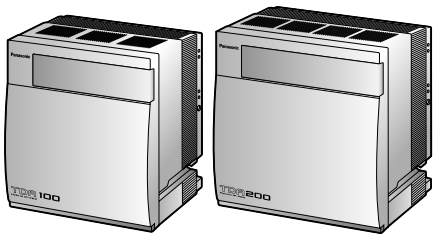
Panasonic

Getting Started

Hybrid IP-PBX



Model No. KX-TDA100
KX-TDA200

Thank you for purchasing a Panasonic Hybrid IP-PBX.
Please read this manual carefully before using this product and save this manual for future use.

KX-TDA100/KX-TDA200: PMPR Software File Version 5.0000 or later

Table of Contents

1 Before Installation 3
1.1 Safety Notices 4
1.2 System Connection Diagram 5
1.3 Unpacking 6
2 Installation 9
2.1 Opening/Closing the Front Cover 10
2.2 Inserting the SD Memory Card to the MPR Card 11
2.3 Installing the Option Units 12
2.4 Installing the Trunk Cards 14
2.5 Installing the Extension Cards (DLC8/DLC16/DHLC8/MSLC16/SLC8/SLC16/CSLC16) 17
2.6 Connecting Extensions 17
2.7 Frame Earth Connection 18
3 Starting the PBX 19
3.1 Starting the PBX 20
4 Customising the PBX 21
4.1 Connecting the PC 22
4.2 Installing the Maintenance Console 22
4.3 Programming the PBX 23
5 Confirming the Connection 29
5.1 Making Calls 30

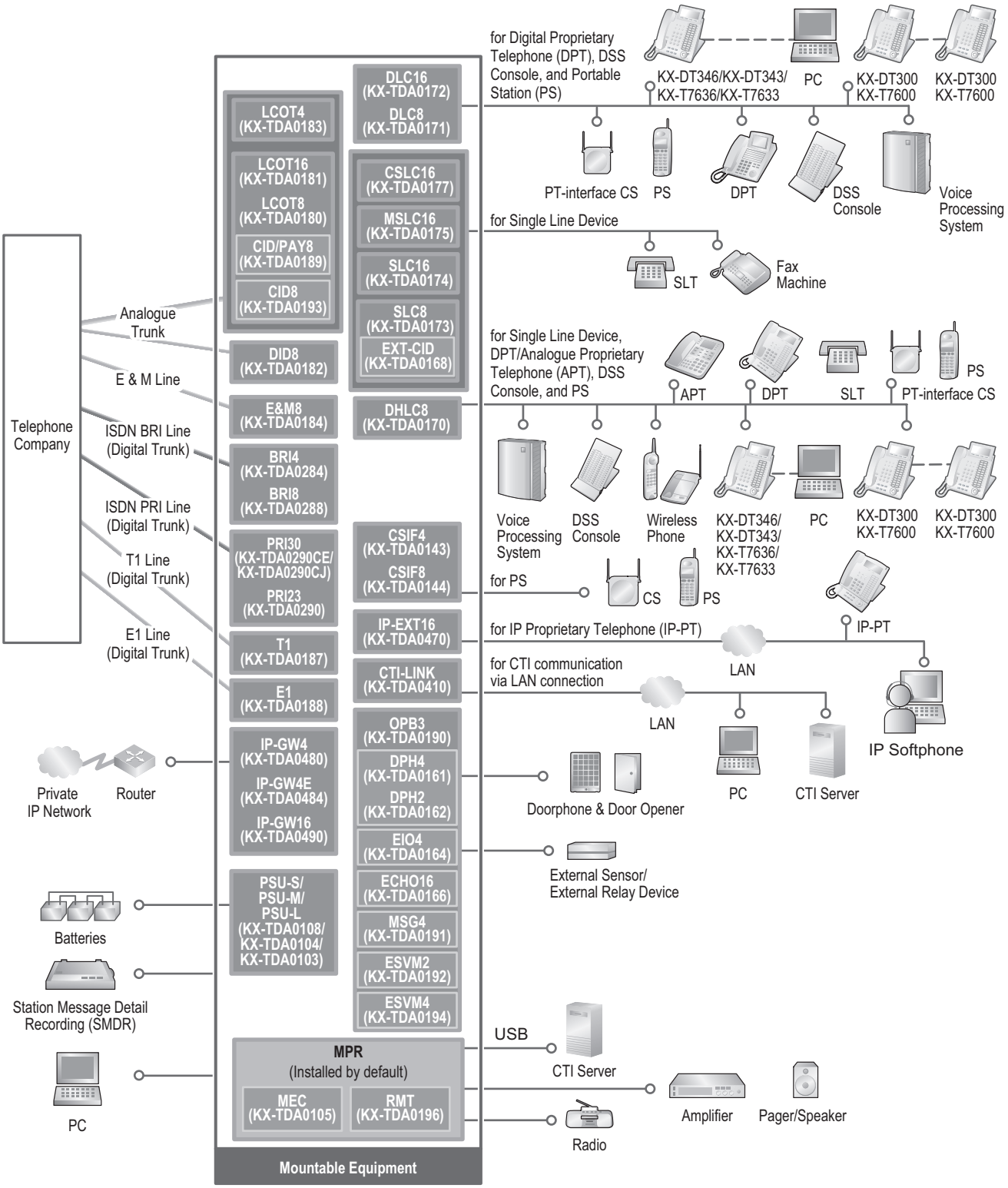
Section 1
Before Installation

1.1 Safety Notices

Please observe the safety notices in this manual in order to avoid danger to users or other people, and prevent damage to property.
The notices are classified as follows, according to the severity of injury or damage:

WARNING	This notice means that misuse could result in death or serious injury.
CAUTION	This notice means that misuse could result in injury or damage to property.

1.2 System Connection Diagram



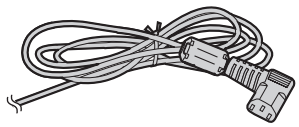
Note

In this manual, the suffix of each model number (e.g., KX-TDA100**NE**) is omitted unless necessary.

1.3 Unpacking

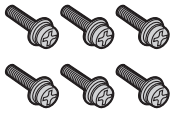
Check the package contents.

