PRI30 only)	Enable/Disable
Line Coding	Selects the PRI line coding type. (PRI23 only)	B8ZS/AMI
Frame Sequence	Selects the frame sequence type. (PRI23 only)	4-Frame Multiframe (F4)/12-Frame Multiframe (F12)/ Extend Multiframe (ESF)
DTMF Duration	Selects the duration of the DTMF signals sent to the ISDN.	80/160 ms
DTMF Inter-digit Pause Time	Specifies the DTMF Inter-digit Pause Time.	$64 + 16 \times n$ (n=0–11) ms
ISDN Trunk		
Subscriber Number	Specifies the trunk access number.	Max. 16 digits telephone number
Ringback Tone Service	Selects the ringback tone service.	Enable/Disable
ISDN Outgoing Call Type	Selects the ISDN outgoing call type.	Overlap/En bloc
ISDN Centrex	Assigns whether the system sends an ISDN Flash signal to the ISDN during conversation when pressing the FLASH or EFA button.	Enable/Disable
CCBS (Completion of Calls to Busy Subscriber)	Assigns whether the system accepts an ISDN Flash signal.	Enable/Disable

3.2 PC Programming

Parameter	Description	Value Range
ISDN Extension		
Extension Number	Specifies the extension number.	Extension Number
MSN Mode (ISDN MSN 1 or 2 digits)	Specifies the ring mode for MSN number last 1 digit or 2 digits.	Ring All Extensions for MSN/Ring an Extension for MSN
ISDN Extension Progress Tone	Assigns whether the system sends the call progress tone to the ISDN extension.	Enable/Disable
Network Configuration		
Network Type	Specifies the ISDN network type.	Refer to the network type of Page 294.
L1 Mode	Selects L1 mode.	Permanent/Call by Call
L2 Mode	Selects L2 mode.	Permanent/Call by Call
Access Mode	Selects the access mode.	P-P/P-MP
TEI Mode	Specifies the TEI (Terminal Endpoint Identifier) mode .	Automatic/Fix 0–63

Parameter	Description	Value Range
Network Numbering Plan (Not available if Port Type is Extn.)		
Trunk Attribute	Selects the trunk attribute.	Public/Private/VPN Refer to ^{*1}
Numbering Plan ID for Outgoing		
Public	Selects the Numbering Plan ID applied to the outgoing Trunk calls via ISDN.	Unknown/ ISDN-Telephony/ National Standard/ Private
Private	Selects the Numbering Plan ID applied to the outgoing Trunk calls via ISDN.	Unknown/ ISDN-Telephony/ National Standard/ Private
Type of Number for Outgoing		
Public	Selects the Type of Number applied to the outgoing Trunk calls via ISDN.	Unknown/ International/National/ Network/Subscriber
Private	Selects the Type of Number applied to the outgoing Trunk calls via ISDN.	Unknown/ International/National/ Network/Subscriber
Numbering Plan ID for Incoming		
Public	Specifies the Numbering Plan ID applied to the Incoming calls via ISDN.	Unknown/ISDN- Telephony/National Standard/Private
Private	Specifies the Numbering Plan ID applied to the Incoming calls via ISDN.	Unknown/ISDN- Telephony/National Standard/Private
Type of Number for Incoming		
Public	Specifies the Type of Number applied to the Incoming calls via ISDN.	Unknown/ International/National/ Network/Subscriber
Private	Specifies the Type of Number applied to the Incoming calls via ISDN.	Unknown/ International/National/ Network/Subscriber

^{*1} .Value Range and Default of Trunk Attribute in Port Type.

Port type	Public	Private	VPN
Trunk line	Default	X	Option
Extn.	X	X	X
QSIG-Master	X	Default	X
QSIG-Slave	X	Default	X

X: Not possible

3.2 PC Programming

Parameter	Description	Value Range
Supplementary Service		
CLIP	Assigns Calling Line Identification Presentation (CLIP).	Yes/No
COLP	Assigns Connected Line Identification Presentation (COLP).	
CLIR	Assigns CLIR (Calling Line Identification Restriction) feature.	
COLR	Assigns COLR (Connected Line Identification Restriction).	
CNIP	Assigns Calling Name Identification Presentation (CNIP).	
CNOP	Assigns Connected Name Identification Presentation (CNOP).	
CNIR	Assigns Calling Name Identification Restriction (CNIR).	
CNOR	Assigns Connected Name Identification Restriction (CNOR).	
CFB	Assigns CFB (Call Forwarding Busy).	
CFNR	Assigns CFNR (Call Forwarding No Reply).	
CFU	Assigns CFU (Call Forwarding Unconditional).	
CD	Assigns CD (Call Deflection).	
CT	Assigns CT (Call Transfer).	
CCBS	Assigns Completion of Call to Busy Subscriber (CCBS).	
AOC-S	Assigns AOC-S (Advice of Charge At Call Setup Time).	
AOC-D	Assigns AOC-D (Advice of Charge During Call).	
AOC-E	Assigns AOC-E (Advice of Charge At End Of Call).	
MWI	Assigns Message Waiting Indication.	
TC	Assigns Transit Counter.	

Configuration–Slot–T1

Common

Parameter	Description	Value Range
Slot	Specifies the slot no.	PBX No.–Slot No. (Card type is only T1.)
Line Coding	Specifies the T1 PCM line coding.	B8ZS/AMI
Frame Sequence	Specifies the T1 frame type.	D4/ESF
ESF Frame Option	Specifies the values of C-bit and D-bit.	C=A, D=B/C=0, D=0/ C=0, D=1/C=1, D=0/ C=1, D=1
Sending LIU Option	Specifies the shape of the transmitted pulse.	Mode 1–8
Receiving LIU Option	Specifies the level of equalisation of the incoming line data.	Automatic/6/12/18/24 dB
First Dial Time (Trunk)	Specifies the Pause Time between seizing the trunk and sending dialled digits.	$0.5 \times n$ ($n=1-16$) s
First Dial Time (DID/ TIE)	Specifies the Pause Time between seizing the DID/TIE channel and sending dialled digits.	$32 \times n$ ($n=1-255$) ms
Answer Detection Time	Specifies the duration time that the system requires to recognise the answer signal.	$32 \times n$ ($n=1-255$) ms
Wink Signal Width	Specifies the duration time of the Wink signal.	128/160/192/224/256/ 288 ms
DTMF Tone		
DTMF Inter-digit Pause	Specifies the DTMF Inter-digit Pause Time.	$64 + 16 \times n$ ($n=0-15$) ms
DTMF Transmitting	Specifies the output power of the MFC-R2 signals.	3, 2, 1, 0, -1– -12 dB (3-N dB, N=0–15)
DTMF Receiving	Specifies the threshold of DTMF detection.	-42–0, -41–0, -40–0, — -11 –0 dB (N-42 –0dB, N=0–31)

3.2 PC Programming

Parameter	Description	Value Range
Pulse Dialling		
Pulse % Break	Selects the % break for pulse digits.	60/67 %
Pulse Type	Selects the pulse dialling digit pattern.	Normal/Sweden/ New Zealand
Pulse Inter-digit Pause	Selects the Pulse Inter-digit Pause Time.	630/830/1020 ms
Tone Feed Back	Selects whether to turn on or off tone feedback.	Yes/No
Maximum Break Width	Specifies the minimum Break Width.	$72 + 8 \times n$ ($n=0-11$) ms
Maximum Make Width	Specifies the minimum Make Width.	$8 \times n$ ($n=1-5$) ms
Flash		
Flash Signal Detection (OPX)	Assigns the detection of a flash signal (OPX).	Enable/Disable
Minimum Break Width (OPX)	Specifies the minimum Break Width (OPX).	$24 + 8 \times n$ ($n=0-60$) ms
Flash Width (OPX)	Specifies the duration time that the system will recognise as switchhook flash after the minimum BREAK width (OPX).	$24 + 8 \times n$ ($n=0-188$) ms
Flash Signal Detection (TIE)	Assigns the detection of a flash signal (TIE).	Enable/Disable
Minimum Break Width (TIE)	Specifies the minimum Break Width (TIE)	$24 + 8 \times n$ ($n=0-60$) ms
Flash Width (TIE)	Specifies the duration time that the system will recognise as switchhook flash after the minimum BREAK width. (TIE)	$24 + 8 \times n$ ($n=0-188$) ms
Caller ID		
Caller ID Start Code	Selects the start code of Caller ID.	None/*/#/A/B/C/D
Caller ID Information End Code	Selects the Caller ID information code.	None/*/#/A/B/C/D
Caller ID End Code	Selects the end code of Caller ID.	None/*/#/A/B/C/D

Channel

Parameter	Description	Value Range
Slot	Refers to the slot no. (Display only)	PBX No.–Slot No. (T1 designates the number.)
Channel number	Refers to the channel number. (Display only)	1–24
Connection	Refers to the connection status of port. (Display only)	INS/OUS
Command	Specifies the operating card command.	INS/OUS
Subscriber Number	Specifies the trunk access number.	Max. 16 digits telephone number.
Trunk Dialling Mode	Selects the trunk dialling mode.	DTMF/Pulse
Channel Type	Selects the channel type.	Undefined/GCOT/ LCOT/DID/TIE/OPX
Extension Number Set	Specifies the extension number.	Extension Number
Trunk Attribute	Selects the trunk attribute. Note It is available only when Channel Type is TIE (E & M)	Public/Private
CPC Detection (DID)		
Outgoing	Specifies the CPC signal detection time— Outgoing.	None/6.5(113)/80 × n (n=1–112) ms
Incoming	Specifies the CPC signal detection time— Incoming.	None/6.5(113)/80 × n (n=1–112) ms
CPC Detection (L-CO/G-CO)		
Outgoing	Specifies the CPC signal detection time— Outgoing.	None/8 × n (n=2–112)/ 6.5 (n=113) ms
Incoming	Specifies the CPC signal detection time— Incoming.	None/8 × n (n=2–112)/ 6.5 (n=113) ms

3.2 PC Programming

Parameter	Description	Value Range
DTMF Duration	Selects the duration of the DTMF time.	80/160 ms
Trunk Pulse Speed	Selects the pulse speed.	10/20 pps
Wink Signal Time-out	Specifies the length of time that the system is to wait for the Wink Signal after seizing the trunk. Note It is available only when Start Signal Type is set to "Wink".	$64 \times n$ ($n=1-128$) ms
Start Signal Type	Selects the start signal type. • Wink: The wink signal is transmitted to the telephone company before the incoming calls are received. • Immediate: No wink signal is transmitted.	Immediate/Wink
Sending Caller ID to TIE	Assigns whether to send TIE Caller ID to the other PBX.	Yes/No
Receiving Caller ID from TIE	Assigns whether to receive TIE Caller ID from the other end.	Yes/No
Ringback Tone Service	Assigns if the ringback tone is sent. Note It is not available when Channel Type is L-CO or G-CO.	Enable/Disable
PBX Dial Tone	Assigns whether the system sends dial tone to extension users who seize a T1 digital trunk line.	Enable/Disable
Pause Time	Selects the length of the Pause Time.	1.5/2.5/3.5/4.5 s
Flash Time	Specifies the length of the Flash Time.	None/ $16 \times n$ ($n=1-80$) ms
Disconnect Time	Selects the maximum waiting time after releasing the trunk line before getting it again.	0.5/1.5/2.0/4.0/12.0 s

Configuration–Slot–E1

Common

Common–Basic

Parameter	Description	Value Range
Slot	Specifies the slot no.	PBX No.–Slot No. (Card type is only E1.)
Line Coding	Selects the E1 PCM line coding.	HDB3/AMI
Frame Sequence	Selects the E1 frame type.	PCM30/PCM30-CRC
Frame Option	Specifies the values of C-bit and D-bit.	C=A, D=B/C=0, D=0/ C=0, D=1/C=1, D=0/ C=1, D=1
First Dial Time (DID/ TIE)	Specifies the Pause Time between seizing the DID/TIE channel and sending the dialled digits.	$32 \times n$ ($n=1-255$) ms
Answer Detection Time	Specifies the duration time that the system will accept as an answer signal.	$32 \times n$ ($n=1-255$) ms
Seizure ACK Waiting Time	Specifies the Seizure ACK waiting time for DR2 (Digital System R2) signals. ACK is an ASCII or EBCDIC code character indicating a positive acknowledgement that a message has been received correctly.	$0.5 \times n$ ($n=1-20$) s
Sending LIU Option	Selects the shape of transmitted pulse.	Mode 1–8
Receiving LIU Option	Selects the level of equalisation applied to incoming calls.	Automatic/6/12/18/24 dB
RAI Signal Detection Mode	Selects the mode to detect the RAI signal.	Type 1/Type 2
DTMF Tone		
DTMF Inter-digit Pause	Specifies the DTMF Inter-digit Pause Time.	$64 + 16 \times n$ ($n=0-15$) ms
Pulse Dialling		
Pulse % Break	Selects the % break for pulse digits.	60/67 %
Pulse Type	Selects the pulse dialling digit pattern.	Normal/Sweden/ New Zealand
Pulse Inter-digit Pause	Selects the Pulse Inter-digit Pause Time.	630/830/1030 ms
Tone Feed Back	Assigns whether to turn on or off tone feedback.	Yes/No
Maximum Break Width	Specifies the maximum Break Width	$72 + 8 \times n$ ($n=0-11$) ms
Minimum Make Width	Specifies the minimum Make Width	$8 \times n$ ($n=1-5$) ms

Parameter	Description	Value Range
Flash		
Flash Detection	Assigns the detection of a flash signal	Enable/Disable
Minimum Break Width	Specifies the minimum Break Width	24 + 8 × n (n=0–60) ms
Flash Width	Specifies the duration time that the system requires to recognise a switchhook flash after the minimum BREAK width.	24 + 8 × n (n=0–188) ms
Caller ID		
Caller ID Start Code	Selects the start code of Caller ID.	None/*/#/A/B/C/D
Caller ID Information End Code	Selects the Caller ID information code.	None/*/#/A/B/C/D
Caller ID End Code	Selects the end code of Caller ID.	None/*/#/A/B/C/D

Common–E1 Line Signal Setting

Parameter	Description	Value Range
Slot	Specifies the slot no.	PBX No.–Slot No. (Card type is only E1.)
DR2 Signalling Type	Selects the control type of the DR2 (Digital System R2) signals.	Normal/Option-1/ Option-2/Option-3
Inter-digit Time	Specifies the pseudo-answer time. Note This parameter is available only when "Option-1" or "Option-3" is selected.	3–15 s
Bit Position for Pulse Dialling	Selects the position of the pulse dialling control bit in the DR2 Signals.	A-bit/B-bit
Bit Position for Clear Back	Selects the position of the Clear Back Signal Control bit in the DR2 Signals.	A-bit/B-bit/A&B-bit
Forced Release	Assigns whether to send Forced Release.	Enable/Disable
Forced Release Pattern	Selects the force release bit pattern.	A=0:B=0/ A=0:B=1/ A=1:B=0/ A=1:B=1
E & M Signalling Type	Selects the control bit of the E & M signals. (control bit in the idle condition.)	Type-1: A bit=0/ Type-2: A bit=1/ Type-3: B bit=0/ Type-4: B bit=1/ Type-5: A and B bit=1
Wink Signal Width	Specifies the duration time of the Wink signal.	128/160/192/224/256/ 288 ms

Parameter	Description	Value Range
E & M-P Pulse Length		
Seizure	Selects the length of the Seizure signal.	150/600 ms
Answer	Selects the length of the Answer signal.	150/600 ms
Clear	Selects the length of the Clear signal.	150/600 ms
E & M-P Seizure ACK	Assigns whether the system waits for the E & M-P Seizure ACK signal.	Yes/No
Metre Pulse Detection for DR2		
Mode	Selects whether to detect the Metre Pulse signal transmitted from the telephone company.	No Detection/ Outgoing call only/ Both Incoming and Outgoing calls
Bit Position	Selects the bit position of the Metre Pulse.	A-bit/B-bit/C-bit/D-bit
Length	Specifies the duration time the system will recognise as a Metre Pulse signal.	8–640 ms ($N=1-80$, $N \times 8$ ms)
DSP (Digital Signal Processor) Gain Adjustment		
DTMF Transmitting	Specifies the output power of the DTMF signals.	3, 2, 1, 0, -1 – -12 dB ($3-N$ dB, $N=0-15$)
DTMF Receiving	Specifies the threshold of DTMF detection.	-42–0, -41–0, -40–0, – -11–0 dB ($N-42-0$ dB, $N=0-31$)
MFC-R2 Transmitting	Specifies the output power of the MFC-R2 signals transmitted from the DSP.	0, -1, -2, -3 – -31 dB ($-N$ dB, $N=0-31$)
MFC-R2 Receiving	Specifies the threshold of MFC-R2 signal detection.	-38–0, -37–0, -36–0 – -23–0 dB ($N-38-0$ dB $N=0-15$)
Frame Error Detection		
Error Detection	Assigns whether the system detects frame synchronisation problems. Note "Yes" setting enables the Error Rate programming.	Yes/No
Error Rate	Specifies the number of frame errors per second which the system requires to trigger a remote alarm.	No limit/ 16 errors per second/ 32 errors per second/–/ 112 errors per second/ ($16 \times N$, $N=0-7$)

Common-E1 MFC-R2 Setting 1

Parameter	Description	Value Range
Slot	Specifies the slot no.	PBX No.–Slot No. (Card type is only E1.)
ANI (Automatic Number Identification) Service		
Mode	Used to control the ANI service. When utilising the ANI service, one of three presentation methods (incoming Trunk calls only/outgoing Trunk calls only/both) can be selected.	None/ Incoming call only/ Outgoing call only/ Both Incoming and Outgoing calls
ANI Max. digits	Specifies the maximum digits of the ANI number the system can receive.	None/1–16
MFC-R2 Time		
Forward	Specifies the maximum waiting time for the MFC-R2 Forward signal from the telephone company.	1–30 s
Backward	Specifies the maximum waiting time for the MFC-R2 Backward signal from the telephone company.	1–30 s
Disappearance	Specifies the maximum waiting time for the MFC-R2 Disappearance signal from the telephone company.	1–30 s
Group-I Code Assignment		
ANI Start	Specifies the code which indicates the start of the ANI number.	Undefined/1–15
ANI Complete (1–4)	Specifies the code which indicates the end of the ANI number.	Undefined/1–15 ANI Complete (1) is 1–15
ANI Reject	Specifies the code used to reject the ANI number.	1–15
End of Digit	Specifies the confirmation of the end of the ANI number.	Undefined/1–15
End of Digit Sending Timer	Specifies the duration time to send the end of the ANI number.	Undefined/1–15
Group-II Code Assignment		
Group-II Code Outgoing Call	Specifies the destination of each Group-II Code transmitted to the telephone company.	1–15
Group-II Code Incoming Call (1–15)	Specifies the destination of incoming Trunk calls for each Group-II Code respectively.	Undefined/Subscriber/ Operator/Collect Call
Group-II ANI	Specifies the Group-II ANI code	1–15

Parameter	Description	Value Range
MFC-R2 Group-I [*] [#]		
E1 MFC-R2 Group-I [*] code	Specifies the function of [*] (DTMF) signal.	11–15
E1 MFC-R2 Group-I [#] code	Specifies the function of [#] (DTMF) signal.	11–15

Common–E1 MFC-R2 Setting 2

Parameter		Description	Value Range
Slot		Specifies the slot no.	PBX No.–Slot No. (Card type is only LCOT.)
Group-A Code Assignment	Address Complete	Specifies the Address Complete (completion of dial) code transmitted to the telephone company.	1–15
	ANI Request	Specifies the ANI code (requesting the caller's number) transmitted to the telephone company.	1–15
	ANI (N + 1)	Specifies the ANI next code	1–15
	Set up Speech Path	Specifies the Set up Speech Path code transmitted to the telephone company.	Undefined/1–15
	(First) Request	Specifies the code requesting the telephone company to transmit the first digit of the ANI number.	Undefined/1–15
	(N) Request	Specifies the code requesting the telephone company to transmit the (N)th digit of the ANI number.	Undefined/1–15
	(N-1) Request	Specifies the code requesting telephone company to transmit the (N-1)th digit of the ANI number.	Undefined/1–15
	(N-2) Request	Specifies the code requesting telephone company to transmit the (N-2)th digit of the ANI number.	Undefined/1–15
	(N-3) Request	Specifies the code requesting telephone company to transmit the (N-3)th digit of the ANI number.	Undefined/1–15

Parameter		Description	Value Range
Group-B Code Assignment	Idle (1)	Specifies the idle code (1). Used in the normal circumstances to inform the telephone company that the destination is idle.	Undefined/1–15
	Idle (2)	Specifies the idle code (2). Used as an alternative, for example an international call, to inform the telephone company that TIE destination is idle.	Undefined/1–15
	Idle (3)	Specifies the idle code (3). This code is used in the special sequence, for example when the current call is completed, to inform the telephone company that the destination is idle.	Undefined/1–15
	Busy	Specifies the code used to inform the telephone company that the destination is busy.	Undefined/1–15
	Unallocated	Specifies the code used to inform the telephone company that there is no extension specified.	Undefined/1–15
	Congestion	Specifies the code used to inform the telephone company that the network is congested.	Undefined/1–15
	Out-of-Service	Specifies the code used to inform the telephone company that the destination is in out of service.	Undefined/1–15
	No Billing	Specifies the code used to inform the telephone company that the call is not billed.	Undefined/1–15
	Collect Call Block	Specifies the code used to inform the telephone company that the collect call has been rejected.	Undefined/1–15

Channel

Parameter	Description	Value Range
Slot	Refers to the slot no. (Display only)	PBX No.–Slot No. (E1 designates the number.)
Channel number	Refers to the channel number. (Display only)	
Connection	Refers to the status of port connection. (Display only)	INS/OUS
Command	Specifies the operating card command.	INS/OUS
Subscriber Number	Specifies the trunk access number.	Max. 16 digits telephone number
Channel Type	Selects the channel type.	Undefined/DR2/ E & M-P/E & M-C
Trunk Attribute	Selects the trunk attribute. Note It is available only when Channel Type is "E & M-P" or "E & M-C".	Public/Private
Trunk Dialling Mode	Selects the trunk dialling mode.	DTMF/Pulse/MFC-R2
E1 Receiving Type	Selects the dial type when receiving incoming call.	Undefined (Same as Trunk Dialling Mode)/ DTMF/Pulse/MFC-R2
Receiving Digits	Selects the maximum number of digits accepted on incoming call.	0–7
CPC Detection Time— Outgoing call	Specifies the CPC signal duration recognised on outgoing calls	None/ $80 \times n$ ($n=2-75$) ms
CPC Detection Time— Incoming call	Specifies the CPC signal duration recognised on incoming calls	None/ $80 \times n$ ($n=2-75$) ms
DTMF Duration	Selects the duration of the DTMF time.	80/160 ms
Trunk Pulse Speed	Selects the pulse speed.	10/20 pps

