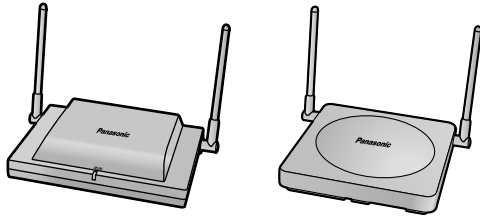# Panasonic®

Quick Installation Guide

DECT Cell Station Unit

Model No. KX-TDA0141
KX-TDA0142
KX-TDA0155
KX-TDA0156
KX-TDA0158

Thank you for purchasing a Panasonic DECT Cell Station Unit.
Please read this manual carefully before using this product and save this manual for future use.

Important Information

SAVE THESE INSTRUCTIONS

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.

WARNING

SAFETY REQUIREMENTS
- The product must only be installed and serviced by qualified service personnel. The product should be used as-is from the time of purchase; it should not be disassembled or modified. Disassembly or modification can cause a fire, electric shock, or damage to the product.
- Make sure that the wall that the unit will be attached to is strong enough to support the unit (approx. 310 g). If not, it is necessary for the wall to be reinforced.
- Only use the wall-mounting equipment (screws, washers) included with the unit.
- When this product is no longer in use, make sure to detach it from the wall.
- Do not connect or disconnect the telephone cord with wet hands.
- Disconnect the unit from the telephone cord, and contact the dealer if:
  – The unit is exposed to rain, water, or any other liquid.
  – The unit is dropped or damaged.
  – Internal components are exposed due to damage.
  – The unit does not operate properly.
  – Performance deteriorates.
- Disconnect the unit from the telephone cord if the unit emits smoke, an abnormal smell, or makes unusual noise. These conditions can cause fire or electric shock. Confirm that smoke has stopped and contact an authorised service centre.
- Do not touch the unit, or telephone cord during a lightning storm.
- Do not allow anything to rest on the telephone cord. Do not locate this unit where the telephone cord may be stepped on or tripped on.

CAUTION

SAFETY REQUIREMENTS
- The CS should be kept free of dust, moisture, high temperature (more than 40 °C), low temperature (less than 0 °C), and vibration, and should not be exposed to direct sunlight.
- The CS should not be placed outdoors (use indoors).
- The CS should not be placed near high-voltage equipment.
- The CS should not be placed on a metal object.
- When driving the screws into the wall, be careful to avoid touching any metal laths, wire laths or metal plates in the wall.
- To prevent malfunction, deformity, overheating, rust, and discolouration, do not install or place equipment in the following types of locations:

- Locations where air ventilation is poor.
- Locations that may be exposed to sulphurous gas, such as near hot springs.
- Near devices that emit heat, such as heaters.
- Near devices that emit electromagnetic noise, such as radios or televisions.
- Near devices that emit high-frequency noise, such as sewing machines or welders.
- Do not stretch or bend the cables. Also, do not allow anything to rest on the cables.
- Use cables that are fire-resistant or fireproof.
- The CS and the cables should never be placed near or over a radiator or other heat source.
- Do not bundle cables that are connected to the CS with the AC power cords of machines located nearby.
- Make sure the cables are securely fastened to the wall.
- Disconnect the telephone cord from the unit before cleaning. Clean the unit with a soft, dry cloth. Do not use liquid, aerosol cleaners, abrasive powders, or chemical agents to clean the unit.
- When left unused for a long period of time, disconnect the unit from the telephone cord.
- **Medical**—consult the manufacturer of any personal medical devices, such as pacemakers, to determine if they are adequately shielded from external RF (radio frequency) energy. (The unit operates in the frequency range of 1880 MHz to 1900 MHz, and the output peak power level is less than 0.25 W.) Do not use the unit in health care facilities if any regulations posted in the area instruct you not to do so. Hospitals or health care facilities may be using equipment that could be sensitive to external RF (radio frequency) energy.

Notice

SAFETY REQUIREMENTS
- Before connecting the unit, confirm that the unit supports the intended operating environment.
- If the unit does not operate properly, disconnect the telephone cord, then connect again.
- The unit may not operate in the event of a power failure.
- Do not move the unit while it is in use.
- Satisfactory operation, interoperability, and compatibility cannot be guaranteed with all equipment connected to the unit, nor with all services provided by telecommunications providers over networks connected to the unit.

SECURITY REQUIREMENTS
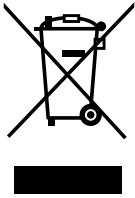- Privacy of communications may not be ensured when using the wireless systems.

Note

In this manual, the suffix of each model number (e.g., KX-TDA0141**CE**) is omitted unless necessary.

Additional Information

For users in the European Union only

Information for Users on Collection and Disposal of Old Equipment and used Batteries

These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should not be mixed with general household waste.

For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC and 2006/66/EC.

By disposing of these products and batteries correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.

For more information about collection and recycling of old products and batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

For business users in the European Union
If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

Information on Disposal in other Countries outside the European Union
These symbols are only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.

Note for the battery symbol (bottom two symbol examples):
This symbol might be used in combination with a chemical symbol. In this case it complies with the requirement set by the Directive for the chemical involved.
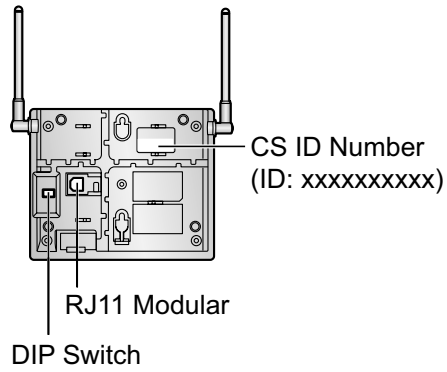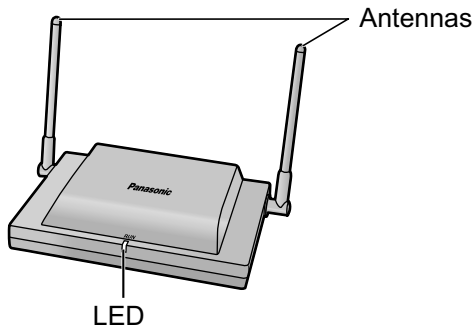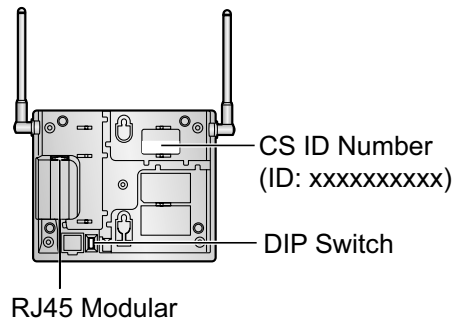
Table of Contents

1 Overview

Names and Locations

KX-TDA0155/KX-TDA0156

Antennas

LED

CS ID Number
(ID: xxxxxxxxxx)

RJ11 Modular

DIP Switch

KX-TDA0158

Antennas

LED

CS ID Number
(ID: xxxxxxxxxx)

DIP Switch

RJ45 Modular

KX-TDA0141/KX-TDA0142

Antennas

CS ID Number
(ID: xxxxxxxxxx)

RJ11 Modular

DIP Switch
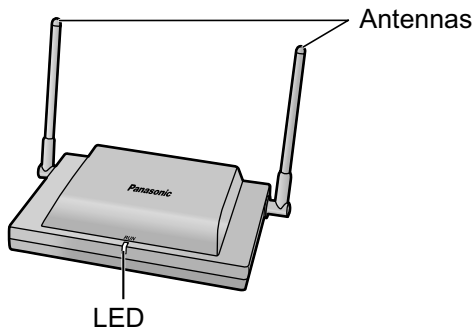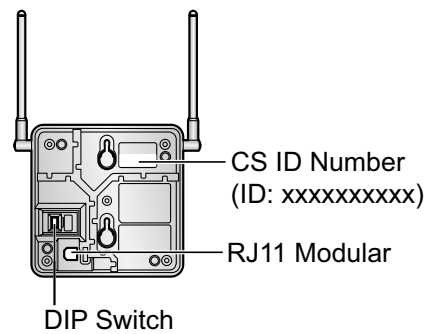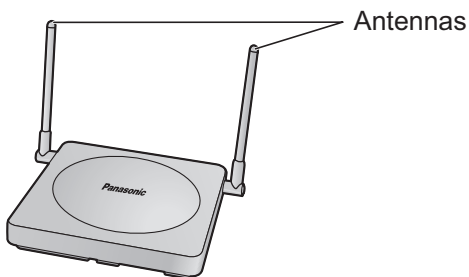
LED Indications (KX-TDA0155/KX-TDA0156/KX-TDA0158)

Indication	Colour	Description
STATUS	Green/Red	CS status indication • OFF: Power Off • Green ON: Stand-by (no active calls) • Slow Green Flashing (60 times per minute): Talk (active calls) • Moderate Green Flashing (120 times per minute): Busy • Red ON: Fault (includes Initialisation) • Red Flashing (60 times per minute): Out of Service/Starting up CS status indication during the site survey • Red ON: The CS is connected to an AC adaptor/battery box. • Red Flashing (60 times per minute): The CS is connected to the PBX.