Main Unit × 1
CD-ROM (including manuals, etc.) × 1

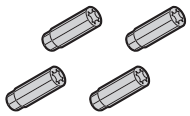


AC Cord[*1] × 1

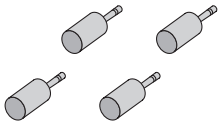
Screw A
× 3 (KX-TDA100)
× 4 (KX-TDA200)



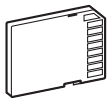
Screw B (Black)
× 2 (KX-TDA100)
× 6 (KX-TDA200)



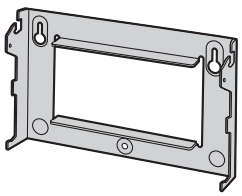
Anchor Plug
× 3 (KX-TDA100)
× 4 (KX-TDA200)



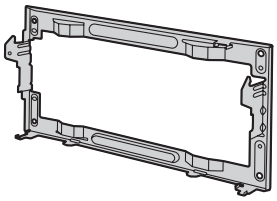
Mini Plug (for pager and music source) × 4



SD Memory Card × 1



for KX-TDA100



for KX-TDA200

Metal Bracket × 1

[*1] The type of the AC cord may vary depending on the country/area of use.
KX-TDA100BX/KX-TDA200BX is supplied with 2 types of AC cord. Please use whichever is appropriate for the country/area.
In Canada, there is no ferrite core attached to the AC cord.

Necessary tools (not supplied):

✓ Telephone cable for extension connection:

Diameter of cable (ø 0.4 mm to ø 0.6 mm)	**Maximum length of cable**
ø 0.5 mm	1128 m for SLT
ø 0.5 mm	720 m for KX-DT300/KX-T7600 series
ø 0.5 mm	229 m for other DPT, APT and DSS Console

The maximum length of the cable may vary depending on the type of cable and installation conditions.
✓ An RS-232C or USB cable for PC connection
✓ Connectors (Amphenol/RJ45/BNC) for trunk and extension connections

Note

- Use a shielded twisted pair cable for the Amphenol connector.
- Use a twisted pair cable for the RJ45 connector.

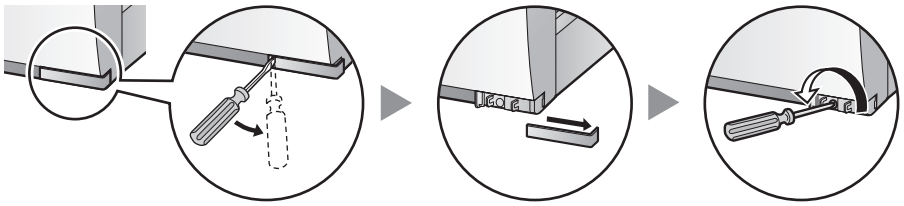
Section 2

Installation

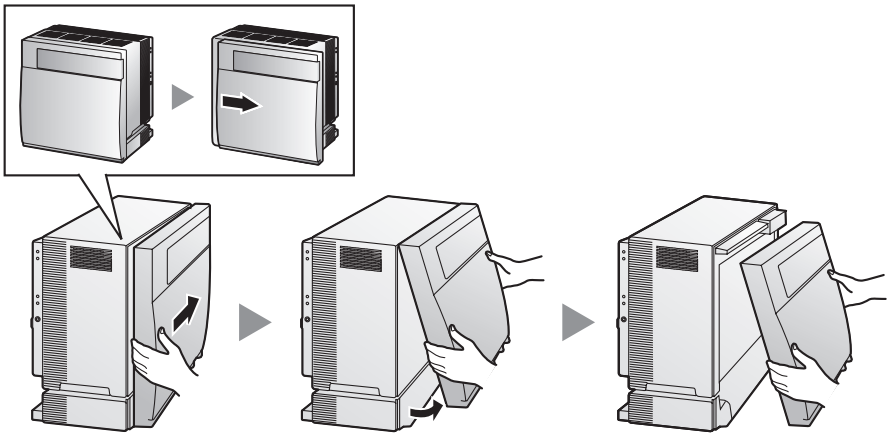
2.1 Opening/Closing the Front Cover

Opening the Front Cover

1. Insert a flathead screwdriver into the opening (on the left of the screw cover) and unlatch the screw cover. Turn the screw anticlockwise to loosen.

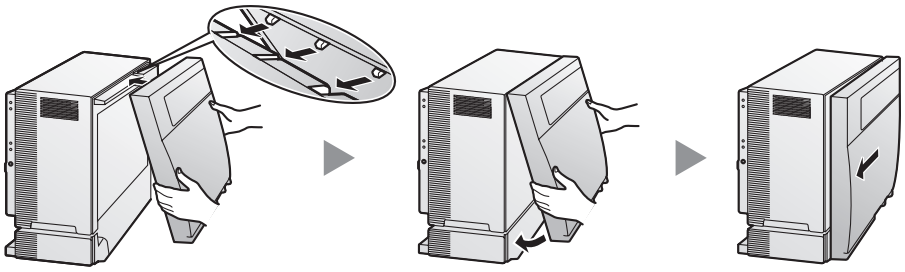


2. Slide the front cover to the right until it stops, then lift the front cover.

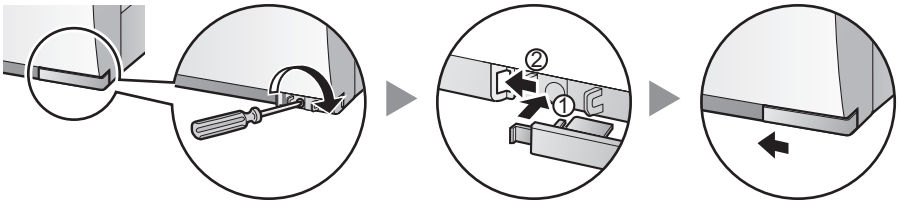


Closing the Front Cover

1. Hook the front cover onto the shelf (line up the protrusions on the cover with the receptacles on the shelf), then slide the front cover to the left until it locks.



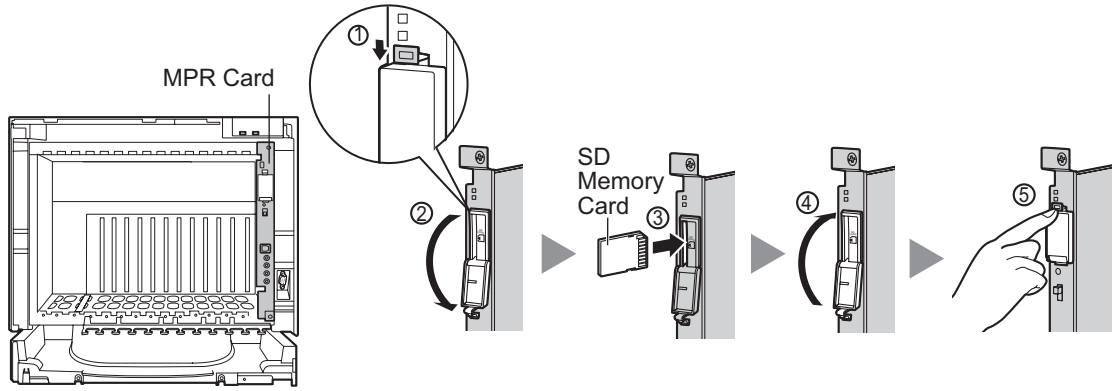
2. Turn the screw clockwise to tighten, then secure the screw cover.



