Digital Super Hybrid System

Panasonic

*I*NSTALLATION
*M*ANUAL

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

MODEL
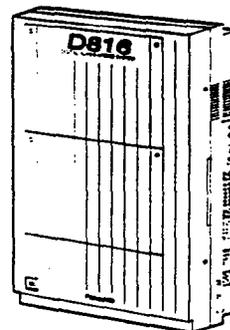
KX-TD816 / KX-TD1232
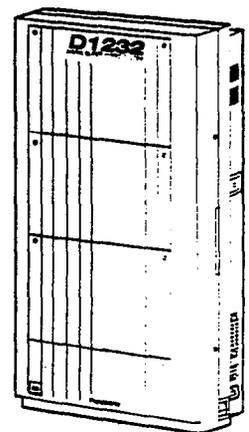
KX-TD816   KX-TD1232

Thank you for purchasing the Panasonic Model
KX-TD816/KX-TD1232, Digital Super Hybrid System.

System Components

	Model	Description
Service Unit	KX-TD816	Digital Super Hybrid System (Main Unit)
	KX-TD1232	Digital Super Hybrid System (Main Unit)
Telephone	KX-T7220	Digital proprietary telephone
	KX-T7230	Digital proprietary telephone with display
	KX-T7235	Digital proprietary telephone with large display
	KX-T7250	Digital proprietary telephone
	KX-T7130	Proprietary telephone with display
	KX-T7020	Proprietary telephone
	KX-T7030	Proprietary telephone with display
	KX-T7050	Proprietary telephone
	KX-T7055	Proprietary telephone
Optional Equipment	KX-T7240	Digital DSS Console
	KX-T7040	DSS Console
	KX-TD160	Doorphone Card
	KX-TD170	8-Station Line Unit
	KX-TD180	4-CO Line Unit
	KX-TD191*[1]	DISA Card
	KX-TD192*[1]	System Inter Connection Card (two cards with Connection Cable)
	KX-TD193	Caller ID Card
	KX-TD196*[1]	Remote Card
	KX-T30865	Doorphone
	KX-T30890	Headset (Earphone type)
	KX-T7090	Headset (Headphone type)
	KX-A46	Battery Adaptor
	KX-A216*[2]	Backup Battery and Adaptor Card

System Components Table

The models marked *[1] can be installed in KX-TD1232 only.
The model marked *[2] can be installed in KX-TD816 only.

Attention

- Keep the unit away from heating appliances and electrical noise generating devices such as fluorescent lamps, motors and television. These noise sources can interfere with the performance of the Digital Super Hybrid System.

- This unit should be kept free of dust, moisture, high temperature (more than 40°C / 104°F) and vibration, and should not be exposed to direct sunlight.

- Never attempt to insert wires, pins, etc. into the vents or other holes of this unit.

- If there is any trouble, disconnect the unit from the telephone line. Plug the telephone directly into the telephone line. If the telephone operates properly, do not reconnect the unit to the line until the trouble has been repaired by an authorized Panasonic Factory Service Center. If the telephone does not operate properly, chances are that the trouble is in the telephone system , and not in the unit.

- Do not use benzine, thinner, or the like, or any abrasive powder to clean the cabinet. Wipe it with a soft cloth.

> **WARNING:** TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

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

MODEL NO.: _____

SERIAL NO.: _____

Additional Information

If you connect the Panasonic Wireless System (model KX-T336900) to the Digital Super Hybrid System (model KX-TD816, KX-TD1232), the following features do not work with the Wireless System:

- Call Forwarding — Follow Me
- Limited Call Duration

Attention

When you ship the product
Carefully pack and send it prepaid, adequately insured and preferably in the original carton. Attach a postage-paid letter, detailing the symptom, to the outside of the carton. DO NOT send the product to the Executive or Regional Sales offices. They are NOT equipped to make repairs.

Product service
Panasonic Servicenters for this product are listed in the servicenter directory. Consult your authorized Panasonic dealer for detailed instructions.

For your future reference

DATE OF PURCHASE _____

NAME OF DEALER _____

DEALER'S ADDRESS _____

Important Safety Instructions

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

1. Read and understand all instructions.

2. Follow all warnings and instructions marked on the product.

3. Unplug this product from the wall outlets before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

4. Do not use this product near water, for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool.

5. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.

6. Slots and openings in the cabinet and the back or bottom are provided for ventilation, to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the product on the bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation unless proper ventilation is provided.

7. This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your dealer or local power company.

8. This product is equipped with a three wire grounding type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding type plug.

9. Do not allow anything to rest on the power cord. Do not locate this product where the cord will be abused by people walking on it.

Important Safety Instructions

10. Do not overload wall outlets and extension cords as this can result in the risk of fire or electric shock.

11. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock. Never spill liquid of any kind on the product.

12. To reduce the risk of electric shock, do not disassemble this product, but take it to a qualified serviceman when some service or repair work is required. Opening or removing covers may expose you to dangerous voltages or other risks. Incorrect reassembly can cause electric shock when the appliance is subsequently used.

13. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

    A. When the power supply cord or plug is damaged or frayed.

    B. If liquid has been spilled into the product.

    C. If the product has been exposed to rain or water.

    D. If the product does not operate normally by following the operating instructions. Adjust only those controls, that are covered by the operating instructions because improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.

    E. If the product has been dropped or the cabinet has been damaged.

    F. If the product exhibits a distinct change in performance.

14. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.

15. Do not use the telephone to report a gas leak in the vicinity of the leak.

SAVE THESE INSTRUCTIONS

Telephone Company and F.C.C. Requirements and Responsibilities

1. Notification to the Telephone Company

Customers, before connecting terminal equipment to the telephone network, shall upon request of the Telephone Company, inform the Telephone Company of the particular line(s) to which such connection is made, the F.C.C. registration number (see the label on the bottom of the unit) and ringer equivalence number (REN) of the registered terminal equipment.

The REN is useful in determining the quantity of devices you may connect to your telephone line and still have all of those devices ring when your telephone number is called. In most, but not all areas, the sum of the REN's of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices you may connect to your line, as determined by the REN, you should contact your local telephone company to determine the maximum REN for your calling area.

2. Connection to Telephone Line

This unit must not be connected to a coin operated line. If you are on a party line, check with your local telephone company.

3. Incidence of Harm to the Telephone Lines

Should terminal equipment cause harm to the telephone network, the telephone company shall, where practical, notify the customer that temporary discontinuance of service may be required.

However, where prior notice is not practical, the telephone company may temporarily discontinue service forthwith, if such action is reasonable in the circumstances. In case of such unnotified temporary discontinuance of service, the telephone company shall:

(a) Promptly notify the customer of such temporary discontinuance of service.
(b) Afford the customer the opportunity to correct the situation which gave rise to the temporary discontinuance.
(c) Inform the customer of the right to bring a complaint to the Federal Communication Commission pursuant to the procedures set out in Subpart E of Part 68 of FCC Telephone Equipment Rules.

4. Compatibility of the Telephone Network and Terminal Equipment

(a) **Availability of telephone interface information.**
Technical information concerning interface parameters and specifications not specified in FCC Rules, including the number of Ringers which may be connected to a particular telephone line, which is needed to permit Terminal Equipment to operate in a manner compatible with Telephone Company communications facilities, shall be provided by the Telephone Company upon customer's request.

Telephone Company and F.C.C.
Requirements and Responsibilities

(b) Changes in Telephone Company Communications Facilities, Equipment, Operations and Procedures.

The Telephone Company may make changes in its communications facilities, equipment, operations or procedures, where such action is reasonably required in the operation of its business and is not inconsistent with the rules and regulations in FCC Part 68.

If such changes can be reasonably expected to render any customer Terminal Equipment incompatible with Telephone Company Communications Facilities, or require modification or alteration of such Terminal Equipment, or otherwise materially affect its use or performance, the customer shall be given adequate notice in writing, to allow the customer an opportunity to maintain uninterrupted service.

Notify the Telephone Company

Installation must be performed by a qualified professional installer.
Before connecting this equipment to any telephone, call the telephone company and inform them of the following:

- Telephone numbers to which the system will be connected ....
- Make .... Panasonic
- Model KX-TD816/
  KX-TD1232
- FCC Registration No. .... found on the bottom of
  the unit
- Ringer Equivalence No. 0.4B
- Facility Interface Code... 02LS2
- Service Order Code... 9.0F
- Required Network Interface Jack... RJ 14 C

Note :

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Telephone Company and F.C.C. Requirements and Responsibilities

Caution:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this device.

When programming emergency numbers and/or making test calls to emergency numbers:

1. Remain on the line and briefly explain to the dispatcher the reason for the call before hanging up.
2. Perform such activities in the off-peak hours, such as early morning hours or late evenings.

Introduction

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

This manual contains the following sections:

Section 1, System Outline.
Provides general information on the system including system capacity and specifications.

Section 2, Installation.
Contains the basic system installation and wiring instructions, as well as how to install the optional cards and units.

Section 3, Features.
Describes all the basic, optional and programmable features in alphabetical order. It also provides information about the programming required, conditions, connection references, related features and operation for every feature.

Section 4, System Programming.
Provides step-by-step programming instructions for a proprietary telephone.

Section 5, List.
Lists tone/ring tone and default values of system programming.

Section 6, Troubleshooting.
Provides information for system and telephone troubleshooting.

NOTE
The following documents may be used in conjunction with this manual:
- User Manual for KX-TD816/KX-TD1232 System, DIGITAL Proprietary Telephones, DSS Console and Single Line Telephones.
- Programming Table
  The programming table is designed to be used as a hard copy reference to the user-programmed data.

Contents

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*¹: Available for KX-TD1232 only.

Contents

*1 : Available for KX-TD1232 only.

Contents

Contents

Contents

Contents

Contents

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*: Available for KX-TD1232 only.

Contents

Contents

Section 1
System Outline

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

1.1 System Highlights

System Capacity

	Basic System	Module Expansion	System Connection
KX-TD816			
CO line	4	8	—
Extension	8	16	—
KX-TD1232			
CO line	8	12	24
Extension	16	32	64

Module Expansion

Expansion modules are used to increase the system capacity. One CO line module can be added to the basic system to add four CO lines. For KX-TD816, one extension module can be added to the basic system to add 8 extensions, and for KX-TD1232, two extension modules to add 16 extensions.

EXtra Device Port (XDP)

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

Paralleled Telephone Connection

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

Super Hybrid System

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

System Connection*

With the addition of optional System Inter Connection Card, two Digital Super Hybrid Systems can be connected together to expand the system to a maximum of 24 CO lines and 64 extensions. The two systems function as one, however, some functions such as paging and music on hold are duplicated.

1.1 System Highlights

Digital Proprietary Telephones (DPT)

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

Programming System

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

Voice Mail Integration

The system supports Voice Processing Systems with in-band DTMF signaling. The Panasonic Voice Processing System provides automated attendant, voice mail, interview and bulletin board services.

Automatic Route Selection (ARS)

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

Caller ID

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

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

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

Remote Station Lock Control

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

1.2   Basic System Construction

The KX-TD816 Digital Super Hybrid System has a basic capacity of four CO lines and eight extensions, and KX-TD1232 has eight CO lines and 16 extensions. It is capable of supporting Panasonic digital and analog proprietary telephones, DSS Consoles and single line devices such as single line telephones, facsimiles.
To expand its capabilities the system can be equipped with optional components or customer-supplied peripherals such as external speakers and external music sources (e.g., radios).
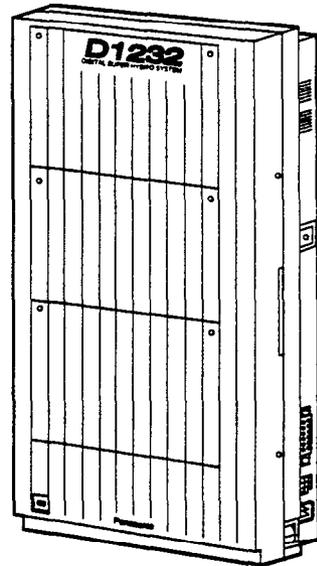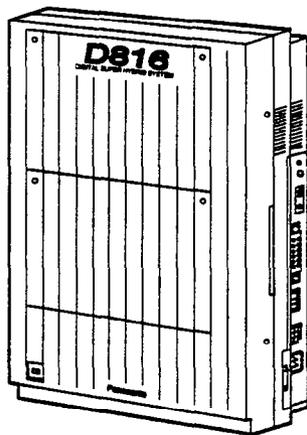
1.3 Proprietary Telephones

The following Panasonic proprietary telephones are available with this system.

Proprietary Telephone	Description
KX-T7220	Digital, speakerphone, 24 CO
KX-T7230	Digital, display, speakerphone, 24 CO
KX-T7235	Digital, large display, speakerphone, 12 CO
KX-T7250	Digital, monitor, 6 CO
KX-T7130	Display, speakerphone, 12 CO, 12 PF
KX-T7020	Speakerphone, 12 CO, 4 PF
KX-T7030	Display, speakerphone, 12 CO, 4 PF
KX-T7050	Monitor, 12 CO, 4 PF
KX-T7055	Monitor, 3 CO, 3 PF

Note : CO: CO line access button
PF : Programmable Feature button

1.4 Options

1.4.1 8-Station Line Unit (KX-TD170)

Each unit adds eight extensions. One expansion unit for KX-TD816, and up to two expansion units for KX-TD1232 can be installed per system.
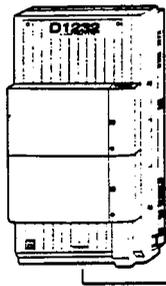
KX-TD1232
- 16 extensions (initial)
- 8 or 16 extensions can be added.
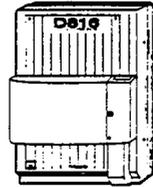
KX-TD816
- 8 extensions (initial)
- 8 extensions can be added.

1.4.2 4-CO Line Unit (KX-TD180)

Adds four CO lines. One expansion unit can be added for a maximum of 8 CO lines for KX-TD816, and 12 CO lines per system for KX-TD1232.
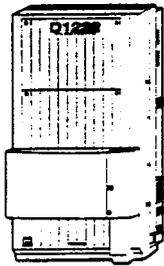
KX-TD1232
- 8 CO lines (initial)
- 4 CO lines can be added.
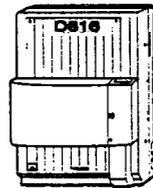
KX-TD816
- 4 CO lines (initial)
- 4 CO lines can be added.

1.4.3 System Inter Connection Card (KX-TD192)*
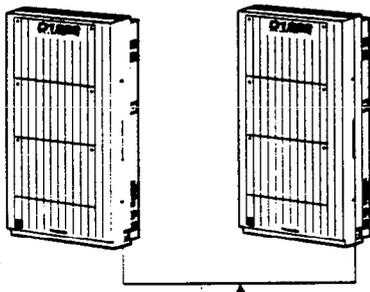
Permits two Digital Super Hybrid Systems to be connected together — to double system capacity.

Connection Cable

1.4   Options

1.4.4   DISA Card (KX-TD191)*

This card is required to use the Direct Inward System Access
(DISA) feature and to record an Outgoing Message.
DISA allows you to access the desired destination in the system
directly from an external telephone. Once you have accessed the
DISA line, just dial the extension number.
The Outgoing Messages (OGM) for the external callers can be
recorded, if necessary and/or an OGM for Timed Reminder can be
recorded.

Central
Office

Telephone Line   External Telephone
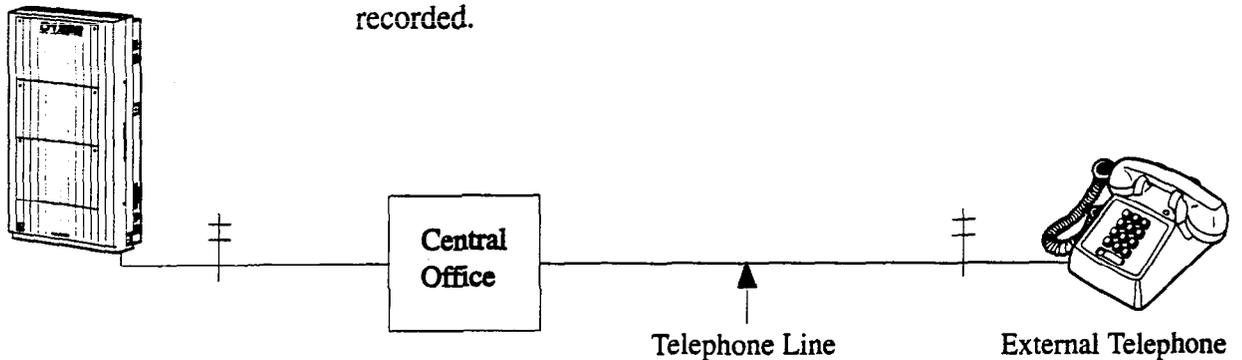
1.4.5   Caller ID Card (KX-TD193)

Supports the Caller ID service of the central office. Caller ID
allows the extension user to see the name or phone number of an
external caller on the display before answering the call.

1.4.6   Remote Card (KX-TD196)*

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

Central
Office

Telephone Line

Personal Computer with Modem

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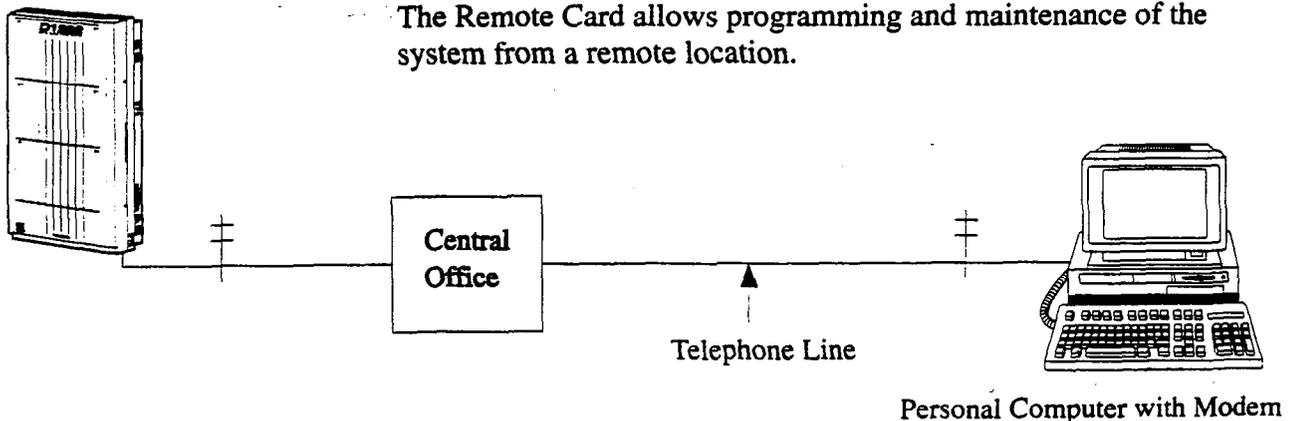
*: Available for KX-TD1232 only.

1.4   Options

1.4.7   Doorphone Card (KX-TD160)

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

Doorphone 1   Doorphone 2   Door Opener 1   Door Opener 2
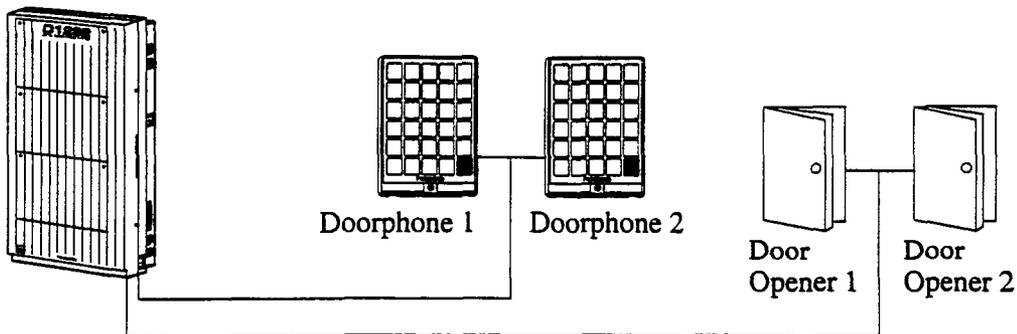
Notes   The KX-TD1232 is illustrated as a main unit.

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

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

Backup Battery and
Adaptor Card (KX-A216)
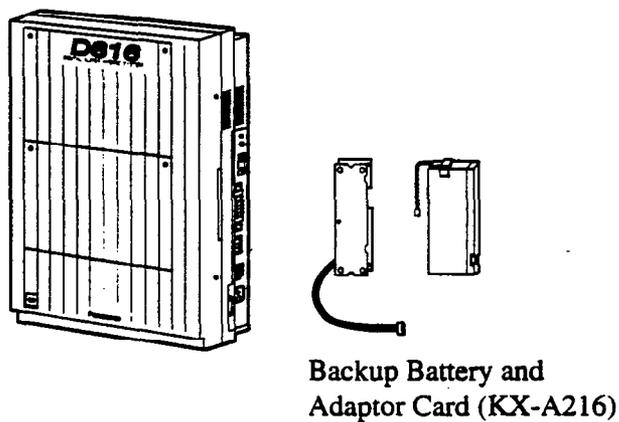
1.4   Options

1.4.9   Battery Adaptor (KX-A46)

Supports the connection of two gel cell batteries (12 VDC×2) for power backup in case of a power failure.

Battery Adaptor KX-A46

Two gel cell batteries, connected in series

Battery Adaptor Connector
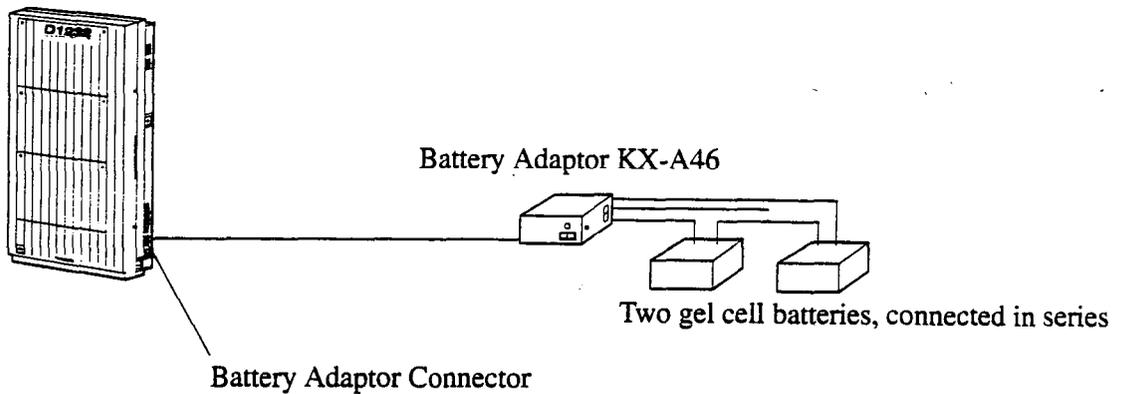
Notes   The KX-TD1232 is illustrated as a main unit.

1.4.10   DSS Console (KX-T7240 / KX-T7040)

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

Paired Telephone
(Proprietary
Telephone)

DSS Console
KX-T7240/
KX-T7040

Pair
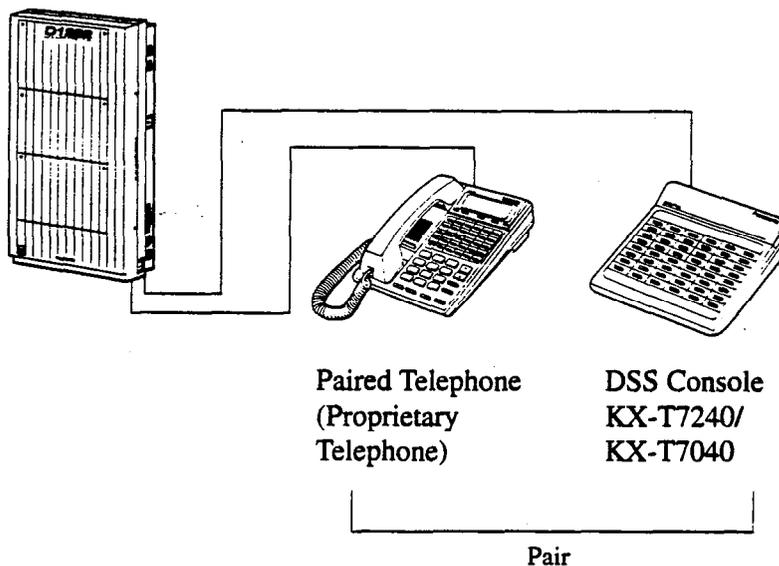
Notes   The KX-TD1232 is illustrated as a main unit.

1.5   Specifications

1.5.1   General Description

■ KX-TD816

System Capacity
CO lines	8 max.
Stations	16 max. (32 max. with eXtra Device Port)

Control Method   CPU: 16-bit CPU

Switching   Non Blocking PCM Time Sharing Switch

Power Supplies

Primary	120 VAC, 60 Hz
Secondary	Station Supply Volt: 30V
	Circuit Volt: ± 5V, ± 15V
Power Failure	• Memory backup duration: seven years with a factory-provided lithium battery
	• 4 CO lines max. automatically assigned to stations (Power Failure Transfer)
	• System operation for about 10 minutes with optional Backup Battery and Adaptor Card (KX-A216)
	• System operation for about three hours using recommended batteries (consisting of two 12 VDC gel cell batteries)

Dialing

Outward	Dial Pulse (DP) 10 pps, 20 pps
	Tone (DTMF) Dialing
Internal	Dial Pulse (DP) 10 pps, 20 pps
	Tone (DTMF) Dialing
Mode Conversion	DP-DTMF, DTMF-DP

Connector

CO lines	Modular Jack (RJ14C)
Stations	Modular Jack (RJ11)
Paging Output	Pin Jack (RCA JACK)
External Music Input	Two-conductors Jack {MINIJACK 3.5 mm (9/64 inch) diameter}

1.5   Specifications

Extension Connection Cable

Single line telephones	1 pair wire (T, R)
KX-T7220, KX-T7230, KX-T7235. KX-T7250	2 pair wire (D1, D2) or 2 pair wire (T, R, D1, D2)
KX-T7020, KX-T7030, KX-T7050. KX-T7055, KX-T7130	2 pair wire (T, R, D1, D2)
KX-T7240, KX-T7040	2 pair wire (D1, D2)

SMDR (Station Message Detail Recording)

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

■ KX-TD1232

System Capacity

CO lines	12 max.
Stations	32 max. (64 max. with eXtra Device Port)

Control Method   CPU: 16-bit CPU

Switching   Non Blocking PCM Time Sharing Switch

Power Supplies

Primary	120 VAC, 60 Hz
Secondary	Station Supply Volt: 30V Circuit Volt: ± 5V, ± 15V
Power Failure	• Memory backup duration: seven years with a factory-provided lithium battery • 6 CO lines max. automatically assigned to stations (Power Failure Transfer) • System operation for about three hours using recommended batteries (consisting of two 12 VDC gel cell batteries)

Dialing

Outward	Dial Pulse (DP) 10 pps, 20 pps Tone (DTMF) Dialing
Internal	Dial Pulse (DP) 10 pps, 20 pps Tone (DTMF) Dialing
Mode Conversion	DP-DTMF, DTMF-DP

1.5   Specifications

Connector

CO lines	Modular Jack (RJ14C)
Stations	Amphenol Connector
Paging Output	Pin Jack (RCA JACK)
External Music Input	Two-conductors Jack (MINIJACK 3.5 mm 9/64 inch diameter)

Extension Connection Cable

Single line telephones	1 pair wire (T, R)
KX-T7220, KX-T7230, KX-T7235, KX-T7250	2 pair wire (D1, D2) or 2 pair wire (T, R, D1, D2)
KX-T7020, KX-T7030, KX-T7050, KX-T7055	2 pair wire (T, R, D1, D2)
KX-T7130	3 pair wire (T, R, D1, D2, P1, P2)
KX-T7240, KX-T7040	2 pair wire (D1, D2)

SMDR (Station Message Detail Recording)

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

1.5.2   Characteristics

■ KX-TD816

Station Loop Limit

KX-T7220 / KX-T7230 / KX-T7235 / KX-T7250 / KX-T7020 / KX-T7030 / KX-T7050 / KX-T7055 / KX-T7130 ....40 ohms
Single Line Telephone ....600 ohms including set
Doorphone...20 ohms

Minimum Leakage Resistance   15 000 ohms

Maximum Number of Station Instruments per Line

1 for KX-T7220, KX-T7230, KX-T7235, KX-T7250, KX-T7130, KX-T7020, KX-T7030, KX-T7050, KX-T7055 or single line telephone
2 by Parallel or eXtra Device Port Connection of a proprietary telephone and a single line telephone

Ring Voltage

70 Vrms at 20 Hz depending on the Ringing Load

1.5   Specifications

Primary Power	120 VAC, 60 Hz, 1 A max.
Central Office Loop Limit	1 600 ohms max.
Environmental Requirements	0 – 40 °C / 32 – 104 °F, 10 – 90%
Hookswitch Flash Timing Range	204 – 1 000 milliseconds

■ KX-TD1232

Station Loop Limit

KX-T7220 / KX-T7230 / KX-T7235 / KX-T7250 / KX-T7020 /
KX-T7030 / KX-T7050 / KX-T7055 / KX-T7130.........40 ohms
Single Line Telephone ....600 ohms including set
Doorphone...20 ohms

Minimum Leakage Resistance	15 000 ohms

Maximum Number of Station Instruments per Line

1 for KX-T7220, KX-T7230, KX-T7235,
KX-T7250, KX-T7130, KX-T7020, KX-T7030,
KX-T7050, KX-T7055 or single line telephone
2 by Parallel or eXtra Device Port Connection of a
proprietary telephone and a single line telephone

Ring Voltage	70 Vrms at 20 Hz depending on the Ringing Load
Primary Power	120 VAC, 60 Hz, 2 A max.
Central Office Loop Limit	1 600 ohms max.
Environmental Requirements	0 – 40 °C / 32 – 104 °F, 10 – 90%
Hookswitch Flash Timing Range	204 – 1 000 milliseconds

1.5   Specifications

1.5.3 System Capacity

Lines, Cards, Station Equipment

Item	KX-TD816 Max. Quantity	KX-TD1232 Max. Quantity	
		Single System	System Connection
*System Inter Connection Card	—	—	2
Service Unit	1	1	2
4-CO Line Unit	1 (4 CO's)	1 (4 CO's)	2 (8 CO's)
CO Line	8	12	24
8-Station Line Unit	1 (8 extn.)	2 (16 extn.)	4 (32 extn.)
Extension Jack	16	32	64
Station Terminal (including DSS Consoles)	32	64	128
{DSS Console}	{4}	{4}	{8}
*DISA Card	—	1	2
Caller ID Card	2	3	6
*Remote Card	—	1	2
Doorphone Card	1	1	2
Doorphone	2	2	4
Door Opener	2	2	4
External Pager	1	2	4
External Music Source	1	2	4

1.5 Specifications

System Data

Item	Max. Quantity	
Operator	2	
System Speed Dialing	100	
One-Touch Dialing	24	per station (proprietary telephone)
Station Speed Dialing	10	per station
Call Park	10	
Absent Message	9	
CO Line Group	8	
Toll Restriction Level	8	
Extension Group	8	
Class of Service	8	
Message Waiting	128	

Section 2
Installation

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

2.1 Before Installation

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

Safety Installation Instructions

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

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

Installation Precautions

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

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

Wiring Precautions

Make sure to keep the following instructions when wiring.

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

2.1 Before Installation

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

3. Avoid using the same power supply outlet for computers, telexes, and other office equipment. Otherwise, the KX-TD816's and KX-TD1232's system operation may be interrupted by the induction noise from such equipment.

4. Please use one pair telephone wire for extension connection of (telephone) equipment such as standard telephones, data terminals, answering machines, computers, voice processing systems, etc., except proprietary telephones (KX-T7220, KX-T7230, KX-T7235, KX-T7250 etc.).

5. The Power Switch of the system must be off during wiring. After all the wirings are completed, turn the Power Switch on.

6. Mis-wiring may cause the system to operate improperly. Refer to Section 6.1.1 "Installation" and Section 6.1.2 "Connection."

7. If an extension does not operate properly, disconnect the telephone from the extension line and then connect again, or turn off the Power Switch of the system and then on again.

8. The KX-TD816/KX-TD1232 is equipped with a 3-wire grounding type plug. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the purpose of the grounding-type plug.

9. Use twisted pair cable for CO line connection.

10. CO lines should be installed with lightning protectors. For details, refer to Section 2.3.10 "Installation of Lightning Protectors."

Warning:

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

Warning : Static sensitive connectors
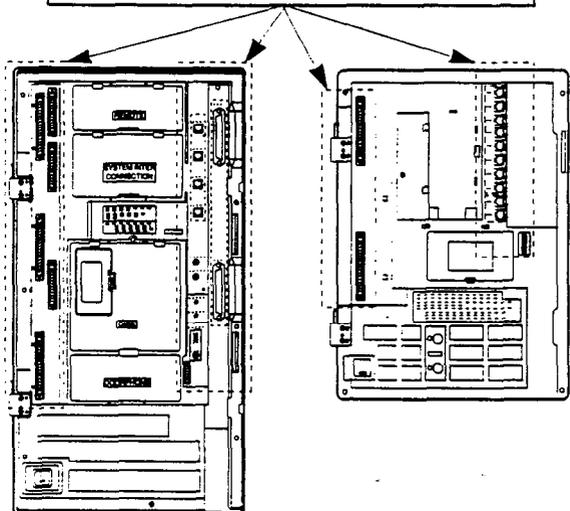
2.2   Installation of the Main Unit

2.2.1   Unpacking

Unpack the box and check the items below:

	KX-TD816	KX-TD1232
Main Unit	one	one
AC Cord	one	one
Templet	one	one
Screw	three	four
Anchor Plug	three	four
Pager Connector		two
Music Source Connector		two
Expansion line cord holder	one	one

2.2.2   Name and Location

Overview of the Main Unit

External Music Jack
Paging Jack
System Clear Switch
Reset Button
EIA(RS-232C) Connector
Ground Terminal
Battery Adaptor Connector
AC Inlet
Power Switch
Power Indicator

Ground Terminal
EIA(RS-232C) Connector
Battery Adaptor Connector
AC Inlet
Power Switch
Power Indicator
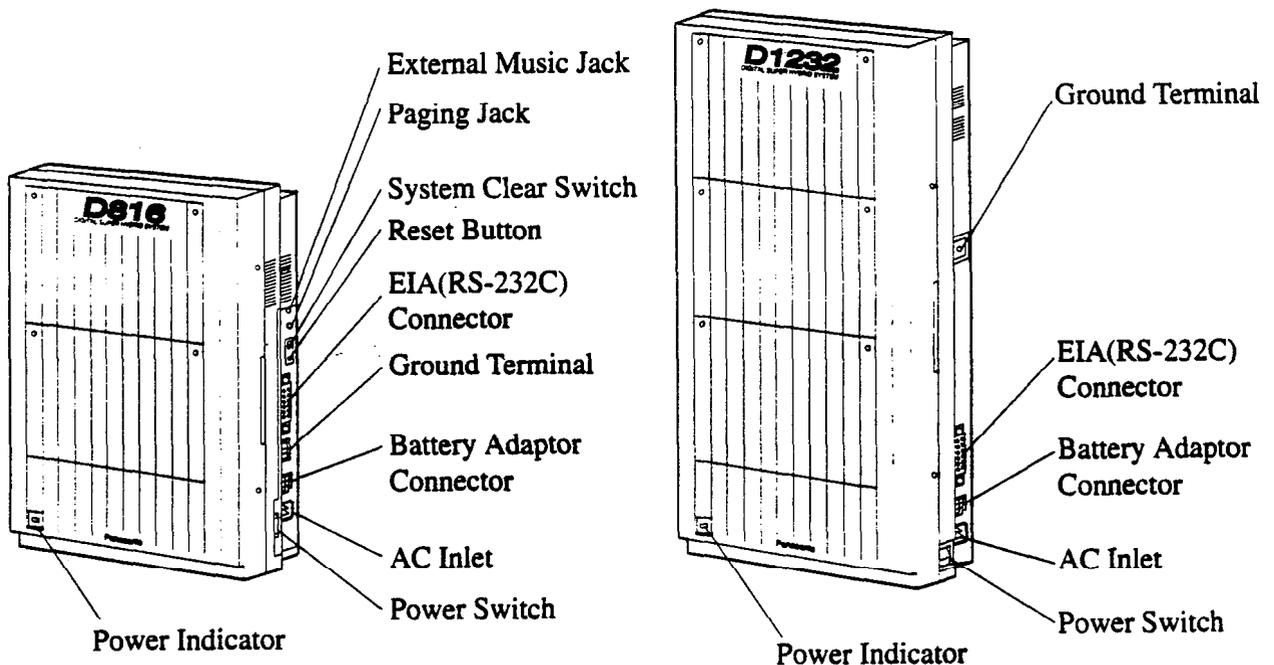
2.2   Installation of the Main Unit

Inside View of the Main Unit

KX-TD816 (Modular Connector Type)

- Extension Modular Jacks
- CO Modular Jacks
- Fuse
- Front Cover
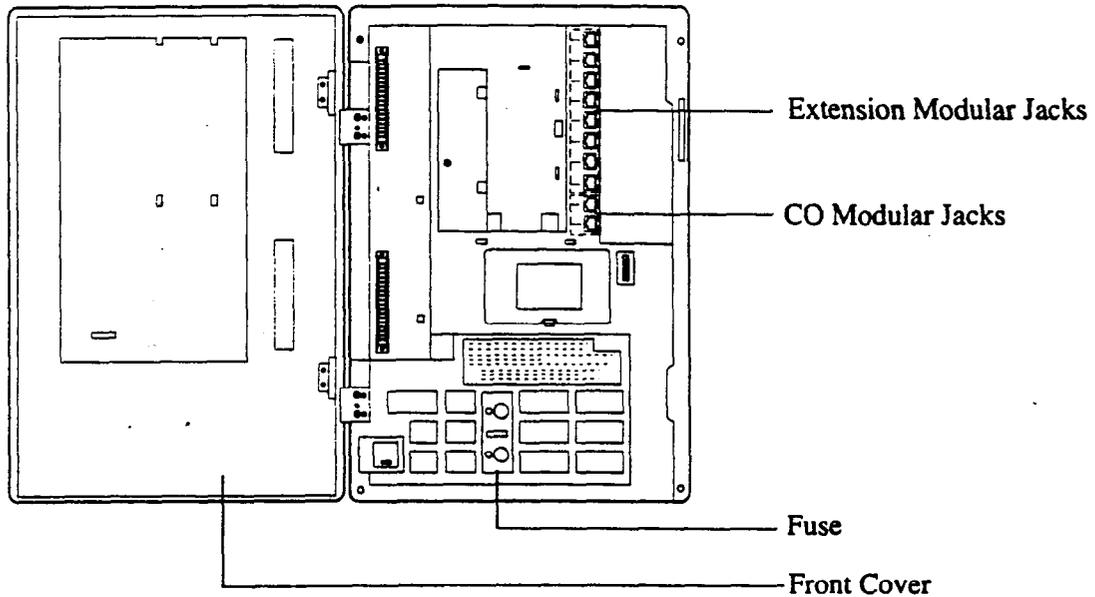
KX-TD1232 (Modular/Amphenol Connector Type)

- CO Modular Jacks
- Extension Amphenol Connector
- Paging Jack 2
- Paging Jack 1
- External Music Jack 2
- External Music Jack 1
- System Clear Switch
- Reset Button
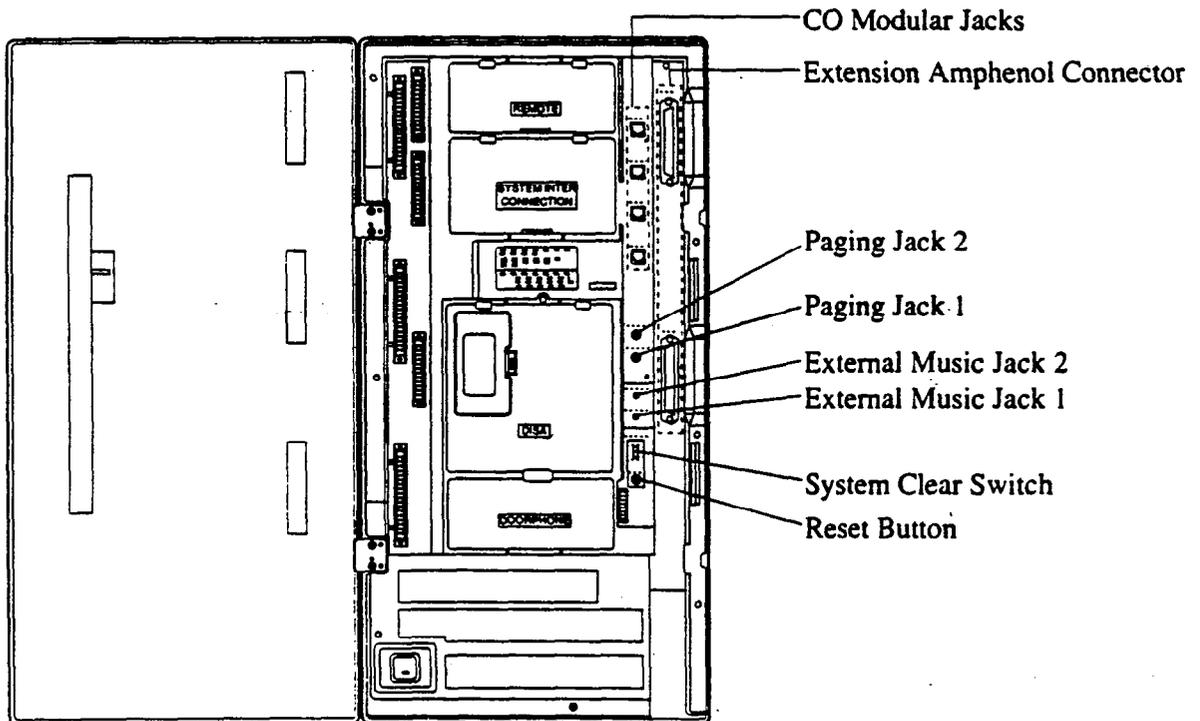
2.2.3 Wall Mounting

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

KX-TD816

Mounting on Wooden Wall

1. Place the templet (included) on the wall to mark the three screw positions.
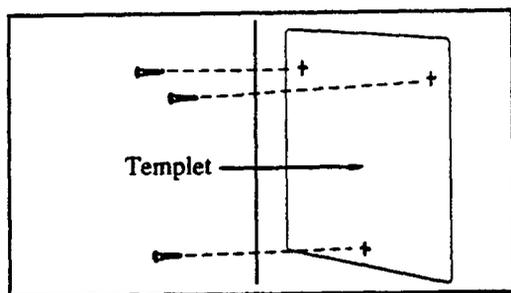
2. Install the three screws (included) into the wall.
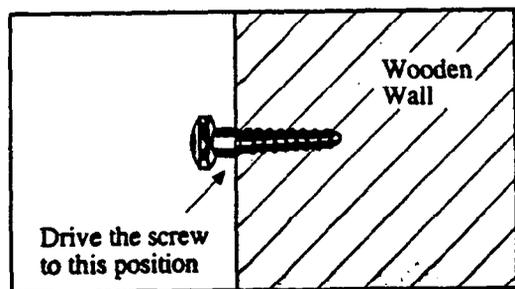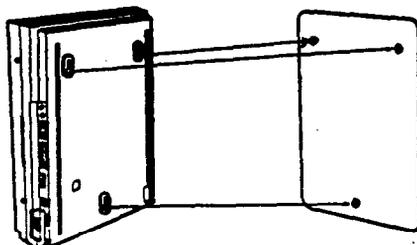
3. Hook the main unit on the screw heads.

Mounting on Concrete or Mortar Wall

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

2. Drill three holes and drive the anchor plugs (included) with a hammer, flush to the wall.
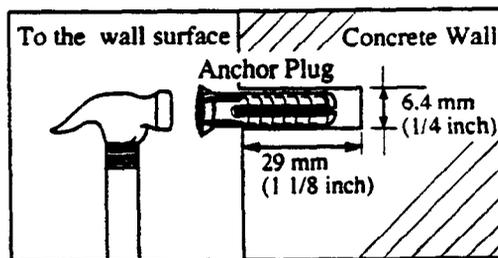
3. Install the three screws (included) into the anchor plugs.
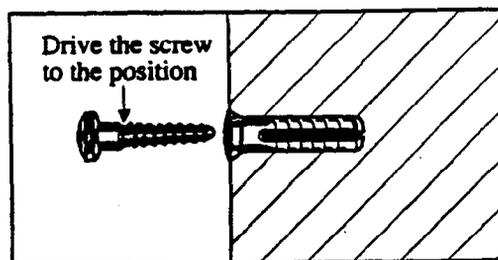
4. Hook the main unit on the screw heads.

2.2.3 Wall Mounting

KX-TD1232

Mounting on Wooden Wall

1. Place the templet (included) on the wall to mark the four screw positions.
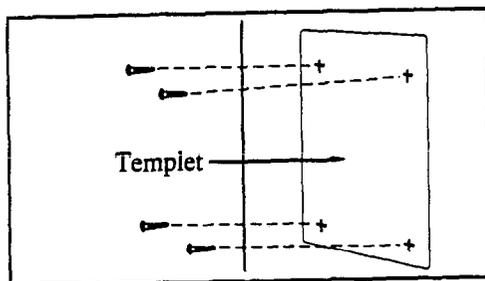
2. Install the four screws (included) into the wall.
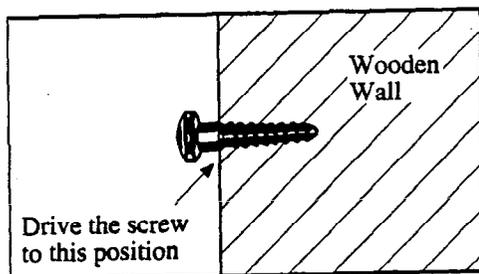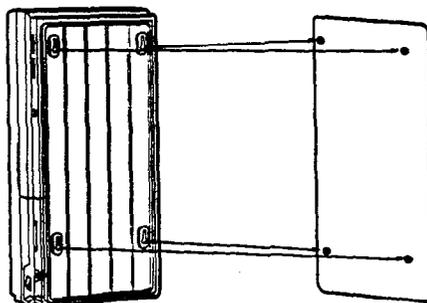
3. Hook the main unit on the screw heads.

Mounting on Concrete or Mortar Wall

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

2. Drill four holes and drive the anchor plugs (included) with a hammer, flush to the wall.
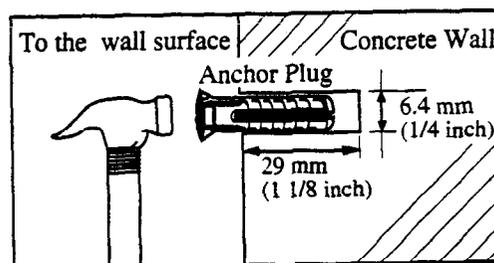
3. Install the four screws (included) into the anchor plugs.
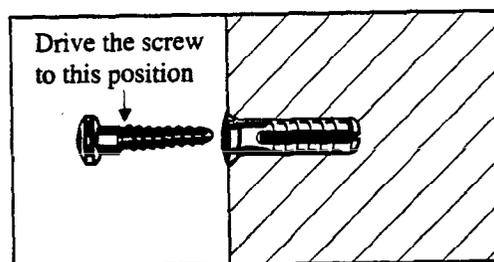
4. Hook the main unit on the screw heads.

2.2   Installation of the Main Unit

2.2.4   Frame Ground Connection

IMPORTANT!!!
Connect the frame of the main unit to ground.
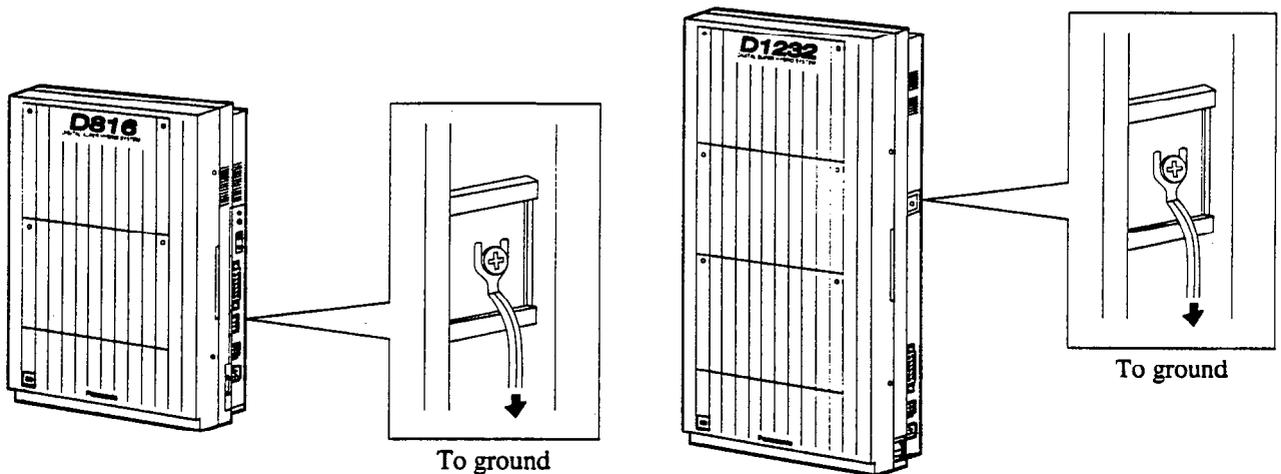
To ground

To ground

In most continental united states, the ground provided by the "Third wire ground" at the commercial power outlet will be satisfactory. However, in a small percentage this ground may be installed incorrectly. Therefore, the following test procedure should be performed.

Test Procedure
1. Obtain a suitable voltmeter and set it for a possible reading of up to 250 VAC.
2. Connect the meter probes between the two main AC voltage points on the wall outlet. The reading obtained should be 108-132 VAC.
3. Move one of the meter probes to the 3rd prong terminal (GND).
   Either the same reading or a reading of 0 volt should be obtained.
4. If a reading of 0 volt at one terminal and a reading of 108-132 VAC at the other terminal is not obtained, the outlet is not properly grounded.
   This condition should be corrected by a qualified electrician (per article 250 of the National Electrical Code).
5. If a reading of 0 volt at one terminal and a reading of 108-132 VAC at the other terminal is obtained, then set the meter to the "OHMS/RX1" scale, place one probe at the GND Terminal and the other probe at the terminal which gave a reading of 0 volt.
   A reading of less than 1 ohm should be obtained.
   If the reading is not obtained the outlet is not adequately grounded, see qualified electrician.

2.2   Installation of the Main Unit

2.2.5   Opening Front Cover

1. Loosen two screws on the right side of the main unit.
2. Open the front cover in the direction of arrow Ⓐ.
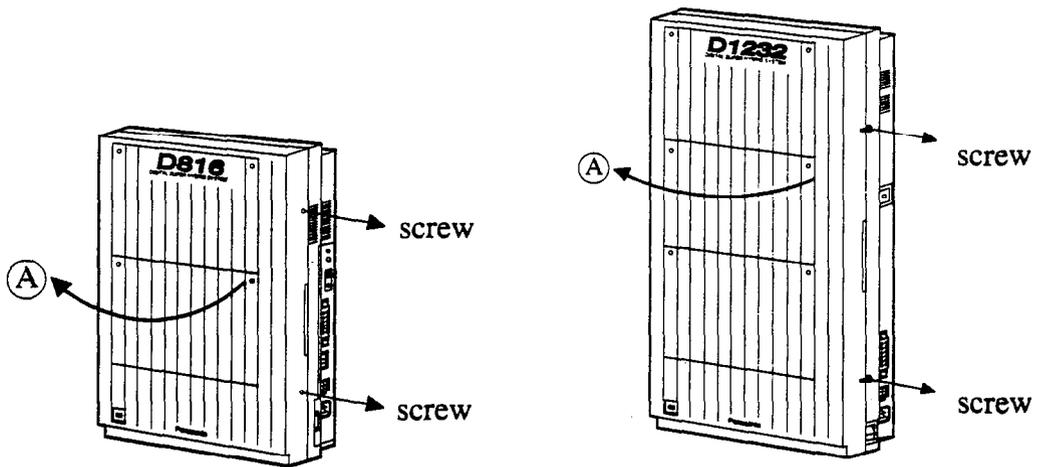
Note   Two screws are attached to the front cover with springs so that they will not be lost.

2.3   Connection

2.3.1   System Connection Diagram

KX-TD816

External Music Source

Amplifier   Speaker

Printer for SMDR or Personal Computer for System Programming

Battery Adaptor
KX-A46

Two gel cell batteries,
connected in series
• Consisting of two 12 VDC

120 VAC, 60 Hz

AC Surge Protector

Avoid using the same AC
outlet for office equipment
and the KX-TD816. Use a
dedicated AC outlet only.

2.3.1 System Connection Diagram

KX-TD816

(CO Lightning Protectors)
to CO's 1 through 4 (initial)
to CO's 5 through 8 (additional)

8 CO Lines

Doorphone KX-T30865

Doorphone 1 | Doorphone 2

Door Opener 1 | Door Opener 2

16 Extensions (8 extensions - initial, 8 extensions- additional)

(two pair)

(one pair) (one pair)

(two pair)

Single Line Telephone

(two pair) KX-T7235

(one pair) (one pair) KX-T7051

(two pair)

Data Terminal

KX-T7220

(two pair) KX-T7230

(one pair) (two pair) KX-T7052

KX-T7250

Cordless Phone

(three pair)

KX-T7240

(one pair) KX-T7050

(two pair)

KX-T7130

KX-T7030

Telephone Answering
Machine with Facsimile (one pair) KX-T7055

(two pair)

KX-T7033

(two pair) KX-T7020

It is recommended that
extension of jack 1 is a
display proprietary
telephone.

Voice Processing System

KX-T7040

Parallel connection of telephones is possible. Refer to
Section 2.3.4 "Paralleled Telephone Connection."

: needs Optional Cards or Adaptor.

2.3.1 System Connection Diagram

KX-TD1232

Printer for SMDR or Personal Computer for System Programming

Battery Adaptor
KX-A46

Two gel cell batteries,
connected in series
• Consisting of two 12 VDC

AC Surge Protector

120 VAC, 60 Hz

Avoid using the same AC
outlet for office equipment
and the KX-TD1232. Use a
dedicated AC outlet only.

External Music Source 1

Amplifier   Speaker 1

External Music Source 2

Amplifier   Speaker 2

2.3.1 System Connection Diagram

KX-TD1232

(CO Lightning Protectors)
to CO's 1 through 8 (initial)
to CO's 9 through 12 (additional)

12 CO Lines

Doorphone KX-T30865

Doorphone 1   Doorphone 2

Door Opener 1 Door Opener 2

32 Extensions (16 extensions - initial, 16 extensions- additional)

(two pair)

(one pair) (one pair)

Single Line Telephone

(one pair) (one pair)   KX-T7051

Data Terminal

(two pair)   KX-T7052

(one pair)

Cordless Phone

(two pair)

KX-T7050

(one pair)

Telephone Answering
Machine with Facsimile (one pair)

(two pair)

KX-T7055

Voice Processing System

KX-T7220   (two pair)   KX-T7235

(two pair)

(two pair)   KX-T7230

KX-T7250   (two pair)

(three pair)   KX-T7240

KX-T7130   (two pair)

(two pair)   KX-T7030

KX-T7033   (two pair)

It is recommended that
extension of jack 1 is a
display proprietary
telephone.

(two pair)   KX-T7020

(two pair)

KX-T7040

Parallel connection of telephones is possible. Refer to
Section 2.3.4 "Paralleled Telephone Connection."

: needs Optional Cards or Adaptor.

2.3.2 CO Line Connection

(KX-TD816: CO1 through CO4, KX-TD1232: CO1 through CO8)

Using Modular Connector (for KX-TD816, KX-TD1232)

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

KX-TD816

R: Ring   T: Tip

T2
R1
T1
R2

View of TEL Jack (CO)

(T1, R1)(T2, R2)
CO 3, CO 4
CO 1, CO 2

Use 4-conductor wiring cord

To Terminal Board or Modular
Jacks from the Central Office.

KX-TD1232

T2 R1 T1 R2

R: Ring
T: Tip

View of TEL Jack (CO)

(T1, R1) (T2, R2)
CO 7, CO 8
CO 5, CO 6
CO 3, CO 4
CO 1, CO 2

Use 4-conductor wiring cord

To Terminal Board or Modular
Jacks from the Central Office.
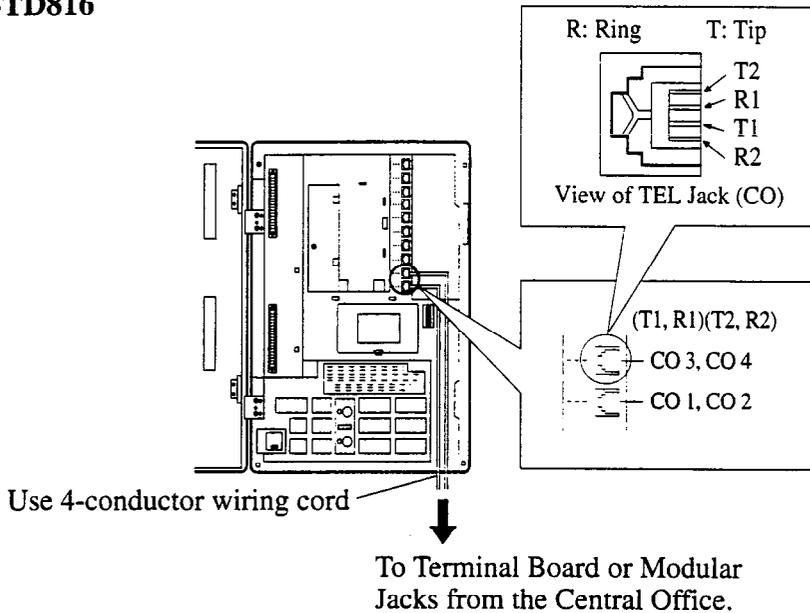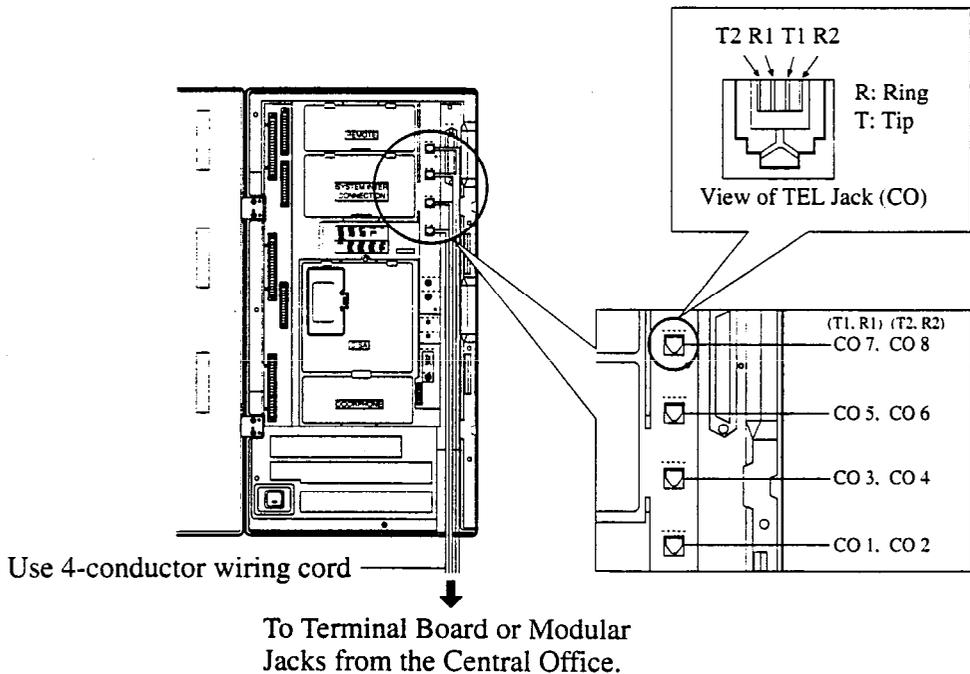
Notice   • Use twisted pair cable for installation.
   • It is recommended to use the telephone CO jacks of RJ14C.
   • Mis-connection may cause the system to operate improperly. See Section 6.1.1 "Installation" and 6.1.2 "Connection" before connection.

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

There are two methods to perform Extension Connection, using a modular connector and an Amphenol Connector. Which method should be used depends on the model number of the system as shown below.

Model number	Connector to be used
KX-TD816	Modular Connector
KX-TD1232	Amphenol Connector

Maximum cabling distance of the extension line cord (twisted cable)

The maximum length of the extension line cord (twisted cable) that connects the main unit and the extension is shown below:

26 AWG; Under 140 m (460 feet)
24 AWG; Under 229 m (750 feet)
22 AWG; Under 360 m (1180 feet)

Proprietary Telephone

Single Line Telephone

26 AWG; Under 698 m (2290 feet)

26 AWG; Under 140 m (460 feet)
24 AWG; Under 229 m (750 feet)
22 AWG; Under 360 m (1180 feet)

DSS Console
(KX-T7240,
KX-T7040)
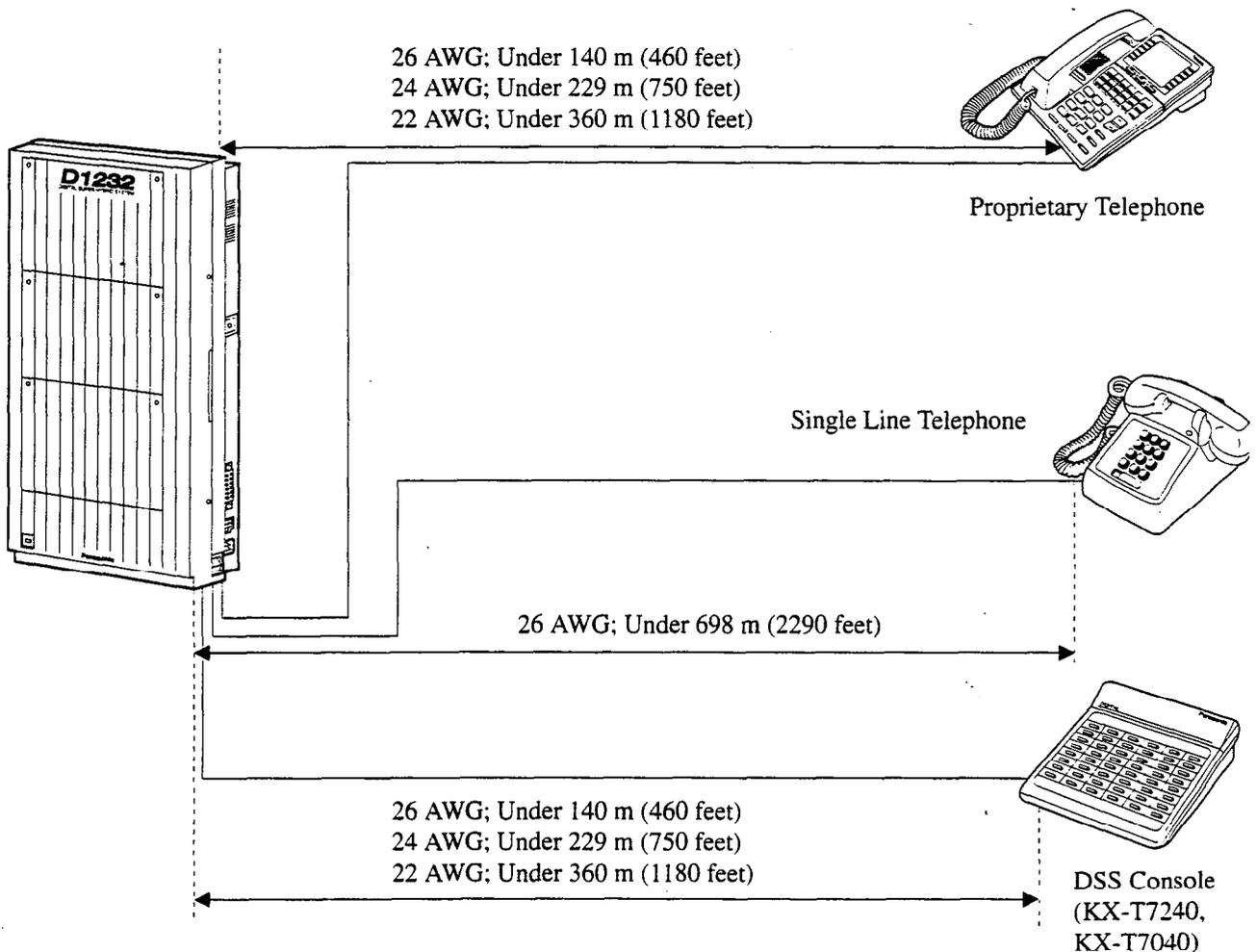
Notes The KX-TD1232 is illustrated as a main unit.

2.3.3 Extension Connection (Jack 01 through Jack 16)

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

1. Using Modular Connector (for KX-TD816)

Connection

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

D1: Data 1 D2: Data 2
R: Ring   T: Tip

View of TEL Jack (Extension)

Jack 8
Jack 7
Jack 6
Jack 5
Jack 4
Jack 3
Jack 2
Jack 1

To extensions
(Jacks 1 – 8)
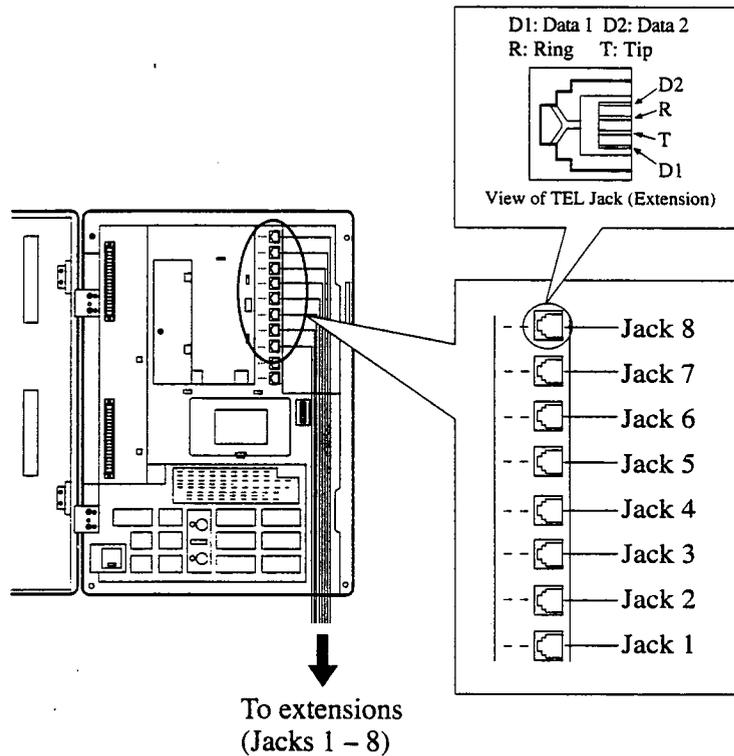
Notes: Mis-connection may cause the system to operate improperly. See Section 6.1.1 "Installation" and 6.1.2 "Connection" before connection.

2.3.3 Extension Connection (Jack 01 through Jack 16)

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

2. Using Amphenol Connector (for KX-TD1232)

Connection

To connect jacks 1 through 16, insert the connectors to the system as shown.
For Cable Pin Numbers to Be Connected, see page 2-18.

Connector type
50-pin (Amphenol 57 JE series or the equivalent)

To extensions
(Jacks 9 – 16)

To extensions
(Jacks 1 – 8)
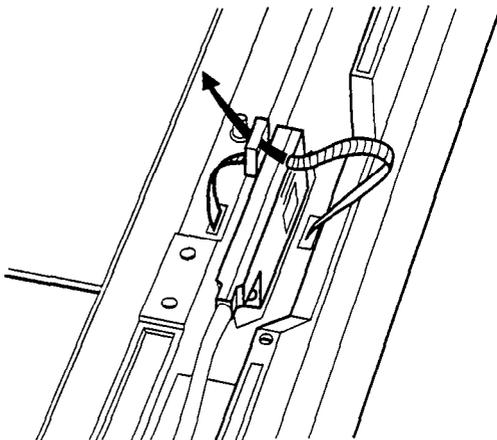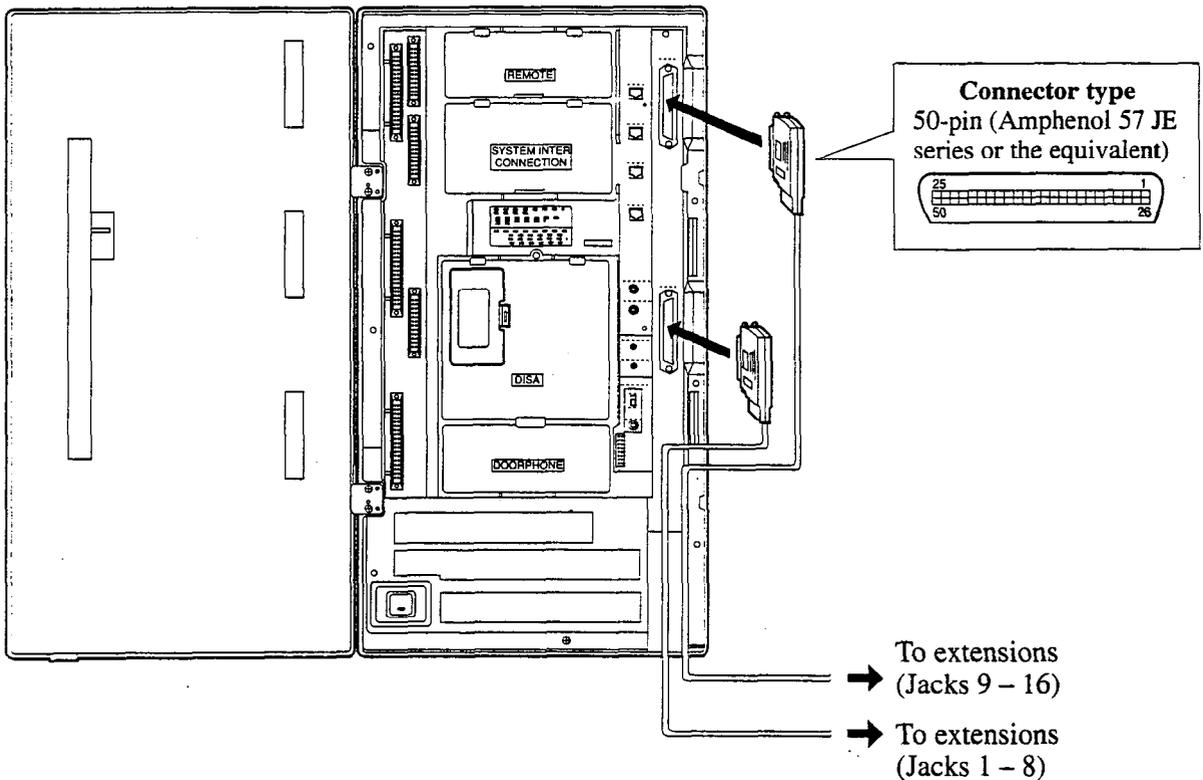
After inserting the connector, fasten the connector with the nylon tie.

2.3.3 Extension Connection

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

Cable Pin Numbers to Be Connected

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

Notes †[1] "8EXTN" in the table indicates an extension expansion area for KX-TD816. However, pins P1 and P2 are not available, because KX-TD816 cannot perform OHCA by KX-T7130. See Section 3. Features. "Off-Hook Call Announcement (OHCA)".

2.3.3 Extension Connection

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

There are two expansion areas on the main unit of KX-TD816, one for 8-Station Line Unit and the other for 4-CO Line Unit.

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

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

* Mis-connection may cause the system to operate improperly. See Section 6.1.1 "Installation" and 6.1.2 "Connection."

Connection of Proprietary Telephones, Single Line Telephones and DSS Consoles for KX-TD816

Connection of an Analog Proprietary Telephone, KX-T7020, KX-T7030, KX-T7050, KX-T7055 or KX-T7130

4-conductor wiring is required for each extension.
Connect pins "T", "R", "D1" and "D2".

T: Tip   D1: Data 1
R: Ring   D2: Data 2

Connection of a Digital Proprietary Telephone, KX-T7220, KX-T7230, KX-T7235, or KX-T7250

4-conductor wiring is required for each extension.
Connect pins "D1" and "D2" only. ("T" and "R" are only needed if Section 2.3.4 "Paralleled Telephone Connection," Method 2 is used for parallel or XDP connection of a DPT and a single line telephone.)

Connection of a Single Line Telephone

2-conductor wiring is required for each extension.
Connect pins "T" and "R".

Connection of a DSS Console, KX-T7040 or KX-T7240

4-conductor wiring is required for each extension.
Connect pins "D1" and "D2" only. ("T" and "R" are not necessary.)

2.3.3   Extension Connection

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

Connection of Proprietary Telephones, Single Line Telephones and DSS Consoles for KX-TD1232

Connection of the Proprietary Telephone, KX-T7130

6-conductor wiring is required for each extension.
Connect pins "T", "R", "D1", "D2", "P1" and "P2".

T: Tip	D1: Data 1	P1: 3 Pair Voice (OHCA)
R: Ring	D2: Data 2	P2: 3 Pair Voice (OHCA)

Connection of a Digital Proprietary Telephone, KX-T7220, KX-T7230, KX-T7235, or KX-T7250

4-conductor wiring is required for each extension.
Connect pins "D1" and "D2" only. ("T" and "R" are only needed if Section 2.3.4 "Paralleled Telephone Connection," Method 2 is used for parallel or XDP connection of a DPT and a single line telephone.)

Connection of an Analog Proprietary Telephone, KX-T7020, KX-T7030, KX-T7050, or KX-T7055

4-conductor wiring is required for each extension.
Connect pins "T", "R", "D1" and "D2".

Connection of a Single Line Telephone

2-conductor wiring is required for each extension.
Connect pins "T" and "R".

Connection of a DSS Console, KX-T7040 or KX-T7240

4-conductor wiring is required for each extension.
Connect pins "D1" and "D2" only. ("T" and "R" are not necessary.)

Station Wiring (3-pair twisted cabling):
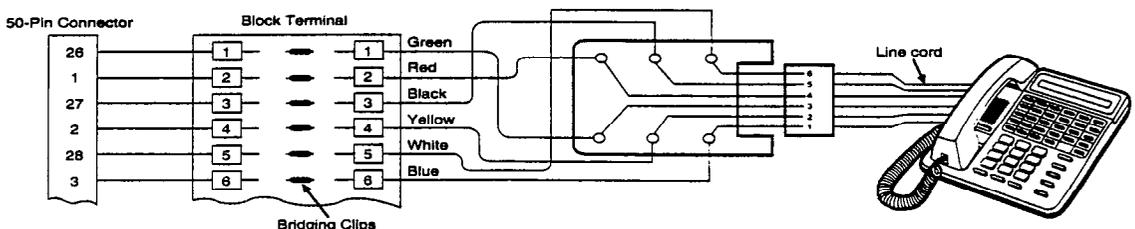
2.3.3 Extension Connection

for Proprietary Telephones, Single Line Telephones and DSS Consoles

Notes
- Up to four DSS Consoles (KX-T7040 or KX-T7240) can be installed per system. As the DSS Console itself cannot work alone, it always requires a proprietary telephone used in pair. Place the DSS Console and the paired telephone side by side on your desk.
- It is necessary to designate the jack numbers of paired DSS Consoles and the proprietary telephones by system programming.

Programming References

Section 4, System Programming,
[007] DSS Console Port and Paired Telephone Assignment
[109] Expansion Unit Type

Feature References

Section 3, Features,
DSS Console (KX-T7240 / KX-T7040)
Module Expansion

Note

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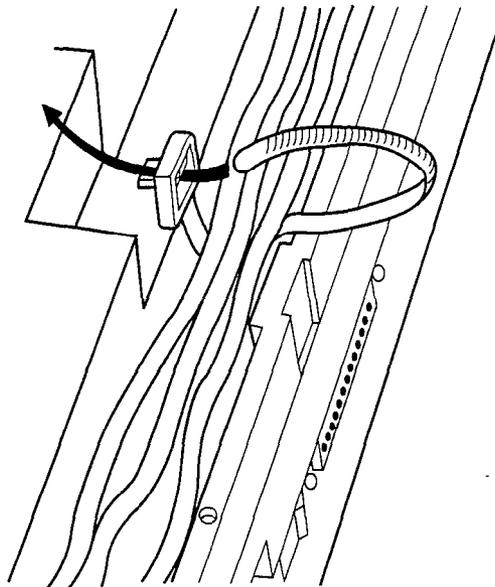
2.3.4 Paralleled Telephone Connection

for a Proprietary Telephone and a Single Line Telephone

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

Method 1: Using a Modular T-Adaptor

Modular T-Adaptor
(Panasonic KX-J66 or USOC RJA2X)

2-conductor wiring cord
Connect pins "T" and "R".

4-conductor wiring cord
For DPT: Connect pins "D1" and "D2"
only. ("T" and "R" are not necessary.)
For APT: Connect pins "T", "R", "D1"
and "D2".

Digital Proprietary Telephone
(DPT=KX-T7220, KX-T7230,
KX-T7235, KX-T7250),
Analog Proprietary Telephone
(APT=KX-T7020, KX-T7030,
KX-T7050, KX-T7055,
KX-T7130)

Single Line Telephone
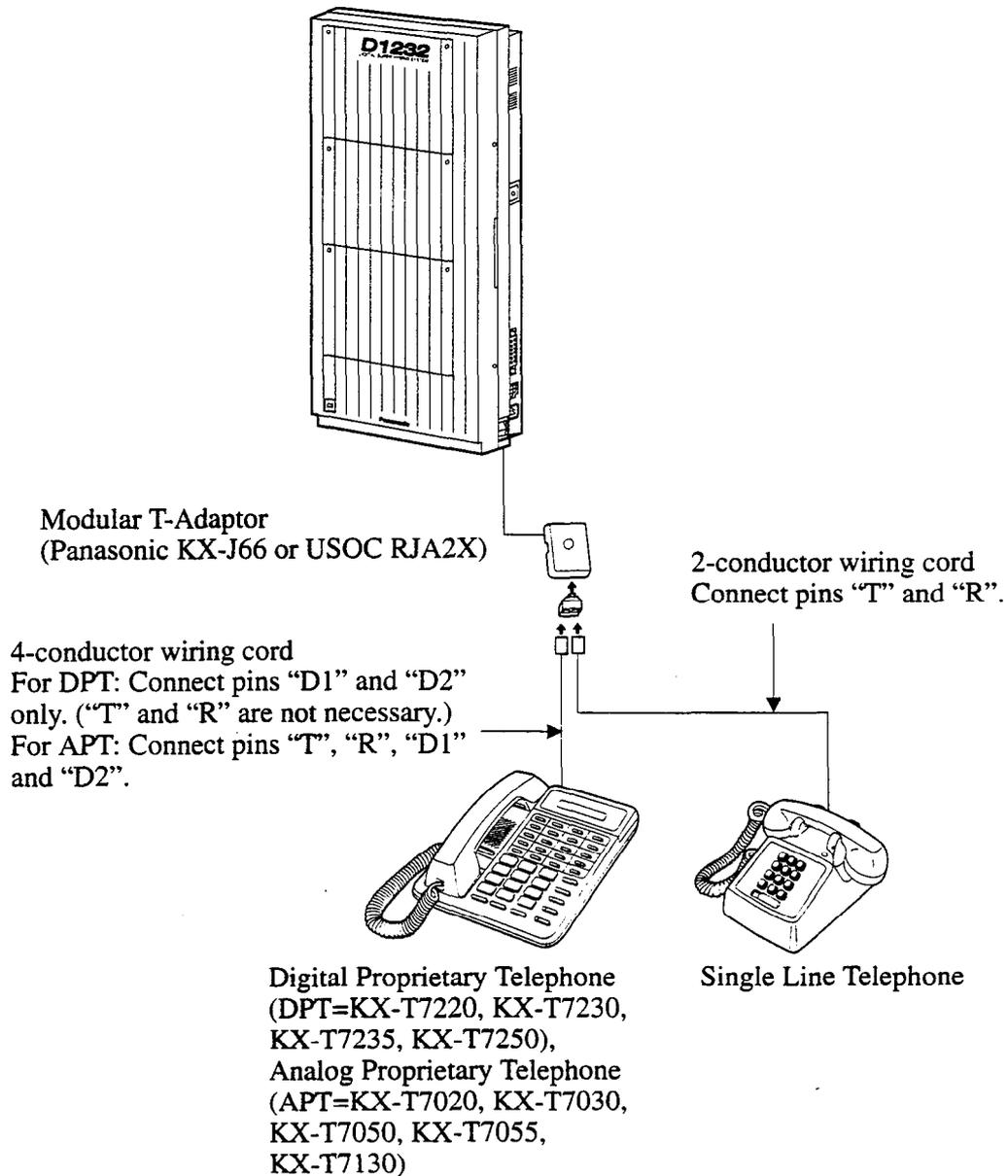
Notes
- The KX-TD1232 is illustrated as a main unit.
- The 6-conductor wiring cord (and the Modular T Adaptor KX-J36) is required if the proprietary telephone KX-T7130 is to be used for parallel connection for KX-TD1232.