Compatible PBX

Cell Station	PBX	
	Model No.	MPR Software Version
KX-TDA0155/ KX-TDA0141	KX-TDA15	PSMPR Software File Version 1.1000 or later
	KX-TDA30	PSMPR Software File Version 1.0000 or later
	KX-TDA100	PMPR Software File Version 1.1000 or later
	KX-TDA200	
	KX-TDA600	PLMPR Software File Version 2.2000 or later
	KX-TDE100	PMMPR Software File Version 1.0000 or later
	KX-TDE200	
	KX-TDE600	PGMPR Software File Version 2.0000 or later
	KX-NCP500	PBMPR Software File Version 1.0000 or later
	KX-NCP1000	
KX-TDA0156/ KX-TDA0142	KX-TDA100	PMPR Software File Version 1.0000 or later
	KX-TDA200	
	KX-TDA600	PLMPR Software File Version 2.2000 or later
	KX-TDE100	PMMPR Software File Version 1.0000 or later
	KX-TDE200	
	KX-TDE600	PGMPR Software File Version 2.0000 or later

Cell Station	PBX	
	Model No.	MPR Software Version
KX-TDA0158	KX-TDA15	PSMPR Software File Version 5.0000 or later
	KX-TDA30	PSMPR Software File Version 5.0000 or later
	KX-TDA100	PMPR Software File Version 5.0000 or later
	KX-TDA200	
	KX-TDA600	PLMPR Software File Version 5.0000 or later
	KX-TDE100	PMMPR Software File Version 1.0000 or later
	KX-TDE200	
	KX-TDE600	PGMPR Software File Version 2.0000 or later
	KX-NCP500	PBMPR Software File Version 1.0000 or later
	KX-NCP1000	

Maximum Number of Calls

Cell Stations (CSs) determine the area covered by the wireless system. The number of calls that can be made simultaneously through each CS varies depending on the model, as follows:

Cell Station	Maximum Calls	Compatible Portable Station
KX-TDA0155	2	• KX-TCA155
KX-TDA0156	4	• KX-TCA175 • KX-TCA255
KX-TDA0158	8	• KX-TCA256
KX-TDA0141	2	• KX-TCA275 • KX-TCA355
KX-TDA0142	4	• KX-TD7590 • KX-TD7580

Note

For more details about the Portable Station (PS), refer to the Operating Instructions of the PS.

Maximum Number of CSs Supported by PBX

Notice

The CSs are for connection to specified Panasonic PBXs only.

The following number of CSs can be supported by each PBX.

PBX	Connected via	Maximum Number		
		KX-TDA0158	**KX-TDA0155/ KX-TDA0141**	**KX-TDA0156/ KX-TDA0142**
KX-TDA15	• Super Hybrid Ports • DLC card	2	4	-
KX-TDA30 (with Additional AC Adaptor)	• Super Hybrid Ports • DLC card	4	8	-
KX-TDA100/ KX-TDA200	• DHLC card • DLC card	16	32	-
	• CSIF card	-	-	32
KX-TDA600	• DHLC card • DLC card	64	128	-
	• CSIF card	-	-	128
KX-TDE100/ KX-TDE200	• DHLC card • DLC card	16	32	-
	• CSIF card	-	-	32
KX-TDE600	• DHLC card • DLC card	64	128	-
	• CSIF card	-	-	128
KX-NCP500	• DHLC card • DLC card	2	4	-
KX-NCP1000	• DHLC card • DLC card	4	8	-

Required Distances between Equipment

CAUTION

Maintain the distances listed below between equipment in order to prevent noise, interference or the disconnection of a conversation. (The distance may vary depending on the environment.)

Equipment	Distance
CS and office equipment such as a computer, telex, fax machine, etc.	More than 2 m
CS and PS	More than 1 m
Each CS	More than 3 m
Each PS	More than 0.5 m
PBX and CS	More than 2 m

Notice

If multiple CSs cover the same area, the phone connection may become noisy or the number of possible simultaneous calls with PSs may decrease due to interference between the CSs. For details, refer to "5 Site Survey Using the KX-TCA175/KX-TCA255/KX-TCA256/KX-TCA275/KX-TCA355/KX-TD7590 —Testing the Radio Signal Strength".

The required distance between CSs may vary depending on the environment of the installation site and conditions in which the wireless system is used. Conduct a site survey to determine the appropriate distance.

RF Specification

Item	Description
Radio Access Method	MultiCarrier TDMA-TDD
Frequency Band	1880 MHz to 1900 MHz[*1]
Number of Carriers	10[*2]
Carrier Spacing	1728 kHz
Bit Rate	1152 kbps
Carrier Multiplex	TDMA, 24 (Tx12, Rx12) slots per frame
Frame Length	10 ms
Modulation Scheme	GFSK
	Roll-off factor=0.5 50 % roll-off in the transmitter
Data Coding for Modulator	Differential Coding
Voice Codec	32 kbps ADPCM (CCITT G.721)
Transmission Output	Peak 250 mW

[*1] If the suffix of your PBX model is BX, TW, or XE, the value is 1880 MHz to 1895 MHz.
[*2] If the suffix of your PBX model is BX, TW, or XE, the value is 8.

CAUTION

- The CS should be kept free of dust, moisture, high temperature (more than 40 °C), low temperature (less than 0 °C), and vibration, and should not be exposed to direct sunlight.
- The CS should not be placed outdoors (use indoors).
- The CS should not be placed near high-voltage equipment.
- The CS should not be placed on a metal object.
- Do not use this wireless system near another high-power cordless system such as DECT or SS wireless.

2   Procedure Overview

When connecting the wireless system, use extreme care in conducting the site survey. Site surveys can be conducted using the KX-TCA175/KX-TCA255/KX-TCA256/KX-TCA275/KX-TCA355/KX-TD7590 PS. An incorrectly performed site survey can result in poor service area, frequent noise, and disconnection of calls.

1. Investigate the installation site

Refer to "3 Site Planning".
a. Obtain a map of the CS installation site.
b. Identify the service area required by the user on the map.
c. Plan the location of each CS, taking account of distance, building materials, etc.

2. Prepare for site survey

Refer to "4 Before Site Survey".
a. Check and assign the CS ID number to the PS.
b. Assign a channel number to each CS by setting the DIP switches on the back of the CS.
c. Supply electricity to each CS using an AC adaptor/battery box or by connecting them to the PBX.
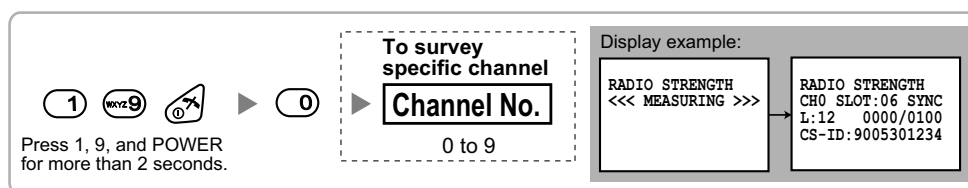d. Install each CS temporarily as planned.

Note

- Install at least 2 m above the floor.
- Place the antennas so that they are pointing in directions that are 90 degrees apart (for antenna diversity).

3. Conduct the site survey

Refer to "5 Site Survey Using the KX-TCA175/KX-TCA255/KX-TCA256/KX-TCA275/KX-TCA355/KX-TD7590".
a. Test the radio signal strength using the PS.
Confirm that the radio signal strength level is "12" near the CS.

Using the KX-TCA175/KX-TCA255/KX-TCA256/KX-TCA275/KX-TCA355

Press 1, 9, and POWER for more than 2 seconds.

To survey specific channel

Channel No.
0 to 9

Display example:

```
RADIO STRENGTH
<<< MEASURING >>>
```

```
RADIO STRENGTH
CH0 SLOT:06 SYNC
L:12   0000/0100
CS-ID:9005301234
```

Using the KX-TD7590

Press 1, 9, and POWER for more than 5 seconds.

To survey specific channel

Channel No.
0 to 9

Display example:

```
RADIO STRENGTH
<<< MEASURING >>>
```

```
CH0 SLOT:06 SYNC
L:12 0000/0100
CS-ID:9005301234
```
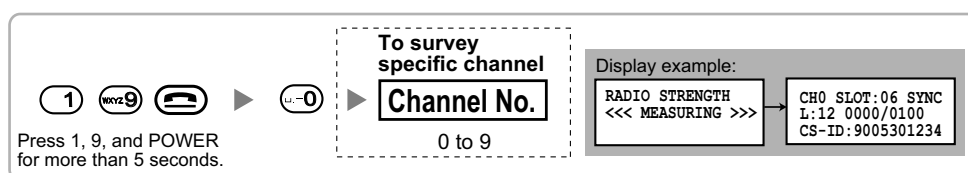
b. By walking away from the CS with the PS, check the radio signal strength. The radio signal strength weakens as you walk away from the CS.

c. Map the CS coverage area at radio signal strength levels "3" and "8".

d. Make sure that adjacent CS coverage areas overlap where the radio signal strength level is "8" by at least 5 m.

e. Make sure that the radio signal strength level is greater than "3" at any location within the service area required by the user.

4. Finish the site survey

Refer to "6 After Site Survey".

a. Turn off the PS.

b. Stop supplying power, and return all DIP switches of each CS to the OFF position.

5. Connect the CS and PS to the PBX and test the operation

Refer to "7 Connecting a Cell Station to the PBX".

a. Connect the CSs to the PBX.

b. Register the PSs to the PBX.

c. Walk around the service area while having a conversation using a registered PS. If noise is frequent or conversations disconnect, relocate the CSs or install an additional CS.

6. Mount the CS on the wall

Refer to "8 Wall Mounting".

a. If there are no problems in testing, mount the CS on the wall.

3 Site Planning

Choosing the best site for the CS requires careful planning and testing of essential areas. The best location may not always be convenient for installation. Read the following information before installing the unit.

Understanding Radio Waves

Characteristics of Radio Waves

The transmission of radio waves and the CS coverage area depend on the structure and materials of the building.
Office equipment, such as computers and fax machines, can interfere with radio waves. Such equipment may create noise or interfere with the performance of the PS.
The illustration below shows the special transmitting patterns of radio waves.