2.2 Inserting the SD Memory Card to the MPR Card

The SD Memory Card contains software for all the processes of the PBX and all the customer data.
The SD Memory Card must be inserted before startup.

Example: KX-TDA200



CAUTION

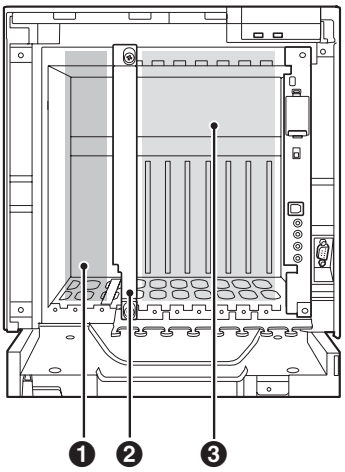
Do not remove the SD Memory Card while power is supplied to the PBX. Doing so may cause the PBX to fail to start when you try to restart the system.

2.3 Installing the Option Units

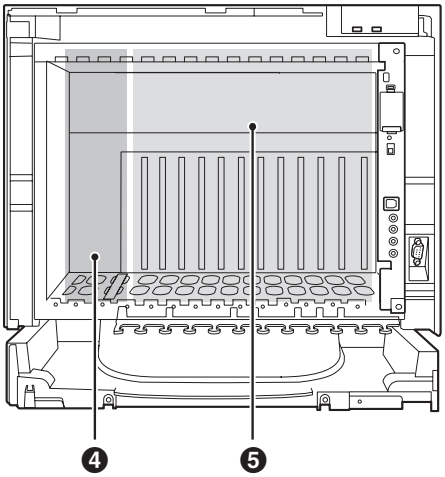
Slot Condition

Install the power supply unit (PSU) into the left-most slot, and optional service cards into free slots.

KX-TDA100



KX-TDA200



1. **PSU Slot**
2. **Null Slot**[*1]
3. **Free Slots 1 to 6 for Optional Service Cards**
4. **PSU Slot**
5. **Free Slots 1 to 11 for Optional Service Cards**

[*1] Null slot is not available for any optional service card.

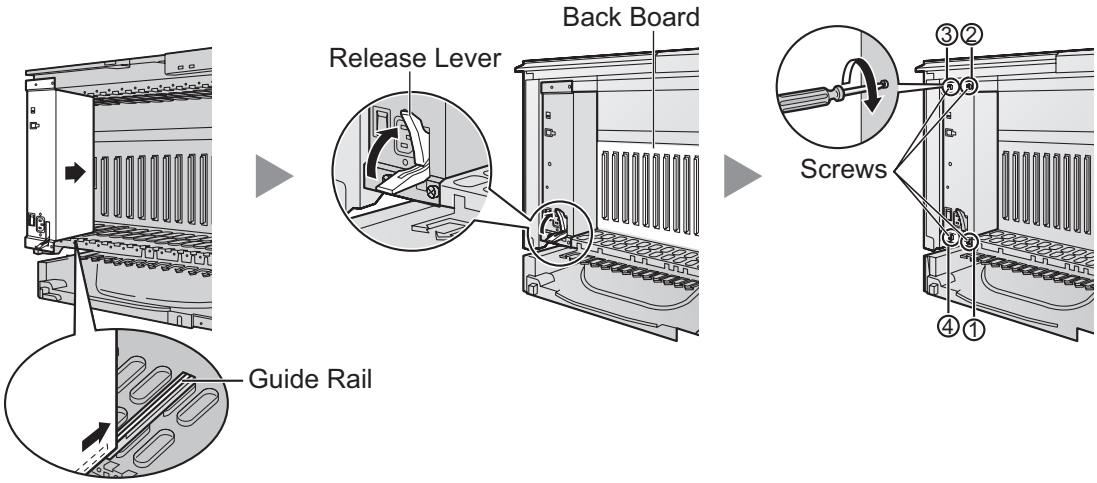
CAUTION

To protect the back board from static electricity, do not touch parts on the back board in the main unit, PSU, and on the optional service cards. To discharge static electricity, touch ground or wear an earthing strap. Make sure the screws are tightened to earth the card securely.

Installing the Power Supply Unit

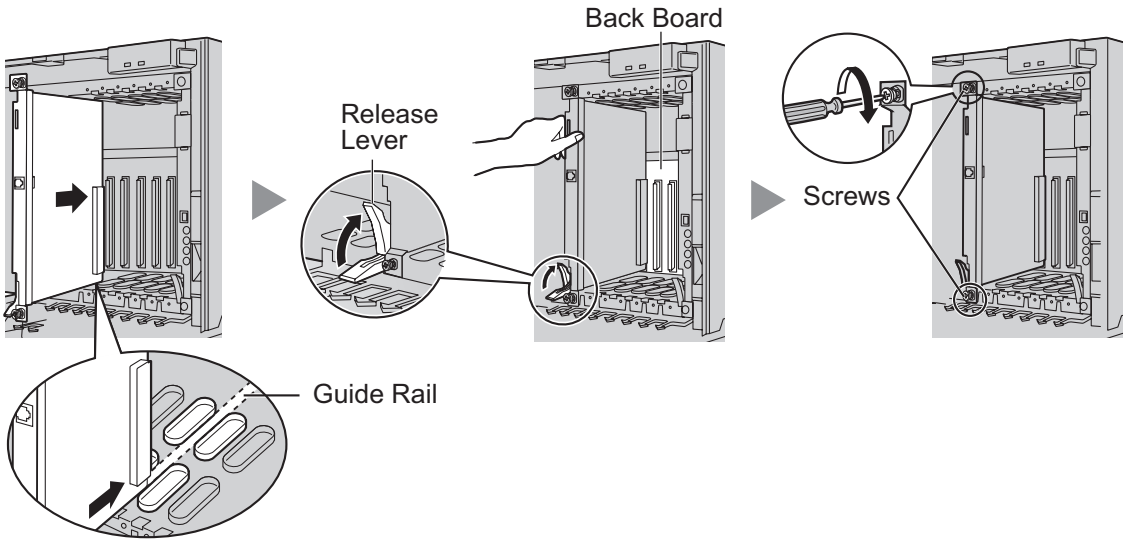
1. Insert the PSU along the guide rails.
2. Push the release lever in the direction of the arrow, so that the PSU engages securely with the connector on the back board.