2.3.4 Paralleled Telephone Connection

for a Proprietary Telephone and a Single Line Telephone

Method 2: for Digital Proprietary Telephone only

2-conductor wiring cord
Connect pins "T" and "R".

4-conductor wiring cord
Connect pins "T", "R", "D1"
and "D2".

Rear of the telephone

To main unit
("TO EMSS"
is printed)

To Single Line
Telephone ("TO
TEL" is printed)

Single Line
Telephone

Digital Proprietary
Telephone (KX-T7220,
KX-T7230, KX-T7235,
KX-T7250)
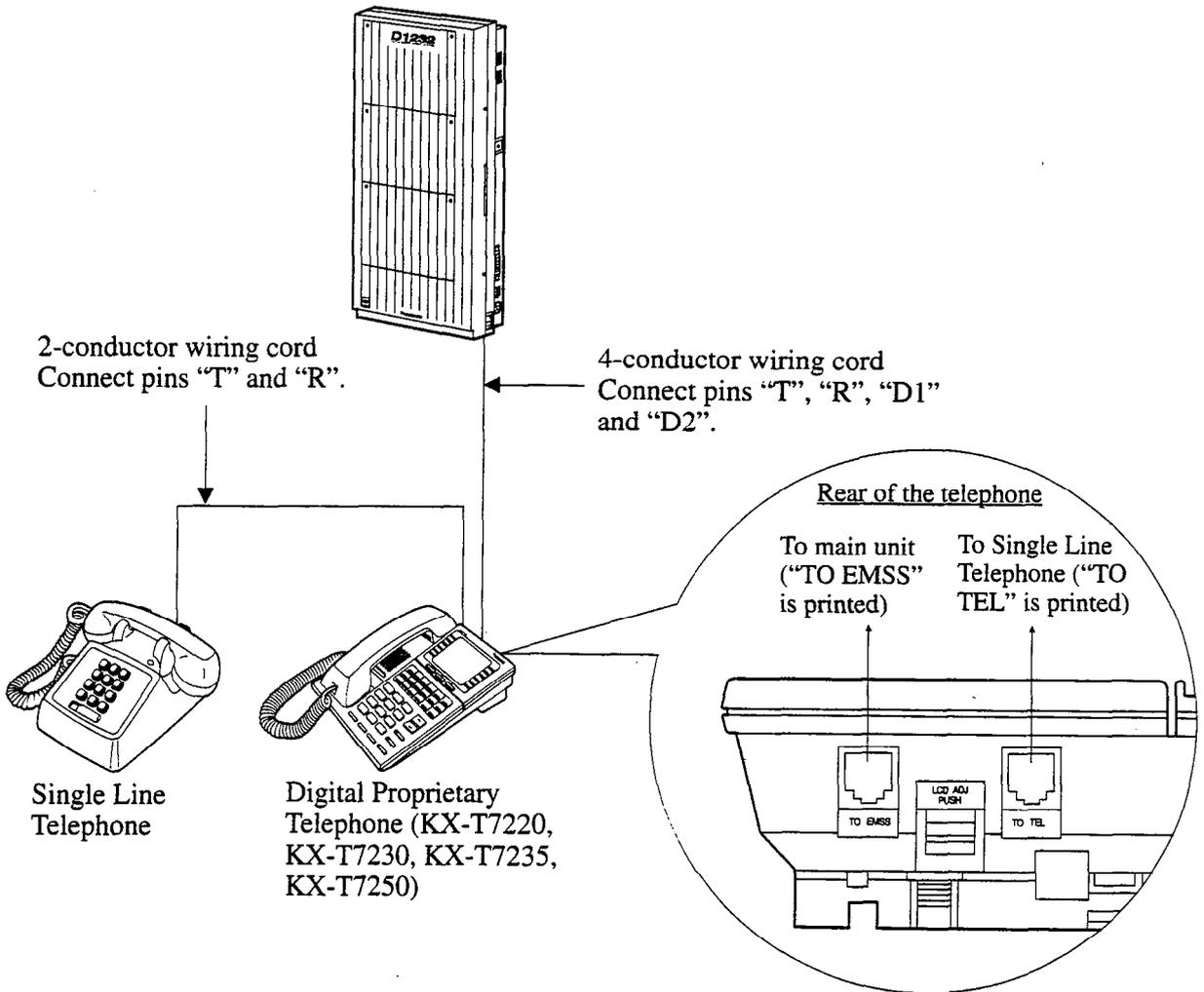
Notes
- The KX-TD1232 is illustrated as a main unit.
- Not only a single line telephone but a single line device such as an answering machine, a facsimile or a modem (personal computer) etc. can be connected in parallel with a proprietary telephone.

Feature References
Section 3, Features,
Paralleled Telephone

2.3.5 EXtra Device Port (XDP) Connection

for a Digital Proprietary Telephone and a Single Line Telephone

A digital proprietary telephone (KX-T7220, KX-T7230, KX-T7235, or KX-T7250) and a single line telephone can be connected to the same extension jack yet have different extension numbers (eXtra Device Port feature). System Programming is required for this jack.

Method 1

4-conductor wiring cord
Connect pins "D1" and "D2" only. ("T" and "R" are not necessary.)

2-conductor wiring cord
Connect pins "T" and "R".

Digital Proprietary
Telephone (KX-T7220,
KX-T7230, KX-T7235,
KX-T7250)

Single Line Telephone
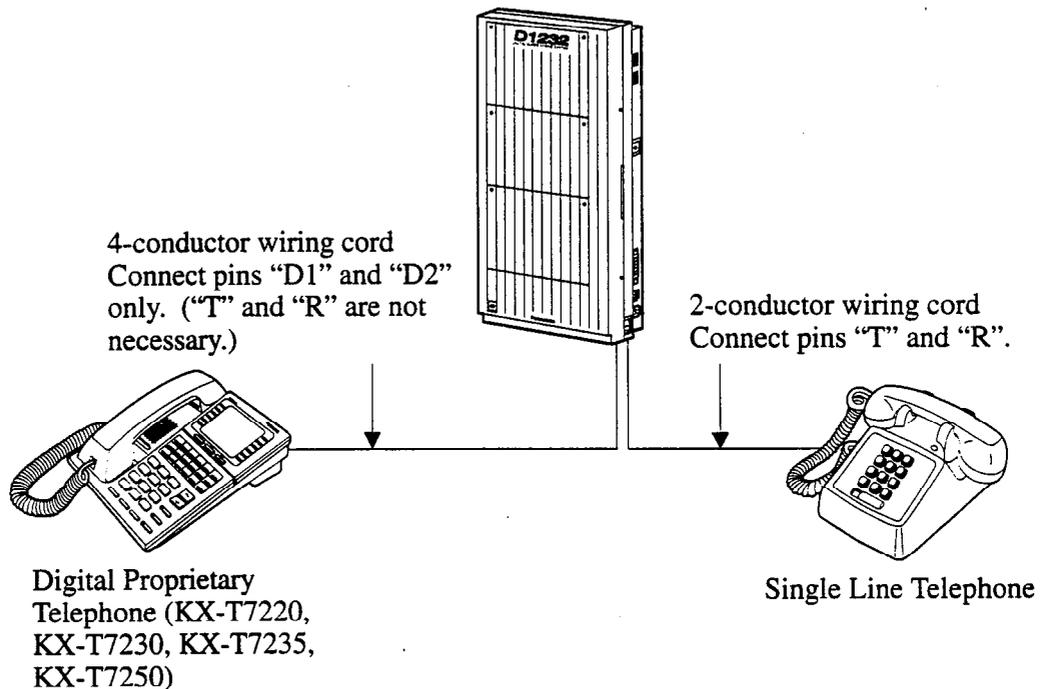
Notes The KX-TD1232 is illustrated as a main unit.

Method 2

Section 2.3.4 "Paralleled Telephone Connection, Method 2: for Digital Proprietary Telephone only" is also available for XDP connection.

Programming References

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

Feature References

Section 3, Features,
EXtra Device Port (XDP)

2.3.6 Polarity Sensitive Telephone Connection

If your telephone is polarity sensitive, follow the procedures below:
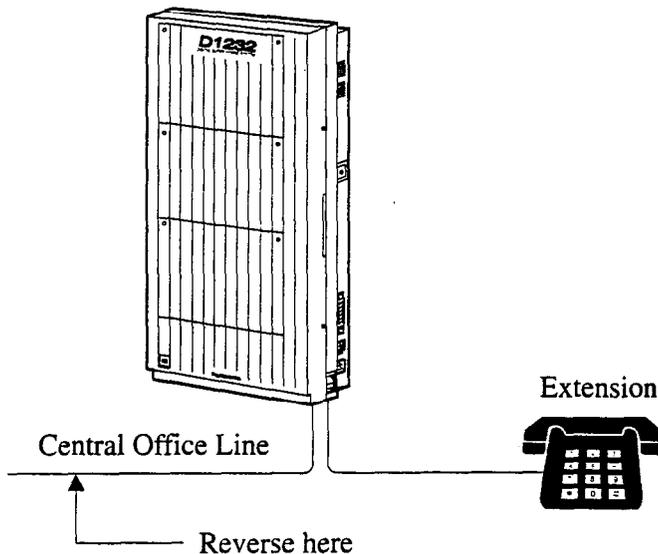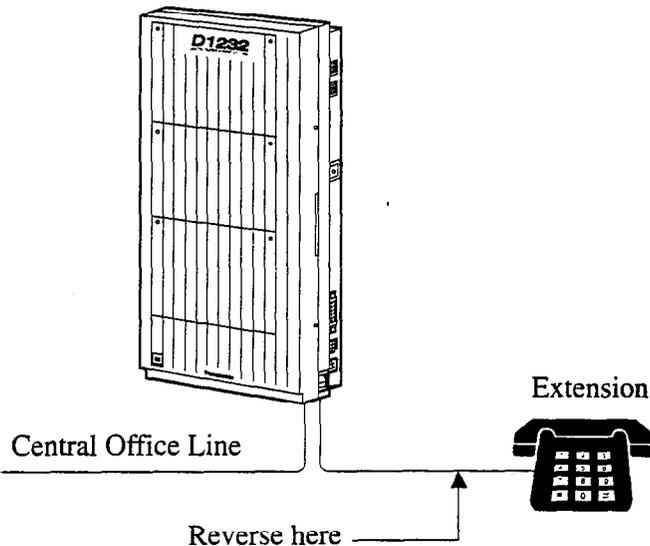
1. Complete all the required extension wirings.
2. Confirm that dialing can be done from all the extensions using a touch-tone telephone.
   If you fail to do that, the polarity between the extension and the system must be reversed.
3. Reverse as shown.
4. Set the Power Switch on the main unit to "OFF" position.
5. Connect all CO lines.
6. Confirm that dialing can be done on the following extensions using a tone telephone.

   • KX-TD816
      Extension (T, R) of jack 1•••CO 1
      Extension (T, R) of jack 2•••CO 2
      Extension (T, R) of jack 9 and 10 (Extension Expansion Card)•••CO 5 and CO 6

   • KX-TD1232
      Extension (T, R) of jack 1•••CO 1
      Extension (T, R) of jack 2•••CO 2
      Extension (T, R) of jack 9•••CO 3
      Extension (T, R) of jack 10•••CO 4
      Extensions (T, R) of jacks 17 and 18 (Extension Expansion Card 1)•••CO 9 and CO 10
      (**Note:** Extensions of jacks 9 and 10 for KX-TD816, and 17 and 18 for KX-TD1232 depend on the Power Failure Transfer connection. For details, refer to Section 2.5 "Auxiliary Connection for Power Failure Transfer.")

   If you fail to do that, the polarity between the system and the CO line must be reversed.
7. Reverse as shown.
8. Every time an extension telephone is replaced, repeat the above procedures.

Central Office Line

Extension

Reverse here

Central Office Line

Extension

Reverse here

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

2.3.7 External Pager (Paging Equipment) Connection

KX-TD816

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

Use an RCA connector and shielded cable.

- Output impedance: 600 Ω
Maximum length of the cable
AWG 18 – 22: Under 10 m (33 feet)

Paging Jack

Speaker

Amplifier

Paging Equipment
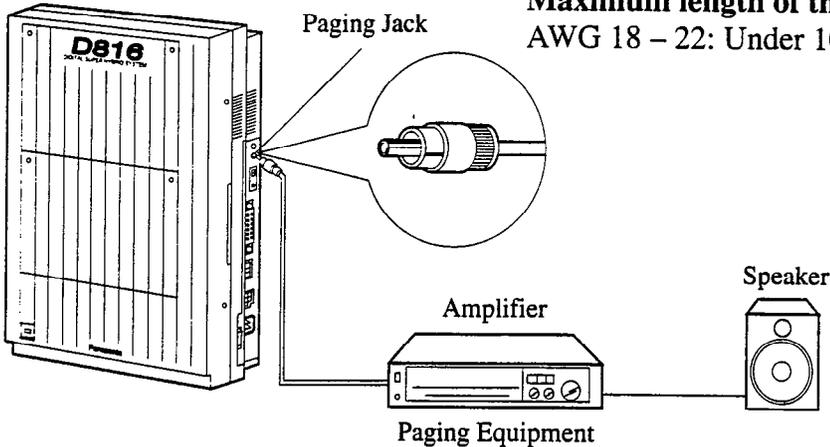
KX-TD1232

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

Use an RCA connector and shielded cable.

- Output impedance: 600 Ω
Maximum length of the cable
AWG 18 – 22: Under 10 m (33 feet)

Paging Jack 2

Paging Jack 1

Speaker

Amplifier

Paging Equipment 2

Speaker

Amplifier
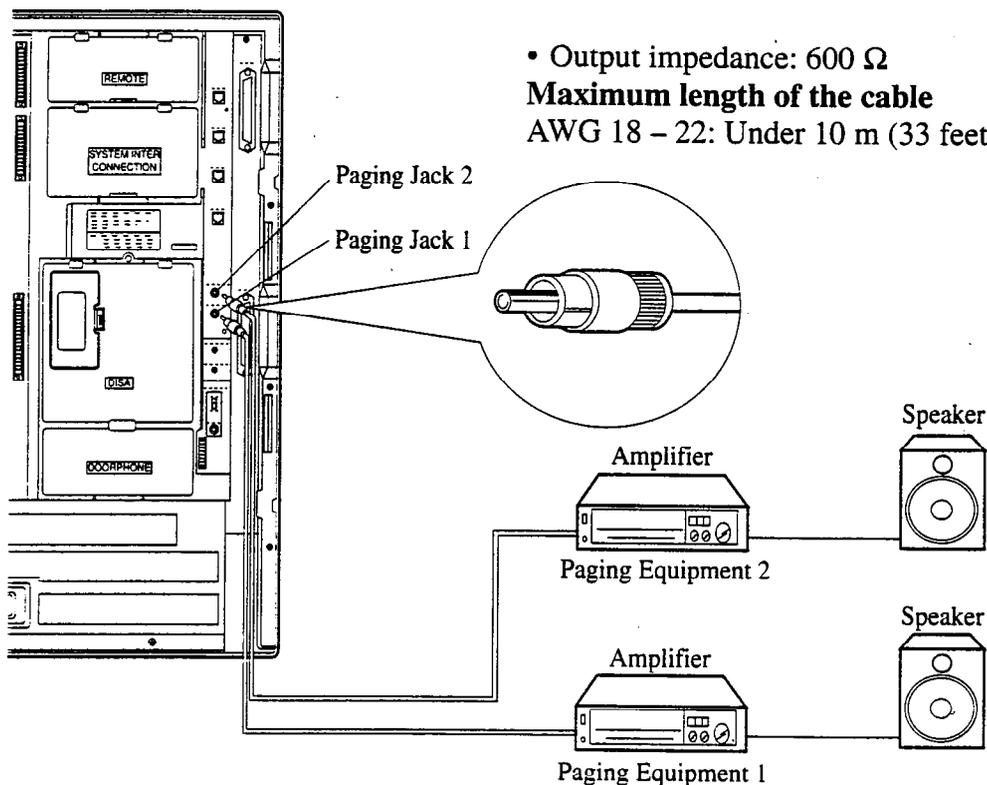
Paging Equipment 1

2.3.7 External Pager (Paging Equipment) Connection

Notes
- System Connection* permits a maximum of four external pagers. It is programmable which external pager will send background music and whether all the pagers will generate confirmation tone.
- To adjust the sound level of the pagers, use the volume control on the amplifiers.

Programming References

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

Feature References

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

2.3.8 External Music Source Connection

KX-TD816

One music source such as a radio (user-supplied) can be connected to KX-TD816 as illustrated below.
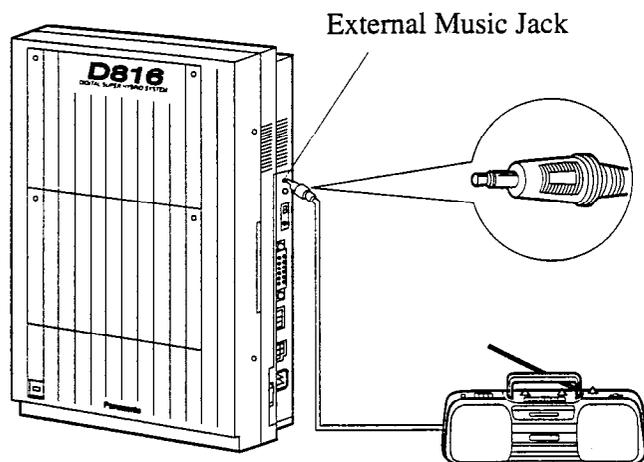
External Music Jack

Insert the plug to the earphone / headphone jack on the external music source.
Use a two-conductor plug {3.5 mm (9/64 inch) in diameter}.
• Input impedance: 8 Ω
Maximum length of the cable
AWG 18 – 22: Under 10 m (33 feet)

External Music Source

KX-TD1232

Up to two music sources such as a radio (user-supplied) can be connected to KX-TD1232 per system as illustrated below.
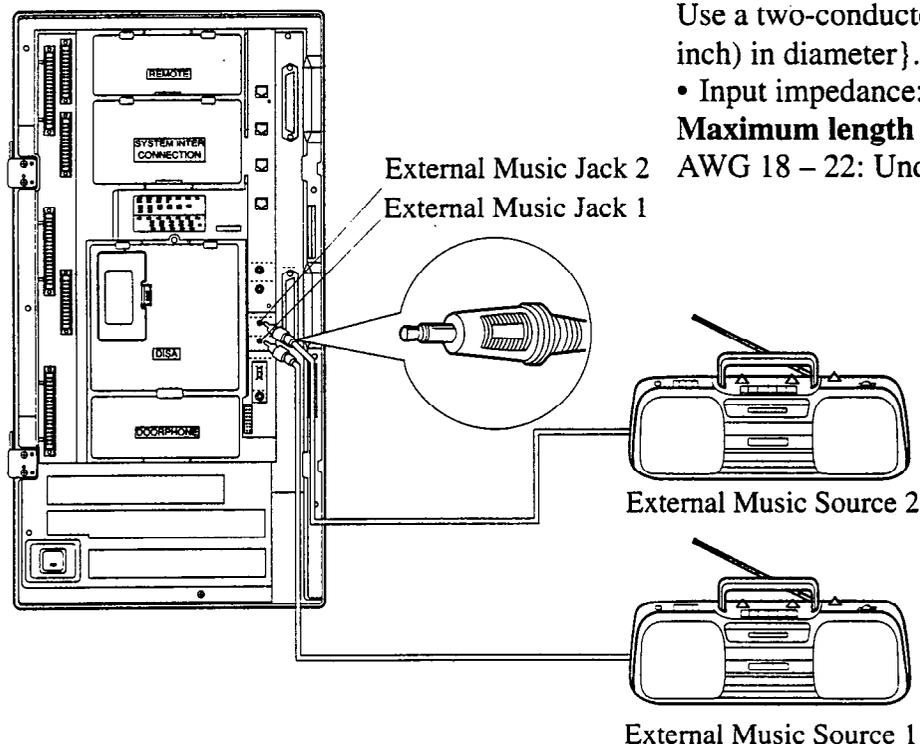
Insert the plug to the earphone / headphone jack on the external music source.
Use a two-conductor plug {3.5 mm (9/64 inch) in diameter}.
• Input impedance: 8 Ω
Maximum length of the cable
AWG 18 – 22: Under 10 m (33 feet)

External Music Jack 2
External Music Jack 1

External Music Source 2

External Music Source 1

2.3.8 External Music Source Connection

Notes
- System Programming of music sources used for Music on Hold and Background Music is required.
- To adjust the sound level of the Music on Hold, use the volume control on the external music source.

Programming References

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

Feature References

Section 3, Features,

Background Music (BGM)   Background Music (BGM) – External
Music on Hold

2.3.9   Printer Connection

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

EIA
Connector

Serial Printer

Serial Interface
(RS-232C)
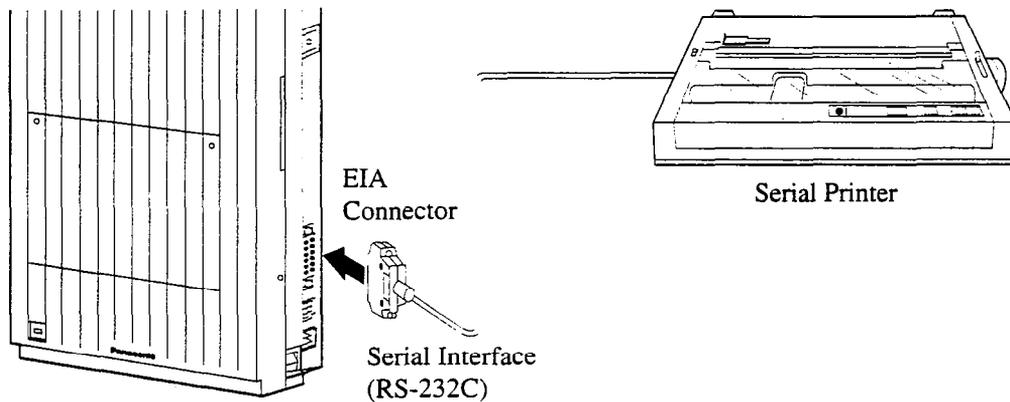
Notes   The KX-TD1232 is illustrated as a main unit.

Cables must be shielded and the maximum length is 2 m (6.5 feet). Make cables so that the printer will be connected to the system as shown in the chart on the following page.
When using special accessories such as cable, the user should use those specified in this installation manual to comply with the limits for a class A digital device pursuant to the FCC Rules.

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

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

2.3.9 Printer Connection

Connection Chart for Printer / Personal Computer (25-pin)

EIA (RS-232C) port on the main unit

EIA (RS-232C) port on the printer/PC

Circuit Type (EIA)	Signal Name	Pin No.
AA	FG	1
BA	SD (TXD)	2
BB	RD (RXD)	3
CB	CS (CTS)	5
CC	CR (DSR)	6
AB	SG	7
CD	ER (DTR)	20

Pin No.	Signal Name	Circuit Type (EIA)
1	FG	AA
3	RD (RXD)	BB
2	SD (TXD)	BA
20	ER (DTR)	CD
7	SG	AB
5	CS (CTS)	CB
6	CR (DSR)	CC
8	CD (DCD)	CF
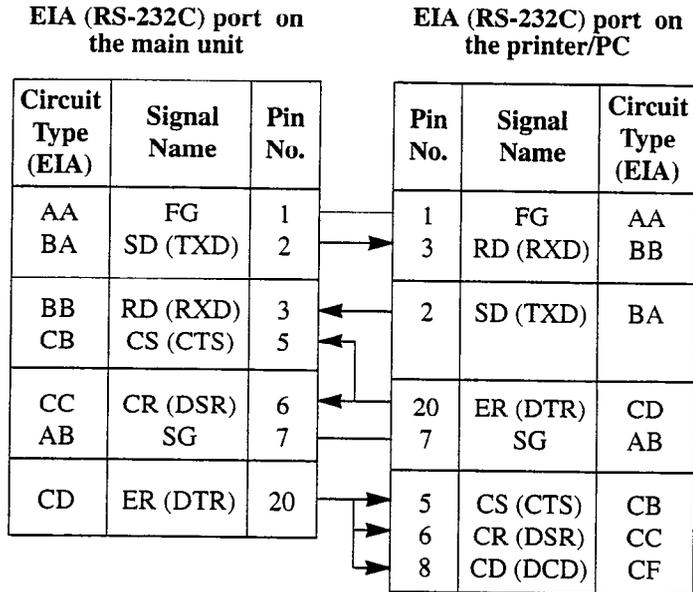
Connection Chart for IBM Personal Computer (9-pin)

If you connect an IBM-PC to your system, see the chart below.

EIA (RS-232C) port on the main unit

EIA (RS-232C) port on the printer/IBM-PC

Circuit Type (EIA)	Signal Name	Pin No.
AA	FG	1
BA	SD (TXD)	2
BB	RD (RXD)	3
CB	CS (CTS)	5
AB	SG	7
CD	ER (DTR)	20

Pin No.	Signal Name	Circuit Type (EIA)
2	RD (RXD)	BB
3	SD (TXD)	BA
5	SG	AB
6	CR (DSR)	CC
7	RS (RTS)	CA
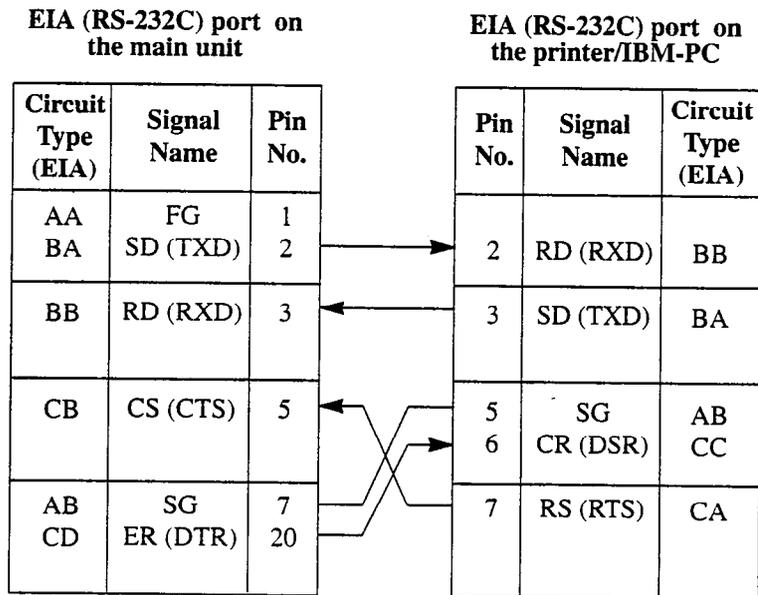
2.3.9 Printer Connection

EIA (RS-232C) Signals

Frame Ground: FG
Connects to the unit frame and the earth ground conductor of the AC power cord.

Transmitted Data: SD (TXD) ....(output)
Conveys signals from the unit to the printer. A "Mark" condition is held unless data or BREAK signals are being transmitted.

Received Data: RD (RXD) ....(input)
Conveys signals from the printer.

Request to Send: RS (RTS) ....(output)
This lead is held ON whenever CR (DSR) is ON.

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

Data Set Ready: CR (DSR) ....(input)
An ON condition of circuit CR (DSR) indicates the printer is ready. Circuit CR (DSR) ON does not indicate that communication has been established with the printer.

Signal Ground: SG
Connects to the DC ground of the unit for all interface signal.

Data Terminal Ready: ER (DTR) ....(output)
This signal line is turned ON by the unit to indicate that it is ON LINE. Circuit ER (DTR) ON does not indicate that communication has been established with the printer. It is switched OFF when the unit is OFF LINE.

Data Carrier Detect: CD (DCD) ....(input)
The ON condition is an indication to data terminal (DTE) that the carrier signal is being received.

Programming References

Section 4, System Programming,
[800] SMDR Incoming/Outgoing Call Log Printout
[801] SMDR Format
[802] System Data Printout
[806-807] E1A (RS-232C) Parameters

Feature References

Section 3, Features,
Station Message Detail Recording (SMDR)
System Programming and Diagnosis with Personal Computer

2.3.10 Installation of Lightning Protectors

Overview

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

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

In many countries, there are regulations requiring the installation of a lightning protector. A lightning strike to a telephone cable which is 10 m (33 feet) above ground can be as high as 200,000 volts. This system should be installed with lightning protectors. In addition, grounding (connection to earth ground) is very important for the protection of the system.

Recommended lightning protectors

Main Unit	Lightning Protector
KX-TD816 KX-TD1232	• TELESPIKE BLOK MODEL TSB (TRIPPE MFG. CO.) • SPIKE BLOK MODEL SK6-0 (TRIPPE MFG. CO.) • Super MAX™ (PANAMAX) • MP1 (ITW LINK)

Installation
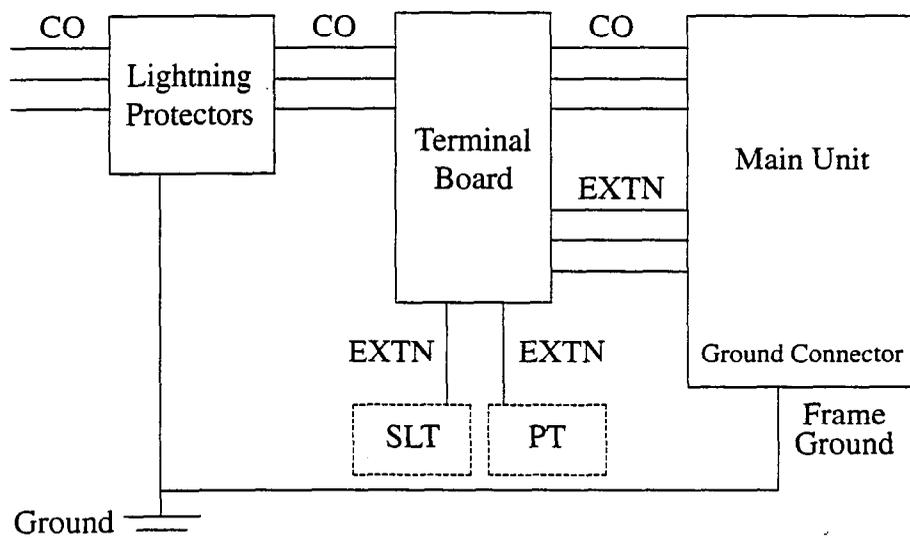
2.3.10 Installation of Lightning Protectors

Installation of an Earth Rod

```
                    Lightning
                    Protector
          CO    ┌─────────┐
        ────────┤         ├────────────────────┐
                │         ├──────────┐          │
                └────┬────┘          │          │
                     │               │          │
         Grounding   │               │          │
           Wire      │        ┌──────┴──────┐   │
                     │        │             │   │
                     │        │    Main     │   │
                     │        │    Unit     │   │
                     │        │             │   │
                     │        └─────────────┘   │
        ─────────────┼────────────────────┬─────┘
      (Underground)  │                     
                  ┌──┴──┐
                  │     │
                  │     │   Earth Rod
                  │     │
                  │     │
                  └─────┘
```
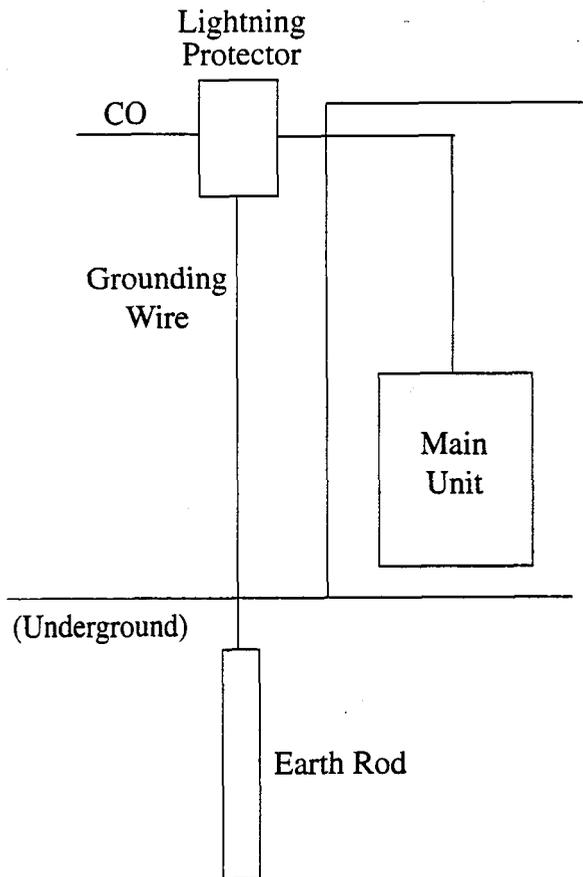
1) Installation location of the earth rod .... Near the protector
2) Check obstructions .... None
3) Composition of the earth rod .... Metal
4) Depth of the earth rod .... More than 50 cm
   (20 inches)
5) Size of the grounding wire .... Thickness is more
   than 16 AWG

Notes   • The above figures are recommendations only.
            • The length of earth rod and the required depth depend on the
              composition of the soil.

2.4 Installation of Optional Cards and Units

2.4.1 Location of Optional Cards and Units

The location of the optional cards is shown below.

Precaution To protect the printed circuit boards (P-boards) from static electricity, do not touch parts on the P-boards in the main unit and on the optional cards.

Expansion Units

KX-TD816 One 4-CO Line Unit (KX-TD180) and / or one 8-Station Line Unit (KX-TD170) can be installed to any of the two expansion areas.
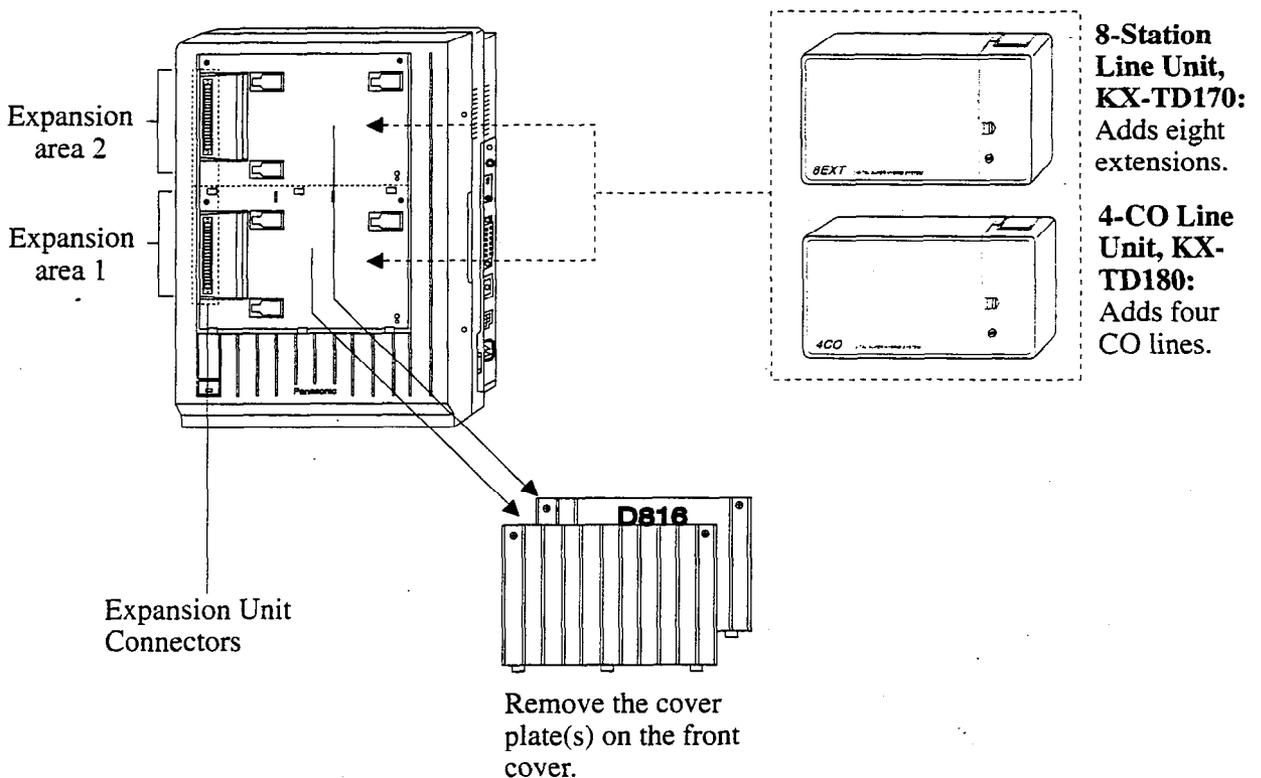
Expansion area 2

Expansion area 1

8-Station Line Unit, KX-TD170: Adds eight extensions.

4-CO Line Unit, KX-TD180: Adds four CO lines.

Expansion Unit Connectors

Remove the cover plate(s) on the front cover.

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

2.4.1 Location of Optional Cards and Units

KX-TD1232

One 4-CO Line Unit (KX-TD180) and/or up to two 8-Station Line Units (KX-TD170) can be installed to any of the three expansion areas.
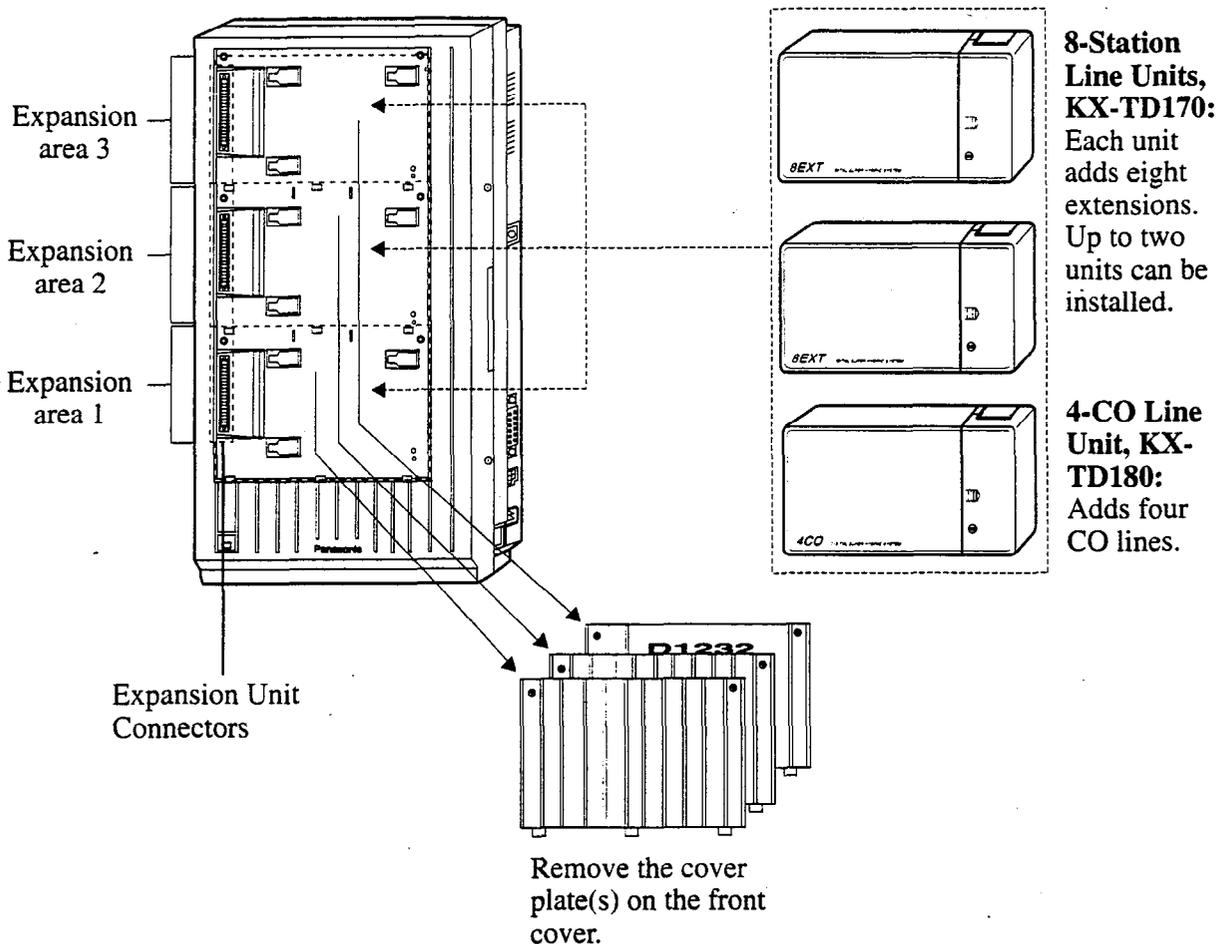
Expansion area 3

Expansion area 2

Expansion area 1

Expansion Unit Connectors

8-Station Line Units, KX-TD170: Each unit adds eight extensions. Up to two units can be installed.

4-CO Line Unit, KX-TD180: Adds four CO lines.

Remove the cover plate(s) on the front cover.

Note System Programming is required for expansion unit location. Refer to Section 4.3 [109] "Expansion Unit Type."
Default: Area 1 = 4-CO Line Unit,
Area 2 and 3 = 8-Station Line Unit.

2.4.1 Location of Optional Cards and Units

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

Doorphone
Card
Connector

Backup
Battery
Connector

Front Cover is
open.

Install **Backup Battery and Adaptor Card,
KX-A216**.
Operates all the features in the event of a
power failure.

Install **Doorphone Card, KX-TD160**.
This card connects two doorphones and two
door openers.
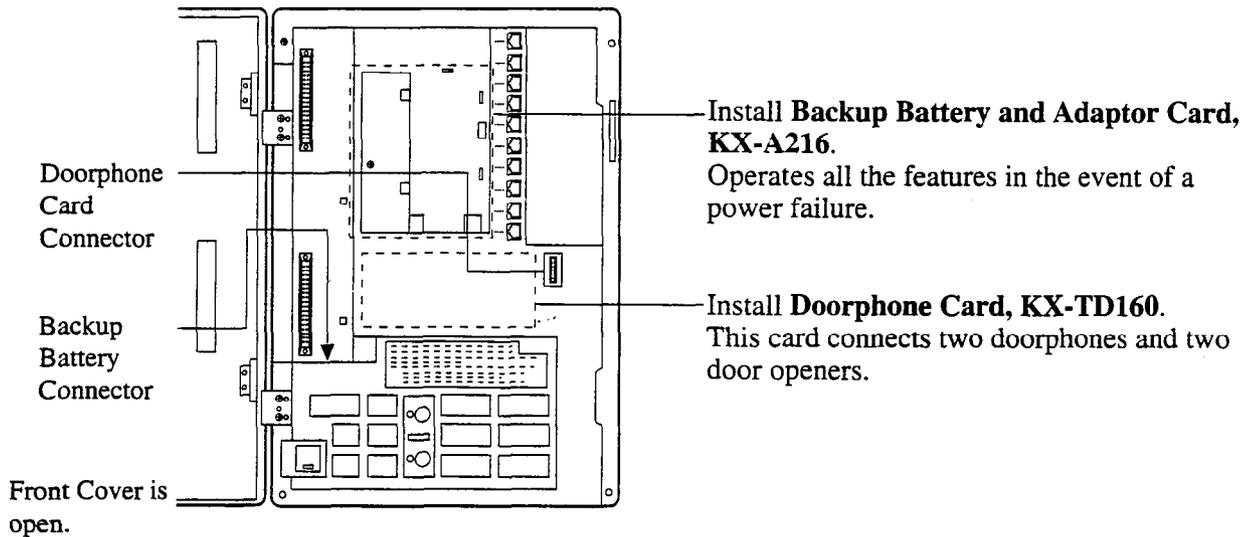
Remote Card, System Inter Connection Card, DISA Card, Doorphone Card for KX-TD1232

Remote Card
Connector

System Inter
Connection
Card
Connector

DISA Card
Connector

Doorphone
Card
Connector

Front Cover is
open.

Install **Remote Card, KX-TD196**.
This card provides data communications
between the system and a remote location.

Install **System Inter Connection Card,
KX-TD192**.
This card connects two systems in parallel.

Install **DISA Card, KX-TD191**.
This card permits access to the system from
outside.

Install **Doorphone Card, KX-TD160**.
This card connects two doorphones and two
door openers.

2.4.1   Location of Optional Cards

Caller ID Cards

Up to two Caller ID Cards (KX-TD193) for KX-TD816, and up to three Caller ID Cards for KX-TD1232 can be installed to the initially provided CO Line Card and 4-CO Line Unit. This card supports Caller ID services offered by the central office. The initially provided CO Line Card is located behind the inside cover.

KX-TD816
Initial CO Line Card
Install one **Caller ID Cards, KX-TD193**.

KX-TD1232
Initial CO Line Card
Install up to two **Caller ID Card, KX-TD193**.

Inside cover

Inside cover

4-CO Line Unit, KX-TD180
(inside the cabinet)
Install one **Caller ID Card, KX-TD193**.
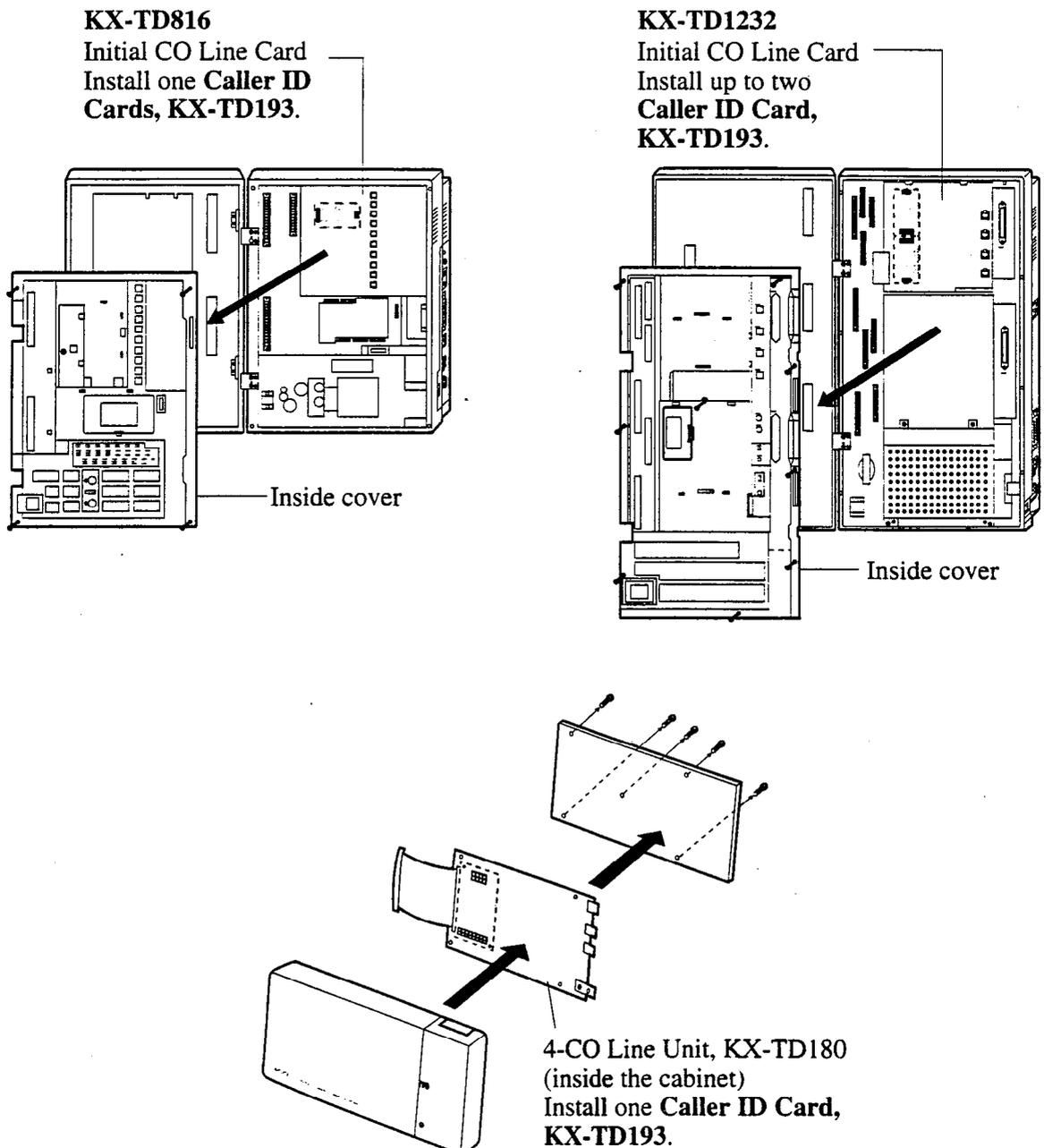
2.4   Installation of Optional Cards and Units

2.4.2   4-CO Line Unit Connection

To add four CO lines (CO 5 through CO 8 for KX-TD816, and CO 9 through CO 12 for KX-TD1232), use the optional 4-CO Line Unit (KX-TD180). This unit can be installed to any of the expansion unit areas provided on the front of the main unit.
For CO Line Expansion Unit Installation, see Section 2.4.4 "Installing Expansion Unit (KX-TD170/KX-TD180)."

Notes • System Programming is required for card location identification.
• If you intend to attach a Caller ID Card to the 4-CO Line Unit, attach it before CO line connection. See Section 2.4.7 "Caller ID Card Installation."

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

Feature References   Section 3, Features,
Module Expansion

2.4.3   8-Station Line Unit Connection

To add eight extensions (jack numbers 9 through 16 for KX-TD816, and jack numbers 17 through 24 for KX-TD1232), use the optional 8-Station Line Unit (KX-TD170).
To add 16 extensions for KX-TD1232 (jack numbers 17 through 32), use two 8-Station Line Units.
This unit can be installed to any of the expansion unit areas provided on the front of the main unit.
For Extension Expansion Unit Installation, see Section 2.4.4 "Installing Expansion Unit (KX-TD170/KX-TD180)."

Notes   System Programming is required for card location identification.

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

Feature References   Section 3, Features,
Module Expansion

2.4.4 Installing Expansion Unit (KX-TD170 / KX-TD180)

KX-TD816

The following procedures can be used to install either 8-Station Line Unit (KX-TD170) or 4-CO Line Unit (KX-TD180) for KX-TD816.

The following steps 1 through 5 and 7 through 10 are common to both expansion units.

The step 6 shows two different methods to install respective expansion units.

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

Slit   Slit
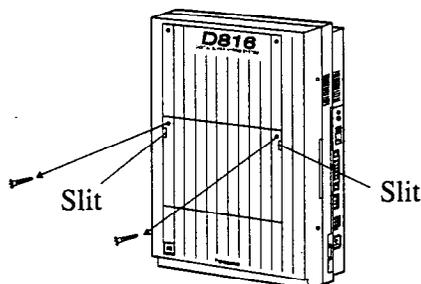
Note There are two cover plates. Any of them can be removed, as needed.

2. Connect the cabinet cord to the connector in the main unit firmly.
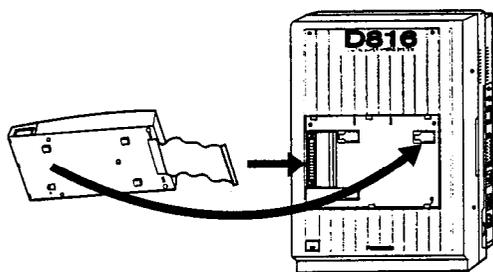
3. Hook the cabinet on the main unit and slide the cabinet to the left until it is fixed.
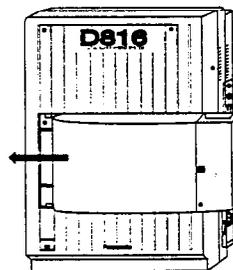
4. Loosen the outside screw and slide the cover to the right.
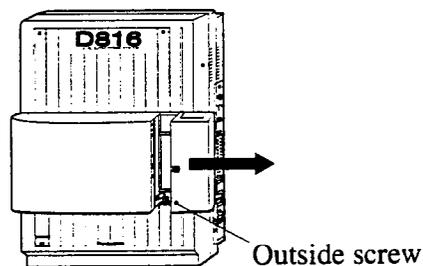
Outside screw

2.4.4 Installing Expansion Unit (KX-TD170 / KX-TD180)

5. Connect the frame of the expansion unit to the ground. Secure the inside screw to fix the cabinet to the main unit.

Note If two expansion units are installed, frame ground connection is required for only one unit.

To ground
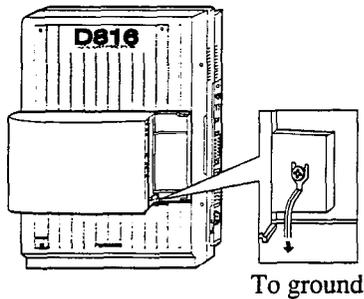
6. ■ **If KX-TD180 is to be installed; (for KX-TD816)**
Insert the modular plugs of the telephone line cords (4-conductor wiring) into the modular jacks on the unit.

Jack for Power
Failure Transfer †

(T1/R1)(T2/R2)
CO 5, CO 6

CO 7, CO 8

T2 R1 T1 R2

R: Ring
T: Tip

View of TEL Jack (CO)

→ To Terminal Board or Modular
Jacks from the Central Office

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

2.4.4 Installing Expansion Unit (KX-TD170 / KX-TD180)

■ **If KX-TD170 is to be installed; (for KX-TD816)**
Insert the connector into the jack.

Jack for Power
Failure Transfer †

Connector type
50-pin (Amphenol 57JE
series or the equivalent)

To extensions
(Jacks 9 – 16)
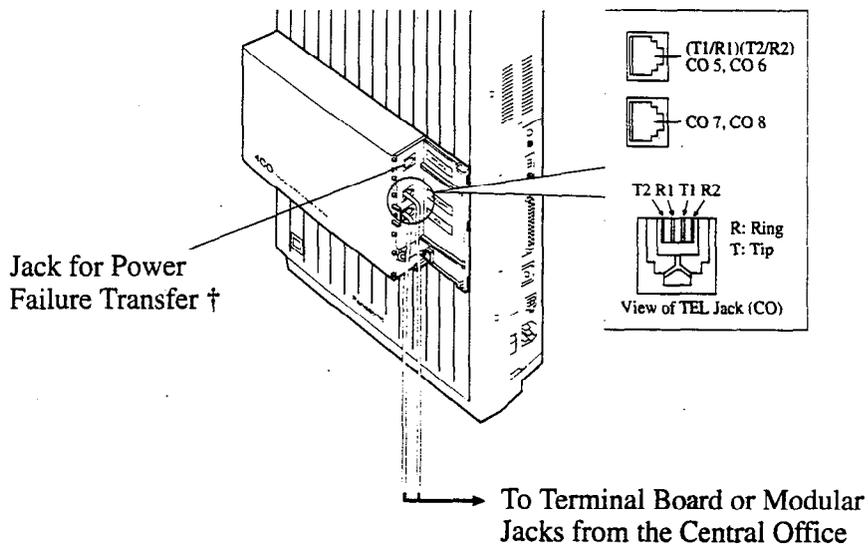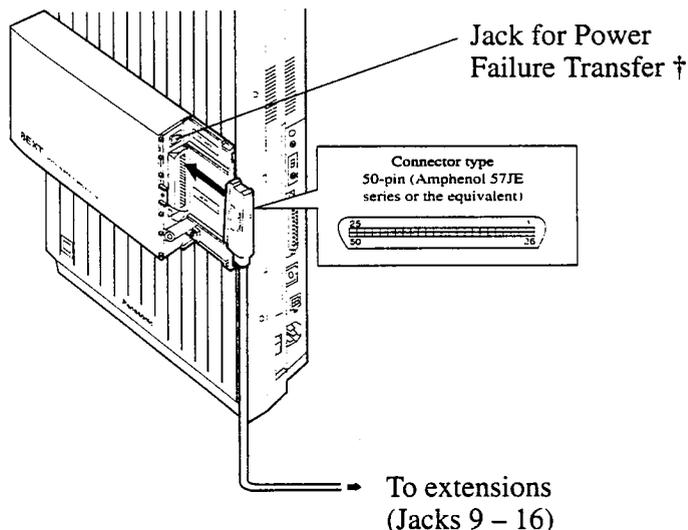
† For details, refer to Section 2.5 "Auxiliary Connection for Power Failure Transfer."

Notes • For Cable Pin Numbers to Be Connected, see page 2-18.
• For fixing the connector, see page 2-48.

7. Tie up all the cords into a bundle. If other cords are coming from the upper cabinets, tie them, too.

8. Close the cabinet cover and secure the outside screw.

9. Cover the cords with the cord holder (included).

10. Fix the cords to the wall at the shown position so that the front cover can be opened.

Cord holder
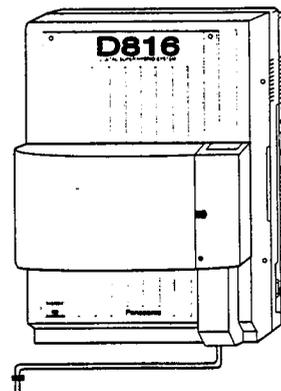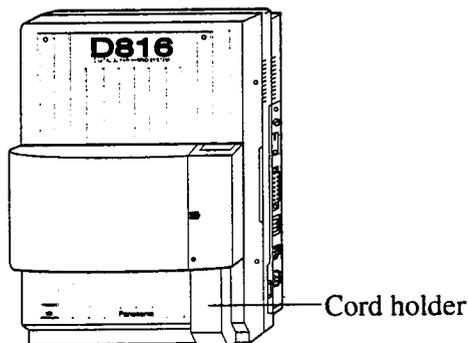
2.4.4 Installing Expansion Unit (KX-TD170 / KX-TD180)

Notes
- If two expansion units are installed, cut the cabinet cover(s) on the lower cabinet(s) to let the cords from upper cabinet go down through the cabinet cover(s). To guard the cords, smooth the cut edge.

- If you attach the Caller ID Card, KX-TD193 to the 4-CO Line Unit, KX-TD180, attach it before installing the 4-CO Line Unit to the main unit. For installation, refer to Section 2.4.7 "Caller ID Card Installation."

Cut here
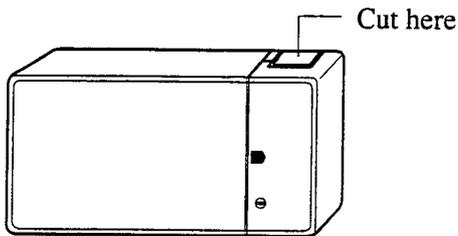
2.4.4 Installing Expansion Unit (KX-TD170 / KX-TD180)

KX-TD1232

The following procedures can be used to install either 8-Station Line Unit (KX-TD170) or 4-CO Line Unit (KX-TD180) for KX-TD1232. The following steps 1 through 5 and 7 through 10 are common to both expansion cards.

The step 6 shows two different methods to install respective expansion units.

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

Slit

Slit
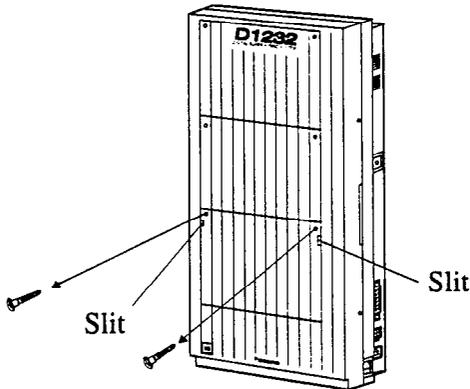
Note There are three cover plates. Any of them can be removed, as needed.

2. Connect the cabinet cord to the connector in the main unit firmly.
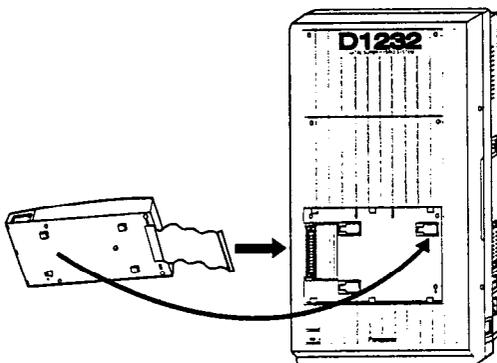
3. Hook the cabinet on the main unit and slide the cabinet to the left until it is fixed.
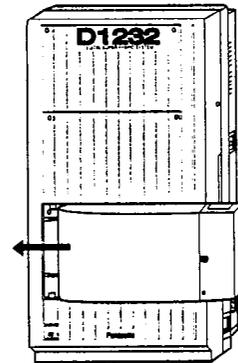
4. Loosen the outside screw and slide the cover to the right.
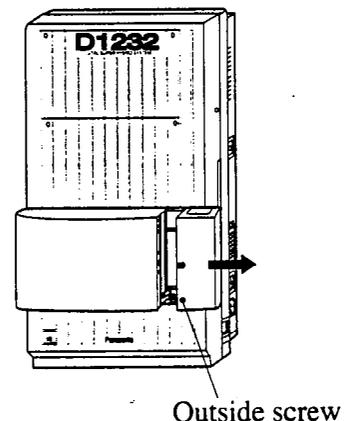
Outside screw

2.4.4 Installing Expansion Unit (KX-TD170 / KX-TD180)

5. Connect the frame of the expansion unit to ground. Secure the inside screw firmly to fix the cabinet to the main unit.
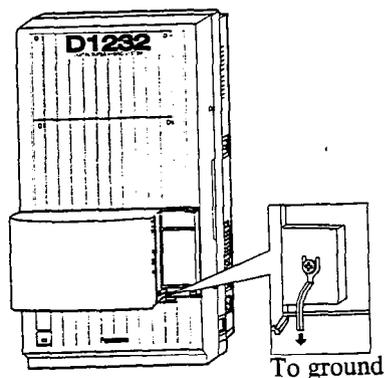
To ground

Note If two or three expansion units are installed, frame ground connection is required for only one unit.

6. ■ **If KX-TD180 is to be installed; (for KX-TD1232)**
   Insert the modular plugs of the telephone line cords (4-conductor wiring) into the modular jacks on the unit.

Jack for Power Failure Transfer †

(T1/R1)(T2/R2) CO 9, CO10

CO11, CO12

T2 R1 T1 R2
R: Ring
T: Tip

View of TEL Jack (CO)

To Terminal Board or Modular Jacks from the Central Office
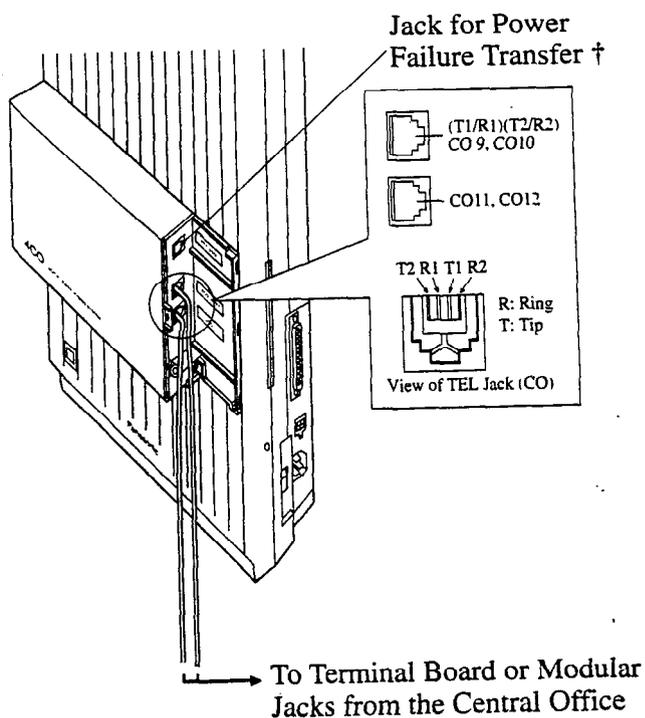
† For details, refer to Section 2.5 "Auxiliary Connection for Power Failure Transfer."

2.4.4 Installing Expansion Unit (KX-TD170 / KX-TD180)

■ **If KX-TD170 is to be installed; (for KX-TD1232)**
Insert the connector into the jack.
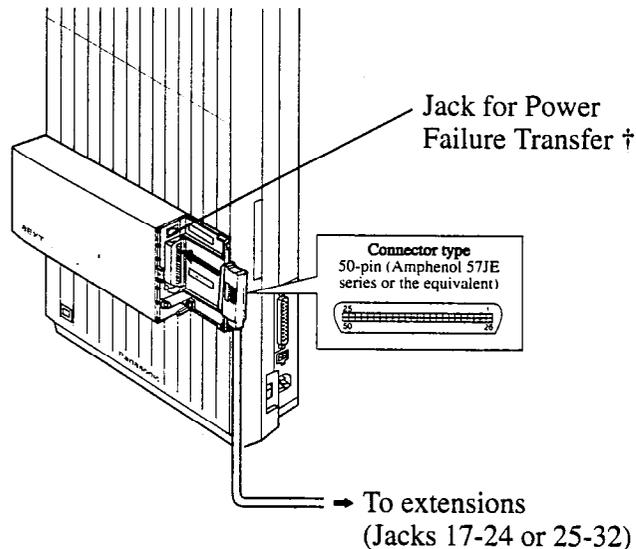
Jack for Power
Failure Transfer †

Connector type
50-pin (Amphenol 57JE
series or the equivalent)

→ To extensions
(Jacks 17-24 or 25-32)

Notes
- For Cable Pin Numbers to Be Connected, see page 2-18.
- For fixing the connector, see page 2-48.

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

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

D1232

Cord holder

10. Fix the cords to the wall at the shown position so that the front cover can be opened.

D1232
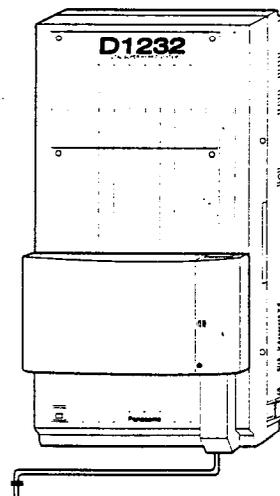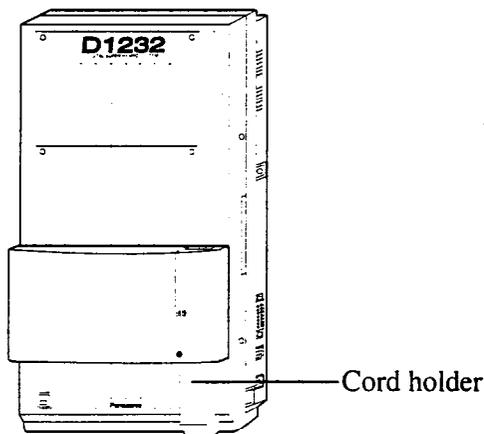
2.4.4 Installing Expansion Unit (KX-TD170 / KX-TD180)

Notes • If two or three expansion units are installed, cut the cabinet cover(s) on the lower cabinet(s) to let the cords from upper cabinet go down through the cabinet cover(s). To guard the cords, smooth the cut edge.

• If you attach the Caller ID Card, KX-TD193 to the 4-CO Line Unit, KX-TD180, attach it before installing the 4-CO Line Unit to the main unit. For installation, Refer to Section 2.4.7 "Caller ID Card Installation."

Cut here

2.4.4 Installing Expansion Unit (KX-TD170 / KX-TD180)

Amphenol 57JE Type (screw-attach-type 50-pin connector) Connection for KX-TD170

To fix the Amphenol 57JE type (screw-attach type 50-pin connector) to the 8-Station Line Unit, follow the procedures below.

1. The 50-pin connector (Jack) on the Expansion Unit has two hook-pins. Remove the upper hook-pin, taking out the screw.

2. To attach the Amphenol 57JE type (Plug) to the connector, drive the accessory screw at the upper part.
   Fasten the accessory wire tie around the lower hook-pin and the Amphenol 57JE type, as shown.
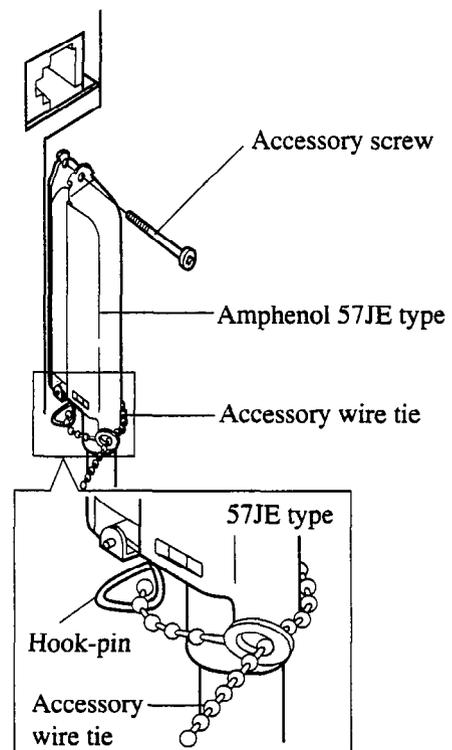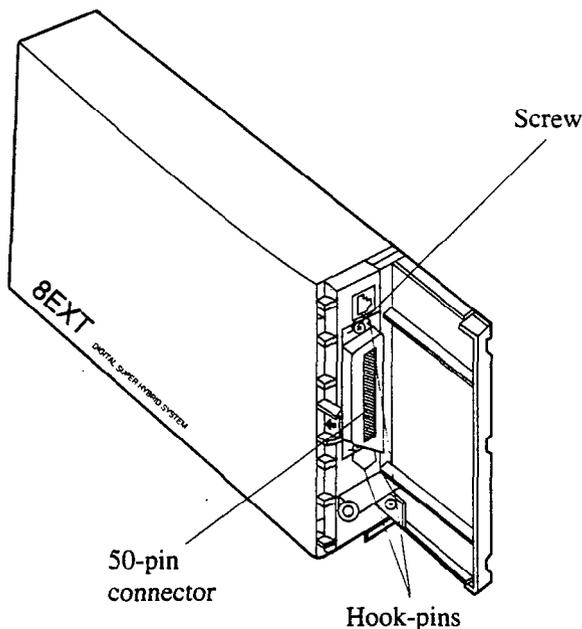
Note

When connecting a connector of the type shown below, unscrew the lower hook-pin, too. Then drive both accessory screws.
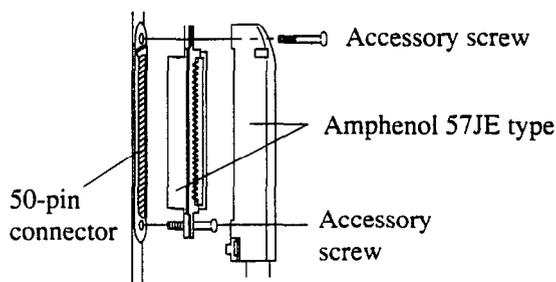
2.4 Installation of Optional Cards and Units

2.4.5 DISA Card Installation*
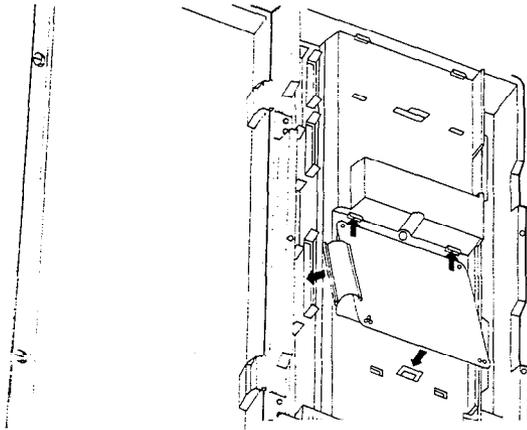
1. Insert upper side of the DISA Card into two hooks on the main unit.
2. Press two corners of the lower side of the DISA Card.
3. Connect the cord to the DISA Card Connector.
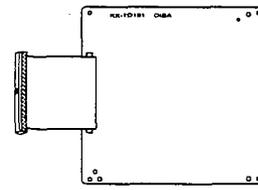
DISA Card

Programming References

See 'Programming References' in **Section 3, Features,** Direct Inward System Access.

Feature References

Section 3, Features,
Direct Inward System Access (DISA)

2.4.6 Remote Card Installation*
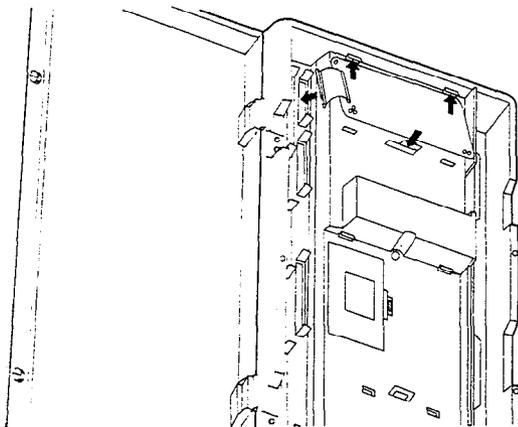
1. Insert upper side of the Remote Card into two hooks on the main unit.
2. Press two corners of the lower side of the Remote Card.
3. Connect the cord to the Remote Card Connector.
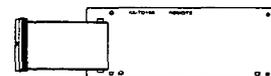
Remote Card

Programming References

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

Feature References

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

2.4.7 Caller ID Card Installation

A maximum of two Caller ID Cards (KX-TD193) can be installed to the KX-TD816, and a maximum of three Caller ID Cards can be installed to the KX-TD1232. The Caller ID Cards can be installed to the initially provided CO Line Card and/or to an optional 4-CO Line Unit (KX-TD180), as required.

The CO Line Card of KX-TD816 can attach one Caller ID Card, and the CO Line Card of KX-TD1232 can attach two Caller ID Cards. 4-CO Line Unit can attach one Caller ID Card.

(1) Installing to the Initial CO Line Card

KX-TD816

1. Loosen four screws to open the inside cover of the main unit.

   Note If any cards, units, or cords are installed to the main unit, remove them beforehand.

2. Attach the Caller ID Card to the CO Line Card, fitting the connectors.

   One card can be installed to the initial CO Line Card.
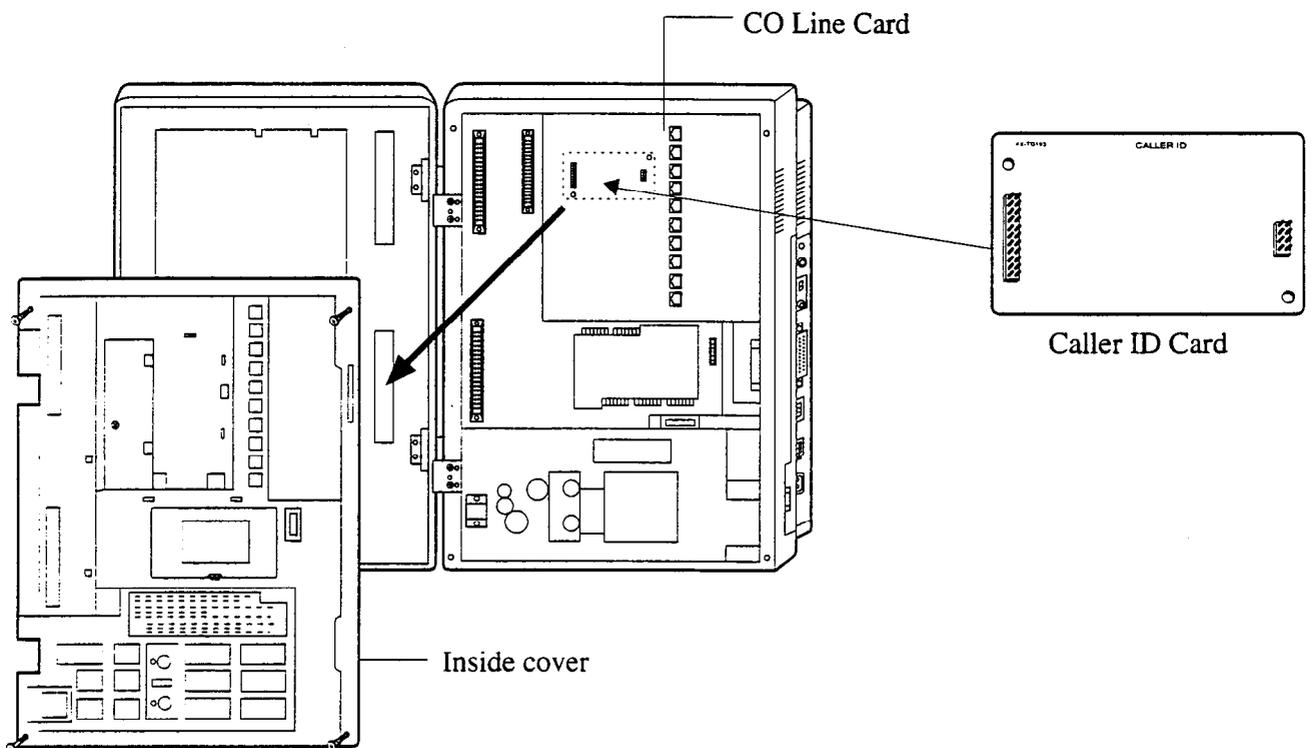
CO Line Card

Caller ID Card

Inside cover

3. Put the inside cover back on the main unit and secure the screws.

2.4.7   Caller ID Card Installation

KX-TD1232

1. Loosen nine screws to open the inside cover of the main unit.
   Note   If any cards, units, or cords are installed to the main unit, remove them beforehand.

2. Attach the Caller ID Card(s) to the CO Line Card, fitting the connectors.
   Up to two cards can be installed to the initial CO Line Card.
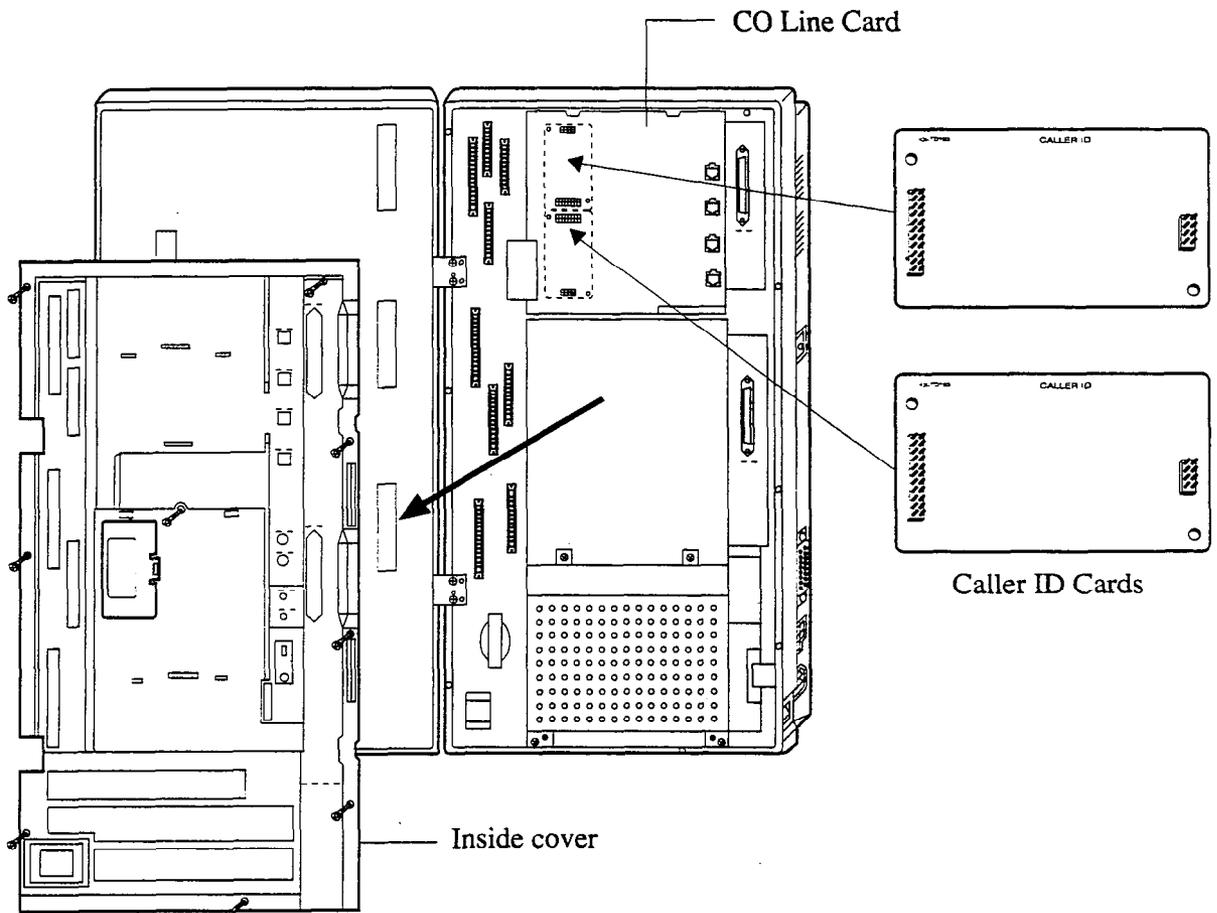
CO Line Card

Caller ID Cards

Inside cover

3. Put the inside cover back on the main unit and secure the screws.

2.4.7 Caller ID Card Installation

(2) Installing to the Optional 4-CO Line Unit

The following procedures must be done before installing the 4-CO Line Unit (KX-TD180) to the main unit.