3.2 PC Programming

Parameter	Description	Value Range
Wink Signal Time Out	Specifies the length of time that the system is to wait for the Wink Signal after seizing the trunk. Note It is assignable only when Start Signal Type is set to "Wink".	$64 \times n$ ($n=1-128$) ms
Start Signal Type	Selects the start signal type. • Wink: The wink signal is transmitted to the telephone company before the incoming calls are received. • Immediate: No wink signal is transmitted.	Immediate/Wink
Sending Caller ID to TIE	Assigns whether to send TIE Caller ID.	Yes/No
Receiving Caller ID from TIE	Assigns whether to receive TIE Caller ID.	Yes/No
Ringback Tone Service	Assigns the ringback tone service.	Enable/Disable
PBX Dial Tone	Assigns whether the system sends a dial tone to the extension user who seizes a T1 digital trunk line.	Enable/Disable
Answer Waiting Time	Selects the length of waiting time to cancel the outgoing Trunk call.	None/1/2/3/4 min
Pause Time	Selects the length of Pause Time.	1.5/2.5/3.5/4.5 s
Flash Time	Specifies the length of Flash Time.	None/ $16 \times n$ ($n=1-80$) ms
Disconnect Time	Selects the maximum waiting time after releasing the trunk line before getting it again.	0.5/1.5/2.0/4.0/12.0 s

Configuration–Slot–E & M

Common

Parameter	Description	Value Range
Slot	Specifies the slot no.	PBX No.–Slot No. (Card type is only E & M.)
Interface	Selects E & M signal type. Note If you select "Pulsed with Answer" or "Pulsed without Answer", you must select "Wink" in Start Signal Type on Page 319.	Continuous/ Pulsed with Answer/ Pulsed without Answer/ Continuous No Answer
First Dial Time (DID/TIE)	Specifies the waiting time after seizing the DID/TIE channel, before sending the dialled digits. Note It is available only when Start Signal Type is set to "Immediate" on Page 319.	$32 \times n$ ($n=1-255$) ms
Answer Detection Time	Specifies the duration time that the system requires to recognise the answer signal.	$32 \times n$ ($n=1-255$) ms
Inter-digit Time	Specifies the pseudo-answer time.	3–15 s
DTMF Tone		
DTMF Inter-digit Pause	Specifies the DTMF Inter-digit Pause Time.	$64 + 16 \times n$ ($n=0-11$) ms
Pulse Dialling		
Pulse % Break	Selects the % break for pulse digits.	60/67 %
Pulse Type	Selects the pulse dialling signal type.	Normal/Sweden/ New Zealand
Pulse Inter-digit Pause	Selects the Pulse Inter-digit Pause Time.	630/830/1030 ms
Pulse Feed Back Tone	Selects whether to turn on or off the pulse feedback tone.	Yes/No
Pulse Maximum Break Width	Specifies the maximum Break Width.	$72 + 8 \times n$ ($n=0-11$) ms
Pulse Minimum Make Width	Specifies the minimum Make Width.	$8 \times n$ ($n=1-5$) ms

3.2 PC Programming

Parameter	Description	Value Range
Flash		
Flash Detection	Assigns the detection of a flash signal.	Enable/Disable
Minimum Break Width	Specifies the minimum BREAK width.	24 + 8 × n (n=0–60) ms
Flash Width	Specifies the duration time that the system requires to recognise as a switchhook flash.	24 + 8 × n (n=0–188) ms
Line Signal Setting		
E & M-P Pulse Length		
Seizure	Selects the length of the Seizure pulse.	150/600 ms
Answer	Selects the length of the Answer pulse.	150/600 ms
Clear	Selects the length of the Clear pulse.	150/600 ms
E & M-P Seizure ACK	Selects whether the system waits for the E & M-P Seizure ACK signal.	Yes/No
Wink Signal Width	Specifies the duration time of the Wink signal.	128/160/192/224/256/288 ms
Caller ID		
Caller ID Start Code	Selects the start code of Caller ID.	None/*/#/A/B/C/D
Caller ID Information End Code	Selects the Caller ID information end code.	None/*/#/A/B/C/D
Caller ID End Code	Selects the code of ending Caller ID.	None/*/#/A/B/C/D

Port

Parameter	Description	Value Range
Slot	Refers to the slot no. (Display only)	PBX No.–Slot No. (E & M designates the number.)
Port	Refers to the port no. (Display only)	1–8
Connection	Refers to the status of port connection. (Display only)	INS/OUS
Command	Specifies the operating card command.	INS/OUS
Trunk Attribute	Selects the trunk attribute.	Public/Private
Trunk Dialling Mode	Selects the trunk dialling mode.	DTMF/Pulse
Gain Adjustment	Selects the gain level table during a call.	1–12
DTMF Duration	Selects the duration of the DTMF time.	80/160 ms
Trunk Pulse Speed	Selects the pulse speed.	10/20 pps

Parameter	Description	Value Range
Wink Signal Time Out	Selects the length of waiting time for the Wink Signal after seizing a trunk. Note It is assignable only when Start Signal Type is set to "Wink".	64/128/256/512/1024/2048/4096/8128 ms
Start Signal Type	Selects the start signal type. • Wink: The wink signal is transmitted to the telephone company before the incoming calls are received. • Immediate: No wink signal is transmitted.	Immediate/Wink
E & M TIE Line Type	Selects the type of E & M connection.	2/4 wires
E & M Sensitivity Out	Selects the voice level for transmission.	-6/-3/0/+3 dB
Sending Caller ID to TIE	Selects whether to send the Caller ID to the TIE line.	Yes/No
Receiving Caller ID from TIE	Selects whether to receive the Caller ID to the TIE line.	Yes/No
E & M Sensitivity In	Selects the voice level for reception.	-6/-3/0/+3 dB
Ringback Tone Service	Assigns the ringback tone service.	Enable/Disable
PBX Dial Tone	Assigns whether the system sends dial tone to extension users who seize a T1 digital trunk line.	Enable/Disable
Pause Time	Selects the length of Pause Time.	1.5/2.5/3.5/4.5 s
Flash Time	Specifies the length of Flash Time.	None/16 × n (n=1–80) ms
Disconnect Time	Selects the maximum waiting time after releasing the trunk line before getting it again.	0.5/1.5/2.0/4.0/12.0 s

Configuration–Slot–Extension

Common

Parameter	Description	Value Range
Slot	Specifies the slot no.	PBX No.–Slot No. (Card type is only extension.)
KX-T7250 Transfer/ Hold Key Mode	Selects T7250 Transfer/Hold Key Mode.	Mode1/Mode2 (NE/SL/FR Reverse)
SLT Pulse Dialling Mode	Selects the digit translation appropriate to your area.	Normal/Sweden/ New Zealand
SLT Off-hook Time	Specifies the minimum time that the system will recognise as an off-hook signal sent from the SLT.	$8 \times n$ ($n=3-255$) ms
SLT Off-hook Guard Time	Specifies the length of guard time preventing the system from mistaking an off-hook signal as a dial.	$8 \times n$ ($n=12-63$) ms
SLT Pulse Maximum Break Width	Specifies the maximum Pulse Break Width.	$8 \times n$ ($n=9-120$) ms
SLT Pulse Minimum Make Width	Specifies the minimum Pulse Make Width.	$8 \times n$ ($n=1-5$) ms
SLT Flash Detection	Assigns the detection of a flash signal.	Enable/Disable
Hooking Flash Time— Min.	Specifies the minimum duration of a flash signal.	$8 \times n$ ($n=3-63$) ms
Hooking Flash Time— Max.	Specifies the maximum duration of a flash signal.	$8 \times n$ ($n=3-191$) ms
Minimum DTMF Detection Time	Specifies the minimum to detect the DTMF tone.	$2 \times n$ ($n=1-31$) ms
SLT Power Supply	Selects the power supply voltage of the SLT.	85 V/145 V

Port

Parameter	Description	Value Range
Slot	Refers to the slot no. (Display only)	PBX No.–Slot No. (Card type is only extension.)
Port	Refers to the port no. (Display only)	1–8/16/32
Port Type	Refers to the port type. (Display only)	None/DPT/DPT (DXDP)/SLT/ S-Hybrid (XDP)/ S-Hybrid (SLT)
Telephone Type	Specifies the telephone type. (In the interactive mode, display only) Note It is displayed only in the interactive mode.	Unknown/(SLT) (APT) T7020/T7030/T7033/ T7050/T7055/T7130/ T7320/T7330/T7350/ (NEW DPT) T7220/T7230/T7235/ T7250/T7420/T7425/ T7431/T7433/T7436/ T7450/T7451/T7520/ T7531/T7533/T7536/ T7550/T7560/T7565/ T7625/T7630/T7633/ T7636/T7660/T7665/ (NEW DSS) T7040 /T7240/T7340/ T7440/T7441/T7540/ T7541/T7640
Connection	Refers to the connection status of port. (Display only)	INS/OUS
Command	Specifies the operating card command.	INS/OUS
Status	Refers to the status. (Display only) - INS: PT or SLT is connected. - OUS: Not connected. - Fault: Not connected to the port only for DPT.	INS/OUS/Fault
Extension Number	Specifies the extension number.	Extension Number
Extension Name	Specifies the extension name.	Max. 20 characters
XDP Assignment	Assigns the XDP mode.	On/Off

3.2 PC Programming

Parameter	Description	Value Range
DPT Attribute		
Type	Specifies the DPT port attribute.	Normal/D-XDP/DSS/VM (DPT)/PC Console
Cabinet	Specifies the cabinet number required only when DPT port attribute is DSS or PC Console.	1–4
Location No.	Specifies the location number required only when DPT port attribute is DSS or PC Console.	1–8
DSS Console pair extension	Specifies the DSS Console pair extension.	Extension Number
VM Group No.	Specifies VM group no. required when DPT port attribute is VM (DPT).	1–8
VM Port No.	Specifies the VM port no. required when DPT port attribute is VM (DPT). Note It can not be split between cards.	1–16
SLT MW Mode	Specifies the SLT-MWL (Message Waiting Lamp) feature.	Disable/MW-Lamp
Internal Caller ID	Assigns the internal Caller ID.	Enable/Disable
DPT T74/T75/T76 Level	Selects the DPT gain level.	1–8

Configuration–Slot–CSINF

Common

Parameter	Description	Value Range
Master CS Port	Specifies the Master CS port location.	CS port location
Radio System ID	Specifies the radio system ID (Master CS ID). (Display only)	ID informed from CS.

Port

Parameter	Description	Value Range
Slot	Refers to the slot no. (Display only)	PBX No.–Slot No. (CSINF designates the number.)
Port	Refers to the port no. (Display only)	1–8
Status	Specifies the port status. (Display only)	INS/OUS/Fault

Configuration–Slot–CTI-LINK

Parameter	Description	Value Range
Slot	Specifies the slot no.	PBX No.–Slot No. (Card type is only CTI-LINK).
IP Address	Specifies the IP address.	xxx.xxx.xxx.xxx
Subnet Mask	Specifies the Subnet Mask.	xxx.xxx.xxx.xxx
Gateway	Specifies the gateway address.	xxx.xxx.xxx.xxx
FTP Account	Specifies the FTP account.	4–10 characters
FTP Password	Specifies the FTP password.	4–10 characters
Maintenance Port Number	Specifies the maintenance port no.	10000–65535
CTI Port Number	Specifies the CTI port no.	10000–65535

Configuration–Slot–IP-Gateway

Port

Parameter	Description	Value Range
Slot	Specifies the slot no.	PBX No.–Slot No.
Port	Refers to the port no. (Display only)	
Trunk Number	Refers to the trunk number. (Display only)	1–512 (Auto-setting)
Connection	Refers to the status of port connection. (Display only)	INS/OUS
Command	Specifies the operating card command.	INS/OUS
Name	Specifies the trunk name.	Max. 20 characters

Configuration–Digital Wireless Extension (DWX)

Parameter	Description	Value Range
Digital Wireless Extension (DWX) (1–128)		
DWX Number	Specifies the DWX number.	Extension Number (4 digits)
DWX PIN Registration	Specifies the DWX registration password.	4 digits
Status	Specifies the status. (Display only)	Registered: Checked mark/ Not registered: Blank
Registration	Assigns the registration button.	Select/No Select
Termination	Assigns the termination button.	Select/No Select

Configuration–External Clock Priority

Parameter	Description	Value Range
Clock Configuration Priority		
No. 1–No. 8	Specifies the physical number of the BRI/PRI/T1/E1 card that provides External Clock pulse to the system in priority order. Note This programming is required to be installed if one BRI/PRI/T1/E1 card is installed.	None/Slot no.

Configuration–Option

Parameter	Description	Value Range
Extension Numbering Mode	Selects the extension numbering mode.	Automatic/Manual
Status after Card Installation	Selects the initial status after installing the card.	INS/OUS

3.2.2 System

System–Basic

System–Basic–Date & Time

Parameter	Description	Value Range
Year	Enters the number of the year. ^{*1}	2000–2099
Month	Enters the number of the month. ^{*1}	1–12
Date	Enters the number of the day. ^{*1}	1–31
Week	Selects the day of the week. ^{*1}	Sun/Mon/Tue/Wed/ Thu/Fri/Sat
Hour	Enters the number of the hour. ^{*1}	0–23
Minute	Enters the number of the minute. ^{*1}	0–59
Second	Enters the number of the second. ^{*1}	0–59
Summer Time (Daylight Saving Time) Table (1–20)		
Summer Time Table	Assigns whether to use Summer Time (Daylight Saving Time) table.	Enable/Disable
Summer Time Start date	Specifies Summer Time (Daylight Saving Time) start date.	Year/Month/Day
Summer Time End date	Specifies Summer Time (Daylight Saving Time) end date.	Year/Month/Day

^{*1} It is not saved as part of a backup. It is not available in batch mode.

System–Basic–Operator

Parameter	Description	Value Range
Day	Assigns the Day mode operator.	Extension Number
Lunch	Assigns the Lunch mode operator.	Extension Number
Break	Assigns the Break mode operator.	Extension Number
Night	Assigns the Night mode operator.	Extension Number

System–Basic–Music

Parameter	Description	Value Range
Music Source Selection for Port 2	Selects the source of Music Source 2 (Background Music 2).	External/Internal 1/ Internal 2
Music Source Selection for Hold	Selects the source of music on hold.	Beep/Background Music1–8
Music Source Selection for Transfer	Selects the source of music during Transfer.	Hold Music/Ringback

System–System Timer

Parameter	Description	Value Range
Extension Timer		
Hot Line Start Time	Specifies the start time when hot line starts.	0–15 s
Extn. First Digit Time	Specifies the maximum time allowed between the start of an extension dial tone and the first digit being dialled on an extension call.	0–15 s
Extn. Inter-digit Time	Specifies the maximum time allowed between each digit on an extension call.	0–15 s
Call Duration Start Time	Specifies the duration start time for PT display and SMDR.	0–60 s
Personal Password Lock Time	Specifies the maximum time to prohibit password entry following incorrect password entry.	1–15 s
Automatic Redial Repeat Times	Specifies the number of time to repeat redials.	0–15
Automatic Redial Interval	Specifies the interval between redial attempts.	$10 \times n$ ($n=1-120$) s
Automatic Redial Call Duration Time	Specifies the duration of redial calls if unanswered.	$10 \times n$ ($n=1-30$) s
Timed Reminder Alarm Repeat Times	Specifies the number of time of Timed Reminder calls.	1–15
Timed Reminder Alarm Interval	Specifies the interval between Timed Reminder calls.	$10 \times n$ ($n=1-120$) s
Timed Reminder Alarm Ringing Duration Time	Specifies the duration of ringing of the Timed Reminder alarm.	$10 \times n$ ($n=1-30$) s
Message Waiting Ringing Duration Time	Specifies the duration of the message waiting ring for SLTs.	$10 \times n$ ($n=1-300$) s
Message Waiting Ringing Interval	Specifies the interval between message waiting rings.	n ($n=1-60$) min

3.2 PC Programming

Parameter	Description	Value Range
Busy/Do Not Disturb (DND) Reorder Tone Duration Time	Specifies the duration of Busy/Do Not Disturb (DND) Reorder Tone.	Continue/0–15 s
Reorder Tone Duration Time (PT Handset Mode)	Specifies the reorder tone duration (PT Handset Mode).	1–15 s
Reorder Tone Duration Time (PT Hands Free Mode)	Specifies the reorder tone duration (PT Hands Free Mode).	1–15 s
PT On-hook Display Time	Specifies the length of time to display [Idle] after going on-hook.	1–15 s
DTMF Duration while talking	Specifies the duration of the DTMF signal while talking.	80/160/240/320 ms
DTMF Inter-digit Pause Time while talking	Specifies the length of time of DTMF Inter-digit Pause Time while talking.	$64 + 16 \times n$ ($n=0-15$) ms
Pause Time while talking	Specifies the length of the Pause Time while talking.	1.5/2.5/3.5/4.5 ms
Unattended Conference Recall Start Time	Specifies the length of recall start time of unattended extension.	None/1–60 min
1st Unattended Conference Recall Continuation Time	Specifies the length of continuing time of the first recall of unattended extension.	None/1–240 s
2nd Unattended Conference Recall Continuation Time	Specifies the length of continuing time of the second recall of unattended extension.	None/1–240 s

Parameter	Description	Value Range
Trunk Timer		
Held Trunk Force Disconnect Time	Specifies the length of time to disconnect the held trunk forcedly.	5–30 min
Intercept Time	Specifies the length of waiting time before activating IRNA (Intercept Routing No Answer). If an incoming trunk call directed to a single extension is not answered within this time, IRNA redirects the call to another preprogrammed destination.	1–240 s
Trunk First Digit Time	Specifies the maximum time allowed between the start of an Trunk dial tone and the first digit dialled on an trunk call.	1–15 s
Trunk Inter-digit Time	Specifies the maximum time allowed between each digit on an trunk call.	1–15 s
No Answer Disconnect Time for ISDN Incoming Call	Specifies the length of time to disconnect in no answer for ISDN incoming calls.	None/1–15 min
CCBS/MCID Receiving Duration Time	Specifies the duration to receive CCBS/MCID.	5–20 s
Receiving TIE Dial	Specifies the maximum time to receive TIE call.	3–30 s
TRS/Barring Guard Time	Specifies the TRS/Barring guard time.	$10 \times n$ ($n=1-240$) s
DID/DDI Receiving Dial Inter-digit Time	Specifies the DID/DDI receive dial inter-digit time.	0–30 s
Caller ID Waiting Time for Analogue line	Specifies the length of waiting time to receive the analogue Caller ID.	0–15 s

Parameter	Description	Value Range
Recall Timer		
Hold Recall Time	Specifies the length of waiting time before alerting the holding extension user using Held Call Reminder. A reminder tone is emitted every 5 seconds until the held call is retrieved, or until the caller hangs up.	1–240 s
Transfer Recall Time on Trunk Calls	Specifies the length of time before transfer recall occurs. If a transferred Trunk call is not answered before the programmed number of rings, the call returns to the extension user who originally transferred it.	1–240 s
Transfer Recall Time on Intercom Calls	Specifies the length of time before transfer recall occurs. If a transferred Intercom call is not answered before the programmed number of rings, the call returns to the extension user who originally transferred it.	1–240 s
Call Park Recall Time	Specifies the length of waiting time before alerting (Call Park Recall) the extension who parked the call.	1–240 s
ISDN Hold Recall Time	Specifies the length of time to recall the hold on ISDN.	0–15 min
DISA Timer		
DISA Delayed Answer Time	Specifies the length of waiting time after receiving a DISA call before answering it.	0–30 s
DISA Mute & Outgoing Message (OGM) Start Time	Specifies the maximum waiting time after playing the DISA message.	0.0–12.0 s
DISA First digit time	Specifies the maximum time allowed between the start of DISA dial tone and the first digit	0–120 s
DISA Automated Attendant Time	Specifies the length of waiting time before recognising the first digit as a DISA AA number. If this timer expires before the second digit is dialled, the system assumes that the first digit is a DISA built-in AA number.	0–5 s
DISA Intercept time	Specifies the length of waiting time before activating DISA. If an incoming trunk call directed to a single extension is not answered within this time, DISA redirects the call to another preprogrammed destination	0–60 s
DISA Disconnect time after Intercept	Specifies the disconnect time after Intercept.	0–60 s

Parameter	Description	Value Range
DISA Trunk-to-Trunk Call Times	Specifies number of time to prolong the DISA trunk-to-trunk call.	No Limit, 1–15
DISA Extend Time	Specifies the length of time to prolong the DISA trunk-to-trunk call.	0–7 min
DISA Progress tone Continuation Time	Specifies the length of continuing time to send the progress tone before starting DISA recording.	0–7 s
DISA Reorder Tone Continuation Time	Specifies the length of continuing time that DISA Reorder Tone is heard.	Continue/0–15 s
Doorphone Timer		
Doorphone Call Ring Duration Time	Specifies the duration of the doorphone call.	10 × n (n=1–15) s
Doorphone Call Time	Specifies the maximum time of the doorphone call.	10 × n (n=1–30) s
Door Open Duration Time	Specifies the door opening duration.	1–15 s
Others		
SLT Suspend Time	Specifies the length of waiting time before sending the internal Caller ID after receiving it.	10 × n (n=1–15) s

System–Time Service

System–Time Service–System

Parameter		Description	Value Range
Table (1–8)			
Switch Mode		Specifies the Day/Night switching mode.	Manual/ Automatic
Week (Sunday- Saturday)	Day & Lunch & Night	Day Start	
		Setting	Assigns if Day mode is used.
		Day Start	Specifies the start time for Day.
		Lunch Start	
		Setting	Assigns if Lunch mode is used.
		Lunch Start	Specifies the start time for Lunch.
		Setting	Assigns if Lunch time ends.
		Lunch End	Specifies the end time for Lunch.
		Night Start	
		Setting	Sets the Night start time.
		Night Start	Specifies the start time for Night.
	Break	Break 1 Start	
		Setting	Assigns if Break 1 is used.
		Break 1 Start	Specifies the start time for Break 1.
		Setting	Assigns if Break 1 ends.
		Break 1 End	Specifies the start time for Break 1.
		Break 2 Start	
		Setting	Assigns if Break 2 is used.
		Break 2 Start	Specifies the start time for Break 2.
		Setting	Assigns if Break 2 ends.
		Break 2 End	Specifies the end time for Break 2.
		Break 3 Start	
		Setting	Assigns if Break 3 is used.
		Break 3 Start	Specifies the start time for Break 3.
		Setting	Assigns if Break 3 ends.
		Break 3 End	Specifies the end time for Break 3.