3. Turn the 4 screws clockwise, in the order indicated by the numbers 1 to 4, to fix the PSU.



Installing the Trunk/Extension Cards

1. Insert the card along the guide rails.
2. Holding the card as shown below, push the release lever in the direction of the arrow so that the card engages securely with the connector on the back board.
3. Turn the 2 screws clockwise to fix the card in place.

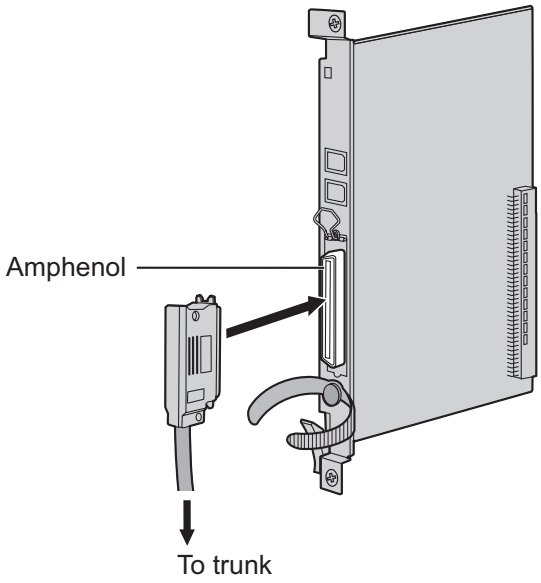


Be sure to cover each slot in which no optional service card is installed by using a Blank Slot Cover. For details, refer to "Covering the Blank Slots" in "2.2.7 Installing/Removing the Optional Service Cards" of the Installation Manual.

2.4 Installing the Trunk Cards

LCOT4/LCOT8/LCOT16 Card

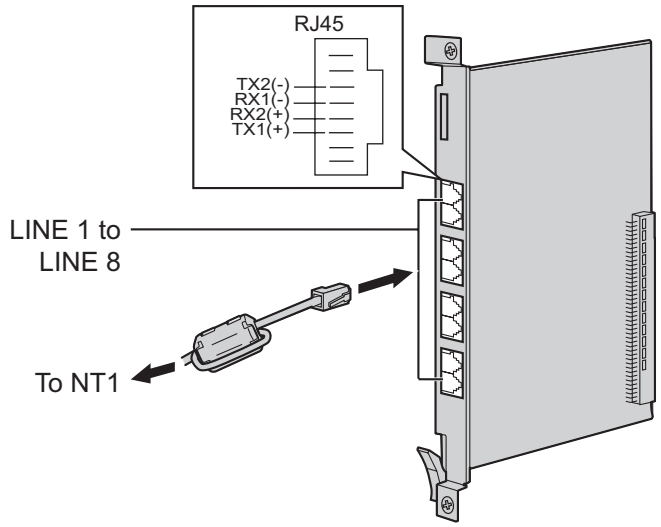
Example: LCOT 16 Card



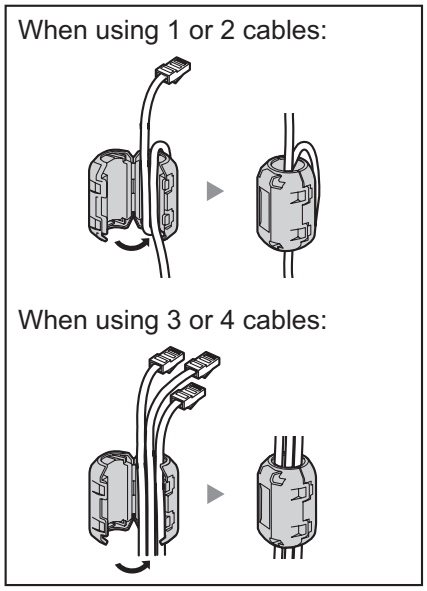
Accessories (included): Screws × 2
User-supplied (not included): Amphenol connector

BRI4/BRI8 Card

Example: BRI8 Card



To attach the ferrite core



- For every 4 cables, use 1 ferrite core; a ferrite core holds a maximum of 4 cables.
- Attach the ferrite core as close to the card's connector as possible.

Accessories (included): Ferrite core(s) × 1 (BRI4 card) or 2 (BRI8 card)
User-supplied (not included): RJ45 connector

CAUTION

Connect these optional service cards to the trunk through an NT1; do not connect to the U interface of the trunk directly.

Notice

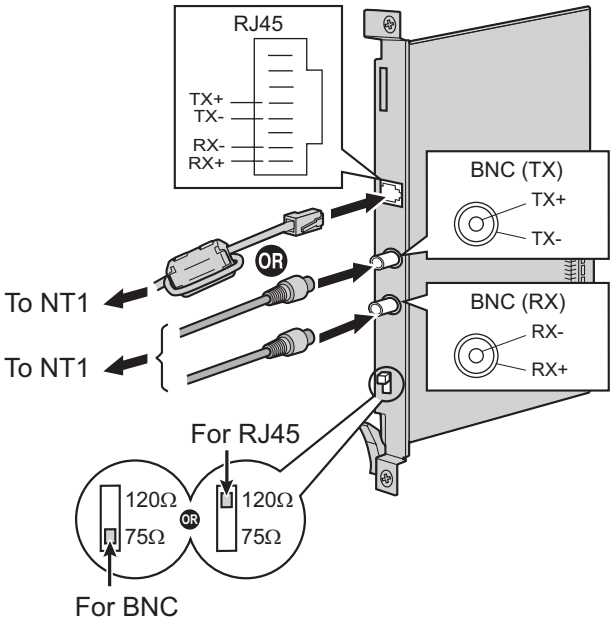
When connecting the RJ45 connector, attach the included ferrite core.