1. Loosen five screws located on the rear of the 4-CO Line Unit.
2. Remove the back plate and take out the P-board.
3. Attach the Caller ID Card to the P-board, fitting the connectors.
4. Put the P-board back into the cabinet and fix the rear plate with the five screws.

back plate

P-board
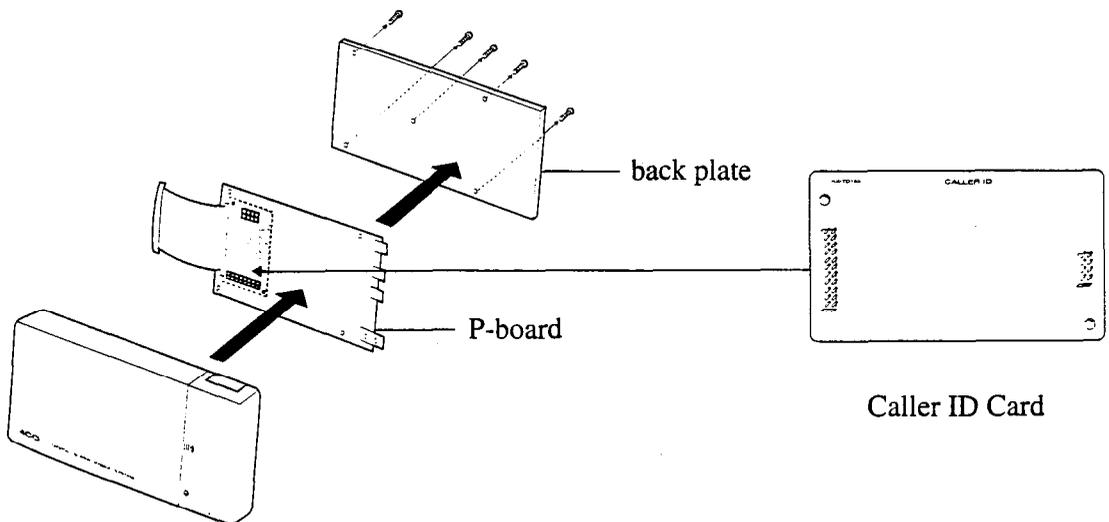
Caller ID Card

Note   For installing the 4-CO Line Unit to the main unit, refer to Section 2.4.4 "Installing Expansion Unit (KX-TD170 / KX-TD180)."

Programming References

Section 4, System Programming,
[110] Caller ID Code Set
[111] Caller ID Name Set
[406] Caller ID Assignment

Feature References

Section 3, Features,
Caller ID

2.4.8 Doorphone and Door Opener Connection

To connect up to two doorphones (KX-T30865) and up to two door openers (user-supplied), a Doorphone Card (KX-TD160) is required.

Installing the Doorphone

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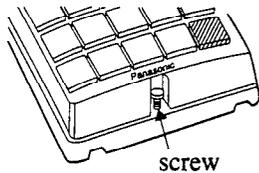
screw

2. Install the base cover to the wall with two screws.
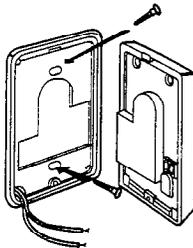
   Note Two kinds of screws are included. Please choose an appropriate one depending on your wall type:
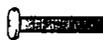
    ----- Type 1: When the doorphone plate has been fixed to the wall.

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

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

To the terminal box (See the following page.) ←
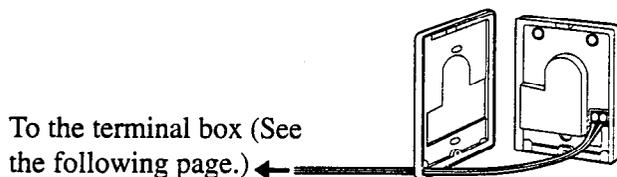
4. Secure both halves together and re-install the screw.

Doorphone Card Installation

1. Connect a 4-conductor modular connector to the Doorphone Card Cabinet, and pass the cord through the groove on the cabinet.
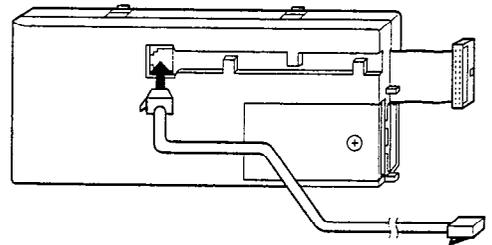
2. Attach the Doorphone Card Cabinet to the main unit and press it down.

3. Connect the cord to the Doorphone Card Connector.

   KX-TD1232   **KX-TD816**
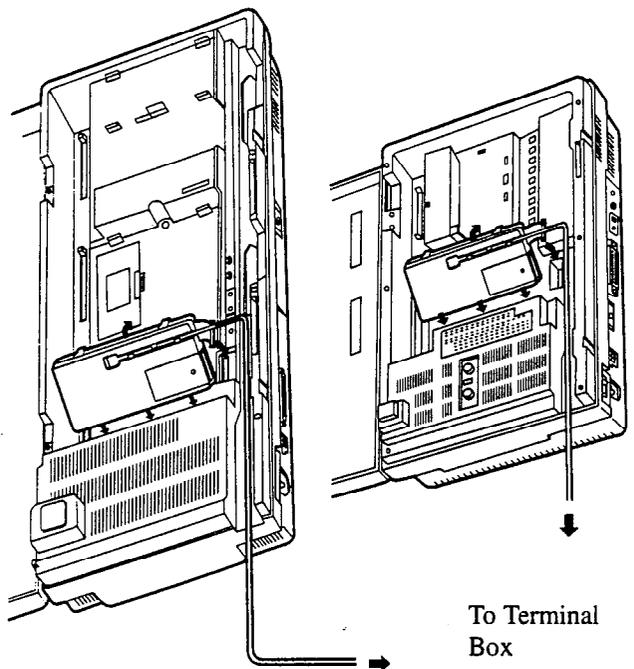
To Terminal Box

2.4.8 Doorphone and Door Opener Connection

Wiring of the Doorphone

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

KX-TD816

4-conductor wiring is required.

Terminal Box

Doorphone 1 (KX-T30865)

Doorphone 2 (KX-T30865)

Yellow   Black
Red   Green

KX-TD1232

4-conductor wiring is required.

Terminal Box

Doorphone 1 (KX-T30865)

Doorphone 2 (KX-T30865)

Yellow   Black
Red   Green
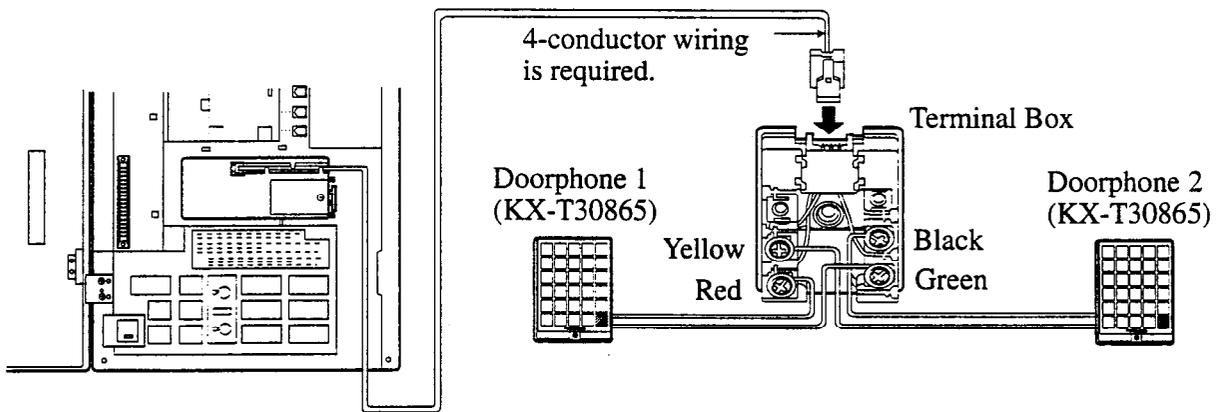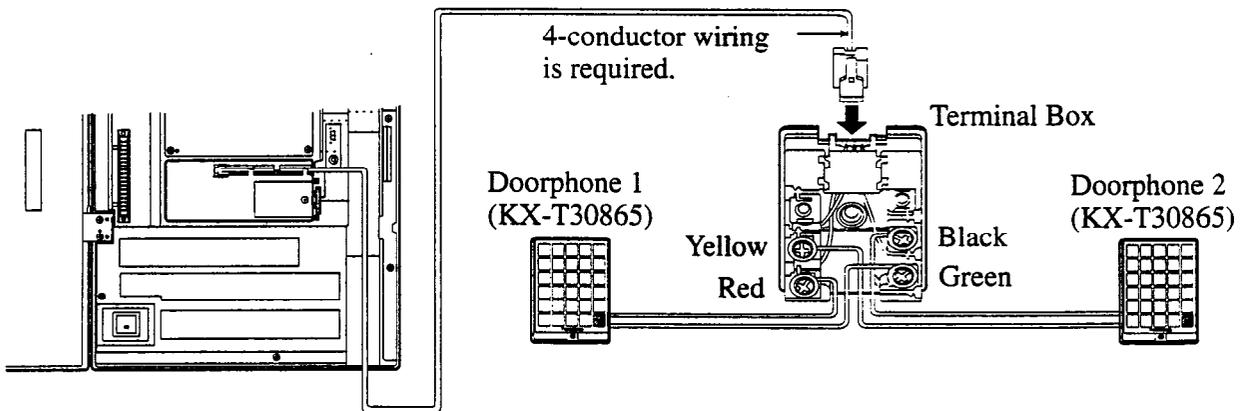
2.4.8 Doorphone and Door Opener Connection

Connecting Door Openers

1. Loosen the screw to remove the cover.
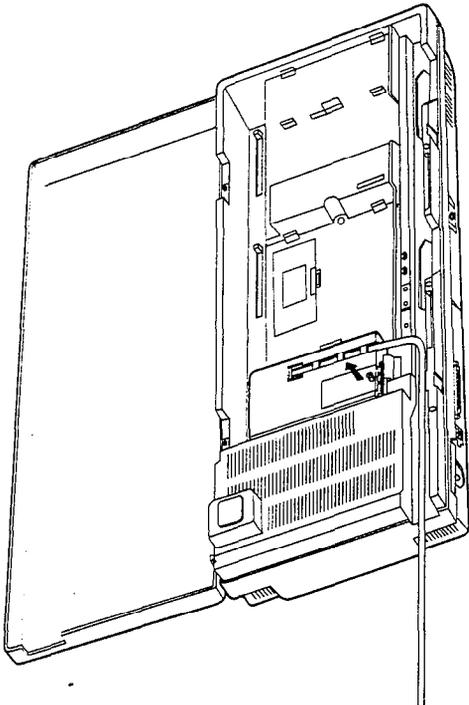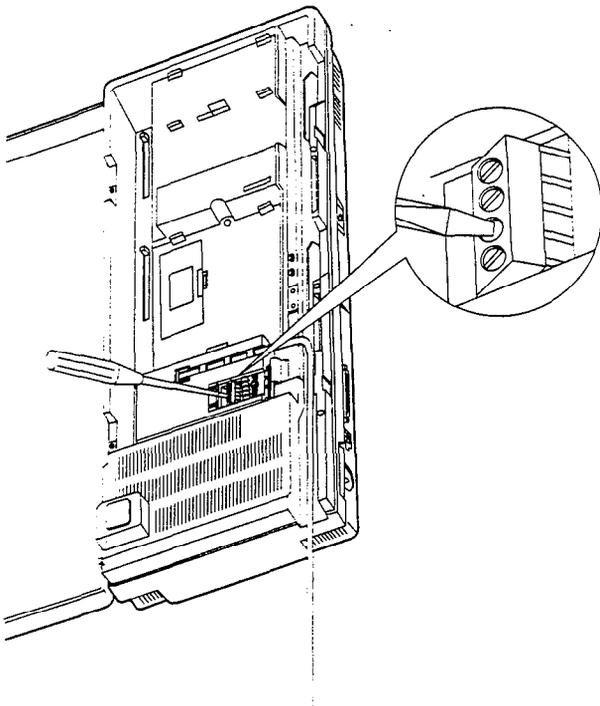
3. Insert the wires coming from the door openers into holes and tighten the screws.

→ To door opener 2
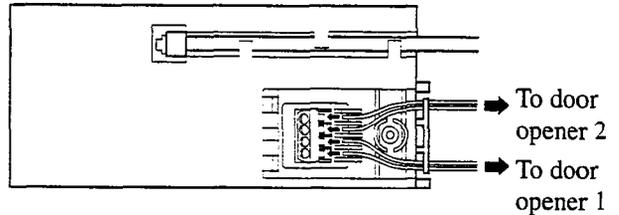
→ To door opener 1

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

D=1.2-2.4 mm (3/64-3/32 inch)
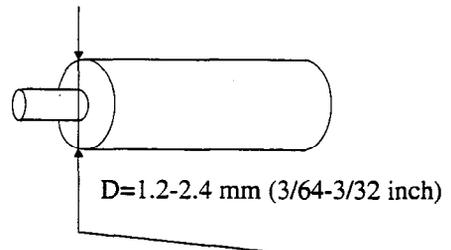
- Set the door opener paired with the doorphone.
- The KX-TD1232 is illustrated as a main unit.

2. Loosen the screws.

2.4.8 Doorphone and Door Opener Connection

Maximum cabling distance of the doorphone and the door opener line

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

26 AWG: Under 70 m (230 feet)
24 AWG: Under 113 m (370 feet)
22 AWG: Under 180 m (590 feet)

Doorphone
KX-T30865

22 AWG: Under 180 m (590 feet)
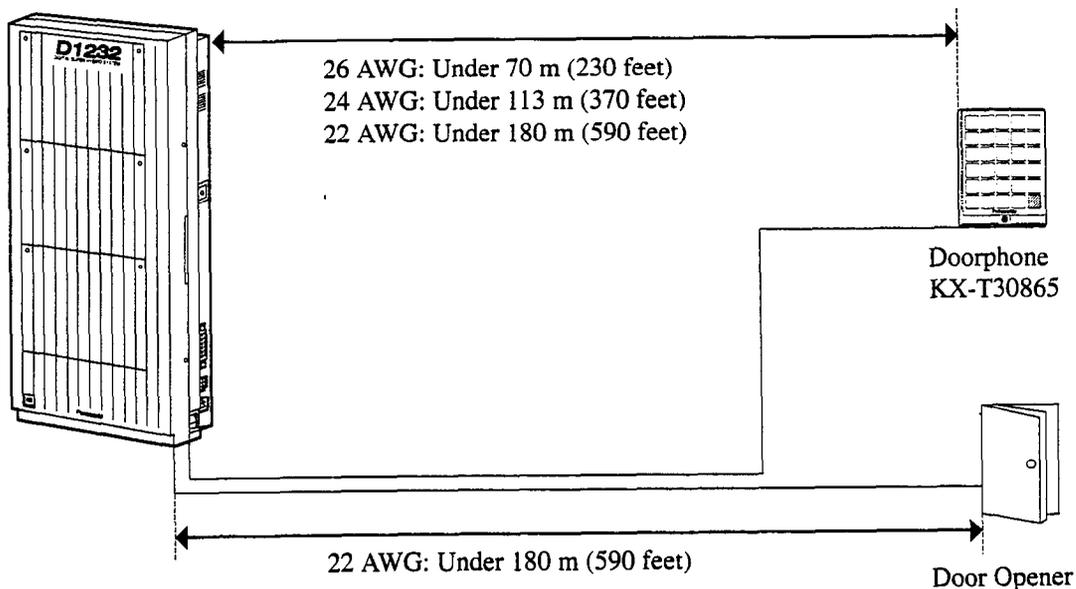
Door Opener

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

Programming References

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

Feature References

Section 3, Features,
Door Opener   Doorphone Call

2.4.9   System Connection*

To connect two main units, use the optional System Inter Connection Cards (two) and the Connection Cable (included in the cards).
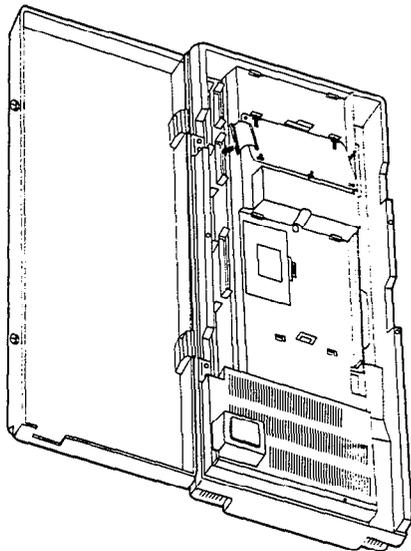
1. Insert upper side of the System Inter Connection Card into two hooks on the main unit (Master System).
2. Press two corners of the lower side of the System Inter Connection Card.
3. Connect the cord to the System Inter Connection Card connector.
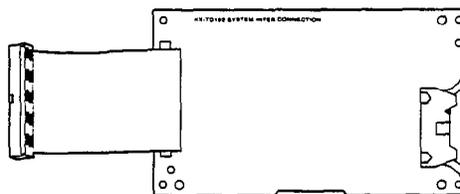
System Inter Connection Card
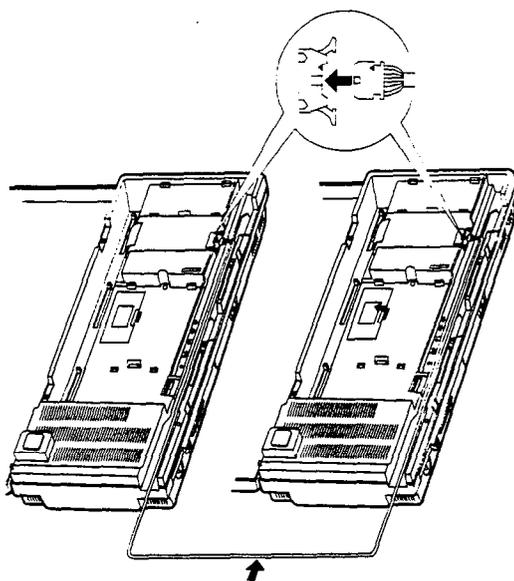
4. Open the latch on the card.
5. Repeat steps 1 through 4 for the Slave System, using the other card.
6. Insert one Connection Cable end to the Master System and insert the other end to the Slave System.
7. Close the latches on both systems.

Connection Cable

2.4.9 System Connection*

8. Open the ROM Cover in the Slave System and set the Master/Slave Switch on the CPU Card to "Slave" position.
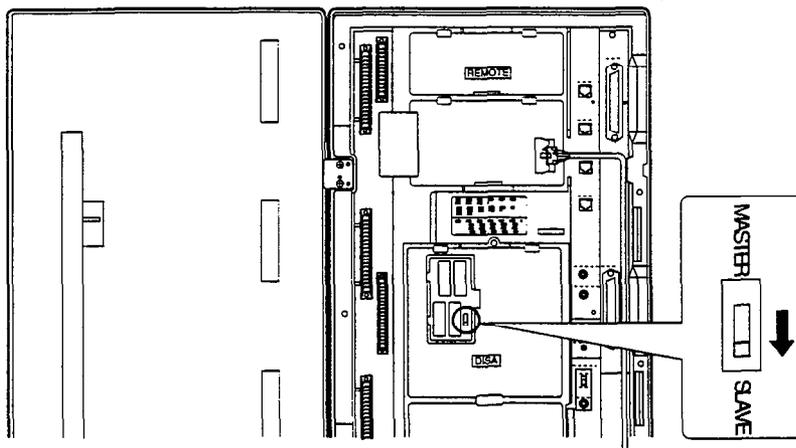
9. Turn the power on.

Notes
- System Connection is completed about one minute later after the power is turned on.
- To turn the power on for the first time, refer to Section 2.6 "Starting the System for the First Time."

Programming References

No programming required.

Feature References

Section 3, Features,
System Connection

2.4.10 Backup Battery and Adaptor Card Connection*

The optional Backup Battery and Adaptor Card are available for KX-TD816. It is a backup power supply to operate all the features in the event of a power failure. In case of power failure, the battery automatically maintains the power to the main unit instantly for about 10 minutes. The battery charges automatically by itself when it is discharged.

You can choose KX-A216 or KX-A46 for a backup power supply. For connection of KX-A46, see the next page.

1. Loosen the screw of the adaptor card cover and remove the adaptor card cover from the main unit. Then attach the nylon belt.

Nylon belt

2. Insert the battery and adaptor card into the frame.

Backup Battery

Adaptor Card

Notes Make sure of the polarities of the battery.

3. Fasten the nylon belt to fix the battery. Fix the adaptor card by a screw (included).

Screw

4. Connect the cord of battery to the adaptor card. Remove the backup battery connector cover on the main unit. Then connect the cord of the adaptor card to the backup battery connector.

Backup Battery Connector

2.4.11 Battery Adaptor Connection

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

The Battery Adaptor should not be exposed to direct sunlight. Keep the adaptor and gel cell batteries away from heating appliances and fire. Place gel cell batteries in an airy place.

Connection

When connecting the battery adaptor, keep the following in mind.
• Make sure of the polarities of batteries and wires.
• Make sure that you do not short the batteries and wires.
• To connect the two batteries, use accessory wire.
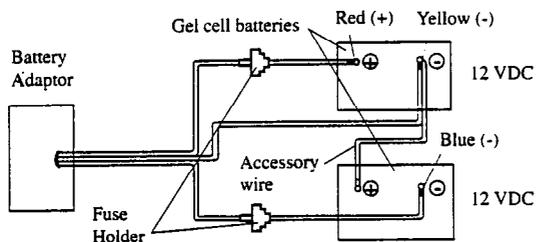
1. Assemble the cords and two gel cell batteries (12VDC each) as shown.
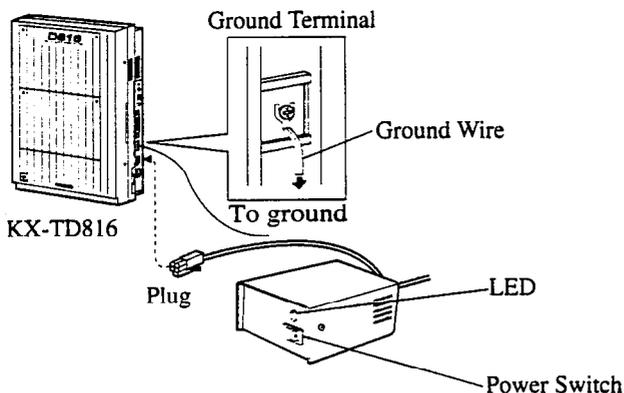
2. Insert the plug of the battery adaptor into the battery adaptor connector on the main unit.
   Connect the ground wire to the ground terminal on the main unit.
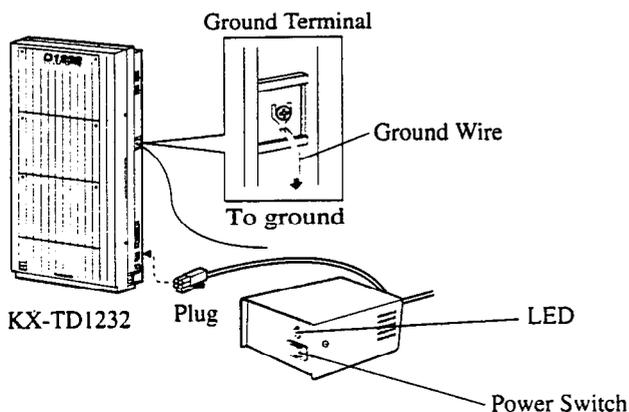
3. Turn on the power switch of the battery adaptor.

2.4.11 Battery Adaptor Connection

Wall Mounting

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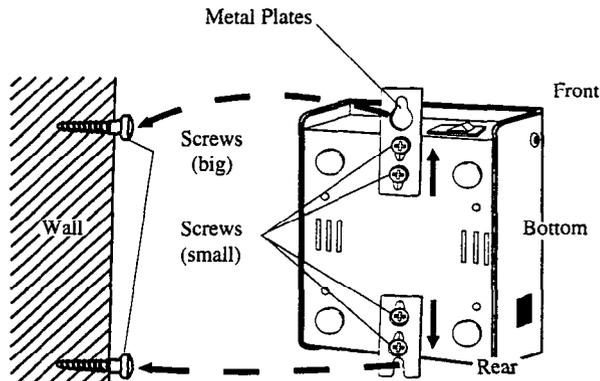
1. Drive the accessory four small screws on the bottom of the unit.
2. Place the metal plates so that the screw heads insert into the slots as shown.
3. Slide the metal plates in the directions of the arrows, and drive the screws.
4. Place the templet on the wall to mark two screw positions, and install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

Mounting on Concrete or Mortar Walls;

At step **4**, drill two holes and drive the anchor plugs with a hammer, flush to the wall, and install the big screws into the anchor plugs.

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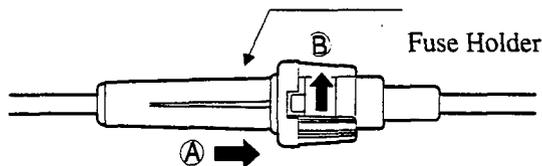
Ⓑ Fuse Holder Ⓐ

Turn the power switch off.
Turn the fuse holder in the direction of Arrow Ⓑ while pushing it in the direction of Arrow Ⓐ . Replace the fuse with the new one. Then turn the power switch on.

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

2.5 Auxiliary Connection for Power Failure Transfer

Power Failure Transfer connects a specific single line telephones to selected CO lines in the event of system power failure, as follows:

KX-TD816

CO 1 – Extension (T, R) Jack 1 / CO 2 – Extension (T, R) Jack 2
CO 5 – Extension (T, R) Jack 9 / CO 6 – Extension (T, R) Jack 10
Connections of CO 1, CO 2 and the respective extensions require no auxiliary connection. CO 5 and CO 6 require auxiliary connection to implement this feature.

KX-TD1232

CO 1 – Extension (T, R) Jack 1 / CO 2 – Extension (T, R) Jack 2
CO 3 – Extension (T, R) Jack 9 / CO 4 – Extension (T, R) Jack 10
CO 9 – Extension (T, R) Jack 17
CO 10 – Extension (T, R) Jack 18
Connections of CO 1 through CO 4 and the respective extensions require no auxiliary connection. CO 9 and CO 10 require auxiliary connection to implement this feature.

T2 R1 T1 R2
R: Ring
T: Tip
View of TEL Jack (CO)
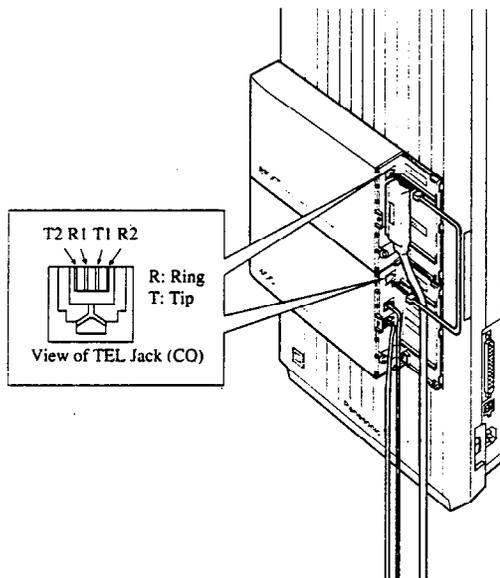
Insert the modular plugs of connection cords (4-conductor wiring) to the modular jacks of 4-CO Line Unit and 8-Station Line Unit 1. (In the case of KX-TD816, one 8-Station Line Unit is available.)

2.5 Auxiliary Connection for Power Failure Transfer

Notes
- In the event of a power failure, system memory is protected by the factory-provided lithium battery. There is no memory loss except the memories of Camp-on, Saved Number Redial, Last Number Redial, Call Park and Message Waiting.
- The system changes the current connection to the above connection automatically when the power supply stops.
- If DC power is available from backup batteries if AC power fails, the system does not change the current connection to the above connection.
- The KX-TD1232 is illustrated as a main unit, and the KX-TD170 and KX-TD180 are illustrated as an expansion units.

Programming Reference

Section 4, System Programming
[109] Expansion Unit Type

Feature References

Section 3, Features,
Power Failure Transfer

2.6   Starting the System for the First Time

1. Set the Power Switch to the "OFF" position.
2. Set the System Clear Switch to the "CLEAR" position.
3. Plug the AC power cord into the system and an AC outlet.
4. Turn the Power Switch on.
5. Press the Reset Button with a pointed tool.
   (The power indicator will flash.)
6. *Slide the System Clear Switch to the "NORMAL" position while the power indicator is flashing (approximately within 10 seconds).*

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

KX-TD816

Reset Button   System Clear Switch

Power Indicator   Power Switch   To AC Outlet
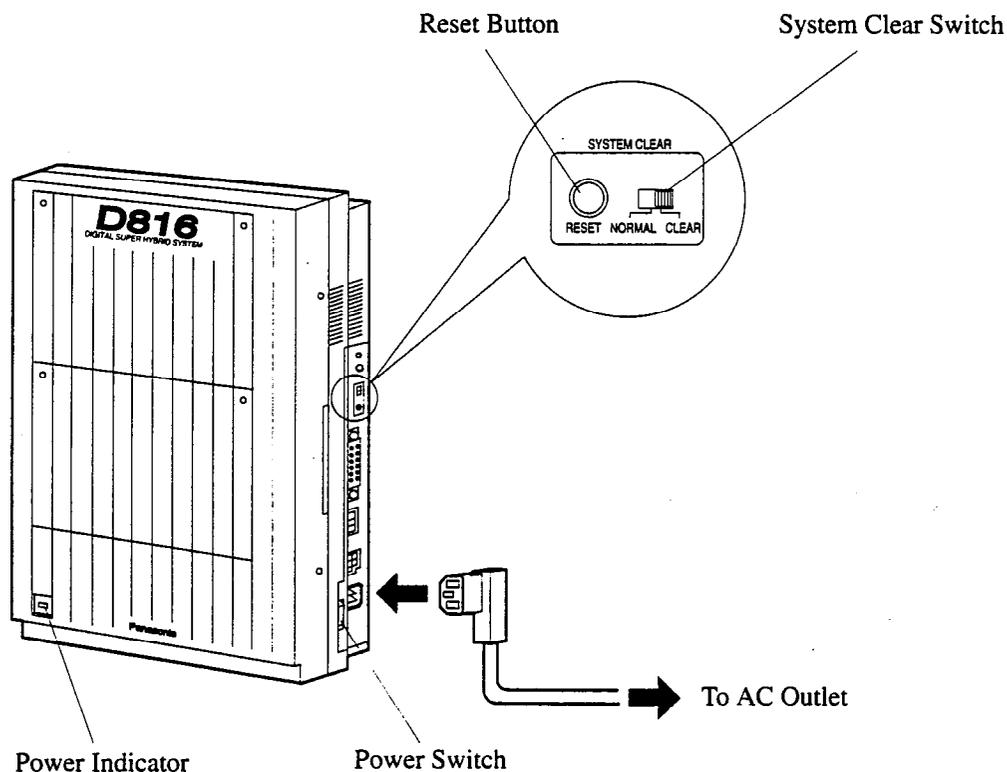
2.6   Starting the System for the First Time

KX-TD1232

Power Indicator

Power Switch

System Clear Switch

Reset Button

To AC Outlet
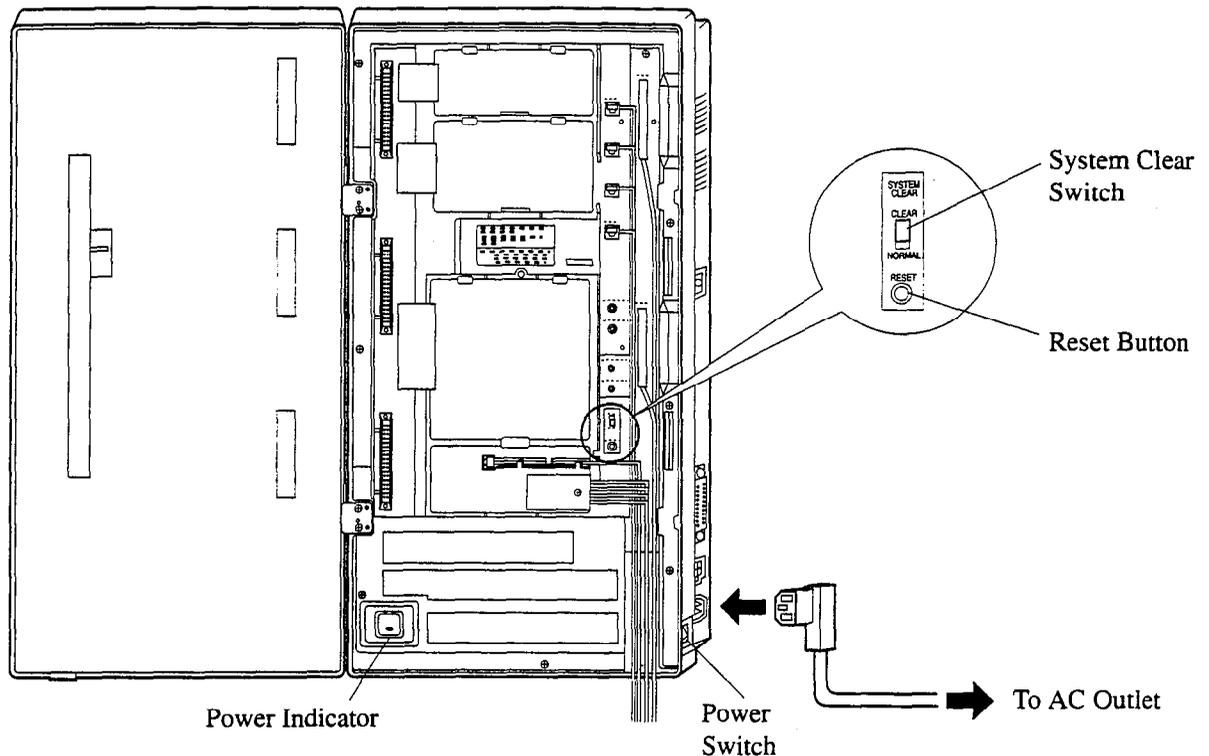
Notice • After pressing the Reset Button, slide the System Clear Switch to the "NORMAL" position at step 6 while the power indicator is flashing (approximately within 10 seconds). Otherwise, the system does not start up with the default values.

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

The power socket wall outlet should be located near this equipment and be easily accessible.

2.7   System Restart

After starting the system, if the system does not operate properly, restart the system.

Before restarting the system, try the system feature again to confirm whether there definitely is a problem or not.

System Restart causes the following:

1. Camp-on is cleared.
2. Calls on Hold are terminated.
3. Calls on Exclusive Hold are terminated.
4. Calls in progress are terminated.
5. Call Park is cleared.

Other data except the above are not cleared by System Restart.

1. Make sure that the System Clear Switch is set to the "NORMAL" position.
2. Press the Reset Button with a pointed tool.

Notice   After pressing the Reset Button, if you notice that the System Clear Switch is set to the "CLEAR" position, never slide the System Clear Switch to the "NORMAL" position in 20 seconds. Otherwise, all the system programming data are reset to default values (Refer to Section 2.8 "System Data Clear"). Slide to the "NORMAL" position over 20 seconds later. Then the system works as before.

If the system still does not operate properly, please see Section 6.1.4 "Using Reset Button."

2.8 System Data Clear

After storing or changing the system programming data, it is possible to clear your programming data stored in the system, if required. The system will restart with the default setting.

1. Slide the System Clear Switch to the "CLEAR" position.
2. Press the Reset Button with a pointed tool.
3. Return the System Clear Switch to the "NORMAL" position while the power indicator is flashing (approximately within 10 seconds).

Notice   After pressing the Reset Button, return the System Clear Switch to the "NORMAL" position at step 3 while the power indicator is flashing (approximately within 10 seconds). Otherwise, the system is not cleared.

Section 3
Features

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

Absent Message Capability

Description

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

Conditions

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

Programming References

Section 4, System Programming,
[008] Absent Messages
[100] Flexible Numbering, Absent message set / cancel

Feature References   None

Operation References   **DPT Features, SLT Features;**
—User Manual   Absent Message Capability

Account Code Entry

Description

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

unless it has previously been stored in memory:
- Call Forwarding – to CO Line
- Last Number Redial
- Line Access
- One-Touch Dialing
- Pickup Dialing
- Saved Number Redial
- Station Speed Dialing
- System Speed Dialing

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

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

Conditions

- An account code can be stored into Memory Dialing (System / Station Speed Dialing; One-Touch Dialing; Pickup Dialing; Call Forwarding – to CO Line).
- The Account button may be used in place of the feature number. A flexible button on the proprietary telephone set can be programmed as the Account button.
- Account code entry after CPC detection must be done within 15 seconds. Otherwise, SMDR call record is activated and entry becomes impossible afterwards.
- If disconnection signal is selected in program [990], field (3) and Flash function is enabled in field (15), the Verified-All Calls extension is allowed to make a CO call using the same line with Flash function.

Programming References

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

Feature References

Section 3, Features,
Toll Restriction Override by Account Code Entry

Operation References
—User Manual

DPT Features, SLT Features;
Account Code Entry

Alternate Calling – Ring / Voice

Description

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

Conditions

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

Programming References

    Station Programming...User Manual,
Intercom Alerting Assignment

Feature References

Section 3, Features,
Handsfree Answerback

Operation References
—User Manual

DPT Features, SLT Features;
Alternate Calling — Ring / Voice

Answering, Direct CO Line

Description

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

Conditions

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

Programming References

No programming required.

Feature References

Section 3, Features,
CO Line Connection Assignment

Operation References
—User Manual

DPT Features,
Answering, Direct CO Line

3   Features   *A*

Automatic Callback Busy (Camp-On)

Description
Allows the caller to be informed when the called party has completed the current call.
Automatic Callback – Extension
If the caller answers the callback ringing, the called extension automatically starts ringing again.
Automatic Callback – CO Line
If the caller answers the callback ringing, the line is automatically selected to allow the user to make a CO call.

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

Programming References
No programming required.

Feature References   None

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

Automatic Error Logging

Description
The system performs periodic maintenance. When a failure is detected, the system automatically generates an error record. This record can be displayed on a terminal using an EIA (RS-232C) cable, or for KX-TD1232 only, by modem. The EIA / Remote Programming & Diagnosis Manual and its floppy is required to perform this feature. For detailed information, refer to EIA / Remote Programming & Diagnosis Manual.

Conditions   None

Programming References
No programming required.

Feature References   None

Operation References   Not applicable.

Automatic Route Selection (ARS)

Description

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

Conditions

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

Programming References

Section 4, System Programming,
[100] Flexible Numbering, Automatic line access / ARS
[312] ARS Mode
[313] ARS Time
[314]–[321] ARS Leading Digit Entry for Plans 1 through 8
[322]–[329] ARS Routing Plans 1 through 8
[330] ARS Modify Removed Digit
[331] ARS Modify Added Number

Programming Example

The following is an example to show how to program ARS so that the user can call the XYZ Company via the least expensive line.
Step 1. Program ARS to work when the feature number for ARS is dialed by the user. Use the program [312] ARS Mode to enable it.

Step 2. Store the telephone number of an outside party that will use the ARS feature. For example, if the XYZ Company's telephone number is "1-234-567-8910" (not including the line access code), store the leading digits of the number "1234567" (max. 10 digits). To store the numbers, use one of the programs [314] through [321] ARS Leading Digit Entry for Plans 1 through 8 (Leading Digit Tables 1 through 8). Here it is

supposed that we have selected Leading Digit Table 1 to store the number. Remember that Table number "1" matches Route Plan Table 1.

Example: Program Address [314] Leading Digit Table 1

Location	Entry
01	1234567
02	
•	
•	
•	
100	

Table 1

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

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

Then check the fee charged by each carrier:
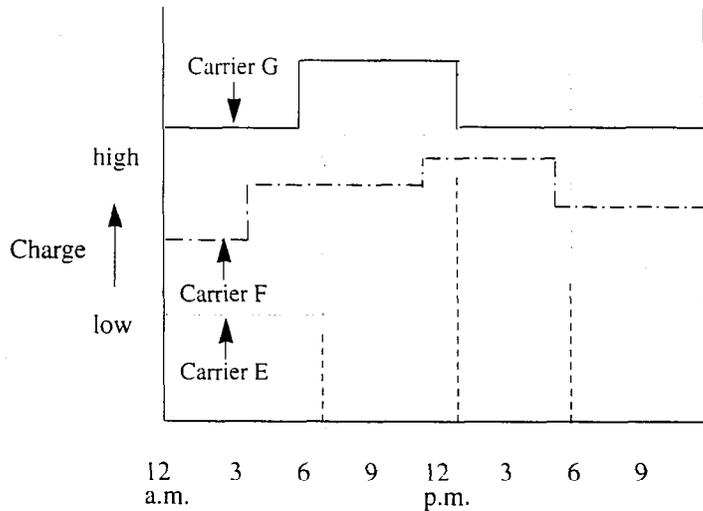
Table 2   ⟶ Time

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

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

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

Example: Program Address [313] ARS Time Table

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

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

Table 3

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

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

Table 4

To have the system use the priorities shown above, use one of the
programs [322] through [329] "ARS Routing Plans 1 through 8" (Route
Plan Tables 1 through 8).
As we have already selected Leading Digit Table 1, select Route Plan
Table 1. Enter the CO line group numbers in priority order. If the
specified CO line group requires digit modification, designate a digit
modification table number from 1 through 8.
This table is required to have the system automatically add a specific
carrier access code to the user-dialed number.

Example: Program [322] Route Plan Table 1

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

Table 5

COG: CO Line Group
Modify: Modification Table Number

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

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

Table 6

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

Example: Program [330] Digit Modification Tables

Modification Table 1   Modification Table 2   Modification Table 3

Remove	0
Add	10333

Remove	0
Add	10555

Remove	0
Add	10666

Enter the number of the digits to be deleted.

Enter the digits to be added.

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

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

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

9-10333-1-234-567-8910.

▼

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

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

Operation References   **DPT Features, SLT Features;**
—User Manual   Outward Dialing – Line Access, Automatic

Flow Chart of ARS procedures

A long distance call is made.

↓

Toll Restriction Check → **Restricted** → Call is not made.

↓ **Not Restricted**

Is ARS Access Code (Default: 9) dialed?

Yes   **No**

Are the leading digits found in a Leading Digit Table?   Call is routed via selected line.

Yes   **No**

Obtains applicable Route Plan Table number from the Leading Digit Table.   Call is routed via an idle line.

↓

Determines the CO line group of the priority 1 in the Route Plan Table by the present time of the day.

↓

Is there any line available in the CO line group of the priority 1?

Yes   **No**

Obtains applicable Modification Table number for the CO line group from the Route Plan Table.   **Yes**   **Yes**   Is the CO line group of the priority 2 assigned in Route Plan Table?

↓

Modifies the digits.   Is there any line available in the CO line group of the priority 2?

↓   ↓ **No**

Calls.   Is the CO line group of the priority 3 assigned in Route Plan Table?   **No**

Yes   **No**

Is there any line available in the CO line group of the priority 3?   **No** →   Sends busy tone.

Yes

Automatic Station Release

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

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

Programming References
No programming required.

Feature References   None

Operation References   Not applicable.

Background Music (BGM)

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

Conditions
• It may be required to connect a user-supplied external music source, such as a radio. One external music source can be connected to KX-TD816, and up to two sources can be connected to KX-TD1232 per system.
It is required to select the internal or external music source by System Programming.
• It is required to select a music source used for BGM by System Programming.
• The music is interrupted while off-hooked.

Connection References
Section 2, Installation,
2.3.9 External Music Source Connection

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

Feature References   Section 3, Features,
Music on Hold

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

Background Music (BGM) – External

Description   Background music (BGM) can be broadcast in your office through external pagers. The BGM can be turned on and off by Operator 1 only.

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

Connection References
    Section 2, Installation,
    2.3.8 External Pager (Paging Equipment) Connection
    2.3.9 External Music Source Connection

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

Feature References   **Section 3, Features,**
Background Music (BGM)

Operation References   **Operator Service Features**
—User Manual   Background Music (BGM) — External

3   Features   *B*

Busy Lamp Field

Description

The LED (Light Emitting Diode) indicators of the DSS (Direct Station Selection) buttons, each of which corresponds to a selected extension, tell whether the corresponding extensions are idle or busy.

Conditions

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

Programming References

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

Feature References   Section 3, Features,

Button, Direct Station   DSS Console (KX-T7240/
   Selection (DSS)   KX-T7040)

Operation References   Not applicable.

Busy Station Signaling (BSS)

Description

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

Conditions

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

Programming References

No programming required.

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

Operation References **DPT Features, SLT Features;**
—User Manual   Busy Station Signaling (BSS)

Button, Direct Station Selection (DSS)

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

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

Programming References

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

Feature References   Section 3, Features,
Busy Lamp Field   One-Touch Transfer by DSS
DSS Console (KX-T7240   Button
 / KX-T7040)

Operation References Basic Operation,
—User Manual   Making Calls
Digital DSS Console Features,
DSS (Direct Station Selection) Buttons

Button, Flexible

Description

The use of Flexible Buttons is determined by either System or Station Programming. The following three types of Flexible Buttons are provided on proprietary telephones (PT) and DSS Consoles:

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

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

Button / Features to be assigned	CO (PT)	DSS (DSS)	PF (PT / DSS)
Single CO	✔		
Group CO	✔		
Loop CO	✔		
Direct Station Selection (DSS)	✔	✔	
Message Waiting	✔	✔	
Account Code Entry	✔	✔	✔
Conference	✔	✔	✔
FWD/DND	✔	✔	✔
One Touch Dialing	✔	✔	✔
Saved Number Redial	✔	✔	✔
Voice Mail Transfer	✔	✔	✔

In the table, "✔" indicates that the feature can be assigned to the button.

Conditions

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

Programming References

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

B

Feature References
    Section 3, Features,
    Buttons on Proprietary Telephones   DSS Console (KX-T7240 /
                                                   KX-T7040)

Operation References   Not applicable.

Button, Group-CO (G-CO)

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

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

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

Feature References
Section 3, Features,
Answering, Direct CO
CO Line Group
LED Indication, CO Line
Line Access, CO Line Group

Line Access, Direct
Ringing, Delayed
Ringing Tone Selection for CO
    Buttons

Operation References
—User Manual

DPT Features,
Answering, Direct CO Line
Outward Dialing – Line Access, CO Line Group

Button, Loop-CO (L-CO)

Description

All CO lines can be assigned to a flexible CO button on a proprietary telephone (PT). The assigned button serves as a Loop-CO (L-CO) button. An incoming call on any CO line arrives at the L-CO, unless there are S-CO or G-CO buttons associated with the line or unless the button is already in use. To make a CO call, the PT user can simply press the dedicated L-CO button.

Conditions

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

Programming References

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

Feature References

Section 3, Features,

Answering. Direct CO Line

LED Indication. CO Line

Line Access. Automatic

Line Access. Direct

Ringing. Delayed

Ringing Tone Selection for CO
Buttons

**Operation References
—User Manual**

DPT Features,

Outward Dialing – Line Access. Automatic

Button, Single-CO (S-CO)

Description

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

Conditions

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

Programming References

Section 4, System Programming,

[005] Flexible CO Button Assignment

[400] CO Line Connection Assignment

[603]–[604] DIL 1:N Extension and Delayed Ringing — Day / Night

[605]–[606] Outgoing Permitted CO Line Assignment — Day / Night

Station Programming...User Manual,

Flexible Button Assignment – Single-CO (S-CO) Button

Ringing Tone Selection for CO Buttons

Feature References   Section 3, Features,
Answering. Direct CO Line
LED Indication. CO Line
Line Access. Direct

Line Access. Individual
Ringing. Delayed
Ringing Tone Selection for CO
Buttons

Operation References
—User Manual

Basic Operation,
Making Calls
DPT Features,
Outward Dialing – Line Access. Individual

Buttons on Proprietary Telephones

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

Proprietary Telephones KX-T:

Buttons	7020	7030	7050	7055	7130	7220	7230	7235	7250
AUTO ANSWER / MUTE †	✔	✔			✔	✔	✔	✔	
AUTO DIAL / STORE †	✔	✔	✔	✔ !	✔	✔	✔	✔	✔ !
CO † *	✔ (12)	✔ (12)	✔ (12)	✔ (3)	✔ (12)	✔ (24)	✔ (24)	✔ (12)	✔ (6)
CONF †	✔	✔	✔ !	✔ !	✔	✔	✔	✔	
FLASH	✔	✔	✔	✔	✔	✔	✔	✔	✔
Function								✔(10)	
FWD / DND †	✔	✔			✔	✔	✔	✔	
HOLD	✔	✔	✔	✔	✔	✔	✔	✔	✔
INTERCOM †	✔	✔	✔	✔	✔	✔	✔	✔	✔
MESSAGE †	✔	✔	✔		✔	✔	✔	✔	
MONITOR			✔ †	✔					✔
PAUSE	✔	✔	✔	✔	✔		✔	✔	
PF (Programmable Feature)	✔ (4)	✔ (4)	✔ (4)	✔ (3)	✔ (12)				
PROGRAM						✔	✔	✔	✔
REDIAL	✔	✔	✔	✔	✔	✔	✔	✔	✔
SAVE					✔				
SHIFT †							✔	✔	
Soft							✔(3)	✔(3)	
SP-PHONE †	✔	✔			✔	✔	✔	✔	
TRANSFER	✔	✔	✔	✔	✔	✔	✔	✔	✔
VOLUME						✔	✔	✔	✔

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

The functions of the listed buttons are described below:

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

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

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

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

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

Function: Used to perform the displayed function / operation.

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

HOLD: Used to place a call on hold.

INTERCOM: Used to make or receive intercom calls.

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

MONITOR: Used for handsfree operation.

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

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

PROGRAM: Used to enter / exit Programming mode.

REDIAL: Used for Last Number or Automatic Redial.

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

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

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

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

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

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

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

Programming References

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

Feature References   None

Operation References   Refer to respective operating instructions.
—User Manual

CALL FORWARDING FEATURES – SUMMARY

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

Call Forwarding – All Calls
Call Forwarding – Busy
Call Forwarding – Busy / No Answer
Call Forwarding – Follow Me
Call Forwarding – No Answer
Call Forwarding – to CO Line

Call Forwarding – All Calls

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

Conditions
- Types of calls which are forwarded by this feature are:
  CO calls – DIL 1:1; DISA*; Intercept Routing
  Intercom calls – Extension; Transfer
- There can only be one stage of Call Forwarding, if a call is forwarded to an extension which is also in Call Forwarding. In this case, Station Hunting can be activated for the forwarded call.

* Although calls are forwarded. Message Waiting is not. The MESSAGE button indicator is lit on the originally called extension.
* If an extension in Call Forwarding is also in a Hunt group, a call directed to the extension is forwarded. Station Hunting still applies for calls directed to other extensions in the Hunt group.
* Setting this function cancels other Call Forwarding or Do Not Disturb functions, if any.
* A Floating Station cannot be programmed as the forwarded destination.

Programming References

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

Feature References   None

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

Call Forwarding – Busy

Description

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

Conditions

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

Programming References

Section 4, System Programming,
[005] Flexible Button Assignment

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

Feature References   None

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

Call Forwarding – Busy / No Answer

Description   Your calls are forwarded to another extension if your extension is busy or you do not answer the call in a pre-determined time.

Conditions
- Types of calls which are forwarded by this function are:
    CO calls – DIL 1:1; DISA*; Intercept Routing
    Intercom calls – Extension; Transfer
- This function operates the same way as Call Forwarding – Busy and Call Forwarding – No Answer.
- There can only be one stage of Call Forwarding if a call is forwarded to a station which is also in Call Forwarding. In this case, Station Hunting is activated for the forwarded call.
- Although calls are forwarded. Message Waiting is not. The MESSAGE button indicator is lit on the originally called extension.
- If an extension in Call Forwarding is also in a Hunt group, a call directed to the extension is forwarded. Station Hunting still applies for calls directed to other extensions in the Hunt group.
- Setting this function cancels other Call Forwarding or Do Not Disturb functions, if any.
- A Floating Station cannot be programmed as the forwarded destination.

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

Feature References   Section 3, Features,
Call Forwarding – Busy   Call Forwarding – No Answer

Operation References   **DPT Features, SLT Features;**
—User Manual   Call Forwarding — Busy / No Answer

Call Forwarding – Follow Me

Description	If you forget to set Call Forwarding – All Calls before you leave your desk, this allows you to set the same function from the destination extension.
Conditions	• Same as the conditions of Call Forwarding – All Calls. • It is programmable to enable or disable this feature on Class of Service basis.

Programming References

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

Feature References	Section 3, Features, Call Forwarding – All Calls
Operation References —User Manual	DPT Features, SLT Features; Call Forwarding — Follow Me

Call Forwarding – No Answer

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

Conditions	• Types of calls which are forwarded by this function are:
	    CO calls – DIL 1:1; DISA*; Intercept Routing
	    Intercom calls – Extension; Transfer
	• This function operates if an incoming call is not answered in a specific period of time. Therefore, this function also applies if your extension is busy and cannot answer the incoming call within the time.
	• There can only be one stage of Call Forwarding if a call is forwarded to a station which is also in Call Forwarding. In this case, Station Hunting is activated for the forwarded call.
	• Although calls are forwarded, Message Waiting is not. The MESSAGE button indicator is lit on the originally called extension.
	• If an extension in Call Forwarding is also in a Hunt group, a call directed to the extension is forwarded. Station Hunting still applies for calls directed to other extensions in the Hunt group.

- Setting this function cancels other Call Forwarding or Do Not Disturb functions, if any.
- A Floating Station cannot be programmed as the forwarded destination.

Programming References

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

Feature References

None

Operation References
—User Manual

DPT Features, SLT Features;
Call Forwarding — No Answer

Call Forwarding – to CO Line

Description

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

Conditions

- Types of calls which are forwarded by this function are:
  CO calls – DIL 1:1; DISA*
  Intercom calls – Extension; Transfer
- The forwarding extension's Toll Restriction, Automatic Route Selection (ARS) and Account Code Entry requirements still apply.
- Although calls are forwarded, Message Waiting is not. The MESSAGE button indicator is lit on the originally called extension.
- If an extension in Call Forwarding is also in a Hunt group a call directed to the extension is forwarded. Station Hunting still applies for calls directed to other extensions in the Hunt group.
- Setting this function cancels other Call Forwarding or Do Not Disturb functions, if any.
- Class of Service programming determines the extensions that are able to perform the function.
- If an extension is limited by the program [502] "Extension-to-CO Line Call Duration Limit" according to its Class of Service, the extension is unable to forward a CO call to a CO line.

- If a call between an extension and an outside party is established by this feature, the duration of the call period can be restricted depending on the setting of a system timer. If a call between two outside parties is established by this feature, the duration of the call is determined by another system timer. Alarm tone is generated to both outside parties 15 seconds before the time-out. The call is disconnected at the time-out.

Programming References

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

Feature References

Section 3, Features,
Limited Call Duration

Operation References —User Man al

DPT Features, SLT Features;
Call Forwarding — to CO Line

Call Hold – CO Line

Description

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

Conditions

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

Programming References

[100] Flexible Numbering, Call hold
[200] Hold Recall Time

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

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

Call Hold – Intercom

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

Conditions
- Only one intercom call can be placed on hold in a telephone at a time (up to 10 calls in the system – Call Park). With a proprietary telephone. CO calls and one intercom call can be placed on hold at the same time. With a single line telephone, either one CO or intercom call can be held.
- If a call on hold is not retrieved in a specific period of time. Hold Recall results.
- Music is sent to the party on hold, if available (Music on Hold).

Programming References
Section 4, System Programming,
[100] Flexible Numbering. Call hold
[200] Hold Recall Time

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

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

Call Hold, Exclusive – CO Line

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

Conditions
- If a call on hold is not retrieved in a specific period of time, Hold Recall results. After Hold Recall results, the held call can be retrieved from any other extension.

- If an outside party is placed on hold and not retrieved in 30 minutes, it is automatically disconnected.
- Music is sent to the party on hold, if available (Music on Hold).

Programming References

Section 4, System Programming,
[200] Hold Recall Time

Feature References

Section 3, Features,
Hold Recall   Music on Hold

Operation References
—User Manual

DPT Features,
Call Hold, Exclusive

Call Hold, Exclusive – Intercom

Description

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

Conditions

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

Programming References

Section 4, System Programming,
[200] Hold Recall Time

Feature References

Section 3, Features,
Hold Recall   Music on Hold

Operation References
—User Manual

DPT Features,
Call Hold, Exclusive

Call Hold Retrieve – CO Line

Description

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

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

Programming References

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

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

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

Call Hold Retrieve – Intercom

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

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

Programming References

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

Feature References   Section 3, Features,
Call Hold – Intercom

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

Call Park

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

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

Programming References

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

Feature References   None

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

Call Pickup, CO Line

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

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

Programming References

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

Feature References   None

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

3   Features   *C*

Call Pickup, Directed

Description

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

Conditions

- Doorphone calls can be picked up from extensions that are not programmed to answer doorphone calls.
- Confirmation tone is sent to the user when the call is picked up. Eliminating the tone is programmable.

Programming References

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

Feature References   None

Operation References   **DPT Features, SLT Features;**
—User Manual   Call Pickup, Directed

Call Pickup, Group

Description

Allows the extension user to answer a call that is ringing at another telephone, if the call is ringing within the user's extension group.

Conditions

- The user can pick up an incoming CO, intercom, or doorphone call.
- The priority of Group Call Pickup is as follows:
  CO call > Transferred call > Extension call > Doorphone call
- Group Call Pickup starts with the lowest jack number.
- Confirmation tone is sent to the user when the call is picked up. Eliminating the tone is programmable.

Programming References

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

Feature References   None

Operation References   **DPT Features, SLT Features;**
—User Manual   Call Pickup, Group

C   3   Features

Call Pickup Deny

Description

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

Conditions

Distinctive Dial Tone is sent to the user on the extension with this feature when the user goes off-hook.

Programming References ·

Section 4, System Programming,
[100] Flexible Numbering, Call pickup deny set / cancel

Feature References

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

Operation References
—User Manual

DPT Features, SLT Features;
Call Pickup Deny

Call Splitting

Description

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

Conditions

Call Splitting is impossible during Doorphone Call or Paging.

Programming References

No programming required.

Feature References   None

Operation References
—User Manual

DPT Features, SLT Features;
Call Splitting

CALL TRANSFER FEATURES – SUMMARY

Description

Call Transfer features allow the user to transfer a call to another party. This operation can be screened or unscreened. Screened call transfer is used when you want to announce the call to the other party before completing the transfer. Unscreened call transfer immediately releases the caller to the called party. An intercom or a CO call can be transferred to an extension or to an outside party by:

> **Call Transfer, Screened – to CO Line**
> **Call Transfer, Screened – to Extension**
> **Call Transfer, Unscreened – to Extension**

Call Transfer, Screened – to CO Line

Description

Allows the proprietary telephone user to voice-announce to the external party and transfer the call.

Conditions

- Class of Service programming determines the extensions that are able to perform it.
- If a call between two external parties is established by this feature, the duration of the call period is restricted by a system timer. Hold Recall is generated to the extension who transferred the call 50 seconds before the time-out. Also Hold Alarm tone is generated to both outside parties 15 seconds before the time-out. The call is disconnected at the time-out unless the extension restores the conference.
- Transferring a call to an external party cannot be performed from a single line telephone.

Programming References

Section 4, System Programming,
[205] Extension-to-CO Line Call Duration Time
[206] CO-to-CO Call Duration Time
[502] Extension-to-CO Line Call Duration Limit
[503] Call Transfer to CO Line
[990] System Additional Information, Field (1)

Feature References

Section 3, Features,
Hold Recall

Operation Reference —User Manual

DPT Features,
Call Transfer — to CO Line

Call Transfer, Screened – to Extension

Description   Allows the extension user to voice-announce to the extension and transfer the call.

Conditions   The destination extension must have a CO button which is common to the CO line in use by the transferring party.

Programming References

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

Feature References   None

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

Call Transfer, Unscreened – to Extension

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

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

Programming References

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

Feature References   None

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

Call Waiting

Description

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

Conditions

- The call waiting tone is generated when a CO call except DISA* call. or a doorphone call comes in or when an extension caller executes Busy Station Signaling.
- Setting Data Line Security temporarily cancels Call Waiting which has been turned on by an extension user.
- For proprietary telephone users. two types of call waiting tone are provided to prevent them from missing the tone as shown below:
  A proprietary telephone user can select the desired type by Station Programming.
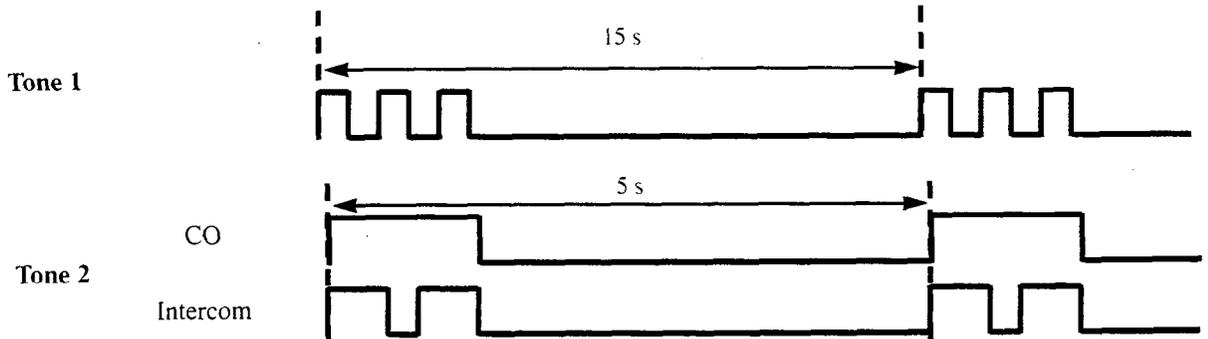
Tone 1

15 s

Tone 2   CO

          Intercom

5 s

Programming References

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

Feature References	Section 3, Features, Busy Station Signaling (BSS)
Operation References —User Manual	**DPT Features, SLT Features;** Call Waiting

Caller ID

Description

Provides the display proprietary telephone user with a caller's information, such as his / her name and telephone number, on the CO line assigned to receive Caller ID service calls.

Conditions

• Up to 250 Caller ID entry numbers can be stored in the table called "Caller ID Table" in the system. Each entry can consist a caller's telephone number and name.
• It is required to assign the CO lines which Caller ID Service is offered by a Central Office.
• When receiving a CO call with Caller ID, the display on the proprietary telephone shows as follows:

Example a) Display of the caller's telephone number:

| | | 4 | 1 | 6 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | |

Example b) Display of the caller's name:

| | M | A | R | Y | | W | A | R | D | E | N | | | | |

Connection References

Section 2, Installation,
2.4.7 Caller ID Card Installation

Programming References

Section 4, System Programming,
[110] Caller ID Code Set
[111] Caller ID Name Set
[406] Caller ID Assignment

Feature References   None

Operation References   Not applicable.

Calling Party Control (CPC) Signal Detection

Description

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

Conditions

- CPC Signal Detection is enabled or disabled on incoming and outgoing CO calls by System Programming.
- Generally CPC Signal Detection works on incoming CO calls, and does not work on outgoing CO calls (except once they are placed on Call Hold, Exclusive Call Hold or Consultation Hold). In this case, if the extension user remains off-hook after the completion of an outgoing CO call, the system does not release all the switches used to establish the connection, and a CO line connected will continue to be seized. To prevent this, it is administrable to make CPC Signal Detection work on outgoing CO calls.   (Note: Some Central Offices may send CPC-like signals during the dialing sequence and an attempt to make a call may be terminated. If your CO does not send such signals, it is recommended to make CPC Signal Detection work on outgoing CO calls.)
- If your Central Office does not send CPC-like signals, it is also effective to limit the dialed numbers during a call by the program [991] "COS Additional Information" on a Class of Service basis to prevent unauthorized calls.
- If CPC Signal is detected during a Conference call, the line is disconnected and the remaining two parties maintain the call.
- If CPC Signal is detected during a call between a DISA* caller and an extension or an outside party, the line is disconnected.

Programming References

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

Feature References   None

Operation References   Not applicable.

Class of Service (COS)

Description

COS is used to define the features which are allowed for a group of extensions. Each extension is assigned a COS number. Eight Classes of Service are available.

Conditions

- A list of the programmable items is given below:
  (1) The ability to forward a call to an outside party – enable / disable
  (2) The ability to transfer a call to an outside party – enable / disable
  (3) The ability to override Do Not Disturb of the called station – enable / disable
  (4) Account Code Entry operation – verified - all calls / verified - toll restriction override / option
  (5) Executive Busy Override – enable / disable
  (6) Executive Busy Override Deny – enable / disable
  (7) Outgoing call restriction level (Day mode / Night mode) – 1 through 8
  (8) Restriction of CO call duration – enable / disable
  (9) The number of permitted dialing digits during a CO call
  (10) The ability to set Call Forwarding – Follow Me – enable / disable
- A Class of Service can be assigned to a DISA* user code.

Programming References

Section 4, System Programming,
[500]–[501] Toll Restriction Level — Day / Night
[502] Extension-to-CO Line Call Duration Limit
[503] Call Transfer to CO Line
[504] Call Forwarding to CO Line
[505] Executive Busy Override
[506] Executive Busy Override Deny
[507] Do Not Disturb Override
[508] Account Code Entry Mode
[601] Class of Service
[811] DISA User Codes*
[991] COS Additional Information

Feature References

None

Operation References   Not applicable.

CO Line Connection Assignment

Description   This allows you to specify the CO lines connected to your system
                         to prevent an extension user from originating a CO call by
                         selecting a line which is not connected. An idle line is selected
                         from the connected ones when an extension user makes an
                         Automatic Line Access.

Conditions   • If the user tries to make a call with a disconnected line, reorder tone
                           sounds to indicate that the line is out of use.
                         • This is effective for all outgoing calls including DISA.*

Programming References
                         Section 4, System Programming,
                         [400] CO Line Connection Assignment

Feature References   None

Operation References Not applicable.

CO Line Connection Assignment – Outgoing

Description   Allows you to assign the CO line an extension user can use for
                         outgoing calls. This feature is useful to prevent unauthorized toll
                         calls.

Conditions   • When an extension user tries to make a CO call on a disallowed CO
                           line, reorder tone is sent to indicate that the user cannot use the CO
                           line.
                         • Day and Night Service are individually programmed. (Night Service)

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

Feature References   None

Operation References Not applicable.

CO Line Group

Description

CO lines can be grouped into up to eight CO line groups (for example, WATS, DDD, FX services, etc). This allows extensions to call outside parties without designating a specific CO line, since a CO line is automatically selected from the designated CO line group. All CO lines belonging to a CO line group follow the assignment determined for that CO line group. A list of assignments for each CO line group is shown as follows:
- The destination of Intercept Routing
- Disconnect Time
- Flash Time
- Host PBX Access Code
- Pause Time (used in Speed Dialing and Flash)

Conditions

- Each CO line can only belong to one CO line group.
- CO lines in a CO line group are selected uniformly if all lines belong to the same system.
- If System Connection* is employed, a CO line group can include CO lines in both systems. In this case, a CO line is first selected from the user's system. If all lines in the user's system are in use, a line in the other system is selected.

Programming References

Section 4, System Programming,
[401] CO Line Group Assignment
[409]–[410] Intercept Extension — Day / Night
[411] Host PBX Access Codes
[412] Pause Time
[413] Flash Time
[414] Disconnect Time

Feature References   None

Operation References   Not applicable.

Conference

Description

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

Conditions

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

Programming References

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

Feature References

Section 3, Features,
Conference, Unattended

Operation References
—User Manual

DPT Features, SLT Features;
Conference

Conference, Unattended

Description

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

Conditions

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

outside parties 15 seconds before the time-out. The call is disconnected at the time-out unless the extension returns to the call.

Programming References

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

Feature References

Section 3, Features,
Conference   Limited Call Duration
Hold Recall

Operation References
—User Manual

DPT Features,
Conference. Unattended

Confirmation Tone

Description

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

Confirmation tone 1:
(a) Indicates that the new setting differs from the previous setting.
(b) Set or cancel the Electronic Station Lockout.

Confirmation tone 2:
(a) Indicates that the new setting is identical to the previous setting.
(b) In addition, sent when various features are successfully performed or accessed. (e.g. Call Hold; Automatic Callback Busy)
(c) Sent when accessing external paging equipment. (e.g. Paging – All; Paging – External) Confirmation tone from external pagers can be enabled or disabled.

Confirmation tone 3:

Sent when a conversation is established just after dialing.

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

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

This tone can be eliminated by System Programming so that the user can start talking instantly.
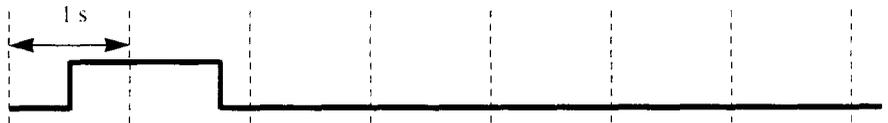
Confirmation tone 4:

Sent when moving from a two-party call to a three-party call. and vice versa. (These are caused by Executive Busy Override, Conference. or Privacy Release.) It is possible to eliminate this tone by System Programming.
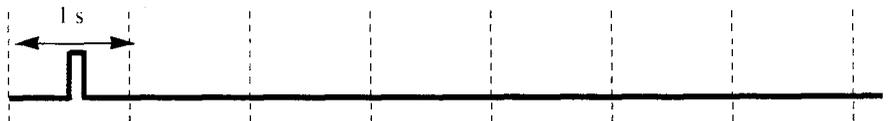
Conditions

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

Programming References

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

Feature References   None

Operation References   Not applicable.

Consultation Hold

Description

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

Conditions

- With a proprietary telephone, Consultation Hold is established by pressing TRANSFER or CONF button. With a single line telephone, it is established by pressing the hookswitch lightly.
- With a single line telephone, the user can hold a call only to transfer it.
- Doorphone calls and paging calls cannot be placed on Consultation Hold.
- A new incoming call will not arise at the extension which is keeping a call on Consultation Hold. The extension is regarded as busy.
- If a calling party is placed on hold, music is sent to the party, if available. (Music on Hold)
- If a call on hold is not retrieved in a specific period of time, Transfer Recall starts.
- If a CO call is placed on hold and not retrieved in 30 minutes, it is automatically disconnected.

Programming References

Section 4, System Programming,
[201] Transfer Recall Time
[990] System Additional Information, Fields (2), (5)

Feature References

Section 3, Features,

Call Splitting	Call Transfer, Unscreened
Call Transfer, Screened – to CO Line	Conference
	Conference, Unattended
Call Transfer, Screened – to Extension	Music on Hold

Operation References   Not applicable.

Data Line Security

Description

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

Conditions

• Assigning Data Line Security always offers conversation privacy unless Privacy Release is executed.
• If one extension in a conversation has set Data Line Security. it applies to the both extensions.

Programming References

Section 4, System Programming,
[100] Flexible Numbering. Data line security set / cancel

Feature References   None

Operation References   DPT Features, SLT Features;
—User Manual   Data Line Security

Dial Tone, Distinctive

Description

Four types of dial tone patterns are available to give some information about features enabled on the telephone set.
Dial tone 1: Normal dial tone. None of the features listed below are enabled.
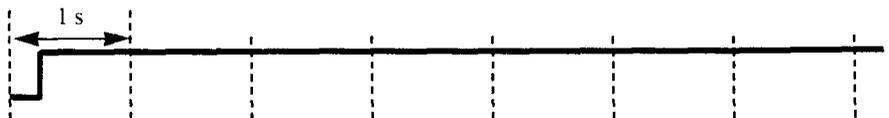
Dial tone 2: Sounds when any one of the features below are set.
Absent Message Capability
Background Music (BGM) (for proprietary telephones only)
Call Forwarding
Call Pickup Deny
Call Waiting
Data Line Security

Do Not Disturb (DND)
Electronic Station Lockout
Executive Busy Override Deny
Pickup Dialing
Timed Reminder

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

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

Conditions   None

Programming References

No programming required.

Feature References   None

Operation References   Not applicable.

Dial Type Selection

Description

Allows you to select the desired dialing mode for each CO line regardless of the type of extension originating the call (rotary or tone).
There are three dialing modes available:

    DTMF (Dual Tone Multi-Frequency) Mode
    The dialing signal from an extension, either in tone or rotary, is converted to tone dialing. DTMF signals are transmitted to the CO line.
    Pulse Dial (Rotary) Mode
    The dialing signal from an extension, either in tone or rotary, is converted to rotary dialing. Rotary pulses are

transmitted to the CO line.

Call Blocking Mode

Set this mode on CO lines that can receive both tone and rotary. but under contract with the Central Office for rotary only. When dialing to the line using a touch-tone telephone. only rotary is sent to the Central Office.

Conditions

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

Programming References

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

Feature References

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

Operation References Not applicable.

Direct In Lines (DIL)

Description

Enables an incoming CO call to go directly to one or more answering points.

DIL 1:1 puts an incoming CO call to a single destination. Assignable destinations are: (1) extension; (2) modem*; (3) external pager; (4) DISA* message. This CO line can be used by multiple extension users to make calls but can be used by only one extension to receive calls.

DIL 1:N puts an incoming CO call to multiple destinations. Assignable destinations are extensions only. This CO line can be used by multiple extension users to make and receive calls.

Both DIL 1:1 and 1:N can have different destinations for day and night modes (Night Service).

Conditions

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

Programming References

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

Feature References   None

Operation References   Not applicable.

Direct Inward System Access (DISA)*

Description

Allows a CO caller to access specific system features as if the caller is an extension in the system. The caller can have direct access to features such as:

- Placing an intercom call to an extension, an operator, a modem (for remote system administration) or an external pager (for TAFAS).
- Calling an external party
  For external calling, it is necessary to program either Non Security or CO Line Security mode. In Non Security

mode, any outside caller may make CO calls. In CO Line Security mode, it is necessary to enter a pre-assigned DISA user code to make CO calls. This prevents the caller from making unauthorized calls. However, when making a CO call by Call Forwarding – to CO Line, the call is exceptionally permitted.

An Outgoing Message can be programmed for the DISA feature. When a caller reaches the DISA line, a pre-recorded message will greet the caller. Two different DISA messages may be recorded by Operator 1. Thus, one message may be used in day mode and the other in night, or they can be used for different CO lines.

Conditions

- The following items are required for the DISA feature:
    (1) An optional DISA Card must be installed.

    (2) The Floating Station number of the DISA message should be assigned as the DIL 1:1 destination. This assigns the DISA line and the message accessed by external callers.
    (3) The DISA message(s) should be recorded by Operator 1.
- Only one DISA card can be installed per system. During System Connection, the DISA card is effective only for the CO line used in the same system.
- A DISA call is answered after ringback tone is returned to the caller after the DISA Delayed Answer Time expires. The caller can dial during the message.
- The DISA line can be used to originate CO calls if the security code (if required) has been dialed.
- The floating number of a DISA message may be selected as the destination of Intercept Routing.
- This system can store up to four programmable DISA user codes. Each code should be unique. It is possible to assign a Class of Service number to each code. In CO Line Security system, the caller must enter one of the stored codes after accessing a CO line. The Class of Service of the code defines Toll Restriction.
- The duration of CO-to-CO calls can be limited. When the specified time expires, both lines are disconnected unless the caller re-tries or prolongs the time, if available. Warning tone is generated to both parties 15 seconds before the time-limit at five-second intervals.
- Prolonging the call duration can be allowed from one to seven minutes or disallowed. The caller can attempt this several times to prolong it further.
- To detect the end of a CO-CO call, CPC Signal Detection and Tone Detection can be assigned.

Connection References

Section 2, Installation,
2.4.5 DISA Card Installation
2.4.6 Remote Card Installation

Programming References

Section 4, System Programming,
To enable DISA feature
[100] Flexible Numbering, Outgoing message recording / playing
[405] CPC Signal Detection Incoming Set
[407]–[408] DIL 1:1 Extension — Day / Night
[415] CPC Signal Detection Outgoing Set
[809] DISA Security Type
[810] DISA Tone Detection
[811] DISA User Codes
[812] DISA DTMF Repeat
To set DISA timer values
[206] CO-to-CO Call Duration Time
[213] DISA Delayed Answer Time
[214] DISA Prolong Time
[215] Outgoing Message Time
To enable the Intercept Routing feature
[203] Intercept Time
[409]–[410] Intercept Extension — Day / Night

Feature References

Section 3, Features,
Intercept Routing   Outgoing Message (OGM)

Operation References
—User Manual

DPT Features, SLT Features;
Direct Inward System Access (DISA)

Flow chart of possible cases and results for DISA calls

CO call is made.

↓

DISA Delayed Timer starts.

↓

The caller reaches the DISA line.

All resources are busy. → Is IRNA employed? → Yes → Intercept Routing starts.

No → Kept waiting with ringback tone.

One of the resources is available. (Outgoing Message is sent.) → Making an extension call → Is IRNA employed?

→ TAFAS

Yes → Intercept Routing starts. → No Answer Timer starts. → Disconnected after 10 seconds.

No

The call is accepted.

↑ Idle

Calling a modem. ← Busy

Making a CO call ← Busy

Idle

Is User Code accepted or unnecessary? → No → Disconnected after 10 seconds.

↓ Yes

The call is accepted.

D   3   **Features**

Display, Call Information

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

> **Extension number and name**
> These are shown when calling or when called by an
> extension user and during an established intercom call.
> A display example: **123: Smith**
>
> **Dialed telephone number**
> This is shown when dialing the telephone number.
> A display example: **91234567890**
>
> **Number or name of the caller**
> These are shown if the Caller ID feature is available.
> Display examples: **CO 03: 1234567890**
>   **CO 03: Panasonic**
>
> **CO Line number**
> This is shown when receiving a CO call.
> A display example: **CO 03**
>
> **Call duration**
> This is shown during an established CO call. The display
> remains for five seconds after the call is finished.
> A display example: **CO 02 0:02'28**

Conditions   • Extension numbers and names are programmable. If no extension
                                  name is stored, only the extension number is displayed.
                                • The display shows no intercom call duration.
                                • The outgoing CO call duration starts when the programmable timer
                                  expires.

Programming References
Section 4, System Programming,
[003] Extension Number Set
[004] Extension Name Set
[212] Call Duration Count Start Time

Feature References   **Section 3, Features,**
                                Caller ID

Operation References   Not applicable.

3   Features   *D*

Display, Extension Programmed Data

Description

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

Conditions

- Display examples
  - (1) If REDIAL; SAVE; or One-Touch Dialing button is pressed,
    the stored number is displayed below:

    | 950-1001PP12345& |

  - (2) If the DSS or MESSAGE button is pressed, the extension
    number and the name (if assigned) stored under the DSS button
    or the source of the Message Waiting is displayed:

    | 123: Tony |

  - (3) If Account button is pressed, the display shows:

    | Account |

  - (4) If FWD/DND button is pressed, the selected feature assigned
    on the button is shown as follows:
    - (a) If the Do Not Disturb feature is assigned:

      | ·Do Not Disturb |

    - (b) If Call Forwarding- All Calls to extension 123 is assigned:

      | FWD(All)   Ext123 |

    - (c) If Call Forwarding – Busy to extension 234 is assigned:

      | FWD(BSY) Ext234 |

    - (d) If Call Forwarding – No Answer to extension 345 is
      assigned:

      | FWD(NA) Ext345 |

    - (e) If Call Forwarding – Busy / No Answer to extension 100 is
      assigned:

      | FWD(B/NA) Ext100 |

    - (f) If Call Forwarding – To CO Line number 91201431 is
      assigned:

      | FWD(CO) 91201431 |

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

Programming References

No programming required.

Feature References None

Operation References Not applicable.

Display, Self-Extension Number

Description

Allows the display proprietary telephone user to display their own jack number and extension number in Station Programming mode.

Conditions

Display example
If the jack number is 02 and the extension number is 102:

| Jack02<=>EXT102 |

Programming References

Station Programming...User Manual,
Self-Extension Number Confirmation

Feature References None

Operation References Not applicable.