System–Time Service–Holiday

Parameter	Description	Value Range
Holiday Mode	Specifies the holiday mode.	Day/Lunch/Break/ Night
Holiday Schedule (1–24)		
Holiday Setting	Assigns whether the Holiday schedule is used.	Enable/Disable
Start Date	Specifies the start date.	Month/Day
End Date	Specifies the end date.	Month/Day

System–Numbering Plan

System–Numbering Plan–Extension

Parameter	Description	Value Range
N Block Extension (N=1–32)		
Dial	Specifies the leading 1 or 3 digits of the extension number. Any number 0–9 can be set.	1–3 digits consisting of 0–9
Additional Digits	Selects the additional digits.	None/X/XX

System–Numbering Plan–Feature

Parameter	Description	Value Range
Operator Call	Specifies the feature number for calling the operator.	1–4 digits consisting of 0–9, *, or #
Idle Trunk Access/ARS	Specifies the feature number for making an outside call by ARS or Idle Trunk Access.	
Trunk Group Access	Specifies the feature number for making an outside call by specifying a Trunk Group (1–48).	
TIE Line Access	Specifies the feature number for making a TIE line call.	
Redial	Specifies the feature number for dialling the last dialled number.	
Speed Dialling—System/Personal	Specifies the feature number for making a call using System/Personal Speed Dialling number.	
Personal Speed Dialling—Programming	Specifies the feature number for programming Personal Speed Dialling at each extension.	
Doorphone Call	Specifies the feature number for making a call to a doorphone.	
Group Page	Specifies the feature number for paging the Paging Group.	
External BGM on/off	Specifies the feature number for turning External BGM on/off.	
Outgoing Message (OGM) Playback/Record	Specifies the feature number for Outgoing Message (OGM) Playback/Record	
Individual Trunk Access	Specifies the feature number for Individual Trunk Access.	
Parallel Telephone Mode	Specifies the feature number for Parallel Telephone Mode.	
Group Call Pickup	Specifies the feature number for creating call pickup groups.	

Parameter	Description	Value Range
Directed Call Pickup	Specifies the feature number for picking up the directed call.	1–4 digits consisting of 0–9, *, or #
TAFAS—Calls through an External Pager	Specifies the feature number for TAFAS—Calls through an External Pager.	
Group Paging Answer	Specifies the feature number for answering Group Paging.	
Automatic Callback Busy cancel/CCBS cancel	Specifies the feature number for cancelling Automatic Callback Busy/CCBS.	
User Remote Operation/Remote COS Access/Verified Code Entry	Specifies the feature number for Remote Operation, User Remote COS Access/Verified Code Entry.	
Wireless XDP Parallel Mode set/cancel	Specifies the feature number to set/cancel Wireless XDP Parallel Mode.	
Account Code Entry	Specifies the feature number for Account Code Entry.	
Call Hold/Call Hold Retrieve	Specifies the feature number for Call Hold/Call Hold Retrieve.	
Call Hold Retrieve—Intercom Calls	Specifies the feature number for Call Hold Retrieve—Intercom Calls.	
Call Park/Call Park Retrieve	Specifies the feature number for Call Park/Call Park Retrieve.	
Call Hold Retrieve—Trunk Calls	Specifies the feature number for Call Hold Retrieve—Trunk Calls.	
Door Open	Specifies the feature number for opening the door.	
External Feature Access	Specifies the feature number for External Feature Access.	
ISDN Hold	Specifies the feature number for holding an ISDN call.	
COLR	Specifies the feature number for COLR (Connected Line Identification Restriction).	
CLIR	Specifies the feature number for CLIR (Calling Line Identification Restriction).	

3.2 PC Programming

Parameter	Description	Value Range
CLIP/COLP	Specifies the feature number for CLIP/ COLP (Calling Line Identification Presentation/Connected Line Identification Presentation).	1–4 digits consisting of 0–9, *, or #
MCID	Specifies the feature number for MCID (Malicious Call Identification).	
ISDN-FWD	Specifies the feature number for Call Forwarding (CF) on ISDN.	
ISDN-Call Waiting	Specifies the feature number for ISDN—Call Waiting.	
Message Waiting set/ cancel/callback	Specifies the feature number for Message Waiting set/cancel/callback.	
FWD/DND set/ cancel—Both	Specifies the feature number to set/cancel Call Forwarding (FWD)/Do Not Disturb (DND) for all incoming calls.	
FWD/DND set/ cancel—External	Specifies the feature number to set/cancel Call Forwarding (FWD)/Do Not Disturb (DND) for incoming Trunk calls.	
FWD/DND set/ cancel—Internal	Specifies the feature number to set/cancel Single Call Forwarding (FWD)/Do Not Disturb (DND) for incoming intercom calls.	
FWD/DND No Answer Timer set	Specifies the feature number for setting the duration time to activate the Call Forwarding (FWD)/Do Not Disturb (DND) feature.	
Group FWD/DND set/ cancel—Both	Specifies the feature number to set/cancel Group Call Forwarding (FWD)/Do Not Disturb (DND) for all incoming calls.	
Group FWD/DND set/ cancel—External	Specifies the feature number to set/cancel Group Call Forwarding (FWD)/Do Not Disturb (DND) for incoming Trunk calls.	
Group FWD/DND set/ cancel—Internal	Specifies the feature number to set/cancel Group Call Forwarding (FWD)/Do Not Disturb (DND) for incoming intercom calls.	
Call Pickup Deny set/ cancel	Specifies the feature number to set/cancel Call Pickup Deny.	
Paging Deny set/ cancel	Specifies the feature number to set/cancel Paging Deny.	
Walking Extension	Specifies the feature number for Walking Extension.	
Data Line Security set/ cancel	Specifies the feature number to set/cancel Data Line Security.	

Parameter	Description	Value Range
Call Waiting—Intercom Calls	Specifies the feature number to enable Call Waiting on intercom calls.	1–4 digits consisting of 0–9, *, or #
Call Waiting—Trunk Calls	Specifies the feature number to enable Call Waiting on trunk calls.	
Executive Override Deny set/cancel	Specifies the feature number to set/cancel Executive Override Deny.	
Not Ready Mode/Ready Mode	Specifies the feature number for Not Ready Mode/Ready Mode.	
Log-in/Log-out	Specifies the feature number for Log-in/Log-out.	
Incoming Call Queue Monitor	Specifies the feature number for Incoming Call Queue Monitor.	
Hot Line programme/set/cancel	Specifies the feature number to programme/set/cancel Hot Line.	
Absent Message set/cancel	Specifies the feature number to set/cancel Absent Message.	
BGM set/cancel	Specifies the feature number to set/cancel BGM.	
Timed Reminder confirm/set/cancel	Specifies the feature number to confirm/set/cancel Timed Reminder.	
Extension Lock set/cancel	Specifies the feature number to set/cancel Extension Lock.	
Time Service Switch	Specifies the feature number to switch Time Service.	
Remote Extension Lock off	Specifies the feature number to turn off the Remote Extension Lock.	
Remote Extension Lock on	Specifies the feature number to turn on the Remote Extension Lock.	
Personal Programme Clear	Specifies the feature number to clear any features you have set.	
Personal Password set/cancel	Specifies the feature number to set a Personal Password.	
Dial Information (CTI)	Specifies the feature number for Dial Information (CTI).	

System–Numbering Plan–Other PBX Access Code

Parameter	Description	Value Range
Other PBX 1–16 Access code	Specifies the access code to reach another PBX on the network.	Max. 3 digits consisting of 0–9, *, or #

System–Numbering Plan–Quick Dialling

Parameter	Description	Value Range
Quick Dialling (1–80)		
Quick Dialling Access	Specifies the feature number for Quick dialling features.	1–4 digits consisting of 0–9, *, or # (Default: Blank)
Quick Dialling Number	Specifies the number to dial.	Max. 32 digits

System–Numbering Plan–One Digit

Parameter	Description	Value Range
Call Waiting/OHCA/ Whisper OHCA/Do Not Disturb (DND) Override	Assigns the feature number for Call Waiting/OHCA/Whisper OHCA/Do Not Disturb (DND) Override.	One digit consisting of 0–9, *, or #
Executive Busy Override	Assigns the feature number for Executive Busy Override.	
Alternate Calling— Ring/Voice	Assigns the feature number for Alternate Calling—Ring/Voice.	
Message Waiting Set	Sets the number to control the message waiting lamp.	
Call Monitor	Specifies the call monitor feature number.	
Automatic Callback Busy/CCBS	Specifies the Automatic Callback Busy (Camp-On) activation code.	
Conference	Sets up the conference call.	

System–Class of Service

System–Class of Service–Basic

Parameter	Description	Value Range
Class of Service (1–64)		
TRS/Barring		
TRS/Barring Level		
Day	In Day mode.	1–7
Lunch	In Lunch mode.	
Break	In Break mode.	
Night	In Night mode.	
Extension Lock TRS/Barring Level	Specifies the TRS/Barring level for extension lock.	1–7
TRS/Barring Level for Speed Dialling	Specifies the TRS/Barring level by using System Speed Dialling.	1–7
Trunk Setting		
Trunk Call Duration Time	Specifies whether to restrict the Trunk calls by the duration.	Enable/Disable
Call Transfer on Trunk Calls	Assigns Call Transfer on Trunk Calls.	Enable/Disable
Call Forwarding on Trunk Calls	Assigns Call Forwarding on Trunk Calls.	Enable/Disable
Account Code Mode	Specifies the feature number for entering account codes which may be forced or optional depending on COS programming.	Option/Forced
CFU	Assigns the ability to perform CFU (Call Forwarding Unconditional) feature.	Enable/Disable
Receiving Collect Call	Assigns whether to enable or disable receiving the collect calls via the trunk line.	Enable/Disable
Outgoing Call Printed out (SMDR)	Assigns the type of outgoing calls which will be printed out by SMDR.	Enable/Disable

3.2 PC Programming

Parameter	Description	Value Range
Operation		
Executive Busy Override	Assigns to override the executive busy status.	Enable/Disable
Do Not Disturb (DND) Override	Assigns to override the Do Not Disturb (DND) status.	Enable/Disable
OHCA	Assigns to operate OHCA.	Enable/Disable
Door Open	Assigns to operate Door Open.	Enable/Disable
Call Monitor	Assigns to operate Call Monitor.	Enable/Disable
Call Pickup by DSS	Assigns to operate Call Pickup by pushing the DSS button.	Enable/Disable
Setting		
Time Mode	Assigns to switch the time mode.	Enable/Disable
Executive Busy Override Deny	Assigns to deny Executive Busy Override.	Enable/Disable
Group FWD	Selects whether Group FWD may be used.	Enable-Group/ Enable-All/Disable
Condition		
Remote Operation Deny	Assigns to deny Remote Operation from other extension.	Enable/Disable
DISA Destination	Assigns the extension to receive DISA calls.	Enable/Disable
Wireless XDP Parallel Mode	Assigns which extensions may set Wireless XDP Parallel Mode.	Enable/Disable
Programming		
Programming Mode Level	Selects the programming mode level.	Disable/ Personal Programming/ Enable-All
Manager Assignment	Assigns to permit Manager operation.	Enable/Disable

System–Class of Service–Trunk Group

Parameter	Description	Value Range
Class of Service (1–64)		
Day Time (1–64)		
Outgoing Setting	Assigns a trunk group for outgoing calls.	Double-click to enable
Lunch Time (1–64)		
Outgoing Setting	Assigns a trunk group for outgoing calls.	Double-click to enable
Break Time (1–64)		
Outgoing Setting	Assigns a trunk group for outgoing calls.	Double-click to enable
Night Time (1–64)		
Outgoing Setting	Assigns a trunk group for outgoing calls	Double-click to enable

System–Class of Service–Internal Call Block

Parameter	Description	Value Range
Class of Service (Outgoing) (1–64)		
Class of Service (Incoming) (1–64)		
Internal Call Block	Selects whether the internal calls are blocked.	Non Block/Block

System–SLT

Parameter	Description	Value Range
SLT Call Hold Mode	Selects the SLT call hold mode.	Mode1/Mode2/Mode3/Mode4
Message Waiting Lamp Pattern	Specifies the message waiting lamp pattern.	1–12

System-PT

System-PT-Common

Parameter	Description	Value Range
Time Display (12H/24H)	Assigns the time mode on the display.	12H/24H
Personal Password & Display Mode	Selects the display mode of personal password.	Secret/Indicate
Date Display	Selects the date format.	Day-Month/Month-Day
LED Indication—Call Forwarding (FWD)	Selects the LED indication pattern of Call Forwarding (FWD).	On/Flash
LED Indication—Do Not Disturb (DND)	Selects the LED indication pattern of Do Not Disturb (DND).	On/Flash
OHCA (KX-T7235)	Assigns to operate OHCA on KX-T7235.	Enable/Disable
Whisper OHCA (Models before KX-T72 series)	Assigns to operate Whisper OHCA to be used by the models before KX-T72 series and SLTs.	Enable/Disable
Off-hook Monitor for Old PT	Assigns to operate Off-hook Monitor on a system-wide basis. (For Proprietary Telephones prior to 74 series)	Enable/Disable
Off-hook Monitor for KX-T74/75/76	Assigns Off-hook Monitor on a system-wide basis. (For KX-T74/75/76 PT)	Enable/Disable
CO Button during Trunk Calls	Selects a CO button operation during trunk calls.	Privacy release/LCD switch
Automatic Answer Ring Times	Specifies the number of rings before answering.	0–3 rings
Jog Dial Speed	Selects the jog dial speed.	Normal/High Speed
PT Ring Off	Assigns to set the PT ringer off.	Enable/Disable
System Feature Access Menu		
No.1	Display list 1	Callback Cancel/ C.Pickup Direct/ C.Pickup Group/ Doorphone Call/ Door Open/ External Background Music/ Paging (It is available to set the same features on multiple lists.)
No.2	Display list 2	
No.3	Display list 3	
No.4	Display list 4	
No.5	Display list 5	
No.6	Display list 6	
No.7	Display list 7	
No.8	Display list 8	

System–Ring

System–Ring–Common

Parameter	Description	Value Range
SLT Ring Mode	Selects the SLT ring mode.	5120/4992/3840/2976 ms
SLT Ring Type	Selects the SLT ring frequency.	20/25 Hz

System–Ring Pattern Table

Ring Pattern Table Trunk

Parameter	Description	Value Range
Ring Pattern Table (1–8)		
Trunk Call Ring Type		
Trunk Group (1–64)	Selects the ring type for trunk group.	Single/Double/Triple/ Option1/Option2

Ring Pattern Table Doorphone

Parameter	Description	Value Range
Ring Pattern Table (1–8)		
Doorphone Call Ring Type		
Door (1–16)	Selects for each doorphone.	Single/Double/Triple (S-Double)/Option1/ Option2

Ring Pattern Table Others

Parameter	Description	Value Range
Ring Pattern Table (1–8)		
Ring Type		
Extension	Selects the ringing pattern for the extension.	Single/Double/Triple/ Option1/Option2
Timed Reminder Alarm	Selects the ringing pattern for Timed Reminder Alarm.	Single/Double/Triple/ Option1/Option2
Callback	Selects the ringing pattern for Callback.	Single/Double/Triple/ S-Double/Option1/ Option2
Live Call Screening	Selects the ringing pattern for Live Call Screening.	Single/Double/Triple/ Option1/Option2
Message Waiting	Selects the ringing pattern for Message Waiting.	Single/Double/Triple/ Option1/Option2

System–Ring–Ring Pattern Table Detail

Parameter	Description	Value Range
Ring Pattern Option (32 ms x 40)		
Single (1–40)	Assigns Single ringing pattern.	On/Off
Double (1–40)	Assigns Double ringing pattern.	
Triple (1–40)	Assigns Triple ringing pattern.	
S-Double (1–40)	Assigns S-Double ringing pattern.	
Option1 (1–40)	Assigns Option1 ringing pattern.	
Option2 (1–40)	Assigns Option2 ringing pattern.	

System–Tone

System–Tone–Common

Parameter	Description	Value Range
Confirmation Tone 1 (Voice Call/Doorphone)	Assigns the confirmation tone 1 (Voice Call/Doorphone).	Enable/Disable
Confirmation Tone 2 (Paging/Auto Answer)	Assigns the confirmation tone 2 (Paging/Auto Answer).	Enable/Disable
Confirmation Tone 3–1	Assigns the confirmation tone 3–1 when sending a call.	Enable/Disable
Confirmation Tone 3–2	Assigns the confirmation tone 3–2 when receiving a call.	Enable/Disable
Confirmation Tone 4–1	Assigns the confirmation tone 4–1 (When starting the conference call).	Enable/Disable
Confirmation Tone 4–2	Assigns the confirmation tone 4–2 (When ending a conference call).	Enable/Disable
Confirmation Tone 5	Assigns the confirmation tone 5 (While holding).	Enable/Disable
Distinctive Dial tone	Assigns the distinctive dial tone.	Enable/Disable
Dial Tone Type (Extension)	Selects the dial tone type for extensions.	Type A/Type B
Dial Tone for ARS	Selects the dial tone for ARS.	Type A/Type B

System–Tone–Tone Pattern Assignment

Parameter	Description	Value Range
Tone Pattern Assignment		
[0–6] Confirmation Tone (1, 2, 3–1, 3–2, 4–1, 4–2 and 5), [7] Warning Tone, [8–15] Dial Tone (1–A, 1–B, 2–A, 2–B, 3–A, 3–B, 4–A and 4–B), [16, 17] Busy Tone 1 and 2, [18, 19] Reorder Tone 1 and 2, [20, 21] Ringback Tone 1 and 2, [22] Do Not Disturb (DND) Tone, [23] Trunk Warning Tone, [24] Hold Alarm, [25] Call Waiting Tone, [26, 27] Conference Tone 1 and 2, [28] Hold Tone, [29–39] Reserved		
Start Pattern	Selects the start pattern.	On/Off
Cyclic Mode	Selects the tone cyclic pattern.	Cyclic/Single
Sampling Time	Selects the length of time of the sampling.	32/64 ms
Tone Control	Selects the tone control mode.	Common Control/ Individual Control
Frequency	Selects the frequency.	Type 1: 400 Hz/ Type 2: 440 Hz + 480 Hz/ Type 3: 480 Hz + 620 Hz/ Type 4: 620 Hz/ Type 5: 425 Hz/ Type 6: 1000 Hz/ Type 7: 440 Hz + 450 Hz
Use count	Specifies the number of the patterns to use.	0–10
Detail count	Specifies the number of the Detail.	0–255

System–Outgoing Message (OGM)

Parameter	Description	Value Range
Outgoing Message (OGM) Recording Time and Number	Specifies the length time and number of time to record the outgoing message (OGM).	15 s × 64/30 s × 32/ 60 s × 16
DISA Security Mode	Selects the security mode for DISA calls.	Trunk/All/None
DISA Destination Busy Mode	Selects the treatment of DISA callers when they dial a busy extension.	Busy Tone/Intercept/ Outgoing Message (OGM)
DISA Destination DND Mode	Selects the treatment of DISA callers when they dial a extension in DND mode.	Do Not Disturb (DND) Tone/Intercept/ Outgoing Message (OGM)
DISA dial ✕	Selects what happens when the caller dials ✕.	Retry/DTMF
Cyclic Tone Detection	Selects cyclic tone detection.	Fixed/Option
Tone On Maximum Time	Specifies the tone required for detection.	10 × n (n=11–400) ms
Tone Off Maximum Time	Specifies the amount of silence following the tone to be recognised.	10 × n (n=11–400) ms
Detection Times	Specifies the number of cycles required.	3–16

System–Option

Parameter	Description	Value Range
Line Codec	Selects the encoding technique.	A-Law/μ-Law
Carrier Codec	Selects the encoding technique.	A-Law/μ-Law
Extension Clear—Call Waiting	Clears Call Waiting feature.	Clear/No Clear
Extension Clear—Call Forwarding (FWD)/Do Not Disturb (DND)	Clears Call Forwarding (FWD)/Do Not Disturb (DND) feature.	Clear/No Clear
Extension Clear—Hot Line	Clears Hot Line feature.	Clear/No Clear
Automatic Redial for Analogue Trunk	Assigns Automatic Redial for Analogue Trunk feature.	Enable/Disable
Automatic Redial—No Answer	Selects if the redial occurs when the called number rings but is not answered.	Retry/Disconnect
Call Hold Mode	Selects the Call Hold mode.	Hold/Exclusive Hold

Parameter	Description	Value Range
Trunk Call Limitation	Selects the trunk call limitation which is a system programmable feature that disconnects an Trunk call when a specified timer expires.	Outgoing/ Outgoing + Incoming
Automatic Call Hold by INTERCOM/CO/G-DN button	Selects the treatment for the caller in Automatic Call Hold by INTERCOM/CO/G-DN button.	Hold/Disconnect
Dialled Digits during the Call	Selects whether digits dialled during the call are included in the redial number.	Yes/No
SLT Ringing for CTI	Selects the operation when making a call to the SLT using CTI (Computer Telephony Integration) code.	Ring/No Ring
End of Dialling Code	Selects the end of dialling by dialling #.	Yes/No
ISDN Service End Method	Selects the method to end the ISDN service.	Dialling inter-digit Time out/Designated code
ISDN Service End Code	Specifies the code to end the ISDN service.	Max. 2 digits
Automatic Time Adjustment	Assigns whether to adjust the time automatically.	Enable/Disable

System–Background Music (BGM)

Parameter	Description	Value Range
Internal Music on Hold Input Level	Specifies the internal Music on Hold input level.	-6/-3/0/3/6 dB
External Music on Hold Input Level		
Background Music 1–8	Specifies BGM 1–8.	-6/-3/0/3/6 dB

System–Echo Cancel

Parameter	Description	Value Range
Echo Canceller Control for Conference	Assigns Echo Canceller control for conference.	Enable/Disable
Echo Canceller Control for SLT to Digital Line	Assigns Echo Canceller control for SLT to digital line.	Enable/Disable
Echo Canceller Control for APT to Digital Line	Assigns Echo Canceller control for APT to digital line.	Enable/Disable
Echo Canceller Control for DPT to Digital Line	Assigns Echo Canceller control for DPT to digital line.	Enable/Disable
Echo Canceller Control for Trunk-to-Trunk	Assigns Echo Canceller control for trunk-to-trunk.	Enable/Disable

3.2.3 Group

Group–Trunk Group

Group–Trunk Group–Main

Parameter	Description	Value Range
Trunk Group (1–64)		
Group Name	Specifies the trunk group name.	Max. 20 characters
Common		
Class of Service	Specifies COS.	1–64
Line Hunting Order	Specifies the hunting sequence of idle lines on a trunk group basis.	High to Low/ Low to High/ Rotation
Automatic Disconnect after Dialling	Assigns whether to disconnect the line automatically with no answer.	Enable/Disable
DISA Tone Detection		
Silence	Assigns whether to disconnect the trunk line when the system detects no signal during a trunk-to-trunk line call by DISA or AGC (Automatic Grain Control).	Enable/Disable
Continuous	Assigns whether to disconnect the trunk line when the system detects a continuous signal during a trunk-to-trunk line call by DISA or AGC.	Enable/Disable
Cyclic	Assigns whether to disconnect the trunk line when the system detects a cyclic signal during a trunk-to-trunk line all by DISA or AGC.	Enable/Disable
IRNA		
IRNA Destination		
Day	In Day mode.	Max. 32 digits including *, # and PF
Lunch	In Lunch mode.	
Break	In Break mode.	
Night	In Night mode.	
Host PBX Access Code		
Code (1–10)	Specifies the access code.	Max. 10 digits including * and #

Parameter	Description	Value Range
Timer		
Trunk-to-Trunk Call Duration Time	Specifies the maximum time allowed for a trunk-to-trunk call.	None/1–60 min
Extn.-to-Trunk Call Duration Time	Specifies the maximum time allowed for a extension-to-trunk call.	None/1–60 min
Forced Disconnection Time (No Response)	Specifies the maximum time allowed for making a call with no response.	None/1–4 min
Collect Call (only for Brazil)		
Collect Call Block	Assigns whether to reject the collect call.	Enable/Disable
Collect Call Block Waiting Time	Specifies the maximum waiting time to reject the collect call.	512 × n (n=0–4) ms
Collect Call Block Flash Time	Specifies the length of Flash Time to reject the collect call.	512 × n (n=0–4) ms
Caller ID		
Caller ID Modification Table Number	Specifies Caller ID modification table number.	1–4

Group–Trunk Group–Local Access Priority

Parameter	Description	Value Range
Local Access Priority (1–64)		
Group No.	Specifies the trunk group number.	1–64 (Trunk Group Number)
Group Name	Refers to the trunk group name. (Display only)	

Group–Trunk Group–Charge Rate

Parameter	Description	Value Range
Trunk Group (1–64)		
Group Name	Refers to the trunk group name. (Display only)	
Rate	Specifies the charge rate per metre pulse.	(0).0000001–9999999.