Note

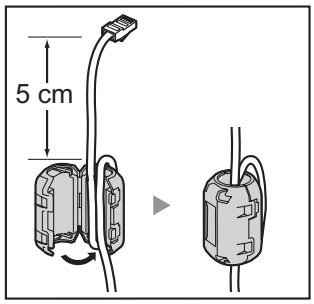
- LINE 5 to LINE 8 are for BRI8 card only.
- These optional service cards have 100 Ω of terminal resistance. For use in point to multi-point connection, the cards must be placed at the end of the bus.

PRI30/PRI23 Card

Example: PRI30 Card



To attach the ferrite core



Accessories (included): Ferrite core × 1
User-supplied (not included): RJ45 or BNC connectors

CAUTION

Connect these optional service cards to the trunk through an NT1; do not connect to the U interface of the trunk directly.

Notice

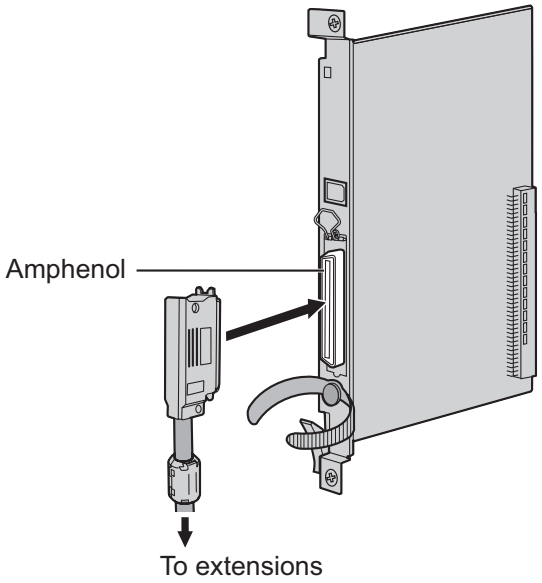
When connecting the RJ45 connector, attach the included ferrite core (except in Canada, where the ferrite core is not necessarily required).

Note

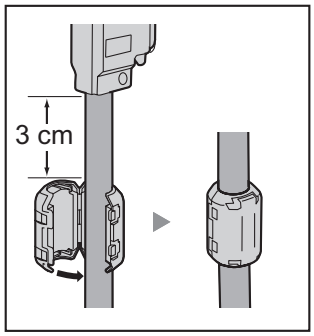
- In some countries/areas, the PRI30 card must not be connected to the Public Switched Telephone Network.
- Use only 1 type of connector (RJ45 or BNC) for connection of PRI30 card; RJ45 and BNC cannot be used simultaneously. Set the termination switch to 120 Ω (default) or 75 Ω for connector type to be used.

2.5 Installing the Extension Cards (DLC8/DLC16/DHLC8/MSLC16/SLC8/SLC16/CSLC16)

Example: DHLC8 Card



To attach the ferrite core



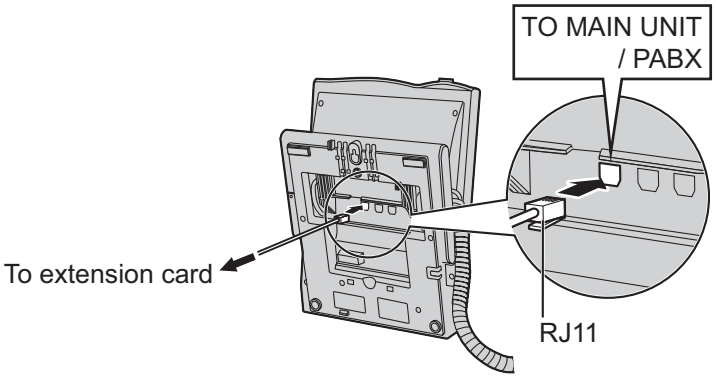
Accessories (included): Screws × 2, Ferrite core × 1
User-supplied (not included): Amphenol connector

Note

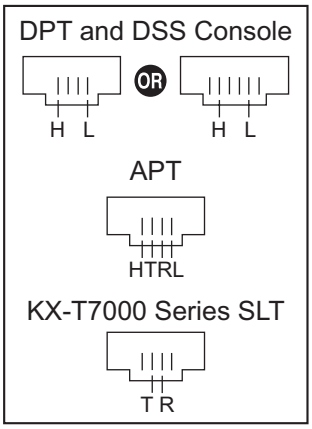
Attach the included ferrite core to the cable.

2.6 Connecting Extensions

Example: KX-T7600 Series DPT

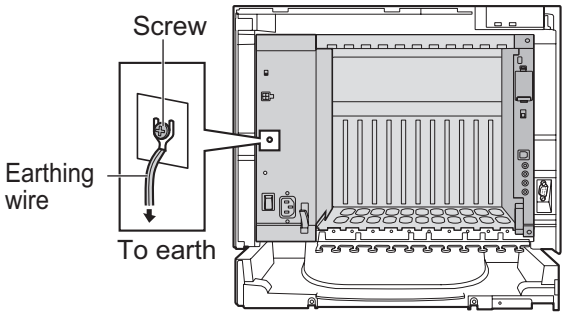


Pin Assignments



2.7 Frame Earth Connection

1. Loosen the screw.
2. Insert an earthing wire (user-supplied).
3. Tighten the screw.
4. Connect the earthing wire to earth.



WARNING

- **Connect the frame of the PBX to earth.**
- **Proper earthing (connection to earth) is very important to protect the PBX from the bad effects of external noise or to reduce the risk to the user of electrocution in the case of a lightning strike.**

CAUTION

- For earthing wire, green-and-yellow insulation is required, and the cross-sectional area of the conductor must be more than 0.75 mm^2 or 18 AWG.
- The earthing wire of the AC cable has an effect against external noise and lightning strikes, but it may not be enough to protect the PBX. A permanent connection between earth and the earth terminal of the PBX must be made.

Section 3

Starting the PBX

3.1 Starting the PBX

CAUTION

- Before touching the System Initialise Switch, discharge static electricity by touching ground or wearing an earthing strap.
- Once you have started the PBX and if you unplug the PBX, do not perform the following procedures to start the PBX again. Otherwise, your programmed data will be cleared.
- The power supply cord is used as the main disconnect device. Ensure that the AC outlet is located near the equipment and is easily accessible.
- Use only the AC power cord included with the PBX for the PSU.