Display, Time and Date

Description

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

Conditions

• There are two types of display:
 Display example 1: Month, Day, Time

| Jan 1 12:00AM |

Display example 2: Month, Day, Year, Day of the Week

| Jan 1,1993 FRI |

• The present date and time are set by System Programming.

Programming References

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

Feature References   None

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

Display Contrast Adjustment

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

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

Programming References

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

Feature References   None

Operation References   Not applicable.

Do Not Disturb (DND)

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

Conditions   • If your proprietary telephone (PT) is not supplied with the FWD/DND button, it can be assigned on a flexible button.
     • DND does not work for the following calls: doorphone calls; recalls for hold / Timed Reminder alarm or calls directed by Intercept Routing.
     • Setting DND cancels any Call Forwarding feature currently set.
     • A PT user in DND mode can answer a call by pressing the button showing the arrival of the call.
     • An extension in DND mode can be called by other extension users who are allowed to override DND in their Class of Service (Do Not Disturb Override).

Programming References

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

Feature References

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

Operation References
—User Manual

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

Do Not Disturb (DND) Override

Description

Permits the pre-assigned extension user to call another user who sets the Do Not Disturb feature. Dialing "1" enables the caller to override the DND programmed on the called extension's telephone and causes the telephone to ring.

Conditions

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

Programming References

Section 4, System Programming,
[507] Do Not Disturb Override

Feature References

Section 3, Features,
Do Not Disturb (DND)

Operation References
—User Manual

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

Door Opener

Description

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

Conditions

It is needed to install a user-supplied door opener on each door to be opened. Two door openers can be installed on each system. System Connection* provides for four door openers.

Connection References

Section 2, Installation,
2.4.8 Doorphone and Door Opener Connection

Programming References

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

Feature References

Section 3, Features,
Doorphone Call

Operation References
—User Manual

DPT Features, SLT Features;
Doorphone Call

Doorphone Call

Description

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

Conditions

- It is needed to install a Doorphone Card and a Doorphone. These are options.
- Two doorphones can be installed on each system. System Connection* provides for four doorphones.
- It is necessary to program the extensions that can receive calls from each doorphone during day and night mode.
- If no extension user answers an incoming doorphone call within 30 seconds, the call stops ringing and is cancelled.
- While engaged on a doorphone call, any extension user can open the door from the telephone to let the visitor in (Door Opener). This requires a user-supplied door opener.
- If the doorphone call is placed on hold, the Music on Hold is not available.

Connection References

Section 2, Installation
2.4.8 Doorphone and Door Opener Connection

Programming References

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

Feature References   **Section 3, Features,**
Door Opener

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

DSS Console (KX-T7240 / KX-T7040)

Description

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

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

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

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

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

A DSS Console has two types of buttons as shown on the following page:

DSS Console KX-T7240


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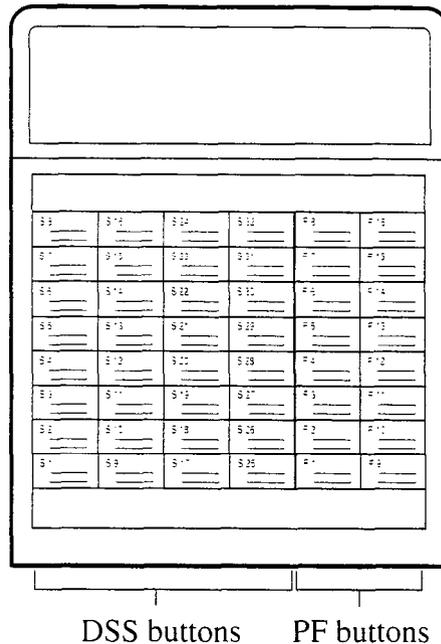
DSS (Direct Station Selection) buttons: Used to access
extensions. Every button is programmed to correspond to an
extension. Pressing a button allows the user to call the
corresponding extension. Every button is provided with an
indicator (Busy Lamp Field), which shows the current state of the
corresponding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

Light	State of extension
Off	Idle
On	Busy

Busy Lamp Field Table

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

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

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

Connection References

Section 2, Installation,
2.3.3 Extension Connection

Programming References

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

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

Operation References   DSS Console Features
—User Manual

Electronic Station Lockout

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

Conditions   • Making intercom calls and receiving intercom or CO calls are permitted on the locked station.
• Remote Station Lock Control overrides Electronic Station Lockout. If Operator 1 sets Remote Station Lock on a station that has already been locked by the station user, the user cannot unlock it.
• It is programmable to admit the press of the FLASH button during a CO call on the locked station.

Programming References

Section 4, System Programming,
[100] Flexible Numbering, Electronic station lockout set / cancel

[990] System Additional Information. Field (15)

Feature References   Section 3, Features,
Remote Station Lock Control

Operation References   DPT Features, SLT Features;
—User Manual   Electronic Station Lockout

Emergency Call

Description   Allows the extesion user to dial out a pre-assigned emergency
number (911) after seizing the CO line.

Conditions   • Emergency number is allowed to call even in the following cases:
   — in Account Code – Verified (All Calls, Toll Restriction Override)
      mode
   — in any toll restriction levels
   — in Electronic Station Lockout
• The ARS feature is not available for the emergency call.

Feature References   None

Operation Reference   DPT Features, SLT Features,
—User Manual   Emergency Call

End-to-End DTMF Signaling (Tone Through)

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

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

Programming References
No programming required.

Feature References	Section 3, Features,
	Dial Type Selection

Pulse to Tone Conversion

Operation References   Not applicable.

Executive Busy Override – CO Line

Description

Allows a proprietary telephone user to barge into an existing CO call, either between two outside parties or between an outside and an inside party, so as to establish a three-party conference call. It is possible for extension users to prevent this function from being executed by another extension user (Executive Busy Override Deny).

Conditions

- Class of Service programming determines the extension users who can perform Executive Busy Override and Executive Busy Override Deny.
- The pre-assigned extension users can barge in any CO line even if access to the line is not allowed by System Programming.
- This feature does not work if the extension has set Executive Busy Override Deny or Data Line Security.
- When a two-party call is changed to a three-party call and vice versa, a confirmation tone is sent to all three parties. This tone can be eliminated by System Programming.

Programming References

Section 4, System Programming,
[100] Flexible Numbering, Executive busy override deny set / cancel
[505] Executive Busy Override
[506] Executive Busy Override Deny
[990] System Additional Information, Field (13)

Feature References

Section 3, Features,
Conference

Operation References   DPT Features,
—User Manual   Executive Busy Override — CO Line

Executive Busy Override – Extension

Description

Allows the pre-assigned extension user to barge into an existing extension call. either between two inside parties or between an outside and an inside party, so as to establish a three-party conference call. It is possible for extension users to prevent this function from being executed by another extension user (Executive Busy Override Deny).

Conditions

• Class of Service programming determines the extension users who can perform Executive Busy Override and Executive Busy Override Deny.
• This feature does not work if the extension has set Executive Busy Override Deny or Data Line Security.
• When a two-party call is changed to a three-party call and vice versa, a confirmation tone is sent to all three parties. This tone can be eliminated by System Programming.

Programming References

Section 4, System Programming,
[100] Flexible Numbering. Executive busy override deny set / cancel
[505] Executive Busy Override
[506] Executive Busy Override Deny
[990] System Additional Information. Field (13)

Feature References

Section 3, Features,
Conference

Operation References
—User Manual

DPT Features, SLT Features;
Executive Busy Override — Extension

Extension Group

Description

The system supports eight extension groups. Any member of an extension group can pick up a call directed to another group member (Group Call Pickup). In addition, there are Paging – Group and Station Hunting features.

Conditions

• Every extension should belong to an extension group but cannot belong to more than one group.
• If System Connection* is employed an extension group can include extensions on both systems.

Programming References

Section 4, System Programming,
[106] Station Hunting Type
[602] Extension Group Assignment

Feature References

Section 3, Features,
Call Pickup, Group   Station Hunting
Paging – Group

Operation References   Not applicable.

External Feature Access

Description

Allows the extension user to have access to the features of a host PBX, Centrex or Central Office, such as Call Waiting, etc. This is performed by putting the current party on hold and sending a flash signal.

Conditions

- This feature is effective only during a CO call. However if FLASH feature (Disconnection signal) is enabled by System Programming, this feature does not work.
- The flash time must be assigned as required by the Centrex, host PBX or CO line.
- With a proprietary telephone, the FLASH button or the feature number is used to perform this function. With a single line telephone, the feature number cannot be used when the user already has a Consultation Hold.
- During CO calls, a FLASH stored in System Speed Dialing, Station Speed Dialing, One-Touch Dialing or Call Forwarding – to CO Line functions as External Feature Access, not as Flash.

Programming References

Section 4, System Programming,
[100] Flexible Numbering, External feature access
[413] Flash Time
[990] System Additional Information, Field (3)

Feature References

Section 3, Features,
Flash   Host PBX Access

Operation References
—User Manual

DPT Features, SLT Features;
External Feature Access

EXtra Device Port (XDP)

Description

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

Conditions

- XDP requires previous programming of the individual jack. Enable XDP mode for the desired jack by System Programming. Immediately after changing the assignment. changed setting may not work for a maximum of eight seconds.
- If an analog proprietary telephone (APT) and SLT are connected to an XDP-enabled jack. neither telephones work.
- If XDP is disabled for the jack, DPT and SLT may be used as Paralleled Telephones. APT and SLT also can be used as Paralleled Telephones.

Connection References

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

Programming References

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

Feature References   **Section 3, Features,**
Paralleled Telephone

Operation References   Not applicable.

Flash

Description

The FLASH button is used to allow a proprietary telephone user to disconnect from the current call and originate another call without hanging up first.

Conditions

- If External Feature Access is enabled by System Programming, this function does not work for a CO call.
- Pressing the FLASH button re-starts the conversation duration, outputs an SMDR record. inserts the automatic pause, and checks toll restriction level again.

• It is required to enable this function at the locked extension and toll-restricted extension by System Programming.

Programming References

Section 4, System Programming,
[414] Disconnect Time
[990] System Additional Information. Fields (3), (15)

Feature References

Section 3, Features,
External Feature Access

Operation References
—User Manual

DPT Features,
Flash

Flexible Numbering

Description

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

Flexible Feature Numbers

Number	Feature	Default
01	1st hundred extension block	1
02	2nd hundred extension block	2
03 - 16	3rd through 16th hundred extension block	None
17	Operator call	0
18	Automatic line access / ARS	9
19	CO line group line access	8
20	System speed dialing	*
21	Station speed dialing	3*
22	Station speed dialing programming	30
23	Doorphone call	31
24	Paging – external	32
25	Paging – external answer / TAFAS answer	42
26	Paging – group	33
27	Paging – group answer	43
28	Call pickup, CO line	4*
29	Call pickup, group	40
30	Call pickup, directed	41
31	Call hold	50
32	Call hold retrieve – intercom	51
33	Call hold retrieve – CO line	53
34	Last number redial	#
35	Call park / call park retrieve	52
36	Account code entry	49
37	Door opener	55
38	External feature access	6
39	Station feature clear	790
40	Message waiting set / cancel / callback	70
41*	Outgoing message recording / playing	36
42	Call forwarding / do not disturb set / cancel	710
43	Call pickup deny set / cancel	720
44	Data line security set / cancel	730
45	Call waiting set / cancel	731
46	Executive busy override deny set / cancel	733
47	Pickup dialing program set / cancel	74
48	Absent message set / cancel	750
49	Timed reminder set / cancel / confirm	76
50	Electronic station lockout set / cancel	77
51	Night service mode set / cancel	78
52	Parallel telephone mode set / cancel	39
53	Background music – external on / off	35

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

Fixed Feature Numbers

Feature	Default
While busy tone is heard	
Busy Station Signaling (BSS)	1
Off-Hook Call Announcement (OHCA)	1
Executive Busy Override	2
Automatic Callback Busy	6
While Do Not Disturb tone is heard	
Do Not Disturb Override	1
While calling or talking	
Conference	3
Door Open	5
Alternate Calling – Ring / Voice	*
Pulse to Tone Conversion	* #
Account Code Delimiter	# / 99
When the set is on-hook	
Background music on / off	1
Time display / date display switching	*
Day / night mode display	#

Conditions

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

Programming References

Section 4, System Programming,
[003] Extension Number Set
[100] Flexible Numbering

Feature References   None

Operation References   Not applicable.

Floating Station

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

    (1) External paging instruments: used for TAFAS feature.
        For KX-TD816, one FN is available. For KX-TD1232,
        four FNs are available.
        These FNs can be assigned as:
        a) DIL 1:1 destination
        b) DISA destination*
        c) Intercept Routing destination
  *(2) DISA messages: used for DISA feature. Two FNs are
        available.
        These FNs can be assigned as:
        a) DIL 1:1 destination
        b) Intercept Routing destination
  *(3) Modem: used for system administration. One FN is
        available.
        This can be assigned as:
        a) DIL 1:1 destination
        b) DISA destination can also be used as an extension
          number to call the modem.

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

Connection References
                          Section 2, Installation,
                          2.4.5 DISA Card Installation*
                          2.4.6 Remote Card Installation*

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

Feature References   None

Operation References Not applicable.

Full One-Touch Dialing

Description

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

Conditions

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

Programming References

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

Feature References

Section 3, Features,

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

Operation References
—User Manual

DPT Features,
Full One-Touch Dialing

Handset / Headset Selection

Description

The system supports the use of headsets on proprietary telephones.

Conditions

- The headset is an option.
- To set headset mode on a digital proprietary telephone (PT), use Station Programming. To set headset mode on an analog PT, use the handset / headset selector provided on the set and / or on the headset.

Connection References

Please refer to the Operating Instructions for the Headset, KX-T7090 or KX-T30890.

Programming References

Station Programming..User Manual,
Handset/Headset Selection

Feature References   None

Operation References   Please refer to the Operating Instructions for the Headset KX-T7090 or KX-T30890.

Handsfree Answerback

Description

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

Conditions

- Handsfree answerback mode is set or cancelled by pressing the AUTO ANSWER button.
- This feature does not work for calls from outside parties or doorphone calls.
- Handsfree Answerback set on a telephone overrides the Ring / Voice Intercom Alerting mode preset on the telephone; Handsfree conversation mode is established as soon as confirmation tone is sent.

Programming Reference

No programming required.

Feature References

Section 3, Features,
Alternate Calling – Ring / Voice

Operation References
—User Manual

DPT Features,
Handsfree Answerback

Handsfree Operation

Description

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

Conditions

- This function can be utilized by pressing a button listed below when the SP-PHONE / MONITOR button indicator is off:
  SP-PHONE button; MONITOR button; INTERCOM button; CO button
- The KX-T7050 and the KX-T7250 can be used for handsfree dialing operations, etc., but cannot be used for handsfree conversation.

• A single press of a One-Touch Button. DSS button. REDIAL button or
a SAVE button also provides handsfree mode if Full One-Touch
Dialing is enabled.

Programming References
No programming required.

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

Operation References
—User Manual
DPT Features,
Handsfree Operation

Hold Recall

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

Conditions
• Hold Recall can be disabled by programming.
•. The display PT flashes the indication of the held party for five seconds
  at 15-second intervals synchronized with the tone.
• Alarm tone is sent as follows:
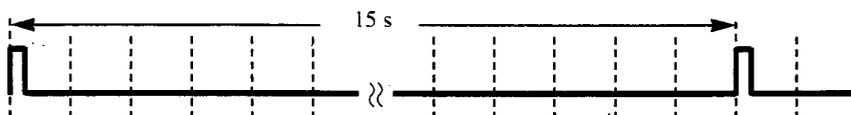
Programming References
Section 4, System Programming,
[200] Hold Recall Time

Feature References
Section 3, Features,

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

Operation References
Not applicable.

Host PBX Access

Description

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

Conditions

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

Programming References

Section 4, System Programming,
[411] Host PBX Access Codes
[412] Pause Time

Feature References

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

Operation References   Not applicable.

Intercept Routing

Description

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

Conditions

- Intercept Routing applies to DIL 1:1, DIL 1:N, DISA*, TAFAS, Call Forwarding, and Station Hunting.
- The final destination of intercepted calls must be programmed for day and for night modes. There are three possible destinations:
    1) an extension
    2) an external pager
    3) a DISA outgoing message*

- If the destination is in Do Not Disturb. Do Not Disturb does not function and the call is placed there.

Programming References

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

Feature References None

Operation References Not applicable.

Intercom Calling

Description

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

Conditions

- Extension numbers are assigned to all extensions by System Programming. An extension number is programmed to be two, three, or four digits.
- Names can be given to extension numbers by System Programming. An extension number and a name, if programmed, is shown on the display PT during an intercom call.
- DSS buttons permit one-touch access to an extension and provide Busy Lamp Field.
- KX-T7235 user can make an extension call with an extension dialing directory on the display.
- After dialing an extension number, the user will hear one of the following:
      Ringback tone: indicates that the other extension is being called.
      Confirmation tone: indicates that the user can perform Voice Calling.
      Busy tone: indicates that the other extension is busy.
      Do Not Disturb tone: indicates that the other extension has DND assigned.

Programming References

Section 4, System Programming,
[003] Extension Number Set
[004] Extension Name Set
[005] Flexible CO Button Assignment
[100] Flexible Numbering, 1st through 16th hundred extension blocks

3   Features   *L*

Feature References   Section 3, Features,
Busy Lamp Field   Button. Direct Station Selection
(DSS)

Operation References **DPT Features, SLT Features;**
—User Manual   Intercom Calling

LED Indication, CO Line

Description

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

LED Indicator	CO Line Status
Off	Idle
Green On	I-use
Green slow flash	I-hold
Green moderate flash	I-Exclusive Hold / CO-to-CO call / Unattended Conference
Green rapid flash	Hold Recall / Privacy Release possible / Incoming call
Red On	Other-use
Red slow flash	Other-hold

Flashing light (winks) patterns

Slow flash

Moderate flash

Rapid flash

1 s

Conditions
- Red slow flash indication appears on the S-CO button only.
- The indication of Privacy Release appears on the S-CO button only.

Programming References

Section 4, System Programming,
[005] Flexible CO Button Assignment
Station Programming..User Manual,
Flexible Button Assignment – Group-CO (G-CO) Button, Loop-CO (L-CO)Button, Single-CO (S-CO) Button

Feature References

Section 3, Features,
Button, Group-CO (G-CO)   Button, Single-CO (S-CO)
Button, Loop-CO (L-CO)

Operation References   Not applicable.

LED Indication, Intercom

Description

The LED (Light Emitting Diode) indicator of the INTERCOM button indicates the line condition with a variety of lighting patterns. This allows the user to see the current state of the intercom line. The table below shows the lighting patterns and the intercom line conditions.

INTERCOM Button	Intercom Status
Off	Idle
Green On	Intercom call / Conference established
Green slow flash	Intercom call hold
Green moderate flash	Intercom call exclusive hold / Consultation hold
Green rapid flash	Incoming intercom / doorphone call

Conditions   None

Programming References

No programming required.

Feature References   Section 3, Features,
Busy Lamp Field

Operation References   Not applicable.

Limited Call Duration

Description

Limited Call Duration is a system programmable feature that disconnects a CO call when a specified timer expires. A warning tone is sent to the extension user 15 seconds, 10 seconds, and 5 seconds before the time-limit. Limiting the call duration can be enabled or disabled by Class of Service (COS) for each extension.

Conditions

- Any CO call except CO-to-CO call is limited by this feature. For CO-to-CO calls, CO-to-CO Call Duration is activated.
- It is programmable to select the limited call, either incoming and outgoing call or outgoing call only.

Programming References

Section 4, System Programming,
[205] Extension-to-CO Line Call Duration Time
[502] Extension-to-CO Line Call Duration Limit
[990] System Additional Information, Field (12)

Feature References

Section 3, Features,
Call Forwarding – to CO Line   Conference, Unattended
Call Transfer, Screened – to
    CO Line

Operation References   Not applicable.

Line Access, Automatic

Description

Allows the extension user to dial the automatic line access number and access an idle line from the CO line groups assigned for the extension. The proprietary telephone user can use the Loop-CO button in place of the access number.

Conditions

- This feature functions with Automatic Route Selection (ARS), if ARS is enabled. If so, the least expensive route is automatically selected.
- Each extension is subject to System Programming items for CO lines available to access.
- An idle CO line is selected from the CO line groups assigned to the station. If one CO line group is available, an idle line is selected from that group. If multiple CO line groups are available, the CO line group hunting sequence is determined by System Programming.
- This feature requires a CO button (G-CO, L-CO or S-CO) assignment on a proprietary telephone (PT). Dialing the line access code selects a

CO button on a PT according to the priority:
    S-CO > G-CO > L-CO on a hunted CO line group
- If Idle Line Preference – Outgoing is set on the telephone, the user can access an idle line only by going off-hook.
- The system waits for a programmed time before dialing after a CO line is seized.

Programming References

Section 4, System Programming,
[100] Flexible Numbering, Automatic line access / ARS
[103] Automatic Access CO Line Group Assignment
[211] Dial Start Time
[400] CO Line Connection Assignment
[605]–[606] Outgoing Permitted CO Line Assignment — Day / Night

Feature References

Section 3, Features,
CO Line Connection Assignment – Outgoing

Operation References
—User Manual

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

Line Access, CO Line Group

Description

Allows the extension user to dial access a CO line group. An idle line is selected from the CO line group. To specify a CO line group, dial the feature number (the default setting is "8") and a desired CO line group number (1 through 8). A proprietary telephone user can also specify a CO line group by pressing a Group-CO button.

Conditions

- Each extension is subject to System Programming items for CO lines available to access.
- An idle line is selected in sequence from the lines in the specified CO line group.
- Group-CO buttons must be programmed prior to use.
- If Idle Line Preference – Outgoing is set on the telephone, the user can access an idle line only by going off-hook.

Programming References

Section 4, System Programming,
[005] Flexible CO Button Assignment
[100] Flexible Numbering, CO line group line access
[211] Dial Start Time
[400] CO Line Connection Assignment

[401] CO Line Group Assignment
[605]–[606] Outgoing Permitted CO Line Assignment — Day / Night
Station Programming...User Manual,
Flexible Button Assignment – Group-CO (G-CO) Button

Feature References

Section 3, Features,
Button. Group-CO (G-CO)   CO Line Group
CO Line Connection
   Assignment – Outgoing

Operation References
—User Manual

DPT Features, SLT Features;
Outward Dialing – Line Access. CO Line Group

Line Access, Direct

Description

Allows the proprietary telephone user to select a CO line by
pressing an idle CO button, which automatically establishes
handsfree operation mode and allows the user to perform On-Hook
Dialing. The user need not press the SP-PHONE button,
MONITOR button nor lift the handset.

Conditions

• There are three types of CO buttons which can be programmed on an
extension: Single-CO button, Group-CO button, and Loop-CO button.
• Each extension is subject to System Programming items for CO lines
available to access.

Programming References

Section 4, System Programming,
[005] Flexible CO Button Assignment
[211] Dial Start Time
[400] CO Line Connection Assignment
[605]–[606] Outgoing Permitted CO Line Assignment — Day / Night
Station Programming...User Manual,
Flexible Button Assignment – Group-CO (G-CO) Button, Loop-CO (L-
CO) Button, Single-CO (S-CO) Button

Feature References

Section 3, Features,
Button, Group-CO (G-CO)   CO Line Connection Assignment
Button, Loop-CO (L-CO)   – Outgoing
Button, Single-CO (S-CO)

Operation References
—User Manual

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

Line Access, Individual

Description

Allows the proprietary telephone user one-button access to a CO line without having to dial a line access code.

Conditions

- Each extension is subject to System Programming items for CO lines available to access.
- This feature requires a Single-CO (S-CO) button assignment on a proprietary telephone.
- The system waits for a programmed time before dialing after a CO line is seized.

Programming References

Section 4, System Programming,
[005] Flexible CO Button Assignment
[211] Dial Start Time
[400] CO Line Connection Assignment
[605]–[606] Outgoing Permitted CO Line Assignment
— Day / Night
Station Programming...User Manual.
Flexible Button Assignment – Single-CO (S-CO) Button

Feature References

Section 3, Features,
Button. Single-CO (S-CO)   CO Line Connection
                                Assignment – Outgoing

Operation References
—User Manual

DPT Features,
Outward Dialing – Line Access. Individual

Line Preference – Incoming (No Line / Prime Line / Ringing Line)

Description

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

(1) No Line Preference
No line is selected when you go off-hook. You must select a line to answer.

(2) Prime Line Preference
You can assign a prime line beforehand and answer a call on that line, when multiple calls are received simultaneously.

(3) Ringing Line Preference
When you go off-hook, you answer the call ringing at your telephone.

Conditions

- Setting a new line preference feature cancels the previous setting.
- If Prime Line Preference is selected and an incoming call arrives from a line other than the prime line, it cannot be answered just by going off-hook. The Prime Line should be assigned to the Single CO button.
- If Ringing Line Preference is selected, going off-hook does not answer a line programmed for "no ring" even though there is an incoming call. Going off-hook during the delay time does not answer a line programmed for "delayed ringing."
- A single line telephone is always set to Ringing Line Preference and cannot be changed.

Programming References

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

Feature References   None

Operation References Basic Operation,
—User Manual   Receiving Calls

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

Description

A proprietary telephone user can select a desired outgoing line preference to originate calls from the following three line preferences:
  (1) Idle Line Preference:
      When you go off-hook, you are connected to an idle line. An idle line is automatically selected from the pre-assigned lines.
  (2) No Line Preference:
      No line is selected when you go off-hook. You must select a line to make a call.
  (3) Prime Line Preference:
      When you go off-hook, you are connected to the pre-assigned line. Assign a line as your prime line beforehand.

Conditions

- Setting a new line preference feature cancels the previous setting.
- To set Prime Line Preference, one prime line is selected from intercom or CO lines.
- The CO lines used by users must be connected by programming.
- To select Idle Line Preference, CO lines available for the user should be programmed. Also CO lines available for Automatic Line Access should be assigned.

- The user can override the Idle / Prime Line Preference temporarily to select a specific line. To select it, press the desired line access button (INTERCOM or CO button) before going off-hook or pressing the SP-PHONE / MONITOR button; or if Full One-Touch Dialing is enabled, press One-Touch Dialing. DSS. REDIAL. or SAVE button.

Programming References

Section 4, System Programming,
[005] Flexible CO Button Assignment
[103] Automatic Access CO Line Group Assignment
[400] CO Line Connection Assignment
[605]–[606] Outgoing Permitted CO Line Assignment — Day / Night
Station Programming .... User Manual
Flexible Button Assignment – Group-CO (G-CO) Button, Loop-CO (L-CO) Button. Single-CO (S-CO) Button
Preferred Line Assignment – Outgoing

Feature References

Section 3, Features,
CO Line Connection Assignment – Outgoing

Operation References
—User Manual

Basic Operation,
Making Calls

Lockout

Description

If one party in a conversation goes on-hook, they are both disconnected from the speech path automatically. This feature applies to extension and CO calls. Reorder tone is sent to the off-hook party before it is disconnected.

Conditions

In the case of a single line telephone (SLT), if nothing is dialed within a certain period of time after the other party goes on-hook, reorder tone is sent to the SLT and then it is disconnected from the speech path.

Programming References

No programming required.

Feature References

None

Operation References
—User Manual

DPT Features, SLT Features;
Lockout

Manager Extension

Description   One extension in the system can be assigned as the system
                         manager. This extension can perform System Programming.

Conditions   • Besides the manager extension, the extension that is connected to the
                          jack 1 is able to perform System Programming.
                        • If eXtra Device Port mode is enabled at the manager extension, the
                          proprietary telephone user is regarded as the manager.

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

Feature References   None

Operation References Not applicable.

Message Waiting

Description   The system supports the ability to inform the called party of a
                         message waiting. The user, with a MESSAGE button, knows there
                         is a message if the LED of the MESSAGE button is lit red. If the
                         button is not provided nor assigned, the called party hears special
                         dial tone, when he / she goes off-hook. Pressing the lit MESSAGE
                         button also means to call back the called party or listen to the
                         messages which are stored in the mailbox of the Voice Processing
                         System.

Conditions   • For the proprietary telephone which is provided with no MESSAGE
                          button, a flexible CO button can be assigned as the MESSAGE button
                          either by System or Station Programming.
                        • Cancelling the message can be performed from the extension setting it
                          or from the extension receiving it.
                        • The system supports a maximum of 128 simultaneous messages.
                        • Messages are always left on the original extension. It is not sent to a
                          Call Forwarding or Station Hunting destination.

Programming References
Section 4, System Programming,
[005] Flexible CO Button Assignment
[100] Flexible Numbering, Message waiting set / cancel / callback
Station Programming...User Manual,
Flexible Button Assignment – Message Waiting (MESSAGE) Button

M 3   Features

Microphone Mute

Description   Allows the proprietary telephone user to turn off the microphone, for privacy reasons.

Conditions   • This is effective for the microphone only; your voice will only be muted during a handsfree conversation.
                   • The user can hear the other party's voice during Microphone Mute.

Programming References
                   No programming required.

Feature References   None

Mixed Station Capacities

Description   This system supports a wide range of telephone sets, not only Digital Proprietary Telephone (DPT) and Analog Proprietary Telephones (APT) in the Digital Super Hybrid System, but also single line rotary telephones (10 pps / 20 pps, employing dial pulse signals) and single line push-button dialing telephones (touch tone). The super hybrid method used in this system allows any telephone to be connected to an extension modular jack without an adaptor.

Conditions   If a telephone is replaced by another one, the stored data (such as feature button storage) is held for the new one.

Connection References

Programming References

No programming required.

Feature References　　None

Operation References　Not applicable.

Module Expansion

Description

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

- A 4-CO Line Unit adds 4 CO line jacks.
- A 8-Station Line Unit adds 8 extension jacks.

The KX-TD816 can have one 4-CO Line Unit and one 8-Station Line Unit. The KX-TD1232 can have one 4-CO Line Unit and a maximum of two 8-Station Line Units. Thus the KX-TD816 can have 4 or 8 CO line jacks and 8 or 16 extension jacks, and the KX-TD1232 can have 8 or 12 CO line jacks and 16, 24 or 32 extension jacks.

Conditions

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

Connection References

Section 2, Installation,
2.4.2　4-CO Line Unit Connection
2.4.3　8-Station Line Unit Connection

Programming References

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

Feature References　**Section 3, Features,**
EXtra Device Port (XDP)　　　　　　　　Paralleled Telephone

Operation References　Not applicable.

Music on Hold

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

Conditions
- Operations such as Call Hold, Exclusive Call Hold, Consultation Hold, or Call Transfer generates Music on Hold.
- It is necessary to connect a user-supplied external music source such as a radio to the system. Up to two external music sources for KX-TD1232, and one external music source for KX-TD816 can be connected per system. It is required to select the internal or external music source by System Programming.
- The music source is used for Music on Hold and / or BGM. In the case of KX-TD1232, if external music sources are in use, you can select a music source for each usage.

Connection References
Section 2, Installation,
2.3.9 External Music Source Connection

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

Feature References   **Section 3, Features,**
Background Music (BGM)

Operation References   Not applicable.

Night Service

Description   This supports both Night and Day modes of operation. The system operation for originating and receiving calls can be different for day and night modes. The system operation for restricting toll calls can be arranged separately to prevent unauthorized toll calls at night.

Switching of the Day / Night Mode

Day / Night mode can be switched either automatically at a pre-assigned time or manually by Operator 1 at any time desired.

> **Automatic Night Service:** If you select automatic switching mode, your system will switch the Day / Night mode at the programmed time each day. The starting time of the Day / Night mode can be set for each day.

Manual Night Service: If you select manual switching mode, Operator 1 can switch the Day / Night mode by dialing the feature number.

Conditions

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

    [407]–[408] DIL 1:1 Extension — Day / Night
    [409]–[410] Intercept Extension — Day / Night
    [500]–[501] Toll Restriction Level — Day / Night
    [603]–[604] DIL 1:N Extension and Delayed Ringing
                — Day / Night
    [605]–[606] Outgoing Permitted CO Line Assignment
                — Day / Night
    [607]–[608] Doorphone Ringing Assignment — Day / Night

Programming References

    Section 4, System Programming,
    [100] Flexible Numbering, Night service mode set / cancel
    [101] Day / Night Service Switching Mode
    [102] Day / Night Service Starting Time

Feature References   None

Operation References   **DPT Features, SLT Features;**
—User Manual   Night Service
                Operator Service Features,
                Night Service On / Off

Off-Hook Call Announcement (OHCA)

Description

OHCA allows you to inform a busy extension that another call is waiting by talking through the built-in speaker of the called party's proprietary telephone. If the existing call is using the handset, the second conversation is made with the speakerphone so that the called party can talk to two parties independently. OHCA is performed the same way as Busy Station Signaling (BSS). It depends on the telephone type used by the called party whether BSS or OHCA is activated by the operation. If the called telephone is one of the following, OHCA becomes active: for KX-TD816: KX-T7235, for KX-TD1232: T7130, KX-T7235.

Conditions

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

O   3   **Features**

Programming References

Feature References   **Section 3, Features,**

Call Waiting

Operation References **DPT Features,**

—User Manual   Off-Hook Call Announcement (OHCA)

One-Touch Dialing

Description   One-Touch Dialing offers the proprietary telephone (PT) user one-touch access to a desired party or system feature. This is enabled by storing an extension number, a telephone number or a feature number of up to 16-digits on a One-Touch Dialing button. The number of buttons available depends on the type of PT. One-Touch Dialing buttons can be programmed to flexible buttons: CO, DSS or PF (Programmable Feature).

Conditions   • It is possible to store an account code into a One-Touch Dialing button.
- Speed Dialing. One-Touch Dialing. manual dialing, Last Nu aber Redial and Saved Number Redial can be used together.
- It is possible to store a number consisting of 17 digits or more by dividing it and storing it in two One-Touch Dialing buttons. In this case, a line access code should not be stored on the second button.
- If the Full One-Touch Dialing is enabled. there is no need to go off-hook, before pressing the One-Touch Button.

Programming References

Feature References   **Section 3, Features,**

Full One-Touch Dialing

3   Features   *O*

Operation References   **DPT Features,**
—User Manual   One Touch Dialing
                      DSS Console Features,
                      One Touch Dialing
                      One-Touch Access for System Features

One-Touch Transfer by DSS Button

Description   This feature, if programmed, allows the DSS Console and the
                        proprietary telephone user to hold a CO call and quickly transfer it
                        to an extension. While talking to an outside party, pressing a DSS
                        button on the console or the proprietary telephone provides
                        automatic hold and transfer. There is no need to press the
                        TRANSFER button. The extension starts ringing immediately.

Conditions   • One-Touch Transfer cannot be performed when there is another call on
                          Consultation Hold.
                        • If One-Touch Transfer mode is disabled, the user transfers a CO call by
                          pressing the TRANSFER button followed by the DSS button.

Programming References
                        Section 4, System Programming,
                        [108] One-Touch Transfer by DSS Button

Feature References   **Section 3, Features,**
                        Button, Direct Station Selection
                          (DSS)

Operation References **DPT Features,**
—User Manual   Call Transfer — to Extension
                      DSS Console Features,
                      Call Transfer

Operator

Description   The system supports up to two operators. Any extension can be
                        appointed as an operator.
                        The extension assigned as Operator 1 has the ability to perform the
                        following operations:
                            • Switching Day / Night mode manually
                            • Setting / clearing station lockout remotely

- Turning Background Music – External on and off
- Recording and playing outgoing messages

Conditions

- If eXtra Device Port mode is enabled at the operator's extension, the proprietary telephone user is regarded as the operator.
- The operator can be assigned as a destination of the Transfer Recall by System Programming.

Programming References

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

Feature References   None

Operation References   Operator Service Features
—User Manual

Operator Call

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

Conditions   None

Programming References

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

Feature References   None

Operation References   DPT Features, SLT Features;
—User Manual   Operator Call

Outgoing Message (OGM)*

Description   Allows the extension assigned as Operator 1 to record outgoing voice messages. There are two types of outgoing messages that can be recorded:

DISA message:
This message is played when a caller accesses the DISA
feature. There can be two different DISA messages.
Timed Reminder message:
This message is used in Timed Reminder. When
answering the Timed Reminder alarm (often used as wake-up
call), the user will hear this message. There can be only one
Timed Reminder message.
After recording these messages, Operator 1 can also play them
back for confirmation.

Conditions

- Outgoing messages are numbered as follows:
  OGM 1 specifies DISA message 1
  OGM 2 specifies DISA message 2
  OGM 3 specifies Timed Reminder message
- A DISA Card is required to program the OGM. One card can be
  installed per system. System Connection permits two DISA Cards. If
  there are two DISA Cards, the same message is recorded for both
  simultaneously.

Connection References

Section 2, Installation,
2.4.5 DISA Card Installation

Programming References

Section 4, System Programming,
[100] Flexible Numbering, Outgoing message recording / playing
[215] Outgoing Message Time

Feature References   Section 3, Features,
Direct Inward System Access   Timed Reminder
(DISA)

Operation References   **Operator Service Features,**
—User Manual   Outgoing Message (OGM)

PAGING FEATURES – SUMMARY

Description   Paging allows you to make a voice announcement to multiple
persons at the same time. Your message is announced over the
built-in speakers of proprietary telephones and / or external
speakers (external pagers). The paged person can answer your
page from a nearby telephone. Making and answering a page is

possible from either a proprietary or single line telephone. You can do paging with a call on hold in order to transfer the call (Paging and Transfer).
Paging features are classified as follows:

Paging – All
Paging – External
Paging – Group

Paging – All

Description

Allows you to make a voice announcement from the speakers of the proprietary telephones and from the external paging devices (external pagers). If one of the paged persons answers your page, you can talk to the person through the connected line.

Conditions

• If System Connection* is established, paging is performed to all proprietary telephones and all external paging devices in both systems.
• The confirmation tone is sent to extensions, when the page is made or answered. Eliminating the tone is programmable.
• The confirmation tone is sent from external pagers, before the voice announcement. Eliminating the tone is programmable.
• The ringing or busy extension cannot receive a page.

Connection References

Section 2, Installation,
2.3.8 External Pager (Paging Equipment) Connection

Programming References

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

Feature References

None

Operation References
—User Manual

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

Paging – External

Description

Allows you to make a voice announcement using external paging devices (external pagers). One pager for KX-TD816, and up to two pagers per system for KX-TD1232 can be contained. For KX-TD1232, it is possible to select one or two pagers to perform your paging. Any telephone user can answer your Paging – External.

Conditions

- Previous connection of an external pager is required.
- External pagers can be used for TAFAS, Paging – External , or Background Music (BGM) – External in this order. For example, if Paging – External is overridden by TAFAS, reorder tone is returned to the performer of the Paging – External. If BGM is overridden by another higher priority, it is interrupted and starts again when the higher priority is finished.
- If System Connection* is established, up to four pagers are available.
- The confirmation tone is sent to the extensions and external pager, when the paging is made or answered. Eliminating the tone is programmable.
- The confirmation tone is sent from external pagers before the voice announcement. Eliminating the tone is programmable.

Connection References

Section 2, Installation,
2.3.8 External Pager (Paging Equipment) Connection

Programming References

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

Feature References   None

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

Paging – Group

Description
Allows you to select an extension group and make a voice announcement. All the proprietary telephones in the group will receive the page. If a member of the paged group answers your paging, you can talk to the person through the connected line.

Conditions
• To select all groups pages all extensions.
• Confirmation tone is sent when the page is made or answered. Eliminating the tone is programmable.

Programming References
      Section 4, System Programming,
      [100] Flexible Numbering, Paging – group, Paging – group answer
      [990] System Additional Information, Field (16)

Feature References   **Section 3, Features,**
      Extension Group

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

Paralleled Telephone

Description
Any proprietary telephone can be connected in parallel with a single line telephone. The following two combinations of telephones are available:

      (1)APT + SLT (an analog proprietary telephone and a single line telephone/device)
      (2)DPT + SLT (a digital proprietary telephone and a single line telephone/device)

When a parallel connection is made, an extension user can make and answer a call using either telephone.

Conditions
• The proprietary telephone (PT) can be used to perform normal operations whether or not the SLT is enabled.
• In the SLT + DPT combination, if one telephone goes off-hook while the other telephone is on a call, the call is switched to the former.
• In the SLT + APT combination, if one telephone goes off-hook while the other telephone is on a call, a three-party call is established. If one

user goes on-hook, the other user continues the call.
- When receiving a call;
  The SLT is enabled; Both the PT and the SLT ring except when the PT is in Handsfree Answerback mode or Voice Alerting mode.
  The SLT is disabled; PT rings but the SLT does not ring. However, the SLT can answer the phone.
- When the SLT is in operation, the display and LED indicator on the paired PT will show in the same way as if the PT is in operation.
- If APT + SLT are used, the extension user cannot originate a call from the SLT if the APT is:
  - playing BGM
  - in programming mode
  - receiving a paging announcement over the built-in speaker.
- If eXtra Device Port feature is available, a DPT+ SLT can act as completely different extensions.
- Call Waiting tone can be heard only by PT.

Connection References

Section 2, Installation,
2.3.5 Paralleled Telephone Connection

Programming References

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

Feature References

Section 3, Features,
EXtra Device Port (XDP)

Operation References
—User Manual

DPT Features, SLT Features;
Paralleled Telephone Connection

Pause Insertion, Automatic

Description

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

Conditions

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

Programming References

[100] Flexible Numbering, Automatic line access / ARS, CO line group line access

[311] Special Carrier Access Codes

[411] Host PBX Access Codes

[412] Pause Time

Feature References

Section 3, Features,

Host PBX Access   Toll Restriction

Operation References

Not applicable.

Pickup Dialing

Description

Allows an extension user to make an outgoing call by going off-hook, if the user has previously stored the telephone number. This feature is also known as Hot Line.

Conditions

• A rotary dial telephone without the "#" button cannot program this feature. For programming the phone number, replace a rotary dial telephone to the telephone with the "#" button temporarily.

• The user uses a feature number to enable or disable pickup dialing.

• If the feature is enabled and the user goes off-hook, dial tone is generated for the waiting time and then dialing starts. During the waiting time the user can dial another party, overriding the Pickup Dialing function.

• If the user answers an incoming call or retrieves a call on hold, the Pickup Dialing feature does not work.

• If the proprietary telephone is provided with PF 12 button, the stored number of PF12 button is common to the one for Pickup Dialing.

Programming References

Section 4, System Programming,

[100] Flexible Numbering, Pickup dialing program set / cancel

[204] Pickup Dial Waiting Time

Feature References

None

Operation References
—User Manual

DPT Features, SLT Features;

Pickup Dialing (Hot Line)

Power Failure Restart

Description

Turning back on the electricity, the system restarts the stored data automatically. Before restarting, the system records the error logs if necessary.

Conditions

- In the case of KX-TD1232, if System Connection is established, the Slave System makes a copy of the restored data of the Master system.
- In the event of a power failure, system memory is protected by the factory-provided lithium battery. There is no memory loss except the memories of Camp-On and Call Park.

Programming References

No programming required.

Feature References   None

Operation References   Not applicable.

Power Failure Transfer

Description

If a power failure should happen, or during a system-off-line state, specific extension telephone instruments are automatically connected straight to specific CO lines. This provides CO line conversations between the following extensions and CO lines:

KX-TD816:   CO 1 is connected to extension jack number 1
            CO 2 is connected to extension jack number 2
            CO 5 is connected to extension jack number 9
            CO 6 is connected to extension jack number 10

KX-TD1232: CO 1 is connected to extension jack number 1
            CO 2 is connected to extension jack number 2
            CO 3 is connected to extension jack number 9
            CO 4 is connected to extension jack number 10
            CO 9 is connected to extension jack number 17
            CO 10 is connected to extension jack number 18

Single line telephones can work in case of a power failure.
Connect these telephone instruments to the above extension jacks.

Conditions

- All the other conversations except for the above combinations are disconnected during a power failure.
- Only CO line conversations can operate. All the other features do not work.

Connection References

Section 2, Installation,
2.3.2   CO Line Connection
2.3.3   Extension Connection
2.4.2   4-CO Line Unit Connection
2.4.3   8-Station Line Unit Connection
2.5   Auxiliary Connection for Power Failure Transfer

Programming References

No programming required.

Feature References

Section 3, Features,
Power Failure Restart

Operation References   Not applicable.

Privacy, Automatic

Description

By default all conversations established on CO lines, extension lines and doorphone lines have privacy enabled.

Conditions

Automatic privacy may be temporarily released for a three-party conference, which is established either by Executive Busy Override or Privacy Release.

Programming References

No programming required.

Feature References

Section 3, Features,

Executive Busy Override – CO Line	Executive Busy Override – Extension Privacy Release

Operation References   Not applicable.

Privacy Release

Description

Allows the proprietary telephone user to release Automatic Privacy for an existing call in order to establish a three-party call. During a conversation with an outside party on a CO button, the user can allow another extension party to join the conversation by pressing the CO button.

Conditions

When a two-party call is changed to a three-party call and vice versa, a confirmation tone is sent to all three parties. Eliminating the tone is programmable.

Programming References

Section 4, System Programming,
[990] System Additional Information, Field (13)

Feature References

Section 3, Features,
Privacy, Automatic

Operation References
—User Manual

DPT Features,
Privacy Release

Pulse to Tone Conversion

Description

This feature allows the extension user to change from pulse dial to tone (DTMF) dial so that the user can access special services such as computer-accessed long distance call.

Conditions

- This feature works only on CO lines set to Pulse Dialing mode or Call Blocking mode.
- Dial Type Selection provides selection of a dial mode for each CO line.
- This feature is unavailable to DISA* callers.
- Changing tone to pulse is not possible.

Programming References

Section 4, System Programming,
[402] Dial Mode Selection

Feature References

Section 3, Features,
Dial Type Selection

Operation References
—User Manual

DPT Features, SLT Features;
Pulse to Tone Conversion

Redial, Automatic

Description

This is a special feature for the proprietary telephones, that provides automatic redialing of the last dialed, saved number or call log, if the called party is busy. If the Last Number Redial, Saved Number Redial or Call Log operation is performed handsfree, the telephone set will hang up and try again after a pre-determined period of time.

---

*: Available for KX-TD1232 only.

Conditions
- Redial Repeat Time and Interval Time can be changed by System Programming.
- Pressing FLASH allows the system to cancel this feature.
- If any dialing operation is done during Automatic Redial, this function is finished.
- This feature is not available with KX-T7055 or KX-T7250.

Programming References

Section 4, System Programming,
[209] Automatic Redial Repeat Times
[210] Automatic Redial Interval Time

Feature References   **Section 3, Features,**
Redial, Last Number   Redial, Saved Number
Special Features for KX-T7235 – Call Log

Operation References   **DPT Features,**
—User Manual   Redial, Automatic

Redial, Last Number

Description

Every telephone in the system automatically saves the last telephone number dialed to a CO line and allows the extension user to dial the same number again.

Conditions
- With a proprietary telephone, REDIAL button is used to carry out Last Number Redial. With a single line telephone, the feature number is used.
- The memorized telephone number is replaced by a new one if at least one digit to be sent to a CO line is dialed. Dialing a CO line access code alone does not change the memorized number.
- Certain type of proprietary telephones allows multiple redialing automatically (Automatic Redial).

Programming References

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

Feature References   **Section 3, Features,**
Redial, Automatic

Operation References   **DPT Features, SLT Features;**
—User Manual   Redial, Last Number

3   Features

Redial, Saved Number

Description

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

Conditions

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

Programming References

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

Feature References   Section 3, Features,
Button, Flexible   Redial, Automatic

Operation References   DPT Features,
—User Manual   Redial, Saved Number

Remote Station Lock Control

Description

Operator 1 is given the privilege of controlling Electronic Station Lockout on any station.

Conditions

Remote Station Lock Control is superior to Electronic Station Lockout. If Station Lockout has already been set by the extension user and Remote Station Lock is set by Operator 1, cancelling the lock is only possible by Operator 1.

Programming References

No programming required.

Feature References   Section 3, Features,
Electronic Station Lockout

Operation References   Operator Service Features,
—User Manual   Remote Station Lock Control

Reverse Circuit

Description

This feature can be used to detect a reversal of CO line polarity from Central Office, when trying to make a CO line call.
This is useful for determining the start and completion of CO line calls.

Programming Reference

Section 4, System Programming,
[416] Reverse Circuit Assignment

Ringing, Delayed

Description

If Direct In Lines (DIL) 1:N is established, a telephone set is originally set to ring instantly. This setting can be changed to delayed ringing, no ringing or no incoming call (disable) on a CO line number basis.

Conditions

- This feature does not apply to DISA* or DIL 1:1 calls.
- If delayed, no ringing or no incoming call (disable) is assigned to an extension, the extension can answer an incoming call during no ring or the delay time by pressing the flashing button.

Programming References

Section 4, System Programming,
[603]–[604] DIL 1:N Extension and Delayed Ringing — Day / Night

Feature References

Section 3, Features,
 Direct In Lines (DIL)

Operation References Not applicable.

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*: Available for KX-TD1232 only.

Ringing, Discriminating

Description
Allows the extension user to identify the incoming call by the ringing pattern. (See Section 5.1 "Tone / Ring Tone.")

Conditions
- When there are multiple incoming calls and the extension goes from off-hook to on-hook, the calls are rung according to the following priority:
  <1> Consultation Hold Recall
  <2> An incoming call from a line in which the Prime Line Preference – Incoming function has been set (with a proprietary telephone only)
  <3> Call Waiting
  <4> Incoming calls; Hold Recall; Transfer Recall; Unattended Conference Recall
- If multiple incoming calls arrive at an on-hook extension simultaneously, priority as to which calls should be rung is generally on a "first-come first-served" basis. In the case of proprietary telephones (PT), however, when the Prime Line Preference – Incoming function has been set, this line takes precedence.
- Incoming TAFAS calls can be identified by ringing signals sent out from external pager. The ringing pattern is the same as the CO calls.
- The digital PT user can select a desired tone frequency for each CO button.

Programming References
No Programming required.

Feature References
Section 3, Features,
Ringing Tone Selection for CO Buttons

Operation References
Not applicable.

Ringing Tone Selection for CO Buttons

Description
Allows the digital proprietary telephone user to select the desired ringer frequency for each CO button. This provides discrimination of incoming CO calls.

Conditions
There are eight ringer frequencies available. One of them can be assigned to a CO button that is assigned as each of the following buttons: Single-CO, Group-CO, or Loop-CO button. It is not possible to assign a ringer frequency to any other button.

Programming References

Section 4, System Programming,
[005] Flexible CO Button Assignment
Station Programming..User Manual,
Ringing Tone Selection for CO Buttons

Feature References

None

Operation References

Not applicable.

Secret Dialing

Description

Allows an extension user to conceal all or a part of a registered telephone number that normally appears on the display during System Speed Dialing or One Touch Dialing. Numbers can be assigned to Programmable Feature buttons on PT and DSS Consoles. When a display telephone user makes a call to the telephone number that is set to Secret Dialing, all or part of the number does not appear on the display. Additionally, KX-T7235 Model telephones are capable of Secret Dialing for "Station Speed Dialing" numbers.

Conditions

- When storing a number, press the INTERCOM button at the beginning and the end of the number to be concealed.
- You can conceal one or more parts of a telephone number.
- The concealed part will be printed out by SMDR.

Programming References

No programming required.

Feature References

Section 3, Features,
One-Touch Dialing   System Speed Dialing
Station Speed Dialing

Operation References
—User Manual

DPT Features,
Secret Dialing

Special Features for KX-T7235

The KX-T7235 is provided with a large display that allows the user to originate calls or to access system facilities with ease. The display prompts the user with information related to the desired feature. Examples of this special function are shown below:

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

Call Log

Description

Provides a display of the last dialed telephone numbers and allows the user to perform redialing the number by pressing the associated button.

Conditions

The oldest telephone number will be eliminated when over the limited numbers are dialed out.

Programming References

No programming required.

Feature References   None

Operation References   Special Display Features (— for KX-T7235),
—User Manual   Call Log

Extension Dialing

Description

Provides a display of extension names and numbers. The user can call an extension by pressing the associated function button.

Conditions

System Programming of extension numbers and names is required.

Programming References

Section 4, System Programming,
[003] Extension Number Set
[004] Extension Name Set
[100] Flexible Numbering, 1st through 16th hundred extension blocks

Feature References   None

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

Station Speed Dialing

| **Description** | A list of the names and telephone numbers stored for One-Touch Dialing is displayed allowing the user to make a one-touch call by name without having to know the number. |

| **Conditions** | • It is necessary to program One-Touch Dialing Numbers and Names into the 10 function buttons F1 through F10.
• It is programmable to select the first display, number or name. |

Programming References

Section 4, System Programming,
[990] System Additional Information, Field (19)
Station Programming..User Manual,
Station Speed Dialing Number / Name Assignment (KX-T7235 only)

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

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

System Feature Access Menu

| **Description** | This feature provides a display of the system features available at any time and allows the user to have access to the desired features. |

| **Conditions** | • The features available to access are:
    Absent Message Capability
    Call Pickup, Group
    Call Forwarding (set / cancel)
    Do Not Disturb (set / cancel)
    Message Waiting
    Paging (access / answer)
    Paralleled Telephone
• In addition to the features above, the Operator 1 can have the display of the following features:
    Background Music (BGM) – External
    Call Park
    Night Service
    Outgoing Message* |

Programming References

No programming required.

Feature References   None

Operation References   Special Display Features (— for KX-T7235),
—User Manual   System Feature Access Menu

System Speed Dialing

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

Conditions
- The numbers and names for System Speed Dialing must be programmed.
- If a name is not stored for a number, it is not displayed and cannot be called with this feature.

Programming References

Section 4, System Programming,
[001] System Speed Dialing Number Set
[002] System Speed Dialing Name Set

Feature References   Section 3, Features,
System Speed Dialing

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

Station Feature Clear

Description   Allows the extension user to cancel the functions set on the user's own telephone. The following functions will be cancelled by this feature:

Absent Message Capability – The message set on the telephone
Background Music that has been turned on
Call Forwarding
Call Pickup Deny
Call Waiting enabled

Data Line Security
Do Not Disturb (DND)
Executive Busy Override Deny
Message Waiting – All the messages that have been left by
   other extension users
Paralleled Telephone enabled
Pickup Dialing
Timed Reminder

Conditions   None

Programming References

Section 4, System Programming,
[100] Flexible Numbering, Station feature clear

Feature References   None

Operation References **DPT Features, SLT Features;**
—User Manual   Station Feature Clear

Station Hunting

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

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

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

   VM hunting: All the VM ports are hunted until an idle one
   is found to permit VM Service.

   AA hunting: All the AA ports are hunted until an idle one is
   found to permit AA Service.

One of the hunting types is selected for each extension group.

Conditions
- If all the hunted extensions are busy, busy tone is sent to the caller.
- If the called extension has set Do Not Disturb or Call Forwarding, Station Hunting skips the extension.

Programming References

Section 4, System Programming,
[106] Station Hunting Type
[602] Extension Group Assignment

Feature References

Section 3, Features,
Extension Group   Voice Mail Integration

Operation References   Not applicable.

Station Message Detail Recording (SMDR)

Description

Station Message Detail Recording (SMDR) automatically records detailed call information for CO calls. A printer connected to the EIA (RS-232C) port can be used to print incoming and outgoing CO calls as well as print a hard copy of the System Programming. To print the call records, use the program [800] "SMDR Incoming / Outgoing Call Log Printout," which allows you to print out the following records:
- Records of all outgoing CO calls or outgoing toll calls.
- Record of incoming CO calls.

An example of a printed call record:

Date	Time	Ext	CO	Dial Number	Duration	Acc code	CD
06/24/93	10:03AM	101	01	123456789012345678901234567890	00:05'12	1234567890	
06/24/93	10:07AM	103	20	\<INCOMING\>	00:00'56		
06/24/93	10:08AM	104	10	\<INCOMING\>	00:00'20	431211	
06/24/93	10:08AM	105	10	\<INCOMING\>	00:10'01	431211	TR
06/24/93	10:09AM	28	14	10222P1-202-346-7890	00:09'18	001	FW
06/24/93	10:10AM	103	20	\<INCOMING\>	00:01'24		
06/24/93	10:11AM	280	12	\<INCOMING\>	00:00'24		
06/24/93	10:11AM	280	22	0924312111	00:03'02		D1
06/24/93	10:20AM	120	13	\<INCOMING\>4312111	00:21'46		RM
.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

Example of SMDR printout format:
Explanation
(1) Date : shows the date of the call as Month / Day / Year.
(2) Time : shows the start time of a call as Hour:Minute / AM or PM.
(3) Ext : shows the extension number, floating number, etc. that engaged in a call.
(4) CO : shows the CO line number used for the call.
(5) Dial Number
   Outgoing call: shows the other party's telephone number (maximum 30 digits). Valid digits are 0 through 9, *, #, P (if PAUSE button is pressed), or the mark "=" (if a host PBX access code is entered).
   Received call: shows <INCOMING> and if a Caller ID is assigned to the other party also shows the name or number.
(6) Duration : shows the duration of the call as Hours / Minutes / Seconds.
(7) Acc Code (Account Code): shows the account code appended to the call.
(8) CD (Condition Code): shows call handling type with the following codes:
   TR: Transfer
   FW: Call Forwarding to CO Line
   *D0: Non Security CO Line Access using DISA
   *D1 through D4: DISA User Codes 1 through 4
   RM: Remote access to a modem
To print out the record of System Programming items that have been assigned, use the program [802] "System Data Printout."

Conditions

• Connect a printer provided with an EIA (RS-232C) interface to the EIA (RS-232C) connector located on the main unit. After connecting a printer, do not press the RETURN key, if provided on the printer, for 10 seconds.
• When programmed for outgoing toll calls only, printing occurs only for calls which start with the numbers stored in any Denied Code Table from levels 2 to 6. If ARS is employed, not the user-dialed but modified number is checked against these tables.
• This system can store information on up to 100 calls. If more calls are originated or received, previous records are deleted starting from the oldest one.
• This data is not deleted when you reset the system.
• If the system clock is not set by System Programming or if the calendar IC is out of order, the date and time is not printed out.

• If FLASH is manually sent out during a conversation, the call record is printed and a new record is started.

Connection References

Section 2, Installation,
2.3.10 Printer Connection

Programming References

Section 4, System Programming,
[000] Date and Time Set
[212] Call Duration Count Start Time
[800] SMDR Incoming / Outgoing Call Log Printout
[801] SMDR Format
[802] System Data Printout
[806]–[807] EIA (RS-232C) Parameters

Feature References   None

Operation References   Not applicable.

Station Programming

Description

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

For the PT (KX-T7220; KX-T7230; KX-T7235; KX-T7250; KX-T7130; KX-T7020; KX-T7030; KX-T7050)

    Call Waiting Tone Type Assignment
    Flexible Button Assignment
    Full One-Touch Dialing Assignment
    Intercom Alerting Assignment
    Preferred Line Assignment – Incoming / Outgoing
    Station Programming Data Default Set

For digital PT (KX-T7220; KX-T7230; KX-T7235; KX-T7250) only,

    Handset / Headset Selection
    Ringing Tone Selection for CO Buttons

For display PT (KX-T7230; KX-T7235; KX-T7130; KX-T7030) only,

    Self-Extension Number Confirmation

For digital large display PT (KX-T7235) only,

    Station Speed Dialing Number / Name Assignment

For Operator 1 extension PT only,

    Remote Station Lock Control

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

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

Programming References

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

Feature References   None

Operation References   Not applicable.

Station Programming Data Default Set

Description   Allows the proprietary telephone user to return all the following items programmed on the telephone to default setting.

Programming Items	Default
Call Waiting Tone Type Assignment	Tone 1
Full One-Touch Dialing Assignment	On
Handset / Headset Selection	Handset
Intercom Alerting Assignment	Tone Call
Preferred Line Assignment – Incoming	Ringing Line
Preferred Line Assignment – Outgoing	Intercom Line

Station Programming is used to set or cancel these items at individual telephones.

Conditions   None

Programming References

Station Programming...User Manual,
Station Programming Data Default Set

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

Operation References   Not applicable.

3   Features   S

Station Speed Dialing

Description

Allows an extension user to store frequently dialed numbers in order to place a call with abbreviated dialing. It is performed by dialing the feature number and a speed dial number from 0 through 9. Up to 10 numbers can be stored for each telephone.

Conditions

- Station Speed Dialing can be followed by manual dialing to supplement the dialed digits.
- You may make a call with One-Touch Dialing button, instead of Station Speed Dialing.
- The single line telephone (SLT) may be replaced by a proprietary telephone (PT) temporarily to store one-touch dialing into memory. The Function Buttons F1 through F10 are corresponded to speed dial numbers as follows:

F1 — 0	F6 — 5
F2 — 1	F7 — 6
F3 — 2	F8 — 7
F4 — 3	F9 — 8
F5 — 4	F10 — 9

Programming References

Section 4, System Programming,
[100] Flexible Numbering, Station speed dialing, Station speed dialing programming

Feature References

Section 3, Features,
One-Touch Dialing

Operation References
—User Manual

DPT Features, SLT Features;
Station Speed Dialing

System Connection*

Description

System Connection allows two main units, KX-TD1232 to work together as one system. This expands the capacity of the system, number of extensions, CO lines and so on. Two connected systems are called the master and the slave systems.
A maximum capacity of the system is as follows:

Item	Maximum Quantity (Single System)	Maximum Quantity (System Connection)
CO Line	12	24

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*: Available for KX-TD1232 only.   Features   3-113

Extension Jack	32	64
DSS Console	4	8
Doorphone	2	4
Door Opener	2	4
External Pager	2	4
Music Source	2	4

Conditions

- The following resources can be used by either system:
    - (a) External pagers
    - (b) Music sources used for Music on Hold
    - (c) Music sources used for Background Music (BGM)
    - (d) Station Message Detail Recording (SMDR); EIA (RS-232C) ports
    - (e) Call Parking areas
- System Inter Connection Card (KX-TD192), optional expansion cards to connect both systems, must be installed for this feature.

Connection References

Section 2, Installation,
2.4.9 System Connection

Programming References

No programming required.

Feature References   None

Operation References   Not applicable.

System Data Default Set

Description

This system permits re-initialization of system-programmed data. If all the programmed data is cleared, the system will restart with the default setting.

Conditions

The default setting for each programming item is listed in Section 5.2,"Default Values."

Programming References

No programming required.

Feature References   None

Operation References   Section 2, Installation,
2.8 System Data Clear

System Programming and Diagnosis with Personal Computer

Description

This system can be programmed and administered using a personal computer. The EIA/Remote Programming & Diagnosis Manual and its floppy is required to perform this feature. The KX-TD816 cannot perform the diagnosis. There are two programming methods:

On-Site Programming
By connecting a personal computer (PC) to your system, system programming and maintenance can be performed locally. There are two ways available to perform the above:
(Method 1.) Using the EIA (RS-232C) port
Connect the PC to the EIA (RS-232C) port provided. The main unit has an EIA (RS-232C) port which can be used for either system administration or SMDR.
*(Method 2.) Using a modem
Install the optional Remote Card. Connect the PC to an extension jack. Assign the floating number of the modem in System Programming. Dial this number from the PC.
*Remote Programming
You can perform system programming and maintenance from a remote site using a PC. Install the Remote Card and assign the floating number of the modem in System Programming.
Starting system administration from a remote location can be done in the following ways.

- Call an extension (probably the Operator) from a remote location and request a transfer to the modem.
- Dial the floating number of the modem using the DISA feature.
- Assign the modem as the destination of the DIL 1:1 feature.

For more information and programming instructions, refer to the EIA / Remote Programming & Diagnosis Manual.

Conditions

- A proprietary telephone can be used to perform System Programming.
- Only one access is allowed to System Programming at any one time.
- To access system administration, a valid password must be entered. The password is factory-programmed and can be changed.
- System administration can be performed on-line except for the procedures of the diagnosis.
  If the system goes off-line, the system functions as if it was in power failure. (Refer to Power Failure Transfer feature.)

Connection References Section 2, Installation,
2.4.6 Remote Card Installation*

Programming References

Section 4, System Programming,
[107] System Password
[813] Floating Number Assignment
[814] Modem Standard*
EIA / Remote Programming & Diagnosis Manual

Feature References Section 3, Features,

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

Operation References Not applicable.

System Programming with Proprietary Telephone

Description   This system can be programmed with a personal computer or a
proprietary telephone (PT).
Proprietary telephones available for System Programming are:
KX-T7235; KX-T7230; KX-T7130; and KX-T7030 (Display
Proprietary Telephones).
Two extensions are allowed to perform System Programming. The
extensions available are:
  (1) An extension that is connected to jack 01.
  (2) An extension that is assigned as a manager.
For more information and programming instructions, refer to
Section 4, "System Programming."

Conditions   • During System Programming the system operates normally.
• During System Programming the extension is considered to be busy.
• The display on the PT permits interactive programming.
• Only one access is allowed to System Programming at any one time.
• To access system administration, a valid password must be entered.
The password is factory-programmed and can be changed.
• A personal computer can be used to perform System Programming.

Programming References

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

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

3   Features   *S*

Operation References   Not applicable.

System Speed Dialing

Description

This feature supports 100 abbreviated dial numbers available to all users. A system speed dial number is dialed out by pressing the AUTO button and a 2-digit code (00 through 99). It is possible to store one hundred 24-digit telephone numbers per system (maximum).

Conditions

- Overriding Toll Restriction for System Speed Dialing can be enabled or disabled by system programming.

[For proprietary telephone users only]

- Speed Dialing, One-Touch Dialing, manual dialing, Last Number Redial and Saved Number Redial can be used in combination.

[For single line telephone users only]

- If a stored feature number includes " * " or "#," a rotary or pulse single line telephones cannot use it.

Programming References

Section 4, System Programming,
[001] System Speed Dialing Number Set
[002] System Speed Dialing Name Set
[100] Flexible Numbering, System speed dialing
[300] TRS Override for System Speed Dialing

Feature References

Section 3, Features,
Toll Restriction Override for System Speed Dialing

Operation References
—User Manual

DPT Features, SLT Features;
System Speed Dialing

Time-Out, Variable

Description

Provides timers to control various features or functions.
The following timers are programmable:

System Timer Items	Range
Automatic Redial Interval Time	$n \times 10$s, n:3 – 120
Automatic Redial Repeated Times	1 – 30 times
Call Forwarding – No Answer Time-Out	1 – 12 rings
CO Dial Starting Time	$n \times 100$ ms, n:0 – 40
CO-to-CO Call Duration Time	1 – 64 min
* DISA CO-to-CO Call Prolong Time	0 – 7 min
* DISA Delayed Answer Time	0 – 6 rings
Extension-to-CO Call Duration Time	1 – 64 min
Hold Recall Time	0 – 240 s
Intercept Routing Time-Out	3 – 48 rings
* Outgoing Message Duration Time	0 / 16 / 32 / 64 s
Pickup Dialing Waiting Time	1 – 5 s
SMDR Duration Count Starting Time	0 – 60 s
Toll Restriction First Digit Time-Out	5 – 120 s
Toll Restriction Inter-digit Time-Out	5 – 30 s
Transfer Recall Time	3 – 48 rings

CO Line Group Timer Items	
Disconnect Time	1.5 / 4.0 s
Hookswitch Flash Time	Disable / 80 / 96 / 112 / 200 / 300 / 400 / 500 / 600 / 700 / 800 / 900 / 1000 / 1100 / 1200 ms
Pause Time	1.5 / 2.5 / 3.5 / 4.5 s

CO Line Timer Items	
CPC Signal Detection Time (Incoming)	Disable / 100 / 200 / 300 / 400 / 500 / 600 ms
DTMF Digit Time	80 / 160 ms

Extension Timer Items	
Delayed Ringing Count	Disable / Immediate / 1 / 3 / 6 rings / No ring

Voice Mail Integration Timer Items	
DTMF Signal Duration	80 / 160 ms
DTMF Signal Waiting Time after VPS Answer	0.5 / 1.0 / 1.5 / 2.0 s

DTMF Signal Waiting Time   0.5 / 1.0 / 1.5 / 2.0 s
after VPS calls Extension

Programming References

Section 4, System Programming,
[200] Hold Recall Time
[201] Transfer Recall Time
[202] Call Forwarding – No Answer Time
[203] Intercept Time
[204] Pickup Dial Waiting Time
[205] Extension-to-CO Line Call Duration Time
[206] CO-to-CO Call Duration Time
[207] First Digit Time
[208] Inter Digit Time
[209] Automatic Redial Repeat Times
[210] Automatic Redial Interval Time
[211] Dial Start Time
[212] Call Duration Count Start Time
[213] DISA Delayed Answer Time*
[214] DISA Prolong Time*
[215] Outgoing Message Time*
[404] DTMF Time
[405] CPC Signal Detection Incoming Set
[412] Pause Time
[413] Flash Time
[414] Disconnect Time
[603]–[604] DIL 1:N Extension and Delayed Ringing — Day / Night
[990] System Additional Information, Fields (6) through (8)

Feature References   None

Operation References   Not applicable.

Timed Reminder

Description

Each telephone can be set to generate an alarm tone at a preset time as a wake up or reminder. This feature can be programmed to be active only once or every day. In the case of KX-TD1232, a voice message can be recorded for this feature.

Conditions

• Be sure that the system clock works.
• Setting a new time clears the preset time.

- The alarm tone continues for 30 seconds. To stop it, lift the handset or, with a proprietary telephone, press any button.
- If a voice message is used, when the user goes off-hook during the alarm tone, a pre-recorded voice message is sent. The message feature requires the optional DISA Card* and the message is recorded by Operator 1. If the message is not enabled, the user hears special dial tone.

Connection References

Section 2, Installation
2.4.5 DISA Card Installation*

Programming References

Section 4, System Programming,
[100] Flexible Numbering, Timed reminder set / cancel / confirm
[215] Outgoing Message Time*

Feature References

Section 3, Features,
Outgoing Message (OGM)*

Operation References
—User Manual

DPT Features, SLT Features;
Timed Reminder

3   Features

Toll Restriction

Description

Toll Restriction is a system programmable feature that, in conjunction with the assigned Class of Service, can prohibit certain extension users from placing unauthorized toll calls.

Every extension is programmed to belong to one of eight Classes of Service. Each Class of Service is programmed to have a toll restriction level for day mode and night mode.

There are eight toll restriction levels available. Toll restriction level 1 is the highest level and the level 8 is the lowest. That is, level 1 allows all toll calls and levels 7 and 8 disallows all toll calls. Levels 2 through 6 are used to restrict calls by combining pre-programmed deny and excepted code tables.

Denied Code Tables

An outgoing CO call made by an extension with a toll restriction level between 2 and 6 is first checked against the selected Denied Code Tables. If the leading digits of the dialed number (not including the line access code) are not found in the table, the call is made. There are five system programs for Denied Code Tables:
[301]-[305] TRS Denied Code Entry for Levels 2 through 6:
each program is used to make up a Denied Code Table for Levels 2 through 6 respectively.
Complete every table by storing numbers that are to be prohibited. These numbers are defined as denied codes. Each table can store up to 20 denied codes, each of which consisting of a maximum of ten digits.

Excepted Code Tables

These tables are used to override a programmed denied code. A call denied by the selected Denied Code Tables is checked against the selected Excepted Code Tables, and if a match is found, the call is made.
There are five system programs for these tables:
[306]-[310] TRS Excepted Code Entry for Levels 2 through 6:
each programming is used to make up an Excepted Code Table for Levels 2 through 6.
Complete every table by storing numbers that are exceptions to the denied codes. These numbers are defined as excepted codes. Each table can store up to five excepted codes, each of which consisting of a maximum of ten digits.

Extra Table

400 extra codes can be entered in one of Denied or Excepted Code Table. There is a maximum of either 420 entries for Denied Code Table or 405 entries for Excepted Code Table.

Applicable Denied and Excepted Code Tables depend on the assigned toll restriction level of an extension as follows:

	Denied Code Tables	Excepted Code Tables
Level 1	None	None
Level 2	Table for Level 2	Tables for Levels 2 through 6
Level 3	Tables for Levels 2 and 3	Tables for Levels 3 through 6
Level 4	Tables for Levels 2 to 4	Tables for Levels 4 through 6
Level 5	Tables for Levels 2 to 5	Tables for Levels 5 through 6
Level 6	Tables for Levels 2 to 6	Tables for Level 6
Level 7	None	None
Level 8	None	None

[Explanation]
Level 1: allows all calls.
Level 2: denies the codes stored in the Denied Code Table for Level 2 except the codes stored in Excepted Code Tables for Levels 2 through 6.
Level 3: denies the codes stored in the Denied Code Tables for Levels 2 and 3 except the codes stored in Excepted Code Tables for Levels 3 through 6.
Level 4: denies the codes stored in the Denied Code Tables for Levels 2 through 4 except the codes stored in Excepted Code Tables for Levels 4 through 6.
Level 5: denies the codes stored in the Denied Code Tables for Levels 2 through 5 except the codes stored in Excepted Code Tables for Levels 5 and 6.
Level 6: denies the codes stored in the Denied Code Tables for Levels 2 through 6 except the codes stored in Excepted Code Table for Level 6.
Level 7: Allows intercom calls only.
Level 8: Allows operator calls only.

Example of Toll Restriction programming

Here is an example to explain the procedures for Toll Restriction programming.

1. Determining the application

Determine the dialing numbers that should be denied for levels 2 through 6. (Levels 1, 7 and 8 are fixed and do not require programming.)

[Entry Example]

Level	Denied Code	Excepted Code
2	011	None
3	011 976 1xxx976	None
4	011 976 1xxx976 0	None
5	011 976 1xxx976 0 411 1xxx555	None
6	011 976 1xxx976 0 411 1xxx555 1 x0 x1	911 1911 800 1800

Note: "x" substitutes a digit.

2. Programming

(1) [500]-[501] Toll Restriction Assignment

Assign a toll restriction level to each Class of Service (COS).

[Example]

COS	Level (Day)	Level (Night)
1	1	6
2	2	6
:	:	:
8	8	8

(2) [301]-[305] Denied Code Table Entry

Depending on the application, enter the denied codes in the associated tables. You can use numeric characters and the wild card character "∗."

Level-2 Denied Code Table

Location	Code
01	001
:	
20	

Level-3 Denied Code Table

Location	Code
01	976
02	1∗∗∗976
:	
20	

Level-4 Denied Code Table

Location	Code
01	0
:	
20	

Level-5 Denied Code Table

Location	Code
01	411
02	1∗∗∗555
:	
20	

Level-6 Denied Code Table

Location	Code
01	1
02	∗0
03	∗1
:	
20	

(3) [306]-[310] Excepted Code Table Entry

Depending on the application, enter the excepted codes in the associated tables. You can use numeric characters and the wild card character "∗."

Level-6 Excepted Code Table

Location	Code
1	911
2	1911
3	800
4	1800
5	

[Explanation]

If your Toll Restriction Level is 6;

a) You cannot make a call whose toll call number is "201," because the number whose second digit "0" is one of the Denied Codes for Level 6.

b) You can make a call whose toll call number is "800." Though the number whose second digit "0" is one of the Denied Codes for Level 6, the number "800" is one of the Excepted Codes for Level 6. The Excepted Codes override the Denied Codes.

Flow Chart of
Toll Restriction

```
                    ┌──────────────────────────┐
                    │ The user makes a toll call.│
                    └──────────────────────────┘
                                 │
                                 ▼
                    ┌──────────────────────────┐   Yes
                    │ Is the call made by System│──────────┐
                    │ Dialing ?                 │          │
                    └──────────────────────────┘          │
                                 │ No                      │
                                 │        No  ┌────────────────────────┐
                                 │◄───────────│ Is TRS Override for System│
                                 │            │ Speed Dialing enabled?    │
                                 │            └────────────────────────┘
                                 │                         │ Yes
                                 ▼
     Levels 7, 8   ┌──────────────────────┐  Level 1
                   │ What is the extension – toll│─────────►
                   │ restriction level?    │
                   └──────────────────────┘
                        Levels 2, 3, 4, 5, 6
                                 │
                                 ▼
                   ┌──────────────────────┐   No
                   │ Is the dialed number found in│────────►
                   │ applicable Denied Code Tables?│
                   └──────────────────────┘
                                 │ Yes
                                 ▼
                   ┌──────────────────────┐   Yes
                   │ Is the dialed number found in│────────►
                   │ applicable Excepted Code Tables?│
                   └──────────────────────┘
                                 │ No
                                 ▼
         ┌──────────────────────────┐        ┌──────────────────────┐
         │ The call is denied. Reorder│        │ The call is allowed.  │
         │ Tone is returned to the user.│       └──────────────────────┘
         └──────────────────────────┘
```

Conditions

- Toll restriction checks are applied to the following:
  - (1) Automatic Route Selection (ARS)
  - (2) Account Code Entry
  - (3) Dial Access, Automatic
  - (4) Line Access, CO Line Group
  - (5) Line Access, Individual
  - (6) Special Carrier Code Entry
  - (7) System Speed Dialing
- The Emergency numbers as Police or Fire Department should be stored in Program [310] TRS Excepted Code Entry for Level 6.
- If a stored Host PBX access code or a stored carrier code is found in the dialed number, a toll restriction check starts for succeeding telephone number.
- Toll restriction for System Speed Dialing can be cancelled for the whole system.
- It is programmable whether the " * " or "#" the user dials is to be checked or not on the Toll Restriction code. This is useful to prevent unauthorized calls which could be possible through certain Central Offices' exchange system.
- It is programmable to admit the press of the FLASH button, during a CO call on the extensions in Levels 7 and 8.

Programming References

Section 4, System Programming,
[207] First Digit Time
[208] Inter Digit Time
[300] TRS Override for System Speed Dialing
[301]–[305] TRS Denied Code Entry for Levels 2 through 6
[306]–[310] TRS Excepted Code Entry for Levels 2 through 6
[311] Special Carrier Access Codes
[332] Extra Entry Table Selection
[333] TRS Entry Code Assignment for Extra Table
[500]–[501] Toll Restriction Level — Day / Night
[601] Class of Service
[990] System Additional Information, Fields (14), (15)

Feature References   **Section 3, Features,**

Toll Restriction for Special   Toll Restriction Override for
  Carrier Access   System Speed Dialing
Toll Restriction Override by
  Account Code Entry

Operation References   Not applicable.

Toll Restriction for Special Carrier Access

Description

If your system has access to multiple telephone companies, access to a specific company requires a carrier access code preceding the telephone number. Toll Restriction on these calls is enabled by storing the carrier codes (20 at a maximum). If a stored carrier code is found in the dialed number, a toll restriction check starts for the succeeding telephone number.

Conditions

A carrier access code is followed by Automatic Pause Insertion. It is possible to select the pause time in System Programming.

Programming References

Section 4, System Programming,
[311] Special Carrier Access Codes
[412] Pause Time

Feature References

Section 3, Features,
Toll Restriction

Operation References   Not applicable.

Toll Restriction Override by Account Code Entry

Description

Allows the extension user to override toll restriction temporarily to make a toll call from a toll-restricted telephone. The user can carry out this feature by entering the appropriate account code before dialing the telephone number.

Conditions

- The toll restriction level of the user is changed to level 2 by this feature. Thus this can be used by extension users assigned a toll restriction level from 3 through 6. The levels 1 and 2 are not changed.
- A Class of Service which is assigned Account Code Entry – Verified Toll Restriction Override permits the class members to override their toll restrictions.
- Up to 20 account codes can be programmed for Verified Account code operation. These are used for Toll Restriction Override.
- If the user does not enter any account code or enters an invalid account code, an ordinary toll restriction check is done.