Group–Extension Group

Parameter	Description	Value Range
Extension Group (1–128)		
Extn. Group Name	Specifies the extension group name.	Max. 20 characters
Tenant Number	Specifies the tenant number.	1–8

Group–Pickup Group

Parameter	Description	Value Range
Pickup Group (1–64)		
Extension Group (1–128)		
Pickup Group Member	Selects whether the extension group belongs to the pickup group.	Y/N

Group–Paging Group

Group–Paging Group–Common

Parameter	Description	Value Range
Paging for Do Not Disturb (DND) Extension	Selects if the Do Not Disturb (DND) extension receives paging announcement.	Do Not Disturb (DND)/Paging
Extension Paging Volume	Specifies the paging volume level.	-15/-12/-9/-6/-3/0/3/6 dB

Group–Paging Group–Assign Extension

Parameter	Description	Value Range
Paging Group (1–32)		
Extension Group (1–128)		
Paging Group	Specifies whether the extension group belongs to the paging group.	Double click to enable

Group–Paging Group–Assign External Pager

Parameter	Description	Value Range
Paging Group (1–32)		
External Pager (1–8)		
Paging Group	Specifies whether the external pager belongs to the paging group.	Double click to enable

Group–Paging Group–Assign Output

Parameter	Description	Value Range
Paging Group (1–32)		
Output (1–8)		
Paging Group	Specifies whether output port belongs to the paging group.	Double click to enable

Group–Paging Group–Assign Outgoing Message (OGM)

Parameter	Description	Value Range
Paging Group (1–32)		
Outgoing Message (OGM)	Specifies the outgoing message number for emergency paging.	None/1–64

Group–Incoming Call Distribution Group

Group–Incoming Call Distribution Group–Group

Parameter	Description	Value Range
Incoming Call Distribution Group (1–64)		
Floating Extension Number	Specifies the floating extension number.	Extension Number
Group Name	Specifies the incoming call distribution group name.	Max. 20 characters
Type	Selects the group type for each incoming call distribution group.	Ring/UCD/Hunt
Basic		
Call Waiting Distribution	Selects the way to distribute Call Waiting.	All/Destination
Call Forwarding (FWD) Mode	Selects if the extension rings when a call reaches the group if FWD is set.	Skip/Ring
Do Not Disturb (DND) Mode	Selects if the extension rings when a call reaches the group if DND is set.	Skip/Ring
Tenant Number	Specifies the tenant which you are going to programme.	1–8
COS Level	Specifies the COS level.	1–64
CLIP/COLP	Specifies the CLIP/COLP number used for the incoming call.	Max. 16 digits

Parameter	Description	Value Range
Queuing Overflow		
Intercept Routing Destination		
Day	In Day mode.	Max. 32 digits including *, # and PF
Lunch	In Lunch mode.	
Break	In Break mode.	
Night	In Night mode.	
Queuing Call Limit	Specifies the number of calls that may queue.	None/1–30
Time out & Hurry-up		
Intercept Routing Destination		
Day	In Day mode.	Max. 32 digits including *, # and PF
Lunch	In Lunch mode.	
Break	In Break mode.	
Night	In Night mode.	
Overflow Time Assignment	Specifies the maximum time to wait in a queue.	No/10 × n (n=1–125) s
Hurry-up Level	Specifies the hurry-up level.	None/1–30
Queuing Time Table		
Day	In Day mode.	None/Table 1–64
Lunch	In Lunch mode.	
Break	In Break mode.	
Night	In Night mode.	
Agent Operation		
No Answer Time	Specifies the length of time before Idle Extension Hunting works if no answer.	None/10 × n (n=1–15) s
Automatic Log-out	Specifies the number of time before Automatic Log-out works if no answer.	None/1–15
Maximum Number of Agents	Specifies the maximum number of active extensions.	Max./1–32
Log-out All	Assigns all extensions may log-out.	Enable/Disable

Parameter	Description	Value Range
Call Forwarding (FWD) Setting		
Trunk Call Forwarding (FWD) Set	Assigns if Trunk calls are forwarded.	On/Off
Trunk Call Forwarding (FWD) Number	Specifies the destination to forward the trunk call.	Max. 32 digits including *, # and PF
Intercom Call Forwarding (FWD) Set	Assigns if intercom calls are forwarded.	On/Off
Intercom Call Forwarding (FWD) Number	Specifies the destination to forward the intercom call.	Max. 32 digits including *, # and PF
Others		
VIP Call	Assigns the VIP call.	Enable/Disable
Supervisor	Specifies the extension of the supervisor.	Extension Number
ACD (CTI) Mode	Assigns the ACD (CTI) mode. ACD is Automatic Call Distribution.	Enable/Disable
ACD (CTI) Waiting Time	Specifies the length of waiting time for ACD (CTI) mode. ACD is Automatic Call Distribution.	1–15 s
Mailbox Access ID	Specifies the mailbox access ID required to access the mailbox of the VPS.	Max. 16 digits including * and #
Incoming Call Log (for the Incoming Call Distribution Group)	Specifies the maximum number of the incoming calls to be recorded in the incoming call log.	0–100

Group–Incoming Call Distribution Group–Member

Parameter	Description	Value Range
Group Member	Specifies the Group member number.	Max. 32 members
Extension Number	Specifies the extension number.	Extension Number
Extension Name	Refers to the name. (Display only)	
Delayed Ringing	Specifies the number of rings the system is to wait to ring first one extension or group of extensions short time later if the first is unanswered.	Immediate/1/2/3/4/5/6/ No Ring
Wrap-up Time	Specifies the wrap-up time.	10 × n (n=0–300) s

Group–Incoming Call Distribution Group–Queuing Time Table

Parameter	Description	Value Range
Queuing Time Table (1–64) (= Incoming Call Distribution Group)		
Sequence (1–16)	Specifies the sequence of events during queuing.	None/Intercept/ Disconnect/ Sequence 1–16/ Outgoing Message (OGM) 1–64/ Wait $5 \times n$ ($n=1-16$) s

Group–Idle Extension Hunting

Parameter	Description	Value Range
Idle Extension Hunting (1–64)		
Idle Extension Hunting Type	Selects the Idle Extension Hunting type.	Circular/Terminate
Overflow Destination	Specifies the destination extension when all extensions in the Extension Group are unavailable.	Max. 32 digits including *, # and PF
Member (1–16)	Specifies the member of the hunting.	Extension Number

Group–VM (DPT) Group

Group–VM (DPT) Group–Common

Parameter	Description	Value Range
VPS Queuing Mode	Assigns the queuing operation when VPS ports are busy.	Enable/Disable
Notification Mailbox	Assigns to send a transfer notification when VPS receives a call by Intercept Routing.	Enable/Disable
Recall Notification	Assigns to send recall notification.	Enable/Disable

Group–VM (DPT) Group–Group Information

Parameter	Description	Value Range
Voice Mail (VM) Group 1–2		
Floating Extension Number	Specifies the floating extension number.	Extension Number
Group Name	Specifies the group name.	Max. 20 characters

Group–VM (DPT) Group–VPS Trunk Group No. (for Recall)

Parameter	Description	Value Range
VPS Trunk Group (1–48)		
VPS Trunk Group No. for Recall	Specifies the trunk group number when a call returns to the VPS by Recall.	1–48

Group–VM (DTMF) Group

Group–VM (DTMF) Group–Common

Parameter	Description	Value Range
Voice Mail (VM) DTMF Status		
Ringback Tone	Specifies the code indicating ringback tone.	Max. 4 digits including 0–9, *, and #
Busy Tone	Specifies the code indicating busy tone.	
Reorder Tone	Specifies the code indicating reorder tone.	
Do Not Disturb (DND)	Specifies the code used for Do Not Disturb (DND) tone.	
Answer	Specifies the extension answer code.	
Confirm	Specifies the message waiting lamp control.	
Disconnect	Specifies the disconnection code.	
Call Forwarding (FWD) to VM Ringback Tone	Specifies the FWD to VM Ringback Tone code sent to the VM port when the extension dialled is forwarded to VM and the VM port is available to accept the call.	
Call Forwarding (FWD) to VM Busy Tone	Specifies the FWD to VM Busy Tone code sent to the VM port when the extension dialled is forwarded to VM and no other VM ports are available to accept the call.	
Call Forwarding (FWD) to Extension Ringback Tone	Specifies the FWD to Extension Ringback Tone code sent to the VM port when the extension dialled is forwarded to another, no voice mail extension.	

Parameter	Description	Value Range
Voice Mail (VM) DTMF Command		
Recording Message	Specifies the Recording Message command. This command is transmitted to a VM port when a call is forwarded, intercepted or rerouted to the VM port.	Max. 16 digits including 0–9, *and #
Listening Message	Specifies the Listening Message command. This command is transmitted to a VM port when the message receiver presses the Message button to listen to the voice message.	
AA Service	Specifies the AA (Automated Attendant) Service command. This command is sent to a VM port when an incoming trunk call is answered by the VM port.	
VM Service	Specifies the VM Service command.	
Duration Time		
DTMF Duration for VM	Selects the duration of the DTMF signals sent to the VM.	80/160 ms
DTMF Inter-digit Pause Time	Selects the DTMF Inter-digit Pause Time.	80/160 ms
Pause Time Follow on ID	Selects the length of waiting time after VM port answers a call before sending DTMF signals (such as Follow-on ID) to VM port.	0.5/1.0/1.5/2.0 s
Pause Time VM (DTMF) Status	Selects the length of waiting time before sending DTMF integration signals (Extension/System status).	0.5/1.0/1.5/2.0 s
Others		
VM (DTMF) Queuing Mode	Assigns the queuing mode when VPS ports are busy.	Enable/Disable
Call Forwarding (FWD) to VM (DTMF) Sequence	Selects call handling when calls are forwarded to VPS.	None/ Answer by Mailbox/ AA
Intercept to VM (DTMF) Sequence	Selects how calls are handled when intercepted to VPS.	None/ Answer by Mailbox/ AA
Mailbox Number for Extension	Specifies whether an extension’s mailbox number is substituted by the extension number or Mailbox Access ID.	Extension Number/ Mailbox Access ID
Message Waiting Lamp Control	Selects whether the system or the VM port turns off the Message Waiting lamp after the extension user retrieved a message recorded in his mailbox.	By PBX/By VM

Group–VM (DTMF) Group–Group Information

Parameter	Description	Value Range
Voice Mail (VM) Group 1–2		
Floating Extension Number	Specifies VM Floating extension number.	Extension Number
Group Name	Specifies the group name.	Max. 20 characters
Type	Selects the service type.	AA/VM
VM Port (1–12)	Specifies the VM port number.	Extension Number

Group–DWX Ring Group

Parameter	Description	Value Range
DWX Ring Group (1–32)		
Floating Extension Number	Specifies the floating extension number.	Extension Number
Name	Specifies the floating extension name.	Max. 20 characters
Digital Wireless Extension (1–128)	Assigns the digital wireless extension.	Y (Belonging to a Group)/N

3.2.4 Line

Line–Trunk Line

Parameter	Description	Value Range
Trunk Number (1–128)		
Physical Location		
Slot	Refers to the slot position. (Display only)	PBX No.–Slot No.
Port	Refers to the port no. (Display only)	
Channel number	Specifies the channel number.	BRI4/BRI8 (0, 1)/ PRI23 (0–22)/ PRI30 (0–29)/ Other cards (0)
Port Type	Refers to the port type. (Display only)	Trunk line/Extn.
Trunk Name	Specifies the trunk name.	Max. 20 characters
Trunk Group	Specifies the trunk group.	1–64

Line–Extension/Digital Wireless Extension

Line–Extension/Digital Wireless Extension–Setting

Parameter	Description	Value Range
Extension Setting		
Physical Location		
Slot	Refers to the slot position. (Display only)	PBX No.–Slot No.
Port	Refers to the port no. (Display only)	
Extension Number	Specifies the extension number.	Extension Number
Extension Name	Specifies the extension name.	Max. 20 characters
Reference		
Port Type	Refers to the port type. (Display only)	S-Hybrid/SLT/DPT/ ISDN/Wireless/IP
Telephone Type	Refers to the telephone type. (Display only)	Telephone code

Parameter	Description	Value Range
Basic		
Extension Group Assignment	Specifies the extension group.	PBX1:1–32/ PBX2:33–64/ PBX3:65–96/ PBX4:97–128
Group Name	Refers to the group name. (Display only)	Max. 20 characters
COS	Specifies the COS.	1–64
Ring Pattern	Specifies the ringing pattern table for incoming calls.	1–8
Intercept		
Extension Intercept Destination		
Day	In Day mode.	Max. 32 digits including *, # and PF
Lunch	In Lunch mode.	
Break	In Break mode.	
Night	In Night mode.	
Option 1		
Mailbox Access ID	Specifies the codes required to access the VM service.	Max. 16 digits including * and #
Transfer and Recall Destination	Specifies the Transfer and Recall destination.	Extension Number/ Blank(=Your own extension number)
CLIP/COLP Number Assignment	Specifies the CLIP/COLP number used for the extension.	Max. 16 digits
Call Waiting for direct extension calls	Specifies the Call Waiting mode for direct extension calls.	Off/Call Waiting/ OHCA/ Whisper-OHCA
Call Waiting from Trunk & Incoming group	Assigns whether Call Waiting from Trunk & Incoming group is On or Off.	On/Off
Call Pickup Set	Assigns whether Call Pickup is On or Off.	On/Off
Hot Line	Specifies the telephone number for Hot Line.	Max. 32 digits including *, # and PF
Data Mode	Assigns whether Data Line Security mode is enabled.	On/Off

Parameter	Description	Value Range
Option 2		
Call Pickup Deny	Assigns Call Pickup Deny mode.	set/cancel
Executive Busy Override Deny	Assigns Executive Busy Override Deny feature.	set/cancel
Incoming Call Log Lock	Assigns whether to lock the incoming call log.	Unlock/Lock
Paging Deny	Assigns the Paging Deny feature.	set/cancel
CLIP/COLP	Specifies the CLIP/COLP number.	Trunk line/Extension
CLIR	Assigns the CLIR (Calling Line Identification Restriction) feature.	Enable/Disable
COLR	Assigns the COLR (Connected Line Identification Restriction) feature.	Enable/Disable
Wireless XDP Parallel Mode	Sets up Wireless XDP Parallel Mode to work with a wired telephone.	None/Extension Number
Option 3 (PT)		
Preferred Line—Outgoing	Selects the line to which the extension is connected automatically when making a call.	No Line/Idle/INTERCOM/Flexible key 1–36
Preferred Line—Incoming	Selects which line the extension is connected automatically when answering a call.	No Line/Ringing Line/Flexible key1–36
On-hook Dial Mode	Selects the operation when dialling in on-hook status. * This program is not intended for DWX.	Predial/Hot Key Dial
Intercom Alerting	Selects the intercom alerting mode. * This program is not intended for DWX.	Tone Call/Voice Call/Voice Call Deny
Call Waiting Tone Type	Selects the type of Call Waiting tone for PT extensions.	Call Waiting Tone/Ringing tone
Live Call Screening Recording Mode	Selects whether to close the mailbox or keep recording the conversation after a call is interrupted.	Stop Recording/Keep Recording
Live Call Screening Answer Mode	Selects whether the voice message being recorded is monitored automatically through the built-in speaker (Hands-free mode) or an alarm tone is sent (Private mode) while an incoming caller is leaving a message in the mailbox of the extension. * This program is not intended for DWX.	Hands-free/Private
Headset Set	Selects headset mode. * This program is not intended for DWX.	On/Off

3.2 PC Programming

Parameter	Description	Value Range
Display Language	Specifies the LCD display language (5 languages).	English (Second language is displayed as a factory default.)
Character input mode	Selects the character input mode.	Alphabet/ Expansion alphabet/ Greek alphabet/ Cyrillic alphabet
Incoming Call Information Display	Selects the incoming call displayed information.	Caller ID and Name/ Trunk Name/Called Number and Name
Automatic LCD Status Change	Assigns whether to change the LCD status when making a trunk call.	Enable/Disable
Key Click Tone	Assigns the use of the key click tone. * This program is not intended for DWX.	On/Off
Automatic Answer Mode	Specifies the object of Automatic Answer mode.	Extn./Extn. + Trunk
Key Programming Mode	Selects the key programming mode of One-touch Dialling in PT programming.	One-touch Dialling Only/No Limitation
Flash mode during Trunk conversation	Selects the flash mode during a conversation with an outside party.	EFA/Terminate/ Flash Recall
Intercom Tone	Specifies the Intercom tone.	1–48
Ringing Tone	Selects the ringing tone type. * This program is not intended for DWX. Note KX-T75xx, KX-T74xx, KX-T7451 and APT are not available.	A/B/C/D
Option 4		
Log Memory	Specifies the maximum number of the calls to the incoming call distribution group to record in memory.	0–100
ISDN Bearer	Specifies the ISDN bearer mode on an extension basis.	Automatic/Speech/ 3.1 K Audio
Personal Password	Specifies the personal password.	Max. 10 digits
Budget Management	Specifies the total telephone charge allowed to extension users on an extension basis. If the telephone charge on the extension exceeds the limit, further call cannot be made anymore from that extension.	(0).0000001–9999999.

Parameter	Description	Value Range
Call Forwarding (FWD)/Do Not Disturb (DND) Setting		
Trunk Call Forwarding (FWD) Set	Assigns the Call Forwarding (FWD) set on trunk calls.	On/Off
Trunk Do Not Disturb (DND) Set	Assigns the Do Not Disturb (DND) set on trunk calls.	On/Off
Trunk Call Forwarding (FWD) Mode	Selects the Call Forwarding (FWD) mode on trunk calls.	Blank/All/Busy/ No Answer/ Busy & No Answer/ WR (Double Ring)
Trunk Call Forwarding (FWD) Number	Specifies the destination number of Call Forwarding (FWD) on trunk calls.	Max. 32 digits including *, # and PF
Intercom Call Forwarding (FWD) Set	Assigns the Call Forwarding (FWD) set on intercom calls.	On/Off
Intercom Do Not Disturb (DND) Set	Assigns the Do Not Disturb (DND) set on intercom calls.	On/Off
Intercom Call Forwarding (FWD) Mode	Specifies the Call Forwarding (FWD) mode on intercom calls.	Blank/All/Busy/ No Answer/ Busy & No Answer/ WR (Double Ring)
Intercom Call Forwarding (FWD) Number	Specifies the destination number of Call Forwarding (FWD) on intercom calls.	Max. 32 digits including *, # and PF
Call Forwarding—No Answer Time	Specifies the length of time before the Call Forwarding No Answer feature is activated.	0–120 s
Message		
Extension LCD Message	Specifies the extension LCD message.	Max. 16 characters
ARS Itemised Code		
Itemised Billing Code	Specifies the Itemised Billing code.	Max. 10 digits

Line–Extension/Digital Wireless Extension–Personal Speed Dialling

Parameter	Description	Value Range
Extension * This program is not intended for DWX.		
Extension Number	Specifies the extension number.	Extension Number
Extension Name	Specifies the extension name.	Max. 20 characters
Personal Speed Dialling (0–9)		
Name	Specifies Personal Speed Dialling name.	Max. 20 characters
Number	Specifies Personal Speed Dialling number.	Max. 32 digits

Line–Extension/Digital Wireless Extension–CO Button

Parameter	Description	Value Range
Extension Number	Refers to the extension number. (Display only)	
Name	Refers to the extension name. (Display only)	
Telephone type	Refers to the telephone type. (Display only)	
CO button (1–12/24/36)	Specifies the feature assigned to a CO button.	Not Stored/S-CO/G-CO/L-CO/DSS/ One-touch/Message/(FWD/DND Both)/ (FWD/DND External)/ (FWD/DND Internal)/ (Group FWD/DND Both)/ (Group FWD/DND External)/ (Group FWD/DND Internal)/Account/ Conference/Voice Mail Transfer/ Two-way Record/Two-way Transfer/ LCS/LCS Cancel/System Alarm/G-DN/ Answer/Release/ISDN Service Access/ Call Log/EmergencyPaging/Log-in/ Log-out/Time Service/Terminate/EFA/ Charge/Call Park/CLIR/COLR/Hurry-up/ Wrap-up/(Toll Restriction/Call Barring)/ ISDN Hold/Headset

Detail

Parameter	Description	Value Range
S-CO button		
Trunk Number	Specifies the trunk number.	1–512
Tone	Specifies the tone type.	1–48
G-CO button * ₁		
Trunk Group Number	Specifies the trunk group number.	1–64
Tone	Specifies the tone type.	1–48
L-CO button * ₁		
Tone	Specifies the tone type.	1–48
DSS button		
Extension Number	Specifies the extension number.	Extension Number
One-touch Dialling button * ₁		
Dial	Specifies the dialled number.	Max. 32 digits
Group DN button * ₁		
Extension Number	Specifies the incoming call distribution group floating number.	Incoming call distribution group floating extension number.
Tone	Specifies the tone type.	1–48
Message button		
Extension Number	Specifies the extension number.	None/ Extension Number
FWD/DND button		
Target	Specifies the target extension type.	Extension/Group
Call Type	Specifies the target call type.	Both/External/Internal
Account Code Entry	Specifies the Account Code Entry button.	
Conference	Specifies the Conference button.	
Terminate	Specifies the Terminate button.	
External Feature Access	Specifies the EFA button.	