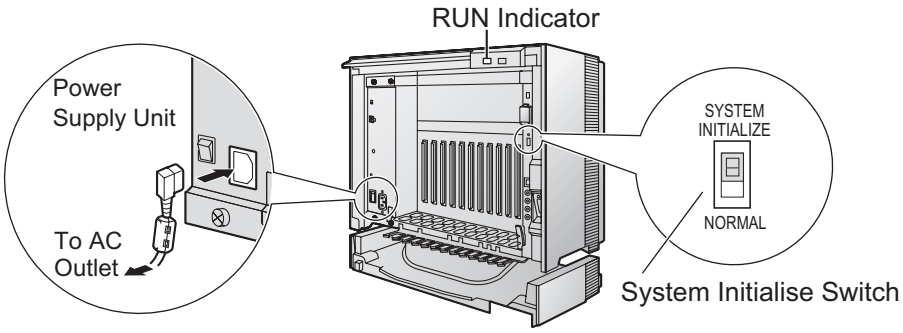
Notice

The SD Memory Card must be inserted in the SD Memory Card slot of the MPR card before startup.

Note

- The PBX will continue to be powered even if the power switch is turned "OFF".

1. Slide the System Initialise Switch to the "SYSTEM INITIALIZE" position.



2. Plug the AC power cord into the PBX and an AC outlet, and turn on the PBX. The RUN indicator will flash.
3. While the RUN indicator is flashing, slide the System Initialise Switch back to the "NORMAL" position. Depending on the configuration, initialisation takes about 1 min to 3 min. If successfully executed, the RUN indicator will stop flashing and stay lit.

All data will be cleared and the PBX will be initialised to the default values. The DPTs should show the time as 01:00.

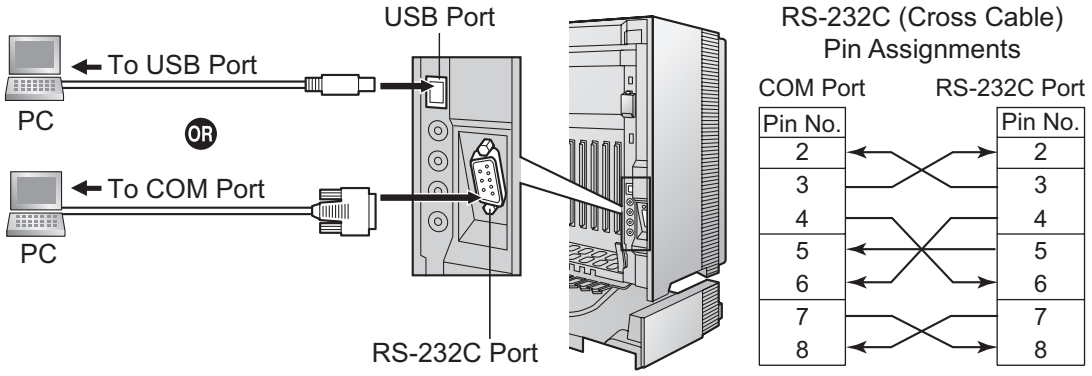
Section 4

Customising the PBX

4.1 Connecting the PC

The Maintenance Console serves as an overall system programming tool for the PBX. The Maintenance Console's Quick Setup lets you easily configure the PBX to receive intercom and trunk calls, as well as apply basic settings such as time and date.
To programme the PBX, connect it to the PC with serial interface.

Serial Interface Connection



CAUTION

When connecting a PC to the PBX via the RS-232C port, it is necessary to keep the following in mind to protect the system:

1. Make sure that both connector cases (frame ground) of the RS-232C cross cable (shielded cable)/USB cable are conductive. If they are not conductive, make sure that both connector cases of the cable are firmly connected.
2. If this is not possible, connect the frame of the PBX to the frame of the PC using an earthing wire in order to prevent difference in the electrical potentials.

4.2 Installing the Maintenance Console

For the system requirements of the PC (e.g., operating system, hardware specifications), refer to "3.3.1 Installing and Starting the Maintenance Console" in the Installation Manual.

Note

- Make sure to install and use the latest version of the Maintenance Console.
- To connect the PC to the PBX via USB, the KX-TDA USB driver must be installed. Follow the instructions of the wizard to install the KX-TDA USB driver. When the PBX is first connected to the PC via USB, you may be asked to select the appropriate USB driver. Browse for and select the KX-TDA USB driver that was installed previously.
- The contents and design of the software are subject to change without notice.
- Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation.

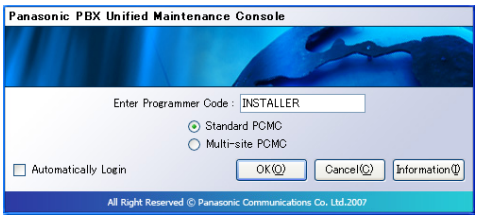
1. Copy the setup file of the Maintenance Console to your PC.
2. Double-click the setup file to run the installer.
3. Follow the on-screen instructions provided by the installation wizard.

4.3 Programming the PBX

Starting the Maintenance Console and Assigning the Basic Items (Quick Setup)

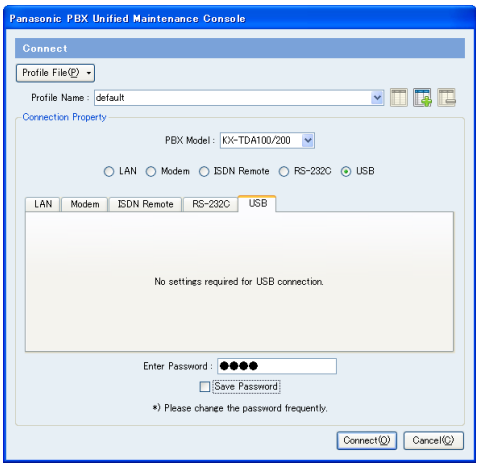
When you start the Maintenance Console with the Installer Level Programmer Code and connect to the PBX for the first time after initialisation (with the factory default setting), Quick Setup will launch automatically. During Quick Setup, you will set up the basic items. For details about the basic items, refer to "2.3.4 Quick Setup" in the Feature Guide.

1. Connect the PC to the PBX with a USB cable or RS-232C cross cable.
2. Start the Maintenance Console from the Start menu.
3. "Information before programming" appears.
   a. Carefully read this important additional information, which includes updates to this and other manuals.
   b. Click **OK** to close this window.