1. Radio waves are reflected by objects made of materials such as metal.
2. Radio waves are diffracted by objects such as metallic columns.
3. Radio waves penetrate objects made of materials such as glass.
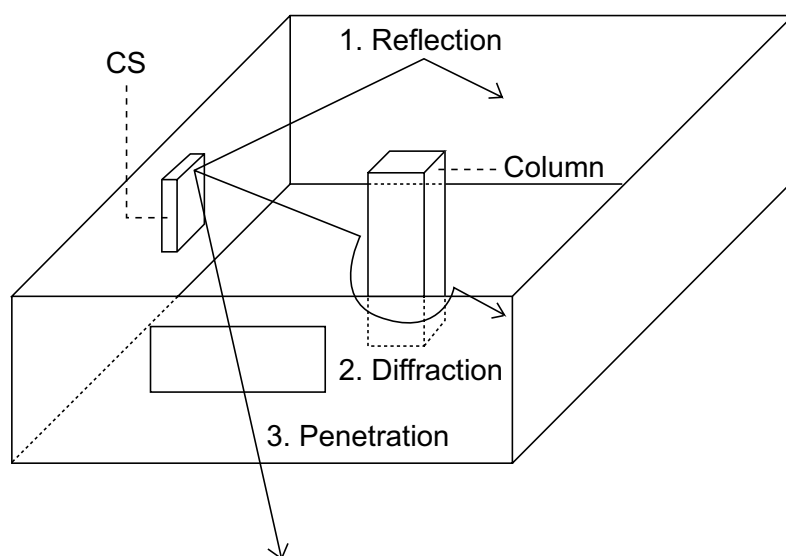
Relationships between Radio Waves and Building Structure and Materials

- The CS coverage area is affected more by the building materials and their thickness than the number of obstacles.
- Radio waves tend to be reflected or diffracted by conductive objects and rarely penetrate them.
- Radio waves tend to penetrate insulated objects and are rarely reflected by them.
- Radio waves penetrate thin objects more than thick objects.
- The table below shows the transmission tendency of radio waves when they reach objects made from various materials.

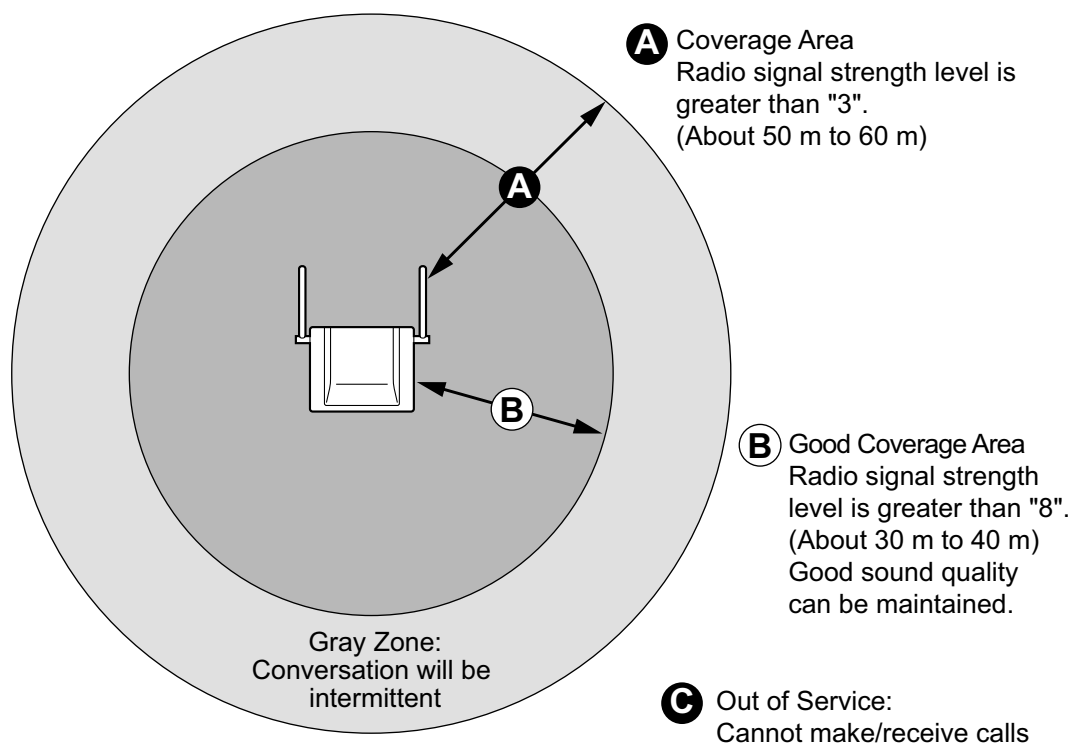| Object	Material	Transmission Tendency
Wall	Concrete	The thicker they are, the less radio waves penetrate them.
	Ferroconcrete	Radio waves can penetrate them, but the more iron there is, the more radio waves are reflected.
Window	Glass	Radio waves usually penetrate them.
	Glass with wire net	Radio waves can penetrate them, but tend to be reflected.
	Glass covered with heat-resistant film	Radio waves are weakened considerably when they penetrate windows.
Floor	Ferroconcrete	Radio waves can penetrate them, but the more iron there is, the more radio waves are reflected.
Partition	Steel	Radio waves are reflected and rarely penetrate them.
	Plywood, Glass	Radio waves usually penetrate them.
Column	Ferroconcrete	Radio waves can penetrate them, but the more iron there is, the more radio waves tend to be reflected or diffracted.
	Metal	Radio waves tend to be reflected or diffracted.
Cabinet	Steel	Radio waves are usually reflected or diffracted, and rarely penetrate them.
	Wood	Radio waves can penetrate them, but they are weakened.

CS Coverage Area

The example below shows the size of the coverage area of 1 CS if it is installed in an area with no obstacles.

Note

Radio signal strength levels are measured during the site survey (refer to "5 Site Survey Using the KX-TCA175/KX-TCA255/KX-TCA256/KX-TCA275/KX-TCA355/KX-TD7590").

A Coverage Area
Radio signal strength level is greater than "3".
(About 50 m to 60 m)

B Good Coverage Area
Radio signal strength level is greater than "8".
(About 30 m to 40 m)
Good sound quality can be maintained.

C Out of Service:
Cannot make/receive calls

Gray Zone:
Conversation will be intermittent

Radio Signal Strength Levels

Level: 11 to 12	Better
Level: 08 to 10	Good
Level: 03 to 07	May receive noise
Level: 01 to 02	Receives noise easily or disconnects
Level: 00	Out of range

Site Survey Preparation

1. Obtain a map and investigate the installation site.
   a. Check the obstacles (e.g., shelves, columns, and partitions).
   b. Check the materials of the structures (e.g., metal, concrete, and plywood).
   c. Check the layout and dimensions of the room, corridor, etc.
   d. Write down the above information on the map.
2. Examine the service area required by the user on the map, referring to the following example.
   a. Draw the coverage area around a CS. Extend the coverage area 30 m to 60 m in each direction, depending on the materials of the building structures and obstacles in the installation site. Note that a CS cannot be installed outside a building.

b. If 1 CS cannot cover the entire service area, install additional CSs as required. Overlap the coverage areas of adjacent CSs.
Where CS coverage areas overlap, the PS will start call handover to the next CS if the signal from one CS becomes weak. However, if a PS moves away from a CS and there are no CSs available for handover, the PS may go out of range and the call could be lost.

## Example: Installing in a Room Separated by Interior Walls

Things to take note of:
- The room is separated by interior walls.
- The room is surrounded by concrete walls.

CS installation plan:
- The coverage area of each CS will not extend as far as when there are no obstacles, because the radio signals will be weakened by separating walls. Therefore, you will need 5 CSs to cover the entire room.
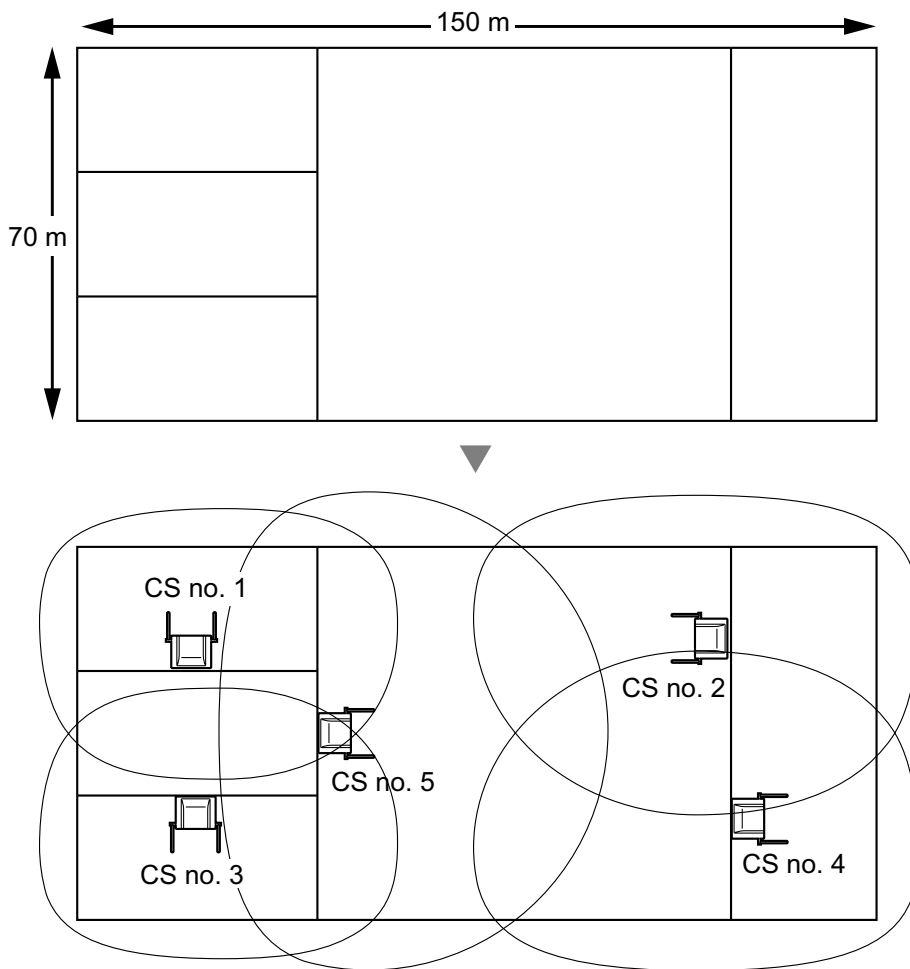
4 Before Site Survey

Use the KX-TCA175/KX-TCA255/KX-TCA256/KX-TCA275/KX-TCA355/KX-TD7590 PS to conduct the site survey.