3.2 PC Programming

Parameter	Description	Value Range
Call Park button		
Park Type	Specifies the park type.	None/Automatic/ Specify
Park Number	Specifies the park number.	None/0–99
Call Log button		
Extension Number	Specifies the extension number.	None/ Extension Number
Log-in button		
Log-in Type	Specifies the log-in type.	None/All/ Incoming call distribution group
Extension Number	Specifies the incoming call distribution group extension number.	None/*/ Incoming call distribution group extension number
Hurry-up button		
Extension Number	Specifies the incoming call distribution group extension number.	Incoming call distribution group extension number
Wrap-up	Specifies the Wrap-up button	
System Alarm	Specifies the System Alarm button	
Time Service button		
Selection	Specifies the switching time mode.	All/ (Day/Night/Break)/ (Day/Night/Lunch)/ (Day/Night)
Answer	Specifies an Answer button * ¹	
Release	Specifies a Release button * ¹	
Toll Restriction/Call Barring button		
TRS/Barring Level	Specifies TRS/Barring level.	1–7
ISDN Service Access button * ¹		
Feature Number	Specifies the feature number.	Max. 32 digits
CLIR	Specifies the CLIR (Calling Line Identification Restriction) button.	
COLR	Specifies the COLR (Connected Line Identification Restriction) button.	

Parameter	Description	Value Range
Two-way Record button		
Voice Mail (VM) Extension	Specifies the VM extension number.	Extension Number
Extension Number	Specifies the extension number of message recording.	None/Extension Number
LCS	Specifies the Live Call Screening (LCS) button	
LCS Cancel	Specifies the LCS Cancel button	
Voice Mail Transfer button		
Extension Number	Specifies the VM extension number.	Extension Number
Wrap-up	Specifies the Wrap-up button.	
Charge	Specifies the Charge button.	
ISDN Hold	Specifies the ISDN Hold button.	
Headset	Specifies the Headset button.	

*1 Those buttons can be assigned to one or more CO buttons.

Line–Extension/Digital Wireless Extension–PF Button

Parameter	Description	Value Range
Extension Number	Specifies the extension number. (Display only)	Extension Number
Name	Refers to the extension name. (Display only)	
Telephone type	Refers to the telephone type. (Display only)	
PF Button (1–12)	Specifies the PF buttons. Note This feature can be assigned to one or more PF buttons.	Not Stored/One-touch

Line—DSS Console

Line—DSS Console—Setting

Parameter	Description	Value Range
DSS Console 1–8 (Cabinet 1)		
Paired Extension	Refers to the paired extension number and name. (Display only)	
DSS Console	Refers to the DSS console type. (Display only)	KX-T7040/KX-T7240/ KX-T7440/KX-T7441/ KX-T7540/KX-T7541/ KX-T7640

Line—DSS Console—DSS Key

Parameter	Description	Value Range
DSS Console 1–8 (Cabinet 1)		
DSS/PF Button (1–) Key n	Specifies the feature on the DSS/PF button.	Not Stored/S-CO/G-CO/L-CO/DSS/ One-touch/Message/(FWD/DND Both)/ (FWD/DND External)/ (FWD/DND Internal)/ (Group FWD/DND Both)/ (Group FWD/DND External)/ (Group FWD/DND Internal)/Account/ Conference/Voice Mail Transfer/ Two-way Record/Two-way Transfer/LCS/ LCS Cancel/System Alarm/G-DN/Answer/ Release/ISDN Service Access/Call Log/ EmergencyPaging/Log-in/Log-out/ Time Service/Terminate/EFA/Charge/Call Park/CLIR/COLR/Hurry-up/Wrap-up/ (Toll Restriction/Call Barring)/ISDN Hold/ Headset

Line–Doorphone

Parameter	Description	Value Range
Doorphone (1–64)		
Physical Location		
Slot	Refers to the slot position. (Display only)	PBX No.–Slot No.
Port	Refers to the port no. (Display only)	1–4
Name	Specifies the doorphone name.	Max. 20 characters
Doorphone destination		
Day	In Day mode.	Extension Number/ Trunk number
Lunch	In Lunch mode.	
Break	In Break mode.	
Night	In Night mode.	
Tenant Number	Specifies the tenant number.	1–8
COS	Specifies the COS number.	1–64
VPS Trunk Group Number	Specifies the VPS trunk group number.	1–64

Line–External Pager

Parameter	Description	Value Range
External Pager (1–8)		
Floating Number	Specifies the floating extension number.	Extension Number
Name	Specifies the name.	Max. 20 characters
Tenant (1–8)	Selects the tenant to which the External Pager is assigned.	IN/OUT
Background Music	Specifies whether BGM is sent when the External Pager is idle.	None/1–8
Volume	Specifies the volume of the external pager.	-6/-3/0/3 dB

Line–Outgoing Message (OGM)

Parameter	Description	Value Range
Outgoing Message (OGM) (1–64)		
Floating Extension Number	Specifies the floating extension number.	Extension Number
Name	Specifies the name.	Max. 20 characters
Tenant (1–8)	Assigns the tenant to which you are going to assign this outgoing message (OGM).	IN/OUT
DISA Built-in Automated Attendant Destination (Dial 0–9)		
Dial (0–9)	Specifies the extension numbers to each DISA AA number.	Extension Number
DISA Message	Selects the DISA outgoing message (OGM).	None/1–64

3.2.5 Feature

Feature—Speed Dialling & Caller ID

Table

Parameter	Description	Value Range
System Speed Dialling & Caller ID		
Caller ID	Specifies Caller ID of the originating party.	Max. 32 digits
Name	Specifies the name of the originating party.	Max. 20 characters
Destination	Specifies CLI destination.	Extension Number

Caller ID Modification Table

Parameter	Description	Value Range
Caller ID modification table (1–4)		
Table for Local Area (1–10)		
Area Code	Specifies the area code.	Max. 6 digits
Additional Dial	Specifies the added number.	Max. 4 digits (0–9, *, and #)
Digits to delete	Specifies the deleted digits.	0–9
Table for Long Distance		
Additional Dial	Specifies the added number.	Max. 4 digits (0–9, *, and #)
Digits to delete	Specifies the deleted digits.	0–9

Feature—Emergency Dialling

Parameter	Description	Value Range
Emergency Dialling Number (1–10)		
Dial	Specifies the number.	Max. 32 digits including * and #

Feature–Verified Code

Parameter	Description	Value Range
Verified Code (1–1000)		
Verified User Code	Specifies the user code that must be used.	Max. 4 digits
Verified User Name	Specifies the user name of the verified code.	Max. 20 characters
Verified Password	Specifies the acceptable password.	Max. 10 digits
COS for Verified Code	Specifies the COS for verified codes.	1–64
Itemised Billing code for ARS	Specifies the Itemised Billing code for ARS.	Max. 10 digits
Budget Management	Used to determine the total telephone charges allowed to extension users on an extension basis. If the telephone charge on the extension exceeds the limit, trunk calls cannot be made anymore from that extension.	0–99999999

Feature–Second Dial Tone

Parameter	Description	Value Range
Second Dial Tone Waiting Code (1–100)		
Dial	Specifies the carrier code.	Max. 4 digits
Pause Count	Specifies the number of pause required to ensure that the dial tone is received.	0–4

Feature–LCD Message

Parameter	Description	Value Range
LCD Message (1–9)	Specifies the LCD message. There can be a maximum of seven % characters in an LCD message.	Max. 16 characters

Feature–Printed Message

Parameter	Description	Value Range
Printing Message (1–9)	Specifies the printing message. There can be a maximum of seven % characters in an LCD message.	Max. 24 characters

Feature—Charge

Parameter	Description	Value Range
Charge Margin	Specifies a margin to be applied to the telephone charges when printed on the Check-out sheet.	0–99.99
Tax rate		
Tax 1	Specifies a tax rate which applies to telephone charges.	0–99.99
Tax 2	Specifies a tax rate which applies to minibar charges.	0–99.99
Tax 3	Specifies a tax rate which applies to other charges.	0–99.99
Decimal Point	Specifies the decimal point position. This programme is available in rate and charge settings.	0–7
Currency	Specifies the currency.	Max. 3 characters
Currency Display Position	Selects the currency display position.	Before/After
Budget Management Over	Selects how the extension is treated when the extension exceeds the limit.	Alarm/ Alarm + Disconnect
Charge Counting on Answer Detection	Assigns whether to start counting the charge when detecting an answer.	Enable/Disable

Feature–Hotel

Parameter	Description	Value Range
Hotel Operator		
Operator 1	Specifies the operator 1.	Extension Number
Operator 2	Specifies the operator 2.	Extension Number
Operator 3	Specifies the operator 3.	Extension Number
Operator 4	Specifies the operator 4.	Extension Number
Hotel Telephone Cost Detail Print	Assigns if call details are printed with the telephone charges.	Enable/Disable
Cleaning Status at Check out	Specifies the status of the hotel room at check-out.	Not Ready/Ready
Charge Title		
Contents 1	Specifies the contents 1.	Max. 12 characters
Contents 2	Specifies the contents 2.	
Contents 3	Specifies the contents 3.	
Printout Header		
Header 1		
Print	Assigns printing or not printing.	Printing/Not Printing
Data	Specifies the sentence in the print out data.	Max. 80 characters
Header 2		
Print	Assigns printing or not printing.	Printing/Not Printing
Data	Specifies the sentence in the print out data.	Max. 80 characters
Header 3		
Print	Assigns printing or not printing.	Printing/Not Printing
Data	Specifies the sentence in the print out data.	Max. 80 characters

Parameter	Description	Value Range
Printout Footer		
Footer 1		
Print	Assigns printing or not printing.	Printing/Not Printing
Data	Specifies the sentence in the print out data.	Max. 80 characters
Footer 2		
Print	Assigns printing or not printing.	Printing/Not Printing
Data	Specifies the sentence in the print out data.	Max. 80 characters
Footer 3		
Print	Assigns printing or not printing.	Printing/Not Printing
Data	Specifies the sentence in the print out data.	Max. 80 characters
Printout Location		
Header		
Line	Specifies the header start line.	0–99
Column	Specifies the header start column.	0–99
Data		
Line	Specifies the data start line.	0–99
Column	Specifies the data start column.	0–99
Footer		
Line	Specifies the footer start line.	0–99
Column	Specifies the footer start column.	0–99
Timed Reminder Message		
Day	In Day mode.	None/1–64
Lunch	In Lunch mode.	
Break	In Break mode.	
Night	In Night mode.	
VPS and COS Check-in Status	Assigns to change VPS and COS check-in status when checking-in.	Enable/Disable

Feature–Tenant

Parameter	Description	Value Range
Tenant (1–8)		
System Speed Dialling Boundary		
From	Specifies the start number.	000–999
To	Specifies the last number. The last number must be larger than the start number.	
Verified Code Boundary		
From	Specifies the start number.	000–999
To	Specifies the last number. The last number must be larger than the start number.	
Call Hold Music	Specifies the Music Source port to be used for Music on Hold for the tenant.	System/BGM 1–8/ Beep
Tenant Operator	Specifies the tenant operator extension.	Extension Number
ARS	Specifies the ARS mode.	Off/Local Access/ All Access/System

Feature–ISDN En bloc Dialling Leading Digit

Parameter	Description	Value Range
ISDN En bloc Dialling Leading Digit table (1–50)		
Leading Digit	Specifies the leading digits recognised for en bloc dialling.	7 digits including 0–9, * and #
Dial Digits	Specifies the recognised dialled digits.	0–30

3.2.6 Toll Restriction (TRS)/Call Barring (Barring)

TRS/Barring–Denied Code

Parameter	Description	Value Range
TRS/Barring Level	Selects a TRS/Barring level.	2–6
Deny Code (1–100)	Specifies the TRS/Barring deny codes.	Max. 7 digits

TRS/Barring–Exception Code

Parameter	Description	Value Range
TRS/Barring Level	Selects a TRS/Barring level.	2–6
Exception Code (1–100)	Specifies the TRS/Barring exception codes.	Max. 16 digits

TRS/Barring–Special Carrier Access Exception Code

Parameter	Description	Value Range
Special Carrier Access Code (1–20)		
Exception Code	Specifies the exception code of the carrier access code.	Max. 16 digits

TRS/Barring–Option

Parameter	Description	Value Range
TRS/Barring Override by System Speed Dialling	Assigns whether to override TRS/Barring by System Speed Dialling.	Enable/Disables
Check "*" and "#" data	Selects whether the system checks for "*" and "#" as a part of the TRS/Barring procedure.	No Check/Check
Trunk Seizure after TRS/Barring Time Out	Selects the status of the Trunk when the TRS/Barring check times out.	Keep/Disconnect
TRS/Barring Dial Digits—Incoming Call	Specifies the maximum number of dialled digits allowed while receiving incoming calls.	None/1–7
Dialling Mode Selection while talking	Selects the dialling mode during a conversation with an outside party.	All/Tone/Pulse/Key Pad
TRS/Barring Check after EFA	Assigns whether to restrict the call after utilising EFA (External Feature Access).	Enable/Disable

3.2.7 Automatic Route Selection (ARS)

ARS–System

Parameter	Description	Value Range
ARS Mode	Selects whether to use ARS (Automatic Route Selection) or not.	Off/Local Access/ All Access
No Carrier Access code Operation	Selects what happens when the system does not find the carrier code.	Local Access/ Disconnect

ARS–Leading Digit

Parameter	Description	Value Range
ARS Leading Digits (1–1000)		
Leading Digits	Specifies the leading digits of the telephone number which will be routed by the ARS procedure.	Max. 16 digits (Wild card is not available.)
Additional Dial Digits	Specifies any additional digits.	0–5 digits
Routing Plan	Specifies the Routing Plan which is used for routing the telephone number registered in leading digit.	1–16

ARS–Routing Plan Time Table

Parameter	Description	Value Range
Routing Plan Time Table (1–16)		
Time Table (Sun–Sat)		
Time-A Setting	Assigns whether the plan is used a first time each day.	Enable/Disable
Time-A	Specifies Time-A.	00:00–23:59
Time-B Setting	Assigns whether the plan is used a second time each day.	Enable/Disable
Time-B	Specifies Time-B.	00:00–23:59
Time-C Setting	Assigns whether the plan is used a third time each day.	Enable/Disable
Time-C	Specifies Time-C.	00:00–23:59
Time-D Setting	Assigns whether the plan is used a fourth time each day.	Enable/Disable
Time-D	Specifies Time-D.	00:00–23:59

ARS–Routing Plan Priority

Parameter	Description	Value Range
Routing Plan (1–16)		
Time Table (Sun–Sat)		
Time-A		
Priority (1–6)	Specifies the carrier priority (1–6).	None/1–10
Time-B		
Priority (1–6)	Specifies the carrier priority (1–6).	None/1–10
Time-C		
Priority (1–6)	Specifies the carrier priority (1–6).	None/1–10
Time-D		
Priority (1–6)	Specifies the carrier priority (1–6).	None/1–10

ARS–Carrier

Parameter	Description	Value Range
Carrier (1–10)		
Name	Specifies the carrier name.	Max. 20 characters
Digits to delete	Assign the number of digits to delete from the beginning of the user dialled number.	0–15
Carrier Access Code	Assign the code to access its carrier.	Max. 32 digits
Outgoing Trunk Group (1–64)	Assigns the trunk groups which access or are connected to this carrier.	Enable/Disables
Authorisation Code		
Tenant (1–8)	Specifies the authorisation code for each tenant.	Max. 10 digits
Trunk Group (1–64)	Specifies the authorisation code each trunk group.	Max. 10 digits
Modified Command	Specifies the modified command.	Max. 16 digits including 0–9, "A", "S", "C", "P", "I", "H", "Z", "X" and "#"

ARS–Exception Code

Parameter	Description	Value Range
ARS Exception Code (1–200)		
Code Number	Specifies the number.	Max. 16 digits

3.2.8 Private Network

Private Network–Common

Parameter	Description	Value Range
PBX Code	Specifies the identity of PBX.	Max. 7 digits

Private Network–TIE Routing Plan Table

Parameter	Description	Value Range
TIE Routing Plan Table (1–32)		
Leading Digits	Specifies the leading one, two or three digits of the number for TIE calls. Used to determine the trunk group for routing a TIE call.	Max. 3 digits consisting of 0–9 or X (Wild card)
Priority (1–8)		
Digits to delete	Specifies the number of digits to be deleted from the dialled digits.	0–15
Additional Digits	Specifies the digits to be added to the dialled number.	Max. 32 digits
Trunk Group for TIE Call	Specifies the trunk group to be used when making a TIE call.	None/1–64

3.2.9 Incoming Call

Incoming Call–DIL/DDI/DID/TIE

Parameter	Description	Value Range
Trunk Port (1–128)		
Slot	Refers to PBX No.–Slot No. (Display only)	
Port	Refers to the port no. (Display only)	
Channel number	Specifies the channel number.	BRI4/BRI8 (0, 1)/ PRI23 (0–22)/ PRI30 (0–29)/ Other cards (0)
Card Type	Refers to the card type. (Display only)	BRI/PRI/LCOT/T1/E1/ E & M/IP-GW
Port Type	Refers to the port type. (Display only)	L-CO/Trunk line/ Extn./ QSIG-Master/ QSIG-Slave/G-CO/ DID/E & M-C/E & M-P/ OPX
Trunk Attribute	Refers to the trunk attribute.	Public/Private/VPN
Incoming Type	Selects how the incoming trunk call is routed to the destination within the system.	DIL/DDI(DID)/MSN/ TIE ^{*1}

^{*1} Value Range of Incoming Type.

Card Type	Port Type	Value Range
LCOT	L-CO	DIL
T1	L-CO	DIL
	G-CO	DIL
	DID	DIL, DID
	E & M-C	DIL, DID
E1	DR2	DIL, DID
	E & M-C	DIL, DID
	E & M-P	DIL, DID
E & M	E & M-C	DIL
	E & M-P	DIL
BRI	Trunk line	DIL, DID, MSN
PRI	Trunk line	DIL, DID
IP-Gateway	Trunk line	DIL, DID

Parameter	Description	Value Range
CLI (Calling Line Identification) Ring Destination		
Day	In Day mode.	Enable/Disable
Lunch	In Lunch mode.	
Break	In Break mode.	
Night	In Night mode.	
DIL Destination		
Day	In Day mode.	Extension Number
Lunch	In Lunch mode.	
Break	In Break mode.	
Night	In Night mode.	
Tenant Number for DIL	Specifies the tenant number for DIL.	1–8
VPS Trunk Group Number	Specifies the trunk group number for the VPS.	1–48
DDI/DID/TIE/MSN dial information		
Digits to delete	Specifies the number of digits to be deleted from the number received from the DDI/DID/TIE/MSN lines.	0–15
Additional Dial	Specifies the number of digits to be added to the number received from the DDI/DID/TIE/MSN lines.	Max. 8 digits consisting of 0–9

Incoming Call–DDI/DID Table

Parameter	Description	Value Range
DID/DDI Table (1–1000)		
Number	Specifies DID/DDI number	Max. 32 digits
Name	Specifies DID/DDI name	Max. 20 characters
CLI Ring Routing		
Day	In Day mode.	Enable/Disable
Lunch	In Lunch mode.	
Break	In Break mode.	
Night	In Night mode.	
DID/DDI Destination		
Day	In Day mode.	Extension Number
Lunch	In Lunch mode.	
Break	In Break mode.	
Night	In Night mode.	
Tenant Number for DDI/DID	Specifies the tenant number for incoming DDI/DID calls.	1–8
VPS Trunk Group Number	Specifies the trunk group number for the VPS.	1–48

Incoming Call–MSN

Parameter	Description	Value Range
Slot	Refers to PBX No.–Slot No. (Display only)	
Port	Refers to the port no. (Display only)	
Incoming Type	Selects how the incoming trunk call is routed to the destination within the system.	DIL/DDI(DID)/MSN
Location (1–10)		
Number	Specifies the MSN number.	Max. 16 digits
Name	Specifies the name.	Max. 20 characters
CLI Ring Routing		
Day	In Day mode.	Enable/Disable
Lunch	In Lunch mode.	
Break	In Break mode.	
Night	In Night mode.	
MSN Destination		
Day	In Day mode.	Extension Number
Lunch	In Lunch mode.	
Break	In Break mode.	
Night	In Night mode.	
Tenant Number for MSN	Specifies the tenant number for incoming MSN calls.	1–8
VPS Trunk Group Number	Specifies the trunk group number for the VPS.	1–48

Incoming Call–Option

Parameter	Description	Value Range
Intercept Busy	Assigns Intercept on Busy.	Disable (Busy Tone)/Enable
Intercept Do Not Disturb (DND)	Assigns Intercept on Do Not Disturb (DND).	Disable (Busy Tone)/Enable
Intercept Illegal Dial	Assigns Intercept on invalid number.	Disable (Reorder Tone)/Enable

3.2.10 Maintenance

Maintenance—SMDR

Parameter	Description	Value Range
Type	Specifies the type of SMDR printout.	Type A/Type B/Type C
Port	Specifies the port used for SMDR.	None/ RS-232C 1/ RS-232C 2/ RS-232C 3/ RS-232C 4/ USB 1/USB 2/ USB 3/USB 4
Page Length	Specifies the number of lines per page. Used to match the SMDR output to the paper being used in the printer.	4–99
Skip Perforation	Specifies the number of lines to be skipped at the end of every page.	0–95
Outgoing Call Printing	Assigns whether SMDR will print out the information about outgoing calls.	Printing/Not Printing
Incoming Call Printing	Assigns whether SMDR will print out the information about incoming calls.	Printing/Not Printing
Intercom Call Printing	Assigns whether SMDR will print out the information about intercom calls.	Printing/Not Printing
Log-in/out Printing	Assigns whether the Log-in/Log-out of Extension Groups/Incoming Call Distribution Groups members and Phantom extensions will be printed out on the SMDR.	Printing/Not Printing
Room Status Printing	Assigns whether room status will be printed out on the SMDR. (For the hotel.)	Printing/Not Printing
Timed Reminder Printing	Assigns whether SMDR will print out the information about Timed Reminder feature. (For the hotel.)	Printing/Not Printing
ARS Dial	Selects printing of the user-dialled number or the modified number as dialled by ARS on the SMDR.	User Dial/ARS Dial
CLIP/Caller ID Printing format	Selects the printed format of CLIP/Caller ID.	None/Number/Name/ Name + Number
DDI/DID Printing format	Selects the printed format of the DDI/DID subscriber number.	None/Number/Name/ Name + Number
Speed Dialling Name	Assigns whether the Speed Dialling Name will be printed on the SMDR.	Printing/Not Printing
Secret Dial	Selects printing of secret numbers.	Secret/Print

Parameter	Description	Value Range
Privacy Mode	Specifies the printing type of dialled number.	Dialled Number/ Print "X"
Display Language	Specifies the language shown on SMDR.	English/4 Other Preinstalled Languages
Date Format	Selects the date format in SMDR.	Month-Day-Year/ Day-Month-Year/ Year-Month-Day/ Year-Day-Month
Character Code	Selects the character code.	IBM ASCII/ISO-8859-1

Maintenance—Remote

Parameter	Description	Value Range
Analogue Remote (Modem)		
Floating Extension Number	Specifies the floating extension number.	Extension Number
Name	Specifies the name.	Max. 20 characters
ISDN Remote		
Floating Extension Number	Specifies the floating extension number.	Extension Number
Name	Specifies the name.	Max. 20 characters
Remote Programming Assignment	Assigns the remote programming.	Enable/Disable
Remote Password Lock Times	Specifies the number of time you are allowed to enter the wrong remote password.	None/1–15

Maintenance—PT Programming by User

Parameter	Description	Value Range
User Programming List (000–999)		
Programming number	Refers to the programming number. (Display only)	
Programming Name	Refers to the programming name. (Display only)	
User Operation	Assigns whether to allow the user to programme.	Enable/Disable
Dealer & User Operation	Assigns whether to allow the dealer and user to programme.	Enable/Disable

Maintenance—RS-232C Port

Parameter	Description	Value Range
RS-232C Port Parameter (1–4)		
New Line	Selects the new line code.	CR + LF/CR
Baud Rate	Selects the baud rate.	2400/4800/9600/ 19200/38400/57600/ 115200 bps
Data Bits	Selects the word length.	7/8
Parity	Selects the parity bit.	None/Mark/Space/ Even/Odd
Stop bits	Selects the stop bit.	1/2
Flow Control	Selects the flow control type.	None/Hardware/ (Xon/Xoff)

Maintenance—Daily Test Setting

Parameter	Description	Value Range
Setting	Assigns testing.	Enable/Disable
Start Time	Specifies the start time of testing.	00:00–23:59

Maintenance—External Modem Control

Parameter	Description	Value Range
External Modem Command	Specifies the external modem command for the initial setting.	Max. 80 characters consisting of 0–9, A–Z, a–z or the other marks

Maintenance—Power Failure Transfer Control

Parameter	Description	Value Range
PFT Card Position (1–6)		
Trunk Card Slot Number	Specifies the trunk card location.	1–11 ^{*1}
Extension Card Slot Number	Specifies the extension card location.	1–11 ^{*1}

^{*1} The same number for each of the trunk and extension card is not available.