Flow Chart of TRS Override by Account Code Entry
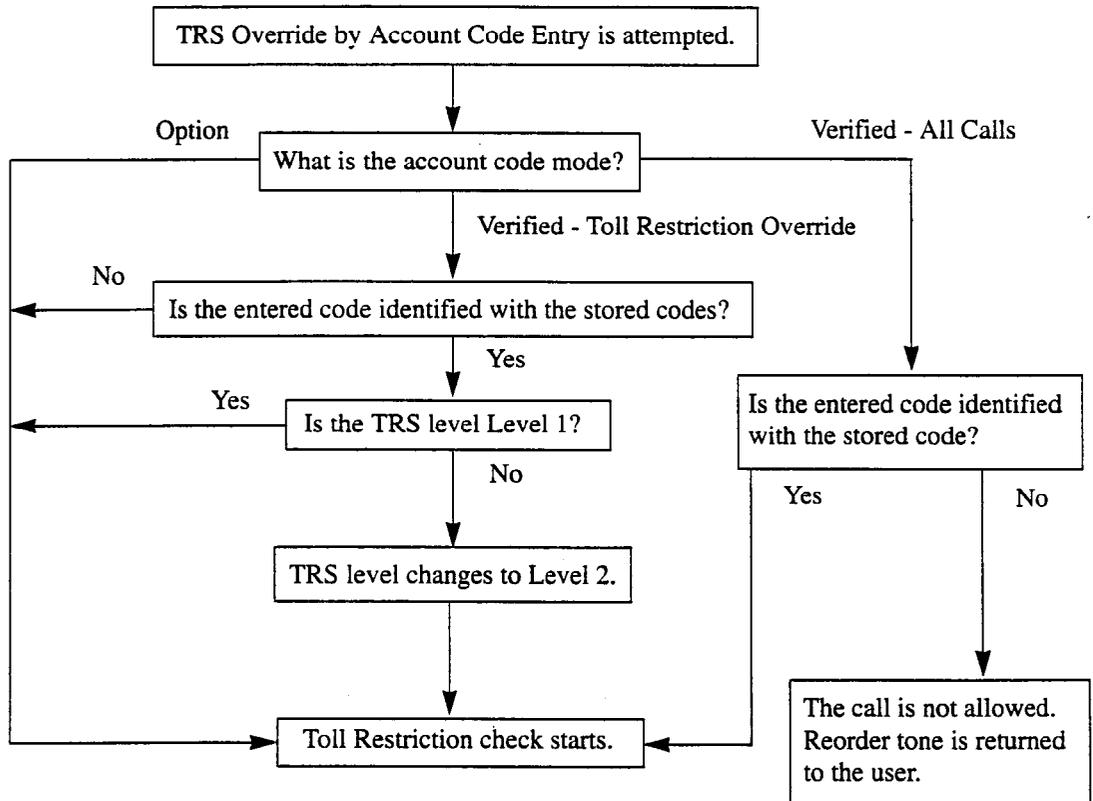
```
              ┌──────────────────────────────────────────────┐
              │  TRS Override by Account Code Entry is attempted. │
              └──────────────────────────────────────────────┘
                                    │
        Option                      ▼                    Verified - All Calls
              ┌──────────────────────────────────┐
              │  What is the account code mode?  │
              └──────────────────────────────────┘
                                    │
                        Verified - Toll Restriction Override
                                    ▼
   No   ┌──────────────────────────────────────────────┐
 ◄──────│ Is the entered code identified with the stored codes? │
        └──────────────────────────────────────────────┘
                                    │
                                   Yes
          Yes                       ▼                  ┌─────────────────────────┐
 ◄──────────────  ┌──────────────────────────┐         │ Is the entered code identified │
                  │  Is the TRS level Level 1? │         │ with the stored code?          │
                  └──────────────────────────┘         └─────────────────────────┘
                                   No                    Yes              No
                                    ▼
                  ┌──────────────────────────┐
                  │  TRS level changes to Level 2. │
                  └──────────────────────────┘
                                    │                   ┌──────────────────────────┐
                                    ▼                   │ The call is not allowed.  │
          ┌──────────────────────────────┐              │ Reorder tone is returned  │
 ────────►│  Toll Restriction check starts. │◄──────────│ to the user.              │
          └──────────────────────────────┘              └──────────────────────────┘
```

Programming References

Section 4, System Programming,
[100] Flexible Numbering, Account code entry
[508] Account Code Entry Mode

Feature References

Section 3, Features,
Account Code Entry   Toll Restriction

Operation References
—User Manual

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

Toll Restriction Override for System Speed Dialing

Description

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

Conditions

None

Programming References

Section 4, System Programming,
[300] TRS Override for System Speed Dialing

Feature References

Section 3, Features,
System Speed Dialing   Toll Restriction

**Operation References
—User Manual**

DPT Features, SLT Features;
Toll Restriction Override – Toll Restriction Override for System Speed Dialing

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

Description

A tone signal is sent from the external pager when an incoming CO call is received. Any extension user can answer the call.

Conditions

- Connect a user-supplied external paging device.
- One external pager can be installed in KX-TD816. Two external pagers can be installed in KX-TD1232 per system, and System Connection* permits four pagers (maximum). These pagers are numbered from 1 through 4. To answer an incoming call dial the feature number and 1 to 4. The feature number is the same as that used to answer Paging – External.
- A floating number of a pager is programmable.
- TAFAS can be used in the following cases:
  - a) The floating number of an external pager is assigned as the DIL 1:1 destination. In this case all the incoming calls on the specified line will be signaled.
  - *b) A DISA caller dials the floating number of an external pager.
  - c) The floating number of an external pager is assigned as the Intercept Routing destination. In this case incoming calls redirected to the destination will be signaled.
- Confirmation tone is sent to the user before being connected to the caller. Eliminating the tone is programmable.

Connection References

Section 2, Installation,
2.3.8 External Pager (Paging Equipment) Connection

Programming References

Section 4, System Programming,
[100] Flexible Numbering, Paging – external answer / TAFAS answer
[813] Floating Number Assignment
[990] System Additional Information, Field (16)

Feature References

Section 3, Features,
Floating Station

Operation References —User Manual

DPT Features, SLT Features;
Trunk (CO Line) Answer From Any Station (TAFAS)

Voice Mail Integration

Description

This system can accommodate Voice Processing System (VPS) equipment, which offers the user a Voice Mail and Automated Attendant Services. If an extension user has set Call Forwarding destination to the VPS, a calling party will be forwarded to the VPS and can leave a voice message in the mailbox of the extension. When a call is transferred to the VPS by the Call Forwarding or Intercept Routing – No Answer features, the mailbox number is sent to the VPS automatically with DTMF signaling (Follow On ID). Up to eight extension jacks can be connected to VPS as extensions in the system.

System Explanation

1. Voice Mail Service

1.1 Call Forwarding to VM

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

```
                    ┌──────────┐
                    │ CO Call  │
                    └──────────┘
                        │
                   DIL 1:1, DISA*
┌──────────┐   ┌─────────────────────┐
│ Intercom │   │         System      │
│   Call   │──▶│                     │
└──────────┘   └─────────────────────┘
                        │
                        ▼
               ┌──────────────┐   C.FWD
               │  Extension   │─────────────▶
               └──────────────┘
```

```
                         VPS
        ┌──────────────────────────────────────────┐
        │  ┌──────┐ - - - - - - -▶ ┌──────┐         │
        │  │ VM 1 │                │ VM 2 │         │
        │  └──────┘                └──────┘         │
        │     ▲       VM Hunting       ┊            │
        │     ┊         Chain          ▼            │
        │  ┌──────┐ ◀- - - - - - -  ┌──────┐         │
        │  │ VM X │                │ VM 3 │         │
        │  └──────┘                └──────┘         │
        └──────────────────────────────────────────┘
```

```
┌──────────┐
│ CO Call  │
└──────────┘
    │
DIL 1:1, DISA*
    │   ┌─────────────────────┐
    │   │        System       │
    │   │                     │
    │   └─────────────────────┘
    ▼
┌──────────┐          ┌──────────────┐   C.FWD
│ Operator │─────────▶│  Extension   │─────────────▶
└──────────┘ Transfer └──────────────┘
```

```
                         VPS
        ┌──────────────────────────────────────────┐
        │  ┌──────┐ - - - - - - -▶ ┌──────┐         │
        │  │ VM 1 │                │ VM 2 │         │
        │  └──────┘                └──────┘         │
        │     ▲       VM Hunting       ┊            │
        │     ┊         Chain          ▼            │
        │  ┌──────┐ ◀- - - - - - -  ┌──────┐         │
        │  │ VM X │                │ VM 3 │         │
        │  └──────┘                └──────┘         │
        └──────────────────────────────────────────┘
```
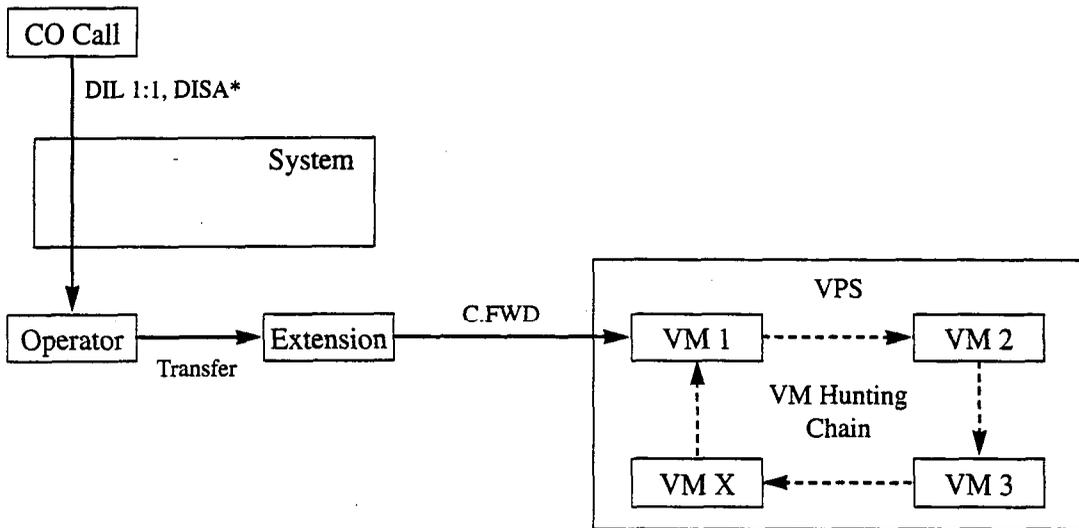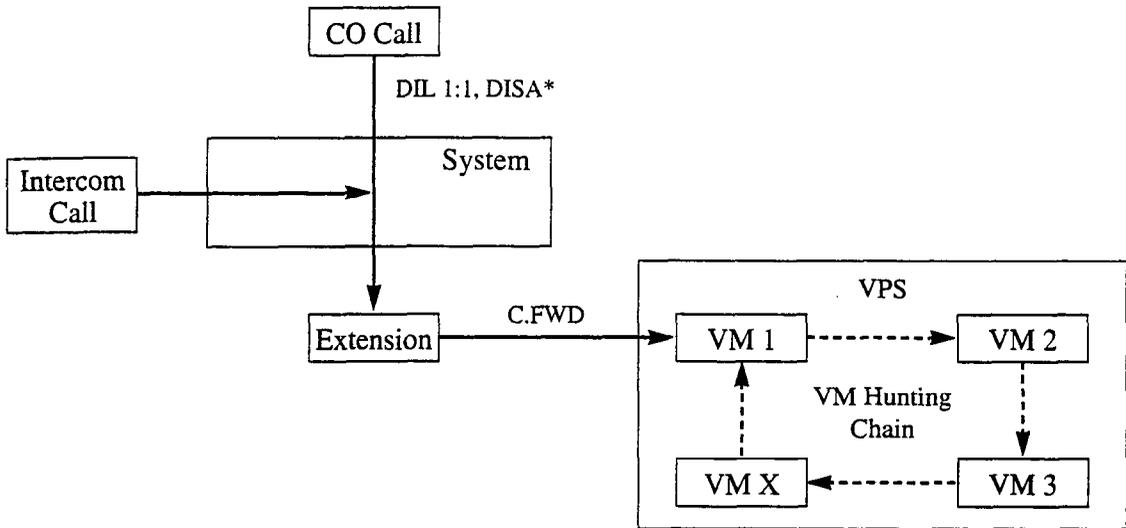
1.2 Intercept Routing to VM

If a CO line is set as Intercept Routing – No Answer (IRNA)
whose destination is the VPS, a CO call is forwarded to the
VPS under the proper conditions. The system sends to the
VPS a mailbox number of the corresponding extension at
that time. Therefore the calling party can leave his / her
message in the mailbox of the desired extension without
knowing the mailbox number.

```
                    ┌──────────┐
                    │ CO Call  │
                    └──────────┘
                          │
                 DIL 1:1, DIL 1:N, DISA*
                          │
        ┌─────────────────────────────────┐
        │                      System      │
        │                                  │
        └─────────────────────────────────┘
                          │
                          ▼
        ┌──────────┐  IRNA
        │Extension │──────────►
        └──────────┘
```

```
        ┌───────────────────────────────────────┐
        │                            VPS         │
        │   ┌────────┐            ┌────────┐      │
        │   │  VM 1  │- - - - - ►│  VM 2  │      │
        │   └────────┘            └────────┘      │
        │        ▲        VM Hunting    ┆         │
        │        ┆           Chain      ▼         │
        │   ┌────────┐            ┌────────┐      │
        │   │  VM X  │◄- - - - - -│  VM 3  │      │
        │   └────────┘            └────────┘      │
        └───────────────────────────────────────┘
```
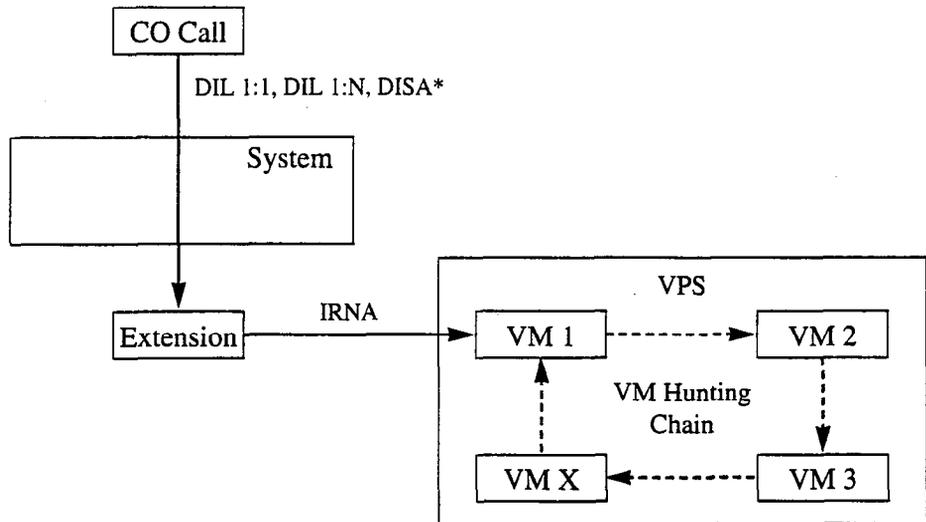
1.3 Transferring to VM

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

```
                    ┌──────────┐
                    │ CO Call  │
                    └──────────┘
                          │
        ┌─────────────────────────────────┐
        │                      System      │
        │                                  │
        └─────────────────────────────────┘
                          │
         (1) Transfer      │       (2) Transfer
   ┌──────────┐◄─────┌──────────┐──────────►┌────────┐        ┌────────┐
   │Extension │      │Extension │           │  VM 1  │- - - ─►│  VM 2  │
   └──────────┘─────►│(Operator)│ by VM Transfer └────────┘   └────────┘
   busy/no answer    └──────────┘ Button       ▲                   ┆
                                         VM Hunting              ▼
                                            Chain
                                        ┌────────┐        ┌────────┐
                                        │  VM X  │◄- - - -│  VM 3  │
                                        └────────┘        └────────┘
```
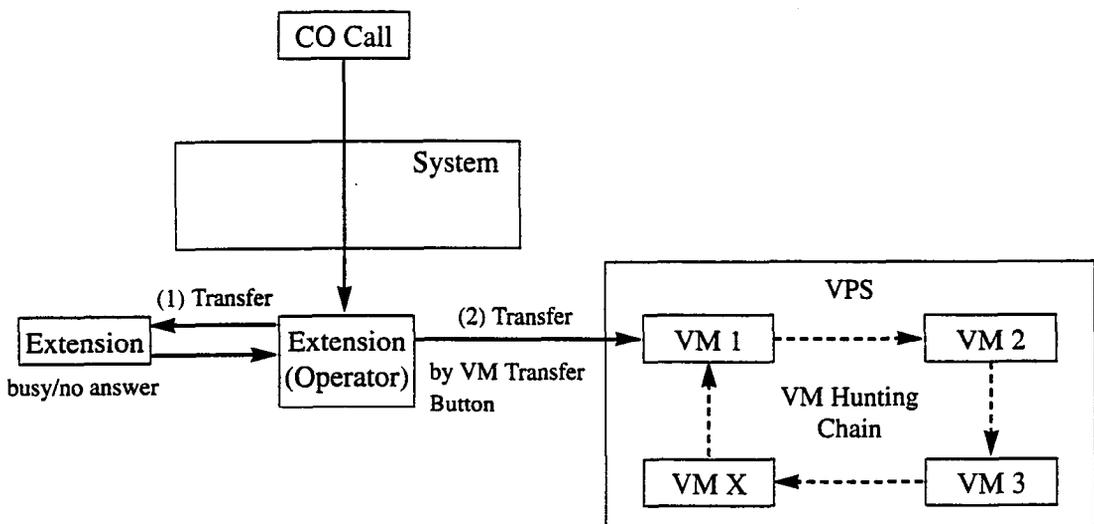
1.4 Changing from VM to Automated Attendant (AA)

The Automated Attendant Service is automatically activated in the following cases:

1) The incoming call is not answered by the operator and IRNA is activated.
2) The operator is assigned as a destination of DIL 1:1 and the operator sets the Call Forwarding to VPS.
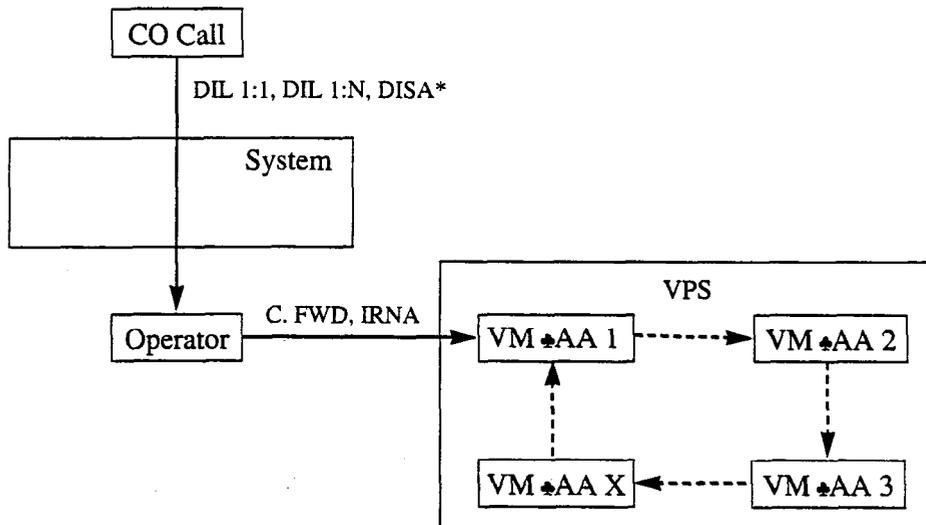
1.5 Listening to a Recorded Message

If the VPS receives a message, the VPS can turn on the MESSAGE button indicator of the corresponding telephone as a notification to the user of the telephone. (Panasonic KX-TVP series can do this.) The VPS notifies the extension user that there is a message waiting in his / her mailbox. When the MESSAGE button indicator is lit, pressing the button allows the extension user to play back the stored message.

2. Automated Attendant (AA) Service

2.1 AA to Extension

AA receives and answers a CO call and offers services such as transferring to a specified extension or the corresponding mailbox by the DTMF signaling which is sent from the calling party.
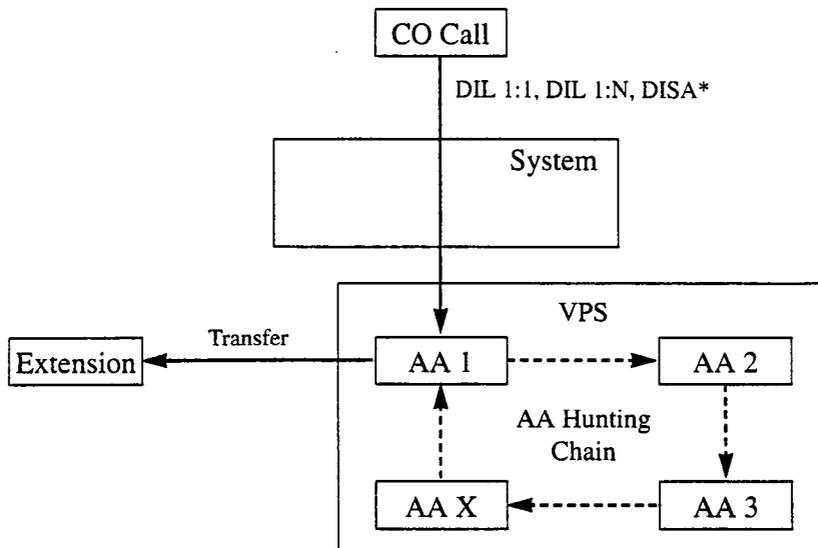
Conditions

- A VPS can be assigned as the destination of the following features:
    Call Forwarding – All Calls
    Call Forwarding – Busy
    Call Forwarding – Busy / No Answer
    Call Forwarding – No Answer
    Intercept Routing – No Answer
  In these functions, the caller to the extension need not know the mailbox number of the called extension because the code is automatically transmitted to the VPS (Follow On ID function). If a DIL 1:N call is transferred to the VPS by IRNA, your system transmits the mailbox number of the lowest jack number of the receiving extensions.
- A mailbox number is a respective extension number by default. The mailbox number can be changed, only if program [990] "System Additional Information, Field (18)" is set to "free."
- Pressing the Voice Mail Transfer button and dialing the extension number allows the extension user to transfer to the corresponding mailbox. In this case, Follow On ID function is available.
- The Voice Mail extension should be set to Data Line Security to achieve proper recording.
- The KX-TD816 has one Extension Card and can have one 8-Station Line Unit. The KX-TD1232 has two Extension Cards and can have two 8-Station Line Units. It is recommended that you do not connect more than two VM ports to each card or unit.

Connection References

Section 2, Installation,
2.3.3 Extension Connection
2.4.3 8-Station Line Unit Connection

Programming References

Common   **Section 4, System Programming,**

[005] Flexible CO Button Assignment

[100] Flexible Numbering, Call forwarding / do not disturb set / cancel, Message waiting set / cancel / callback

[113] VM Status DTMF Set

[114] VM Command DTMF Set

[407]–[408] DIL 1:1 Extension — Day / Night

[409]–[410] Intercept Extension — Day / Night

[603]–[604] DIL 1:N Extension and Delayed Ringing — Day / Night

[609] Voice Mail Access Codes

[990] System Additional Information, Fields (6) through (9), (18)

Station Programming..User Manual,

Flexible Button Assignment – MESSAGE Button, Voice Mail (VM) Transfer Button

For VM Service   **Section 4, System Programming,**

[106] Station Hunting Type (Select Voice Mail Hunting.)

[990] System Additional Information, Field (10)

For AA Service   **Section 4, System Programming,**

[106] Station Hunting Type (Select Automated Attendant Hunting.)

[990] System Additional Information, Field (24)

Feature References

Section 3, Features,

Call Forwarding – All Calls	Call Forwarding – No Answer
Call Forwarding – Busy	Intercept Routing
Call Forwarding – Busy / No Answer	Station Hunting

Operation References —User Manual

DPT Features, SLT Features;

Voice Mail Integration

Operator Service Features,

Voice Mail Transfer

Volume Control – Speaker / Handset Receiver / Headset / Ringer

Description   Allows the proprietary telephone user to turn up or down the following volumes as desired:

Handset receiver volume
Headset volume
Ringer volume
Speaker volume

Conditions   The control method depends on the telephone type:
* With a digital proprietary telephone, press the volume control button (VOLUME ∧ / ∨ UP / DOWN) to select a desired volume level. However the ringer volume of KX-T7220 and KX-T7250 is selected with Ringer Volume Selector (OFF / LOW / HIGH).
* With other proprietary telephones, slide the following levers located on the left side of the telephone.

Volume Control	(MIN – MAX)
Handset Headset Volume Selector	(NORMAL / MID / HIGH)
Ringer Volume Selector	(OFF / LOW / HIGH)

Programming References

No programming required.

Feature References   None

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

Section 4
System Programming

This section provides step-by-step programming instructions for a proprietary telephone.

4.1 General Programming Instructions

Default Setting

This system has a default factory setting. If any of the programming needs to be changed, you will find the necessary information in Section 3, "Features." This makes the system very simple to install and customize as required by the customer. Any required changes can be written on "Programming Tables."

Required Telephone Set

One of the following telephone sets is required for System Programming:
- Digital Proprietary Telephone (DPT): KX-T7235, KX-T7230
- Analog Proprietary Telephone (APT): KX-T7130, KX-T7030

Extensions Used for Programming

Connect one of the above-mentioned telephone sets to either of the following:
- Jack number 1
- Jack programmed as a manager extension

To assign the manager extension, see Section 4.2 [006] "Operator / Manager Extension Assignment."

4.1.1 Using the Proprietary Telephone

Soft Buttons and SHIFT Button on the Display DPT

Three soft buttons are provided just below the display on the display Digital Proprietary Telephones (DPT). The functions of these soft buttons vary as the programming procedures advance from step to step. Those functions that are currently assigned to the buttons are shown on the lower line of the display. (See "Viewing the Display" on page 4-6 for more information on the display lines.)

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

Soft button variations

Type 1

Example:
KX-T7230 Display

Buttons

Soft 1   Soft 2   Soft 3   SHIFT

Type 2

Press **SHIFT** to alternate

Type 3

Press **SHIFT** to alternate

4.1.1 Using the Proprietary Telephone

Type 4

Press **SHIFT** to alternate

| A | B | C |

Soft 1   Soft 2   Soft 3   SHIFT

| a | b | c |

Soft 1   Soft 2   Soft 3   SHIFT

Type 5

Press **SHIFT** to alternate

| SKP+ | SEL | NEXT |

Soft 1   Soft 2   Soft 3   SHIFT

| SKP- | CLR | PREV |

Soft 1   Soft 2   Soft 3   SHIFT
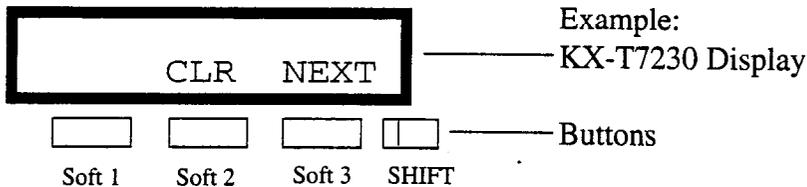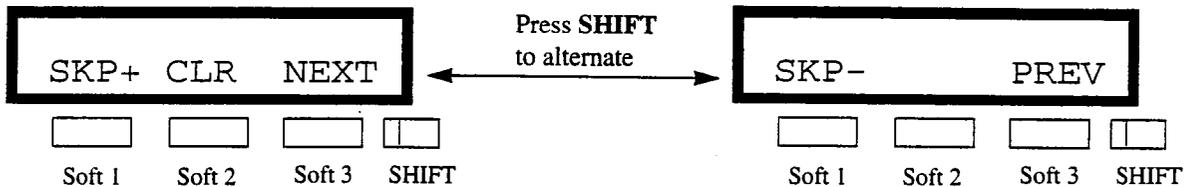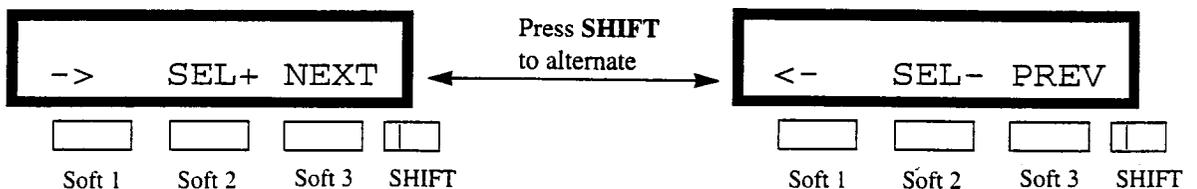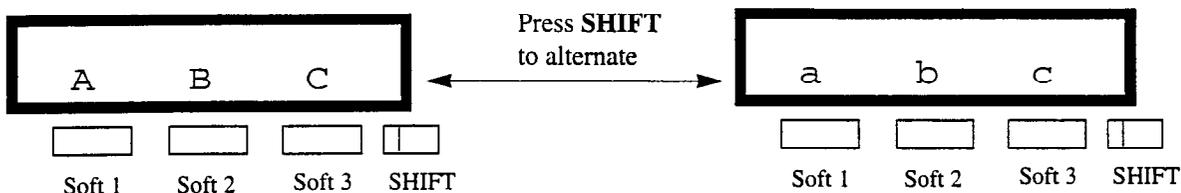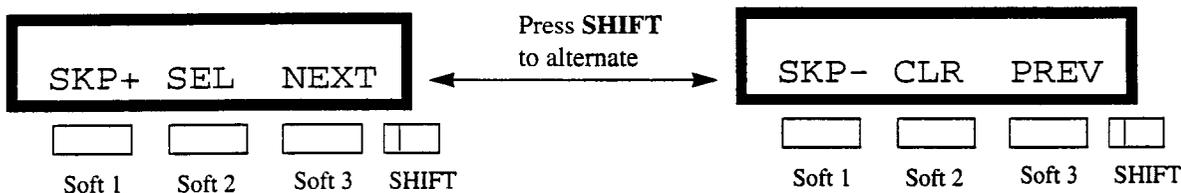
You can use either the soft buttons or the overlay buttons. (For overlay buttons, refer to "Using the Overlay" below.) Throughout the programming you will see instructions such as "Press **PREV**." If you use the soft buttons, this means press **SHIFT**, release **SHIFT** and then press **Soft 3**. The (PREV) function is performed.

Note   If you use the soft buttons and if programming instructions tell you to press the following buttons, you may press soft buttons shown below.

Instructions	Soft button
SELECT	SEL+, SEL-, or SEL
CLEAR	CLR

Using the Overlay

A programming overlay is packed with the telephone at the factory. This overlay should be used at all times while in programming mode since the functions of the telephone keys change while in programming mode as follows: (The original names are in parentheses.)

4.1.1 Using the Proprietary Telephone

During Operation	During Programming
(PAUSE)	PAUSE / PROGRAM
(SP-PHONE)	NEXT
(REDIAL)	PREV (PREVIOUS)
(AUTO ANSWER / MUTE)	SELECT
(FLASH)	FLASH
(TRANSFER)	CLEAR
(FWD/DND)	→
(CONF)	– / ←
(INTERCOM)	SECRET
(AUTO DIAL / STORE)	STORE
(HOLD)	END

Location of Controls with the Overlay

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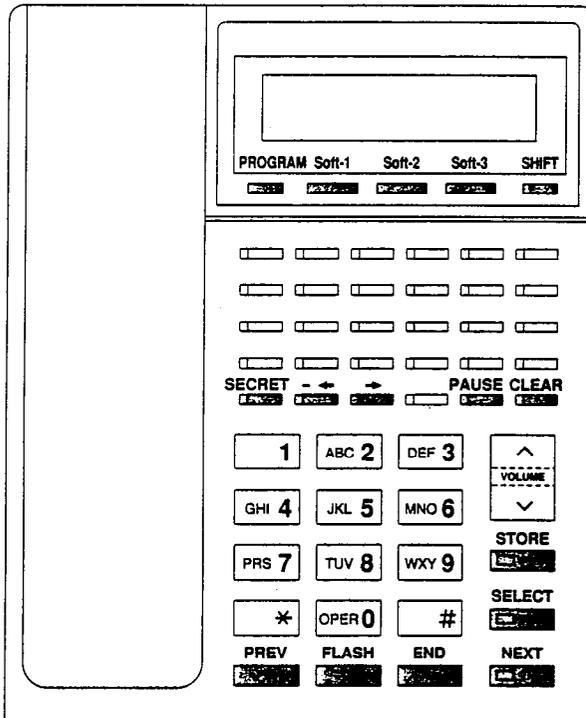
KX-T7230
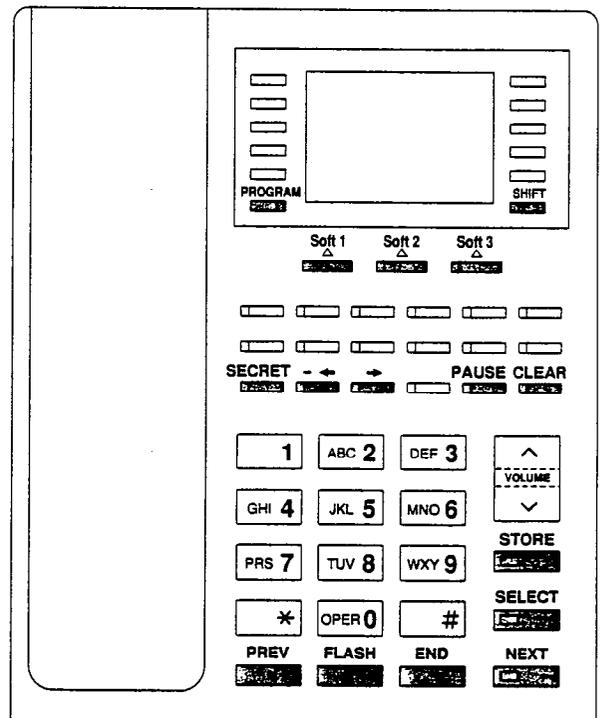
KX-T7235

4.1.1 Using the Proprietary Telephone

Viewing the Display

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

The KX-T7230 and the KX-T7235 both utilize two information lines for programming. The upper line is called the Message Line and the lower one is called the Function Line.

The Message Line (upper) shows you what you should do or what you should select. It also allows you to confirm what you have just entered. The display capacity is 16 digits. If your entry exceeds the capacity, you can shift the display by pressing → or ← button.

The Function Line (lower) shows the current function of the soft buttons. These functions change with the programming procedures.

```
SYS-PGM NO?  ->
            NEXT
```
← Message Line
← Function Line
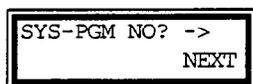
KX-T7230 Display

```
SYS-PGM NO?  ->
            NEXT
```
← Message Line
← Function Line
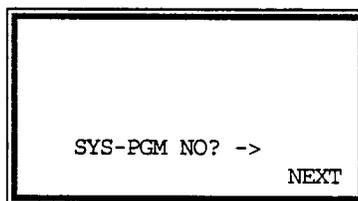
KX-T7235 Display

Before entering the programming mode

Before entering programming mode, confirm that:
- Your telephone is on-hook.
- No calls are on hold at your telephone.

Entering the programming mode

> Press **PROGRAM** (or **PAUSE**) + * + # and enter your **System Password (default=1234)**.

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

Notes
- *If your telephone set has no PROGRAM button, substitute the PAUSE button.*
- If nothing is entered in five seconds after the **PROGRAM** (or **PAUSE**) button is pressed, it is cancelled.
- The System Password entered is not shown on the display. The System Password can be changed by System Programming. Refer to Section 4.3 [107] "System Password."
- During the programming mode, your extension is treated as a busy extension.
- Only one proprietary telephone can be in programming mode at any one time.

4.1.2 Programming Ways

Advancing to the next stage

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

- To go to program [000], press the **NEXT** button.
- To go to another program, enter the 3-digit program address.

Rotation of jack number

Each jack of your Digital Super Hybrid System supports the connection of a digital proprietary telephone and an analog device with different extension numbers (eXtra Device Port: XDP function). To program this function it is necessary to assign two parts for each jack. The first part of jack one is 01-1. The second part of jack one is 01-2. The first part of jack two is 02-1 and so on. The **NEXT** and **PREV** buttons can be used to move from jack to jack as required in programs [003], [004] and [601] through [609].

Example;

	NEXT		**NEXT**		**NEXT**	
#01-1	⇄	#01-2	⇄	#02-1	⇄	#02-2 ......
	PREV		**PREV**		**PREV**	

Note   The first part of a jack is for a DPT of a XDP-assigned jack. The second part is for a single line device. Program [600] "EXtra Device Port" assigns which jacks are XDP.

Storing your data

Press **STORE** to store your data.

- The **STORE** indicator lights red and confirmation tone sounds.

* Confirmation tone (one beep)

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

* Alarm tone (three beeps)

If you hear the alarm, check that your entry is valid.

Making another selection within the same program address

- To make the next higher selection, press **NEXT**.
- To make the previous selection, press **PREV**.
- To make a specific selection, press **SELECT** and then enter the number.

4.1.2   Programming Ways

Going to another program address

After pressing **STORE**, you can go to another program with either of the following two methods:

    (1) • To go to the next larger program address:

        Press **Soft 1 (SKP+)** or **VOLUME ∨ (DOWN)**.

      • To go to the next smaller program address:

        Press **SHIFT + Soft 1 (SKP–)** or **VOLUME ∧ (UP)**.

    (2) To go to a specific program address:

        Press **END**, then enter the Program Address.

Method (1) is useful when you want to perform a series of programs consecutively. For example, to change the programming in addresses [000] to [008], use this method. You can move from [000] to [001], from [001] to [002], and so on by pressing the **SKP+** or **VOLUME ∨**. You can move in reverse order from [008] to [007], etc. by pressing the **SKP–** or **VOLUME ∧**.

This method can also be used to move between neighboring program groups: For example, you can move between the program addresses [008] and [100], [116] and [200], and so on. Also, you can move between the smallest program address [000] and the largest one [992].

Method (2) is useful when you wish to jump to another program address. For example, you have just finished with program [006] and now you want to go to program [301]. Neither **SKP+/ VOLUME ∨** nor **SKP–/VOLUME ∧** is convenient in this case. So you should press **END** and enter 301.

Note	The following programming instructions suppose that you have already entered programming mode and that you will use Method (2).

Confirming the entries

You may review the stored programming without making any changes.

Going back to the operation mode

Two ways are available to go back to the operation mode:

    (1) Lift the handset while in programming mode.

    (2) When the Initial Message: SYS-PGM NO? –> is displayed, press the **PROGRAM (or PAUSE)** button. (To display the Initial Message, press **END**.)

4.1.3 Entering Characters

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

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

Combination Table 1

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

Combination Table 2

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

Note The alphabetical characters correspond to the letters shown on the twelve dialing keys on the proprietary telephone. (except Q, q, Z, z and other symbols)

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

4.1.3   Entering Characters

Please see the following example which shows how to select a desired character.

For example, to select the letter "M":

Select either of the following two methods:

(1)   Using the **SHIFT** and **Soft** buttons (for display DPT only)
   * See Combination Table 1.
   1. Press **6**. ("M" belongs to "6.")
      • The Function Line shows: M   N   O
   2. Press the **Soft 1** (M) button.
   (Press **SHIFT** to display the lower case of the above letters.)

(2)   Using the **SELECT** button
   * See Combination Table 2.
   1. Press **6**. ("M" belongs to "6.")
   2. Press the **SELECT** button once.
      • Pressing the **SELECT** button an appropriate number of times gives you the desired letter. Pressing **SELECT** twice gives the letter "m," pressing three times gives "N," and so on.

Example of entering characters: to enter "Mike":

Using method (1)

* See Combination Table 1.

The display shows:

	Step	Action	Display top	Display bottom
1.	Enter **6**.		6	M N O
2.	Press **Soft 1** (M).		M	M N O
3.	Enter **4**.		M4	G H I
4.	Press **SHIFT**.		M4	g h i
5.	Press **Soft 3** (i).		Mi	g h i
6.	Enter **5**.		Mi5	j k l
7.	Press **Soft 2** (k).		Mik	j k l
8.	Enter **3**.		Mik3	d e f

4.1.3 Entering Characters

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

```
+------------------------+
|         Mike           |
|   d     e      f       |
+------------------------+
```

Using method (2)
* See Combination Table 2.

The display shows:

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

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

4.1.4 Example of Programming

The following programming instructions suppose that you have already entered programming mode and that you will employ method (2) on page 4-8.

Example: Program [001] "System Speed Dialing Number Set"

Sample of Description	Explanation

001[1]   **4.2 Manager Programming**[2]
 	
**System Speed Dialing Number Set**[3]
 	
Description [4]   Used to program the System Speed Dial numbers. These numbers are available to all extension users. There are 100 numbers from 00 through 99.
 	
Selection [5]   • Speed dial number: **00 through 99**
• Telephone number: **24 digits (max.)**
 	
Default[6]   All speed dial numbers – Not stored
 	
Programming[7] **1.** Enter **001**.[8]
    Display: SPD Number Set[9]
  2. Press **NEXT**.[10]
    Display: SPD Code?->[11]
  3. Enter a **speed dial number**.
    To enter speed dial number 00, you can also press **NEXT**.
    Display example: 00:Not Stored[12]
  4. Enter a **telephone number**. [13]
    To delete the current entry, press **CLEAR**. [14]
    To change the current entry, press **CLEAR** and the new number.
  5. Press **STORE**.[15]
  6. To program another speed dial number, press **NEXT** or **PREV**, or **SELECT** and the desired speed dial number.[16]
  7. Repeat steps 4 through 6. [17]
  8. Press **END**. [18]
	(1) Program address: This address is printed at the top of every page to allow you to quickly find the desired program.
	(2) Running title: tells you which group the program belongs to.
	(3) Program title.
	(4) Provides a more detailed description of the program.
	(5) Shows you choices that you can assign.
	(6) Shows you the default (factory setting).
	(7) Shows you programming procedures step by step.
	  • While programming, use the overlay.
	  • Before starting to program, enter the programming mode. (See "Entering the programming mode" on page 4-6.)
	(8) Enter the program address.
	(9) The display shows the program title. If your telephone has soft buttons, the lower line shows the functions that are currently assigned to them.
	(10) Press either **Soft 3** (NEXT) shown on the display or the **NEXT** shown on the overlay.
	(11) The message line advises you to enter a speed dial number.
	(12) If the telephone number has already been stored, the number is displayed.
	(13) Enter the telephone number that you want to store. Your entry is displayed as you enter the digits.
	(14) Pressing **CLEAR** erases the whole entry.
	(15) Your entry is now stored.
	  The indicator lights red and confirmation tone lets you know that the storage is completed.
	(16) Select the best way for you to store another speed dial number. Pressing the **NEXT / PREV** allows you to select the next higher / lower speed dial number. You can also keep pressing them until the desired one is displayed. If you press **SELECT**

4.1.4　Example of Programming

Sample of Description	Explanation
001　　　4.2　Manager Programming _System Speed Dialing Number Set (contd.)_ **Conditions** [19]　• There is a maximum of 100 speed dial numbers. Each speed dial number has a maximum of 24 digits. The valid characters are **0 through 9**, **∗ and # keys, FLASH, PAUSE. SECRET and – (hyphen) buttons.** • • • • • **Feature References** [20] Section 3, Features, 　　　　Special Features for KX-T7235 　　　　—System Speed Dialing 　　　　System Speed Dialing	and the desired speed dial number, the selected code is displayed. (17) You can continue to program another entry. (18) After you have stored all your entries, finish this program by pressing **END**. After pressing **END** you can go to any program address you desire. You can return to the Initial Message mode any time by pressing **END**. 　To go to the next lager program address, do not press **END** but press **Soft 1** (SKP+) or **VOLUME** ∨. 　To go to the next smaller program address, do not press **END** but press **SHIFT + Soft 1** (SKP-) or **VOLUME** ∧. (19) Tells you what you should notice or consider when doing the programming. (20) Lists all of the features related to the programming. These features are described in Section 3.

Programming Structure

Program Address	Programming Group	Description
[000] – [008]	Manager Programming	These programs may be accessed by the system manager of the customer to meet frequent changes requested by the customer.
[100] – [116]	System Programming	Entire system programming.
[200] – [215]	Timer Programming	Flexible system timer setting.
[300] – [333]	TRS / ARS Programming	Assignment of Toll Restriction and ARS.
[400] – [416]	CO Line Programming	Setting of CO line and CO line Group values.
[500] – [508]	COS Programming	Setting of Class of Service (COS).
[600] – [609]	Extension Programming	Setting of extension values.
[800] – [814]	Resource Programming	Assignment of customer-supplied peripherals connected to the system.
[990] – [992]	Option Programming	Used to answer the user's requirements or troubles, if needed.

NOTICE
It is assumed that you have read Section 4.1 "General Programming Instructions." The use of the soft buttons is discussed in the section, therefore we will not make any reference to them in the following instructions. At any time the soft buttons can be used in place of the overlay keys.

Description

Sets the current date and time.

Selection

- Year: **00 through 99**
- Month: **Jan. through Dec.**
- Day: **1 through 31**
- Day of the week: **SUN / MON / TUE / WED / THU / FRI / SAT**
- Hour: **1 through 12**
- Minute: **00 through 59**
- **AM / PM**

Default

- KX-TD816 – '94 Jan. 1 SAT 12:00 AM
- KX-TD1232 – '93 Jan. 1 FRI 12:00 AM

Programming

1. Enter **000**.

    ```
    Display: Day/Time Set
    ```

2. Press **NEXT**.

    ```
    Display example: '93 Jan.  1 FRI
    ```

3. Enter the **year**.

    To change the current entry, press **CLEAR** and the new year.

4. Press →.

5. Keep pressing **SELECT** until the desired month is displayed.

6. Press →.

7. Enter the **day**.

    To change the current entry, press **CLEAR** and the new day.

8. Press →.

9. Keep pressing **SELECT** until the desired day of the week is displayed.

Date and Time Set (contd.)

10. Press **STORE**.

11. Press **NEXT**.

    Display example: 12:00 AM

12. Enter the **hour**.

    To change the current entry, press **CLEAR** and the new hour.

13. Press →.

14. Enter the **minute**.

    To change the current entry, press **CLEAR** and the new minutes.

15. Press →.

16. Press **SELECT** for AM or PM.

17. Press **STORE**.

18. Press **END**.

Conditions

- After changing an entry, you can press **STORE**. You do not have to perform all of the rest of the steps.
- To go back to the previous field, press ← at steps 4 through 9 and steps 13 through 16.
- If you hear the alarm after pressing **STORE**, check that the date is valid.
- The clock starts immediately after the **STORE** button is pressed.
- You cannot leave the entry empty.

Feature References   Section 3, Features,
Display, Time and Date

Description   Used to program the System Speed Dial numbers. These numbers are available to all extension users. There are 100 numbers from 00 through 99.

Selection
- Speed dial number: **00 through 99**
- Telephone number: **24 digits (max.)**

Default   All speed dial numbers – Not stored

Programming

1.   Enter **001**.

    Display: SPD Number Set

2.   Press **NEXT**.

    Display: SPD Code?->

3.   Enter a **speed dial number**.

    To enter speed dial number 00, you can also press **NEXT**.

    Display example: 00: Not Stored

4.   Enter a **telephone number**.

    To delete the current entry, press **CLEAR**.
    To change the current entry, press **CLEAR** and the new number.

5.   Press **STORE**.

6.   To program another speed dial number, press **NEXT** or **PREV**, or **SELECT** and the desired speed dial number.

7.   Repeat steps 4 through 6.

8.   Press **END**.

Conditions
- There is a maximum of 100 speed dial numbers. Each speed dial number has a maximum of 24 digits. The valid characters are **0 through 9, * , and # keys, FLASH, PAUSE, SECRET and – (hyphen) buttons.**
    - To store the flash signal, press **FLASH.**
        Note: The stored flash will be in effect only during an established call. (Refer to Section 3 "External Feature Access.")
    - To store a hyphen, press the "–" button.

- To store a pause, press **PAUSE.**
  (Refer to Section 3 "Pause Insertion, Automatic.")
- To store the feature number to convert pulse signals to DTMF signals, press the **✳ #** keys.
  (Refer to Section 3 "Pulse to Tone Conversion.")
- To prevent the display of all or part of the number, press **SECRET** before and after confidential parts of the number. The **SECRET** button must always be entered in a pair. Or your entry is not stored. (Refer to Section 3 "Secret Dialing.")
- If you are storing an external number, include the line access code (default=9, 81 through 88) before the number. When dialing, pause is automatically inserted after the code.
- If you are storing an account code, enter the account code before the line access code.
  (Refer to Section 3 "Account Code Entry.")
- It is possible to store a number consisting of 25 digits or more by storing it in two speed dial numbers. A line access code should not be stored in the second speed dial number.
- To go to another speed dial number at steps 3 through 6, press **SELECT** and start with step 3.
- To display parts of the number which have scrolled off the display, press → or ←.
- Program [002] "System Speed Dialing Name Set" is used to give names to speed dial numbers.

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

Description	Assigns names to the system speed dial numbers assigned in program [001] "System Speed Dialing Number Set." The large display telephone (KX-T7235) shows the stored name when performing System Speed Dialing.
Selection	• Speed dial number: **00 through 99** • Name: **10 characters (max.)**
Default	All speed dial numbers – Not stored

Programming

1. Enter **002**.

   > Display: SPD Name Set

2. Press **NEXT**.

   > Display: SPD Code?->

3. Enter a **speed dial number**.

   > To enter speed dial number 00, you can also press **NEXT**.
   > Display example: 00: Not Stored

4. Enter a **name**.

   > For entering characters, see Section 4.1.3 "Entering Characters."
   > To delete the current entry, press **CLEAR**.
   > To change the current entry, press **CLEAR** and the new name

5. Press **STORE**.

6. To program another speed dial number, press **NEXT** or **PREV**, or **SELECT** and the desired **speed dial number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

• Speed dial numbers are programmed in program [001] "System Speed Dialing Number Set."
• There is a maximum of 100 names. Each name has a maximum of 10 characters.
• To go to another speed dial number at steps 3 through 6, press **SELECT** and start with step 3.

Feature References

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

4.2 Manager Programming

Extension Number Set

Description	Assigns an extension number to each extension.
Selection	• Jack number: KX-TD816; **01 through 16 (-1 / -2)** KX-TD1232; **01 through 64 (-1 / -2)** (-1 = first part, -2 = second part) • Extension Number: **2 through 4 digits**
Default	KX-TD816: Jack 01-1 through 16-1 = 101 through 116; Jack 01-2 through 16-2 = 201 through 216 KX-TD1232:Jack 01-1 through 64-1 = 101 through 164; Jack 01-2 through 64-2 = 201 through 264

Programming

1. Enter **003**.

   Display: EXT Number Set

2. Press **NEXT**.

   Display: Jack NO?->

3. Enter a **jack number**.

   To enter jack number 01, you can also press **NEXT**.

   To select the second part (-2), press **NEXT** after entering a jack number.

   Display: #01-1:EXT101

4. Enter an **extension number**.

   To change the current entry, press **CLEAR** and the new number.

5. Press **STORE**.

6. To program another jack, press **NEXT** or **PREV**, or **SELECT** and the desired **jack number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

• There is a maximum of 32 extension numbers for KX-TD816, and 128 extension numbers for KX-TD1232. Each extension number can be two, three, or four digits, consisting of **0 through 9**. The $*$ and # keys cannot be used.
• In the case of KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available.

- An extension number is invalid if the leading first or second digits disagree with the setting of the program [100] "Flexible Numbering, (01) – (16) 1st through 16th hundred extension blocks." If one digit is assigned as the leading digit, some extensions have two digits and some have three digits. If two digits are assigned, some have three digits and some have four digits.
- Two extension numbers can be assigned per jack. If XDP is disabled for the jack in program [600] "EXtra Device Port," the extension number of the second part (XX-2) is not available. (XX=jack number)
- For an explanation of jack numbering, see "Rotation of jack number" on page 4-7.
- Double entry or incompatible entry is invalid including the assignment of program [813] "Floating Number Assignment." Valid entry examples: 10 and 11; 10 and 110. Invalid entry examples: 10 and 106; 210 and 21.
- Program [004] "Extension Name Set" is used to give names to extension numbers.

Feature References

Section 3, Features,
Display, Call Information
EXtra Device Port (XDP)
Flexible Numbering
Intercom Calling
Special Features for KX-T7235 — Extension Dialing

Description	Assigns names to the extension numbers programmed in program [003] "Extension Number Set."
Selection	• Jack number: KX-TD816; **01 through 16 (-1 / -2)** KX-TD1232; **01 through 64 (-1 / -2)** (-1 = first part, -2 = second part) • Name: **10 characters (max.)**
Default	All jacks – Not stored

Programming

1. Enter **004**.

   Display: EXT Name Set

2. Press **NEXT**.

   Display: Jack NO?->

3. Enter a **jack number**.

   To enter jack number 01, you can also press **NEXT**.

   To select the second part (-2), press **NEXT** after entering a jack number.

   Display: #01-1:Not Stored

4. Enter a **name**.

   For entering characters, see Section 4.1.3 "Entering Characters."

   To delete the current entry, press **CLEAR**.

   To change the current entry, press **CLEAR** and the new name.

5. Press **STORE**.

6. To program another jack, press **NEXT** or **PREV**, or **SELECT** and the desired **jack number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

• There is a maximum of 32 names for KX-TD816, and 128 names for KX-TD1232. Each name has a maximum of 10 characters.

• Program [003] "Extension Number Set" is used to assign extension numbers.

- In the case of KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available.
- For an explanation of jack numbering, see "Rotation of jack number" on page 4-7.

Feature References   **Section 3, Features,**
Display, Call Information
Intercom Calling
Special Features for KX-T7235 — Extension Dialing

Description   Used to determine the use of the flexible CO buttons on proprietary telephones from a centralized telephone.

Selection   • Jack number: KX-TD816; **01 through 16**
                                   KX-TD1232; **01 through 64**
                 • Button Code (plus parameter, if required):

Button Code	Parameter
0 (Single-CO)	KX-TD816: **01 through 08** (CO line number) KX-TD1232:**01 through 24** (CO line number)
1 (DSS)	**2 through 4 digits** (Extension number)
2 (One-Touch)	**16 digits max.** (Telephone number)
3 (Message Waiting)	None
4 (FWD/DND)	None
5 (Save)	None
6 (Account)	None
7 (Conference)	None
8 (Voice Mail Transfer)	**2 through 4 digits** (Extension number)
✳ (Loop-CO)	None
# (Group-CO)	**1 through 8** (CO line group number)
CO (ringer frequency)	**1 through 8** (ring tone type number)

Default   • KX-TD816
                  All jacks – CO buttons 1 through 8 = Single-CO 01 through 08;
                                                       Ring tone type 2
               • KX-TD1232
                  All jacks – CO buttons 1 through 24 = Single-CO 01 through 24;
                                                       Ring tone type 2

Programming   **1.**   Enter **005**.

                            Display: Flexible Key Asn

                   2.   Press **NEXT**.

                            Display: Jack NO?->

                   3.   Enter a **jack number**.

                            To enter jack number 01, you can also press **NEXT**.

                            Display: PT-PGM Mode

4.   Press a **CO button** to be changed.

> The display shows the contents pre-assigned to the button.
>
> `Display example: CO-01`

5.   Enter a **button code** (plus **parameter**, if required).

> To change the parameter, press **CLEAR** and the new parameter.

6.   Press **STORE**.

7.   • To program another CO button of the same jack, repeat steps 4 through 6.

   • To program another jack, press **SELECT** and repeat steps 3 through 6.

8.   Press **END**.

Canceling

1.   Perform the same procedures as steps 1 through 4 above.

2.   Enter **2**.

3.   Press **STORE**.

4.   Press **END**.

Conditions

• A centralized telephone is a telephone connected to jack 01 or a jack programmed as a manager extension in program [006] "Operator / Manager Extension Assignment."
• There is a maximum of 16 proprietary telephones for KX-TD816, and 64 proprietary telephones for KX-TD1232.
• In the case of KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available. Jack numbers in the out-of-service system are unacceptable.
• The number of the CO buttons available depends on the telephone type. (Refer to Section 3 "Buttons on Proprietary Telephones.") To program 24 CO buttons, use the proprietary telephone, KX-T7230.
• If you press the same CO button again at step 5, you can select a desired ringer frequency for the CO button from eight types of ring tone. When you enter the tone type number (1 through 8), you will hear the selected tone type until **STORE** is pressed. This selection is possible only for the CO buttons that have been assigned to Single-CO, Group-CO, or Loop-CO.

Feature References   Section 3, Features,
                            Button, Flexible   Buttons on Proprietary Telephones

Operator / Manager Extension Assignment

Description	Assigns the jack number for a manager and/or operators. The manager extension can perform System Programming. Operator 1 has the ability to perform operator services.
Selection	• **OPE-1** (operator 1) / **OPE-2** (operator 2) / **MNGER** (manager) • Jack number: KX-TD816; **01 through 16** KX-TD1232; **01 through 64**
Default	Operator 1 – Jack 01; Operator 2 and Manager – Not stored

Programming

1. Enter **006**.

   Display: Operator/Manager

2. Press **NEXT** to program operator 1.

   Display: OPE-1:Jack01

   To program another item, you can also keep pressing **NEXT** or **PREV** until the desired one is displayed.

3. Enter a **jack number**.

   To delete the current entry, press **CLEAR**.

   To change the current entry, press **CLEAR** and the new jack number.

4. Press **STORE**.

5. To program another item, press **NEXT** or **PREV**.

6. Repeat steps 3 through 5.

7. Press **END**.

Conditions

- Up to two operators and a manager can be programmed.
- In the case of KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available.
- The manager cannot be assigned the jack number of the DSS Console Port set in program [007] "DSS Console Port and Paired Telephone Assignment."
- If the assigned jack is in eXtra Device Port mode, the proprietary telephone jack is treated as the manager / operator extension.
- If there is no operator or manager, press **CLEAR** at step 3.

Feature References

Section 3, Features,
Manager Extension   Operator

Description

Assigns the jack numbers for the DSS Console and the paired extension.

Selection

- DSS Console number: KX-TD816;   **1 through 4**
                       KX-TD1232; **1 through 4** (for Master),
                       5 through 8 (for Slave)
- Jack number for DSS Console:
                       KX-TD816;   **02 through 16**
                       KX-TD1232; **02 through 32** (for Master),
                       33 through 64 (for Slave)
- Jack number for paired extension:
                       KX-TD816;   **01 through 16**
                       KX-TD1232; **01 through 32** (for Master),
                       33 through 64 (for Slave)

Default

All DSS Consoles – Not stored

Programming

1.   Enter **007**.

       Display: DSS Console Asn

2.   Press **NEXT**.

       Display: DSS NO?->

3.   Enter a **DSS Console number**.

       To enter DSS Console number 1, you can also press **NEXT**.

       Display example: DSS-1:#   P:#

4.   Enter a **jack number** for the console.

       To delete the current entry, press **CLEAR**.
       To change the current entry, press **CLEAR** and the new jack number.

5.   Press →.

6.   Enter a **jack number** for the paired extension.

       To change the current entry, press **CLEAR** and the new jack number.

       Display example: DSS-1:#02 P:#03

7.   Press **STORE**.

8.   To program another DSS Console, press NEXT or **PREV**, or
     SELECT and the desired **DSS Console number**.

9.   Repeat steps 4 through 8.

10.   Press **END**.

Conditions

- The eXtra Device Port feature must be assigned "Disable" for DSS ports.
- There is a maximum of four DSS Consoles per system. System Connection permits eight DSS Consoles for KX-TD1232 . Each DSS Console must be assigned to a DSS Console jack and paired with a proprietary telephone jack in the same system.
- For KX-TD816, DSS Consoles 1 through 4 must be assigned to a jack number between 02 and 16.
- For KX-TD1232, DSS Consoles 1 through 4 must be assigned to a jack number between 02 and 32 and DSS Consoles 5 through 8 must be assigned to a jack number between 33 and 64, if available.
- DSS Consoles in the out-of-service system are unassignable. Jack numbers in the out-of-service system are unacceptable.
- The jack number for the Console and that for the paired extension must be entered together.
- Multiple DSS Consoles cannot be assigned to the same DSS Console jack.
- Multiple DSS Consoles can be paired with the same proprietary telephone jack.
- A DSS Console jack cannot be assigned the jack 01 and the jack number of Manager set in program [006] "Operator / Manager Extension Assignment."
- If all incoming CO calls are set to ring at the operator extension telephone in program [407]–[408] "DIL 1:1 Extension — Day / Night," assigning the DSS Consoles to the operator extension makes the operator's job much easier.

Feature References

Section 3, Features,
DSS Console (KX-T7240 / KX-T7040)

Description

Used to program the absent messages. An absent message, if set by the station user, is displayed on the calling extension's telephone to show the reason for the user's absence.

Selection

- Message number: **1 through 9**
- Message: **16 characters (max.)**

Default

1: Will Return Soon   5: Out Until %%/%%
2: Gone Home   6: In a Meeting
3: At Ext %%%   7 through 9: Blank (not stored)
4: Back at %%:%%

Programming

1. Enter **008**.
    Display: Message Asn

2. Press **NEXT**.
    Display: MSG NO?->

3. Enter a **message number**.
    To enter message number 1, you can also press **NEXT**.
    Display example: MSG1:Will Return

4. Enter the **message**.
    For entering characters, see Section 4.1.3 "Entering Characters."
    To delete the current entry, press **CLEAR**.
    To change the current entry, press **CLEAR** and the new message.

5. Press **STORE**.

6. To program another message, press **NEXT** or **PREV**, or **SELECT** and the desired **message number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

- There is a maximum of nine messages. Messages 1 through 6 are programmed at the factory but can be changed. Each message has a maximum of 16 characters.
- You can enter a maximum of seven "%" characters per message which can be programmed at each user's station. The station user can enter **0 through 9**, * and # for the % characters. If the user enters digits less than the number of "%" characters, it is recommended to fill the remaining "%" characters with "#" or " * ."
- If there are 4-digit extension numbers available in your system, add one "%" to Message 3.
- To display parts of the message which have scrolled off the display, press → or ←.

Feature References

Section 3, Features,
Absent Message Capability

Description	Assigns the leading digits of extension numbers and feature numbers for system features.
Selection	• Selection number: **01 through 53** (See "Feature Number List" on page 4-31 for the corresponding features.) • Feature number: **1 or 2 digits** (for selection numbers 01 through 16); **1 through 3 digits** (for selection numbers 17 through 53)
Default	See "Feature Number List" on page 4-31.

Programming

1. Enter **100**.

    Display: FLX Numbering

2. Press **NEXT**.

    Display: Select NO?->

3. Enter a **selection number**.

    To enter selection number 01, you can also press **NEXT**.

    Display example: 01. 1-EXT BL:1

4. Enter the **feature number**.

    To delete the feature number, press **CLEAR**.
    To change the current entry, press **CLEAR** and the new number.

5. Press **STORE**.

6. To program another selection, press **NEXT** or **PREV**, or **SELECT** and the desired **selection number**.

7. Repeat steps 4 through 6.

8. Press **END**.

To remove all the feature numbers except selection numbers (01) through (16) 1st through 16th extension blocks;

1. Enter **100**.

2. Press **NEXT**.

3. Enter **00**.

    ```
    Display: All Feature CLR?
    ```

4. Press **STORE**.

5. Press **END**.

Conditions

- There is a maximum of 16 extension blocks, and 36 feature numbers for KX-TD816 and 37 feature numbers for KX-TD1232.
- Each extension block has one or two digits, consisting of **0 through 9**. Assign the leading digits for extension numbers of the respective blocks.
- Assignment of extension blocks defines the limits for programs [003] "Extension Number Set" and [813] "Floating Number Assignment."
- Each feature number has one through three digits, consisting of **0 through 9**, *****, and **#**.
- If ***** or # is included in a feature number, dial pulse telephone users cannot access the feature.
- Double entry and incompatible combinations are invalid. Valid entry example: 30 and 31, 210 and 211. Invalid entry example: 5 and 5, 30 and 301.
- If you delete a feature number, the feature cannot be used by dialing operation.
- You can remove all the feature numbers except selections (01) through (16).
- To clear an extension block (01) through (16), it is required to change the corresponding numbers assigned in program [003] "Extension Number Set" and program [813] "Floating Number Assignment."

Feature References

Section 3, Features,
Flexible Numbering

Feature Number List

Number	Feature	Default
01	1st hundred extension block	1
02	2nd hundred extension block	2
03 - 16	3rd through 16th hundred extension block	None
17	Operator call	0
18	Automatic line access / ARS	9
19	CO line group line access	8
20	System speed dialing	*
21	Station speed dialing	3*
22	Station speed dialing programming	30
23	Doorphone call	31
24	Paging – external	32
25	Paging – external answer / TAFAS answer	42
26	Paging – group	33
27	Paging – group answer	43
28	Call pickup, CO line	4*
29	Call pickup, group	40
30	Call pickup, directed	41
31	Call hold	50
32	Call hold retrieve – intercom	51
33	Call hold retrieve – CO line	53
34	Last number redial	#
35	Call park / call park retrieve	52
36	Account code entry	49
37	Door opener	55
38	External feature access	6
39	Station feature clear	790
40	Message waiting set / cancel / callback	70
41*	Outgoing message recording / playing	36
42	Call forwarding / do not disturb set / cancel	710
43	Call pickup deny set / cancel	720
44	Data line security set / cancel	730
45	Call waiting set / cancel	731
46	Executive busy override deny set / cancel	733
47	Pickup dialing program set / cancel	74
48	Absent message set / cancel	750
49	Timed reminder set / cancel / confirm	76
50	Electronic station lockout set / cancel	77
51	Night service mode set / cancel	78
52	Parallel telephone mode set / cancel	39
53	Background music – external on / off	35

Description	This program is used to determine if night mode is automatic or manual.
Selection	**Manual / Auto** (automatic)
Default	Manual

Programming

1. Enter **101**.

    Display: Day/Night Mode

2. Press **NEXT**.

    Display example: D/N Mode:Manual

3. Keep pressing **SELECT** until the desired selection is displayed.

4. Press **STORE**.

5. Press **END**.

Conditions

- If automatic switching is assigned, day / night mode is switched at the time programed in [102] "Day / Night Service Starting Time."
- If manual switching is assigned, operator 1 can switch the day / night mode at any time.

Feature References   Section 3, Features,
Night Service

Description	Sets the starting time on a day of the week basis, when automatic day / night switching is programmed in program [101] "Day / Night Service Switching Mode."
Selection	• Day of the week selection number: 1 (Sunday) / 2 (Monday) / 3 (Tuesday) / 4 (Wednesday) / 5 (Thursday) / 6 (Friday) / 7 (Saturday) / * (every day of the week) • Hour: **1 through 12 / Disable** (no switching) • Minute: **0 through 59** • **AM / PM**
Default	Every day of the week – Day – 9:00 AM / Night – 5:00 PM

Programming

1. Enter 102.

    Display: Day/Night Time

2. Press NEXT.

    Display: Day of Week?->

3. Enter the **day of the week selection number**.

    To select Sunday, you can also press NEXT.

    Display example: Sun-Day: 9:00 AM

    To select night mode, press NEXT.

    Display example: Sun-Nig: 5:00 PM

4. Enter the **hour**.

    To set no switching, keep pressing SELECT until "Disable" is displayed and go to step 9.

    If SELECT is pressed, the display shows the previous entry. If the previous setting was "Disable," press SELECT to enter the starting time.

    To change the current entry, press CLEAR and the new time.

5. Press →.

6. Enter the **minute**.

    To change the current entry, press CLEAR and the new minutes.

7. Press →.

8.   Press **SELECT** for AM or PM.

9.   Press **STORE**.

10. To program another day / night mode or day of the week, press **NEXT** or **PREV**, or **SELECT** and the **day of the week selection number**.

11. Repeat steps 4 through 10.

12. Press **END**.

Conditions

• To select the desired day, you may keep pressing **NEXT** at step 3. To assign every day of the week to one selection, press the ✳ key at step 3. In this case, the display shows the contents programmed for Sunday.
• If day / night switching is unwanted, select "Disable " at step 4.
• You cannot leave the entry empty.

Feature References   Section 3, Features,
Night Service

Automatic Access CO Line Group Assignment

Description

Assigns the sequence in which CO line groups will be accessed when in Automatic Line Access mode. When a user dials the feature number for automatic line access (default=9) or presses the L-CO button, an idle line is hunted in the programmed CO line group order.

Selection

CO line group number: **1 through 8,**
eight entries (max.) in desired order

Default

12345678

Programming

1. Enter **103**.

   ```
   Display: Local Access
   ```

2. Press **NEXT**.

   ```
   Display example: Access:12345678
   ```

3. Enter the **CO line group numbers** in priority from top to bottom.

   To delete the current entry, press **CLEAR**.
   To change the current entry, press **CLEAR** and the new order.

4. Press **STORE**.

5. Press **END**.

Conditions

- There is a maximum of eight CO line groups. Up to eight CO line group numbers can be entered.
- Automatic Line Access feature works only if Automatic Route Selection mode is turned off in program [312] "ARS Mode."

Feature References

Section 3, Features,
Line Access, Automatic   Line Preference – Outgoing
Line Access, Direct

Description

Assigns the account codes for Account Code Entry, Verified – All Calls and Verified – Toll Restriction Override modes. If Verified – All Calls is assigned in program [508] "Account Code Entry Mode," an account code is required to make a CO call. If Verified – Toll Restriction Override is assigned, an account code is only required for a toll call and overrides toll restriction.

Selection

• Location number: **01 through 20**
• Account code: **10 digits (max.)**

Default

All locations – Not stored

Programming

1.   Enter **105**.

   Display: Account Code

2.   Press **NEXT**.

   Display: Location NO?->

3.   Enter a **location number**.

   To enter location number 01, you can also press **NEXT**.

   Display example: 01:Not Stored

4.   Enter an **account code**.

   To delete the current entry, press **CLEAR**.
   To change the current entry, press **CLEAR** and the new account code.

5.   Press **STORE**.

6.   To program another location, press **NEXT** or **PREV**, or **SELECT** and the desired **location number**.

7.   Repeat steps 4 through 6.

8.   Press **END**.

Conditions

• There is a maximum of 20 verifiable account codes. Each code has a maximum of 10 digits, consisting of **0 through 9**.
• Program [508] "Account Code Entry Mode" is used to select the Account Code Entry mode.
• Account codes having "99" in any part or ending with "9" are invalid, as "99" is used as a delimiter when entering an account code.

Feature References

Section 3, Features,
Account Code Entry
Toll Restriction Override by Account Code Entry

Station Hunting Type

Description

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

Selection

• Extension group number: **1 through 8, ✱** (✱ =all extension
groups)
• **Disable** (no hunting) / **Terminate** (termination) / **Circular** / **VM** (voice mail) / **AA** (automated attendant)

Default

All extension groups – Disable

Programming

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

Conditions

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

Feature References

Section 3, Features,
Station Hunting   Voice Mail Integration

Description   Assigns the password required for entering System Programming mode and for maintenance from a personal computer.

Selection   Password: **4 through 7 digits**

Default   1234

Programming
1.   Enter **107**.

   Display: System Password

2.   Press **NEXT**.

   Display: Password:1234

3.   Enter a **password**.

   To change the current entry, press **CLEAR** and the new password.

4.   Press **STORE**.

5.   Press **END**.

Conditions
- The password can be from four to seven digits long. The valid numbers are from **0 through 9**.
- If less than four digits are entered, they are not stored.
- You cannot leave the entry empty.

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

One-Touch Transfer by DSS Button

Description
Enables or disables the function of automatically holding the CO call when a DSS button on the DSS Console or proprietary telephone is pressed.

Selection
Enable / Disable

Default
Enable

Programming

1. Enter **108**.

   Display: DSS Auto Hold

2. Press **NEXT**.

   Display example: Auto HLD:Enable

3. Keep pressing **SELECT** until the desired selection is displayed.

4. Press **STORE**.

5. Press **END**.

Conditions
This assignment applies to all DSS buttons on all DSS Consoles and on all proprietary telephones in the system.

Feature References
Section 3, Features,
One-Touch Transfer by DSS Button

Description
    Assigns the type of expansion units to be used in the system.
This allows the system to identify the unit in each expansion unit
location.

Selection
    KX-TD816
- Areas 1; 2 = **C1;E1 / E1;C1**
        (C1: 4-CO Line Unit, E1: 8-Station Line Unit)

KX-TD1232
- **Master / Slave**
- Areas 1; 2; 3 = **C1;E1;E2 / C1;E2;E1/ E1;E2;C1 / E1;C1;E2 /
  E2;E1;C1 / E2;C1;E1**
        (C1: 4-CO Line Unit, E1: 8-Station Line Unit 1, E2:
  8-Station Line Unit 2)

Default
    KX-TD816: C1;E1
KX-TD1232: Master and Slave – C1;E1;E2

Programming
    KX-TD816
1. Enter **109**.
      Display: `Expansion Card`

2. Press **NEXT**.
      Display example: `C1;E1`

3. Keep pressing **SELECT** until the desired selection is
   displayed.

4. Press **STORE**.

5. Press **END**.

    KX-TD1232
1. Enter **109**.
      Display: `Expansion Card`

2. Press **NEXT** to program Master System.
   To program "Slave," press **NEXT** again.
      Display example: `Master:C1;E1;E2`

3. Keep pressing **SELECT** until the desired selection is
   displayed.

4. Press **STORE**.
   If only one system is in operation, go to step 8.

5. Press **NEXT** to program Slave System.
      Display example: `Slave :C1;E1;E2`

6. Keep pressing **SELECT** until the desired selection is displayed.

7. Press **STORE**.

8. Press **END**.

Conditions

• There are two expansion areas in KX-TD816, areas 1 and 2 from bottom to top. One 8-Station Line Unit and one 4-CO Line Unit can be installed.
• There are three expansion areas in each system for KX-TD1232, areas 1, 2 and 3 from bottom to top. Up to two 8-Station Line Units and one 4-CO Line Unit can be installed in each system.
• The out-of-service system is unassignable. In this case, skip the steps 5 through 7 for KX-TD1232.
• In the case of KX-TD1232, if the Slave System only is in operation, the display shows "Slave" at step 2.
• After changing the setting, to make your setting effective, turn the Power Switch off and on once. Otherwise the previous setting will be maintained.

Feature References

Section 3, Features,
Module Expansion

Description

Sets the identification code of the calling party (Caller ID Code) to utilize Caller ID Service provided by a specific central office (CO). If an ID Code transmitted from CO is found in Caller ID Code Table, the caller's ID Code or a name given to the code in program [111] "Caller ID Name Set" is displayed on the telephone, allowing the called party to recognize the caller.

Selection

- Location number: **001 through 250**
- Caller ID Code: **11 digits (max.)**

Default

All locations – Not stored

Programming

1.   Enter **110**.

     Display: Caller ID Code

2.   Press **NEXT**.

     Display: Location NO?->

3.   Enter a **location number**.

     To enter location number 001, you can also press **NEXT**.

     Display example: 001:Not Stored

4.   Enter a **Caller ID Code**.

     To delete the current entry, press **CLEAR**.

     To change the current entry, press **CLEAR** and the new code.

5.   Press **STORE**.

6.   To program another location, press **NEXT** or **PREV**, or **SELECT** and the desired **location number**.

7.   Repeat steps 4 through 6.

8.   Press **END**.

Conditions

- There is a maximum of 250 Caller ID Codes. Each code has a maximum of 11 digits, consisting of **0 through 9**.
- Program [111] "Caller ID Name Set" is used to give names to Caller ID Codes. If an ID Code is given a name, the called party's telephone shows the name in place of the ID Code.
- Program [406] "Caller ID Assignment" is used to enable Caller ID Service on a CO line basis.

Feature References

Section 3, Features,
Caller ID

4.3   System Programming

Caller ID Name Set

Description

With Caller ID Service, the calling party is displayed either by its ID Code or by its name. If the name display is required, use this program to give a name to a caller ID Code stored in program [110] "Caller ID Code Set."

Selection

- Location number: **001 through 250**
- Caller ID Name: **15 characters (max.)**

Default

All locations – Not stored

Programming

1. Enter **111**.

   Display: Caller ID Name

2. Press **NEXT**.

   Display: Location NO?->

3. Enter a **location number**.

   To enter location number 001, you can also press **NEXT**.
   Display example: 001:Not Stored

4. Enter a **Caller ID Name**.

   For entering characters, see Section 4.1.3 "Entering Characters."
   To delete the current entry, press **CLEAR**.
   To change the current entry, press **CLEAR** and the new name.

5. Press **STORE**.

6. To program another location, press **NEXT** or **PREV**, or **SELECT** and the desired **location number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

- There is a maximum of 250 Caller ID Names, which corresponds to a maximum of 250 Caller ID Codes stored in program [110] "Caller ID Code Set. "
- Each name has a maximum of 15 characters.

Feature References

Section 3, Features,
Caller ID

Description

Sets the DTMF signals transmitted to your Voice Processing System (VPS) to inform the VPS of the VPS ports states quickly: The following signals are sent to the VPS with the assigned DTMF signals:

RBT (ringback tone) : This signal is sent when calling an extension.

BT (busy tone) : This is sent when the called extension is busy.

ROT (reorder tone) : This is sent when the dialed number is invalid.

DND (DND tone) : This is sent when the other extension has DND assigned.

Answer : This is sent when the other extension answers the call.

Disconnect : This is sent when the other extension hangs up.

Confirm (confirmation tone) :
This is sent when the feature number for "Message Waiting Lamp" is valid.

FWD VM RBT (FWD to VM ringback tone) :
Not available (reserved).

FWD VM BT (FWD to VM busy tone) :
This is sent when the called extension has set Call Forwarding to VPS.

FWD EXT RBT (FWD to extension ringback tone) :
Not available (reserved).

Selection

• **RBT / BT / ROT / DND / Answer / Disconnect / Confirm / FWD VM RBT / FWD VM BT / FWD EXT RBT**
• DTMF signal number: **3 digits (max.)**

Default

RBT – 1; BT – 2; ROT – 3; DND – 4; Answer – 5; Disconnect – #9 Confirm – 9; FWD VM RBT – 6; FWD VM BT – 7; FWD EXT RBT – 8

Programming

1. Enter **113**.

    ```
    Display: VM Status Set
    ```

2. Press **NEXT** to program ringback tone status.

    To program another status, keep pressing **NEXT** until the desired status is displayed.

    ```
    Display example: RBT        :1
    ```

4.3   System Programming   *113*

VM Status DTMF Set (contd.)

3.   Enter a **DTMF signal number**.

      To delete the current entry, press **CLEAR**.
      To change the current entry, press **CLEAR** and the new number.

4.   Press **STORE**.

5.   To program another selection, keep pressing **NEXT** or **PREV** until the desired selection is displayed.

6.   Repeat steps 3 through 5.

7.   Press **END**.

Conditions

- A DTMF signal number can have a maximum of three digits, consisting of **0 through 9**, ∗, # and **PAUSE**.
- The DTMF signals are sent to the extensions in the extension group that is assigned as "VM" or "AA" in program [106] "Station Hunting Type."

Feature References

Section 3, Features,
Voice Mail Integration

Description

Sets the DTMF command signals transmitted to your Voice Processing System (VPS). There are four commands available: Leave Message; Get Message; Automated Attendant Service; Voice Mail Service. These commands are used in the following ways:

(A) If your VPS is used for Voice Mail (VM) Service

(1) Call Forwarding / Intercept Routing to Voice Mail

If a call is forwarded to the VPS, your system will send a mailbox number to the VM port. This allows the caller to leave a message without knowing the mailbox number.

- Required entries (selections):

  LV-MSG (Leave Message): This command is transmitted to a VM port if a call is forwarded or intercepted and rerouted to the port.

  AA-SVC (Automated Attendant Service): If AA Service is set to "Start" in program [990], field (10), the "AA-SVC" command is sent to a VM port if an incoming CO call is answered by the VM port.

- Other programming required (program addresses): [106]; [602]; [609]; [990], field (10); [990], field (18)

(2) Hearing the message at the extension

If the VPS receives a message and lights the MESSAGE button indicator of the concerned telephone, the telephone user can hear the message by pressing the MESSAGE button.

- Required entries (selections):

  GETMSG (Get Message): This command is transmitted to a VM port when the message receiver presses the MESSAGE button.

  VM-SVC (Voice Mail Service): The "VM-SVC" command is a code transmitted preceding the "GETMSG" command above. This is effective to switch to VM port when an AA port lights the MESSAGE indicator.

- Other programming required (program addresses): [609]; [990], field (18)

(B) If your VPS is used for Automated Attendant (AA) Service

An AA port answers an incoming CO call to provide AA services, such as call transfer, receiving a message.

- Required entries (selections):

  VM-SVC (Voice Mail Service): The "VM-SVC" command is a code transmitted before "LV-MSG" code if Operator transfers a call to an extension and then it is forwarded to an AA port so that the AA port can be switched to VM port temporarily.

- Other programming required (program addresses): [106], [602]

VM Command DTMF Set (contd.)

Selection
- **LV-MSG / GETMSG / AA-SVC / VM-SVC**
- DTMF signal number: **16 digits (max.)**

Default

LV-MSG – H; GETMSG – *H; AA-SVC – #8 ; VM-SVC – #6

Programming

1.   Enter **114**.

    Display: VM Command Set

2.   Press **NEXT** to program the LV-MSG command.

    To program another command, keep pressing **NEXT** until the desired command is displayed.

    Display example: LV-MSG:H

3.   Enter a **DTMF signal number**.

    To delete the current entry, press **CLEAR**.

    To change the current entry, press **CLEAR** and the new number.

4.   Press **STORE**.

5.   To program another selection, keep pressing **NEXT** or **PREV** until the desired selection is displayed.

6.   Repeat steps 3 through 5.

7.   Press **END**.

Conditions
- A command signal number can have a maximum of 16 digits, consisting of **0 through 9, *, #, FLASH** and **PAUSE**.
- The **FLASH** button is available only for LV-MSG and GETMSG commands to store "H" which means "Home Position."
- If "H" is stored for "LV-MSG," a mailbox number programmed in program [609] "Voice Mail Access Codes" or an extension number will be sent to the VM port (Follow On ID function). If certain codes are required before and after the ID code, insert "H" between the codes, as "aaaHbbb." If nothing is stored, it will operate as "H."
- If "*H" is stored for "GETMSG," a mailbox number programmed in program [609] "Voice Mail Access Codes" or an extension number will be sent to the port succeeding the "*."