Note

Display prompts for the site survey are only available in English.

Checking the CS ID Number

Check the CS ID number label attached to the CS. If the CS ID number label is not attached to the CS, check the CS ID number using the Maintenance Console. For details, refer to "Utility—CS Information" in the PC Programming Manual or the On-line Help for your PBX.

Assigning the CS ID Number to the PS

Using the KX-TCA175/KX-TCA255/KX-TCA256/KX-TCA275/KX-TCA355
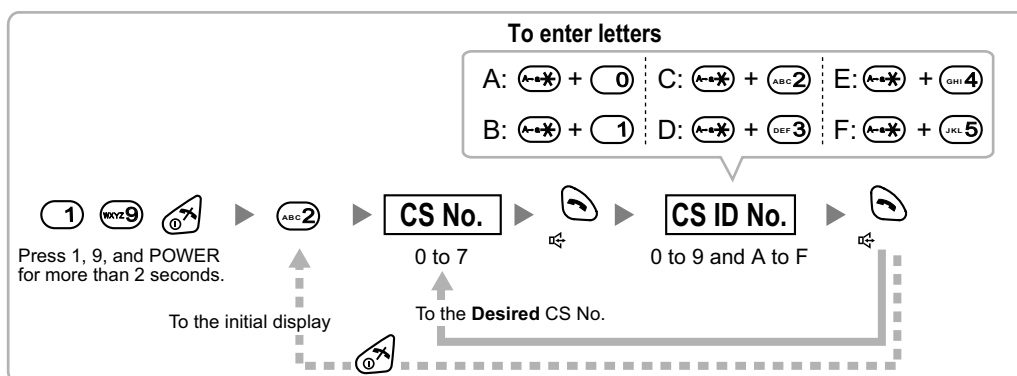
Note

To clear the CS ID number assigned to the PS, follow the procedure below:

Using the KX-TD7590

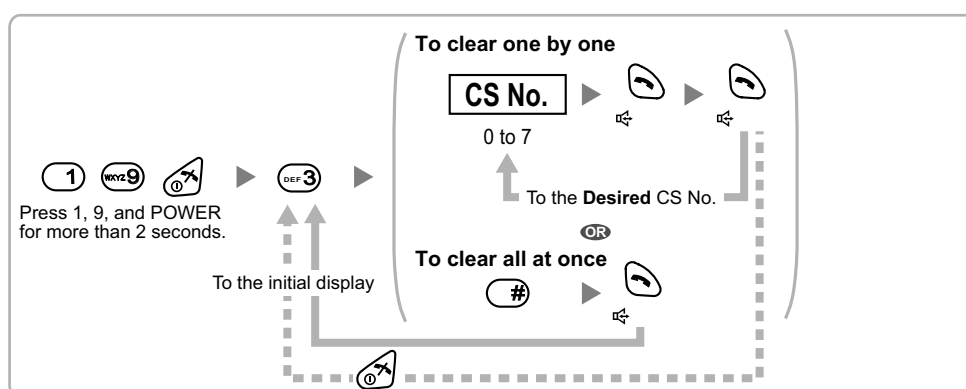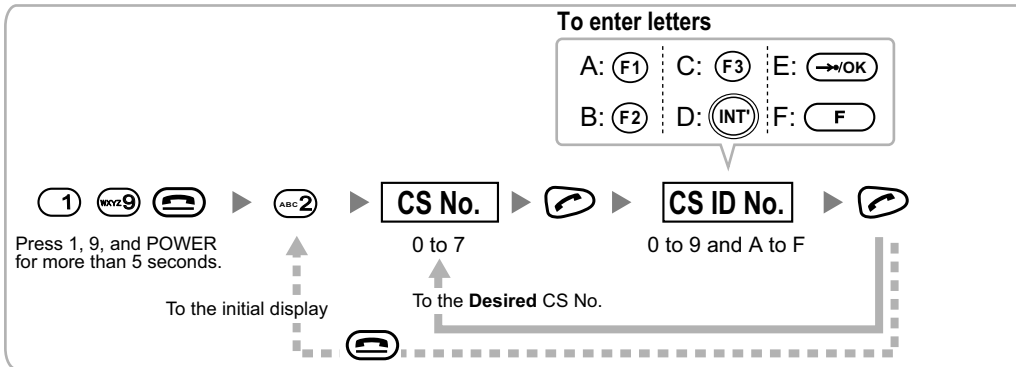**To enter letters**

A: (F1) C: (F3) E: (→/OK)

B: (F2) D: ((INT')) F: (F)

(1) (WXYZ 9) (📞) ▶ (ABC 2) ▶ | CS No. | ▶ (📞) ▶ | CS ID No. | ▶ (📞)

Press 1, 9, and POWER
for more than 5 seconds.

0 to 7   0 to 9 and A to F
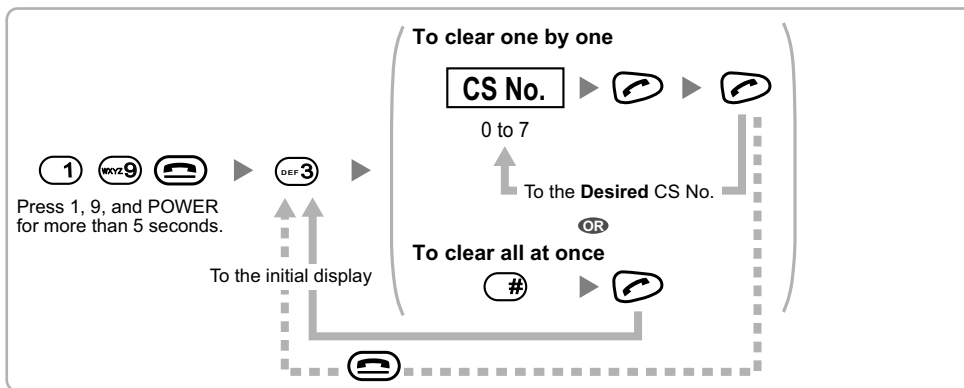
To the initial display   To the **Desired** CS No.

(📞)

Note

To clear the CS ID number assigned to the PS, follow the procedure below:

To clear one by one

| CS No. | ▶ (📞) ▶ (📞)

0 to 7

To the **Desired** CS No.

(1) (WXYZ 9) (📞) ▶ (DEF 3) ▶

Press 1, 9, and POWER
for more than 5 seconds.

(OR)

To clear all at once

To the initial display

(#) ▶ (📞)

(📞)

Setting and Installing the CS Temporarily for Site Survey

1. Switch the Radio Signal Test switch from OFF to ON.
2. Set the channel number switches as desired.
3. Set the Power Supply Select switch as desired (KX-TDA0155, KX-TDA0156, and KX-TDA0158 only).

KX-TDA0155/KX-TDA0156

DIP Switch

Channel Number Switch

Power Supply Select Switch
- ON: From the AC Adaptor (KX-A11/KX-TCA1)/ Battery Box (PSZZTD142CE)
- OFF: From the PBX

Radio Signal Test Switch

KX-TDA0158

ON   OFF

Radio Signal Test Switch ————— ▢ ◼   6

Power Supply Select Switch ————— ▢ ◼   5
- ON: From the AC Adaptor (KX-A11)/ Battery Box (PSZZTD142CE)
- OFF: From the PBX

Channel Number Switch —————
- ▢ ◼   4
- ▢ ◼   3
- ▢ ◼   2
- ▢ ◼   1

DIP Switch

Channel 0	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6	Channel 7	Channel 8	Channel 9
4 ▢◼	4 ▢◼	4 ▢◼	4 ▢◼	4 ▢◼	4 ▢◼	4 ◼▢	4 ▢◼	4 ◼▢	4 ◼▢
3 ▢◼	3 ▢◼	3 ▢◼	3 ▢◼	3 ◼▢	3 ◼▢	3 ◼▢	3 ▢◼	3 ▢◼	3 ▢◼
2 ▢◼	2 ▢◼	2 ◼▢	2 ◼▢	2 ▢◼	2 ▢◼	2 ◼▢	2 ◼▢	2 ◼▢	2 ▢◼
1 ▢◼	1 ◼▢	1 ▢◼	1 ◼▢	1 ▢◼	1 ◼▢	1 ◼▢	1 ◼▢	1 ▢◼	1 ◼▢

KX-TDA0141/KX-TDA0142

DIP Switch

OFF ON

1 — Channel Number Switch
2
3
4
5 — Keep this switch at the default "OFF" position. Otherwise, the CS will not function.
6 — Radio Signal Test Switch