Maintenance–Error–Alarm Information

Parameter	Description	Value Range
Error Log Information Print	Assigns whether the error log information is printed.	Printing/Not Printing
Local Alarm		
Floating Number	Specifies the floating extension number.	Extension Number

3.2.11 Software Version

Parameter	Description
MPR (Main Central Processing) software data (Display only)	
PBX No.	Specifies the PBX number.
Version	Specifies the MPR (Main Central Processing) version.
LPR (1–11) software data (Display only)	
Slot	Specifies the slot no.
Type	Specifies the card type.
Version	Specifies the software version.

3.2.12 Password Change

Parameter	Description	Value Range
System Password	Specifies the system password.	4–10 digits
User Password	Specifies the user password.	4–10 digits
Manager Password	Specifies the manager password.	4–10 digits

3.3 PT Programming

Required Telephone/Extension

A PT with multiline display (e.g., KX-T7636 6-line display) is required for the system programming. The extension must be in a COS permitted "System & Personal Programming" or the extension connected to the smallest port number.

System programming allows only one extension user to enter at any time.

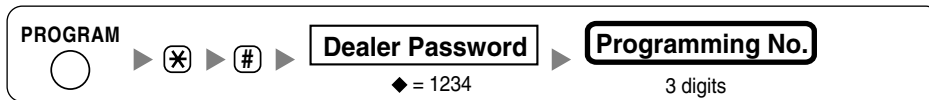
Buttons and Functions

Functions	Fixed Button	
	T76XX	Previous PT
PREV (PREVIOUS)		
NEXT		
➡/Page up		FWD/DND
⬅/Page down		CONF
ENTER		AUTO DIAL STORE
Back to previous menu		—
END	HOLD 	
CLEAR	TRANSFER 	
SELECT	AUTO ANSWER MUTE 	
PROGRAM/ Pause	PROGRAM / PAUSE 	
Flash	FLASH/ RECALL 	
Secret	INTERCOM 	
SOFT KEY		

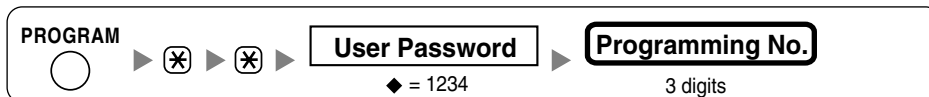
Entering System Programming mode

System Programming enables the extension user to set the time, call destination and all sorts of system conditions within the limits of available programming. The dealer or manager can also set up a desired parameters for user programming. It is necessary to enter the relevant password to start programming. Programming has two levels, Dealer level and User level.

Dealer Level



User Level



Note

◆ means default value through this manual.

Programming Structure

Programming Number	Programming Group Title	Description
[0XX]	Basic Programming	Frequently used programming steps.
[1XX]	System Programming	Global system parameters.
[2XX]	System Timer Programming	Flexible system timers.
[3XX]	TRS/Barring/ARS Table Programming	TRS/Barring and Automatic Route Selection (ARS).
[4XX]	Trunk Programming	Setting of trunk, trunk group, or BRI line features.
[5XX]	COS Programming	Class of Service parameters.
[6XX]	Extension Programming	Assignment of the extension features
[7XX]	Resource/Interface Programming	Assignment of the various interfaces on the PBX.
[8XX]	SMDR & Maintenance Programming	Setting of SMDR and maintenance features.
[9XX]	Card Programming	The programming used to refer to or delete the Card.

Entering Characters

To store a name or message, you can enter the following characters. Those tables show you the characters available on each button. To change to another table, press the Message button.

Table 1 (Standard Display)

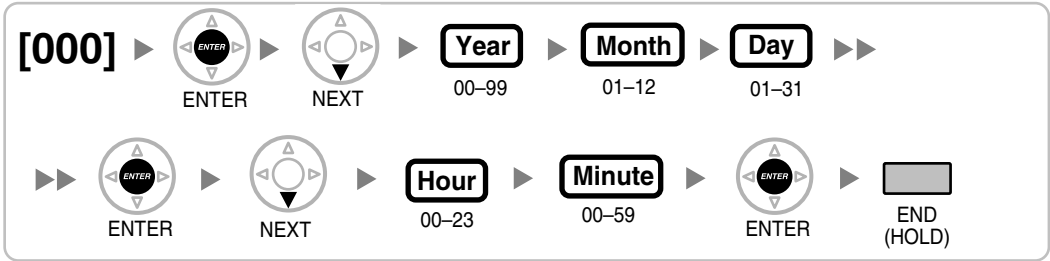
Times Buttons	1	2	3	4	5	6	7	8	9
1	!	?	"	1					
2	A	B	C	a	b	c	2		
3	D	E	F	d	e	f	3		
4	G	H	I	g	h	i	4		
5	J	K	L	j	k	l	5		
6	M	N	O	m	n	o	6		
7	P	Q	R	S	p	q	r	s	7
8	T	U	V	t	u	v	8		
9	W	X	Y	Z	w	x	y	z	9
0		.	,	'	:	;	0		
*	/	+	–	=	<	>	*		
#	\$	%	&	@	(	)	€	£	#

Table 2

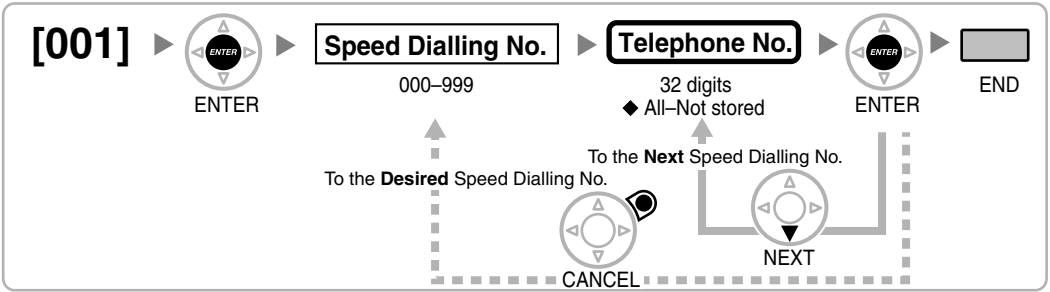
Times Buttons	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	!	?	"	ä	ö	ü	1								
2	A	B	C	a	b	c	À	Á	Â	Ã	Ä	Å	Æ	Ç	2
3	D	E	F	d	e	f	Ð	È	É	Ê	Ë	3			
4	G	H	I	g	h	i	Ì	Í	Î	Ï	4				
5	J	K	L	j	k	l	5								
6	M	N	O	m	n	o	Ñ	Ò	Ó	Ô	Õ	Ö	Ø	Œ	6
7	P	Q	R	S	p	q	r	s	ß	7					
8	T	U	V	t	u	v	Ù	Ú	Û	Ü	8				
9	W	X	Y	w	x	y	Ý	9							
0		.	,	'	:	;	0								
*	/	+	–	=	<	>	*								
#	\$	%	&	@	(	)	€	£	#						

Basic Programming

Date & Time



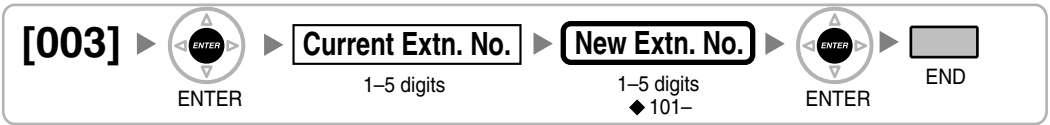
System Speed Dialling Number



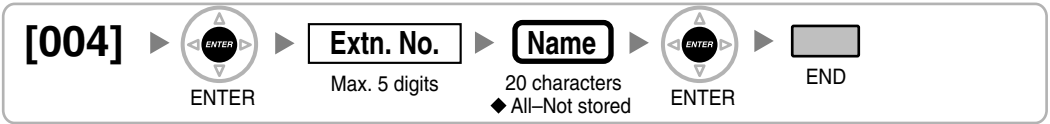
System Speed Dialling Name



Extension Number



Extension Name



Personal Password



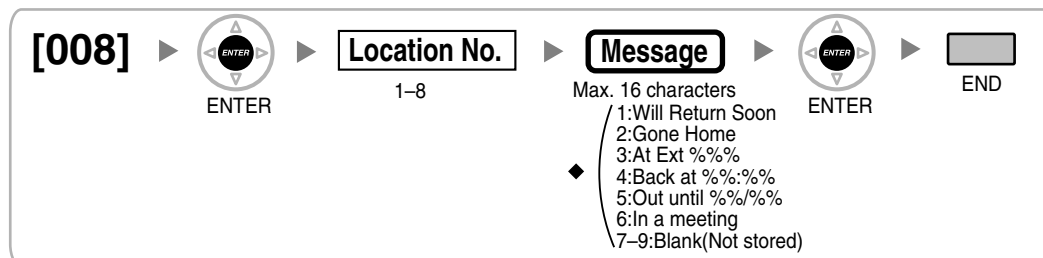
Operator Assignment



Console and Paired Telephone Assignment



Absent Message



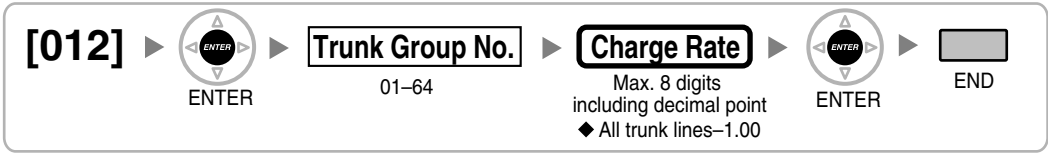
Charge Margin



Charge Tax

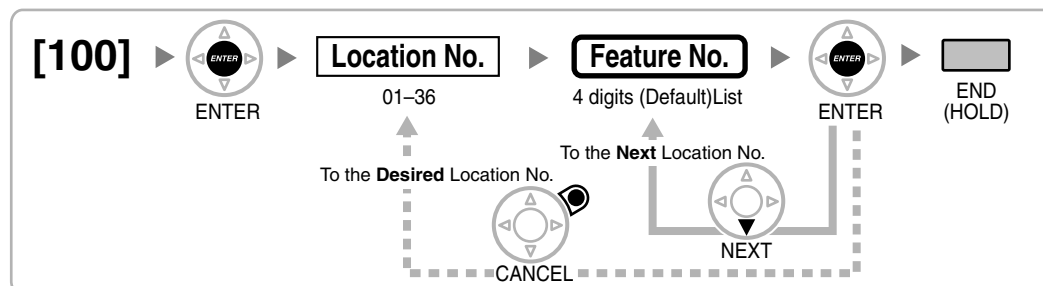


Charge Rate per Unit



System Programming

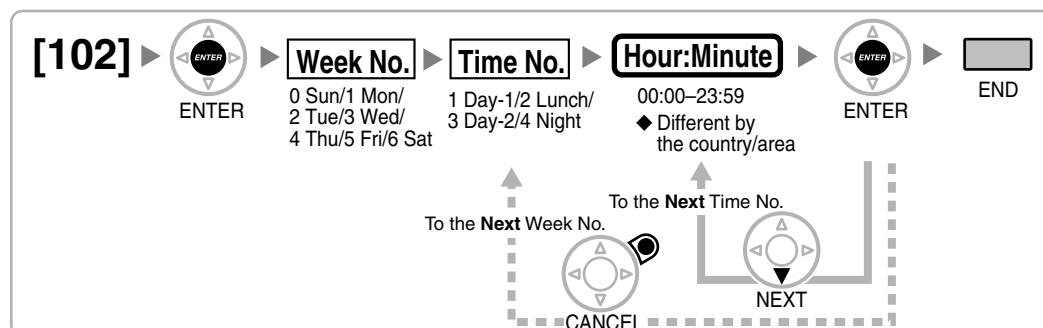
Flexible Numbering



Time Service Switching Mode



Time Service Start Time



Automatic Trunk Group Access Assignment



System Password for Dealer



System Password for User



Manager Password



Verified Code Number



Verified Code Name



Verified Code Password



Verified Code COS Number



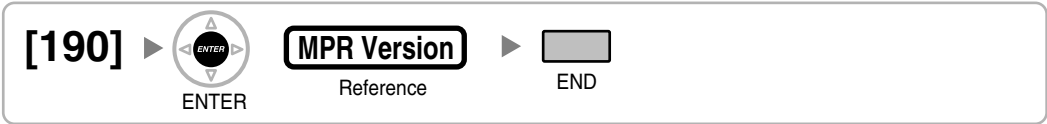
Decimal Point for Currency



Currency



Main Processor Software Reference



Time Programming

Hold Recall Time



Transfer Recall Time



Intercept Time



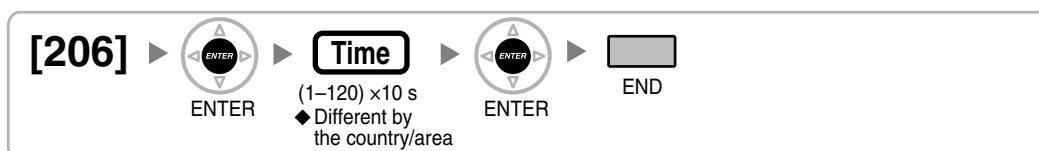
Hot Line Waiting Time



Automatic Redial Repeat Times



Automatic Redial Interval



Door Open Duration Time



Call Duration Count Start Time



DISA Delayed Answer Time



DISA Extend Time



DISA Intercept Time

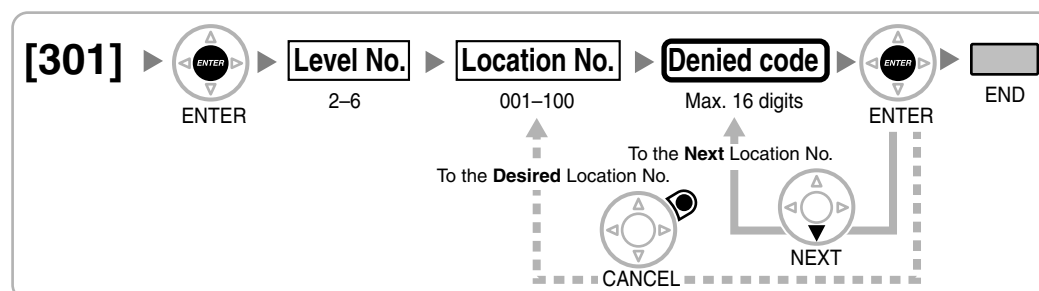


TRS/Barring Line Routing Table Programming

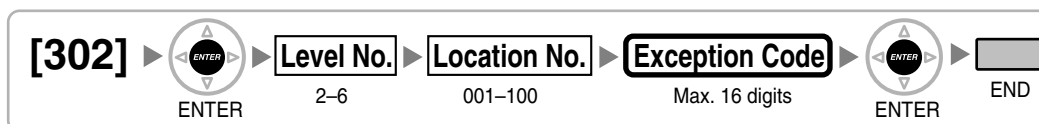
TRS/Barring Override by System Speed Dialling



TRS/Barring Denied Code



Exception Code



Special Carrier Access Code



Emergency Dialling Number



ARS Mode



ARS Leading Digits



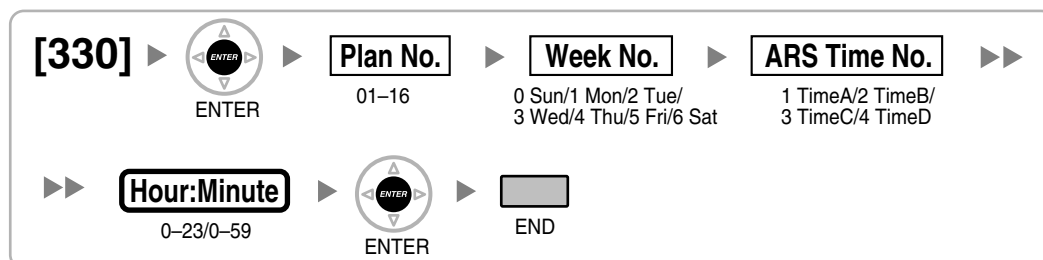
ARS Routing Plan Number



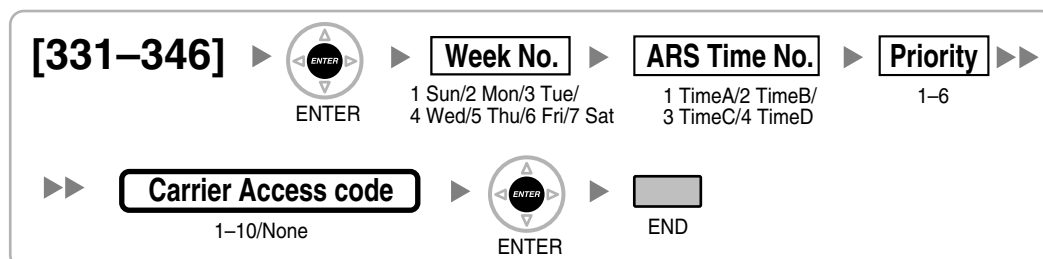
ARS Exception Number



ARS Routing Plan Time Table



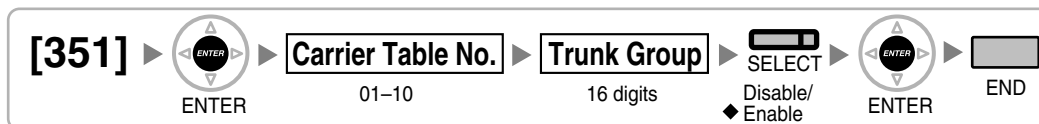
ARS Routing Plan Table (1–16) Assignment



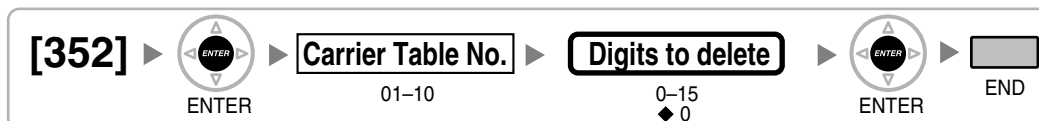
ARS Carrier Name



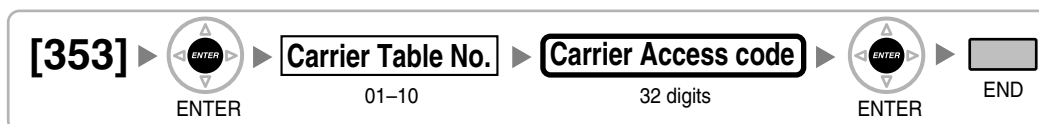
ARS Outgoing Trunk Group for Carrier Access



ARS Removed Digits for Carrier Access code

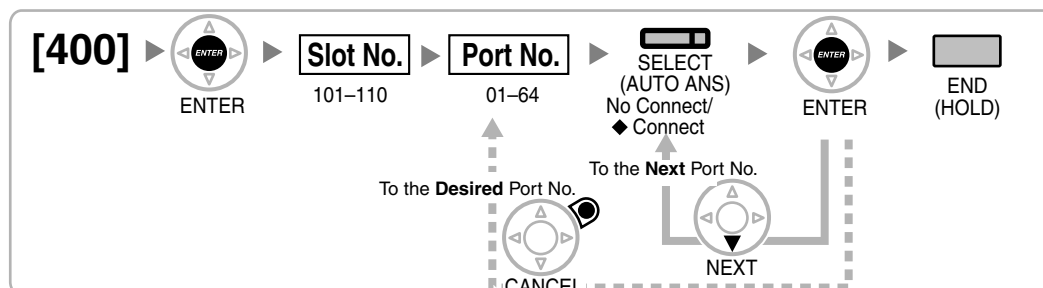


ARS Added Number for Carrier Access code



Trunk Programming

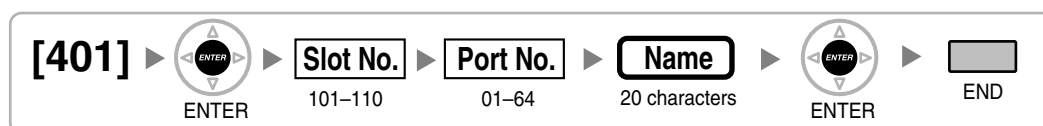
Trunk Connection



Note

To confirm the Trunk connection and programming using a PT, dial [*] [3] [7] + Trunk Access number (3 digits). You will hear a dial tone if it is available and connected.