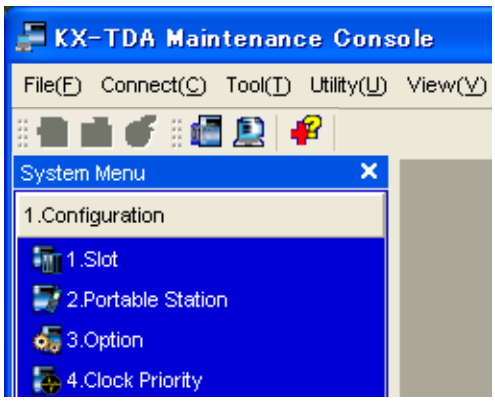
4. a. Enter the Installer Level Programmer Code (default: **INSTALLER**).
   b. Click **OK**.

5. Click **Connect**.



6. a. Select **KX-TDA100/200** from **PBX Model**.
   b. Select the **USB** or **RS-232C** tab, depending on the serial interface connection with the PBX.
   c. Enter the system password for installer (default: **1234**).
   d. Click **Connect**.

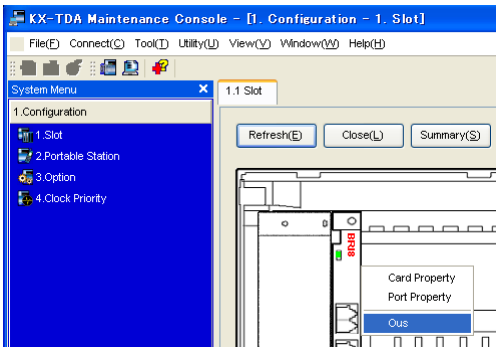
7. **When country/area data do not match:**
   a. Click **OK** to replace the country/area data of the PBX. Replacement may take several minutes to complete.
   b. Follow the procedure described in "Section 3 Starting the PBX" and restart the PBX.
   c. Repeat step **5** to reconnect the Maintenance Console.



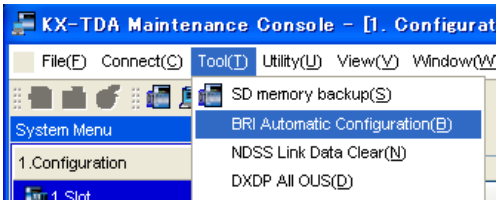
8. Follow the instructions of the Quick Setup wizard and assign the basic items (Quick Setup).

The system menu appears. You may now begin programming the PBX.

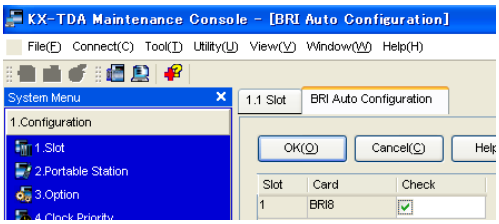
Assigning the BRI Setting (Automatic Configuration)



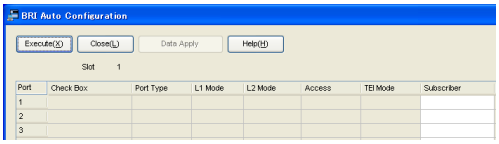
1. **a.** Under **Configuration**, click **Slot**.
   b. Move the mouse pointer over the BRI card.
   A menu will be shown under the mouse pointer.
   c. Click **Ous** to set the card to out-of-service status.



2. Click **Tool** → **BRI Automatic Configuration** from the menu bar.



3. **a.** Click **Check** to turn on the BRI card.
   b. Click **OK**.

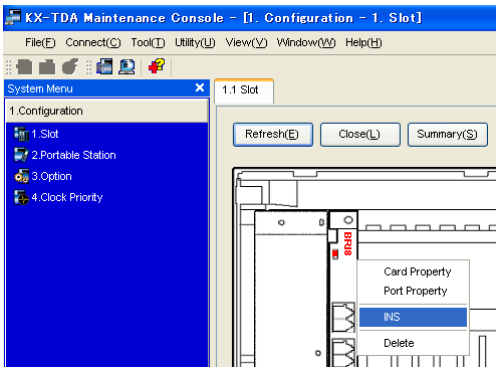


4. **a.** Enter the subscriber number for the desired ports in **Subscriber**.
   b. Click **Execute**.

   Note

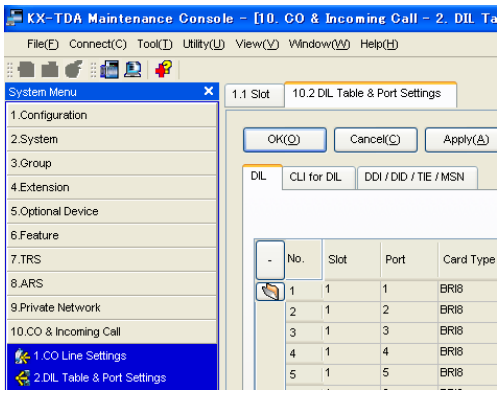
   Network settings are automatically set.

   c. Click **Check Box** of the desired ports.
   d. Click **Data Apply**.
   e. Click **Close**.



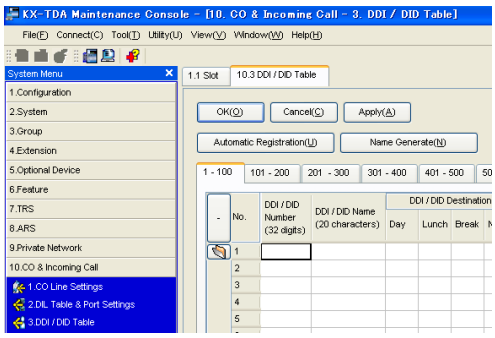
5. **a.** Under **Configuration**, click **Slot**.
   b. Move the mouse pointer over the BRI card, then click **INS** to set the card to in-service status.

Assigning the Incoming Trunk Call Destination



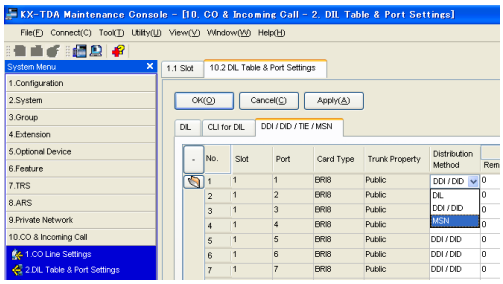
For analogue trunk users (DIL Setting):

1. Under **CO & Incoming Call**, click **DIL Table & Port Settings**.
2. Confirm that the **DIL** tab is selected.
3. Configure the settings as required.
4. Click **OK**.