Channel 0	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6	Channel 7	Channel 8	Channel 9
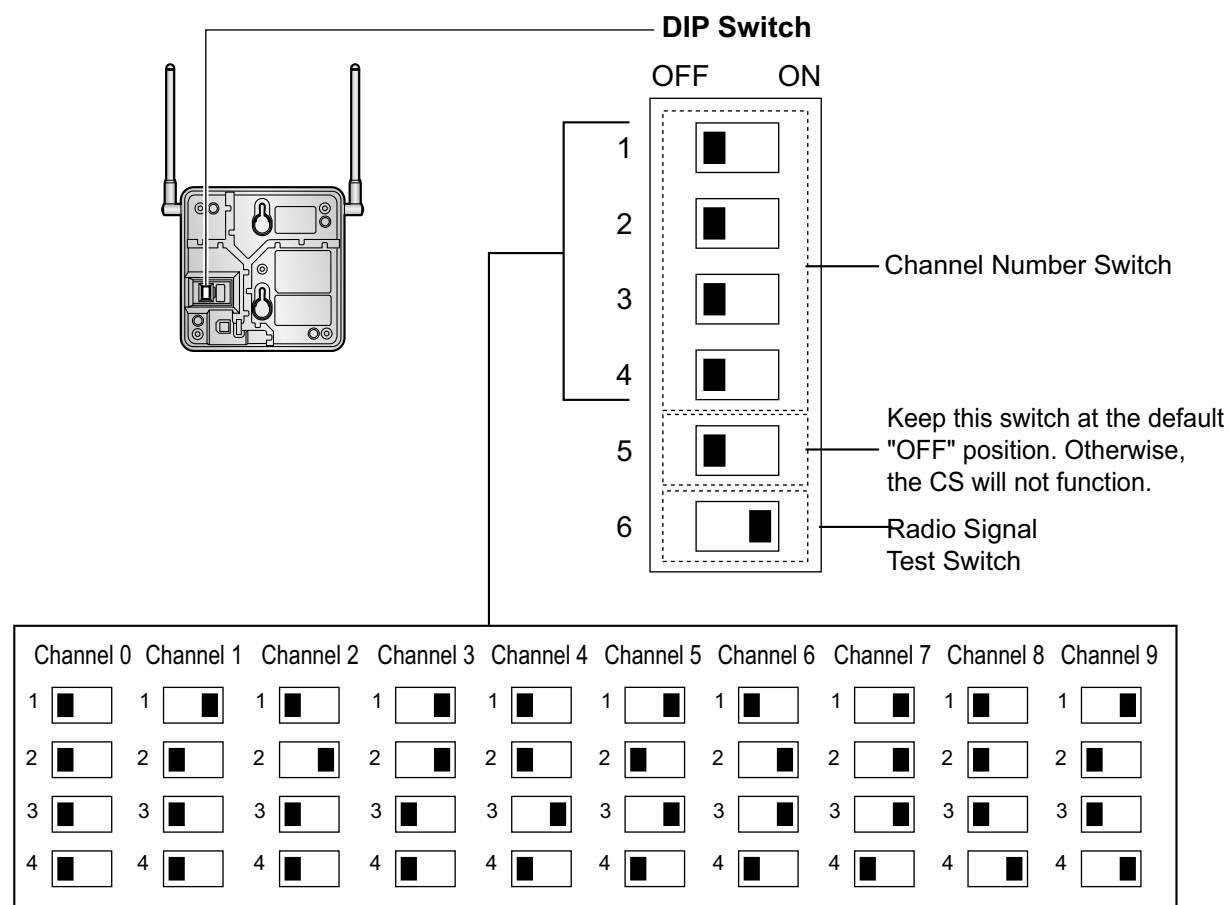
Note

If more than 1 CS is in Radio Signal Test mode, each CS must have a unique channel number.

4. After setting the DIP switches, connect the CS to an AC adaptor/battery box using a power supply adaptor, or connect it to the PBX.

WARNING

When installing or testing a product with an external AC adaptor, the AC adaptor should be plugged into a wall outlet or floor-mounted AC outlet. Do not connect the AC adaptor to a ceiling-mounted AC outlet, as the weight of the adaptor may cause it to become disconnected.

Notice

- **For users in the United Kingdom:**
  240 V AC must not be used on a building site. Instead of an AC adaptor, connect a battery box to the CS.
- When using the KX-TDA0158, it is NOT recommended to conduct the site survey using the battery box.
- If the Power Supply Select switch is set to ON in step 3, connect the CS to an AC adaptor/battery box. If it is set to OFF, connect the CS to the PBX (KX-TDA0155, KX-TDA0156, and KX-TDA0158 only).

KX-TDA0155/KX-TDA0156

RJ11 Modular

Telephone Cord

Power Supply Adaptor
(PSZZ1TDA0142)

RJ11 Modular

To AC Adaptor (KX-A11/KX-TCA1)/
Battery Box (PSZZTD142CE)

OR

RJ11 Modular

To PBX

KX-TDA0158

RJ45 Modular

Telephone Cord
(PSJA1017Z)

Power Supply Adaptor
(PSZZ1TDA0142)

RJ11 Modular

To AC Adaptor (KX-A11)/
Battery Box (PSZZTD142CE)

OR

RJ45 Modular

To PBX

KX-TDA0141/KX-TDA0142

RJ11 Modular

Telephone Cord

Power Supply Adaptor
(PSZZ1TDA0142)

RJ11 Modular

To AC Adaptor (KX-A11/KX-TCA1)/
Battery Box (PSZZTD142CE)
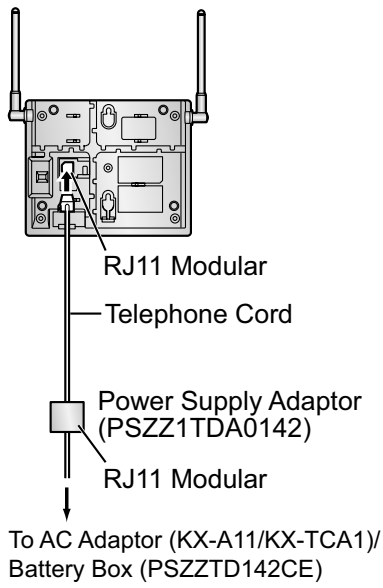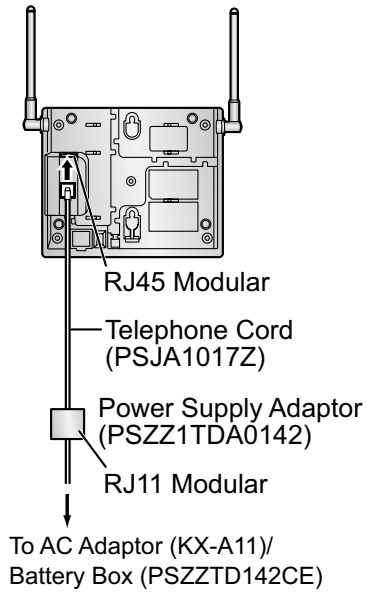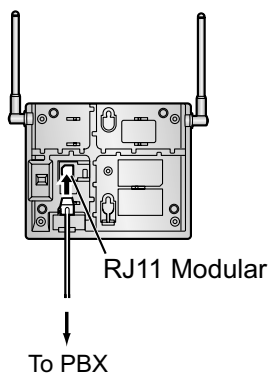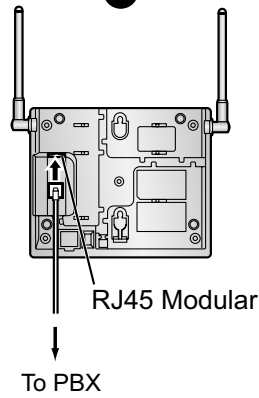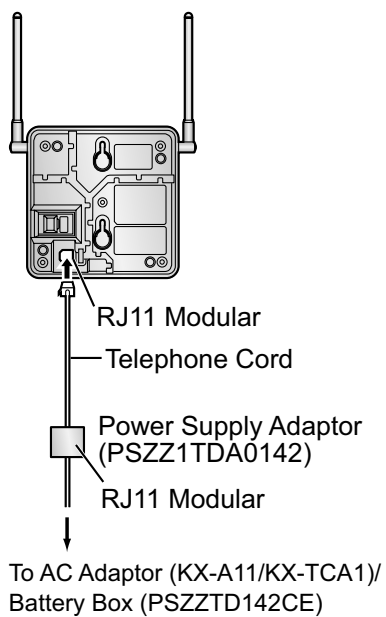
5. Install the CS temporarily for the site survey. Install the CS at least 2 m above the floor, and place the antennas so that they are pointing in directions that are 90 degrees apart (for antenna diversity), as follows:

Note
The illustration of the CS is based on the KX-TDA0158.
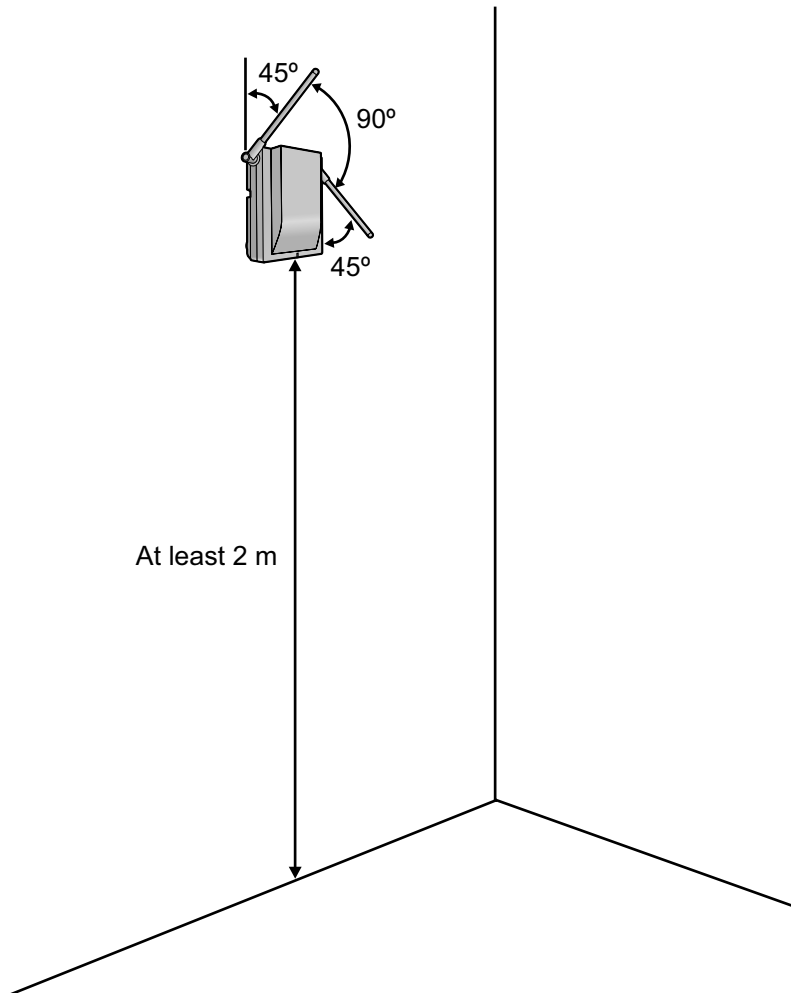
5   Site Survey Using the KX-TCA175/ KX-TCA255/KX-TCA256/KX-TCA275/ KX-TCA355/KX-TD7590

The PS has a Radio Signal Test mode that monitors the state of the radio link to the CS for site survey. In Radio Signal Test mode, the frame loss and signal strength of a synchronous slot, and the signal strength of the other slots can be measured when the PS is monitoring the CS. After installing the CSs temporarily as planned during site planning, set the PS to Radio Signal Test mode and locate each CS to measure its coverage area. Then, record the results on the map of the installation site.