Feature References

Section 3, Features,
Voice Mail Integration

Description

Used to adjust the time for checking normality of system data. Every day at the programmed time, the data adjustment is performed.

Selection

• Hour: **1 through 12**
• Minute: **00 through 59**
• **AM / PM**

Default

1:00 AM

Programming

1. Enter **115**.

    Display: Adjust Time

2. Press **NEXT** to program hour.

    Display example: 1:00 AM

3. Enter the **hour**.

    To change the current entry, press **CLEAR** and the new hour.

4. Press → to program minute.

5. Enter the **Minute**.

    To change the current entry, enter the new minute.

6. Press → to program AM / PM.

7. Press **SELECT** for AM or PM.

8. Press **STORE**.

9. Press **END**.

Conditions

You cannot leave the entry empty.

Feature References

None

ROM Version Display

Description

Confirms the version of the ROM of the system.

Display example: <u>P011A</u><u>30101A</u>

          Version Date

Selection

System Number: **KX-TD816; 0**

                    KX-TD1232; 0 (Master) / **1** (Slave)

Default

Not applicable.

Programming

1. Enter **116**.

   Display: ROM Version

2. Press **NEXT**.

   Display: System NO?->

3. Enter the **System Number**.

   The display shows the ROM version of the specified system.

4. To confirm the other system, press **SELECT** and enter the **System Number**.

   The display shows the ROM version of the specified system.

5. Press **END**.

Conditions

- The out-of-service system number is unacceptable.
- For KX-TD816, you can enter the system number 0 only. Skip step 4.

Feature References

None

4.4   Timer Programming

Hold Recall Time

Description   Assigns the length of the hold recall timer. This timer is used to alert an extension that a call has been held for an extended period of time.

Selection   Time (seconds): **0 through 240** (0=Hold Recall disabled)

Default   60 s

Programming
1.   Enter **200**.

        Display: Hold Recall Time

2.   Press **NEXT**.

        Display example: Time: 60 sec

3.   Enter the **time**.

        To change the current entry, press **CLEAR** and the new time.

4.   Press **STORE**.

5.   Press **END**.

Conditions
- Select "0" if Hold Recall is not required.
- You cannot leave the entry empty.

Feature References   Section 3, Features,
Hold Recall

Description	Sets the number of rings before the transfer recall occurs. If a transferred call is not answered before the programmed number of rings, the call returns to the original caller.
Selection	Number of rings: **3 through 48**
Default	12 rings

Programming

1. Enter **201**.

   > Display: Transfer Recall

2. Press **NEXT**.

   > Display example: Time:12 rings

3. Enter the **number of rings**.

   To change the current entry, press **CLEAR** and the new number of rings.

4. Press **STORE**.

5. Press **END**.

Conditions

- One ring is equivalent to five seconds.
- You cannot leave the entry empty.

Feature References

Section 3, Features,
Call Transfer, Unscreened – to Extension

4.4   Timer Programming

Call Forwarding – No Answer Time

Description	Sets the number of rings for the Call Forwarding – No Answer feature. If a call is not answered before the programmed number of rings, the call is forwarded to the destination.
Selection	Number of rings: **1 through 12**
Default	3 rings

Programming

1.   Enter **202**.

> Display: No Answer Time

2.   Press **NEXT**.

> Display example: Time: 3 rings

3.   Enter the **number of rings**.

> To change the current entry, press **CLEAR** and the new number of rings.

4.   Press **STORE**.

5.   Press **END**.

Conditions

- One ring is equivalent to five seconds.
- This timer is also used for Intercept Routing. If an incoming DISA* call to the Intercept Routing destination is not answered before this timer expires, the call will be disconnected.
- You cannot leave the entry empty.

Feature References

Section 3, Features,
Call Forwarding – Busy / No Answer
Call Forwarding – No Answer

Description	Sets the number of rings for the Intercept Routing – No Answer (IRNA) feature. If a call is not answered before the programmed number of rings, the call is redirected to the programmed station.
Selection	Number of rings: **3 through 48**
Default	12 rings

Programming

1. Enter **203**.

   Display: Intercept Time

2. Press **NEXT**.

   Display example: Time: 12 rings

3. Enter the **number of rings**.

   To change the current entry, press **CLEAR** and the new number of rings.

4. Press **STORE**.

5. Press **END**.

Conditions

- One ring is equivalent to five seconds.
- Programs [409]–[410] "Intercept Extension — Day / Night" are used to program the destination of Intercept Routing on a CO line group basis in day and night modes.
- If the original extension has set Call Forwarding – No Answer, Intercept Timer starts after the Call Forwarding.
- You cannot leave the entry empty.

Feature References   **Section 3, Features,**
Intercept Routing

Description	Sets the number of seconds for Pickup Dialing. If the telephone user lifts the handset, the programmed party is called when the time expires.
Selection	Time (seconds): **1 through 5**
Default	1 s

Programming

1. Enter **204**.

    ```
    Display: Pickup Dial Time
    ```

2. Press **NEXT**.

    ```
    Display example: Time:1      sec
    ```

3. Enter the **time**.

    To change the current entry, enter the new time.

4. Press **STORE**.

5. Press **END**.

Conditions

This time gives the user an opportunity to dial digits before the automatic dialing process takes place.

Feature References

Section 3, Features,
Pickup Dialing

Extension-to-CO Line Call Duration Time

Description

Sets the maximum time allowed for a conversation with an outside party. If a CO call is originated or answered by a programmed extension user and the timer expires, the call is disconnected.

Selection

Time (minutes): **1 through 64**

Default

10 min

Programming

1.   Enter **205**.

> Display: CO Dur. Time

2.   Press **NEXT**.

> Display example: Time:10 min

3.   Enter the **time**.

> To change the current entry, press **CLEAR** and the new time.

4.   Press **STORE**.

5.   Press **END**.

Conditions

• This time-out applies to extensions to which Limited Call Duration is assigned by program [502] "Extension-to-CO Line Call Duration Limit."
• This time cannot be set to zero or be left empty.

Feature References

Section 3, Features,
Limited Call Duration

4.4 Timer Programming

CO-to-CO Call Duration Time

Description

Sets the maximum time allowed for a conversation between two outside parties. When the timer expires, the CO-to-CO call is disconnected.

Selection

Time (minutes): **1 through 64**

Default

10 min

Programming

1. Enter **206**.

   Display: CO-CO Dur. Time

2. Press **NEXT**.

   Display example: Time:10 min

3. Enter the **time**.

   To change the current entry, press **CLEAR** and the new time.

4. Press **STORE**.

5. Press **END**.

Conditions

You cannot leave the entry empty.

Feature References

Section 3, Features,
Call Forwarding – to CO Line
Call Transfer, Screened – to CO Line
Conference, Unattended
*Direct Inward System Access (DISA)

4.4 Timer Programming

First Digit Time

Description

Sets the maximum time allowed between the start of CO dial tone and the first digit dialed on an outgoing CO call. If an extension user fails to dial any digits during this time, the DTMF receiver is released.

Selection

Time (seconds): **5 through 120**

Default

10 s

Programming

1. Enter **207**.

   Display: 1st Digit Time

2. Press **NEXT**.

   Display example: Time: 10 sec

3. Enter the **time**.

   To change the current entry, press **CLEAR** and the new time.

4. Press **STORE**.

5. Press **END**.

Conditions

- This timer is used for toll restriction checking.
- You cannot leave the entry empty.

Feature References

Section 3, Features,
Toll Restriction

Description

Assigns the maximum time allowed between digits on an outgoing toll call. If an extension user fails to dial any digits during this time, the DTMF receiver is released. This timer applies until the Toll Restriction check is completed.

Selection

Time (seconds): **5 through 30**

Default

10 s

Programming

1. Enter **208**.

   Display: Inter Digit Time

2. Press **NEXT**.

   Display example: Time:10 sec

3. Enter the **time**.

   To change the current entry, press **CLEAR** and the new time.

4. Press **STORE**.

5. Press **END**.

Conditions

• This timer is used for toll restriction checking.
• You cannot leave the entry empty.

Feature References

Section 3, Features,
Toll Restriction

4.4 Timer Programming 209

Automatic Redial Repeat Times

| **Description** | Sets the number of times Automatic Redial is tried. Automatic redialing of the last dialed or saved number is done up to the specified number of times. |

Selection

Number of times: **1 through 30**

Default

15 times

Programming

1. Enter **209**.

   Display: Redial Times

2. Press **NEXT**.

   Display example: Attempt:15

3. Enter the **number of times**.

   To change the current entry, press **CLEAR** and the new number of times.

4. Press **STORE**.

5. Press **END**.

Conditions

- Program [210] "Automatic Redial Interval Time" is used to set the interval time between Automatic Redial attempts.
- You cannot leave the entry empty.

Feature References

Section 3, Features,
Redial, Automatic

Description	Sets the interval time between Automatic Redial attempts.
Selection	Time (seconds): **3 through 120** (×10 is the actual time)
Default	40 s

Programming

1. Enter **210**.

   Display: Interval Time

2. Press **NEXT**.

   Display example: Time: 40 sec

3. Enter the **time**.

   To change the current entry, press **CLEAR** and the new time.

4. Press **STORE**.

5. Press **END**.

Conditions

- You enter a number from 3 through 120. The actual time is 10 times your input.
- Program [209] "Automatic Redial Repeat Times" is used to set the number of times Automatic Redial is tried.
- You cannot leave the entry empty.

Feature References   Section 3, Features,
Redial, Automatic

Description	Sets the number of milliseconds the system waits before dialing after a CO line is seized.
Selection	Time (milliseconds): **0 through 40** ($\times$100 is the actual time)
Default	0 ms

Programming	1. Enter **211**.
	
	         Display: CO Dial Start
	
	2. Press **NEXT**.
	
	         Display example: Time: 000 msec
	
	3. Enter the **time**.
	
	         To change the current entry, press **CLEAR** and the new time.
	
	4. Press **STORE**.
	
	5. Press **END**.

Conditions	• You enter a number from **0 through 40**. The actual time is a 100 times your input. • You cannot leave the entry empty.
Feature References	**Section 3, Features,** Line Access, Automatic Line Access, CO Line Group Line Access, Direct Line Access, Individual

Description	Sets the number of seconds the system waits between the end of dialing and the start of the SMDR timer for outgoing toll calls. When the system has sent out all the digits to the central office and this timer expires, the system starts counting the call. A display telephone shows the elapsed time of the call. The starting time and the total duration of a call are recorded in the SMDR record.
Selection	Time (seconds): **0 through 60**
Default	0 s

Programming	1. Enter **212**.
	
	    Display: SMDR Durat Time
	
	2. Press **NEXT**.
	
	    Display example: Time: 0 sec
	
	3. Enter the **time**.
	
	    To change the current entry, press **CLEAR** and the new time.
	
	4. Press **STORE**.
	
	5. Press **END**.

Conditions	• The timer starts counting after all the digits are dialed. This timer is not applied to incoming calls. The timer for incoming calls starts immediately. • You cannot leave the entry empty.
Feature References	Section 3, Features, Display, Call Information Station Message Detail Recording (SMDR)

*DISA Delayed Answer Time**

Description	Assigns the number of rings between a call received and the answer by the DISA feature.
Selection	Number of rings: **0 through 6**
Default	1 ring

Programming

1. Enter **213**.

   Display: DISA Delayed Ans

2. Press **NEXT**.

   Display example: Time:1 rings

3. Enter the **number of rings**.

   To change the current entry, enter the new number of rings.

4. Press **STORE**.

5. Press **END**.

Conditions

- One ring is equivalent to five seconds.
- You cannot leave the entry empty.

Feature References

Section 3, Features,
Direct Inward System Access (DISA)

Description	Sets the maximum allowable prolonged time for a DISA CO-to-CO call. A CO-to-CO call is initially limited by the "CO-to-CO Call Duration Time" (Program [206]). However, the DISA caller can prolong the call after hearing the warning tones by pressing any key (except the ✱ key). This parameter, the "DISA Prolong Time," sets the duration of these extended periods.
Selection	Time (minutes): **0 through 7** (0=no prolonging)
Default	3 min

Programming

1. Enter **214**.

   Display: DISA Prolng Time

2. Press **NEXT**.

   Display example: Time:3 min

3. Enter the **time**.

   To change the current entry, enter the new time.

4. Press **STORE**.

5. Press **END**.

Conditions

- Do not confuse this parameter with the "CO-to-CO Call Duration Time" (Program [206]) parameter.
- Program [206] "CO-to-CO Call Duration Time" is used to set the duration time allowed for a CO-to-CO call.
- You cannot leave the entry empty.

Feature References   Section 3, Features,
Direct Inward System Access (DISA)

Outgoing Message Time*

Description	Sets the maximum allowable recording time for outgoing messages (OGM).
Selection	Time (seconds): **0 / 16 / 32 / 64** (0=no recording)
Default	32, 0, 32, 0 (for OGM 1 through 4 from left to right)

Programming

1. Enter **215**.

   Display: OGM Time

2. Press **NEXT** to program the time for OGM 1.

   Display example: OGM:32, 0,32, 0

3. Keep pressing **SELECT** until the desired selection is displayed.

4. Press → to program the time for OGM 2.

5. Keep pressing **SELECT** until the desired selection is displayed.

6. Repeat steps 4 and 5 to program the time for OGM's 3 and 4.

7. Press **STORE**.

8. Press **END**.

Conditions

- There are three messages available:
  OGM 1: used for DISA message 1
  OGM 2: used for DISA message 2
  OGM 3: used for Timed Reminder
  (OGM 4: reserved; select "0" for OGM 4)
- Enter the times starting from the left for OGM 1 to OGM 4.
- The total time of the outgoing messages cannot exceed 64 seconds.

Feature References

Section 3, Features,
Direct Inward System Access (DISA)   Timed Reminder
Outgoing Message (OGM)

Description	Allows you to enable toll restriction override for System Speed Dial Numbers. If this is enabled, all extension users can make System Speed Dialing calls with no restriction.
Selection	**Enable / Disable**
Default	Disable

Programming

1. Enter **300**.

   Display: SPD Override

2. Press **NEXT**.

   Display example: Override:Disable

3. Keep pressing **SELECT** until the desired selection is displayed.

4. Press **STORE**.

5. Press **END**.

Conditions

Select "Enable" for toll restriction override; Select "Disable" for toll restriction.

Feature References

Section 3, Features,
Toll Restriction Override for System Speed Dialing

4.5 TRS / ARS Programming *301-305*

TRS Denied Code Entry for Levels 2 through 6

Description

These allow you to specify the numbers which are toll-restricted for each toll restriction level as follows:

Program [301]: restricts levels 2 through 6
Program [302]: restricts levels 3 through 6
Program [303]: restricts levels 4 through 6
Program [304]: restricts levels 5 through 6
Program [305]: restricts level 6

Selection

- Location number: **01 through 20**
- Toll call number: **10 digits (max.)**

Default

All locations – Not stored

Programming

1. Enter a program address (**301 through 305**).

    Display example: TRS Deny LVL-2

2. Press **NEXT**.

    Display: Location NO?->

3. Enter a **location number**.

    To enter location number 01, you can also press **NEXT**.
    Display example: 01:Not Stored

4. Enter a **toll call number**.

    To delete the current entry, press **CLEAR**.
    To change the current entry, press **CLEAR** and the new number.

5. Press **STORE**.

6. To program another location, press **NEXT** or **PREV**, or **SELECT** and the desired **location number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

- There is a maximum of 20 toll call numbers which can be restricted for each program. Each number has a maximum of ten digits, consisting of **0 through 9**, and **✳**. The character "**✳**" can be used as a wild card character.
- Programs [306]–[310] "TRS Excepted Code Entry for Levels 2 through 6" are used to assign exceptions to these numbers. Programs [500]–[501] "Toll Restriction Level — Day / Night" are used to set the toll restriction value for each COS.

Feature References

Section 3, Features,
Toll Restriction

Description	These allow you to assign numbers which are exceptions to the toll restriction specified in programs [301] through [305] as follows: Program [306]: applies to level 2 Program [307]: applies to levels 2 through 3 Program [308]: applies to levels 2 through 4 Program [309]: applies to levels 2 through 5 Program [310]: applies to levels 2 through 6

Selection

- Location number: **1 through 5**
- Exceptional number: **10 digits (max.)**

Default

All locations – Not stored

Programming

1. Enter a **program address (306 through 310)**.

   ```
   Display example: TRS Excp LVL-2
   ```

2. Press **NEXT**.

   ```
   Display: Location NO?->
   ```

3. Enter a **location number**.

   To enter location number 1, you can also press **NEXT**.

   ```
   Display example: 1:Not Stored
   ```

4. Enter an **exceptional number**.

   To delete the current entry, press **CLEAR**.
   To change the current entry, press **CLEAR** and the new number.

5. Press **STORE**.

6. To program another location, press **NEXT** or **PREV**, or **SELECT** and the desired **location number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

There is a maximum of five numbers for each program. Each number has a maximum of ten digits, consisting of **0 through 9**, and ✱. The character "✱" can be used as a wild card character.

Notice

Store your emergency numbers in program [310].

Feature References

Section 3, Features,
Toll Restriction

Description	Assigns special carrier numbers. This allows the system to recognize the user-dialed special carrier number in order to insert the necessary pause and to apply toll restriction.
Selection	• Location number: **01 through 20** • Special carrier number: **7 digits (max.)**
Default	All locations – Not stored

Programming

1.   Enter **311**.

        Display: Special Carrier

2.   Press **NEXT**.

        Display: Location NO?->

3.   Enter a **location number**.

        To enter location number 01, you can also press **NEXT**.

        Display example: 01:Not Stored

4.   Enter a **special carrier number**.

        To delete the current entry, press **CLEAR**.

        To change the current entry, press **CLEAR** and the new number.

5.   Press **STORE**.

6.   To program another location, press **NEXT** or **PREV**, or **SELECT** and the desired **location number**.

7.   Repeat steps 4 through 6.

8.   Press **END**.

Conditions

There is a maximum of 20 special carrier numbers. Each carrier number has a maximum of seven digits, consisting of **0 through 9**, and ✳ . The character "✳" can be used as a wild card character.

Feature References

Section 3, Features,
Pause Insertion, Automatic
Toll Restriction for Special Carrier Access

ARS Mode

Description	Allows you to turn on or off the Automatic Route Selection (ARS) mode. ARS, if enabled, selects the least expensive route to be used for a CO call.
Selection	**On / Off**
Default	Off

Programming

1. Enter **312**.

   ```
   Display: ARS Mode
   ```

2. Press **NEXT**.

   ```
   Display example: ARS:Off
   ```

3. Press **SELECT** until the desired selection is displayed.

4. Press **STORE**.

5. Press **END**.

Conditions

- If "Off" is selected, the Automatic Line Access feature functions in place of ARS.
- Programs [313] through [331] are used to program ARS.

Feature References

Section 3, Features,
Automatic Route Selection (ARS)
Line Access, Automatic

Description

Assigns times for the four ARS time schedules. It is possible to split a day into four time zones (maximum) so that the least expensive line is selected for that time. According to the service hours and charges offered by your carriers, enter the starting time of each zone.

Selection

- Time schedule: **Time-A / Time-B / Time-C / Time-D**
- Time (hour) : **1 through 12 / Disable** (no schedule)
- **AM / PM**

Default

Time-A – 8:00 AM; Time-B – 5:00 PM; Time-C – 9:00 PM;

Time-D – Disable

Programming

1. Enter **313**.
    ```
    Display: ARS Time
    ```

2. Press **NEXT** to program Time-A.
    ```
    Display example: Time-A: 8:00 AM
    ```
    To program another time schedule, keep pressing **NEXT** or **PREV** until the desired time schedule is displayed.

3. Enter the **hour**.
    To set no schedule (Disable), press **SELECT**, and go to step 6.
    If "Disable" is selected, pressing **SELECT** shows the previous stored hour.
    To change the current entry, press **CLEAR** and the new hour.

4. Press → to select AM / PM.

5. Press **SELECT** for AM or PM.

6. Press **STORE**.

7. To program another time schedule, keep pressing **NEXT** or **PREV** until the desired time schedule is displayed.

8. Repeat steps 3 through 7.

9. Press **END**.

Conditions

- The times must be programmed in sequence from Time-A to Time-D. Enter a starting time for each time schedule. Select "Disable" for an unnecessary schedule.
- You cannot leave the entry empty.

Feature References

Section 3, Features,
Automatic Route Selection (ARS)

Description

By entering numbers into each leading digit plan (programs below) you are starting the process to determine which CO line group will be used to route the call.

Program: [314] [315] [316] [317] [318] [319] [320] [321]
Plan: 1   2   3   4   5   6   7   8

These eight plans are used to analyze the number which the user dials and to decide the route plan for the call. If the user-dialed number is registered in plan 1, then Routing Plan 1 is selected for the call. ARS Leading Digit Entry for Plans 1 through 8 match ARS Routing Plans 1 through 8 (programs [322] through [329]) respectively.

Selection

- Location number: **01 through 100**
- Leading digit number: **10 digits (max.)**

Default

All locations – Not stored

Programming

1. Enter a **program address (314 through 321)**.
   Display example: ARS Leading PL-1

2. Press **NEXT**.
   Display: Location NO?->

3. Enter a **location number**.
   To enter location number 01, you can also press **NEXT**.
   Display example: 01:Not Stored

4. Enter a **leading digit number**.
   To delete the current entry, press **CLEAR**.
   To change the current entry, press **CLEAR** and the new number.

5. Press **STORE**.

6. To program another location, press **NEXT** or **PREV**, or **SELECT** and the desired **location number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

There is a maximum of 100 leading digit numbers for each plan. Each number has a maximum of ten digits, consisting of **0 through 9**, and *. The character "*" can be used as a wild card character.

Feature References

Section 3, Features,
Automatic Route Selection (ARS)

Description

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

Program: [322] [323] [324] [325] [326] [327] [328] [329]
Plan: 1   2   3   4   5   6   7   8

Selection

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

Default

All time schedules – Not stored

Programming

1. Enter a **program address (322 through 329)**.

    Display example: ARS Route PL-1

2. Press **NEXT** to program time schedule A.

    To program another time schedule, keep pressing **NEXT** or **PREV** until the desired time schedule is displayed.

    Display example: A:G M   , G M   , G M

3. Enter a **CO line group number**.

    To delete the current entry, press **CLEAR**.

    To change the current entry, enter the new number.

4. Press → to enter the paired modification table number.

5. Enter a **modification table number**.

    To delete the current entry, press **CLEAR**.

    To change the current entry, enter the new modification table number.

6. Press → to enter the next priority CO line group number.

7. Repeat steps 3 through 6 to enter other CO line group numbers and modification table numbers.

8. Press **STORE**.

9. To program another time schedule, keep pressing **NEXT** or **PREV** until the desired time schedule is displayed.

10. Repeat steps 3 through 9.

11. Press **END**.

Conditions

- Up to three CO line groups and modification plans can be assigned for

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

Feature References   **Section 3, Features,**
Automatic Route Selection (ARS)

Description

Determines how the dialed number should be modified before sending to the central office. You can delete the digits from the beginning of the dialed number.

Selection

• Modification table number: **1 through 8**
• Number of digits to be deleted: **0 through 9** (0=no deleting)

Default

All modification tables – 0

Programming

1. Enter **330**.

    Display: ARS Modify Remov

2. Press **NEXT**.

    Display: Modify Table?->

3. Enter a **modification table number.**

    To enter table number 1, you can also press **NEXT**.

    Display example: 1:0

4. Enter the **number of digits to be deleted.**

    To change the current entry, enter the new number.

5. Press **STORE**.

6. To program another modification table, press **NEXT** or **PREV**, or **SELECT** and the desired **modification table number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

There is a maximum of eight Modification Tables. Each table has a 1-digit number of digits to be deleted.

Feature References

Section 3, Features,
Automatic Route Selection (ARS)

Description	Determines how the dialed number should be modified before sending to the central office. Digits are added to the beginning of the dialed number.
Selection	• Modification table number: **1 through 8** • Number to be added: **20 digits (max.)**
Default	All modification tables – Not stored

Programming

1. Enter **331**.

   Display: ARS Modify Add

2. Press **NEXT**.

   Display: Modify Table?->

3. Enter a **modification table number**.

   To enter table number 1, you can also press **NEXT**.

   Display example:1:

4. Enter the **number to be added**.

   To delete the current entry, press **CLEAR**.

   To change the current entry, press **CLEAR** and the new number.

5. Press **STORE**.

6. To program another modification table, press **NEXT** or **PREV**, or **SELECT** and the desired **modification table number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

• There is a maximum of eight Modification Tables, each of which can be given a number to be added.
• Each number has a maximum of 20 digits, consisting of **0 through 9**, **∗**, **#**, and **PAUSE**.

Feature References

Section 3, Features,
Automatic Route Selection (ARS)

4.5   TRS / ARS Programming   *332*

Extra Entry Table Selection

Description

Selects the code table which enables the extra 400 entries within Denied or Except Code Table.

Selection

• **Deny / Except**
• Level number: **2 through 6**

Default

Except - 2

Programming

1.   Enter **332**.

    Display: Extra Table Sel.

2.   Press **NEXT**.

    Display example: Table:Except-2

3.   Keep pressing **SELECT** until the desired selection is displayed.

4.   Press → to enter a level number.

5.   Enter a **level number**.

    Display example: Table:Except-3

6.   Press **STORE**.

7.   Press **END**.

Conditions

There is a maximum of either 420 toll call numbers for Denied Code Table or a maximum of 405 toll call numbers for Excepted Code Table.

Feature References

Section 3, Features,
Toll Restriction

Description

This program allows you to specify the numbers for extra Denied or Excepted Code Table for expansion.

Selection

- Location number: **001 through 400**
- Toll call number: **10 digits (max.)**

Default

All locations – Not stored

Programming

1.   Enter **333**.

> Display: TRS Extra Table

2.   Press **NEXT**.

> Display: Location NO?->

3.   Enter a **location number**.

> To enter location number 001, you can also press **NEXT**.
> Display example: 001:Not Stored

4.   Enter a **toll call number**.

> To delete the current entry, press **CLEAR**.
> To change the current entry, press **CLEAR** and the new number.

5.   Press **STORE**.

6.   To program another location number, press **NEXT** or **PREV**, or **SELECT** and the desired **location number**.

7.   Repeat steps 4 through 6.

8.   Press **END**.

Conditions

There is a maximum of either 420 toll call numbers for Denied Code Table or a maximum of 405 toll call numbers for Excepted Code Table. Each number has a maximum of ten digits, consisting of **0 through 9**, and ✳. The character "✳" can be used as a wild card character.

Feature References

Section 3, Features,
Toll Restriction

4.5   CO Line Programming   *400*

CO Line Connection Assignment

Description

Used to identify the CO lines which are connected to the system(s). This prevents users from originating a call to a line which is not connected.

Selection

- CO line number:
  - KX-TD816; **01 through 08**, * (* =all CO lines)
  - KX-TD1232; **01 through 24**, * (* =all CO lines)
- **Connect / No Connect**

Default

All CO lines – Connect

Programming

1. Enter **400**.

   ```
   Display: CO Connection
   ```

2. Press **NEXT**.

   ```
   Display: CO Line NO?->
   ```

3. Enter a **CO line number**.

   To enter CO line number 01, you can also press **NEXT**.

   ```
   Display example: CO01:Connect
   ```

4. Keep pressing **SELECT** until the desired selection is displayed.

5. Press **STORE**.

6. To program another CO line, press **NEXT** or **PREV**, or **SELECT** and the desired **CO line number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

- In the case of KX-TD1232, CO01 through CO12 are for the Master System and CO13 through CO24 are for the Slave, if available.
- To assign all CO lines to one selection, press the * key at step 3. In this case, the display shows the contents programmed for CO01.

Feature References

Section 3, Features,
CO Line Connection Assignment

4.5   CO Line Programming

CO Line Group Assignment

Description

Each CO line must be assigned to a CO line group. This program defines the CO line group assignment for each CO line. For example, if there are multiple telephone service companies available, the CO lines can be grouped by company.

Selection

- CO line (CO) number:
    - KX-TD816; **01 through 08**, ✳ (✳=all CO lines)
    - KX-TD1232; **01 through 24**, ✳ (✳=all CO lines) .
- CO line group (TRG) number: **1 through 8**

Default

CO01 – TRG 1;	CO05 – TRG 5;
CO02 – TRG 2;	CO06 – TRG 6;
CO03 – TRG 3;	CO07 – TRG 7;
CO04 – TRG 4;	CO08 – TRG 8 (for KX-TD816)
	CO08 through CO24 – TRG 8 (for KX-TD1232)

Programming

1.   Enter **401**.

   Display : Trunk Group Asn

2.   Press **NEXT**.

   Display: CO Line NO?->

3.   Enter a **CO line number**.

   To enter CO line number 01, you can also press **NEXT**.

   Display example: CO01:TRG1

4.   Enter the **CO line group number**.

   To change the current entry, enter the new CO line group number.

5.   Press **STORE**.

6.   To program another CO line, press **NEXT** or **PREV**, or **SELECT** and the desired **CO line number**.

7.   Repeat steps 4 through 6.

8.   Press **END**.

Conditions

- In the case of KX-TD1232, CO01 through CO12 are for the Master System and CO13 through CO24 are for the Slave, if available.
- To assign all CO lines to one CO line group, press the ✳ key at step 3. In this case, the display shows the contents programmed for CO01.

Feature References

Section 3, Features,
CO Line Group

Dial Mode Selection

Description

Each CO line can be programmed for DTMF, pulse (rotary) or call blocking. This program assigns your choice to each line.

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

Pulse: The dialing signals from an extension, either tone or pulse, are converted to pulse signals and transmitted to the CO line.

Call blocking: If your central office can receive both DTMF and pulse signals but you are contracted for pulse, select this mode. When dialing on the line with a touch tone telephone, only the pulse signals are sent to the CO line.

Selection

- CO line number:
  KX-TD816; **01 through 08**, $*$ ($*$ =all CO lines)
  KX-TD1232; **01 through 24**, $*$ ($*$ =all CO lines)
- **DTMF / Pulse / C. Block** (call blocking)

Default

All CO lines – DTMF

Programming

1. Enter **402**.
   ```
   Display : CO Dial Mode
   ```

2. Press **NEXT**.
   ```
   Display : CO Line NO?->
   ```

3. Enter a **CO line number**.
   To enter CO line number 01, you can also press **NEXT**.
   ```
   Display example: CO01:DTMF
   ```

4. Keep pressing **SELECT** until the desired selection is displayed.

5. Press **STORE**.

6. To program another CO line, press **NEXT** or **PREV**, or **SELECT** and the desired **CO line number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

- In the case of KX-TD1232, CO01 through CO12 are for the Master System and CO13 through CO24 are for the Slave, if available.
- To assign all lines to one selection, press the $*$ key at step 3. In this case, the display shows the contents programmed for CO01.
- If DTMF is assigned, set the DTMF time of the line in program [404] "DTMF Time."
- If pulse or call blocking is assigned, set the pulse speed of the line in program [403] "Pulse Speed Selection," and set the pulse break ratio and inter-digit pause in program [990] "System Additional Information, Field (17)" and in "Field (21)," if needed.

Feature References

Section 3, Features,
Dial Type Selection

Description

A CO line set for pulse or call blocking mode in program [402] "Dial Mode Selection" can have two pulse rates, 10 pps (low) and 20 pps (high). This program sets the pulse speed for each CO line set to pulse or call blocking mode.

Selection

- CO line number:

  KX-TD816; **01 through 08**, **✳** (**✳** =all CO lines)
  KX-TD1232; **01 through 24**, **✳** (**✳** =all CO lines)
- **10 pps / 20 pps**

Default

All CO lines – 10 pps

Programming

1. Enter **403**.

   Display: Pulse Speed

2. Press **NEXT**.

   Display: CO Line NO?->

3. Enter a **CO line number**.

   To enter CO line number 01, you can also press **NEXT**.

   Display example: CO01:10pps

4. Keep pressing **SELECT** until the desired selection is displayed.

5. Press **STORE**.

6. To program another CO line, press **NEXT** or **PREV**, or **SELECT** and the desired **CO line number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

- In the case of KX-TD1232, CO01 through CO12 are for the Master System and CO13 through CO24 are for the Slave, if available.
- To assign all CO lines to one selection, press the **✳** key at step 3. In this case, the display shows the contents programmed for CO01.
- The pulse speed required is determined by the CO or PBX line.
- Program [990] "System Additional Information, Field (17) and Field (21)" are used to select a pulse break ratio and inter-digit pause, if needed.

Feature References

Section 3, Features,
Dial Type Selection

DTMF Time

Description	A CO line set to DTMF mode in program [402] "Dial Mode Selection" can have two settings. This program sets the duration of the DTMF signals sent to a CO line to DTMF mode.

Selection	• CO line number:
	        KX-TD816; **01 through 08**, ✳ (✳ =all CO lines)
	        KX-TD1232; **01 through 24**, ✳ (✳ =all CO lines)
	• Time (milliseconds): **80 / 160**

Default	All CO lines – 80 ms

Programming

1. Enter **404**.

   Display: DTMF Time

2. Press **NEXT**.

   Display: CO Line NO?->

3. Enter a **CO line number**.

   To enter CO line number 01, you can also press **NEXT**.

   Display example: CO01: 80msec

4. Keep pressing **SELECT** until the desired selection is displayed.

5. Press **STORE**.

6. To program another CO line, press **NEXT** or **PREV**, or **SELECT** and the desired **CO line number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

• In the case of KX-TD1232, CO01 through CO12 are for the Master System and CO13 through CO24 are for the Slave, if available.
• To assign all CO lines to one selection, press the ✳ key at step 3. In this case, the display shows the contents programmed for CO01.
• The DTMF time required is determined by the CO line or PBX line.

Feature References   Section 3, Features,
Dial Type Selection

Description

Assigns the expected minimum duration of the CPC Signal on incoming CO calls. If this is programmed, the system disconnects the line when the CPC Signal is detected.

Selection

- CO line number:

  KX-TD816; **01 through 08**, ***** (***** =all CO lines)

  KX-TD1232; **01 through 24**, ***** (***** =all CO lines)

- Time (milliseconds): **Disable** (no detection) / **100** / **200** / **300** /
  400 / **500** / **600**

Default

All CO lines – 400 ms

Programming

1. Enter **405**.
   ```
   Display : CPC Detection
   ```

2. Press **NEXT**.
   ```
   Display: CO Line NO?->
   ```

3. Enter a **CO line number**.
   To enter CO line number 01, you can also press **NEXT**.
   ```
   Display example: CO01:400msec
   ```

4. Keep pressing **SELECT** until the desired time is displayed.

5. Press **STORE**.

6. To program another CO line, press **NEXT** or **PREV**, or **SELECT** and the desired **CO line number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

- In the case of KX-TD1232, CO01 through CO12 are for the Master System and CO13 through CO24 are for the Slave, if available.
- To assign all CO lines to one selection, press the ***** key at step 3. In this case, the display shows the contents programmed for CO01.
- You may disable CPC Signal Detection for a CO line.
- Program [415] "CPC Signal Detection Outgoing Set" is used to program CPC Signal Detection for outgoing CO calls.

Feature References

Section 3, Features,
Calling Party Control (CPC) Signal Detection
*Direct Inward System Access (DISA)

Description

Enables Caller ID feature for the CO lines to which Caller ID Service is offered by a Central Office by contract.

Selection

- CO line number:

    KX-TD816; **01 through 08**, ***** (***** =all CO lines)
    KX-TD1232; **01 through 24**, ***** (***** =all CO lines)
- **Enable / Disable**

Default

All CO lines – Disable

Programming

1. Enter **406**.

    Display : Caller ID Asn

2. Press **NEXT**.

    Display: CO Line NO?->

3. Enter a **CO line number**.

    To enter CO line number 01, you can also press **NEXT**.

    Display example: CO01:Disable

4. Keep pressing **SELECT** until the desired selection is displayed.

5. Press **STORE**.

6. To program another CO line, press **NEXT** or **PREV**, or **SELECT** and the desired **CO line number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

- In the case of KX-TD1232, CO01 through CO12 are for the Master System and CO13 through CO24 are for the Slave, if available.
- To assign all CO lines to one selection, press the ***** key at step 3. In this case, the display shows the contents programmed for CO01.
- The following programs are used to program Caller ID feature: [110] "Caller ID Code Set" and [111] "Caller ID Name Set."

Feature References

Section 3, Features,
Caller ID

Description

The Direct In Lines (DIL) 1:1 feature allows incoming CO calls to be directed to a specific extension. When a CO line is assigned as DIL 1:1, it is necessary to assign the destination. These programs specify the extension number for day or night mode.

Selection

- CO line number:
  - KX-TD816; **01 through 08**, * (*=all CO lines)
  - KX-TD1232; **01 through 24**, * (*=all CO lines)
- Extension number: **2 through 4 digits / Disable** (no DIL 1:1)

Default

All CO lines – Disable — Day / Night

Programming

1. Enter a **program address (407 for day or 408 for night)**.

    Display example: DIL 1:1 Asn Day

2. Press **NEXT**.

    Display: CO Line NO?->

3. Enter a **CO line number**.

    To enter CO line number 01, you can also press **NEXT**.

    Display example: CO01:Disable

4. Enter an **extension number**.

    To change the current entry, press **CLEAR** and the new number.

    To disable DIL 1:1, press **CLEAR**.

5. Press **STORE**.

6. To program another CO line, press **NEXT** or **PREV**, or **SELECT** and the desired **CO line number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

- In the case of KX-TD1232, CO01 through CO12 are for the Master System and CO13 through CO24 are for the Slave, if available. CO line numbers in the out-of-service system are unacceptable.
- To assign all CO lines to one selection, press the * key at step 3. In this case, the display shows the contents programmed for CO01.
- You set the extension numbers in program [003] "Extension Number Set" or floating numbers of pagers, DISA* messages and the modem* in program [813] "Floating Number Assignment."

• If a CO line is also programmed for DIL 1:N in programs [603]–[604] "DIL 1:N Extension and Delayed Ringing — Day / Night," it is regarded as a DIL 1:1 line.

Feature References   **Section 3, Features,**
Direct In Lines (DIL)   Night Service
*Direct Inward System Access (DISA)

Description

Intercept Routing provides an automatic re-direction of calls which cannot or have not been answered. These programs set the destination in both day and night modes for each line group.

Selection

- CO line group (TRG) number: **1 through 8**, ✱
  - (✱ =all CO line groups)
- Extension number: **2 through 4 digits / Disable** (no Intercept Routing)

Default

All CO line groups – Disable — Day / Night

Programming

1. Enter a **program address (409 for day or 410 for night)**.

   Display example: TRG Intercpt Day

2. Press **NEXT**.

   Display: TRK GRP NO?->

3. Enter the **CO line group number**.

   To enter CO line group number 1, you can also press **NEXT**.

   Display example: TRG1:Disable

4. Enter an **extension number**.

   To change the current entry, press **CLEAR** and the new number.

   To disable Intercept Routing, press **CLEAR**.

5. Press **STORE**.

6. To program another CO line group, press **NEXT** or **PREV**, or **SELECT** and the desired **CO line group number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

- You set the extension numbers in program [003] "Extension Number Set" or floating numbers of pagers, DISA✱ messages in program [813] "Floating Number Assignment." You cannot assign the floating number of the modem.
- To assign all CO line groups to one selection, press the ✱ key at step 3. In this case, the display shows the contents programmed for CO line group 1.
- Program [401] "CO Line Group Assignment" is used to assign each CO line to a CO line group.

Feature References

Section 3, Features,
Intercept Routing

Description	Assigns Host PBX or Centrex access codes. If the system is installed behind a host PBX or a Centrex system, an access code is required to make a CO / Centrex call or to access Centrex features. Up to four codes can be stored for a CO line group assigned the line.
Selection	• CO line group (TRG) number: **1 through 8, ∗** (∗ =all CO line groups) • Access code: **1 or 2 digits, four different entries (max.)**
Default	All CO line groups – Not stored

Programming

1. Enter **411**.

    ```
    Display : TRG Host PBX NO.
    ```

2. Press **NEXT**.

    ```
    Display : TRK GRP NO?->
    ```

3. Enter a **CO line group number**.

    To enter CO line group number 1, you can also press **NEXT**.

    ```
    Display example: TRG1:  ,   ,   ,
    ```

4. Enter an **access code**.

    To delete the current entry, press **CLEAR**.
    To change the current entry, press **CLEAR** and the new access code.

    ```
    Display example: TRG1:01,   ,   ,
    ```

5.   To enter more access codes for the same CO line group, press → and enter the **access codes** until all the required entries are completed.

    ```
    Display example: TRG1:01,08,10,22
    ```

6. Press **STORE**.

7. To program another CO line group, press **NEXT** or **PREV**, or **SELECT** and the desired **CO line group number**.

8. Repeat steps 4 through 7.

9. Press **END**.

Conditions

- This program is only required if a host PBX or Centrex line is connected to the system. Program [401] "CO Line Group Assignment" is used to assign the line to a CO line group.
- There is a maximum of four access codes per CO line group. Each code has one or two digits. consisting of **0 through 9**.
- If conflicting access codes (such as 8 and 81) are stored for the same CO line group, the 1-digit code (8) only will be in effect.
- When the programmed codes are dialed. Automatic Pause Insertion and Toll Restriction are applied to the calls. The programmed pause time (in program [412] "Pause Time") is automatically inserted after the access code.
- To assign all CO line groups to one selection, press the * key at step 3. In this case, the display shows the contents programmed for CO line group 1.

Feature References

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

4.5 CO Line Programming *412*

Pause Time

Description

Assigns the length of the pause time. The programmed pause time is automatically inserted after a line access code or a host PBX access code programmed in [411] "Host PBX Access Codes" or manually inserted if the **PAUSE** button is pressed by the user.

Selection

- CO line group number: **1 through 8**, ✳ (✳ =all CO line groups)
- Time (seconds): **1.5 / 2.5 / 3.5 / 4.5**

Default

All CO line groups – 1.5 s

Programming

1. Enter **412**.

   ```
   Display: TRG Pause Time
   ```

2. Press **NEXT**.

   ```
   Display: TRK GRP NO?->
   ```

3. Enter a **CO line group number**.

   To enter CO line group number 1, you can also press **NEXT**.

   ```
   Display example: TRG1:1.5sec
   ```

4. Keep pressing **SELECT** until the desired time is displayed.

5. Press **STORE**.

6. To program another CO line group, press **NEXT** or **PREV**, or **SELECT** and the desired **CO line group number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

- To assign all CO line groups to one selection, press the ✳ key at step 3. In this case, the display shows the contents programmed for CO line group 1.
- Program [401] "CO Line Group Assignment" is used to assign each CO line to a CO line group.

Feature References

Section 3, Features,
Host PBX Access   Pause Insertion, Automatic

Description	Assigns the length of the flash time. If your system is installed behind a host PBX or Centrex line, External Feature Access (EFA) is necessary to obtain their services. To enable it, select a required hooking signal sending time for the CO line group.

Selection	• CO line group (TRG) number: **1 through 8**, **∗**
	                                        (**∗** =all CO line groups)
	• Time (milliseconds): **Disable** (no EFA) / **80 / 96 / 112 / 200 / 300 /**
	                        400 / 500 / 600 / 700 / 800 / 900 / 1000 /
	                        1100 / 1200

Default	All CO line groups – 600 ms

Programming

1.   Enter **413**.

> Display: TRG Flash Time

2.   Press **NEXT**.

> Display: TRK GRP NO?->

3.   Enter a **CO line group number**.

> To enter CO line group number 1, you can also press **NEXT**.

> Display example: TRG1: 600msec

4.   Keep pressing **SELECT** until the desired time is displayed.

5.   Press **STORE**.

6.   To program another CO line group, press **NEXT** or **PREV**, or **SELECT** and the desired **CO line group number**.

7.   Repeat steps 4 through 6.

8.   Press **END**.

Conditions

- You may disable EFA, if not required. The Flash feature will be in effect in place of EFA. Program [414] "Disconnect Time" is used to select the time required for the Flash feature.
- The flash time required is determined by the central office or the host PBX lines.
- To assign all CO line groups to one selection, press the **∗** key at step 3. In this case, the display shows the contents programmed for CO line group 1.
- Program [401] "CO Line Group Assignment" is used to assign each CO line to a CO line group.

Feature References   Section 3, Features,
                           External Feature Access   Flash

4.5　CO Line Programming　*414*

Disconnect Time

Description

Determines the amount of time between successive accesses to the same CO line, if "Disable" is selected in program [413] "Flash Time." The flash feature provides a released loop during the programmed time.

Selection

- CO line group (TRG) number: **1 through 8, ✻**

  (✻ =all CO line groups)
- Time (seconds): **1.5 / 4.0**

Default

All CO line groups – 1.5 s

Programming

1. Enter **414**.

   Display: TRG Discnct Time

2. Press **NEXT**.

   Display : TRK GRP NO?->

3. Enter a **CO line group number**.

   To program CO line group number 1, you can also press **NEXT**.

   Display example: TRG1:1.5sec

4. Keep pressing **SELECT** until the desired time is displayed.

5. Press **STORE**.

6. To program another CO line group, press **NEXT** or **PREV**, or **SELECT** and the desired **CO line group number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

- The disconnect time must be longer than the requirements of the central office or the host PBX.
- To assign all CO line groups to one selection, press the ✻ key at step 3. In this case, the display shows the contents programmed for CO line group 1.
- Program [401] "CO Line Group Assignment" is used to assign each CO line to a CO line group.

Feature References

Section 3, Features,
Flash

Description	Enables or disables CPC Signal Detection during the time between the originated CO call and the established CO call. If this is enabled, the system disconnects the line with the time set in program [405] "CPC Signal Detection Incoming Set" when CPC Signal is detected.
Selection	• CO line number: 　　　　KX-TD816;　**01 through 08**, ✳ (✳ =all CO lines) 　　　　KX-TD1232; **01 through 24**, ✳ (✳ =all CO lines) • **Enable** (detection) / **Disable** (no detection)
Default	Disable

Programming

1.　Enter **415**.
　　　Display: CPC Outgoing Asn

2.　Press **NEXT**.
　　　Display: CO Line NO?->

3.　Enter a **CO line number**.
　　　To enter CO line number 01, you can also press **NEXT**.
　　　Display example: CO01:Disable

4.　Keep pressing **SELECT** until the desired selection is displayed.

5.　Press **STORE**.

6.　To program another CO line, press **NEXT** or **PREV**, or **SELECT** and the desired **CO line number**.

7.　Repeat steps 4 through 6.

8.　Press **END**.

Conditions

• Some central offices (CO) may send CPC-like signals during the dialing sequence and an attempt to make a call may be terminated. If your CO is such a type, select "Disable."
• Program [405] "CPC Signal Detection Incoming Set" is used to set CPC Signal Detection Time.
• In the case of KX-TD1232, CO01 through CO12 are for the Master System and CO13 through CO24 are for the Slave, if available.
• To assign all CO lines to one selection, press the ✳ key at step 3. In this case, the display shows the contents programmed for CO01.

Feature References　　Section 3, Features,
　　　　　　　　　　　Calling Party Control (CPC) Signal Detection
　　　　　　　　　✳ Direct Inward System Access (DISA)

4.5   CO Line Programming   *416*

Reverse Circuit Assignment

Description

Enables or disables to detect Reverse Circuit. This feature is not used in the U.S.A.

Selection

- CO line number:
  KX-TD816;   **01 through 08**, ✻ (✻=all CO lines)
  KX-TD1232; **01 through 24**, ✻ (✻=all CO lines)
- **Regular** (no detection) / **Reverse** (detection)

Default

Regular

Programming

1. Enter **416**.
   Display: Reverse Circuit

2. Press **NEXT**.
   Display: CO Line NO?->

3. Enter a **CO line number**.
   To enter CO line number 01, you can also press **NEXT**.
   Display example: CO01:Regular

4. Keep pressing **SELECT** until the desired selection is displayed.

5. Press **STORE**.

6. To program another CO line, press **NEXT** or **PREV**, or **SELECT** and the desired CO line number.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

To assign all CO lines to one selection, press the ✻ key at step 3. In this case, the display shows the contents programmed for CO01.

Feature References

Section 3, Features,
Reverse Circuit

Description

Each extension must be assigned a Class of Service (COS). These programs set the toll restriction value for each COS in day or night mode.

Selection

- COS number: **1 through 8**, ***** (***** =all COS)
- Level number: **1 through 8**

Default

All COS – Level 1 — Day / Night

Programming

1.   Enter **a program address (500 for day or 501 for night).**

     Display example: TRS Level Day

2.   Press **NEXT**.

     Display : COS NO?->

3.   Enter a **COS number**.

     To enter COS number 1, you can also press **NEXT**.

     Display example: COS1:1

4.   Enter a **level number**.

     To change the current entry, press **CLEAR** and the new number.

5.   Press **STORE**.

6.   To program another COS, press **NEXT** or **PREV**, or **SELECT** and the desired **COS number**.

7.   Repeat steps 4 through 6.

8.   Press **END**.

Conditions

- To assign all COS to one selection, press the ***** key at step 3. In this case, the display shows the contents programmed for COS 1.
- Program [601] "Class of Service" is used to assign a Class of Service to each extension.

Feature References

Section 3, Features,
Night Service   Toll Restriction

4.7   COS Programming

Extension-to-CO Line Call Duration Limit

Description

This program allows you to restrict the duration of CO calls on a Class of Service (COS) basis.

Selection

- COS number: **1 through 8**, ＊ (＊=all COS)
- **Disable** (no limit) / **Enable** (limit)

Default

All COS – Disable

Programming

1. Enter **502**.
    ```
    Display: CO Durat. Limit
    ```

2. Press **NEXT**.
    ```
    Display: COS NO?->
    ```

3. Enter a **COS number**.
    To enter COS number 1, you can also press **NEXT**.
    ```
    Display example: COS1:Disable
    ```

4. Keep pressing **SELECT** until the desired selection is displayed.

5. Press **STORE**.

6. To program another COS, press **NEXT** or **PREV**, or **SELECT** and the desired **COS number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

- A CO call originated or answered by the programmed extension user is disconnected when the time specified in program [205] "Extension-to-CO Line Call Duration Time" expires.
- Extensions in the limited classes cannot establish a CO-to-CO call, that is, cannot transfer / forward a CO call to another CO line or perform an Unattended Conference.
- To assign all COS to one selection, press the ＊ key at step 3. In this case, the display shows the contents programmed for COS 1.
- Program [601] "Class of Service" is used to assign a Class of Service to each extension.
- Program [990] "System Additional Information, Field (12)" is used to program Limited Call Duration to be done for outgoing calls only.

Feature References

Section 3, Features,
Call Forwarding – to CO Line
Call Transfer, Screened – to CO Line

Conference, Unattended
Limited Call Duration

4.7 COS Programming

Call Transfer to CO Line

Description

This program determines which Classes of Services (COS) are allowed to perform the Call Transfer to CO Line function.

Selection

• COS number: **1 through 8**, ✳ (✳ =all COS)
• **Enable / Disable**

Default

All COS – Enable

Programming

1. Enter **503**.

    Display: Transfer to CO

2. Press **NEXT**.

    Display : COS NO?->

3. Enter a **COS number**.

    To enter COS number 1, you can also press **NEXT**.

    Display example: COS1:Enable

4. Keep pressing **SELECT** until the desired selection is displayed.

5. Press **STORE**.

6. To program another COS, press **NEXT** or **PREV**, or **SELECT** and the desired **COS number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

• To assign all COS to one selection, press the ✳ key at step 3. In this case, the display shows the contents programmed for COS 1.
• Program [601] "Class of Service" is used to assign a Class of Service to each extension.

Feature References

Section 3, Features,
Call Transfer, Screened – to CO Line

Call Forwarding to CO Line

Description	This program determines which Classes of Services (COS) are allowed to perform the Call Forwarding to CO Line function.
Selection	• COS number: **1 through 8**, ***** (***** =all COS) • **Disable / Enable**
Default	All COS – Disable

Programming

1. Enter **504**.

   Display: Call FWD to CO

2. Press **NEXT**.

   Display: COS NO?->

3. Enter a **COS number**.

   To enter COS number 1, you can also press **NEXT**.

   Display example: COS1:Disable

4. Keep pressing **SELECT** until the desired selection is displayed..

5. Press **STORE**.

6. To program another COS, press **NEXT** or **PREV**, or **SELECT** and the desired **COS number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

• To assign all COS to one selection, press the ***** key at step 3. In this case, the display shows the contents programmed for COS 1.
• Program [601] "Class of Service" is used to assign a Class of Service to each extension.

Feature References

Section 3, Features,
Call Forwarding – to CO Line

Description

Determines which Classes of Services (COS) are allowed to perform Executive Busy Override – CO Line / Extension. Executive Busy Override allows the user to intrude into an established call.

Selection

- COS number: **1 through 8**, ＊ (＊=all COS)
- **Disable / Enable**

Default

All COS – Disable

Programming

1.   Enter **505**.

    Display: Busy Override

2.   Press **NEXT**.

    Display: COS NO?->

3.   Enter a **COS number**.

    To enter COS number 1, you can also press **NEXT**.

    Display example: COS1:Disable

4.   Keep pressing **SELECT** until the desired selection is displayed.

5.   Press **STORE**.

6.   To program another COS, press **NEXT** or **PREV**, or **SELECT** and the desired **COS number**.

7.   Repeat steps 4 through 6.

8.   Press **END**.

Conditions

- To assign all COS to one selection, press the ＊ key at step 3. In this case, the display shows the contents programmed for COS 1.
- Program [601] "Class of Service" is used to assign a Class of Service to each extension.

Feature References

Section 3, Features,
Executive Busy Override – CO Line
Executive Busy Override – Extension

4.7 COS Programming

Executive Busy Override Deny

Description

This program is used to determine which Classes of Services (COS) are allowed to deny Executive Busy Override. Executive Busy Override Deny allows the user to prevent Executive Busy Override – CO Line / Extension from being executed by another extension user.

Selection

- COS number: **1 through 8**, ***** (***** =all COS)
- **Disable / Enable**

Default

All COS – Enable

Programming

1. Enter **506**.
   Display: Busy Over. Deny

2. Press **NEXT**.
   Display: COS NO?->

3. Enter a **COS number**.
   To enter COS number 1, you can also press **NEXT**.
   Display example: COS1:Enable

4. Keep pressing **SELECT** until the desired selection is displayed.

5. Press **STORE**.

6. To program another COS, press **NEXT** or **PREV**, or **SELECT** and the desired **COS number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

- To assign all COS to one selection, press the ***** key at step 3. In this case, the display shows the contents programmed for COS 1.
- Program [601] "Class of Service" is used to assign a Class of Service to each extension.

Feature References

Section 3, Features,
Executive Busy Override – CO Line
Executive Busy Override – Extension

Description

This program determines which Classes of Services (COS) are allowed to perform Do Not Disturb (DND) Override.

Selection

- COS number: **1 through 8.** **＊** (**＊** =all COS)
- **Disable / Enable**

Default

All COS – Disable

Programming

1. Enter **507**.

   Display: DND Override

2. Press **NEXT**.

   Display: COS NO?->

3. Enter a **COS number**.

   To enter COS number 1. you can also press **NEXT**.

   Display example: COS1:Disable

4. Keep pressing **SELECT** until the desired selection is displayed.

5. Press **STORE**.

6. To program another COS, press **NEXT** or **PREV**, or **SELECT** and the desired **COS number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

- To assign all COS to one selection, press the **＊** key at step 3. In this case, the display shows the contents programmed for COS 1.
- Program [601] "Class of Service" is used to assign a Class of Service to each extension.

Feature References

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

Account Code Entry Mode

Description

There are three account code modes: Option, Verified-All Calls and Verified-Toll Restriction Override. This program determines the mode to be used by each Class of Service (COS).

Option mode: The user can enter any account code, if needed.

Verified – All Calls mode:

The user must always enter a pre-assigned account code to make a CO call.

Verified – Toll Restriction Override mode:

The user must enter a pre-assigned account code when the user needs to override toll restriction.

Selection

- COS number: **1 through 8**, ✳ (✳ =all COS)
- **Option / Verify – All** (Verified-All Calls) **/ Verify – Toll** (Verified-Toll Restriction Override)

Default

All COS – Option

Programming

1. Enter **508**.
      Display: Call Accounting

2. Press **NEXT**.
      Display: COS NO?->

3. Enter a **COS number**.
      To enter COS number 1, you can also press **NEXT**.
      Display example: COS1:Option

4. Keep pressing **SELECT** until the desired selection is displayed.

5. Press **STORE**.

6. To program another COS, press **NEXT** or **PREV**, or **SELECT** and the desired **COS number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

- To assign all COS to one selection, press the ✳ key at step 3. In this case, the display shows the contents programmed for COS 1.
- Program [105] "Account Codes" is used to define the Account Codes for the Verified modes.
- Program [601] "Class of Service" is used to assign a Class of Service to each extension.

Feature References

Section 3, Features,
Account Code Entry
Toll Restriction Override by Account Code Entry

Description	EXtra Device Port (XDP) allows a single line telephone (SLT) to be connected to the same jack as a digital proprietary telephone (DPT). This program assigns which jacks are XDP. The SLT and DPT of the programmed jack work as independent extensions.
Selection	• Jack number: KX-TD816; **01 through 16**, ✳ (✳ =all CO jacks) KX-TD1232; **01 through 64**, ✳ (✳ =all CO jacks) • **Disable / Enable**
Default	All jacks – Disable

Programming

1. Enter **600**.

    > Display: XDP Assign

2. Press **NEXT**.

    > Display: Jack NO?->

3. Enter a jack number.

    To enter jack number 01, you can also press **NEXT**.

    > Display example: #01:Disable

4. Keep pressing **SELECT** until the desired selection is displayed.

5. Press **STORE**.

6. To program another jack, press **NEXT** or **PREV**, or **SELECT** and the desired jack number.

7. ` `Repeat steps 4 through 6.

8. Press **END**.

Conditions

- The eXtra Device Port feature must be assigned "Disable" for DSS ports.
- In the case of KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available.
- To assign all jacks to one selection, press the ✳ key at step 3. In this case, the display shows the contents programmed for Jack 01.
- Immediately after changing your assignment, the changed setting may not work for a maximum of eight seconds.

Feature References   Section 3, Features,
EXtra Device Port (XDP)

Description	Programs each extension for a Class of Service (COS). The COS determines the call handling abilities of each extension.

Selection

- Jack number: KX-TD816; **01 through 16, * (-1 / -2),**
  KX-TD1232; **01 through 64, * (-1 / -2),**
  (* =all jacks, -1 = first part, -2 = second part)
- COS number: **1 through 8**

Default

All jacks-1/2 – COS 1

Programming

1. Enter **601**.
   Display: COS Assign

2. Press **NEXT**.
   Display: Jack NO?->

3. Enter a **jack number**.
   To enter jack number 01, you can also press **NEXT**.
   To select the second part (-2), press **NEXT** after entering a jack number.
   Display example: #01-1:COS1

4. Enter a **COS number**.
   To change the current entry, enter the new number.

5. Press **STORE**.

6. To program another jack, press **NEXT** or **PREV**, or **SELECT** and the desired **jack number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

- There is a maximum of eight Classes of Service. Every extension must be assigned to a Class of Service and is subject to the COS Programming of programs [500] through [508] and [991].
- In the case of KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available. Jack numbers in the out-of-service system are unacceptable.
- For an explanation of jack numbering, see "Rotation of jack number" on page 4-7.
- To assign all jacks to one COS, press the * key at step 3. In this case, the display shows the contents programmed for Jack 01.
- *• Program [811] "DISA User Codes" is also used to assign a Class of Service to a DISA User Code.

Feature References

Section 3, Features,
Class of Service (COS)

Extension Group Assignment

Description	Assigns each extension to an extension group. Extension groups are used for Group Call Pickup, Station Hunting, and Paging – Group. This program is also used to assign all Voice Mail ports / Automated Attendant ports of your Voice Processing System, if available, to an extension group.
Selection	• Jack number: KX-TD816; **01 through 16,** ✳ **(-1 / -2),** KX-TD1232; **01 through 64,** ✳ **(-1 / -2),** (✳ =all jacks, -1 = first part, -2 = second part) • Extension group number: **1 through 8**
Default	All jacks-1/2 – Extension group 1

Programming

1. Enter **602**.
    Display: EXT Group Asn
2. Press **NEXT**.
    Display: Jack NO?->
3. Enter a **jack number**.
    To enter jack number 01, you can also press **NEXT**.
    To select the second part (-2), press **NEXT** after entering a jack number.
    Display example: #01-1:EXG1
4. Enter the **extension group number**.
    To change the current entry, enter the new extension group number.
5. Press **STORE**.
6. To program another jack, press **NEXT** or **PREV**, or **SELECT** and the desired **jack number**.
7. Repeat steps 4 through 6.
8. Press **END**.

Conditions

• There is a maximum of eight extension groups. Each extension can only belong to one group.
• In the case of KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available.
• For an explanation of jack numbering, see "Rotation of jack number" on page 4-7.
• To assign all jacks to one extension group, press the ✳ key at step 3. In this case, the display shows the contents programmed for Jack 01.

Feature References

Section 3, Features,

Call Pickup. Group	Station Hunting
Extension Group	Voice Mail Integration
Paging – Group	

Description

A DIL 1:N line can be assigned to ring more than one extension. All incoming calls from the programmed CO lines are directed to the specified extensions. These programs assign the extensions and the notification method for each CO line in both day and night modes.

Selection

- Jack number: KX-TD816; **01 through 16, ∗ (-1 / -2),**
  KX-TD1232; **01 through 64, ∗ (-1 / -2),**
  (∗ =all jacks, -1 = first part, -2 = second part)
- CO line number:
  KX-TD816; **01 through 08, ∗** (∗ =all CO lines)
  KX-TD1232; **01 through 24, ∗** (∗ =all CO lines)
- **Disab** (disable) / **Immdt** (immediate ringing) / **1RNG** (1 ring delay) / **3RNG** (3 rings delay) / **6RNG** (6 rings delay) / **NoRNG** (no ring)

Default

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

Programming

1. Enter a **program address (603 for day or 604 for night).**

   ```
   Display example: DIL 1:N Asn Day
   ```

2. Press **NEXT**.

   ```
   Display: Jack NO?->
   ```

3. Enter a **jack number**.

   To enter jack number 01, you can also press **NEXT**.

   To select the second part (-2), press **NEXT** after entering a jack number.

   ```
   Display example: #01-1:CO01:Immdt
   ```

4. Enter the **CO line number**.

   You can also keep pressing → or ← until the desired CO line number is displayed.

5. Keep pressing **SELECT** until the desired selection is displayed.

6. Press **STORE**.

7. To program another jack, press **NEXT** or **PREV**, or **SELECT** and the desired **jack number**.

8.   Repeat steps 4 through 7.

9.   Press **END**.

Conditions

- An extension can be assigned as the destination of as many CO lines as is required.
- In the case of KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available. Jack numbers in the out-of-service system are unacceptable.
- For an explanation of jack numbering, see "Rotation of jack number" on page 4-7.
- To assign all jacks or all CO lines to one selection, press the ✱ key at step 3 or step 4. In these cases, the display shows the contents programmed for Jack 01 or for CO line 01.
- There are six notification methods:

  (1) Immediate ringing: rings immediately
  (2) 1 ring delay
  (3) 3 rings delay
  (4) 6 rings delay
  (5) No ring: only the indicator flashes
  (6) Disable: no incoming call

- When you change the jack number by pressing **NEXT** or **PREV**, the CO line number is not changed. Example #03-1:CO06.....Press **NEXT**.....#03-2:CO06

Feature References

Section 3, Features,
Direct In Lines (DIL)   Ringing, Delayed
Night Service

Description

Determines the CO lines which can be accessed by an extension in both day and night modes. The extension users can make outgoing CO calls using the assigned CO lines.

Selection

- Jack number: KX-TD816; **01 through 16, * (-1 / -2)**,
  KX-TD1232; **01 through 64, * (-1 / -2)**,
  (* =all jacks, -1 = first part, -2 = second part)
- CO line number:
  KX-TD816; **01 through 08, *** (* =all CO lines)
  KX-TD1232; **01 through 24, *** (* =all CO lines)
- **Enabl** (enable) / **Disab** (disable)

Default

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

Programming

1. Enter a **program address (605 for day or 606 for night)**.

   ```
   Display example: CO Out Day
   ```

2. Press **NEXT**.

   ```
   Display: Jack NO?->
   ```

3. Enter a **jack number**.

   To enter jack number 01, you can also press **NEXT**.

   To select the second part (-2), press **NEXT** after entering a jack number.

   ```
   Display example: #01-1:CO01:Enabl
   ```

4. Enter the desired **CO line number,** or keep pressing → or ← until the desired CO line is displayed.

   To change the current entry, enter the new number.

5. Keep pressing **SELECT** until the desired selection is displayed.

6. Press **STORE**.

7. To program another jack, press **NEXT** or **PREV**, or **SELECT** and the desired **jack number**.

8. Repeat steps 4 through 7.

9. Press **END**.

Conditions

- In the case of KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available. Jack numbers in the out-of-service system are unacceptable.
- For an explanation of jack numbering, see "Rotation of jack number" on page 4-7.
- To assign all jacks or all CO lines to one selection, press the ✱ key at step 3 or 4. In these cases, the display shows the contents programmed for Jack 01 or CO01.
- To assign no CO line group for a station, press **CLEAR** at step 4.

Feature References

Section 3, Features,
CO Line Connection Assignment – Outgoing
Night Service

Doorphone Ringing Assignment — Day / Night

Description

These programs assign the extensions which will ring when a doorphone call is received during the day and night modes. Programmed extensions are also allowed to open the door.

Selection

- Jack number: KX-TD816;   **01 through 16, ∗ (-1 / -2)**,
    KX-TD1232; **01 through 64, ∗ (-1 / -2)**,
    (∗ =all jacks, -1 = first part, -2 = second part)
- Doorphone number:
    KX-TD816;   **1 and 2, two entries (max.)**
    KX-TD1232; **1 through 4, four entries (max.)**

Default

Jack 01-1— All doorphones; Other jacks – no doorphone — Day / Night

Programming

1.   Enter a **program address (607 for day or 608 for night)**.

```
Display example: Doorphone in Day
```

2.   Press **NEXT**.

```
Display: Jack NO?->
```

3.   Enter a **jack number.**
    To enter jack number 01, you can also press **NEXT**.
    To select the second part (-2), press **NEXT** after entering a jack number.

```
Display example: #01-1:1234
```

4.   Enter the **doorphone numbers.**
    To assign no doorphone, press **CLEAR.**
    To change the current entry, press **CLEAR** and the new doorphone numbers.

5.   Press **STORE**.

6.   To program another jack, press **NEXT** or **PREV**, or **SELECT** and the desired **jack number**.

7.   Repeat steps 4 through 6.

8.   Press **END**.

Conditions

- In the case of KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available.
- For an explanation of jack numbering, see "Rotation of jack number" on page 4-7.
- To assign all jacks to one selection, press the ✱ key at step 3. In this case, the display shows the contents programmed for Jack 01.
- Two doorphones can be installed in each system. In the case of KX-TD1232, Doorphones 1 and 2 are installed in the Master System, 3 and 4 in the Slave, if available.
- You can enter up to two (for KX-TD816) or four (for KX-TD1232) doorphone numbers for each extension.

Feature References

Section 3, Features,

Door Opener   Night Service
Doorphone Call

Description

Assigns a mailbox number for each extension, only if program [990] "System Additional Information, Field (18)" is set to "free."

Selection

- Jack number: KX-TD816; **01 through 16** (**-1 / -2**),
  KX-TD1232; **01 through 64** (**-1 / -2**),
  (-1 = first part, -2 = second part)
- Mailbox number: **16 digits** (**max.**)

Default

All jacks – Not stored

Programming

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

2. Press **NEXT**.
   Display: Jack NO?->

3. Enter a **jack number**.
   To enter jack number 01, you can also press **NEXT**.
   To select the second part (-2), press **NEXT** after entering a jack number.
   Display example: #01-1:Not Stored

4. Enter a **mailbox number**.
   To delete the current entry, press **CLEAR**.
   To change the current entry, press **CLEAR** and the new number.

5. Press **STORE**.

6. To program another jack, press **NEXT** or **PREV**, or **SELECT** and the desired jack number.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

- In the case of KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available. Jack numbers in the out-of-service system are unacceptable.
- For an explanation of jack numbering, see "Rotation of jack number" on page 4-7.
- The system supports a maximum of eight jacks (16 jacks during System Connection) for connection to a Voice Processing System as the Voice Mail or Automated Attendant ports.
- Each mailbox number has a maximum of 16 digits, consisting of **0 through 9, ∗ , #** and **PAUSE**.
- To display parts of the mailbox number which have scrolled off the display, press → or ←.

Feature References

Section 3, Features,
Voice Mail Integration

Description

Used to determine which calls will produce an SMDR printout.

Selection

- Outgoing calls: **All** (all calls) / **Toll** (toll calls only) / **Off** (no printing)
- Incoming calls: **On** (all calls) / **Off** (no printing)

Default

Outgoing calls – All; Incoming calls – On

Programming

1. Enter **800**.

   Display: Duration Log

2. Press **NEXT** to program outgoing calls.

   Display: Outgoing:All

3. Keep pressing **SELECT** until the desired selection is displayed.

4. Press **STORE**.

5. Press **NEXT** to program incoming calls.

   Display: Incoming:On

6. Keep pressing **SELECT** until the desired selection is displayed.

7. Press **STORE**.

8. Press **END**.

Conditions

- It is necessary to connect a printer to the EIA (RS-232C) port provided on the system.
- After connecting a printer, do not press the RETURN key, if provided on the printer, in 10 seconds. Otherwise, the usage of the EIA port is changed to system programming and printout will not occur.
- If "Toll" is selected, the system will print out all the calls starting from the numbers stored in programs [301]–[305] "TRS Denied Code Entry for Levels 2 through 6."

Feature References

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

Description	Used to match the SMDR output to the paper size being used in the printer. Page length determines the number of lines per page. Skip perforation determines the number of lines to be skipped at the end of every page.

Selection

* Page length (lines): **4 through 99**
* Skip perforation (lines): **0 through 95**

Default

Page length – 66; Skip perforation – 0

Programming

1. Enter **801**.

   Display: SMDR Format

2. Press **NEXT** to program page length.

   Display example: Page Length:66

3. Enter the **page length.**

   To change the current entry, press **CLEAR** and the new page length.

4. Press **STORE**.

5. Press **NEXT** to program skip perforation.

   Display example: Skip Perf: 0

6. Enter the **skip perforation.**

   To change the current entry, press **CLEAR** and the new skip perforation.

7. Press **STORE**.

8. Press **END**.

Conditions

* The page length should be four lines or more longer than the skip perforation length.
* A title is positioned on the first three lines on every page.
* The programmed format becomes valid only if the EIA (RS-232C) cable is connected. If a printer is already connected, disconnect it and connect again. Otherwise the former format becomes valid.

Feature References

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

Description

Starts or stops printing of the system data. All the current system-programmed data is printed out.

Selection

Start / Stop

Default

Not applicable.

Programming

1. Enter **802**.

   Display: System Data Dump

2. Press **NEXT**.

   Display: Print-Out:Start

3. Press **STORE** to start printing.

   Printing starts.

   To stop printing in the middle of printing, press **SELECT** and go to step 4.

   When printing is completed, the display shows:

   Display: Print-Out:Finish

4. Press **STORE**.

   Display: Print-Out:Stop

5. Press **END**.

Conditions

- It is necessary to connect a printer to the EIA (RS-232C) port provided on the system.
- After connecting a printer, do not press the RETURN key, if provided on the printer, for 10 seconds. Otherwise, the usage of the EIA port is changed to system programming and printout will not occur.
- You may stop printing by pressing the **END** button, while records are being printed out.
- You cannot restart the printout while records are being output.

Feature References

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

Description	Assigns the music source to be used for Music on Hold and Background Music (BGM).
Selection	• **Hold / BGM** • Music source number: KX-TD816; **1 / No Use** KX-TD1232; **1 through 4 / No Use**
Default	Hold and BGM – Music 1

Programming

. 1.   Enter **803**.

      Display: Music Source Use

2.   Press **NEXT** to program Music on Hold.

      Display example: Hold:Music1

3.   Enter a **music source number**.

      To select no music source, press **CLEAR**.

      To change the current entry, enter the new music source number.

4.   Press **STORE**.

5.   Press **NEXT** to program BGM.

      Display example: BGM :Music1

6.   Enter a **music source number**.

      To select no music source, press **CLEAR**.

      To change the current entry, enter the new music source number.

7.   Press **STORE**.

8.   Press **END**.

Conditions

• The music source is a user-supplied item. For KX-TD816, one music source can be installed, for KX-TD1232, two music sources can be installed per system. Music sources 1 and 2 are connected to the Master System, 3 and 4 are to the Slave, if available. Any music source can be used by either system.
• To disable music, press **CLEAR** at steps 3 and 6.
• Program [804] "External Pager BGM" is used to enable / disable BGM for each external pager.

Feature References   **Section 3, Features,**

Background Music (BGM)   Music on Hold

Background Music (BGM) – External

Description	Used to determine which external pagers will receive Background Music (BGM). BGM –External is turned on and off by Operator 1.
Selection	• External pager number: KX-TD816; 1 KX-TD1232; **1 through 4** • **Disable** (sends no BGM) / **Enable** (sends BGM)
Default	All external pagers – Disable

Programming

1. Enter **804**.

   Display: Ext-Pag BGM

2. Press **NEXT**.

   Display: Pager NO?->

3. Enter an **external pager number**.

   To enter pager number 1, you can also press **NEXT**.

   Display example: Pager1:Disable

4. Keep pressing **SELECT** until the desired selection is displayed.

5. Press **STORE**.

6. To program another pager, press **NEXT** or **PREV**, or **SELECT** and the desired **external pager number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

- For KX-TD816, one external pager can be installed.. Please skip steps 6 and 7.
- The external pager is a user-supplied item. For KX-TD1232. two external pagers can be installed per system. External pagers 1 and 2 are installed in the Master System, 3 and 4 in the Slave, if available.
- Program [006] "Operator / Manager Extension Assignment" is used to assign an extension as Operator 1.
- Program [803] "Music Source Use" is used to select the music source to be used for BGM.

Feature References   Section 3, Features,
Background Music (BGM) – External

Description

Used to remove the confirmation tone for external pagers. The default setting sends confirmation tone 2 to the external pagers before paging is broadcast. This programming applies to all the external pagers.

Selection

On / Off

Default

On

Programming

1. Enter **805**.

    Display: Ext-Pag Ack-Tone

2. Press **NEXT**.

    Display example: Tone:On

3. Keep pressing **SELECT** until the desired selection is displayed.

4. Press **STORE**.

5. Press **END**.

Conditions

The external pager is a user-supplied item. For KX-TD816, one external pager can be installed, for KX-TD1232, two external pagers can be installed per system. External pagers 1 and 2 are installed in the Master System, 3 and 4 in the Slave, if available.

Feature References

Section 3, Features,
Confirmation Tone   Paging – External
Paging – All

Description

Assigns the communication parameters for the EIA (RS-232C) interface for **Port 1 (for KX-TD816 and Master System of KX-TD1232)** or **Port 2 (for Slave System of KX-TD1232)**.

New line code: Select the code for your printer or personal computer. If your printer or personal computer automatically feeds lines with carriage return, select "CR." If not, select "CR+LF."

Baud rate: A baud rate code indicates the data transmission speed from the system to the printer or personal computer.

Word length: A word length code indicates how many bits compose a character.

Parity: A parity code indicates what type of parity is used to detect an error in the string of bits composing a character. Make an appropriate selection depending on the requirements of your printer or personal computer.

Stop bit: A stop bit code indicates the end of a bit string which composes a character. Select an appropriate value depending on the requirements of your printer or personal computer.

Selection

- New line code: **CR+LF / CR**
  (CR=Carriage Return, LF=Line Feed)
- Baud rate (baud): **150 / 300 / 600 / 1200 / 2400 / 4800 / 9600**
- Word length (bits): **7 / 8**
- Parity bit: **None / Mark / Space / Even / Odd**
- Stop bit length (bits): **1 / 2**

Default

New line code = CR+LF; Baud rate = 9600; Word length = 8; Parity bit = Mark; Stop bit = 1 — Port 1 / Port 2

Programming

1. Enter a **program address (806 for Port 1 or 807 for Port 2)**.
   Display example: RS232C Paramet.1

2. Press **NEXT** to program new line code.
   Display example: NL-Code:CR+LF

3. Keep pressing **SELECT** until the desired selection is displayed.

4. Press **STORE**.

5. Press **NEXT** to program baud rate.
   Display example: Baud Rate:9600

6. Keep pressing **SELECT** until the desired selection is displayed.

7. Press **STORE**.

8. Press **NEXT** to program word length.
   ```
   Display example: Word Lengt:8bits
   ```

9. Keep pressing **SELECT** until the desired selection is displayed.

10. Press **STORE**.

11. Press **NEXT** to program parity bit.
    ```
    Display example: Parity:Mark
    ```

12. Keep pressing **SELECT** until the desired selection is displayed.

13. Press **STORE**.

14. Press **NEXT** to program stop bit.
    ```
    Display example: Stop Bit:1bit
    ```

15. Keep pressing **SELECT** until the desired selection is displayed.

16. Press **STORE**.

17. Press **END**.

Conditions

- The following combinations are invalid.

Parity	Word Length	Stop Bit
Mark	8	2
Space	8	1
Space	8	2

- The program address of the out-of-service system port is unacceptable.

Feature References

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

Description	Assigns the security mode for CO calls attempted by the DISA caller. There are two modes: Non Security and Trunk Security (CO line security). Non Security mode allows the caller to access a CO line without dialing a DISA user code. Trunk Security mode requires the caller to enter a DISA User Code assigned in program [811] "DISA User Codes" before making a CO call.
Selection	**Non** (non security) / **Trunk** (trunk security)
Default	Non

Programming

1. Enter **809**.

    Display: DISA Security

2. Press **NEXT**.

    Display example: Security:Non

3. Keep pressing **SELECT** until the desired selection is displayed.

4. Press **STORE**.

5. Press **END**.

Conditions   Program [811] "DISA User Codes" is used to program DISA User Codes.

Feature References   **Section 3, Features,**
Direct Inward System Access (DISA)

Description	Enables or disables Tone Detection for DISA CO-to-CO calls. Enabling tone detection allows the system to detect the end of the call.
Selection	**Enable / Disable**
Default	Enable

Programming

1. Enter **810**.

    Display: DISA Tone Detect

2. Press **NEXT**.

    Display: Tone DTC:Enable

3. Keep pressing **SELECT** until the desired selection is displayed.

4. Press **STORE**.

5. Press **END**.

Conditions	None
Feature References	**Section 3, Features,** Direct Inward System Access (DISA)

Description

Assigns the DISA User Codes and assigns a Class of Service (COS) to each code. The COS of the code determines the toll restriction level of the DISA caller.

Selection

- DISA user code number: **1 through 4**
- DISA user code: **4 digits**
- COS number: **1 through 8**

Default

| Code 1=1111 – COS 1; | Code 3=3333 – COS 1; |
| Code 2=2222 – COS 1; | Code 4=4444 – COS 1 |

Programming

1. Enter **811**.
    Display: DISA User Code

2. Press **NEXT**.
    Display: User Code NO?->

3. Enter a **DISA user code number**.
    To enter user code number 1, you can also press **NEXT**.
    Display example Code1:1111 COS:1

4. Enter a **DISA user code**.
    To change the current entry, enter the new code.

5. Press → to program **COS**.

6. Enter a **COS number**.
    To change the current entry, enter the new COS number.

7. Press **STORE**.

8. To program another user code, press **NEXT** or **PREV**, or **SELECT** and the desired **DISA user code number**.

9. Repeat steps 4 through 8.

10. Press **END**.

Conditions

- This setting is required if Trunk (CO line) Security mode is selected in program [809] "DISA Security Type."
- There are four programmable user codes. Each code should be unique, composed of four numerical digits, **0 through 9**.
- You cannot leave the entry empty.

Feature References

Section 3, Features,
Direct Inward System Access (DISA)

DISA DTMF Repeat*

Description	Selects whether the system transmits DTMF signals directly to the central office (CO) or if the system repeats the DTMF signals to CO in order to adjust gain. This can be done for a DISA CO-to-CO call during dialing and / or during an established call.
Selection	• **Dial** (during dialing) / **Call** (during an established call) • Mode: **Repeat / Through**
Default	Dial and Call – Repeat

Programming

1. Enter **812**.

    Display: DISA DTMF Repeat

2. Press **NEXT** to program the mode during dialing.

    To program the mode during an established call, press **NEXT** again.