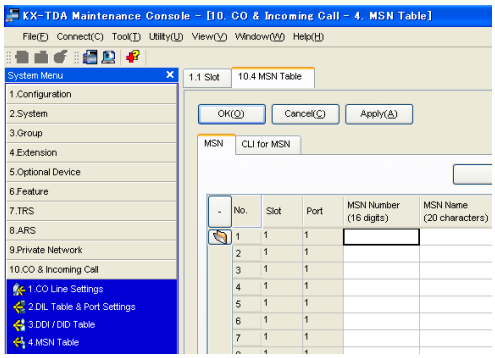
For ISDN trunk users (DDI Setting):

1. Under **CO & Incoming Call**, click **DDI / DID Table**.
2. Configure the settings as required.
3. Click **OK**.



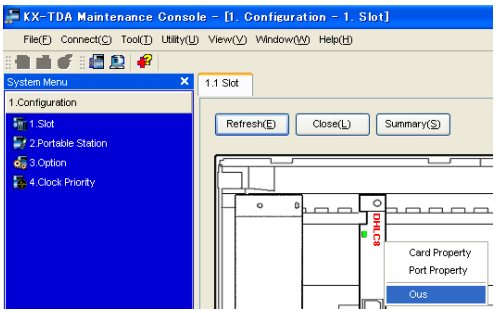
For ISDN trunk users (MSN Setting):

1. Under **CO & Incoming Call**, click **DIL Table & Port Settings**.
2. Click the **DDI / DID / TIE / MSN** tab.
3. Set the **Distribution Method** of the desired ports to **MSN**.
4. Click **OK**.

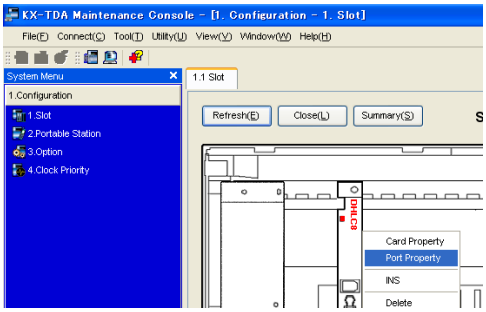


5. Click **MSN Table**.
6. Click the **MSN** tab.
7. Configure the settings as required.
8. Click **OK**.

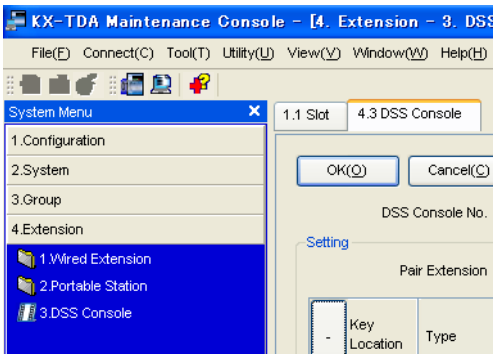
Setting an Extension Port to Use a DSS Console



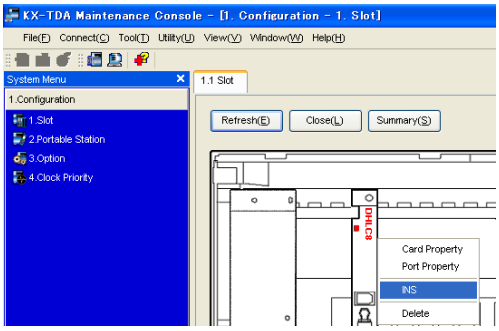
1. Under **Configuration**, click **Slot**.
2. Move the mouse pointer over the desired extension card to display the menu of options.
3. Click **Ous** to set the card to out-of-service status.



4. Move the mouse pointer over the card again, then click **Port Property**.
5. For **DPT Type**, set the **Type** to **DSS** and assign the **Location No.**.
6. Click **OK** .



7. Under **Extension**, click **DSS Console**.
8. Select the desired pair extension number from **Pair Extension**.
9. Assign features to flexible buttons as required.
10. Click **OK**.



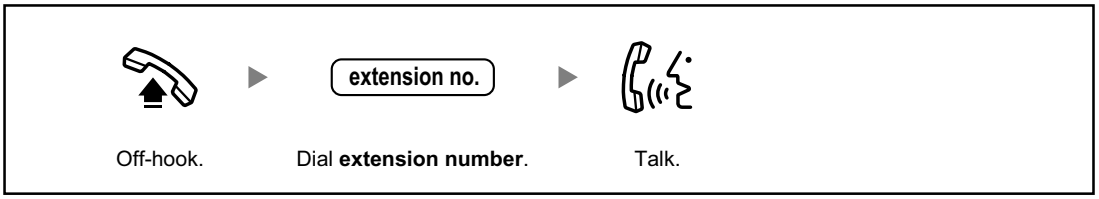
11. Under **Configuration**, click **Slot**.
12. Move the mouse pointer over the card to display the menu of options.
13. Click **INS** to set the card to in-service status.
14. Click **Close**.

Section 5

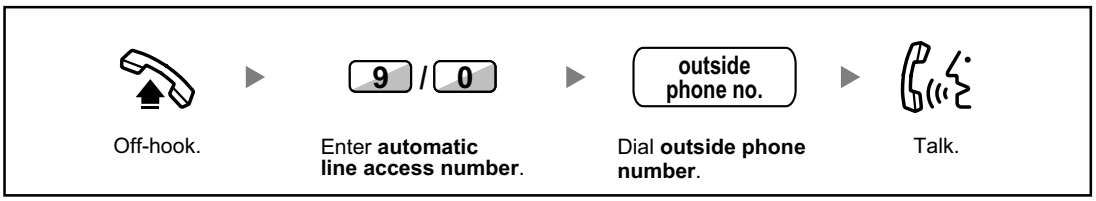
Confirming the Connection

5.1 Making Calls

To call another extension



To call an outside party



CE

The KX-TDA100E/KX-TDA200E, the KX-TDA100NE/KX-TDA200NE, the KX-TDA100GR/KX-TDA200GR, and the KX-TDA100CE/KX-TDA200CE are designed to interwork with the:

- Analogue Public Switched Telephone Network (PSTN) of European countries
- Pan-European Integrated Services Digital Network (ISDN) using ISDN basic rate access
- Pan-European Integrated Services Digital Network (ISDN) using ISDN primary rate access
- ONP 2048 kbit/s digital structured leased lines (D2048S)

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Contact to Authorised Representative:
Panasonic Testing Centre
Panasonic Marketing Europe GmbH
Winsbergring 15, 22525 Hamburg, Germany

Panasonic Communications Co., Ltd.
1-62, 4-chome, Minoshima, Hakata-ku, Fukuoka 812-8531, Japan

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