Testing the Radio Signal Strength

After locating the CS(s) temporarily, execute the Radio Signal Test using the PS. Directly after entering Radio Signal Test mode, the PS scans channel 0 for a CS that it can connect to. The channel to be scanned can be changed by pressing the appropriate keys 0 through 9.

1. Enter Radio Signal Test mode.

   Using the KX-TCA175/KX-TCA255/KX-TCA256/KX-TCA275/KX-TCA355
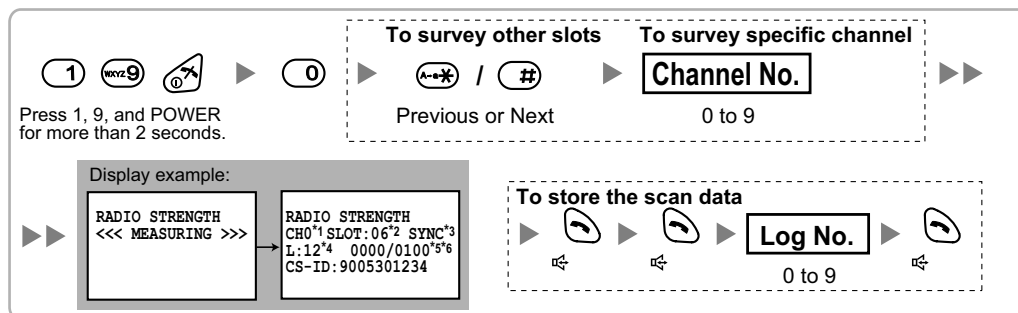
   Using the KX-TD7590
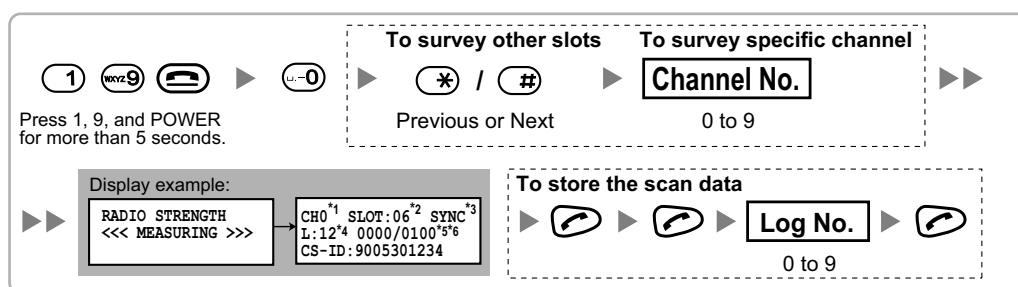
*1 Channel number

*2 Slot number

*3 When a slot is synchronised, "SYNC" is displayed.

*4 Radio signal strength level (12 to 00)

*5 Frame error (0000 to 9999)/Frame counter (0000 to 9999).
    Frame error indicates the number of errors out of 10 000 radio signal receptions. An increased number of frame errors indicates greater radio signal interference and more frequent noise during conversation. The ideal number of frame errors is "0000".

*6 Error rate (%) = Frame error (0000 to 9999) / Frame counter (0000 to 9999) × 100

Note

*   Storing the scan data will clear all phonebook data.

- The PS will not operate in normal mode if scan data is saved on it. For details on clearing scan data, refer to "Clearing the Stored Scan Data".

2. Measure the error rate and the radio signal strength by moving towards and away from the CS.

   Note

   - When the error rate is 2% or more, measure the error rate at the same location at least 5 times. You must disconnect the CS and then reconnect it to take each measurement. If the error rate is consistently 2% or more, there may be interference from external wireless equipment. In this case, the following may happen regardless of the radio signal strength level.

Error Rate	Description
Approx. 2%	May receive noise
Approx. 10%	May fail to make/receive calls

   The above is a rough standard, and may vary depending on the environment.
   - When deciding where to install the CS, priority should be given to an error rate rather than a radio signal strength level.
   - After installing the CS according to the results of the survey, confirm that calls can be made and received, and conversations can be heard clearly.

   a. Move to the CS until the radio signal strength level becomes "12".
   b. Move away from the CS and identify the CS coverage area within which the radio signal strength level is greater than "8". Draw the area on the map.
   c. Move away from the CS and identify the CS coverage area within which the radio signal strength level is greater than "3". Draw the area on the map.
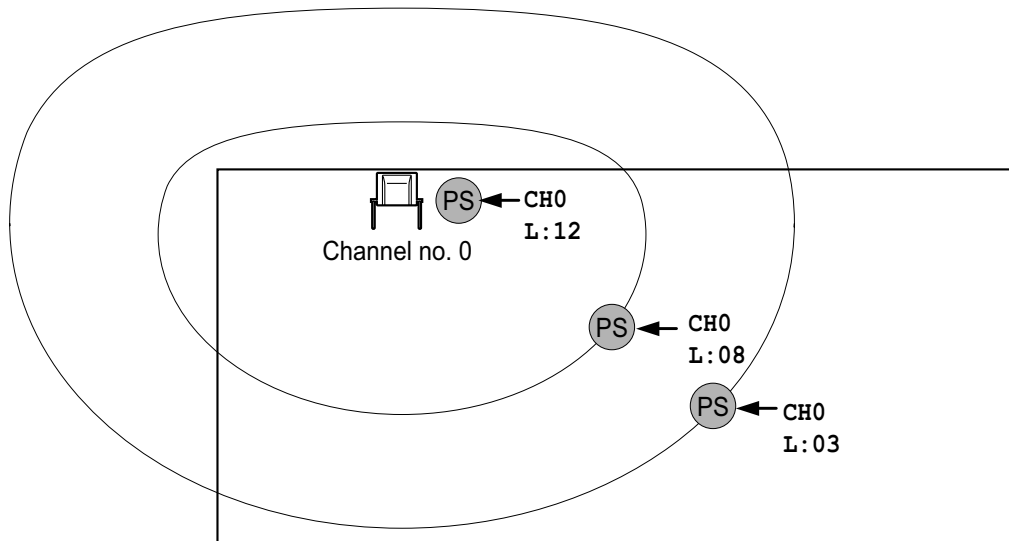
Radio Signal Strength Levels

Level: 11 to 12	Better
Level: 08 to 10	Good
Level: 03 to 07	May receive noise
Level: 01 to 02	Receives noise easily or disconnects
Level: 00	Out of range

3. Repeat steps 1 and 2 for other CSs, and relocate the CSs when necessary.
    a. Overlap adjacent CS coverage areas where the radio signal strength level is "8" by 5 m to 10 m.

Channel no. 0   5 m to 10 m   Channel no. 1
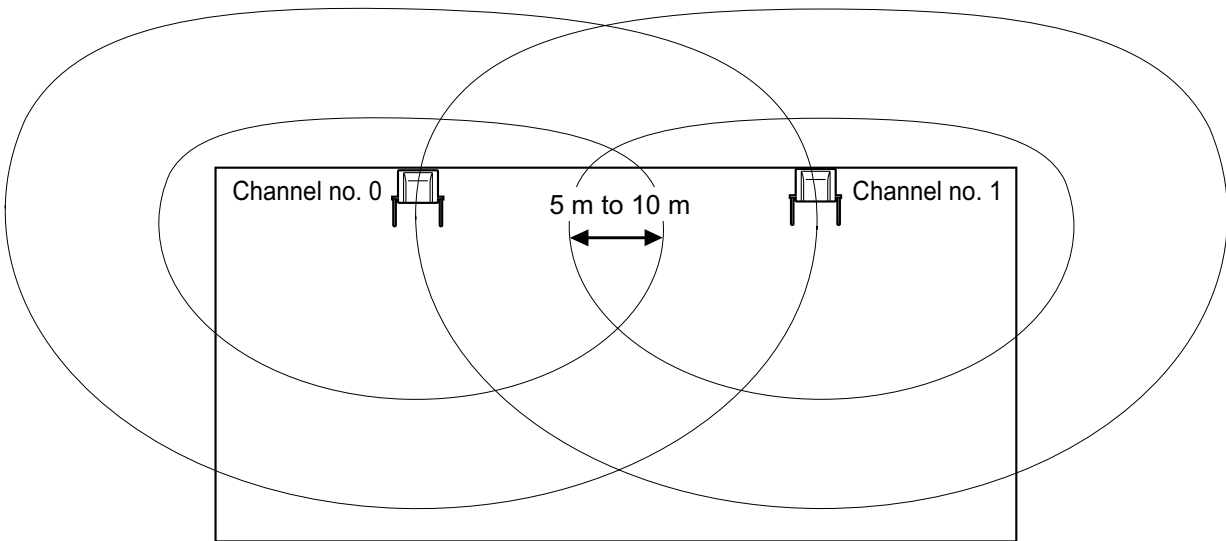
    b. Overlap the CS coverage areas of at least 2 CSs at any location in the installation site.