    Display example: Dial:Repeat

3. Keep pressing **SELECT** until the desired selection is displayed.

4. Press **STORE**.

5. Press **NEXT** to program the mode during an established call.

    Display example: Call:Repeat

6. Keep pressing **SELECT** until the desired selection is displayed.

7. Press **STORE**.

8. Press **END**.

Conditions	None
Feature References	**Section 3, Features,** Direct Inward System Access (DISA)

---

*: Available for KX-TD1232 only.

Description

Assigns the floating numbers for External Pagers, DISA* messages, and the modem.* These numbers can be used the same way extension numbers are used for station access.

Selection

- Floating station: KX-TD816;   **Pager1**
                          KX-TD1232; **Pager1 / Pager2 / Pager3 / Pager4 / DISA1 / DISA2 / MODEM**
- Floating number: **2 through 4 digits**

Default

KX-TD816:   Pager 1=196
KX-TD1232: Pager 1=196; Pager 2=197; Pager 3=296;
                   Pager 4=297; DISA 1=198; DISA 2=298;
                   MODEM=299

Programming

1.   Enter **813**.

      Display: FLT EXT NO.

2.   Press **NEXT** to program Pager 1.

      Display example: Pager1:EXT196

      To program another floating station for KX-TD1232, keep pressing ·**NEXT** or **PREV** until the desired floating station is displayed.

3.   Enter a **floating number**.

      To change the current entry, press **CLEAR** and the new floating number.

4.   Press **STORE**.

5. · To program another floating station, keep pressing **NEXT** or **PREV** until the desired floating station is displayed.

6.   Repeat steps 3 through 5.

7.   Press **END**.

Conditions

- In the case of KX-TD816, skip steps 5 and 6.
- A floating number is composed of two through four numerical digits, **0 through 9**.
- The leading one or two digits of the floating numbers are subject to program [100] "Flexible Numbering, (01) through (16) 1st through 16th hundred extension blocks."

- Floating numbers and extension numbers should be unique. Double entry and incompatible entry for these numbers are invalid. Valid entry example: 10 and 11, 10 and 110; Invalid entry example: 10 and 106, 210 and 21.
- You cannot leave the entry empty.

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

Description	Assigns the modem standard. There are two standards available – BELL and CCITT.
Selection	**BELL / CCITT**
Default	BELL

Programming

1.   Enter **814**.

> . Display: MODEM Standard

2.   Press **NEXT**.

> Display example: MODEM:BELL

3.   Keep pressing **SELECT** until the desired selection is displayed.

4.   Press **STORE**.

5.   Press **END**.

Conditions   Select the standard used by your modem.

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

System Additional Information

Description   Adds the following programming items, if required:

Area 1   There are 10 fields available in Area 1 as follows:

Display example

```
0 0 1 0 1 0 0 0 1 1 0 0 0 0 0 1
```

Field number   (10) (9) (8)   (7)   (6) (5) (4)   (unused)   (3) (2) (1)
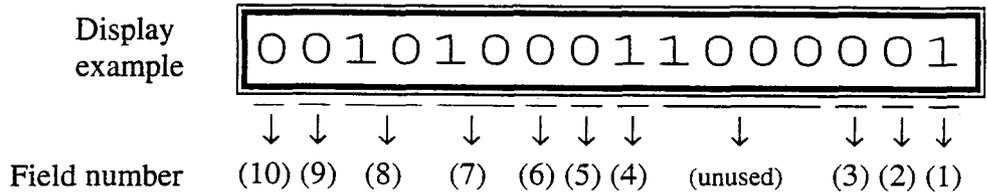
Area 2   There are 13 fields available in Area 2 as follows:

Display example

```
1 1 1 0 0 1 0 0 0 0 1 0 1 1 0 0
```

Field number   (unused)(26)(22) (21) (20)(19)(18)(17)(16)(15)(14)(13)(12)(11)
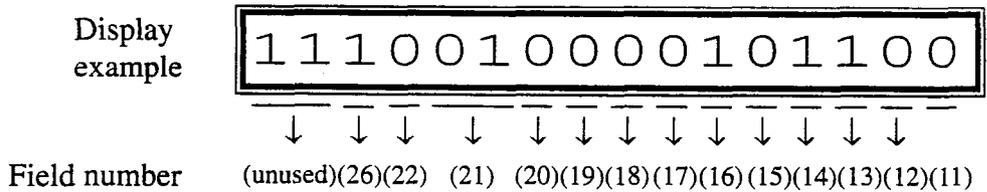
Area 3   KX-TD816: [1] through [8] below match CO lines 1 through 8
KX-TD1232: [1] through [16] below match CO lines 1 through 16

Display example

```
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
```

CO number   [16][15][14][13][12][11][10] [9] [8] [7] [6] [5] [4] [3] [2] [1]
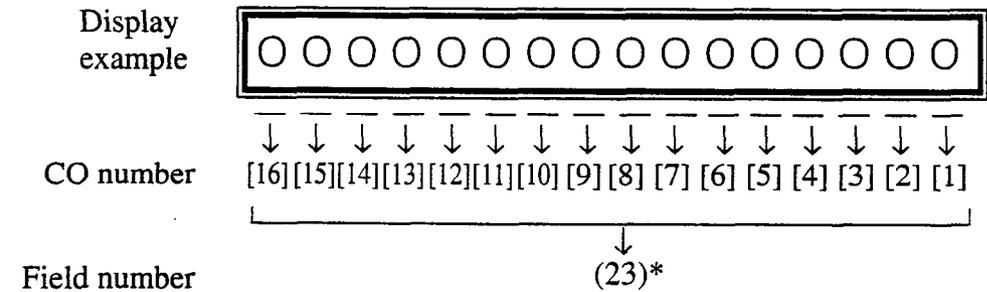
Field number   (23)*

Area 4   KX-TD1232: [17] through [24] below match CO lines 17 through 24:
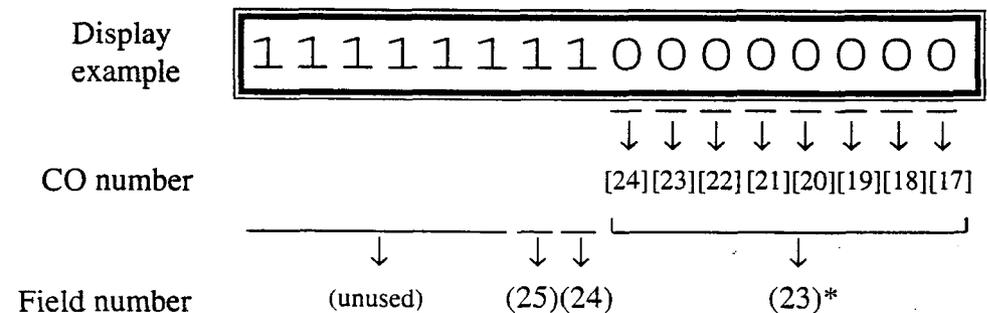
Display example

```
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0
```

CO number   [24][23][22][21][20][19][18][17]

Field number   (unused)   (25)(24)   (23)*

Explanation for Areas 1 and 2

Field	Description	Selection	Default	References
(1)	Sound source during transfer.	0 : ringback tone 1 : Music on Hold	1	• CALL TRANSFER FEATURES • Music on Hold
(2)	Result of pressing the hookswitch lightly and then placing down the handset (during a CO line call; single line telephones only).	0 : Consultation Hold 1 : disconnection	0	Consultation Hold
(3)	Result of pressing the **FLASH** button on proprietary telephones (during a CO line call).	0 : disconnection signal 1 : External Feature Access	0 1	• External Feature Access • Flash
(4)	Enables or disables the noise from CO lines when a pause is sent to the lines.	0 : disable 1 : enable	1	None
(5)	Result of pressing the hookswitch lightly (single line telephones only).	0 : Consultation Hold 1 : disconnection	0	Consultation Hold
(6)	Sets the duration of the DTMF signals sent to the Voice Processing System (VPS) ports.	0 : 80 ms 1 : 160 ms	0	Voice Mail Integration
(7)	Sets the time the system waits before sending DTMF signals (such as a mailbox number) to VPS after VPS answers a call.	00 : 0.5 s 01 : 1.0 s 10 : 1.5 s 11 : 2.0 s	10	Voice Mail Integration
(8)	Sets the time the system waits before sending DTMF signals (programmed in [113]) to VPS after the VPS calls an extension.	00 : 0.5 s 01 : 1.0 s 10 : 1.5 s 11 : 2.0 s	10	Voice Mail Integration
(9)	Assigns whether the system or the VPS turns off the Message Waiting lamp when the user hears a message recorded in a mailbox.	0 : system 1 : VPS	0	• Message Waiting • Voice Mail Integration
(10)	Assigns whether the system starts the Automated Attendant Service or not if a CO call is directed to VPS by Call Forwarding or Intercept Routing. If "start" is assigned, the "AA-SVC" code programmed in program [114] is transmitted to the voice mail port and the Follow On ID function does not work.	0 : do not start 1 : start	0	Voice Mail Integration

Field	Description	Selection	Default	References
(11)	If an outside party is transferred and unanswered, assigns whether Transfer Recall occurs at the transfer originating extension or at Operator 1.	**0** : extension **1** : Operator 1	0	Call Transfer, Unscreened – to Extension
(12)	If Limited Call Duration is enabled in program [502] "Extension-to-CO Line Call Duration Limit," assigns if Limited Call Duration is done for both outgoing and incoming calls or for outgoing calls only.	**0** : both calls **1** : outgoing calls only	0	Limited Call Duration
(13)	Allows you to remove confirmation tone 4. By default, a beep tone sounds when a three-party conference is started / ended.	**0** : disable **1** : enable	1	Confirmation Tone
(14)	Determines if the dialed " ✱ " and "#" will be checked by Toll Restriction. This assignment is required for certain central offices (CO) to prevent toll fraud. Some CO ignore the user-dialed " ✱ " and "#". If your CO is such a type, select "0" (no check).	**0** : no check **1** : check	1	Toll Restriction
(15)	Enables or disables the Flash function when receiving a CO call at a locked or toll-restricted station. Flash, if enabled, allows the user to make a CO call using the same line at the station. This is also allowed for those extensions that have Account Code – Verified – All Calls mode assigned, if "0" (disconnection signal) is selected in field (3) above.	**0** : disable **1** : enable	0	Flash
(16)	Allows you to remove Confirmation Tone 3. This tone is sent when a conversation is established just after dialing the feature numbers for accessing the following features: Call Pickup, Paging, Paging Answer, TAFAS Answer, Hold Retrieve and Call Park Retrieve.	**0** : disable **1** : enable	1	Confirmation Tone
(17)	A CO line set to pulse or call blocking mode in program [402] "Dial Mode Selection" can have two settings. This assigns the pulse break ratio during dial pulsing. Select an appropriate ratio depending on the standard in your country.	**0** : 60 % **1** : 67 %	0	Dial Type Selection

Field	Description	Selection	Default	References
(18)	Assigns if an extension's mailbox number is substituted by the extension number or it is programmable (free). If a call is forwarded or rerouted to the VPS, this system automatically transmits the mailbox number to the VPS to specify the user's mailbox. To make it programmable, select "1 (free)," then assign the number in program [609] "Voice Mail Access Codes."	**0** : extension number **1** : free	0	Voice Mail Integration
(19)	Assigns the first display of a digital large display proprietary telephone (KX-T7235) in Station Speed Dialing.	**0** : names **1** : numbers	0	Special Features for KX-T7235 — Station Speed Dialing
(20)	Assigns the source of Music Source 1 for Music on Hold and BGM. Internal music source is not available for your system.	**0** : internal music source **1** : external music source	1	• Background Music (BGM) • Background Music (BGM) – External • Music on Hold
(21)	Selects inter-digit pause for pulse dialing.	**00** : 630 ms **01** : 830 ms **10** : 1030 ms	01	None
(22)	Selects intercom dial tone frequency.	**0** : normal **1** : distinctive	0	None
(26)	Selects the extension–hooking signal detection time.	**0** : 84-1000 ms **1** : 200-1000 ms	1	None

Explanation for Areas 3 and 4

Field	Description	Selection	Default	References
(23)	This field is provided to assign PAD Switch Control (volume control of received calls on a CO line). This can be assigned per CO line. The CO numbers [1] through [8] correspond to CO lines 1 through 8 for KX-TD816, and CO numbers [1] through [24] correspond to CO lines 1 through 24 for KX-TD1232 respectively.	**0** : 0 dB **1** : -3 dB	0	None
(24)	Prevents or allows a call originated by an AA port of VPS to another AA port.	**0** : prevent **1** : allow	1	Voice Mail Integration
(25)	Prevents or allows sending pulse dialing signals during a CO call.	**0** : prevent **1** : allow	1	None

Selection	• Area code: **01** (area 1) **/ 02** (area 2) / **03** (area 3) / **04** (area 4) • Field number : **1 through 22 (for areas 1 and 2)** 　　　　　　　　**23 through 25 (for areas 3 and 4)** • Selection: See "**Selection**" shown above for each area.
Default	See "**Default**" shown above.

Programming

1. Enter **990**.

   Display: System Add Inf.

2. Press **NEXT**.

   Display: Area NO?->

3. Enter an **area code (01 through 04)**.

   Display example: 0010100011000001

4. Keep pressing ← or → to move the cursor to the desired field.

5. Enter your **selection (0 or 1)**.

   To change the current entry, press **STORE** and the new selection.

6. To program another field, repeat steps 4 and 5.

7. Press **STORE**.

8. To program another area, press **SELECT** and the desired **area code**.

9. Repeat steps 4 through 8.

10. Press **END**.

Conditions　　　　None

Feature References　　See "**References**" shown above.

Description

(1) Sets the number of digits allowed to dial out during a CO call on a Class of Service (COS) basis. If an outside party hangs up and the extension user tries to dial out still on the CO line, the system will disconnects the line at the time the assigned digits are dialed. This program can be added if CPC Signal Detection is not provided by the CO.
The Field (1) shown below is used to enter your selection.

(2) Enables or disables the Call Forwarding – Follow Me feature on a COS basis.
The Field (2) below is used to enter your selection.

Display
example

| 1 1 1 1 1 1 1 1 1 1 1 1 0 0 0 0 |

Field number
↓   ↓   ↓
(unused)   (2)   (1)

Selection

- COS number: **1 through 8**, ✳ (✳ =all COS)
- Field number : **1 or 2**
- Selection for field (1):
  0000: no limit / **0001**: 1 digit / **0010**: 2 digits / **0011**: 3 digits /
  0100: 4 digits / **0101**: 5 digits / **0110**: 6 digits / **0111**: 7 digits /
  1000: 8 digits / **1001**: 9 digits / **1010**: 10 digits / **1011**: 11 digits /
  1100: 12 digits / **1101**: 13 digits / **1110**: 14 digits / **1111**: 15 digits
- Selection for field (2): **0** : disable / **1** : enable

Default

Field 1: All COS – 0000 / Field 2: All COS – 1

Programming

1.   Enter **991**.

     Display: COS Add Inf.

2.   Press **NEXT**.

     Display: COS NO?->

3.   Enter a **COS number**.

     Display example: 1111111111110000

4.   Keep pressing ← or → to move the cursor to the desired field.

5. Enter your **selection (0 or 1)**.

   To change the current entry, press **STORE** and the new selection.

6. To program another field, repeat steps 4 and 5.

7. Press **STORE**.

8. To program another COS, press **SELECT** and the desired **COS number**.

9. Repeat steps 4 through 8.

10. Press **END**.

Conditions   None

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

Description	This program is provided for the future use. Programming procedures only are shown here.
Selection	CO line group (TRG) number: **1 through 8, ∗** (∗ =all CO line groups)
Default	Not applicable.

Programming

1. Enter **992**.

    ```
    Display: TRG Add Inf.
    ```

2. Press **NEXT**.

    ```
    Display: TRK GRP NO?->
    ```

3. Enter a **CO line group number**.

    ```
    Display example: 1111111111111111
    ```

4. Keep pressing ← or → to move the cursor to the desired field.

5. Enter your **selection (0 or 1)**.

    To change the current entry, press **STORE** and the new selection.

6. To program another field, repeat steps 4 and 5.

7. Press **STORE**.

8. To program another CO line group, press **SELECT** and the desired **CO line group number**.

9. Repeat steps 4 through 8.

10. Press **END**.

Conditions	None
Feature References	None

Section 5
List

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

5.1   Tone / Ring Tone

<TONE>

1 sec

Confirmation Tone 1

Confirmation Tone 2

Confirmation Tone 3

Confirmation Tone 4

Dial Tone 1

Dial Tone 2

Dial Tone 3

Dial Tone 4

Busy Tone

Reorder Tone

Ringback Tone 1

Ringback Tone 2

Do Not Disturb (DND)
Tone

CO-CO Call Limit
Warning Tone

5.1   Tone / Ring Tone

<TONE>

←——————————————— 15 sec ———————————————→

Hold Alarm

Call Waiting Tone 1
(CO/intercom)

←——————————— 5 sec ———————————→

Call Waiting Tone 2
(CO)

Call Waiting Tone 2
(intercom)

<RING TONE>

←— 1 sec —→

CO Calls /
CO Hold Recall

Intercom Calls /
Intercom Hold Recall

Doorphone Calls /
Timed Reminder

Callback Ringing
(Camp-on Recall)

5.2 Default Values

Address	Program	Default
	Manager Programming	
[000]	Date and Time Set	KX-TD816: '94 Jan. 1 SAT 12:00 am
		KX-TD1232: '93 Jan. 1 FRI 12:00 am
[001]	System Speed Dialing Number Set	Not Stored
[002]	System Speed Dialing Name Set	Not Stored
[003]	Extension Number Set	• KX-TD816
		Jack 01-1 through 16-1=101 through 116
		Jack 01-2 through 16-2=201 through 216
		• KX-TD1232
		Jack 01-1 through 64-1=101 through 164
		Jack 01-2 through 64-2=201 through 264
[004]	Extension Name Set	Not Stored
[005]	Flexible CO Button Assignment	• KX-TD816
		CO Buttons 1 through 8 of All Jacks=Single -
		CO 01 through 08; ringing tone type 2
		• KX-TD1232
		CO Buttons 1 through 24 of All Jacks=Single
		-CO 01 through 24; ringing tone type 2
[006]	Operator / Manager Extension Assignment	Operator 1=Jack 01;
		Operator 2 and Manager=Unassigned
[007]	DSS Console Port and Paired Telephone Assignment	Not Stored
[008]	Absent Messages	1: Will Return Soon; 2: Gone Home
		3: At Ext %%%; 4: Back at %%:%%
		5: Out Until %%/%%; 6: In a Meeting
		7 through 9: Not Stored
	System Programming	
[100]	Flexible Numbering	See page 4-31.
[101]	Day / Night Service Switching Mode	Manual
[102]	Day / Night Service Starting Time	Every Day of the Week – Day=9:00 am /
		Night=5:00 pm
[103]	Automatic Access CO Line Group Assignment	12345678
[105]	Account Codes	Not Stored
[106]	Station Hunting Type	All Extension Groups=Disable
[107]	System Password	1234
[108]	One-Touch Transfer by DSS Button	Enable
[109]	Expansion Unit Type	• KX-TD816: C1;E1
		• KX-TD1232: Master and Slave=C1;E1;E2
[110]	Caller ID Code Set	Not Stored

5.2 Default Values

Address	Program	Default
[111]	Caller ID Name Set	Not Stored
[113]	VM Status DTMF Set	RBT=1; BT=2; ROT=3; DND=4; Answer=5; Disconnect=#9; Confirm =9; FWD VM RBT=6; FWD VM BT=7; FWD EXT RBT=8
[114]	VM Command DTMF Set	LV-MSG=H; GETMSG=✳H; AA-SVC=#8; VM-SVC=#6
[115]	Adjust Time	1:00 am
[116]	ROM Version Display	Not Applicable
	Timer Programming	
[200]	Hold Recall Time	60 s
[201]	Transfer Recall Time	12 rings
[202]	Call Forwarding – No Answer Time	3 rings
[203]	Intercept Time	12 rings
[204]	Pickup Dial Waiting Time	1 s
[205]	Extension-to-CO Line Call Duration Time	10 min
[206]	CO-to-CO Call Duration Time	10 min
[207]	First Digit Time	10 s
[208]	Inter Digit Time	10 s
[209]	Automatic Redial Repeat Times	15 times
[210]	Automatic Redial Interval Time	40 s
[211]	Dial Start Time	0 ms
[212]	Call Duration Count Start Time	0 s
[213]✳	DISA Delayed Answer Time	1 ring
[214]✳	DISA Prolong Time	3 min
[215]✳	Outgoing Message Time	32, 0, 32, 0 (s)
	TRS / ARS Programming	
[300]	TRS Override for System Speed Dialing	Disable
[301]–[305]	TRS Denied Code Entry for Levels 2 through 6	Not Stored
[306]–[310]	TRS Excepted Code Entry for Levels 2 through 6	Not Stored
[311]	Special Carrier Access Codes	Not Stored
[312]	ARS Mode	Off
[313]	ARS Time	Time-A=8:00 am; Time-B=5:00 pm; Time-C=9:00 pm; Time-D=Disable
[314]–[321]	ARS Leading Digit Entry for Plans 1 through 8	Not Stored
[322]–[329]	ARS Routing Plans 1 through 8	Not Stored
[330]	ARS Modify Removed Digit	All Modification Tables=0 (digits)

5.2 Default Values

Address	Program	Default
[331]	ARS Modify Added Number	Not Stored
[332]	Extra Entry Table Selection	Except-2
[333]	TRS Entry Code Assignment for Extra Table	Not Stored
	CO Line Programming	
[400]	CO Line Connection Assignment	All CO Lines=Connect
[401]	CO Line Group Assignment	CO01=TRG 1; CO02=TRG 2; CO03=TRG 3; CO04=TRG 4; CO05=TRG 5; CO06=TRG 6; CO07=TRG 7; CO08=TRG 8 (KX-TD816); CO08 through CO24=TRG8 (KX-TD1232)
[402]	Dial Mode Selection	All CO Lines=DTMF
[403]	Pulse Speed Selection	All CO Lines=10 pps
[404]	DTMF Time	All CO Lines=80 ms
[405]	CPC Signal Detection Incoming Set	All CO Lines=400 ms
[406]	Caller ID Assignment	All CO Lines=Disable
[407]–[408]	DIL 1:1 Extension—Day/Night	All CO Lines=Disable—Day/Night
[409]–[410]	Intercept Extension—Day/Night	All CO Line Groups=Disable—Day/Night
[411]	Host PBX Access Codes	Not Stored
[412]	Pause Time	All CO Line Groups=1.5 s
[413]	Flash Time	All CO Line Groups=600 ms
[414]	Disconnect Time	All CO Line Groups=1.5 s
[415]	CPC Signal Detection Outgoing Set	Disable
[416]*	Reverse Circuit Assignment	Regular
	COS Programming	
[500]–[501]	Toll Restriction Level—Day/Night	All COS=Level 1—Day/Night
[502]	Extension-to-CO Line Call Duration Limit	All COS=Disable
[503]	Call Transfer to CO Line	All COS=Enable
[504]	Call Forwarding to CO Line	All COS=Disable
[505]	Executive Busy Override	All COS=Disable
[506]	Executive Busy Override Deny	All COS=Enable
[507]	Do Not Disturb Override	All COS=Disable
[508]	Account Code Entry Mode	All COS=Option
	Extension Programming	
[600]	EXtra Device Port	All Jacks=Disable
[601]	Class of Service	All Jacks-1/2=COS 1

*: Available for KX-TD816 only.

5.2   Default Values

Address	Program	Default
[602]	Extension Group Assignment	All Jacks-1/2=Extension Group 1
[603]–[604]	DIL 1:N Extension and Delayed Ringing—Day/Night	All Jacks-1/2=All CO Lines= Immediate Ringing—Day/Night
[605]–[606]	Outgoing Permitted CO Line Assignment—Day/Night	All Jacks-1/2=All CO Lines=Enable—Day/ Night
[607]–[608]	Doorphone Ringing Assignment —Day/Night	Jack 01-1= All Doorphones; Other Jacks=No Doorphone—Day/Night
[609]	Voice Mail Access Codes	Not Stored
	Resource Programming	
[800]	SMDR Incoming / Outgoing Call Log Printout	Outgoing Calls=All; Incoming Calls=On
[801]	SMDR Format	Page Length=66; Skip Perforation=0
[802]	System Data Printout	Not Applicable
[803]	Music Source Use	Hold and BGM=Music 1
[804]	External Pager BGM	All External Pagers=Disable
[805]	External Pager Confirmation Tone	On
[806]–[807]	EIA (RS-232C) Parameters	New Line Code=CR+LF; Baud Rate=9600; Word Length=8; Parity Bit=Mark; Stop Bit=1 — Port1/Port2
[809]*	DISA Security Type	Non Security
[810]*	DISA Tone Detection	Enable
[811]*	DISA User Codes	Code 1=1111=COS 1; Code 2=2222=COS 1; Code 3=3333=COS 1; Code 4=4444=COS 1
[812]*	DISA DTMF Repeat	Dial and Call=Repeat
[813]	Floating Number Assignment	• KX-TD816: Pager 1=196 • KX-TD1232: Pager 1=196; Pager 2=197; Pager 3=296; Pager 4=297; DISA 1=198; DISA 2=298; MODEM=299
[814]*	Modem Standard	BELL
	Option Programming	
[990]	System Additional Information	See pages 4-130 through 4-132.
[991]	COS Additional Information	See page 4-134.
[992]	CO Line Group Additional Information	Not Applicable

Section 6
Troubleshooting

This section provides information for system and telephone troubleshooting.

6.1   Troubleshooting

6.1.1   Installation

PROBLEM	PROBABLE CAUSE	POSSIBLE SOLUTION
Extension does not operate.	Bad printed circuit board (Extension Card).	Exchange printed circuit board for another printed circuit board.
	Bad connection between the system and extension.	Take that extension and plug it into the same extension port using a short telephone cord. If the telephone does not work, connection between the system and the extension must be repaired.
	A telephone with an A-A1 relay is connected.	Use a 2 wire cord. Set the A-A1 relay switch of the telephone to "OUT" or "OFF" position.
	Bad extension.	Take that extension and plug it into another extension port that is working. If the telephone does not work, replace the phone.
Improper reset operation.		Press the Reset Button.
Noise in external paging.	Induced noise on the wire between the system and the amplifier.	Use a shielded cable as the connection wire between the system and amplifier. A short shielded cable is recommended.
Volume distortion from external music source.	Excessive input level from external music source.	Decrease the output level of the external music source by using the volume control on the music source.
Speed Dialing or One-Touch Dialing does not function.	Bad programming.	Enter the CO line access number (9, 81 through 88) into programming.

6.1 Troubleshooting

6.1.2 Connection

Connection between the KX-TD816/KX-TD1232 and a proprietary telephone:

Can you dial an extension? — No
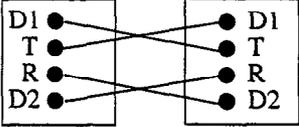
CAUSE	SOLUTION
The T/R is connected to the D1/D2. D1 — D1 T — T R — R D2 — D2 KX-TD816 / KX-TD1232 extension	Use the correct cord (inner 2 wires are for T/R and the outer 2 wires are for D1/D2).
*The P1/P2 is connected to the D1/D2. P1 — P1 D1 — D1 T — T R — R D2 — D2 P2 — P2 KX-TD1232 extension	Use the correct cord (2 wires second from the outside for D1/D2 and the outer 2 wires are for P1/P2).
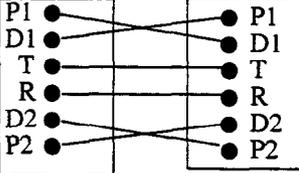
Connection between the KX-TD816/KX-TD1232 and a single line telephone:

CAUSE	SOLUTION
The T/R is connected to the D1/D2. D1 T — T R — R D2 KX-TD816 / KX-TD1232 extension	Use the correct cord (inner 2 wires are for T/R). • If a telephone equipped with an A-A1 relay is connected to the KX-TD816/KX-TD1232, set the A-A1 relay switch of the telephone to "OFF."

Connection between the KX-TD816/KX-TD1232 and a single line telephone that is polarity-sensitive:

CAUSE	SOLUTION
The "T" is connected to the "R." D1 T — T R — R D2 KX-TD816 / KX-TD1232 extension	Reverse the connections of the T/R.
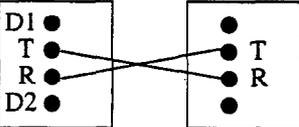
Yes

(Continued on the following page.)

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*: Available for KX-TD1232 only.

6.1   Troubleshooting

Connection between the central office and the KX-TD816/KX-TD1232:

(Continued from the previous page.)

↓

Can you dial out on a CO line? —— No ——→

CAUSE	SOLUTION
CO lines are connected to the T2/T1. CO line KX-TD816 KX-TD1232 (T2, R1, T1, R2) CO lines are connected to the T2/R1. CO line KX-TD816 KX-TD1232 (T2, R1, T1, R2)	Reconnect the CO lines to the T1/R1 or T2/R2 of the telephone jack using 2-conductor wiring.
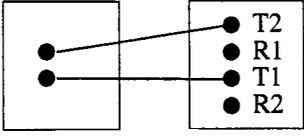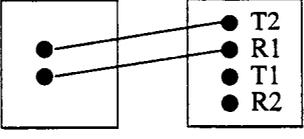
6.1.3 Operation

PROBLEM	PROBABLE CAUSE	POSSIBLE SOLUTION
• When using the speaker-phone mode with a proprietary telephone KX-T7130 or KX-T7030, nothing is audible. • When using the speaker-phone/monitor mode with a DPT, KX-T7220/KX-T7230/KX-T7235/KX-T7250, nothing is audible.	• The HANDSET / HEADSET selector of the KX-T7130 or KX-T7030 is set to the "HEADSET" position. • The "HEADSET" mode is selected by Station Programming,"Handset/Headset Selection."	• When the headset is not used, set the HANDSET / HEADSET selector to the "HANDSET" position. • When the headset is not used, select the "HANDSET" mode by Station Programming.
The unit does not ring.	• The Ringer Volume Selector is set to "OFF." • The CO line numbers are not programmed.	• Set to "HIGH" or "LOW." • See Section 4.8 [603]-[604] "DIL 1:N Extension and Delayed Ringing — Day / Night."

6.1 Troubleshooting

PROBLEM	PROBABLE CAUSE	POSSIBLE SOLUTION
During a power interruption, extensions connected to jack numbers 1, 2, 9, 10 for KX-TD816, and 1, 2, 9, 10, 17, 18 for KX-TD1232 do not operate.	• A DPT or APT is connected to the jack. • The dialing mode (tone or pulse) is improper.	• Disconnect the DPT or APT and connect a single line telephone. • Set the Tone / Pulse switch to the other position.
• During system connection operation for KX TD1232, originating an intercom/ CO call from a system to the other system is not possible.	Interface between the systems is disconnected.	Connect the interface between the systems and press the Reset Button on both systems.
Originating a CO call, Call Transfer, or Conference cannot be performed.	The corresponding CO button does not exist on the proprietary telephone.	Program the CO button. See Section 4.2 [005] "Flexible CO Button Assignment."

6.1.4 Using Reset Button

If the system does not operate properly, use the Reset Button. (If Master and Slave Systems are in operation by System Connection for KX-TD1232, reset both systems.)
Before using the Reset Button, try the system feature again to confirm whether there definitely is a problem or not.

Notes:
(a) When the System Clear Switch is set to "NORMAL," pressing the Reset Button causes the following:
1. Camp-on is cleared.
2. Calls on Hold are terminated.
3. Calls on Exclusive Hold are terminated.
4. Calls in progress are terminated.
5. Call Park is cleared.

Other data stored in memory except the above are not cleared.

(b) When the System Clear Switch is set to the "CLEAR" position, you must press the Reset Button with caution, because all data stored in memory will be cleared by the following operation: pressing the Reset Button and setting the System Clear Switch to the " NORMAL" position while the Power Indicator is flashing.

Operation

(A) If the system does not operate properly,
1. Make sure that the System Clear Switch is set to the "NORMAL" position.
2. Press the Reset Button with a pointed tool.

(B) If the system still does not operate properly,
1. Set the System Clear Switch to the "CLEAR" position.
2. Press the Reset Button with a pointed tool.
3. Return the System Clear Switch to the "NORMAL" position while the Power Indicator is flashing (approximately within 10 seconds).

(C) If the system still does not work, switch the power off and on again after five minutes.

(D) If the system still does not work,
1. Switch the power off.
2. Set the System Clear Switch to the "CLEAR" position.
3. Switch the power on.
4. Press the Reset Button with a pointed tool.
5. Set the System Clear Switch to the "NORMAL" position while the Power Indicator is flashing (approximately within 10 seconds).

(E) If the system still does not work, switch the power off. If gel cell batteries are connected to the system, disconnect them, too. Then consult an authorized service person.

When the power supply stops, certain extensions are automatically connected straight to specific CO lines:

• KX-TD816
Extension (T, R) of jack number 1 ....CO 1
Extension (T, R) of jack number 2 ....CO 2
Extension (T, R) of jack number 9 ....CO 5
Extension (T, R) of jack number 10 ....CO 6

6.1 Troubleshooting

• KX-TD1232

Extension (T, R) of jack number 1 ....CO 1
Extension (T, R) of jack number 2 ....CO 2
Extension (T, R) of jack number 9 ....CO 3
Extension (T, R) of jack number 10 ....CO 4
Extension (T, R) of jack number 17 ....CO 9
Extension (T, R) of jack number 18 ....CO 10

Connect single line telephones to the above extension jacks.

Panasonic

Digital Super Hybrid System
KX-TD816–1
KX-TD1232–1

Installation Manual Addendum

In this manual, the last letter of each model number is omitted.

ROM Version : KX-TD816–1 — P401A; KX-TD1232–1 — P101E

Panasonic

Digital Super Hybrid
System

KX-TD816-1
KX-TD1232-1

Installation Manual
Addendum ·

Attention

- Keep the unit away from heating appliances and electrical noise generating devices such as fluorescent lamps, motors and television. These noise sources can interfere with the performance of the Digital Super Hybrid System.

- This unit should be kept free of dust, moisture, high temperature (more than 40°C / 104°F) and vibration, and should not be exposed to direct sunlight.

- Never attempt to insert wires, pins, etc. into the vents or other holes of this unit.

- If there is any trouble, disconnect the unit from the telephone line. Plug the telephone directly into the telephone line. If the telephone operates properly, do not reconnect the unit to the line until the trouble has been repaired by an authorized Panasonic Factory Service Center. If the telephone does not operate properly, chances are that the trouble is in the telephone system , and not in the unit.

- Do not use benzine, thinner, or the like, or any abrasive powder to clean the cabinet. Wipe it with a soft cloth.

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

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

MODEL NO.: _____

SERIAL NO.: _____

Additional Information

If you connect the Panasonic Wireless System (model KX-T336900) to the Digital Super Hybrid System (model KX-TD816, KX-TD1232), the following features do not work with the Wireless System:

- Call Forwarding — Follow Me
- Limited Call Duration

Attention

When you ship the product

Carefully pack and send it prepaid, adequately insured and preferably in the original carton. Attach a postage-paid letter, detailing the symptom, to the outside of the carton. DO NOT send the product to the Executive or Regional Sales offices. They are NOT equipped to make repairs.

Product service

Panasonic Servicenters for this product are listed in the servicenter directory. Consult your authorized Panasonic dealer for detailed instructions.

For your future reference

DATE OF PURCHASE _____

NAME OF DEALER _____

DEALER'S ADDRESS _____

Important Safety Instructions

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

1. Read and understand all instructions.

2. Follow all warnings and instructions marked on the product.

3. Unplug this product from the wall outlets before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

4. Do not use this product near water, for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool.

5. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.

6. Slots and openings in the cabinet and the back or bottom are provided for ventilation, to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the product on the bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation unless proper ventilation is provided.

7. This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your dealer or local power company.

8. This product is equipped with a three wire grounding type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding type plug.

9. Do not allow anything to rest on the power cord. Do not locate this product where the cord will be abused by people walking on it.

Important Safety Instructions

10. Do not overload wall outlets and extension cords as this can result in the risk of fire or electric shock.

11. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock. Never spill liquid of any kind on the product.

12. To reduce the risk of electric shock, do not disassemble this product, but take it to a qualified serviceman when some service or repair work is required. Opening or removing covers may expose you to dangerous voltages or other risks. Incorrect reassembly can cause electric shock when the appliance is subsequently used.

13. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

    A. When the power supply cord or plug is damaged or frayed.

    B. If liquid has been spilled into the product.

    C. If the product has been exposed to rain or water.

    D. If the product does not operate normally by following the operating instructions. Adjust only those controls, that are covered by the operating instructions because improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.

    E. If the product has been dropped or the cabinet has been damaged.

    F. If the product exhibits a distinct change in performance.

14. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.

15. Do not use the telephone to report a gas leak in the vicinity of the leak.

SAVE THESE INSTRUCTIONS

Telephone Company and F.C.C. Requirements and Responsibilities

1. Notification to the Telephone Company

Customers, before connecting terminal equipment to the telephone network, shall upon request of the Telephone Company, inform the Telephone Company of the particular line(s) to which such connection is made, the F.C.C. registration number (see the label on the bottom of the unit) and ringer equivalence number (REN) of the registered terminal equipment.

The REN is useful in determining the quantity of devices you may connect to your telephone line and still have all of those devices ring when your telephone number is called. In most, but not all areas, the sum of the REN's of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices you may connect to your line, as determined by the REN, you should contact your local telephone company to determine the maximum REN for your calling area.

2. Connection to Telephone Line

This unit must not be connected to a coin operated line. If you are on a party line, check with your local telephone company.

3. Incidence of Harm to the Telephone Lines

Should terminal equipment cause harm to the telephone network, the telephone company shall, where practical, notify the customer that temporary discontinuance of service may be required.

However, where prior notice is not practical, the telephone company may temporarily discontinue service forthwith, if such action is reasonable in the circumstances. In case of such unnotified temporary discontinuance of service, the telephone company shall:

(a) Promptly notify the customer of such temporary discontinuance of service.
(b) Afford the customer the opportunity to correct the situation which gave rise to the temporary discontinuance.
(c) Inform the customer of the right to bring a complaint to the Federal Communication Commission pursuant to the procedures set out in Subpart E of Part 68 of FCC Telephone Equipment Rules.

4. Compatibility of the Telephone Network and Terminal Equipment

(a) **Availability of telephone interface information.**
Technical information concerning interface parameters and specifications not specified in FCC Rules, including the number of Ringers which may be connected to a particular telephone line, which is needed to permit Terminal Equipment to operate in a manner compatible with Telephone Company communications facilities, shall be provided by the Telephone Company upon customer's request.

Telephone Company and F.C.C. Requirements and Responsibilities

(b) Changes in Telephone Company Communications Facilities, Equipment, Operations and Procedures.

The Telephone Company may make changes in its communications facilities, equipment, operations or procedures, where such action is reasonably required in the operation of its business and is not inconsistent with the rules and regulations in FCC Part 68.

If such changes can be reasonably expected to render any customer Terminal Equipment incompatible with Telephone Company Communications Facilities, or require modification or alteration of such Terminal Equipment, or otherwise materially affect its use or performance. the customer shall be given adequate notice in writing, to allow the customer an opportunity to maintain uninterrupted service.

Notify the Telephone Company

Installation must be performed by a qualified professional installer.
Before connecting this equipment to any telephone, call the telephone company and inform them of the following:

- Telephone numbers to which the system will be connected ....
- Make .... Panasonic
- Model KX-TD816/
  KX-TD1232
- FCC Registration No. .... found on the bottom of
  the unit
- Ringer Equivalence No. 0.4B
- Facility Interface Code.. 02LS2
- Service Order Code.. 9.0F
- Required Network Interface Jack.. RJ 14 C

Note :

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Telephone Company and F.C.C. Requirements and Responsibilities

Caution:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this device.

When programming emergency numbers and/or making test calls to emergency numbers:

1. Remain on the line and briefly explain to the dispatcher the reason for the call before hanging up.
2. Perform such activities in the off-peak hours, such as early morning hours or late evenings.

Introduction

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

This manual contains the following sections:

Section 1, System Outline.
Provides general information on the system including system capacity and specifications.

Section 2, Installation.
Contains the basic system installation and wiring instructions, as well as how to install the optional cards and units.

Section 3, Features.
Describes all the basic, optional and programmable features in alphabetical order. It also provides information about the programming required, conditions, connection references, related features and operation for every feature.

Section 4, System Programming.
Provides step-by-step programming instructions for a proprietary telephone.

Section 5, List.
Lists tone/ring tone and default values of system programming.

Section 6, Troubleshooting.
Provides information for system and telephone troubleshooting.

NOTE
The following documents may be used in conjunction with this manual:
• User Manual for KX-TD816/KX-TD1232 System, DIGITAL Proprietary Telephones, DSS Console and Single Line Telephones.
• Programming Table
The programming table is designed to be used as a hard copy reference to the user-programmed data.

Installation Manual Contents

Simple Guide on How to Use

		Installation Manual	I/M Addendum
Example 1: (Refers to both I/M and I/M Addendum)			
B Background Music (BGM) – External		3-12	A79

See Installation Manual Page 3-12. ⎯

See Installation Manual Addendum Page 79. ⎯

Example 2: (Refers to only the I/M Addendum)			
D Direct Inward System Access (DISA)		~~3-48~~	A13

Installation Manual Page 3-48 now obsolete. ⎯

See Installation Manual Addendum Page 13. ⎯

*¹ : Available for KX-TD1232 only.
*² : Available for KX-TD816 only.

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Installation Manual Contents

*¹ : Available for KX-TD1232 only.
*² : Available for KX-TD816 only.

Installation Manual Contents

Installation Manual Contents

*: Available for KX-TD1232 only.

Installation Manual Contents

Installation Manual Contents

Installation Manual Contents

*: Available for KX-TD1232 only.

Installation Manual Contents

Installation Manual Contents

*: Available for KX-TD1232 only.

Installation Manual Contents

Programming References

System Programming,
[005] Flexible CO Button Assignment
[610] Live Call Screening Recording Mode Assignment
Station Programming..User Manual,
Flexible Button Assignment — Live Call Screening Button
                                        Live Call Screening Cancel Button
Live Call Screening Mode Set

Feature References

None

Operation References
—User Manual

DPT Features,
Live Call Screening (LCS)

Log-In / Log-Out

Description

Assigns an extension to join (log-in) or leave (log-out) a hunting or UCD group. Extensions in log-out status will not receive calls by Station Hunting but will receive other calls, unlike the DND feature.

Conditions

- There should be at least one extension that is in log-in status.
- The lighting patterns and status of the Log-In/Log-Out button are shown below.

lighting pattern	CO Line Status	
	UCD	Station Hunting
Red on	Log-Out	Log-Out
Red flash	Log-In (waiting calls)	
Off	Log-In (no calls)	Log-In (no calls)

Programming References

Section 4, System Programming,
[100] Flexible Numbering, UCD log-in / log-out
Station Programming..User Manual,
Flexible Button Assignment – Log-In / Log-Out Button

Feature References

Section 3, Features,
Station Hunting   Uniform Call Distribution (UCD)

Operation References
—User Manual

DPT Features, SLT Features;
Log-In / Log-Out

Phantom Extension

Description

Allows the system to route the calls to a phantom extension. The call to a phantom extension arrives at the extension who has the corresponding Phantom button. A phantom button can be assigned by Station Programming.

Conditions

- Types of calls whose destination can be the phantom extension are:
  - Outside calls – DIL 1:1; DISA; IRNA; UCD-Overflow
  - Intercom calls – Extension; Transfer
- You can call the phantom extension by pressing the Phantom button or by dialing the phantom extension number. If several extensions have the same phantom extension number, they will ring simultaneously.
- A phantom number must be assigned by System Programming before assigning the Phantom button by Station Programming.
- There is a maximum of 128 phantom numbers. Each number has two to four digits, consisting of numbers 0 through 9.
- The phantom number cannot be used for feature settings such as Call Forwarding.
- The lighting patterns and status of the Phantom button are shown below.

lighting pattern	Phantom Extension Status
Off	Idle
Red on	Calling a phantom extension
Green rapid flash	Incoming call

- A DSS button can be assigned as the Phantom button so that the operator can use the button for transferring a call.

Programming References

Section 4, System Programming,
[124] Phantom Number Assignment
Station Programming ....User Manual,
Flexible Button Assignment – Phantom Button

Feature References   None

Operation References   **DPT Features, SLT Features;**
—User Manual   Phantom Extension

3   Features

Quick Dialing

Description   Quick Dialing offers the extension user one-touch access to a desired party. This is enabled by storing an extension number or a telephone number up to 16-digits as a quick dial number.

Conditions
- Up to eight quick dial numbers can be stored.
- For example, Quick Dialing is convenient for room service calls in a hotel.
- You must assign a feature number first in program [100] "Flexible Numbering," and then a quick dial number in program [009] "Quick Dial Number Set" in order for Quick Dial to be effective.
  Example: If you want to assign the extension number 101 in quick dial number 3:
  1) Change or clear the feature numbers which have "3" in the first digit in program [100].
  2) Assign "3" in the selection number 63 (Quick dial number 1) in program [100].
  3) Assign "101" in a quick dial number 1 (same location number as the quick dial number 1 in program [100]) in program [009].
  Now you can dial the quick dial number 3 to call extension 101.

Programming References

Section 4, System Programming,
[009] Quick Dial Number Set
[100] Flexible Numbering, Quick dial number 1-8

Feature References   None

Operation Reference   **DPT Features, SLT Features;**
—User Manual   Quick Dialing

R

Ring Group

Description   All extensions in a ring group ring simultaneously by dialing the floating number of the extension group. A ring group can be a Station Hunting type.

Conditions   • Types of calls whose destination can be the ring group are:
       Outside calls – DIL 1:1; DISA; IRNA; UCD-Overflow
       Intercom calls – Extension; Transfer
  • The floating number of the extension group is used for all other hunting types, Circular, Termination, Voice Mail (VM), Automated Attendant (AA) and Uniform Call Distribution (UCD).

Programming References

Section 4, System Programming,
[106] Station Hunting Type
[602] Extension Group Assignment
[813] Floating Number Assignment

Feature References   **Section 3, Features,**
Floating Station   Station Hunting

Operation References   Not applicable.

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SMDR for Caller ID

Description

Station Message Detail Recording (SMDR) automatically records detailed call information in the following cases:
A) When an incoming call occurs.
B) When an incoming call is answered by an extension.
C) When an incoming call is cancelled because nobody answered the call.

If CO lines receive a Caller ID service call, SMDR records the number (11 digits max.) and / or the name (10 characters max.). "Ring" in the SMDR printout format indicates the ring duration of the incoming call in Minutes / Seconds.

An example of a printed call record:

	Date	Time	Ext	CO	Dial Number		Ring	Duration	Acc code	CD
A)	06/24/96	10:03AM	103	03	<I> 1234567890	MARY WARD				RC
B)	06/24/96	10:07AM	103	03	<I> 0924312111	TONY	0'20			AN
C)	06/24/96	10:08AM	103	03	<I> 1022220	TOM HUNKS	0'45			NA

Explanation
A) An incoming call with Caller ID from CO line 3 appears. "RC" is the Condition Code for "Receive."
B) An incoming call with Caller ID from CO line 3 is answered by extension 103. It took 20 seconds to answer the call.
   "AN" is the Condition Code for "Answer."
C) An incoming call with Caller ID from CO line 3 cancelled because nobody answered the call within 45 seconds.
   "NA" is the Condition Code for "No Answer."

Conditions

• Connect a printer provided with an EIA (RS-232C) interface to the EIA (RS-232C) connector located on the main unit.
• It is possible to select whether the SMDR prints out received incoming calls (RC) and answered incoming calls (AN) information.

Connection References

Section 2, Installation,
2.3.9   Printer Connection

Programming References

Section 4, System Programming,
[800] SMDR Incoming / Outgoing Call Log Printout
[801] SMDR Format
[806]–[807] EIA (RS-232C) Parameters
[990] System Additional Information, Fields (41), (42)

Feature References

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

Operation References

Not applicable.

SMDR for Timed Reminder

Description

Station Message Detail Recording (SMDR) automatically records detailed Timed Reminder information. It is printed out when the Timed Reminder starts and the alarm is not answered. To enable the printout, refer to the program [990] "System Additional Information, Field (45)," which allows you to print out the following records:

- Date
- Time
- Extension number
- Start / No Answer

An example of a printed Timed Reminder record:

Date	Time	Ext	CO	Dial Number	Ring	Duration	Acc code	CD
06/24/96	10:03AM	103		Timed Reminder / Start				
06/24/96	10:04AM	103		Timed Reminder / No Answer				

Conditions

Connect a printer provided with an EIA (RS-232C) interface to the EIA (RS-232C) connector located on the main unit.

Connection References

Section 2, Installation,
2.3.9 Printer Connection

Programming References

Section 4, System Programming,
[801] SMDR Format
[806]–[807] EIA (RS-232C) Parameters
[990] System Additional Information, Field (45)

Feature References

Section 3, Features,
Station Message Detail Recording (SMDR)
Timed Reminder
Timed Reminder, Remote (Wake-Up Call)

Operation References   Not applicable.

System Working Report

Description

The Digital Super Hybrid System automatically records the system's working status condition. A printer connected to the EIA (RS-232C) port can be used to print the recorded data. The recorded data can be printed out by the operator or manager.

Recorded contents are as follows:
1. Date of record
   - The date and time when cleared
   - The date and time when printed out
2. Incoming calls
   - The number of incoming calls
   - The number of answered incoming calls
   - The ratio of answered calls to incoming calls

$$\frac{\text{Number of answered calls}}{\text{Number of incoming calls}} \times 100\ (\%)$$

   - The average time from receipt of call to answer of the incoming and answered calls
   - The average talk duration of the answered calls
3. Outgoing calls
   - The number of access requested
   - The number of access succeeded
   - The ratio of access succeeded

$$\frac{\text{Number of access succeeded}}{\text{Number of access requested}} \times 100\ (\%)$$

   - The average duration of the dialed calls

These records can be deleted by the operator or manager and new data will be recorded thereafter.

Conditions

- Connect a printer provided with an EIA (RS-232C) connector to the main unit.
- Referring and deleting the system working report can be done using an EIA/remote programming software.

Connection References

Section 2, Installation
2.3.9 Printer Connection

3   Features   *S*

Programming References

> **Section 4, System Programming,**
> [100] Flexible Numbering, System working report print out / clear
> [806]–[807] EIA (RS-232C) Parameters

Feature References   **Section 3, Features,**
Station Message Detail Recording (SMDR)

Operation References   **Operator / Manager Service Features,**
—User Manual   System Working Report

Timed Reminder, Remote (Wake-Up Call)

Description

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

Conditions

- When either an operator/manager or the extension sets a new time, the pre-set time is cleared.
- SMDR automatically records the detailed Timed Reminder information. It is printed out when the Timed Reminder starts and the alarm is not answered.

Programming References

Section 4, System Programming,
[100] Flexible Numbering, Timed reminder, remote
[990] System Additional Information, Field (45)

Feature References

Section 3, Features,
SMDR for Timed Reminder   Timed Reminder

Operation References
—User Manual

Operator / Manager Service Features,
Timed Reminder, Remote (Wake-Up Call)

Two-Way Recording into Voice Mailbox*

Description

Allows the proprietary telephone user to record the conversation into one's mailbox or another mailbox, while talking on the phone.

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

Conditions

- A flexible CO and DSS button can be assigned as a Two-Way Record button or a Two-Way Transfer button.
- When all of the voice mail ports are busy, pressing the Two-Way Record button sends an alarm tone.
- When all of the voice mail ports are busy, pressing the Two-Way Transfer button followed by an extension number sends an alarm tone.

Programming References

System Programming,
[005] Flexible CO Button Assignment
Station Programming..User Manual,
Flexible Button Assignment — Two-Way Record Button, Two-Way
Transfer Button

Feature References   None

Operation References **DPT Features,**
—User Manual   Two-Way Recording into Voice Mailbox

Uniform Call Distribution (UCD)

Description

Allows incoming calls to be distributed uniformly to a specific group of extensions called an UCD group. Calls to an UCD group hunt for an idle station in a circular way. This UCD feature is particularly helpful when a certain extension receives a high volume of calls compared with other extensions.
If all extensions in an UCD group are busy or not available, the incoming outside call will be handled by the UCD Time Table.

*: Available when the Digital Super Hybrid System is connected to a Digital
Proprietary Telephone capable Panasonic Voice Processing System (one

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An outline sketch of an UCD is shown below.

(1) When a number of calls have arrived at an UCD group, the 1st call arrives at extension A first.

| Calls have arrived at an UCD group |

3rd call in queue → ○

2nd call in queue → ○

1st call in queue → ○

UCD group

| Extension A |

(When extension A is busy or UCD log out has been set in extension A, the call arrives at extension B.)

| Extension B |

(When extension B is busy or UCD log out has been set in extension B, the call arrives at extension C.)

| Extension C |

(When extension C is busy or UCD log out has been set in extension C, the call arrives at extension A.)

(2) When the 1st call arrives at extension A, the 2nd call arrives at extension B.

○ ← 3rd call in queue

○ ← 2nd call in queue

UCD group

| Extension B |

(When extension B is busy or UCD log out has been set to extension B, the call arrives at extension C.)

| Extension C |

| Extension A |
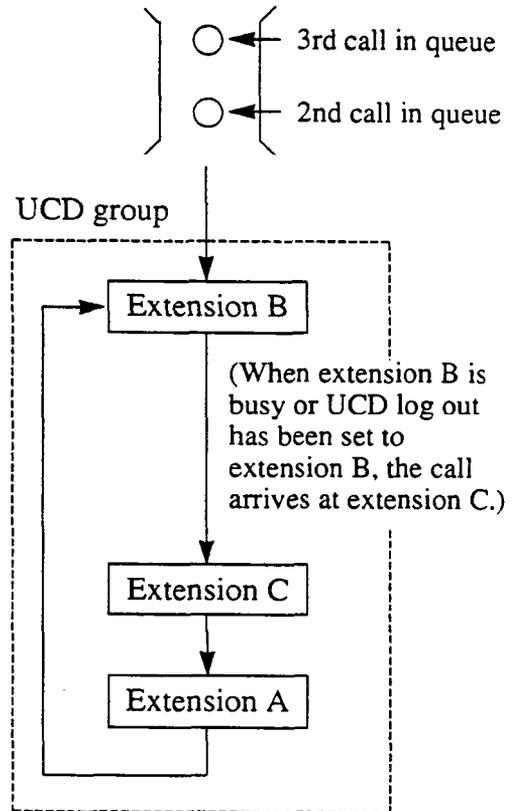
(3) When the 2nd call arrives at extension C, the 3rd call will arrive at extension A.

(4) When all extensions in an UCD group are busy or not available. the incoming outside call will be handled by the UCD Time Table.
An example is shown below.

<div align="center">

UCD Time Table Assignment

UCD	FN	OFN	TT
1	191	101	1
2	192	291	2
3	193		
4	194		
5	291		
6	292		
7	293		
8	294		

</div>

UCD : UCD Group Number (1 – 8)
FN   : Floating Number of the UCD Group
OFN : Overflow Extension Number
TT   : Time Table Number (1 – 4)

<div align="center">

Sequence Assignment

TT	SEQUENCE
1	S1 → 4T → 4T → TR →
2	S1 → 2T → → →
3	S4 → RT → → →
4	TR → → → →

</div>

S1   : Send OGM 1
S2   : Send OGM 2
S3   : Send OGM 3
S4   : Send OGM 4
TR   : Transfer to overflow extension
RT   : Return to top
Blank : Disconnect the line
1T   : Timer – 16 seconds
2T   : Timer – 32 seconds
3T   : Timer – 48 seconds
4T   : Timer – 64 seconds

Sequence Activation Examples

☐ S4 → → → → : Sends OGM 4 and then disconnects the line.

☐ S4 → TR → n/a → n/a → n/a : Sends OGM 4 and then transfers to an overflow extension.

☐ S4 → 1T → → → : Sends OGM 4, Music on Hold for 16 seconds and then disconnects the line.

☐ S1 → S2 → S3 → → : Sends OGM 1, OGM 2. OGM 3 and then disconnects the line.

☐ S4 → 1T → S1 → → : Sends OGM 4, Music on Hold for 16 seconds, OGM 1 and then disconnects the line.

☐ S4 → 1T → 4T → RT → n/a : Sends OGM 4, Music on Hold for 16 + 64 seconds and then OGM 4 again.

☐ S4 → RT → n/a → n/a → n/a : Sends OGM 4 repeatedly.

☐ TR → n/a → n/a → n/a → : Directly transfers to an overflow extension.

☐ RT → n/a → n/a → n/a → : Waits for an idle extension. The caller hears a ringback tone. (IRNA works.)

☐ → n/a → n/a → n/a → : Waits for an idle extension. The caller hears a ringback tone. (IRNA works.)

☐ 1T → → → → : Waits for an idle extension. The caller hears a ringback tone. (IRNA does not work.)

☐ 1T → RT → n/a → n/a → : Waits for an idle extension. The caller hears a ringback tone. (IRNA does not work.)

☐ 1T → TR → n/a → n/a → : Waits for an idle extension for 16 seconds and then transfers to an overflow extension.

* n/a: not available for assignment.

Note:

- The UCD Time Table is not available for incoming extensions or transferred calls.
- If the overflow extension or Time Table number is not assigned. the system does not answer the call and waits for any extension to be idle. In this case, IRNA will be employed.
- If the system sends the OGM after queuing, the OGM answering time is subject to the time assigned in program [213] "DISA Delayed Answer Time."
- Dialing is disregarded during an OGM.
- In sequence assignment. "Sx" can be assigned in a space other than the first only when another "Sx" is assigned in the first space.
- In sequence assignment, an assignment after "TR," "RT" or "Blank" is not available..
- An OGM is only available for KX-TD1232.
- If a timer is the first item in a Time Table sequence, it will delay answering according to the Timer's time setting. The caller will hear a ringback tone.
- Music on Hold after an OGM can be changed to a ringback tone by program [990] "System Additional Information, Field (1)."

Conditions

- UCD can be used in the following cases:
    a) The floating number of UCD is assigned as the DIL 1:1 destination.
    b) The floating number of UCD is assigned as the Intercept Routing destination.
    c) The floating number of UCD is dialed from an extension.
    d) The floating number of UCD is dialed from DISA.
    e) The floating number of UCD is assigned as the UCD Overflow destination.
- This feature requires assignment of an UCD group in System Programming. An extension cannot belong to two or more UCD groups.
- The floating number can be assigned on an UCD group basis. The UCD group is based on the extension group.
- It is possible to set the log-in or log-out status on an extension basis. An UCD call can arrive at an extension in log-in status within the UCD group, but cannot arrive at extensions in log-out status. If the extension would like to leave the group temporarily, the extension sets the log-out status by the feature number to prevent UCD calls being sent to their extensions. When the extension re-joins the group, the extension sets the log-in status.
- There should be at least one extension that is in log-in status.

Programming References

Section 4, System Programming,
[106] Station Hunting Type
[122] UCD Overflow
[123] UCD Time Table
[813] Floating Number Assignment

Feature Reference   Section 3, Features,
Extension Group   Station Hunting
Log-In / Log-Out

Operation References   **DPT Features, SLT Features;**
—User Manual   Uniform Call Distribution (UCD)

Voice Mail Integration for Digital Proprietary Telephones*

Description   A Digital Proprietary Telephone capable Panasonic Voice
Processing System can be connected to a Digital Super Hybrid
System (DSHS) in a tightly integrated fashion.
The system sends the VPS data which contains the extension
number configuration information and the VPS automatically
creates mailboxes with this data (Automatic Configuration —
Quick Setup).

Conditions   • A maximum of one VPS can be connected to each DSHS cabinet.
• A maximum of four DSHS jacks can be connected to a digital
proprietary telephone capable VPS. Because a digital proprietary
telephone connection supports up to two simultaneous voice calls, only
one DSHS jack needs to be connected for every two VPS ports.
• Connect the jacks and ports in ascending order. In other words, the
lowest number DSHS jack used for VPS connection must be connected
to the lowest number VPS port.
• The VPS data is transmitted to the VPS via the lowest jack port.

Programming References

Section 4, System Programming,
[117] Voice Mail Number Assignment
[118] Voice Mail Extension Number Assignment
[119] Voice Mail Extension Group Assignment
[610] Live Call Screening Recording Mode Assignment

Feature References   Section 3, Features,
Voice mail Integration

Operation References   Not applicable.

W 3 Features

Walking COS

Description

Allows a user who is not at their own telephone to use all of the COS functions of their extension. At another extension, the user dials the walking COS password, and for the duration of the call, the COS of the extension is changed to the COS of their own extension.

Conditions

None·

Programming References

Section 4, System Programming,
[100] Flexible Numbering, Walking COS
[121] Walking COS Password
[601] Class of Service

Feature References

Section 3, Features,
Class of Service (COS)

Operation References
—User Manual

DPT Features, SLT Features;
Walking COS

4.1 General Programming Instructions

Display Revision for System Programming

The three digit number of the program address is displayed with the name after pressing the program address number in System Programming.

The display list is shown below.

Display List

Program Address	Display	Program Address	Display
[000]	000 DATE / TIME	[127]	127 CID LD
[001]	001 SYS SPD DIAL	[200]	200 HOLD RECALL
[002]	002 SYS SPD NAME	[201]	201 TRAN RECALL
[003]	003 EXT NUMBER	[202]	202 CALL FWD-NA
[004]	004 EXT NAME SET	[203]	203 INTERCEPT
[005]	005 FLEXIBLE CO	[204]	204 PICKUP DIAL
[006]	006 OP-1, 2, MGR	[205]	205 EXT-CO TIME
[007]	007 DSS CONSOLE	[206]	206 CO-CO TIME
[008]	008 ABSENT MSG.	[207]	207 1ST DIGIT T
[009]	009 QUICK DIAL	[208]	208 INTER DIGIT
[100]	100 FLEX. NUMBER	[209]	209 AUTO RD QTY
[101]	101 DAY/NT AUTO	[210]	210 REDIAL TIME
[102]	102 DAY/NT CLOCK	[211]	211 DIAL START
[103]	103 AUTO CO GRP	[212]	212 CALL TIMER
[105]	105 ACCT CODES	[213]	213 DISA ANSWER
[106]	106 STATION HUNT	[214]	214 DISA PROLONG
[107]	107 SYS PASSWORD	[215]	215 OGM MSG TIME
[108]	108 AUTO HOLD	[216]	216 MW RING TIME
[109]	109 EXPAND C,E1	[217]	217 TIMED REMIND
[110]	110 CALLER ID #	[218]	218 DISA AA WAIT
[111]	111 CALLER NAME	[219]	219 PARK RECALL
[113]	113 VM DTMF SET	[300]	300 TRS SPEED DL
[114]	114 VM DTMF CMD	[301]	301 TRS DENY L-2
[115]	115 TIME ADJ M/S	[302]	302 TRS DENY L-3
[116]	116 ROM VERSION	[303]	303 TRS DENY L-4
[117]	117 VMS PORT ASN	[304]	304 TRS DENY L-5
[118]	118 VM EXT #	[305]	305 TRS DENY L-6
[119]	119 VM EXT GROUP	[306]	306 TRS ALLOW 2
[120]	120 USR PASSWORD	[307]	307 TRS ALLOW 3
[121]	121 COS PASSWORD	[308]	308 TRS ALLOW 4
[122]	122 UCD OVERFLOW	[309]	309 TRS ALLOW 5
[123]	123 UCD T.TABLE	[310]	310 TRS ALLOW 6
[124]	124 PHANTOM #	[311]	311 CARRIER #
[125]	125 AREA CODE	[312]	312 ARS MODE SET
[126]	126 CID LOCAL	[313]	313 ARS TIME SET

Display List (contd.)

Program Address	Display	Program Address	Display
[314]	314 ARS LEAD D-1	[417]	417 CO LINE NAME
[315]	315 ARS LEAD D-2	[500]	500 TRS DAY LVL
[316]	316 ARS LEAD D-3	[501]	501 TRS NITE LVL
[317]	317 ARS LEAD D-4	[502]	502 EXT-CO TIMER
[318]	318 ARS LEAD D-5	[503]	503 CALL XFER CO
[319]	319 ARS LEAD D-6	[504]	504 CALL FWD CO
[320]	320 ARS LEAD D-7	[505]	505 EXEC BSY OR
[321]	321 ARS LEAD D-8	[506]	506 EXEC BSY DNY
[322]	322 ARS ROUTE 1	[507]	507 DND OVERRIDE
[323]	323 ARS ROUTE 2	[508]	508 ACC CODE OPT
[324]	324 ARS ROUTE 3	[600]	600 XDP PORT
[325]	325 ARS ROUTE 4	[601]	601 COS #
[326]	326 ARS ROUTE 5	[602]	602 EXT GROUP #
[327]	327 ARS ROUTE 6	[603]	603 DIL 1:N DAY
[328]	328 ARS ROUTE 7	[604]	604 DIL 1:N NITE
[329]	329 ARS ROUTE 8	[605]	605 CO DAY OUT
[330]	330 ARS REMOVE	[606]	606 CO NIGHT OUT
[331]	331 ARS ADD #'S	[607]	607 DOOR SET DAY
[332]	332 TRS EXTRA +	[608]	608 DOOR SET NIT
[333]	333 TRS EXTRA -	[609]	609 V-MAIL CODES
[334]	334 EMERGENCY #	[610]	610 LCS REC.MODE
[400]	400 CO CONNECT	[800]	800 SMDR IN/OUT
[401]	401 CO GROUP 1-8	[801]	801 SMDR FORMAT
[402]	402 DIAL MODE	[802]	802 SYSTEM DATA
[403]	403 PULSE SPEED	[803]	803 MUSIC SOURCE
[404]	404 DTMF TIME	[804]	804 EXTERNAL BGM
[405]	405 CPC INCOMING	[805]	805 EX PAGE TONE
[406]	406 CALLER ID CO	[806]	806 RS232 PORT 1
[407]	407 DIL 1:1 DAY	[807]	807 RS232 PORT 2
[408]	408 DIL 1:1 NITE	[809]	809 DISA SECURE
[409]	409 INTERCEP DAY	[810]	810 DISA TONE
[410]	410 INTERCEP NT	[811]	811 DISA CODES
[411]	411 HOST PBX #'S	[812]	812 DISA DTMF
[412]	412 PAUSE TIME	[813]	813 FLOATING #
[413]	413 FLASH TIME	[814]	814 MODEM TYPE
[414]	414 DISCONNECT	[815]	815 DISA AA
[415]	415 CPC OUTGOING	[990]	990 SYS ADD DATA
[416]	416 REV. CURRENT	[991]	991 COS ADD DATA

Date and Time Set

Description	Sets the current date and time. A 12 hour clock or 24 hour clock can be selected.
Selection	• Year: **00 through 99**
	• Month: **Jan. through Dec.**
	• Day: **1 through 31**
	• Day of the week: **SUN / MON / TUE / WED / THU / FRI / SAT**
	• Hour: **1 through 12**
	• Minute: **00 through 59**
	• **AM / PM**
	• Clock hour: **12 or 24**
Default	'93 Jan. 1 FRI 12:00 AM 12

Programming

1. Enter **000**.

    Display: 000 DATE / TIME

2. Press **NEXT**.

    Display example: '93 Jan. 1 FRI

3. Enter the **year**.

    To change the current entry, press **CLEAR** and enter the new year.

4. Press ➡ .

5. Keep pressing **SELECT** until the desired month is displayed.

6. Press ➡ .

7. Enter the **day**.

    To change the current entry, press **CLEAR** and enter the new day.

8. Press ➡ .

9. Keep pressing **SELECT** until the desired day of the week is displayed.

10. Press **STORE**.

11. Press **NEXT**.

    Display example: 12:00 PM 24

12. Enter the **hour**.

   To change the current entry, press **CLEAR** and enter the new hour.

13. Press ➡ .

14. Enter the **minute**.

   To change the current entry, press **CLEAR** and enter the new minute.

15. Press ➡ .

16. Press **SELECT** for AM or PM.

17. Press ➡ .

18. Press **SELECT** for 12 or 24 (clock hour).

19. Press **STORE**.

20. Press **END**.

Conditions

- After changing an entry, you can press **STORE**. You do not have to perform the rest of the steps.
- To go back to a previous field, press ⬅ in steps 4 through 9 and steps 13 through 18.
- If you hear an alarm after pressing **STORE**, check that the date is valid.
- The clock starts immediately after the **STORE** button is pressed.
- You cannot leave an entry empty.
- Program [990] "System Additional Information, Field (30)" is used to enable the automatic time adjustment by Caller ID information once a day.

Feature References

Section 3, Features,
Display, Time and Date

Description

Stores up to eight quick dial numbers.

Selection

• Quick dial number: **1 through 8**
• desired number: **16 digits (max.)**

Default

All quick dial numbers – Not stored

Programming

1. Enter **009**.

    Display: 009 QUICK DIAL

2. Press **NEXT**.

    Display: Location NO?→

3. Enter a **quick dial number.**

    To enter location number 1, you can also press **NEXT**.

    Display example: 1: Not Stored

4. Enter a **desired number**.

    To delete the current entry, press **CLEAR**.
    To change the current entry, press **CLEAR** and enter the new number.

5. Press **STORE**.

6. To program another location, press **NEXT** or **PREV**, or
    SELECT and the desired **location number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

• There is maximum of eight quick dial numbers. A maximum of sixteen
  digits, consisting of 0 through 9, can be assigned to a quick dial
  number.
• Before programming this program, assign a feature number for each
  location first in program [100] "Flexible Numbering."

Feature References

Section 3, Features,
Quick Dialing

Description

In addition to the current flexible numbering assignment, more feature numbers can be assigned.

Selection

- Selection number: **54 through 71**
- Feature number: **1 through 3 digits**

Default

Number	Feature	Default
54	LCS password set / cancel	799
55	CO incoming call information log mode	56
56	CO incoming call information log lock	57
57	Timed reminder, remote	7✶
58	log-in / log-out	45
59	Automatic callback busy cancel	46
60	Walking COS	47
61	Modem control command 1-5	791
62	System working report print out / clear	794
63 - 70	Quick dial numbers 1-8	None
71	Reserved	None

For more information about this programming, refer to the program [100] "Flexible Numbering" in the main Installation Manual.

Station Hunting Type

Description

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

Selection

- Extension group number: **1 through 8,** ✶ (✶ =all extension groups)
- **Disable** (no hunting) / **Terminate** (termination) / **Circular** / **VM** (voice mail) / **AA** (automated attendant) / **RING** / **UCD**

Default

All extension groups – Disable

Programming

1. Enter **106**.

   Display: 106 STATION HUNT

2. Press **NEXT**.

   Display: EXT GRP NO?→

3. Enter an **extension group number**.

   To enter extension group number 1, you can also press **NEXT**.

   Display example: Group1: Disable

4. Keep pressing **SELECT** until the desired selection is displayed.

5. Press **STORE**.

6. To program another extension group, press **NEXT** or **PREV**, or **SELECT** and the desired **extension group number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

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

Feature References   **Section 3, Features,**

Ring Group   Uniform Call Distribution (UCD)
Station Hunting   Voice Mail Integration

Description

Enables or disables automatically holding a CO call when a DSS button on the DSS Console or proprietary telephone, or a CO button on a proprietary telephone is pressed. Through this assignment, each button acts as follows:
— Pressing the DSS button holds a CO call and quickly transfers it to an extension without pressing the TRANSFER button.
— Pressing another CO button holds the current CO call.

Selection

• **Button: DSS or CO**
• **Enable / Disable**

Default

DSS button — Enable, CO button — Disable

Programming

1. Enter **108**.

   Display: 108 AUTO HOLD

2. Press **NEXT** to program the DSS button.

   Display example: DSS XFER:Enable

3. Keep pressing **SELECT** until the desired selection is displayed.

4. Press **NEXT** to program the CO button.

   Display example: CO Hold:Disable

5. Keep pressing **SELECT** until the desired selection is displayed.

6. Press **STORE**.

7. Press **END**.

Conditions

This assignment applies to all DSS and CO buttons on all DSS Consoles and proprietary telephones in the system.

Feature References

Section 3, Features,
Automatic Hold by CO Button
One-Touch Transfer by DSS Button

Description

Assigns the type of expansion units to be used in the system.
This allows the system to identify the unit in each expansion unit
location.

Selection

KX-TD816
- Areas 1; 2 = **C / D / E / A**
            (C: 4-CO Line Unit / E: 8-Station Line Unit /
            A, D: no use)

KX-TD1232
- **Master / Slave**
- Areas 1; 2; 3 = **C / D / E1 / E2 / A1 / A2**
            (C: 4-CO Line Unit / E1: 8-Station Line Unit 1 /
            E2: 8-Station Line Unit 2 / A1, A2, D: no use)

Default

KX-TD816: C;E
KX-TD1232: Master and Slave – C;E1;E2

Programming

KX-TD816
1.   Enter **109**.

      Display: 109 EXPAND C, E1

2.   Press **NEXT**.

      Display example: Master:C ;E

3.   Keep pressing **SELECT** until the desired selection of Area 1
      is displayed.

4.   Press ➡ to program Area 2, if required.

5.   Keep pressing **SELECT** until the desired selection of the
      Area 2 is displayed.

6.   Press **STORE**.

7.   Press **END**.

KX-TD1232
1.   Enter **109**.

      Display: 109 EXPAND C, E1

2.   Press **NEXT** to program the Master System.

Expansion Unit Type (contd.)

To program "Slave," press **NEXT** again.

`Display example: Master:C ;El;E2`

3.   Keep pressing **SELECT** until the desired selection of Area 1 is displayed.

4.   Press ➡ to program another Area, if required.

5.   Keep pressing **SELECT** until the desired selection of the Area is displayed.

6.   Repeat steps 4 and 5 until all the required entries are completed, if required.

7.   Press **STORE**.

If only one system is in operation, go to step 10.

8.   Press **NEXT** to program the Slave System.

`Display example: Slave :C ;El;E2`

9.   Repeat steps 3 through 7, if required.

10. Press **END**.

Conditions

- There are two expansion areas in KX-TD816, areas 1 and 2 from bottom to top. One 8-Station Line Unit and one 4-CO Line Unit can be installed.
- There are three expansion areas in each system for KX-TD1232, areas 1, 2 and 3 from bottom to top. Up to two 8-Station Line Units and one 4-CO Line Unit can be installed in each system.
- An out-of-service system is unassignable. In this case, skip steps 8 and 9 for KX-TD1232.
- In the case of KX-TD1232, if only the Slave System is in operation, the display shows "Slave" in step 2.
- After changing the setting, turn the Power Switch off and on once. Otherwise, the previous setting will remain.

Feature References

Section 3, Features,
Module Expansion

Description	Assigns the jack number corresponding to the voice mail port for data transmission to the Voice Processing System. The voice mail port is expandable to four ports (8 ports during System Connection for KX-TD1232).
Selection	KX-TD816 • Jack number: **02 through 16** KX-TD1232 • **Master / Slave** • Jack number: **02 through 32** / Master; **33 through 64** / Slave
Default	All jacks — Blank

Programming

KX-TD816

1. Enter **117**.

    Display: 117 VMS PORT ASN

2. Press **NEXT**.

    Display example:M:#   #   #   #

3. Enter a **jack number**.

    To delete the current entry, press **CLEAR**.

    To change the current entry, press **CLEAR** and enter the new jack number.

4. Press ➡ to enter another jack number.

5. Repeat steps 3 through 4 to enter another jack number.

6. Press **STORE**.

7. Press **END**.

KX-TD1232

1. Enter **117**.

    Display: 117 VMS PORT ASN

2. Press **NEXT** to program the Master System.

    To program "Slave," press **NEXT** again.

    Display example: M:#   #   #   #

3.   Enter a **jack number**.

   To delete the current entry, press **CLEAR**.

   To change the current entry, press **CLEAR** and enter the new jack number.

4.   Press ➡ to enter another jack number.

5.   Repeat steps 3 through 4 to enter another jack number.

6.   Press **STORE**.

7.   Press **NEXT** to program the Slave System.

   Display example: S:# # # #

8.   Repeat steps 3 through 4 to enter another jack numbers.

9.   Press **END**.

Conditions

- Neither Jack number 01 nor the manager extension can be assigned as a voice mail port jack. The voice mail port jack cannot be assigned to a manager extension.
- The jack numbers correspond to the voice mail port in numerical order.
  Example: Stored jack numbers: Jacks 02, 03, 05, 08
  Jack 02=Voice mail numbers 01, 02; Jack 03= Voice mail numbers 03, 04; Jack 05=Voice mail numbers 05, 06; Jack 08=Voice mail numbers 07, 08

Feature References   None

Description	Assigns the extension number for the voice mail number. These numbers can be used the same way extension numbers are used for station access.
Selection	• Voice mail number: **01 through 16** • Extension Number: **2 through 4 digits**
Default	VM-01=165, VM-02=166, VM-03=167, VM-04=168, VM-05=169, VM-06=170, VM-07=177, VM-08=178, VM-09=171, VM-10=172, VM-11=173, VM-12=174, VM-13=175, VM-14=176, VM-15=179, VM-16=180

Programming

1. Enter **118**.

   Display: 118 VM EXT #

2. Press **NEXT**.

   Display: VM NO?→

3. Enter a **voice mail number**.

   To enter voice mail number 01, you can also press **NEXT**.

   Display: VM-01:#02-1:165

4. Enter an **extension number**.

   To change the current entry, press **CLEAR** and enter the new number.

5. Press **STORE**.

6. To program another voice mail number, press **NEXT** or **PREV**, or **SELECT** and the desired voice mail number.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

• You cannot leave an entry empty.
• Double entries and incompatible entries for extension numbers are invalid.
• The display shows "VM-XX:#YY-1:ZZZ" in step 3.
  "XX" means the voice mail number.
  "YY" means the jack number of the voice mail port programmed in [117].
  "-1" of YY-1 means the first part of jack number in digital line.
  YY-2 means the second number of the jack number in digital line.

Feature References

Section 3, Features,
Voice Mail Integration for Digital Proprietary Telephones

*: Available when the Digital Super Hybrid System is connected to a Digital
Proprietary Telephone capable Panasonic Voice Processing System (one

Description

Assigns each voice mail number to a voice mail extension group number.

Selection

- Voice mail number(VM): **01 through 16, ✶**

  (✶ =all voice mail number)
- Voice mail extension group number (EXG) = **1 through 8**

Default

All voice mail numbers = EXG 1

Programming

1. Enter **119**.

   Display: 119 VM EXT GROUP

2. Press **NEXT**.

   Display: VM NO?→

3. Enter a **voice mail number**.

   To enter voice mail number 01, you can also press **NEXT**.

   Display example: VM-01:#02-1:EXG1

4. Enter the **voice mail extension group number**.

   To delete the current entry, press **CLEAR**.
   To change the current entry, enter the new number.

5. Press **STORE**.

6. To program another voice mail number, press **NEXT** or **PREV**, or **SELECT** and the desired voice processing mail number.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

- The display shows "VM-XX:#YY-1:EXG Z" in step 3.
  "XX" means a voice mail number.
  "YY" means the jack number of the voice mail port programmed in [117].
  "-1" of YY-1 means the first part of jack number in digital line.
  "YY-2" means the second part of the jack number in digital line.

Feature References

Section 3, Features,
Voice Mail Integration for Digital Proprietary Telephones

*: Available when the Digital Super Hybrid System is connected to a Digital
Proprietary Telephone capable Panasonic Voice Processing System (one

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User Password

Description

Assigns the password required for entering the User Programming mode.

In the User Programming Mode, any display digital proprietary telephone user in the system can set the following programs:

[000] Date and Time Set
[001] System Speed Dialing Number Set
[002] System Speed Dialing Name Set
[003] Extension Number Set
[004] Extension Name Set
[005] Flexible CO Button Assignment
[006] Operator/Manager Extension Assignment
[007] DSS Console Port And Paired Telephone Assignment
[008] Absent Messages
[009] Quick Dial Number Set

Selection

Password: **4 through 7 digits**

Default

1234

Programming

1. Enter **120**.

    Display: 120 USR PASSWORD

2. Press **NEXT**.

    Display example: Password:1234

3. Enter a **password**.

    To change the current entry, press **CLEAR** and enter the new password.

4. Press **STORE**.

5. Press **END**.

Conditions

• The password can be from four to seven digits long. Valid numbers are from **0 to 9**.
• If less than four digits are entered, they will not be stored.
• You cannot leave the entry empty.

Feature References   None

Description	Assigns the password required for Walking COS.
Selection	Password: **4 through 7 digits**
Default	1234

Programming

1. Enter **121**.

   Display: 121 COS PASSWORD

2. Press **NEXT**.

   Display example: Password:1234

3. Enter a **password**.

   To change the current entry, press **CLEAR** and enter the new password.