Trunk Name



Trunk Group



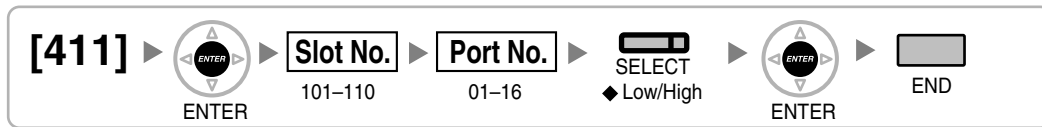
Trunk Access Number Reference



LCOT Dialling Mode



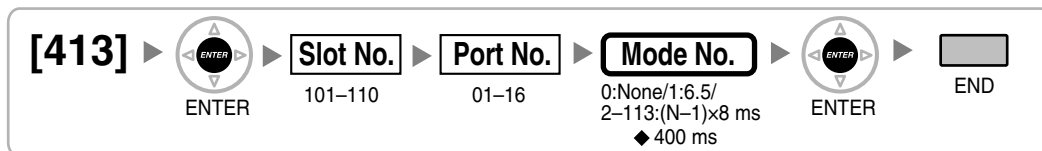
LCOT Pulse Speed



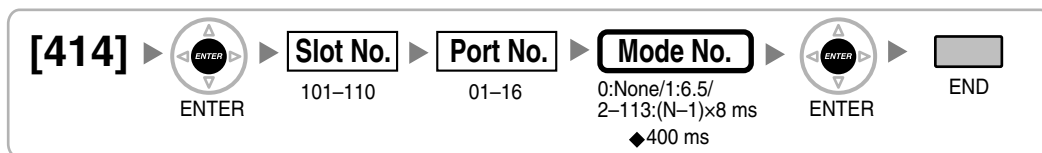
LCOT DTMF Duration



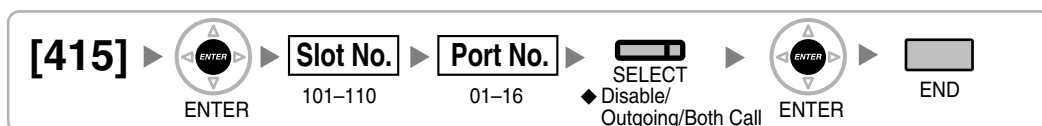
LCOT CPC Signal Detection Time—Outgoing



LCOT CPC Signal Detection Time—Incoming



LCOT Reverse Circuit



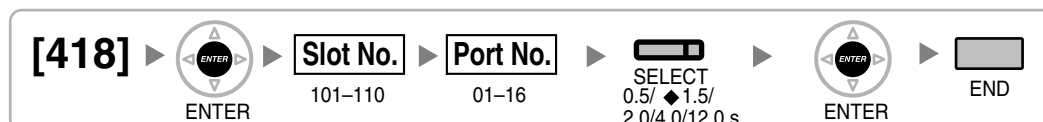
LCOT Pause Time



LCOT Flash Time



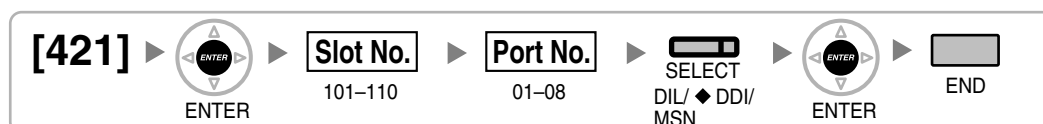
LCOT Disconnect Time



BRI Automatic Configuration



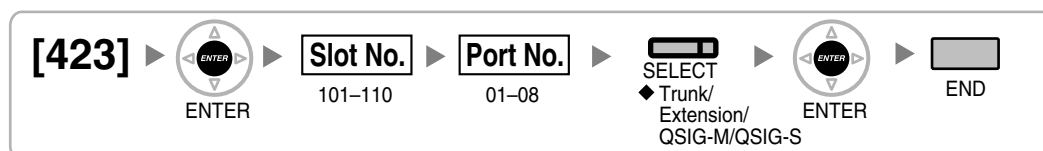
BRI DIL/DID/MSN Selection



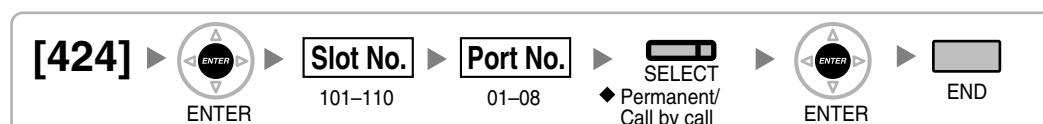
BRI Subscriber Number



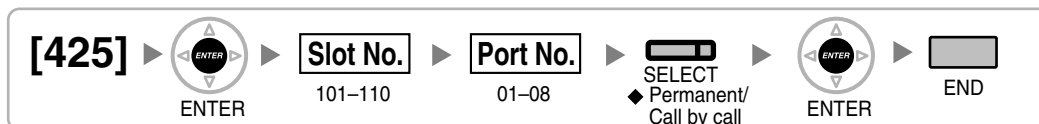
BRI Port Type



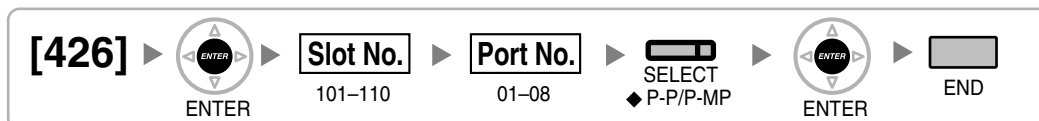
BRI Layer 1 Active Mode



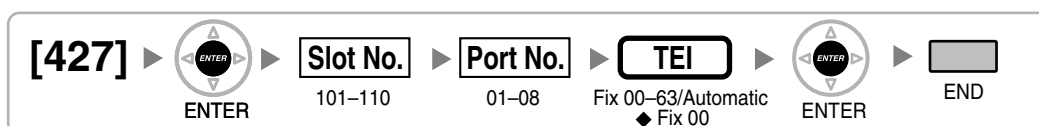
BRI Layer 2 Active Mode



BRI Configuration



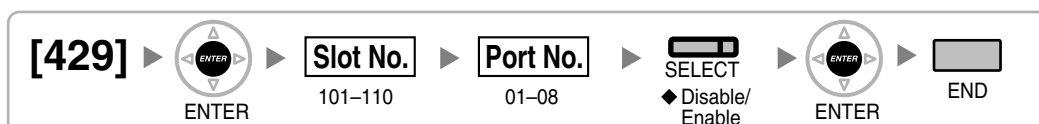
BRI TEI Mode



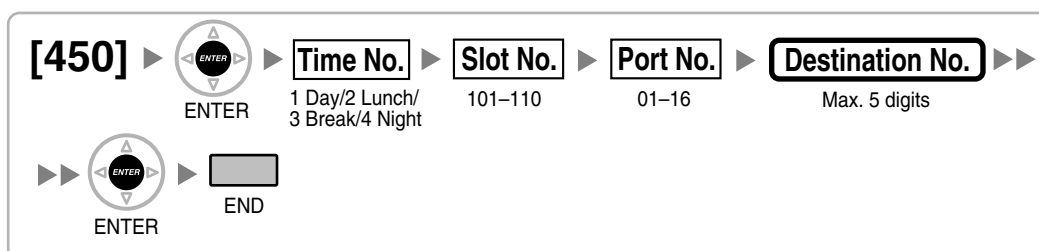
BRI Network Type



BRI Extension Tone



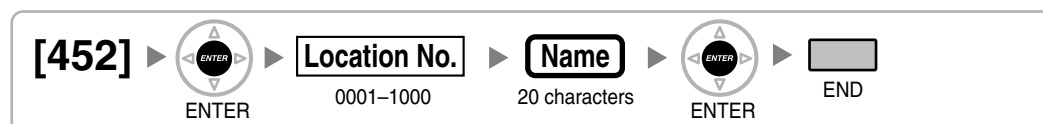
DIL 1:1 Destination



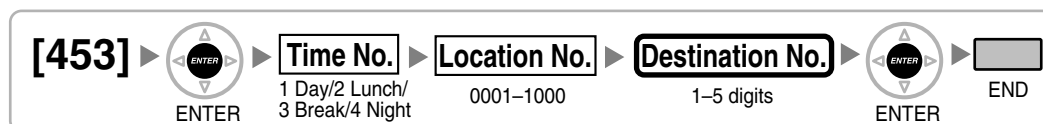
DID Number



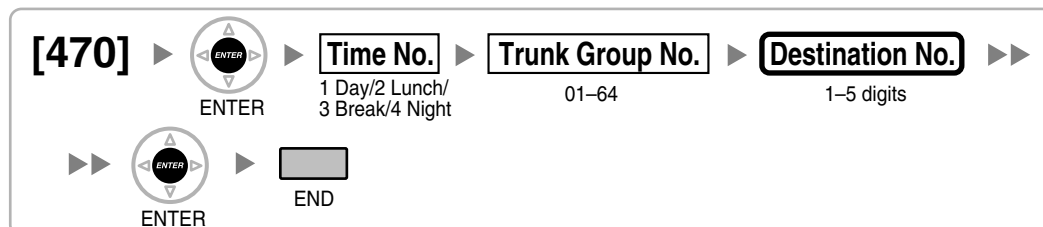
DID Name



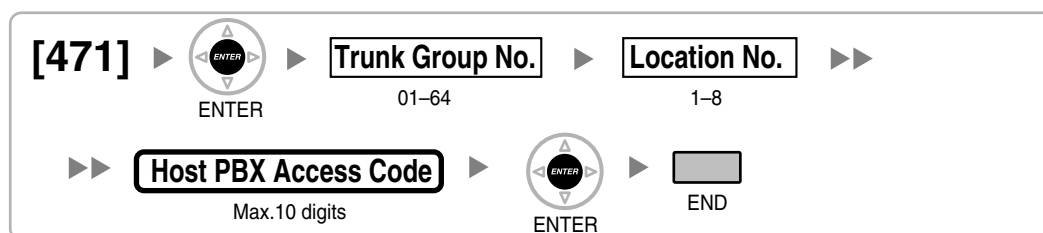
DID Destination



Trunk Group Intercept Destination



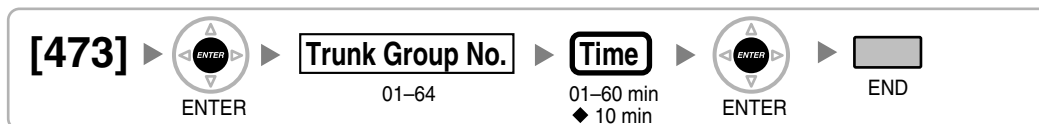
Host PBX Access Code



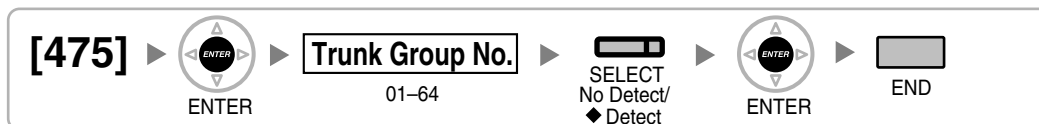
Extension-to-Trunk Call Duration Time



Trunk-to-Trunk Call Duration Time



DISA Silence Detection



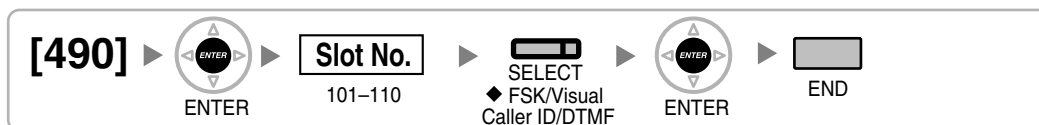
DISA Continuous Tone Detection



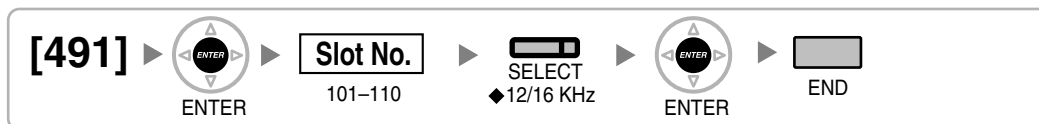
DISA Cyclic Tone Detection



Caller ID Signal Type

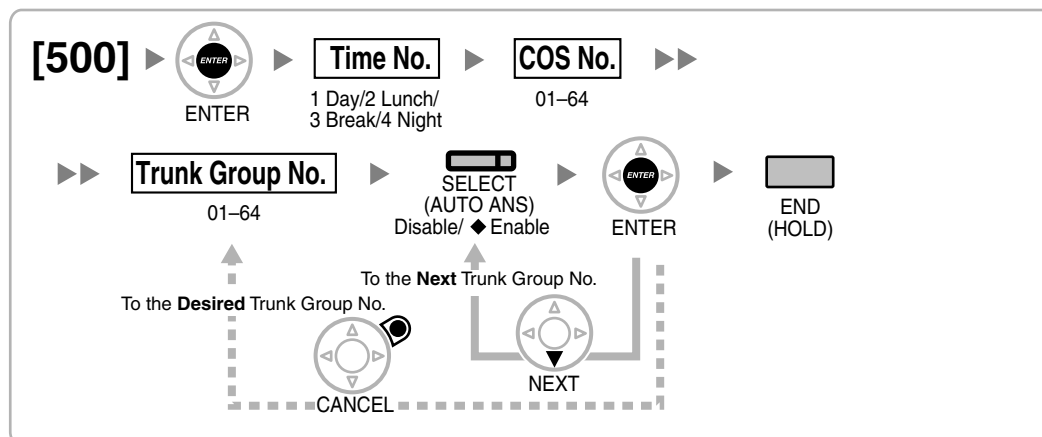


Pay Tone Signal Type

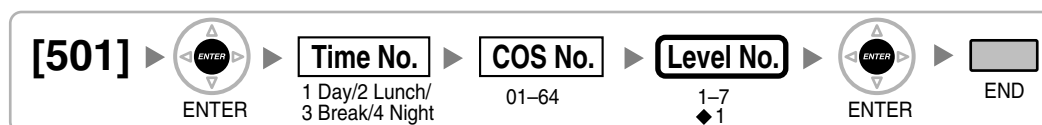


COS Programming

Outgoing Trunk Group Number



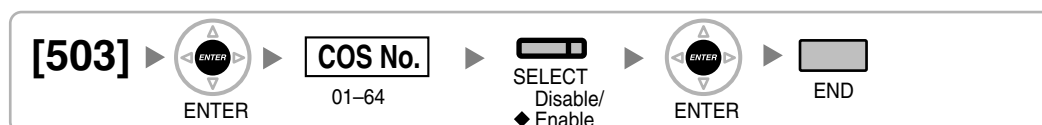
TRS/Barring Level



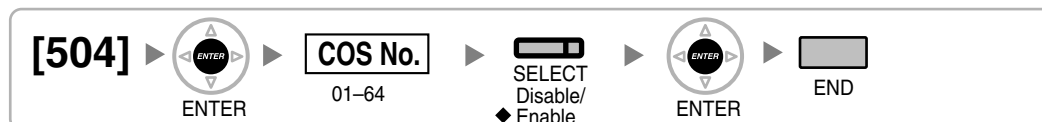
Trunk Call Duration Limitation



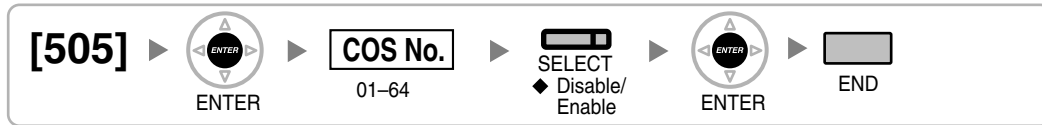
Call Transfer on Trunk Calls



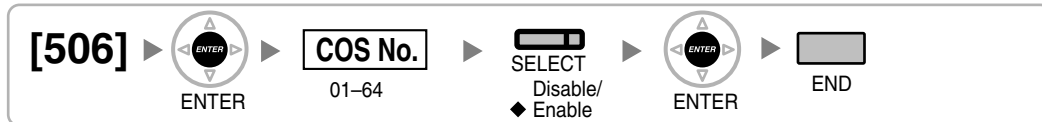
Call Forwarding on Trunk Calls



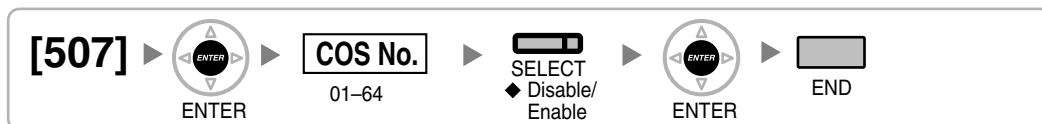
Executive Busy Override



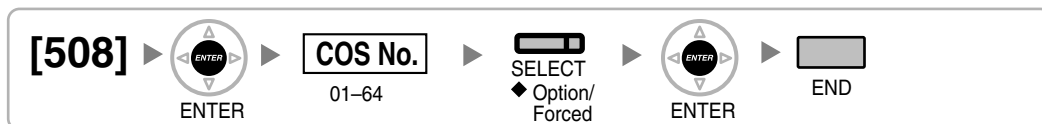
Executive Busy Override Deny



DND Override



Account Code Mode



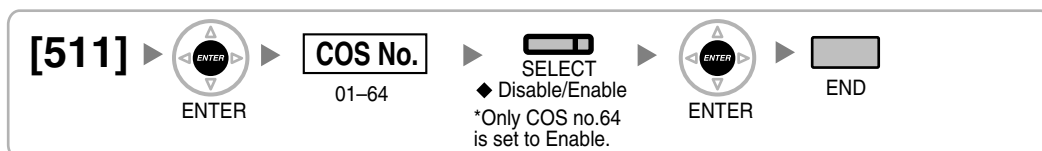
Speed Dialling TRS/Barring Level



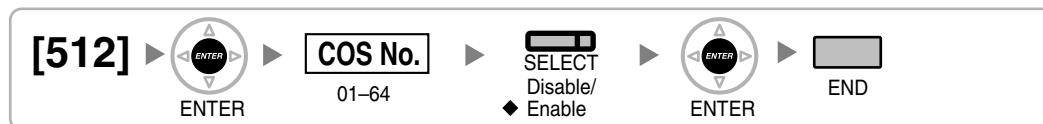
Extension Lock TRS/Barring Level



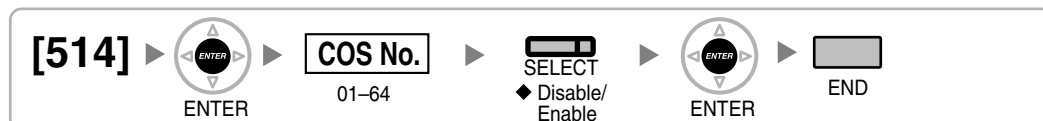
Manager Assignment



Door Open Assignment



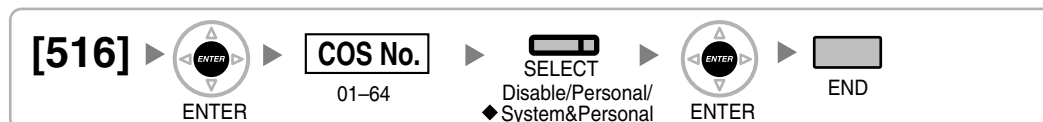
Time Service Switching Mode



Wireless XDP Parallel Mode for Paired Telephone

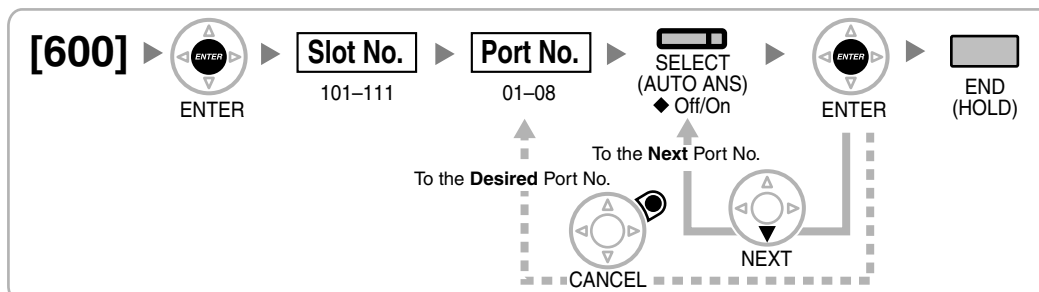


Programming Mode Level

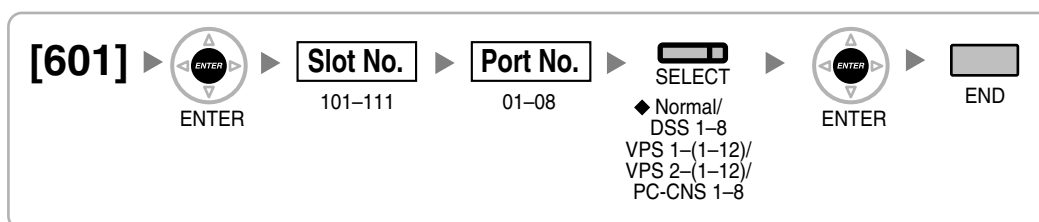


Extension Programming

XDP Assignment



VPS/DSS Console/PC Console Assignment



Class of Service



Extension Group Assignment



Extension Intercept Destination



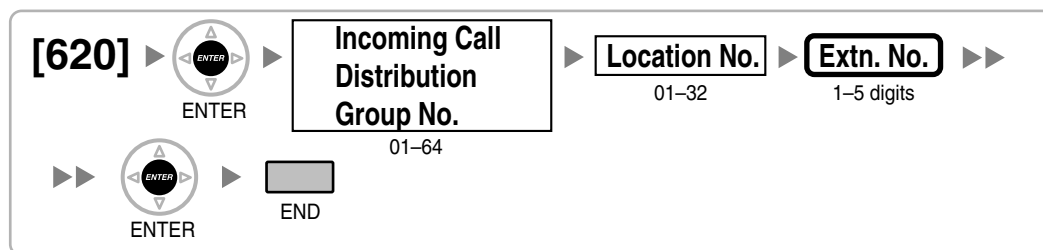
Call Forwarding—No Answer Time



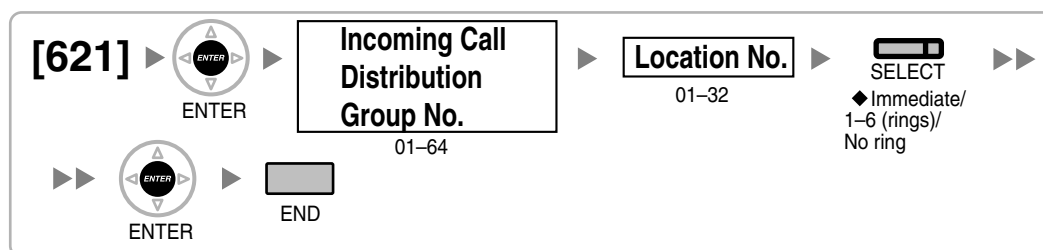
CLIP/COLP Number Assignment