Channel no. 0   Channel no. 1

Channel no. 2   Channel no. 3
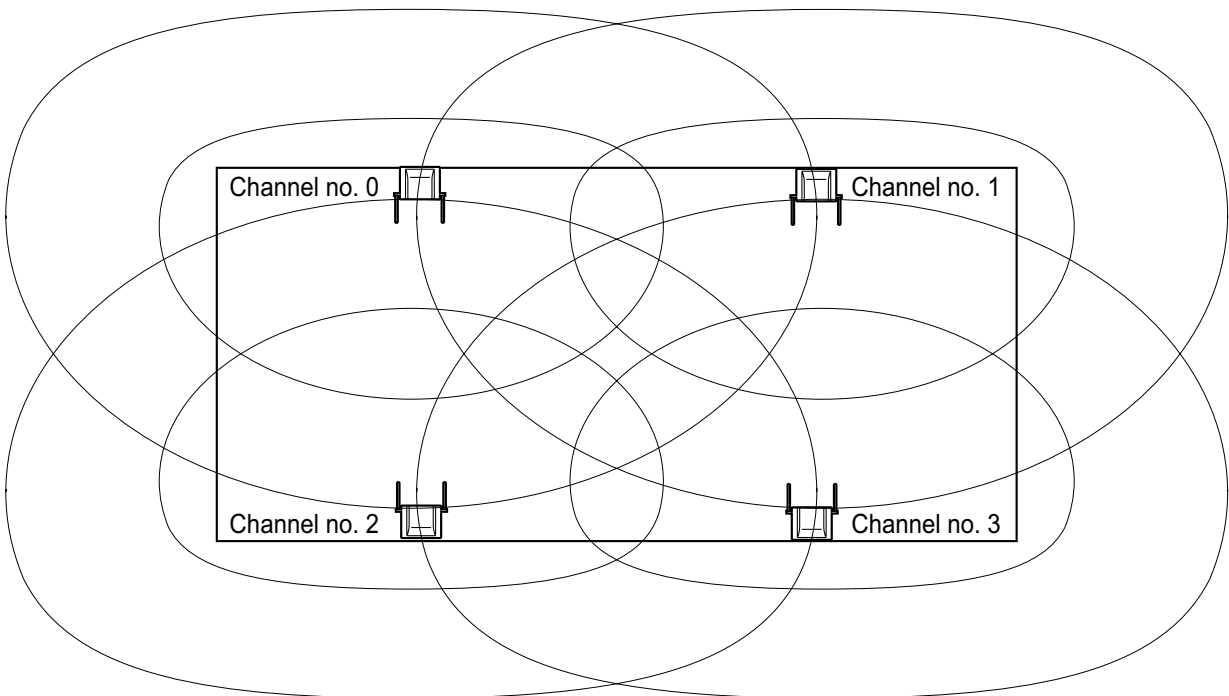
    c. Make sure that the radio signal strength level is greater than "3" at any location in the service area required by the user.

Note

- If a channel is set, the results of measurement for the 24 slots on the channel are saved each time. If the same channel is set, the new results override the previous ones. Therefore, a measurement of 10 channels × 24 slots in total can be made.
- If correct results cannot be obtained (e.g., there are many frame errors), change the location of the CS and repeat the site survey to select the best location.

Referring to the Stored Scan Data

Using the KX-TCA175/KX-TCA255/KX-TCA256/KX-TCA275/KX-TCA355

Press 1, 9, and POWER
for more than 2 seconds.

0 to 9

To go to other slots	To go to specific channel
▶▶ (A~*) / (#) ▶	Channel No.
Previous or Next	0 to 9

Using the KX-TD7590

Press 1, 9, and POWER
for more than 5 seconds.

0 to 9

To go to other slots	To go to specific channel
▶▶ (*) / (#) ▶	Channel No.
Previous or Next	0 to 9

Clearing the Stored Scan Data

Using the KX-TCA175/KX-TCA255/KX-TCA256/KX-TCA275/KX-TCA355

Press 1, 9, and POWER
for more than 2 seconds.

Using the KX-TD7590

Press 1, 9, and POWER
for more than 5 seconds.

6 After Site Survey

After obtaining the proper measurement results, exit Radio Signal Test mode before connecting the CS to the PBX.

1. Hold down the POWER button on the PS until the PS is turned OFF.
2. Disconnect the CS from the AC adaptor/battery box or the PBX to stop supplying electricity.
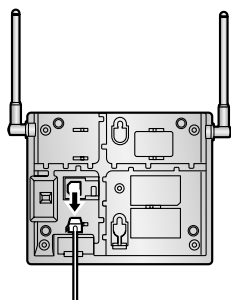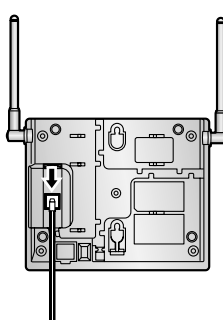
KX-TDA0155/KX-TDA0156	KX-TDA0158	KX-TDA0141/KX-TDA0142
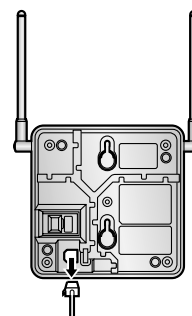
3. Switch all DIP switches on the CS from ON to OFF.
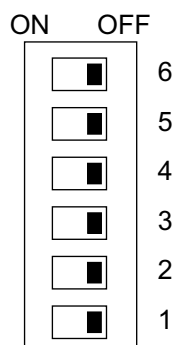
KX-TDA0155/KX-TDA0156	KX-TDA0158	KX-TDA0141/KX-TDA0142
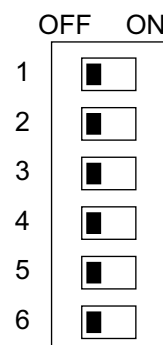
7 Connecting a Cell Station to the PBX

Connection Examples for KX-TDA15

Refer to the following examples to connect a CS to the PBX.

KX-TDA0158 connecting to KX-TDA15

Super Hybrid Port

Cable	Maximum Distance
ø 0.4 mm:	222 m
ø 0.5 mm:	347 m
ø 0.6 mm:	500 m
CAT 5:	347 m

Port No.

4
3

2
1
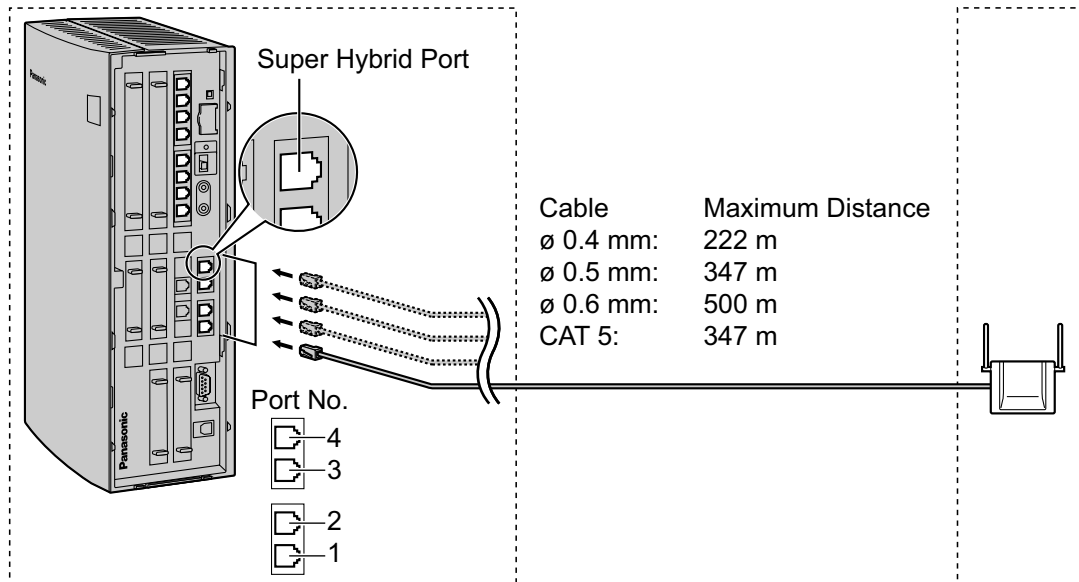
Super Hybrid Ports (RJ45)

Port No.	Signal Name	Pin No.
1		1
		2
	D2	**3**
		4
		5
	D1	**6**
		7
		8
2		1
		2
	D2	3
		4
		5
	D1	6
		7
		8
3		1
		2
	D2	3
		4
		5
	D1	6
		7
		8
4		1
		2
	D2	3
		4
		5
	D1	6
		7
		8

CS (RJ45)

Signal Name	Pin No.	
D1C	1	
D2C	2	
D1B	3	
D1A	**4**	Master
D2A	**5**	
D2B	6	
D1D	7	
D2D	8	

DLC8
Port No.

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

DLC8 card (RJ45)

Port No.	Signal Name	Pin No.
1		1
		2
	D2	**3**
		4
		5
	D1	**6**
		7
		8
2		1
		2
	D2	3
		4
		5
	D1	6
		7
		8
3		1
		2
	D2	3
		4
		5
	D1	6
		7
		8
4		1
		2
	D2	3
		4
		5
	D1	6
		7
		8
5		1
		2
	D2	**3**
		4
		5
	D1	**6**
		7
		8
:	:	:

CS 1 (RJ45)

Signal Name	Pin No.	
D1C	1	
D2C	2	
D1B	3	
D1A	**4**	Master
D2A	**5**	
D2B	6	
D1D	7	
D2D	8	

CS 2 (RJ45)

Signal Name	Pin No.	
D1C	1	
D2C	2	
D1B	3	
D1A	**4**	Master
D2A	**5**	
D2B	6	
D1D	7	
D2D	8	

OR

DLC8 card (RJ11)

Port No.	Signal Name	Pin No.
1	**D1**	**1**
		2
		3
	D2	**4**
2	D1	1
		2
		3
	D2	4
3	D1	1
		2
		3
	D2	4
4	D1	1
		2
		3
	D2	4
5	**D1**	**1**
		2
		3
	D2	**4**
:	:	:

CS 1 (RJ45)

Signal Name	Pin No.	
D1C	1	
D2C	2	
D1B	3	
D1A	**4**	Master
D2A	**5**	Master
D2B	6	
D1D	7	
D2D	8	

CS 2 (RJ45)

Signal Name	Pin No.	
D1C	1	
D2C	2	
D1B	3	
D1A	**4**	Master
D2A	**5**	Master
D2B	6	
D1D	7	
D2D	8	

Accessories and User-supplied Items for the CS
Accessories (included): Screws × 2, Washers × 2
User-supplied (not included): RJ45 connector

Note

- The no. 4 and no. 5 pins (Master) of the CS must be connected to a pair of pins on the Super Hybrid Ports or DLC8 card. Then use 4 consecutive pairs of pins on the Super Hybrid Ports or DLC8 card, starting with the pins corresponding to the Master, as in the example above.
- When connecting multiple KX-TDA0158 CSs to a DLC8 card, make sure that the no. 4 and no. 5 pins (Master) of adjacent CSs are at least 3 pairs of pins away on the card.
- For details about the Super Hybrid Ports or DLC8 card, refer to the Installation Manual for your PBX.
- CS connections must be made within the Super Hybrid Ports or the same DLC8 card.
- When a wrong connection is made, satisfactory performance of the CS cannot be guaranteed. Check the connection of CS and the PBX using the Maintenance Console. For information about how to view CS information using the Maintenance Console, refer to "Utility—CS Information" in the PC Programming Manual or the On-line Help for your PBX.