4. Press **STORE**.

5. Press **END**.

Conditions

- The password can be from four to seven digits long. Valid numbers are from **0 to 9**.
- If less than four digits are entered, they will not be stored.
- You cannot leave the entry empty.

Feature References Section 3, Features,
Walking COS

Description

Assigns the destination where the call is transferred to when all extensions in the UCD group are busy. The Time Table number of the overflow extension must also be assigned.

Selection

- UCD group number: **1 through 8**
- Overflow extension number: **2 through 4 digits**
- Time table number: **1 through 4**

Default

All UCD groups — Not stored

Programming

1.   Enter **122**.

   Display: 122 UCD OVERFLOW

2.   Press **NEXT**.

   Display: UCD No?→

3.   Enter a **UCD group number**.

   To enter UCD group number 1, you can also press **NEXT**.

   Display example: UCD1:   ,TT:

4.   Enter a **overflow extension number**.

   Display example: UCD1:102,TT:

5.   Press ➡ .

4.   Enter a **time table number**.

   Display example: UCD1:102,TT:1

4.   Press **STORE**.

5.   Press **END**.

Conditions

If the overflow extension or Time Table number is not assigned, the system does not answer the call and waits for any extension to be idle. In this case, IRNA will be employed.

Feature Reference

Section 3, Features,
Uniform Call Distribution (UCD)

Description

Assigns the queuing sequence in the UCD time table. The queuing sequences are as follows:

*S1	: Sends DISA outgoing message 1
*S2	: Sends DISA outgoing message 2
*S3	: Sends DISA outgoing message 3
*S4	: Sends DISA outgoing message 4
TR	: Transfers to the overflow extension
RT	: Returns to the top of the sequence
Blank	: Disconnects
1T	: Timer — 16 seconds
2T	: Timer — 32 seconds
3T	: Timer — 48 seconds
4T	: Timer — 64 seconds

Selection

- Time table number: **1 through 4**
- **S1 / S2 / S3 / S4 / TR / RT / 1T / 2T / 3T / 4T / Blank**

Default

All time tables — Not stored

Programming

1. Enter **123**.

   Display: 123 UCD T.TABLE

2. Press **NEXT**.

   Display: Table No.?→

3. Enter a **time table number**.

   To enter time table number 1, you can also press **NEXT**.

   Display example: 1: → → → →

4. Keep pressing **SELECT** until the desired selection is displayed.

   Display example: 1:S4→ → → →

5. Press ➡ .

6. Repeat steps 4 and 5.

4. Press **STORE**.

5. Press **END**.

Conditions

- "Sx" can be assigned in a space other than in the first only when another "Sx" is assigned in the first space.
- An assignment after "TR," "RT" or "Blank" is not available.

Feature Reference

Section 3, Features,
Uniform Call Distribution (UCD)

Description

Assigns the phantom numbers. Each number will be assigned to a flexible CO or DSS button and used as a Phantom button.

Selection

- Location number: **001 through 128**
- Phantom number: **2 through 4 digits**

Default

All locations – Not stored

Programming

1. Enter **124**.

   Display: 124 PHANTOM #

2. Press **NEXT**.

   Display: Location NO?→

3. Enter a **location number**.

   To enter location number 001, you can also press NEXT.

   Display example: 001: Not Stored

4. Enter a **phantom number**.

   To delete the current entry, press **CLEAR**.

   To change the current entry, press **CLEAR** and enter the new number.

5. Press **STORE**.

6. To program another location, press **NEXT** or **PREV**, or **SELECT** and the desired **location number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

- There is a maximum of 128 phantom numbers. Each number has two to four digits, consisting of numbers **0 through 9**.
- The first one or two digits of the phantom extension numbers are subject to program [100] "Flexible Numbering, (01) through (16) 1st through 16th hundred extension blocks."
- Phantom extension numbers and other extension numbers should be unique. Double entry and incompatible entry for these numbers are invalid. Valid entry example: 10 and 11, 10 and 110; Invalid entry example: 10 and 106, 210 and 21.
  In order not to make an invalid entry, check the other extension numbers in programs [003] "Extension Number Set," [118] "VM Extension Number Assignment" and [813] "Floating Number Assignment."

Feature References

Section 3, Features,
Phantom Extension

Area Code Assignment

Description	Assigns the area code which is necessary when using the Caller ID feature. By assigning your area code, the system records the caller's phone number modified by programs [126] "Caller ID Modification for Local Call" and [127] "Caller ID Modification for long distance call."
Selection	Area code: **1 through 6 digits**
Default	Blank

Programming

1. Enter **125**.

    Display: 125 AREA CODE

2. Press **NEXT**.

    Display example: Area Code:201

3. Enter an **area code**.

    To change the current entry, press **CLEAR** and enter the new area code.

4. Press **STORE**.

5. Press **END**.

Conditions	The area code can be six digits long. Valid numbers are from **0 to 9**.
Feature Reference	**Section 3, Features,** Caller ID CO Incoming Call Information Log

Description

Assigns removed digits from the received caller's number of a local call, and adds number to make the final number which serves as the Caller ID number. The system records the modified caller's number to the incoming call log list so that the extension user can call back the caller.

Digits are removed from or added to the beginning of the received digits.

Selection

• Number of digits to be deleted: **0 through 9** (0=no deleting)
• Number to be added: **4 digits (max.)**

Default

Deleted number – 3; Added number – blank

Programming

1. Enter **126**.

   Display: 126 CID LOCAL

2. Press **NEXT**.

   Display example: Del,Add:3,

3. Enter the **number of digits to be deleted**.

   To change the current entry, press **CLEAR** and enter the new number.

4. Press ➡ to program the number to be added, if required.

5. Enter the **number to be added**.

   To change the current entry, press **CLEAR** and enter the new number.

6. Press **STORE**.

7. Press **END**.

Conditions

The added number has a maximum of 4 digits, consisting of **0 through 9**, ✱ and #.

Feature Reference

Section 3, Features,
Caller ID
CO Incoming Call Information Log

Description

Assigns removed digits from the received caller's number of a long distance call, and adds number to make the final number which serves as the Caller ID number. The system records the modified caller's number to the incoming call log list so that the extension user can call back the caller.

Digits are removed from or added to the beginning of the received digits.

Selection

- Number of digits to be deleted: **0 through 9** (0=no deleting)
- Number to be added: **4 digits (max.)**

Default

Deleted number – 0; Added number – 1

Programming

1.   Enter **127**.

> Display: 127 CID LD

2.   Press **NEXT**.

> Display example: Del,Add:0,1

3.   Enter the **number of digits to be deleted**.

> To change the current entry, press **CLEAR** and enter the new number.

4.   Press ➡ to program the number to be added, if required.

5.   Enter the **number to be added**.

> To change the current entry, press **CLEAR** and enter the new number.

6.   Press **STORE**.

7.   Press **END**.

Conditions

The added number has a maximum of 4 digits, consisting of **0 through 9**, ✳ and #.

Feature Reference

Section 3, Features,
Caller ID
CO Incoming Call Information Log

Description	Sets the Message Waiting ring interval time for a single line telephone.
Selection	Time (minutes) : **0 through 64**
Default	0 min (no ring)

Programming

1. Enter **216**.

   Display: 216 MW RING TIME

2. Press **NEXT**.

   Display example: Interval: 0 min

3. Enter the **time**.

   To change the current entry, press **CLEAR** and enter the new time.

4. Press **STORE**.

5. Press **END**.

Conditions

- When the interval time is set to "0," the telephone does not ring for Message Waiting notification.
- Selecting the message waiting ring type, 3 quick rings or 2 normal rings, in program [990] "System Additional Information, Field (40)" is available. If you prefer soft ringing, select "3 quick rings." In this case, there may be some kinds of telephones which do not ring.

Feature References   Section 3, Features,
Message Waiting

Timed Reminder Alarm Ring Time

Description	Sets the number of seconds the Timed Reminder alarm rings.
Selection	Time (seconds): **30 through 240**
Default	30 s

Programming

1. Enter **217**.

   ```
   Display: 217 TIMED REMIND
   ```

2. Press **NEXT**.

   ```
   Display example: Reminder:   30sec
   ```

3. Enter the **time**.

   To change the current entry, enter the new time.

4. Press **STORE**.

5. Press **END**.

Conditions   None

Feature References

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

Description	Sets the number of seconds the system waits for a second digit entry. If the timer expires, the system assumes that the first digit is a DISA built-in auto attendant number if assigned in program [815] "DISA Built-in Auto Attendant."
Selection	Time (seconds): **1 through 5**
Default	1 sec
Programming	1. Enter **218**.

Display: 218 DISA AA WAIT

2. Press **NEXT**.

Display example: Time: 1 sec

3. Enter the **time**.

To change the current entry, enter the new time.

4. Press **STORE**.

5. Press **END**.

Conditions	None
Feature References	**Section 3, Features,** Direct Inward System Access (DISA)

Call Park Recall Time

Description	Sets the number of call park recall rings. Call park recall is used to alert an extension that a call has been parked for an extended period of time.
Selection	Number of rings: **3 through 48**
Default	12 rings

Programming

1. Enter **219**.

   Display: 219 PARK RECALL

2. Press **NEXT**.

   Display example: Time:12 rings

3. Enter the **number of rings**.

   To change the current entry, press **CLEAR** and enter the new number of rings.

4. Press **STORE**.

5. Press **END**.

Conditions
- One ring is equivalent to five seconds.
- You cannot leave the entry empty.

Feature References Section 3, Features,
Call Park

Description

Assigns times for the four ARS time schedules. It is possible to split a day into four time zones (maximum) so that the least expensive line is selected for that time. According to the service hours and charges offered by your carriers, enter the starting time of each zone.

Selection

- Day of the week: **1** (Mon) / **2** (Tue) / **3** (Wed) / **4** (Thu) / **5** (Fri) / **6** (Sat) / **7** (Sun) / **✻** (all days)
- Time schedule: **A / B / C / D**
- Time (hour) : **1 through 12 / Disable** (no schedule)
- **AM / PM**

Default

All days of the week : A – 8:00 AM; B – 5:00 PM; C – 9:00 PM; D – Disable

Programming

1. Enter **313**.

    Display: 313 ARS TIME SET

2. Press **NEXT**.

    Display: Day of week?

3. Enter the **day of the week**.

    Display example: MON-A: 8:00 AM

    To program another time schedule, keep pressing **NEXT** or **PREV** until the desired time schedule is displayed.

4. Enter the **hour**.

    To set no schedule (Disable), press **SELECT** and go to step 6.

    If "Disable" is selected, pressing **SELECT** shows the previous stored hour.

    To change the current entry, press **CLEAR** and enter the new hour.

5. Press ➡ to select AM / PM.

6. Press **SELECT** for AM or PM.

7. Press **STORE**.

8. To program another time schedule, keep pressing **NEXT** or **PREV** until the desired time schedule is displayed.

9. Repeat steps 4 through 8.

10. Press **END**.

ARS Time (contd.)

Conditions

- Enter a starting time for each time schedule. Select "Disable" for idle schedules.
- You cannot leave an entry empty.
- To assign all days of the week, press the ✳ key in step 3. In this case, the display shows the contents programmed for Monday.

Feature References

Section 3, Features,
Automatic Route Selection (ARS)

Description	Stores up to ten emergency call numbers. Emergency numbers are not subject to toll restriction, Account Code – Verified mode or Electronic Station Lockout.
Selection	• Location number: **01 through 10** • Emergency number: **7 digits (max.)**
Default	Location 01 = 911, Other location = Not stored

Programming

1. Enter **334**.

    Display: 334 EMERGENCY #

2. Press **NEXT**.

    Display: Location NO?→

3. Enter a **location number**.

    To enter location number 01, you can also press **NEXT**.

    Display example: 01: 911

4. Enter an **emergency number**.

    To delete the current entry, press **CLEAR**.
    To change the current entry, press **CLEAR** and enter the new number.

5. Press **STORE**.

6. To program another location, press **NEXT** or **PREV**, or **SELECT** and the desired **location number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions	Each emergency number has a maximum of seven digits, consisting of **0 through 9**.
Feature References	Section 3, Features, Automatic Route Selection (ARS) Toll Restriction

CO Line Name Assignment

Description

Assigns names of the company or customer to each CO line so that the operator or extension user can find the destination which the caller is trying to reach before answering. If Caller ID is assigned, each extension can select either the initial display, Caller ID or line name.

Selection

- CO line number:
  KX-TD816 – **01 through 08**, ✳ (✳=all CO lines)
  KX-TD1232 – **01 through 24**, ✳ (✳=all CO lines)
- Name: **10 characters (max.)**

Default

All CO lines – Not stored

Programming

1. Enter **417**.

   Display: 417 CO LINE NAME

2. Press **NEXT**.

   Display: CO Line NO?→

3. Enter a **CO line number**.

   To enter CO line number 01, you can also press **NEXT**.

   Display example: CO01:Not Stored

4. Enter a **name**.

   For entering characters, see Section 4.1.3 "Entering Characters."
   To delete the current entry, press **CLEAR**.
   To change the current entry, press **CLEAR** and enter the new name.

5. Press **STORE**.

6. To program another CO line, press **NEXT** or **PREV**, or **SELECT** and the desired **CO line number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

- In the case of KX-TD1232, CO01 through CO12 are for the Master System and CO13 through CO24 are for the Slave, if available.
- There is a maximum of 24 names. Each name has a maximum of 10 characters.
- To assign all CO lines to one selection, press the ✳ key in step 3. In this case, the display shows the contents programmed for CO01.
- You can select the initial display, caller ID or CO line name, by Station Programming.

Feature References   Section 3, Features,
Display, Call Information

Description	Assigns whether to close the mailbox or keep recording the conversation after a call is intercepted.
Selection	• Jack number: **KX-TD816 – 01 through 16, ✷** (✷ =all jacks) **KX-TD1232 – 01 through 64, ✷** (✷ =all jacks) • **Stop Rec / Keep Rec**
Default	All jacks = Stop Rec (Stop recording)

Programming

1. Enter **610**.

   Display: 610 LCS REC.MODE

2. Press **NEXT**.

   Display: Jack NO?→

3. Enter a **jack number**.

   To enter jack number 01, you can also press **NEXT**.

   Display example: #01:Stop Rec

4. Keep pressing **SELECT** until the desired selection is displayed.

5. Press **STORE**.

6. To program another jack number, press **NEXT** or **PREV**, or **SELECT** and the desired jack number.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

• In case of the KX-TD1232, jack numbers 01 through 32 are for the Master System and 33 through 64 are for the Slave, if available.
• For an explanation of jack numbering, see "Rotation of jack number" on page 4-7.
• To assign all jacks to one selection, press the ✷ key in step 3. In this case, the display shows the contents programmed for jack 01.

Feature References

Section 3, Features,
Live Call Screening (LCS)
Voice Mail Integration for Digital Proprietary Telephones

---

                                *: Available when the Digital Super Hybrid System is connected to a Digital
Proprietary Telephone capable Panasonic Voice Processing System (one

4.9 Resource Programming *802*

System Data Printout

Description

Starts or stops printing the system data. All or a specific range of the current system-programmed data is printed out. The ranges are as follows:

Manager : Manager Programming [000] through [009]
System : System Programming [100] through [127]
Timers : Timer Programming [200] through [219]
TRS/ARS : TRS/ARS Programming [300] through [334]
CO line : CO Line Programming [400] through [417]
COS : COS Programming [500] through [508]
Extension : Extension Programming [600] through [610]
Resource : Resource Programming [800] through [815]
Option : Option Programming [990] through [992]

Selection

• Printout range number:

    ✱ (All) / **0** (Manager) / **1** (System) / **2** (Timer) /
    3 (TRS/ARS) / **4** (CO line) / **5** (COS) / **6** (Extension) /
    8 (Resource) / **9** (Option)

• **Start / Stop**

Default

Not applicable.

Programming

1.   Enter **802**.

    Display: 802 DATA DUMP

2.   Press **NEXT**.

    Display: Enter range ?→

3.   Enter a **printout range number** or ✱ for "All."

    Display: Print-Out:Start

4.   Press **STORE** to start printing.

    Printing starts.

    To stop printing, press **SELECT** and go to step 4.

    When printing is completed, the display shows:

    Display: Print-Out:Finish

5.   Press **STORE**.

    Display: Print-Out:Stop

6.   Press **END**.

Conditions
- It is necessary to connect a printer to the EIA (RS-232C) port provided on the system.
- You may stop printing by pressing the **END** button while records are being printed out.
- You cannot restart the printout while records are being output.

Feature References

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

*DISA Security Type**

Description

Assigns the security mode for CO calls attempted by the DISA caller. There are three modes: Non Security, Trunk Security (CO line security), and All Security. Non Security mode allows the caller to access a CO line without dialing a DISA user code. Trunk Security mode requires the caller to enter a DISA User Code before making a CO call. All Security mode requires the caller to enter a DISA user code before making both a CO call and an intercom call.

Selection

Non (non security) / Trunk (trunk security) / **All** (all security)

Default

Non

Programming

1. Enter 809.

   Display: 809 DISA **SECURE**

2. Press **NEXT.**

   Display example: Security:Non

3. Keep pressing **SELECT** until the desired selection is displayed.

4. Press **STORE.**

5. Press **END.**

Conditions

Program [8 11] "DISA User Codes" is used to program DISA User Codes.

Feature References

Section 3, Features,
Direct Inward System Access (DISA)

Description	Assigns the DISA User Codes and a Class of Service (COS) to each code. The COS of the code determines the toll restriction level of the DISA caller.

Selection

- DISA user code number: **1 through 8**
- DISA user code: **4 through 10 digits**
- COS number: **1 through 8**

Default

Code 1=1111 – COS 1;	Code 5=5555 – COS 1;
Code 2=2222 – COS 1;	Code 6=6666 – COS 1;
Code 3=3333 – COS 1;	Code 7=7777 – COS 1;
Code 4=4444 – COS 1;	Code 8=8888 – COS 1

Programming

1. Enter **811**.
    Display: 811 DISA CODES

2. Press **NEXT**.
    Display: User Code NO?→

3. Enter a **DISA user code number**.
    To enter user code number 1, you can also press **NEXT**.
    Display example Code1:1111 COS:1

4. Enter a **DISA user code**.
    To change the current entry, enter the new code.

5. Press ➡ to program **COS**.

6. Enter a **COS number**.
    To change the current entry, enter the new COS number.

7. Press **STORE**.

8. To program another user code, press **NEXT** or **PREV**, or **SELECT** and the desired **DISA user code number**.

9. Repeat steps 4 through 8.

10. Press **END**.

Conditions

- This setting is required if Trunk (CO line) Security mode is selected in program [809] "DISA Security Type."
- There are four programmable user codes. Each code should be unique and composed of eight numerical digits, **0 through 9**.
- You cannot leave an entry empty.

Feature References

Section 3, Features,
Direct Inward System Access (DISA)

Floating Number Assignment

Description	Assigns the floating numbers for External Pagers, DISA* messages, modem* and extension groups. These numbers can be used the same way extension numbers are used for station access.

Selection	• Floating station: KX-TD816 – **Pager1 / E-Group 1 through 8**
	                   KX-TD1232 – **Pager1 through 4 / DISA1 /**
	                   DISA2 / MODEM / E-Group 1 through 8
	• Floating number: **2 through 4 digits**

Default	KX-TD816 – Pager 1=196; E-Group 1=191; E-Group 2=192;
	               E-Group 3=193; E-Group 4=194; E-Group 5=291;
	               E-Group 6=292; E-Group 7=293; E-Group 8=294;
	KX-TD1232 – Pager 1=196; Pager 2=197; Pager 3=296;
	               Pager 4=297; DISA 1=198; DISA 2=298;
	               MODEM=299; E-Group 1=191; E-Group 2=192;
	               E-Group 3=193; E-Group 4=194; E-Group 5=291;
	               E-Group 6=292; E-Group 7=293; E-Group 8=294;

Programming

1. Enter **813**.

   Display: 813 FLOATING #

2. Press **NEXT** to program Pager 1.

   Display example: Pager1:EXT196

   To program another floating station for KX-TD1232, keep pressing **NEXT** or **PREV** until the desired floating station is displayed.

3. Enter a **floating number**.

   To change the current entry, press **CLEAR** and enter the new floating number.

4. Press **STORE**.

5. To program another floating station, keep pressing **NEXT** or **PREV** until the desired floating station is displayed.

6. Repeat steps 3 through 5.

7. Press **END**.

Conditions

• A floating number is composed of two to four numerical digits, **0 through 9**.

- The first one or two digits of the floating numbers are subject to program [100] "Flexible Numbering, (01) through (16) 1st through 16th hundred extension blocks."
- Floating numbers and extension numbers should be unique. Double entry and incompatible entry for these numbers are invalid. Valid entry example: 10 and 11, 10 and 110; Invalid entry example: 10 and 106, 210 and 21.

  In order not to make an invalid entry, check the other extension numbers in programs [003] "Extension Number Set," [118] "VM Extension Number Assignment" and [124] "Phantom Extension Number Assignment." The default of each extension number is as follows:

  [003] Extension Number Set
  KX-TD816 – 101 through 116, 201 through 216
  KX-TD1232 – 101 through 164, 201 through 264

  [118] VM Extension Number Assignment
  165 through 180

  [124] Phantom Extension Number Assignment
  Not assigned.
- You cannot leave an entry empty.

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

Description	Assigns the DISA built-in auto attendant number. The extension number and the floating number can be assigned as an one digit number and used as a DISA built-in auto attendant number.
Selection	. DISA built-in auto attendant number: 0 **through 9** . Extension number / Floating number: 2 **through 4 digits**
Default	Disable

Programming

1. Enter **815.**

    Display: 815 DISA AA

2. Press **NEXT.**

    Display example: Dial **NO?+**

3. Enter a **DISA built-in auto attendant number.**

    To enter DISA AA number 0, you can also press **NEXT.**

    Display example: Dial **0:EXT112**

4. Enter **an extension or floating number.**

    To change the current entry, press **CLEAR** and enter the new floating number.

    Display example: Dial **0:EXT112**

5. Press **STORE.**

6. To program another DISA AA number, press **NEXT** or **PREV,** or **SELECT** and the desired DISA AA number.

7. Repeat steps 3 through 6.

8. Press **END.**

Conditions

This system can store up to nine programmable DISA built-in auto attendant   numbers.

Feature References

Section 3, Features,
Direct Inward System Access (DISA)

4.10   Option Programming

System Additional Information

Description   Field (10) in Area 1 is deleted and fields (27) through (46) in Areas 4 through 6 are added to the System Additional Information.

Area 01   There are 9 fields available in Area 1 as follows:

Display example

```
0 0 1 0 1 0 0 0 1 1 0 0 0 0 0 1
```

Field number   (10) (9) (8)   (7)   (6) (5) (4)   (unused)   (3) (2) (1)
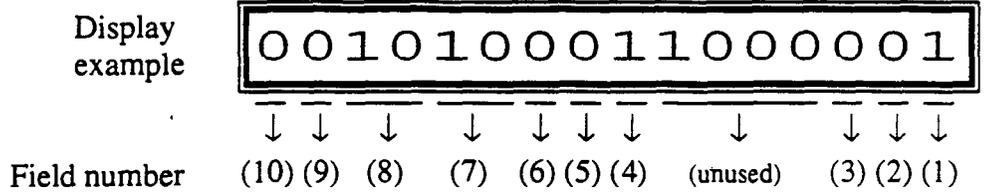
Area 04   There are 4 fields available in Area 4 as follows:

Display example

```
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0
```

CO number   [24] [23] [22] [21] [20] [19] [18] [17]

Field number   (reserved) (27)(unused)(25)(24)   (23)
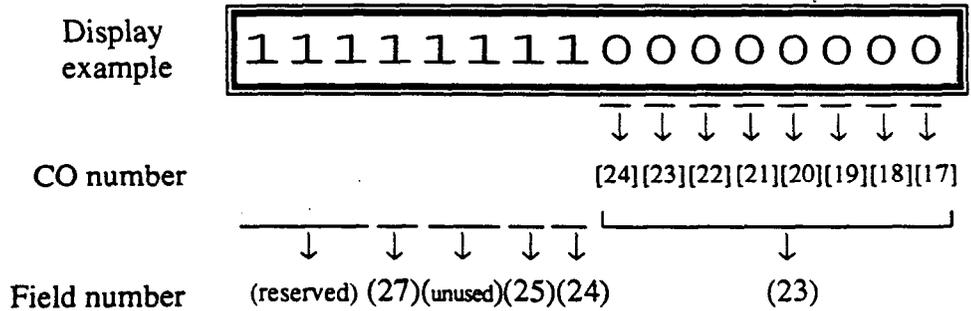
Area 05   There are 16 fields available in Area 5 as follows:

Display example

```
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
```

Field number   (45)(44)(43)(42)(41)(40)(39)(38)(37)(36)(35) (34)(33)(32)(31)(30)
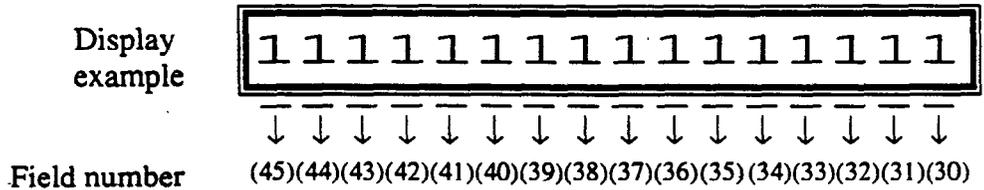
Area 06   There is 1 field available in Area 6 as follows:

Display example

```
                                                   1
```

Field number   (46)
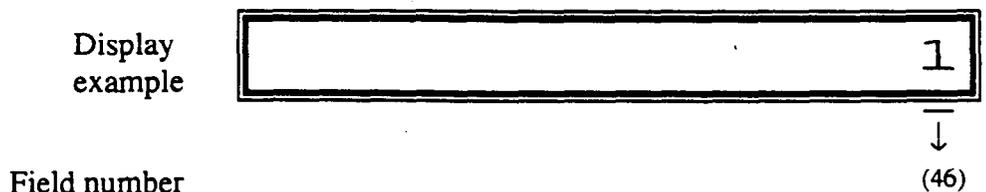
Explanation for Fields (10), (27), (30) through (46)

Area	Field	Description	Selection	Default	References
01	(10)	Replaced by fields (35) and (36).			
04	(27)	Enables or disables the CO pulse feedback tone.	0 : disable 1 : enable	1	None
05	(30)	Enables or disables the automatic time adjustment by Caller ID information once a day.	0 : enable 1 : disable	1	Caller ID
	(31)	Have an option to restrict the DISA CO-to-CO extending time. 10 attempts are allowed.	0 : 10 times 1 : no limitation	1	Direct Inward System Access (DISA)
	(32)	Enables or disables retry by dialing "*" during DISA CO-to-CO calling.	0 : disable 1 : enable	1	Direct Inward System Access (DISA)
	(33)	Selects the result when a call from DISA arrives at a DND extension or a busy extension which disabled Call Waiting.	0 : IRNA 1 : busy tone is sent	1	Direct Inward System Access (DISA)
	(34)	Sets the time the system waits before IRNA after the OGM.	0 : immediately 1 : after 5 seconds	1	Outgoing Message (OGM)
	(35)	Selects the result when a CO call is routed by Call Forwarding to a voice mail port which is in AA service mode. (For both Inband and DPT Integration) **disable**: AA service mode **enable** : The mode will change to the VM service mode and a Follow-On ID is sent. When the voice mail port is in VM service mode, this program is not affected.	0 : disable 1 : enable	1	Voice Mail Integration
	(36)	Selects the result when a CO call is routed to a voice mail port by IRNA. (For both Inband and DPT Integration) When the voice mail port is in VM service mode; **enable** : VM service mode **disable**: The mode will change to the AA service mode. (Only when Inband) When the voice mail port is in AA service mode; **enable** : The mode will change to the VM service mode and a Follow-On ID is sent. **disable**: AA service mode	0 : enable 1 : disable	1	Voice Mail Integration

Area	Field	Description	Selection	Default	References
05	(37)	Enables or disables the OHCA function.	**0** : disable **1** : enable	1	Off-Hook Call Announcement (OHCA)
	(38)	Enables or disables the dial tone 2 when an extension sets programmable extension features such as Call Waiting.	**0** : disable **1** : enable	1	None
	(39)	Determines the result when pressing the FLASH button during a CO call (When Field 3=0). **Flash**: Disconnects and accesses the same CO line. **Terminate**: Terminates the CO line and accesses the intercom. It is convenient to route the CO call according to ARS if ARS is active.	**0** : Terminate **1** : Flash	1	Flash
	(40)	Selects the message waiting ring type, 3 quick rings or 2 normal rings, for SLT.	**0** : 3 times by 40ms **1** : 2 times by 280ms	1	Message Waiting
	(41)	Selects the SMDR format for an incoming call with Caller ID. The caller's number only or caller's number and name is selected.	**0** : <Incoming> + caller no. **1** : <I> + caller no. + name	1	SMDR for Caller ID
	(42)	Enables or disables the SMDR printout for RC (when an incoming call occurs) and AN (when an incoming call is answered).	**0** : enable **1** : disable	1	SMDR for Caller ID
	(43)	Selects the result when a call from DISA is invalid.	**0** : IRNA **1** : reorder tone is sent	1	None
	(44)	Selects the result of pressing "0" (default); calls operators 1 and 2 at the same time or Operator 1 first and then Operator 2 if Operator 1 is busy.	**0** : Operators 1 and 2 simultaneously **1** : Operator 1 first and then Operator 2	1	Operator Call
	(45)	Enables or disables the SMDR printout when the Timed Reminder starts and the alarm is not answered.	**0** : enable **1** : disable	1	SMDR for Timed Reminder
06	(46)	Programs whether or not the account code is printed out in the SMDR.	**0** : not printed out **1** : printed out	1	Account Code Entry

Additional Information

Feature Title	Section of the I/M	Additional Information
System Connection	Section 2.4.9	**Notes** • System Connection is completed about **three minutes** after the power is turned on. To confirm System Connection completion, try to call a Slave System extension from a Master System extension.
Background Music (BGM) – External	Section 3	Allows both operators (1 and 2) and the manager extensions to activate operator services.
Night Service On/Off		
Outgoing Message (OGM)		
Busy Station Signaling (BSS)	Section 3	**Conditions** • A BSS call can be executed to a ringing extension. A Voice Mail can make a BSS call to a ringing extension.
Call Park	Section 3	**Conditions** • If a parked call is not retrieved in a specific period of time, Call Park Recall **not** Transfer Recall starts. The number of Call Park Recall rings can be programmed in program [219] "Call Park Recall Time."
Call Forwarding	Section 3	**Conditions** • Both the Call Forwarding and Do Not Disturb (DND) functions can be set at the same time. but cannot work at the same time. • Allows you to enable or disable the Call Forwarding or Do Not Disturb (DND) function by pressing the FWD/DND button while on-hook. If you set both Call Forwarding and DND, alternating the mode is also available by pressing the FWD/DND button. • You can call the original extension from the destination extension of Call Forwarding. (Boss Secretary) • DND works for paging – group and an incoming doorphone call.
Do Not Disturb (DND)		
Door Opener	Section 3	**Conditions** • While talking to a doorphone, you can unlock the door using an one-touch button instead of dialing "5." In this case. "5" must be stored in the one-touch button by Station Programming. • Even if a doorphone is not installed. the door opener will open the door.
Doorphone Call		

Additional Information

Feature Title	Section of the I/M	Additional Information
EXtra Device Port (XDP)	Section 3	An XDP enables access to the tip-ring pair on a DSS Console for a SLT and Voice Processing System (Inband) connection. An XDP is applied to all console models.
Message Waiting	Section 3	A single line telephone user will hear a ring tone if a message is received. It is programmable to set the ring tone interval in program [216] "Message Waiting Ring Interval Time" by System Programming.
Paging — Group	Section 3	**Conditions** • Do Not Disturb (DND) works for the Paging — Group feature.
Timed Reminder	Section 3	**Conditions** • There is no limit for the number of the extensions who can set the Timed Reminder at the same time.
Toll Restriction Override by Account Code Entry	Section 3	**Conditions** • Up to <u>128</u> account codes can be programmed for the Verified Account Code operation.
[105] Account Codes	Section 4	The maximum number of verifiable account codes is expandable from 20 to 128. **Selection** • Location number : <u>001 through 128</u>
[110] Caller ID Code Set [111] Caller ID Name Set	Section 4	• Up to 500 Caller ID entry numbers can be stored in the system. **Selection** • Location number : <u>001 through 500</u>
[201] Transfer Recall Time	Section 4	Transfer Recall can be cancelled. **Selection** Number of rings : <u>0 through 48</u> ("0" means "no Transfer Recall")

Feature Title	Section of the I/M	Additional Information
[314]–[321] ARS Leading Digit Entry for Plans 1 through 8	Section 4	**Conditions** There is a maximum of 50 leading digit numbers for each plan. Each number has a maximum of seven digits, consisting of **0 through 9**, and $\ast$. The character " $\ast$ " can be used as a wild card character (i.e., "do not care" digit). The system scans all the ARS Leading Digit Plans simultaneously from left to right. The scan ends as soon as the dialed number matches a table entry. When using a wild card character, it is important to use one in each digit position that must be scanned. For example, to differentiate local and long distance calls with the same leading digits: Plan 1) 1-$\ast$ $\ast$ $\ast$; Plan 2) 1-215. Note that three wild card digits were used to ensure that the system scanned the first four digits. A shorter string of " $\ast$ "s would send all the calls to the Plan 1 carrier.

Programming Tables

[000] Date and Time Set								
	Year (00 – 99)	Month (Jan.–Dec.)	Day (1 – 31)	Day of the Week (SUN – SAT)	Hour (1– 12)	Minute (00 – 59)	AM / PM	Clock Hour (12 / 24)
Default	'93	Jan.	1	FRI	12	00	AM	12
Change								

[009] Quick Dial Set	
Item : Location No.	Parameter : 16 digits max., consisting of 0 – 9.
Default : all	Not Stored
1	
2	
3	
4	
5	
6	
7	
8	

[100] Flexible Numbering			
Item	Feature	Default	Parameter
54	LCS password set / cancel	799	
55	CO incoming call information log mode	56	
56	CO incoming call information log lock	57	
57	Timed reminder, remote	7 *	
58	UCD log-in / log-out	45	
59	Automatic callback busy cancel	46	
60	Walking COS	47	
61	Modem control command 1-5	791	
62	System working report print out / clear	794	
63	Quick dial number 1	—	
64	Quick dial number 2	—	
65	Quick dial number 3	—	
66	Quick dial number 4	—	
67	Quick dial number 5	—	
68	Quick dial number 6	—	
69	Quick dial number 7	—	
70	Quick dial number 8	—	
71	Reserved	—	
(Selection) 1 – 3 digits, (Valid Entries) 0 – 9, * , #			

Programming Tables

		[105] Account Code Entry					
		Parameter : Account Code (10 digits max., consisting of 0 – 9)					
Default : all		Not Stored					
Item: Location No.	Parameter	Item: Location No.	Parameter	Item: Location No.	Parameter	Item: Location No.	Parameter
001		033		065		097	
002		034		066		098	
003		035		067		099	
004		036		068		100	
005		037		069		101	
006		038		070		102	
007		039		071		103	
008		040		072		104	
009		041		073		105	
010		042		074		106	
011		043		075		107	
012		044		076		108	
013		045		077		109	
014		046		078		110	
015		047		079		111	
016		048		080		112	
017		049		081		113	
018		050		082		114	
019		051		083		115	
020		052		084		116	
021		053		085		117	
022		054		086		118	
023		055		087		119	
024		056		088		120	
025		057		089		121	
026		058		090		122	
027		059		091		123	
028		060		092		124	
029		061		093		125	
030		062		094		126	
031		063		095		127	
032		064		096		128	

Programming Tables

	[106] Station Hunting Type									
Selection	Default	Item : Extension Group								
	all	1	2	3	4	5	6	7	8	
Disable	✔									
Terminate										
Circular										
Voice Mail										
Automated Attendant										
Ring Group										
UCD										

[108] Automatic Hold by CO / DSS Button				
	DSS button		CO button	
	Default	Selection	Default	Selection
Enable	✔			
Disable			✔	

[109] Expansion Card / Unit Type (KX-TD816)	
Default	Parameter: C, D, E, A
C ; E	

[109] Expansion Card / Unit Type (KX-TD1232)		
Default (Both)	Parameter: C, D, E1, E2, A1, A2	
	Master	Slave
C ; E1 ; E2		

Programming Tables

	[110] – [111] Caller ID Code / Name Set				
Item : Location No.	Parameter for [110] : Caller ID Code (11 digits max.)	Parameter for [111] : Caller ID Name (15 characters max.)	Item : Location No.	Parameter for [110] : Caller ID Code	Parameter for [111] : Caller ID Name
Default	All : Not stored				
001			034		
002			035		
003			036		
004			037		
005			038		
006			039		
007			040		
008			041		
009			042		
010			043		
011			044		
012			045		
013			046		
014			047		
015			048		
016			049		
017			050		
018			051		
019			052		
020			053		
021			054		
022			055		
023			056		
024			057		
025			058		
026			059		
027			060		
028			061		
029			062		
030			063		
031			064		
032			065		
033			066		

Programming Tables

	[110] – [111] Caller ID Code / Name Set				
Item : Location No.	Parameter for [110] : Caller ID Code (11 digits max.)	Parameter for [111] : Caller ID Name (15 characters max.)	Item : Location No.	Parameter for [110] : Caller ID Code	Parameter for [111] : Caller ID Name
Default	All : Not stored				
067			100		
068			101		
069			102		
070			103		
071			104		
072			105		
073			106		
074			107		
075			108		
076			109		
077			110		
078			111		
079			112		
080			113		
081			114		
082			115		
083			116		
084			117		
085			118		
086			119		
087			120		
088			121		
089			122		
090			123		
091			124		
092			125		
093			126		
094			127		
095			128		
096			129		
097			130		
098			131		
099			132		

Programming Tables

\[110\] – \[111\] Caller ID Code / Name Set					
Item : Location No.	Parameter for \[110\] : Caller ID Code (11 digits max.)	Parameter for \[111\] : Caller ID Name (15 characters max.)	Item : Location No.	Parameter for \[110\] : Caller ID Code	Parameter for \[111\] : Caller ID Name
Default	All : Not stored				
133			166		
134			167		
135			168		
136			169		
137			170		
138			171		
139			172		
140			173		
141			174		
142			175		
143			176		
144			177		
145			178		
146			179		
147			180		
148			181		
149			182		
150			183		
151			184		
152			185		
153			186		
154			187		
155			188		
156			189		
157			190		
158			191		
159			192		
160			193		
161			194		
162			195		
163			196		
164			197		
165			198		

Programming Tables

[110] – [111] Caller ID Code / Name Set					
Item : Location No.	Parameter for [110] : Caller ID Code (11 digits max.)	Parameter for [111] : Caller ID Name (15 characters max.)	Item : Location No.	Parameter for [110] : Caller ID Code	Parameter for [111] : Caller ID Name
Default	All : Not stored				
199			232		
200			233		
201			234		
202			235		
203			236		
204			237		
205			238		
206			239		
207			240		
208			241		
209			242		
210			243		
211			244		
212			245		
213			246		
214			247		
215			248		
216			249		
217			250		
218			251		
219			252		
220			253		
221			254		
222			255		
223			256		
224			257		
225			258		
226			259		
227			260		
228			261		
229			262		
230			263		
231			264		

Panasonic

*I*NSTALLATION *M*ANUAL

Version 3 Addendum
(Covers Main Unit Programming only)

MODEL

KX-TD816 / KX-TD1232
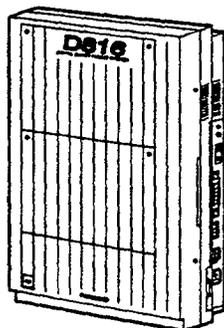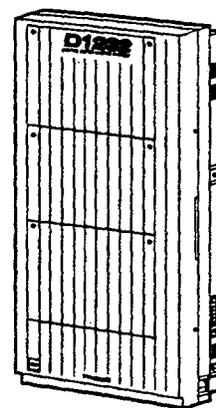
KX-TD816   KX-TD1232

Introduction

This Manual is to be used in conjunction with Installation Manual PQQX10172XA.
This Manual includes New and Changed Programming Steps for both the KX-TD816-3
and KX-TD1232-3 Main Unit.
Installation Manuals for programming the New options (KX-TD171/ 185/ 194/ 197)
are included with each option.

New Optional Equipment

Model	Description	Installation Guide
KX-TD171	Extension Card with SLT Caller ID. (Caller ID supplied to two Ports)	Included with option
KX-TD185	DID Line Unit (4 Direct In Lines)	Included with option
KX-TD194	SLT Message Waiting Lamp Adaptor (Supports 16 extensions)	Included with option
KX-TD197	High Speed Remote Card (28.8kbs)	Included with option

Contents

New Features

Program Step	Description	Page
[134]	Hotel Application – Enables or Disables the Hotel Features	9
[148]	Off-Hook Monitor – Allows a Conversation to be monitored over the System Phone speaker while speech continues over the handset	10
[509]	Off-Hook Call Announce – Allows the Caller to announce to a Busy Ext. instead of using Busy Station Signal 'Beep' (Previously 990 Prog)	11
[510]	Sets which Extensions can change the System 'Night/Day' Mode	12
[990]	System Additional Programming Information (includes New / Changed)	13

Changed Features

Program Step	Description	Change
[001]	System Speed Dial No. Set	Locations increased from 100 to **500**
[002]	System Speed Dial Name Set	Locations increased from 100 to **500**

[005]	Flexible CO Button Assignment	Button Assignment Code change :
		    From 7 to 70 for Conference
		
		Button Assignment Codes added :
		    71 for Log-In / Log-Out
		    72 for Phantom Extension No.
		    73 for Night Switching Button
		    90 for Two Way Transfer
		    91 for Two Way Record
		    92 for Live Call Screening
		    93 for Live Call Screening Cancel

[100]	Flexible Numbering	Additional Feature Codes added : **Location Feature Default** 71 – 89 Reserved None 90 Paging - Deny 721 91 Hotel - room status 736
[105]	Account Codes	Location increased from 20 to **128**
[109]	Expansion Unit Type	Additional Codes for the New Options (Seen Option Installation Manual for specific unit)
[110]	Caller ID Code Set	Location increased from 250 to **500**
[111]	Caller ID Name Set	Location increased from 250 to **500**
[117]	Voice Mail Number Assignment	Maximum number of Voice Mail Ports increased from 8 to **12**
[118]	Voice Mail Ext. Number Set	Maximum number of Voice Mail Extensions increased from 16 to **24**
[119]	Voice Mail Ext. Group Assignment	Maximum number of Voice Mail Extensions increased from 16 to **24**
[125 ~ 126]	Area Code Assignment	Area Codes increased to **10**
[211]	Dial Start Time	Default changed from 0 to **500ms**
[500 ~ 501]	Toll Restriction Level – Night / Day	Default COS8 changed from TRS 1 to **7**
[503]	Call Transfer to Outside Line	Default change from 'Enable' to **'Disable'**
[809]	DISA Security Type	Default change from 'Non' to **'Trunk'**
[811]	DISA User Codes	DISA User Codes increased from 8 to **32**

Hotel Application — Room Status

Description

Allows the operator to handle the front/operator service of checking the room status, ready or not ready, with the DSS button on a DSS Console connected to a KX-T7436 or KX-T7235.

Conditions

- The hotel application must be enabled by System Programming.
- Changing the room status can be done by the operator and also by a person in a guest room.
- The DSS button indicates as follows.
  - Ready mode: Off
  - Not Ready mode: Flashes red

Programming References

Section 4, System Programming

[100] Flexible Numbering, Hotel application – room status ready / not ready

[134] Hotel Application

Feature References   None

Operation References —User Manual   **Operator / Manager Service Features**
Hotel Application

Night Service

Description

The system supports both night and day modes of operation. The system operation for originating and receiving calls can be different for day and night modes. The system operation for restricting toll calls can be arranged separately to prevent unauthorized toll calls at night.

Switching the Day / Night Mode

Day / Night mode can be switched either automatically at a pre-assigned time or manually by a pre-assigned extension, operator or the manager at any desired time.

Class of Service programming determines which extensions can perform this.

> **Automatic Night Service:** If you select the automatic switching mode, your system will switch the day / night mode at the programmed time each day. The starting time of the day / night mode can be set for each day.
>
> **Manual Night Service:** If you select the manual switching mode, the pre-assigned extension, operator or the manager can switch the day / night mode by dialing the feature number or pressing the Night button.

Conditions

The following programming items may be assigned differently for the day and night modes.

> [137]–[138] DID Extension — Day / Night
> [407]–[408] DIL 1:1 Extension — Day / Night
> [409]–[410] Intercept Extension — Day / Night
> [455]–[456] Extension Ringing Assignment — Day / Night
> [500]–[501] Toll Restriction Level — Day / Night
> [603]–[604] DIL 1:N Extension and Delayed Ringing
>   — Day / Night
> [605]–[606] Outgoing Permitted Outside Line Assignment
>   — Day / Night
> [607]–[608] Doorphone Ringing Assignment — Day / Night

Programming References

Section 4, System Programming
[100] Flexible Numbering, Night service mode
[101] Day / Night Service Switching Mode
[102] Day / Night Service Starting Time
[510] Night Service Access
Station Programming ....User Manual,
Flexible Button Assignment – Night Button

Features

O

Feature References   None

Operation References   DPT Features, Standard Telephone Features
—User Manual   Night Service

Off-Hook Call Announcement (OHCA)

Description   OHCA allows you to inform a busy extension that another call is waiting by talking through the built-in speaker of the called party's proprietary telephone. If the existing call is using the handset, the second conversation is made with the speakerphone so that the called party can talk to two parties independently. OHCA is performed the same way as Busy Station Signaling (BSS). It depends on the telephone type used by the called party whether Call Waiting, OHCA or Whisper OHCA is activated by the operation. If the called telephone is one of the following, OHCA becomes active: for KX-TD816: KX-T7436, KX-T7235, for KX-TD1232: KX-T7436, KX-T7235, KX-T7130.

Conditions   • Class of Service programming determines which extensions can perform this.
   • If none of three features, Call Waiting, OHCA or Whisper OHCA is set at the called party, the caller will hear a reorder tone.

Programming References

Section 4, System Programming
[100] Flexible Numbering, Call waiting / OHCA / whisper OHCA
[509] Off-Hook Call Announcement (OHCA)

Feature References   Section 3, Features
Busy Station Signaling (BSS)   Whisper OHCA
Call Waiting

Operation References   DPT Features
—User Manual   Off-Hook Call Announcement (OHCA)

O   **Features**

Off-Hook Monitor

Description   Allows the KX-T7431, KX-T7433, and KX-T7436 digital
proprietary telephone users to let the other users listen to the
conversation through the built-in speaker, while continuing the
same call using the handset.

Conditions   This is effective with a handset conversation.

Programming References

Section 4, System Programming
[148] Off-Hook Monitor

Feature References   None

Operation References   **DPT Features**
—User Manual   Off-Hook Monitor

Hotel Application

Description	Assigns whether the hotel application is enabled or disabled.
Selection	**ON / OFF**
Default	OFF

Programming

1. Enter **134**.

   Display: 134 HOTEL ON/OFF

2. Press **NEXT**.

   Display example: HOTEL:OFF

3. Keep pressing **SELECT** until the desired selection is displayed.

4. Press **STORE**.

5. Press **END**.

Conditions

If "ON" is selected, the "Hotel" menu is displayed on the operator extension's KX-T7436 or KX-T7235, and the "Room Status" feature is available.

Feature Reference

Section 3, Features
Hotel Application

Description	Enables or disables to perform the Off-Hook Monitor.
Selection	**Enable / Disable**
Default	Enable

Programming

1. Enter **148**.

   Display: 148 HOOK MONITOR

2. Press **NEXT**.

   Display example: Monitor:Enable

3. Keep pressing **SELECT** until the desired selection is displayed.

4. Press **STORE**.

5. Press **END**.

Conditions

Off-Hook Monitor is only available for the KX-T7431, KX-T7433 and KX-T7436 telephone users.

Feature Reference

Section 3, Features
Off-Hook Monitor

Description	Enables or disables to perform the Off-Hook Call Announcement (OHCA) on a Class of Service (COS) basis.
Selection	• COS number: **1 through 8**, (✻ =all COS) • **Enable / Disable**
Default	All COS – Enable

Programming

1. Enter **509**.

    Display: 509 OHCA

2. Press **NEXT**.

    Display: COS NO?→

3. Enter a **COS number**.

    To enter COS number 1, you can also press **NEXT**.

    Display example: COS1:Enable

4. Keep pressing **SELECT** until the desired selection is displayed.·

5. Press **STORE**.

6. To program another COS, press **NEXT** or **PREV**, or **SELECT** and the desired **COS number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

• To assign all COS to one selection, press the   key in step 3. In this case, the display shows the contents programmed for COS 1.
• Program [601] "Class of Service" is used to assign a Class of Service to each extension.

Feature References

Section 3, Features
Off-hook Call Announcement (OHCA)
Whisper OHCA

Description	Enables or disables switching the Day/Night service on a Class of Service (COS) basis.
Selection	• COS number: **1 through 8**, (✶ =all COS) • **Enable / Disable**
Default	All COS – Disable

Programming

1. Enter **510**.

   Display: 510 NITE SERVICE

2. Press **NEXT**.

   Display: COS NO?→

3. Enter a **COS number**.

   To enter COS number 1, you can also press **NEXT**.

   Display example: COS1: Disable

4. Keep pressing.**SELECT** until the desired selection is displayed.

5. Press **STORE**.

6. To program another COS, press **NEXT** or **PREV**, or **SELECT** and the desired **COS number**.

7. Repeat steps 4 through 6.

8. Press **END**.

Conditions

• To assign all COS to one selection, press the   key in step 3. In this case, the display shows the contents programmed for COS 1.
• The operator extension can switch the mode regardless of setting.
• Program [601] "Class of Service" is used to assign a Class of Service to each extension.

Feature References

Section 3, Features
Night Service

System Additional Information

Description   Adds the following programming items, if required:

Area 01

Display
example

```
0 0 1 0 1 0 0 0 1 1 0 0 0 0 0 1
```

↓ ↓ ↓   ↓   ↓ ↓ ↓   ↓   ↓ ↓ ↓

Field number   (10) (9) (8)   (7)   (6) (5) (4)   (unused)   (3) (2) (1)

Area 02

Display
example

```
1 1 1 0 0 1 1 0 0 0 1 0 1 1 0 0
```

↓   ↓ ↓   ↓   ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓

Field number   (unused)(26)(22)   (21)   (20)(19)(18)(17)(16)(15)(14)(13)(12)(11)
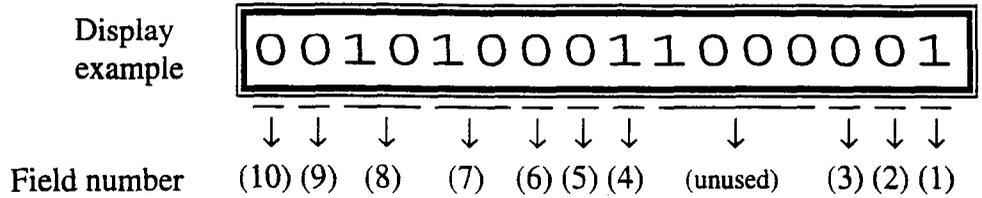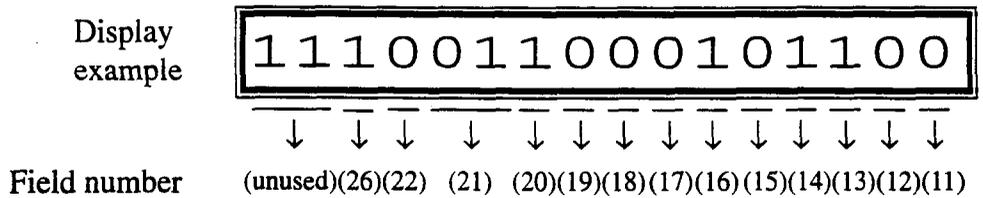
Area 03

KX-TD816: [1] through [8] below match outside lines 1 through 8
KX-TD1232: [1] through [16] below match outside lines 1 through 16
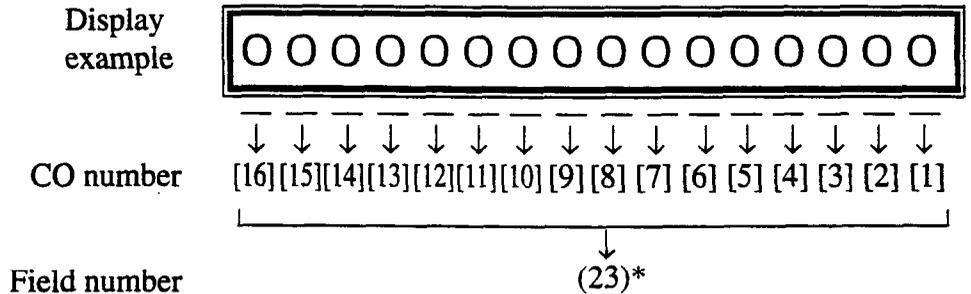
Display
example

```
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
```

↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓

CO number   [16][15][14][13][12][11][10] [9] [8] [7] [6] [5] [4] [3] [2] [1]

Field number   (23)*

Area 04 KX-TD1232: [17] through [24] below match outside lines 17 through 24:

Display example

```
1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0
```

CO number

↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓
[24][23][22][21][20][19][18][17]

Field number   (reserved) (27)(unused)(25)(24)   (23)

Area 05

Display example

```
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
```

Field number
(45)(44)(43)(42)(41)(40)(39)(38)(37)(36)(35)(34)(33)(32)(31)(30)

Area 06

Display example

```
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
```

Field number
(56)(55)(54)(53)(52)(51)(unused)(50)(49)(48)(47) (unused) (46)

Area 07

Display example

```
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
```

Field number
(66) (65) (64) (63) (62) (61)(60)(59)(unused)(58)(57)

Optional Programming
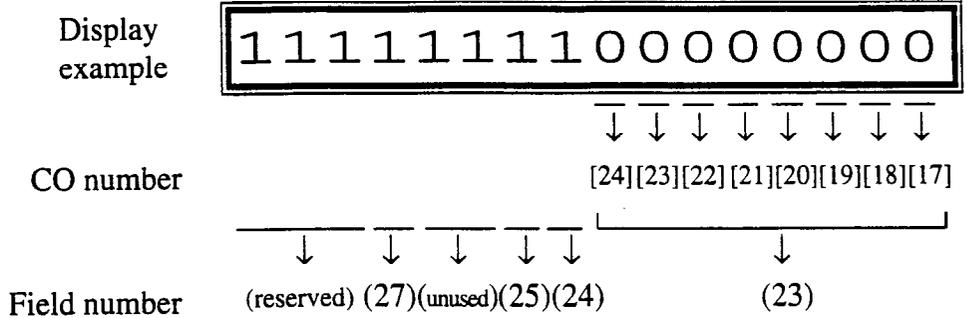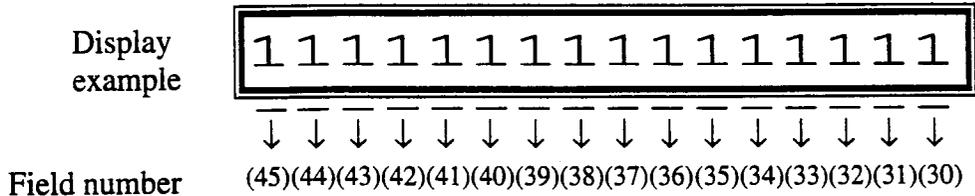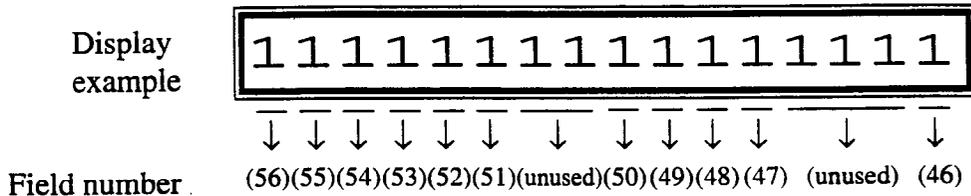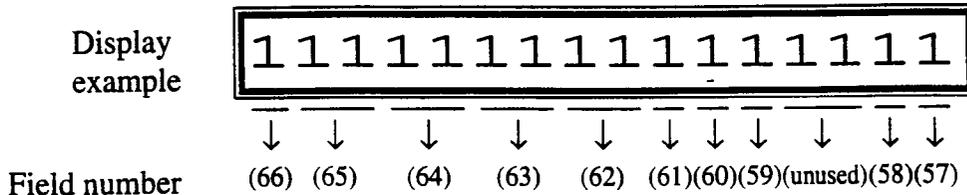
System Additional Information (contd.)

Explanation

Area	Field	Description	Selection	Default	References
01	(1)	Sound source during transfer.	**0** : ringback tone **1** : Music on Hold	1	• CALL TRANSFER FEATURES • Music on Hold
	(2)	Result of pressing the hookswitch lightly and then placing down the handset (during an outside call; standard telephones only).	**0** : Consultation Hold **1** : disconnection	0	Consultation Hold
	(3)	Result of pressing the **FLASH** button on proprietary telephones (during an outside call).	**0** : disconnection signal **1** : External Feature Access	0	• External Feature Access • Flash
	(4)	Enables or disables the dial tone between obtaining an outside line and dialing the phone number when using the one-touch dial, redial or speed dial function.	**0** : disable **1** : enable	1	None
	(5)	Result of pressing the hookswitch lightly (standard telephones only).	**0** : Consultation Hold **1** : disconnection	0	Consultation Hold
	(6)	Sets the duration of the DTMF (Dual Tone Multi-Frequency) signals sent to the Voice Processing System (VPS) ports.	**0** : 80 ms **1** : 160 ms	0	Voice Mail Integration
	(7)	Sets the time the system waits before sending DTMF signals (such as a mailbox number) to VPS after VPS answers a call.	**00** : 0.5 s **01** : 1.0 s **10** : 1.5 s **11** : 2.0 s	10	Voice Mail Integration
	(8)	Sets the time the system waits before sending DTMF signals (programmed in [113]) to VPS after the VPS calls an extension.	**00** : 0.5 s **01** : 1.0 s **10** : 1.5 s **11** : 2.0 s	10	Voice Mail Integration
	(9)	Assigns whether the system or the VPS turns off the Message Waiting lamp when the user hears a message recorded in a mailbox.	**0** : system **1** : VPS	0	• Message Waiting • Voice Mail Integration
	(10)	Unused			
02	(11)	If an outside party is transferred or parked and unanswered, assigns whether Transfer Recall occurs at the transfer initiating extension or at Operator 1.	**0** : initiating extension **1** : Operator 1	0	Call Transfer, Unscreened – to Extension

System Additional Information (contd.)

Area	Field	Description	Selection	Default	References
02	(12)	If Limited Call Duration is enabled in program [502] "Extension-to-Outside Line Call Duration Limit", assigns if Limited Call Duration is done for both outgoing and incoming calls or for outgoing calls only.	**0** : both calls **1** : outgoing calls only	0	Limited Call Duration
	(13)	Allows you to remove confirmation tone 4. By default, a beep tone is emitted when a three-party conference is started / ended.	**0** : disable **1** : enable	1	Confirmation Tone
	(14)	Determines if the dialed " ✻ " and "#" will be checked by Toll Restriction. This assignment is required for certain central offices (CO) to prevent toll fraud. Some COs ignore the user-dialed " ✻ " and "#". If your CO is such a type, select "0" (no check).	**0** : no check **1** : check	1	Toll Restriction
	(15)	Unused			
	(16)	Allows you to remove Confirmation Tone 3. This tone is sent when a conversation is established just after dialing the feature number for accessing the following features: Call Pickup, Paging, Paging Answer, Trunk (Outside Line) Answer From Any Station (TAFAS), Hold Retrieve and Call Park Retrieve.	**0** : disable **1** : enable	1	Confirmation Tone
	(17)	An outside line set to pulse or call blocking mode in program [402] "Dial Mode Selection" can have two settings. This assigns the pulse break ratio during dial pulsing. Select an appropriate ratio depending on the standard in your country.	**0** : 60 % **1** : 67 %	0	Dial Type Selection
	(18)	Assigns if an extension's mailbox number is substituted by the extension number or it is programmable (free). If a call is forwarded or rerouted to the Voice Processing System (VPS), this system automatically transmits the mailbox number to the VPS to specify the user's mailbox. To make it programmable, select "1 (free)", then assign the number in program [609] "Voice Mail Access Codes".	**0** : extension number **1** : free	0	Voice Mail Integration

Optional Programming

System Additional Information *(contd.)*

Area	Field	Description	Selection	Default	References
02	(19)	Determines the initial display of a digital display proprietary telephone (KX-T7431/KX-T7433/KX-T7436/KX-T7235) in Station Speed Dialing.	**0** : names **1** : numbers	0	Special Display Features — Call Directory
	(20)	Determines the source of Music Source 1 for Music on Hold and BGM.	**0** : internal music source **1** : external music source	1	• Background Music (BGM) • Background Music (BGM) – External • Music on Hold
	(21)	Selects inter-digit pause for pulse dialing.	**00** : 630 ms **01** : 830 ms **10** : 1030 ms	01	None
	(22)	Selects intercom dial tone frequency.	**0** : normal **1** : distinctive	0	None
	(26)	Selects the extension–hooking signal detection time.	**0** : 84-1000 ms **1** : 200-1000 ms	1	None
03 and 04	(23)	This field is provided to assign PAD Switch Control (volume control of received calls on an outside line). This can be assigned per outside line. The outside line numbers [1] through [8] correspond to outside lines 1 through 8 for KX-TD816, and outside line numbers [1] through [24] correspond to outside lines 1 through 24 for KX-TD1232 respectively.	**0** : 0 dB **1** : -3 dB	0	None
04	(24)	Prevents or allows a call originated by an Automated Attendant (AA) port of Voice Processing System (VPS) to another AA port.	**0** : prevent **1** : allow	1	Voice Mail Integration
	(25)	Prevents or allows sending pulse dialing signals during an outside call.	**0** : prevent **1** : allow	1	None
	(27)	Enables or disables the outside line pulse feedback tone.	**0** : disable **1** : enable	1	None
05	(30)	Enables or disables the automatic time adjustment by Caller ID information once a day by the first call received after 3:00AM.	**0** : enable **1** : disable	1	Caller ID
	(31)	Have an option to restrict the DISA outside-to-outside line extending time. 10 attempts are allowed.	**0** : 10 times **1** : no limitation	1	Direct Inward System Access (DISA)
	(32)	Enables or disables retry by dialing "✶" during DISA outside-to-outside line calling.	**0** : disable **1** : enable	1	DISA

Area	Field	Description	Selection	Default	References
05	(33)	Unused			
	(34)	Sets the time the system waits for IRNA after the OGM.	**0** : immediately **1 :** after 5 seconds	1	Outgoing Message (OGM)
	(35)	Selects the result when an outside call is routed by Call Forwarding to a voice mail port which is in Automated Attendant (AA) service mode. [For both Inband and Digital Proprietary Telephone (DPT) Integration] **disable** : AA service mode **enable** : The mode will change to the Voice Mail (VM) service mode and a Follow-On ID is sent. When the voice mail port is in VM service mode, this program is not affected.	**0** : disable **1** : enable	1	Voice Mail Integration
	(36)	Selects the result when an outside call is routed to a voice mail port by IRNA. [For both Inband and DPT Integration] When the voice mail port is in VM service mode; **enable** : VM service mode **disable** : The mode will change to the AA service mode. [Only when Inband] When the voice mail port is in AA service mode; **enable** : The mode will change to the VM service mode and a Follow-On ID is sent. **disable** : AA service mode	**0** : enable **1** : disable	1	Voice Mail Integration
	(37)	Unused			
	(38)	Enables or disables dial tone 2 when an extension sets programmable extension features such as Call Waiting.	**0** : disable **1** : enable	1	None
	(39)	Determines the result when pressing the FLASH button during an outside call (When Field 3=0). **Flash:** Disconnects and accesses the same outside line. **Terminate:** Terminates the outside line and accesses the intercom. It is convenient to route the outside call according to Automatic Route Selection (ARS) if ARS is active.	**0** : Terminate **1** : Flash	1 --	Flash
	(40)	Selects the message waiting ring type: 3 quick rings or 2 normal rings, for standard telephones.	**0** : 3 times by 40ms **1** : 2 times by 280ms	1	Message Waiting

Optional Programming

990

System Additional Information (contd.)

Area	Field	Description	Selection	Default	References
05	(41)	Selects the SMDR format for an incoming call with Caller ID. The caller's number only or caller's number and name is selected.	0 : \<Incoming\> + caller no. 1 : \<I\> + caller no. + name	1	Station Message Detail Recording (SMDR)
	(42)	Enables or disables the SMDR printout for RC (when an incoming call occurs) and AN (when an incoming call is answered).	0 : enable 1 : disable	1	SMDR
	(43)	Selects the result when a call from DISA (Direct Inward System Access) is invalid.	0 : IRNA 1 : reorder tone is sent	1	None
	(44)	Selects the result of pressing "0" (default); calls operators 1 and 2 at the same time or Operator 1 first and then Operator 2 if Operator 1 is busy.	0 : Operators 1 and 2 simultaneously 1 : Operator 1 first and then Operator 2	1	Operator Call
	(45)	Enables or disables the SMDR printout when the Timed Reminder starts and the alarm is not answered.	0 : enable 1 : disable	1	Timed Reminder
06	(46)	Programs whether or not the account code is printed out in the SMDR.	0 : not printed out 1 : printed out	1	Account Code Entry
	(47)	Determines whether to printout the last entered or the first entered account code in the SMDR.	0 : first entered code 1 : last entered code	1	Account Code Entry
	(48)	When an incoming call is received in a Hunting group (Ring, UCD, Circular, Terminate), this program determines whether the extension where the Do Not Disturb feature is set receives the call or not.	0 : receive 1 : not receive	1	None
	(49)	When an incoming call is received in a Hunting group (Ring, UCD, Circular, Terminate), this program determines whether the extension where the Call Forwarding feature is set receives the call or not.	0 : receive 1 : not receive	1	None
	(50)	Enables or disables Circular and Terminate Hunting.	0 : disable 1 : enable	1	Station Hunting
	(51 – 53)	Reserved			
	(54)	Allows or prevents dialing "0" when the MDN number is "0".	0 : allow 1 : prevent	1	None
	(55 – 56)	Reserved			

Area	Field	Description	Selection	Default	References
07	(57)	Reserved			
	(58)	Reserved			
	(59)	Enables or disables the hooking signal when the reverse signal does not return.	**0** : disable **1** : enable	1	None
	(60 – 61)	Reserved			
	(62)	Determines how the call is treated when a call from DISA arrives at a Do Not Disturb (DND) extension or busy extension which has disabled Call Waiting.	**01** : IRNA (Intercept Routing – No Answer) **10 / 11** : receive at the CO button (only flashes) **00** : busy tone is sent	11	Direct Inward System Access (DISA)
	(63)	Determines how the call is treated when a call from DID arrives at a Do Not Disturb (DND) extension or busy extension which has disabled Call Waiting.	**01** : IRNA **10 / 11** : receive at the CO button (only flashes) **00** : busy tone is sent	11	Direct Inward Dialing (DID)
	(64)	Reserved			
	(65)	Reserved			
	(66)	Enables or disables the SMDR printout for DID subscriber number. A DID subscriber number replaces a Caller ID number.	**0** : enable **1** : disable	1	Station Message Detail Recording (SMDR)

Selection	• Area code: **01** (area 1) / **02** (area 2) / **03** (area 3) / **04** (area 4) / **05** (area 5) / **06** (area 6) / **07** (area 7) • Field number : **1 through 63** • Selection: See "**Selection**" on pages 4-205 through 4-210.
Default	See "**Default**" shown in the table.

Programming

1. Enter **990**.

   Display: 990 SYS ADD DATA

2. Press **NEXT**.

   Display: Area NO?→

3. Enter an **area code (01 through 07)**.

   Display example: 0010100011000001

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

5. Enter your **selection (0 or 1)**.

   To change the current entry, press **STORE** and enter the new selection.

6. To program another field, repeat steps 4 and 5.

7. Press **STORE**.

8. To program another area, press **SELECT** and the desired area code.

9. Repeat steps 4 through 8.

10. Press **END**.

Conditions   None

Feature References   See "**References**" on pages 4-205 through 4-210.

Default Values

Address	Program	Default
Manager Programming		
[000]	Date and Time Set	'93 Jan. 1 FRI 12:00 AM 12
[001]	System Speed Dialing Number Set	Not Stored
[002]	System Speed Dialing Name Set	Not Stored
[003]	Extension Number Set	• KX-TD816 Jack 01-1 through 16-1=101 through 116 Jack 01-2 through 16-2=201 through 216 • KX-TD1232 Jack 01-1 through 64-1=101 through 164 Jack 01-2 through 64-2=201 through 264
[004]	Extension Name Set	Not Stored
[005]	Flexible CO Button Assignment	• KX-TD816 All Jacks – CO button 1 through 8 = Single-CO 01 through 08, Others = Not Stored; Ring tone type 2 • KX-TD1232 All Jacks – CO buttons 1 through 24 = Single-CO01 through 24; Ring tone type 2
[006]	Operator / Manager Extension Assignment	Operator 1=Jack 01; Operator 2 and Manager=Unassigned
[007]	DSS Console Port and Paired Telephone Assignment	Not Stored
[008]	Absent Messages	1: Will Return Soon; 2: Gone Home; 3: At Ext %%%; 4: Back at %%:%%; 5: Out Until %%/%%; 6: In a Meeting; 7 through 9: Not Stored
[009]	Quick Dial Number Set	Not Stored
[012]	Reserved	
[013]	Reserved	
System Programming		
[100]	Flexible Numbering	See page 4-39 and 4-40.
[101]	Day / Night Service Switching Mode	Manual
[102]	Day / Night Service Starting Time	Every Day of the Week – Day=9:00 am / Night=5:00 pm
[103]	Automatic Access Outside Line Assignment	12345678
[105]	Account Codes	Not Stored
[106]	Station Hunting Type	All Extension Groups=Disable
[107]	System Password	1234
[108]	Automatic Hold by CO / DSS Button	**DSS Button=Enable; CO Button=Disable**

Default Values

Address	Program	Default
[109]	Expansion Unit Type	• KX-TD816: C;E • KX-TD1232: Master and Slave=C;E1;E2
[110]	Caller ID Code Set	Not Stored
[111]	Caller ID Name Set	Not Stored
[112]	Reserved	
[113]	VM Status DTMF Set	RBT=1; BT=2; ROT=3; DND=4; Answer=5; Disconnect=#9; Confirm =9; FWD VM RBT=6; FWD VM BT=7; FWD EXT RBT=8
[114]	VM Command DTMF Set	LV-MSG=H; GETMSG= ✱ H; AA-SVC=#8; VM-SVC=#6
[115]	Adjust Time	1:00 am
[116]	ROM Version Display	Not Applicable
†[117]	Voice Mail Number Assignment	Not Stored
†[118]	Voice Mail Extension Number Assignment	• KX-TD816: VM-01=165; VM-02=166; VM-03=167; VM-04=168; VM-05=169; VM-06=170; VM-07=177; VM-08=178; VM-09=181; VM-10=182; VM-11=183; VM-12=184 • KX-TD1232: VM-01=165; VM-02=166; VM-03=167; VM-04=168; VM-05=169; VM-06=170; VM-07=177; VM-08=178; VM-09=181; VM-10=182; VM-11=183; VM-12=184; VM-13=171; VM-14=172; VM-15=173; VM-16=174; VM-17=175; VM-18=176; VM-19=179; VM-20=180; VM-21=185; VM-22=186; VM-23=187; VM-24=188
†[119]	Voice Mail Extension Group Assignment	All Voice Mail Numbers=EXG 1
[120]	User Password	1234
[121]	Walking COS Password	1234
[122]	UCD Overflow	Not Stored
[123]	UCD Time Table	Not Stored
[124]	Phantom Extension Number Assignment	Not Stored
[125]	Area Code Assignment	Not Stored
[126]	Caller ID Modification for Local Call	All Locations=Deleted Number – 3; Added Number – Not Stored
[127]	Caller ID Modification for Long Distance Call	Deleted Number=0; Added Number=1
[130]	Message Waiting Control	Not Stored

Default Values

ADDRESS	PROGRAM	DEFAULT
[131]	Message Waiting Lamp Assignment	1
[132]	Message Waiting Port Set	All Message Waiting Ports – Not Stored
[133]	Caller ID Extension Assignment	Not Stored
[134]	Hotel Application	OFF
[135]	DID Number Conversion Selection	Transfer Table
[136]	DID Number Assignment	Not Stored
[137]–[138] DID Extension — Day / Night		Not Stored
[139]	DID Extension Name Set	Not Stored
[148]	Off-Hook Monitor	Enable
Timer Programming		
[200]	Hold Recall Time	60 s
[201]	Transfer Recall Time	12 rings
[202]	Call Forwarding – No Answer Time	3 rings
[203]	Intercept Time	12 rings
[204]	Pickup Dial Waiting Time	1 s
[205]	Extension-to-Outside Line Call Duration Time	10 min
[206]	Outside-to-Outside Line Call Duration Time	10 min
[207]	First Digit Time	10 s
[208]	Inter Digit Time	10 s
[209]	Automatic Redial Repeat Times	15 times
[210]	Automatic Redial Interval Time	40 s
[211]	Dial Start Time	500 ms
[212]	Call Duration Count Start Time	0 s
*[213]	DISA Delayed Answer Time	1 ring
*[214]	DISA Prolong Time	3 min
*[215]	Outgoing Message Time	32, 0, 32, 0 (s)
[216]	Message Waiting Ring Interval Time	0 min (no ring)
[217]	Timed Reminder Alarm Ring Time	30 s
*[218]	DISA AA Wait Time	1 s
[219]	Call Park Recall Time	12 rings
TRS / ARS Programming		
[300]	TRS Override for System Speed Dialing	Disable
[301]–[305] TRS Denied Code Entry for Levels 2 through 6		Not Stored
[306]–[310] TRS Excepted Code Entry for Levels 2 through 6		Not Stored
[311]	Special Carrier Access Codes	Not Stored
[312]	ARS Mode	Off

Default Values

ADDRESS	PROGRAM	DEFAULT
[313]	ARS Time	Every Day of the Week: Time-A=8:00 am; Time-B=5:00 pm; Time-C=9:00 pm; Time-D=Disable
[314]–[321]	ARS Leading Digit Entry for Plans 1 through 8	Not Stored
[322]–[329]	ARS Routing Plans 1 through 8	Not Stored
[330]	ARS Modify Removed Digit	All Modification Tables=0 (digits)
[331]	ARS Modify Added Number	Not Stored
[332]	Extra Entry Table Selection	Except-2
[333]	TRS Entry Code Assignment for Extra Table	Not Stored
[334]	Emergency Dial Number Set	Location 01=991; Others=Not Stored
Outside Line Programming		
[400]	Outside Line Connection Assignment	All Outside Lines=Connect
[401]	Outside Line Group Assignment	CO01=TRG 1; CO02=TRG 2; CO03=TRG 3; CO04=TRG 4; CO05=TRG 5; CO06=TRG 6; CO07=TRG 7; CO08=TRG 8 (KX-TD816); CO08 through CO24=TRG 8 (KX-TD1232)
[402]	Dial Mode Selection	All Outside Lines=DTMF
[403]	Pulse Speed Selection	All Outside Lines=10 pps
[404]	DTMF Time	All Outside Lines=80 ms
[405]	CPC Signal Detection Incoming Set	All Outside Lines=400 ms
[406]	Caller ID Assignment	All Outside Lines=Disable
[407]–[408]	DIL 1:1 Extension—Day/Night	All Outside Lines=Disable—Day/Night
[409]–[410]	Intercept Extension—Day/Night	All Outside Line Groups=Disable—Day/Night
[411]	Host PBX Access Codes	Not Stored
[412]	Pause Time	All Outside Line Groups=1.5 s
[413]	Flash Time	All Outside Line Groups=600 ms
[414]	Disconnect Time	All Outside Line Groups=1.5 s
[415]	CPC Signal Detection Outgoing Set	Disable
[416]	Reverse Circuit Assignment	Regular
[417]	Outside Line Name Assignment	Not Stored
[419]	Reserved	
[420]	Reserved	
[423]	Reserved	
[424]	Reserved	
[425]	Reserved	

Default Values

Address	Program	Default
[426]	Reserved	
[427]	Reserved	
[428]	Reserved	
[429]	Reserved	
[430]	DID Format Number Assignment	All Outside Line Groups=Not Stored
[431]	DID Incoming Assignment	All DID Formats=Wink
[433]	DID Subscriber Number Removed Digit	All DID Formats=RMV:0
[434]	DID Added Number	Not Stored
[453]	Reserved	
[454]	DN Assignment	Not Stored
[455]–[456]	Reserved	
COS Programming		
[500]–[501]	Toll Restriction Level—Day/Night	COS 1 through 7=Level 1—Day/Night; **COS 8=Level 7—Day/Night**
[502]	Extension-to-Outside Line Call Duration Limit	All COS=Disable
[503]	Call Transfer to Outside Line	All COS=Disable
[504]	Call Forwarding to Outside Line	All COS=Disable
[505]	Executive Busy Override	All COS=Disable
[506]	Executive Busy Override Deny	All COS=Enable
[507]	Do Not Disturb Override	All COS=Disable
[508]	Account Code Entry Mode	All COS=Option
[509]	Off-Hook Call Announcement (OHCA)	All COS=Enable
[510]	Night Service Access	All COS=Disable
Extension Programming		
[600]	EXtra Device Port	All Jacks=Disable
[601]	Class of Service	All Jacks-1/2=COS 1
[602]	Extension Group Assignment	All Jacks-1/2=Extension Group 1
[603]–[604]	DIL 1:N Extension and Delayed Ringing—Day/Night	All Jacks-1/2=All Outside Lines=Immediate Ringing—Day/Night
[605]–[606]	Outgoing Permitted Outside Line Assignment—Day/Night	All Jacks-1/2=All Outside Lines=Enable—Day/ Night
[607]–[608]	Doorphone Ringing Assignment —Day/Night	Jack 01-1=All Doorphones; Other Jacks=No Doorphone—Day/Night
[609]	Voice Mail Access Codes	Not Stored
[613]	Reserved	

ADDRESS	PROGRAM	DEFAULT
[614]–[615]	Reserved	
†[617]	Live Call Screening Recording Mode Assignment	All Jacks=Stop Rec
Resource Programming		
[800]	SMDR Incoming / Outgoing Call Log Printout	Outgoing Calls=All; Incoming Calls=On
[801]	SMDR Format	Page Length=66; Skip Perforation=0
[802]	System Data Printout	Not Applicable
[803]	Music Source Use	Hold and BGM=Music 1
[804]	External Pager BGM	All External Pagers=Disable
[805]	External Pager Confirmation Tone	On
[806]–*[807]	Serial Interface (RS-232C) Parameters	New Line Code=CR+LF; Baud Rate=9600; Word Length=8; Parity Bit=Mark; Stop Bit=1 — Port1/Port2
*[809]	DISA Security Type	Trunk (Outside Line) Security
*[810]	DISA Tone Detection	Enable
*[811]	DISA User Codes	**Code 01=0001=COS 8;** **Code 02=0002=COS 8;** : **Code 32=0032=COS 8**
*[812]	DISA DTMF Repeat	Dial and Call=Repeat
[813]	Floating Number Assignment	• KX-TD816: Pager 1=196; E-Group 1=191; E-Group 2=192; E-Group 3=193; E-Group 4=194; E-Group 5=291; E-Group 6=292; E-Group 7=293; E-Group 8=294; • KX-TD1232: Pager 1=196; Pager 2=197; Pager 3=296; Pager 4=297; DISA 1=198; DISA 2=298; MODEM=299 E-Group 1=191; E-Group 2=192; E-Group 3=193; E-Group 4=194; E-Group 5=291; E-Group 6=292; E-Group 7=293; E-Group 8=294
*[814]	Modem Standard	BELL
*[815]	DISA Built-in Auto Attendant	Disable
*[817]	KX-TD197 Baud Rate Set	V.34-33600
Optional Programming		
[990]	System Additional Information	See pages 4-205 through 4-210.
[991]	COS Additional Information	See page 4-212.

*: Available for the KX-TD1232 only.

†: Available when the Digital Super Hybrid System is connected to a Digital Proprietary Telephone capable Panasonic Voice Processing System (one that supports digital proprietary telephone integration; e.g. KX-TVS100)