Incoming Call Distribution Group Extension Number



Delayed Ringing



Incoming Call Distribution Group Floating Extension Number



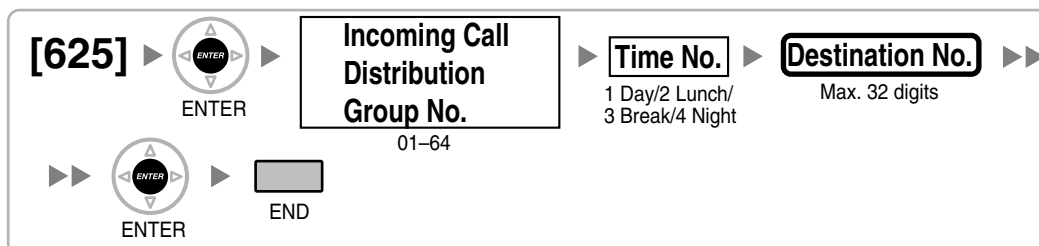
Incoming Call Distribution Group Name



Incoming Call Distribution Group Type



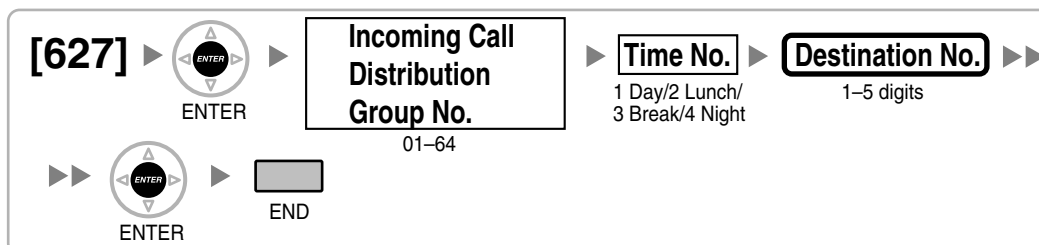
Overflow Destination on Time Out



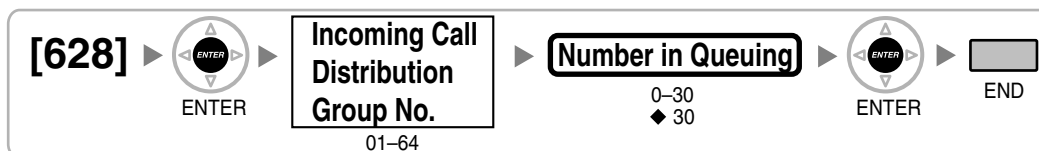
Overflow Time Assignment



Overflow Destination by Busy



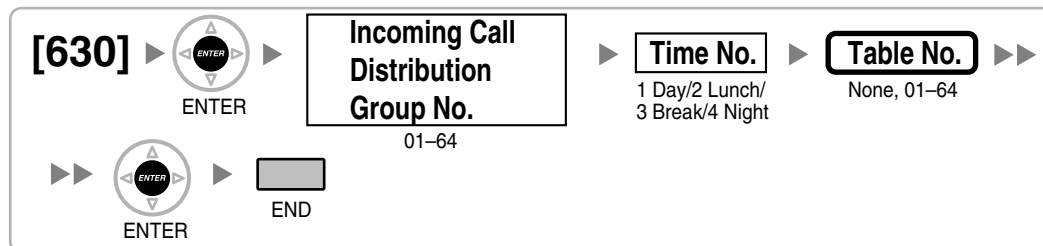
Queuing Call Limit



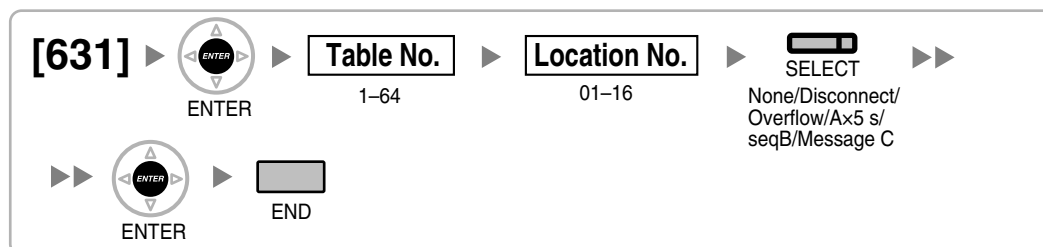
Queuing Hurry-up Level



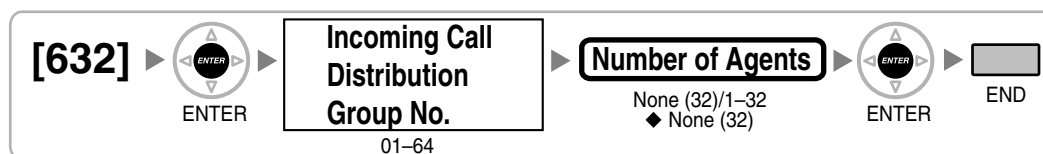
Queuing Time Table Number



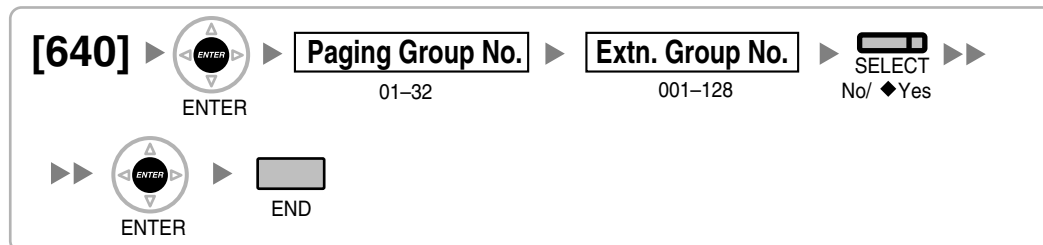
Queuing Time Table



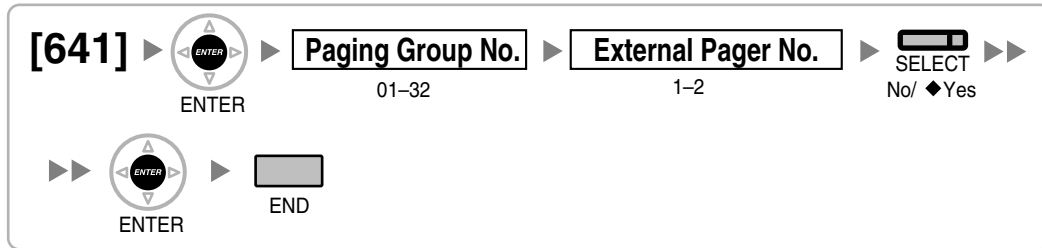
Maximum Number of Agents



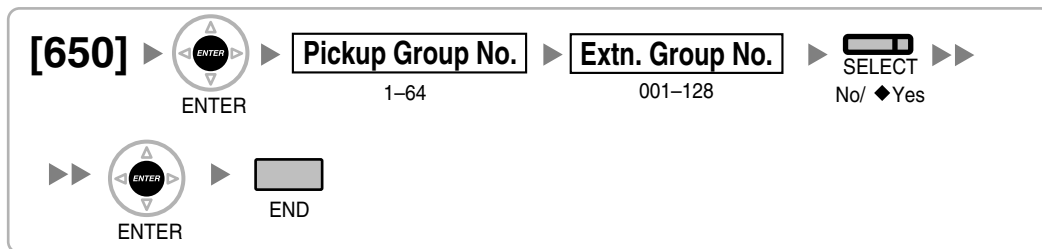
Paging Group for Extension Group



Paging Group for External Pager



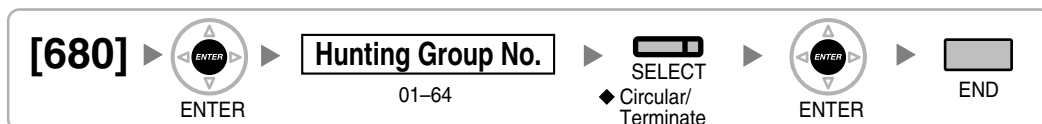
Pickup Group for Extension Group



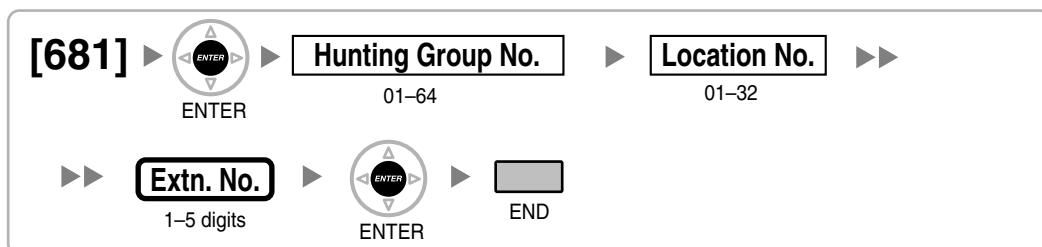
VM Group Floating Extension Number



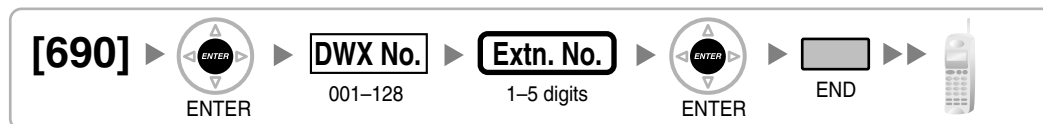
Idle Extension Hunting Type



Hunting Floating Extension Number

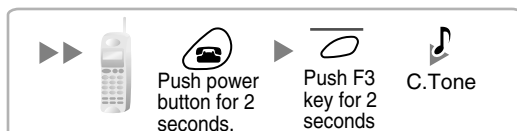


DWX (Digital Wireless Extension) Registration

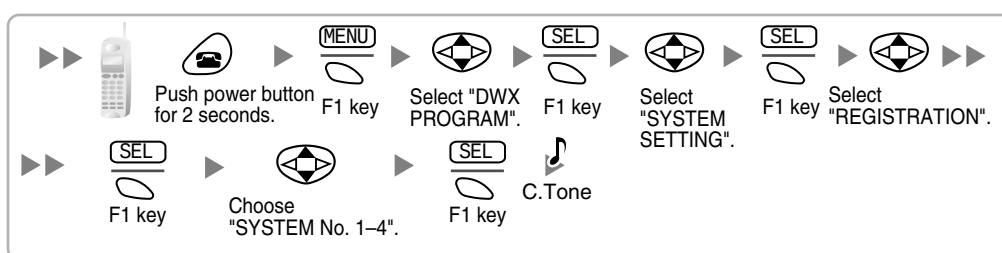


Using the KX-TD7690

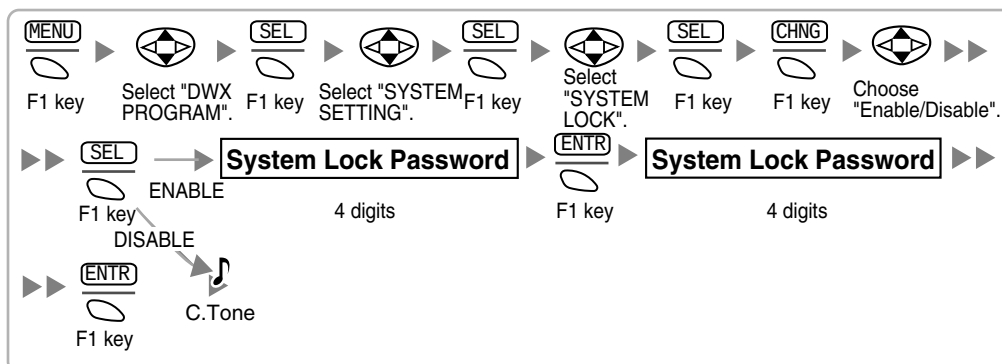
When the DWX has not been registered yet.



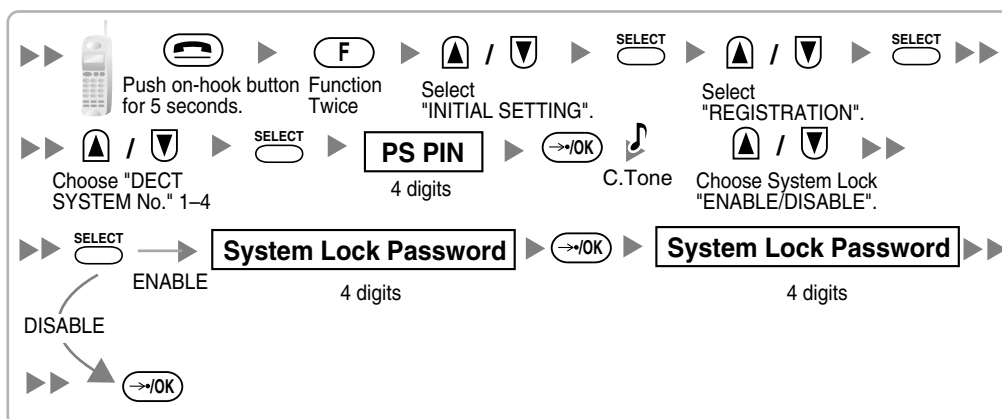
When the DWX has been already registered.



Assigns to set the System Lock by using KX-TD7690

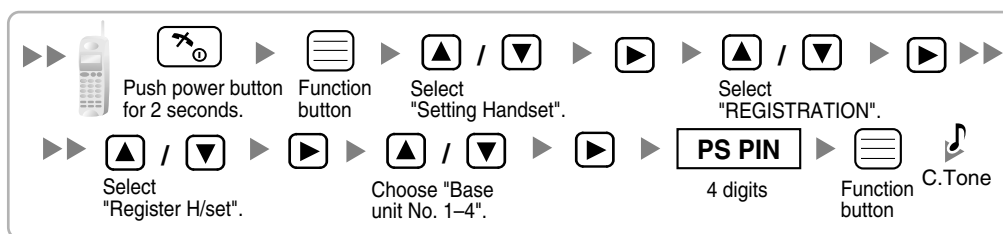


Using the KX-TD7590



Using the KX-TD7580

3.3 PT Programming



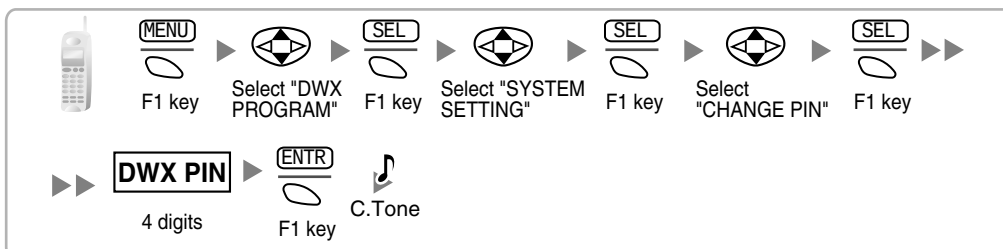
DWX Termination



DWX PIN Registration

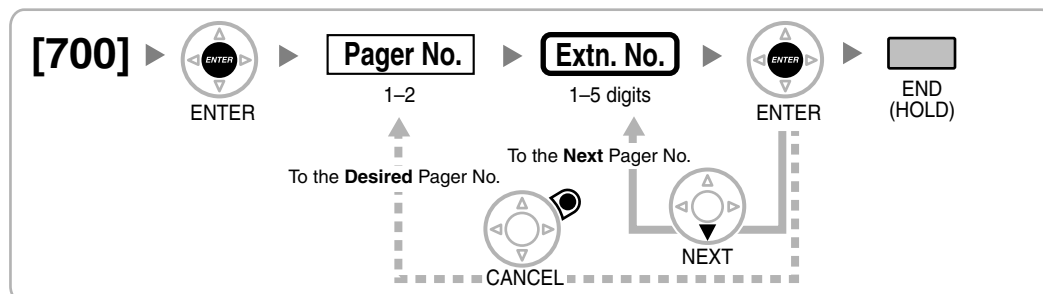


Changing DWX PIN using the KX-TD7690.



Resource/Interface Programming

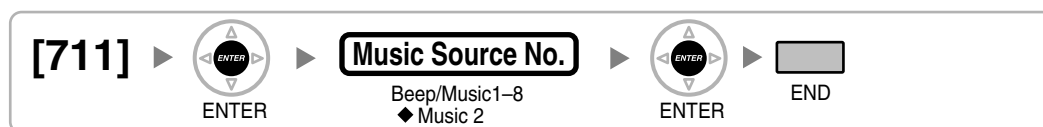
External Pager Floating Extension Number



Music Source Selection for Port 2



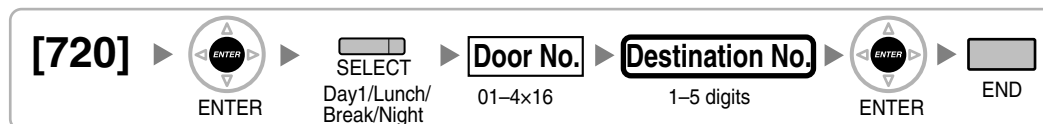
Music Source Selection for Call Hold



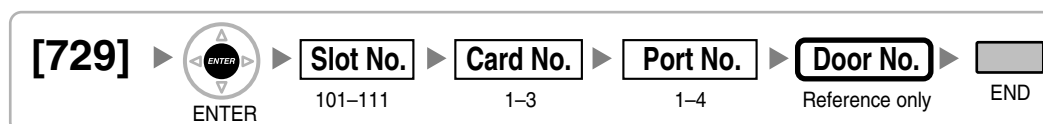
Music Source Selection for Transfer



Doorphone Call Destination



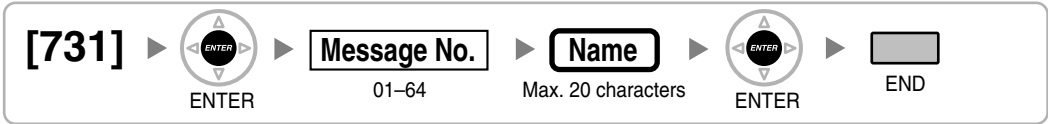
Door Number Reference



Outgoing Message (OGM) Floating Extension Number



Outgoing Message (OGM) Name

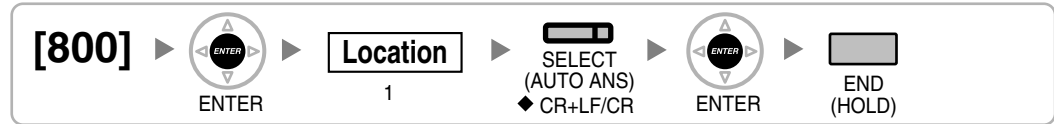


DISA Security Mode

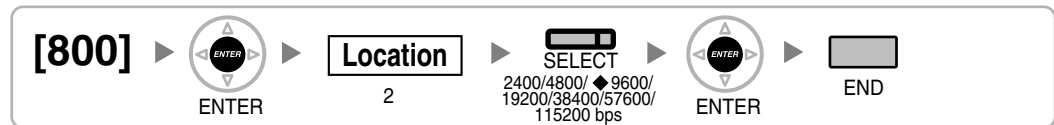


SMDR & Maintenance Programming

New Line



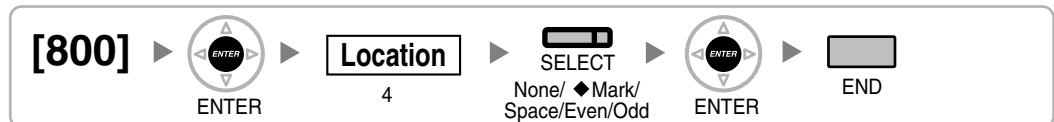
Baud Rate



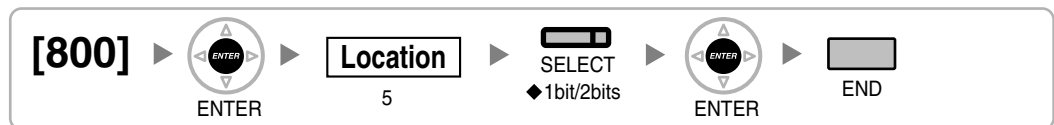
Data Bits



Parity



Stop Bits



SMDR Port



SMDR Page Length



SMDR Skip Perforation



SMDR Outgoing Call Printing



SMDR Incoming Call Printing



Remote Programming Assignment



Modem Floating Extension Number



ISDN Remote Floating Extension Number



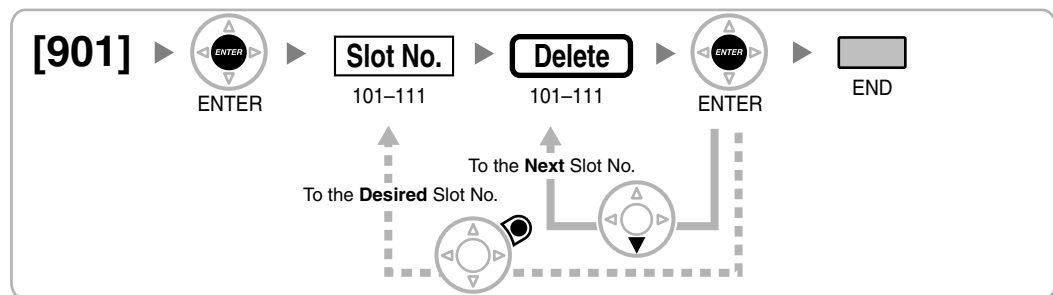
Slot Card Programming

Slot Card Type Reference

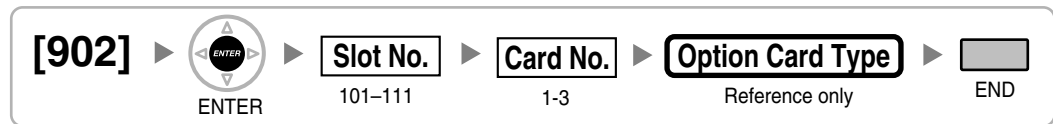


Reference only

Slot Card Deletion

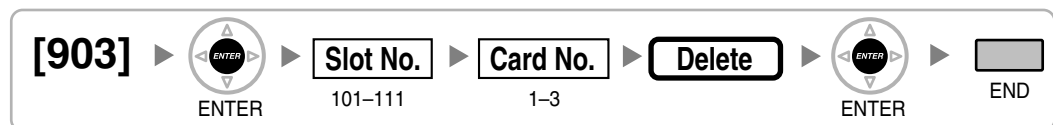


OPB3 Option Card Type Reference



Reference only

OPB3 Option Card Deletion



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