KX-TDA0155/KX-TDA0141 connecting to KX-TDA15

Super Hybrid Port

Cable	Maximum Distance
ø 0.4 mm:	222 m
ø 0.5 mm:	347 m
ø 0.6 mm:	500 m
CAT 5:	347 m

OR
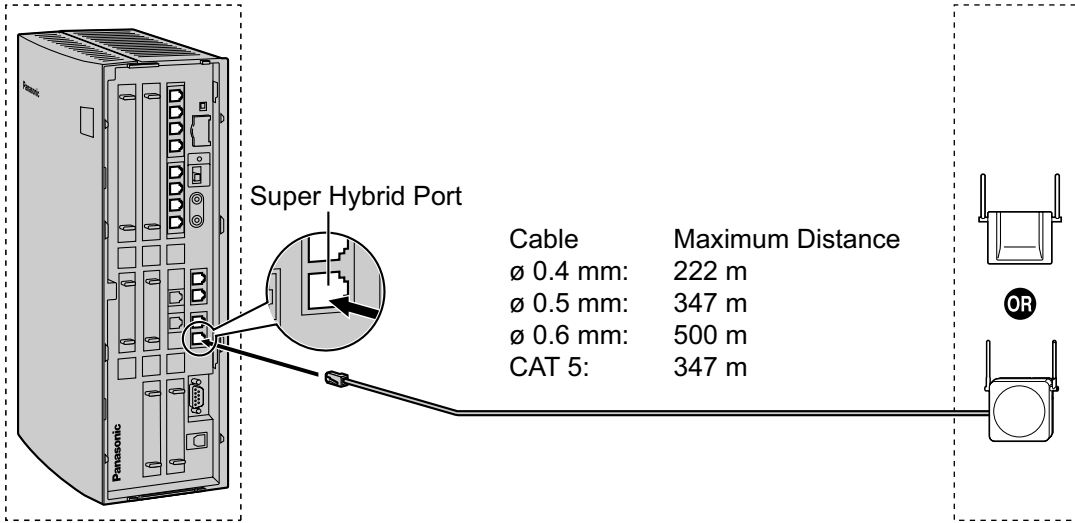
A Super Hybrid Port
or DLC8 card (RJ45)

Signal Name	Pin No.
	1
	2
D2	3
	4
	5
D1	6
	7
	8

CS (RJ11)

Pin No.	Signal Name
1	D1
2	
3	
4	D2

OR

DLC8 card (RJ11)

Signal Name	Pin No.
D1	1
	2
	3
D2	4

CS (RJ11)

Pin No.	Signal Name
1	D1
2	
3	
4	D2

Accessories and User-supplied Items for the CS
   Accessories (included): Screws × 2, Washers × 2
   User-supplied (not included): RJ11 connector
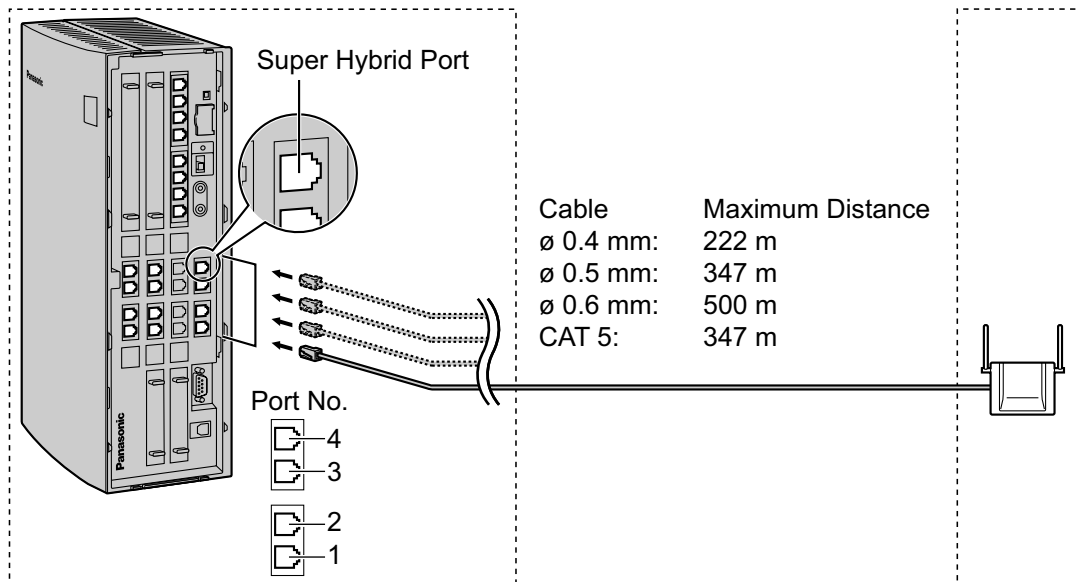
Note
   For details about the Super Hybrid Ports or DLC8 card, refer to the Installation Manual for your PBX.
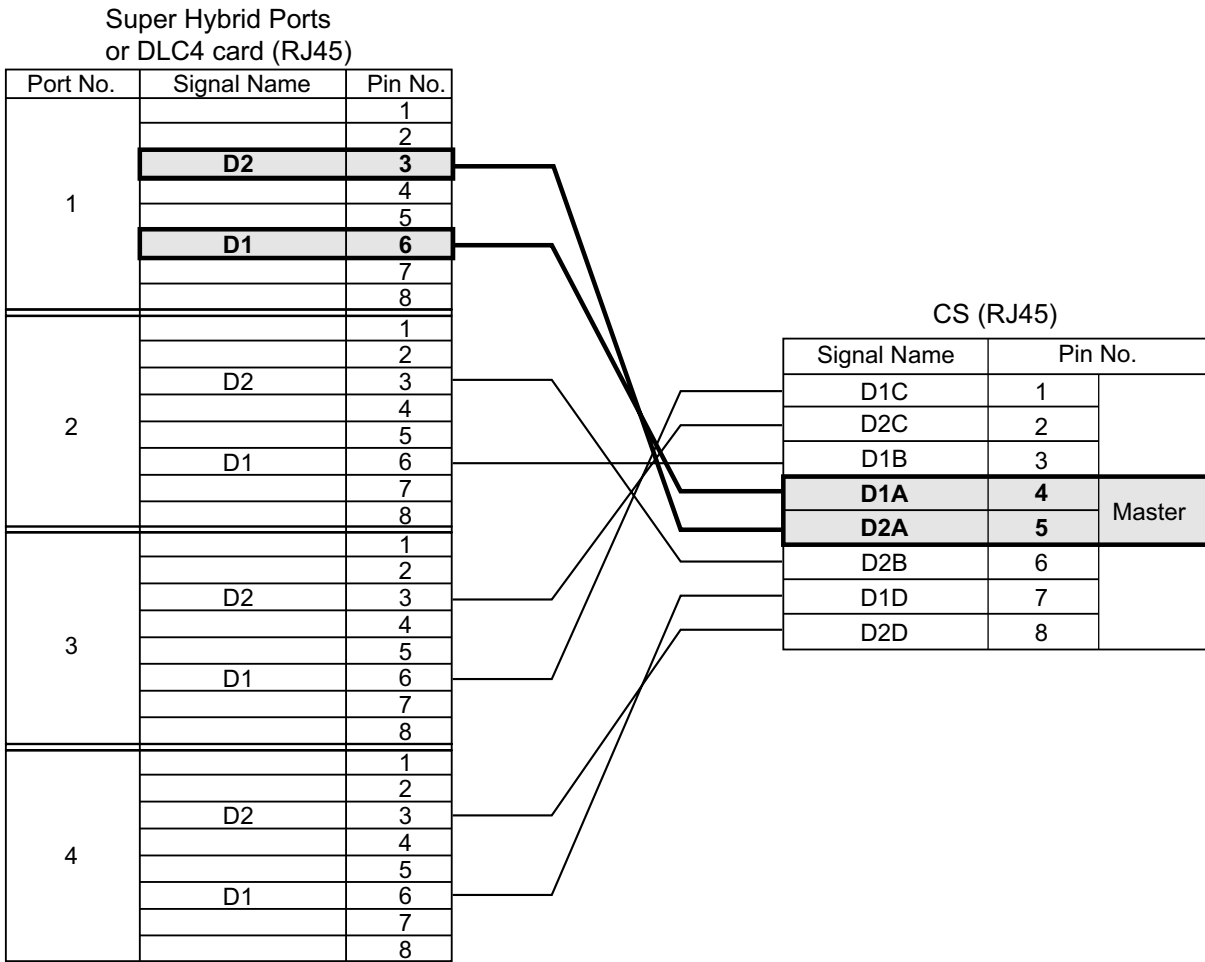
Connection Examples for KX-TDA30

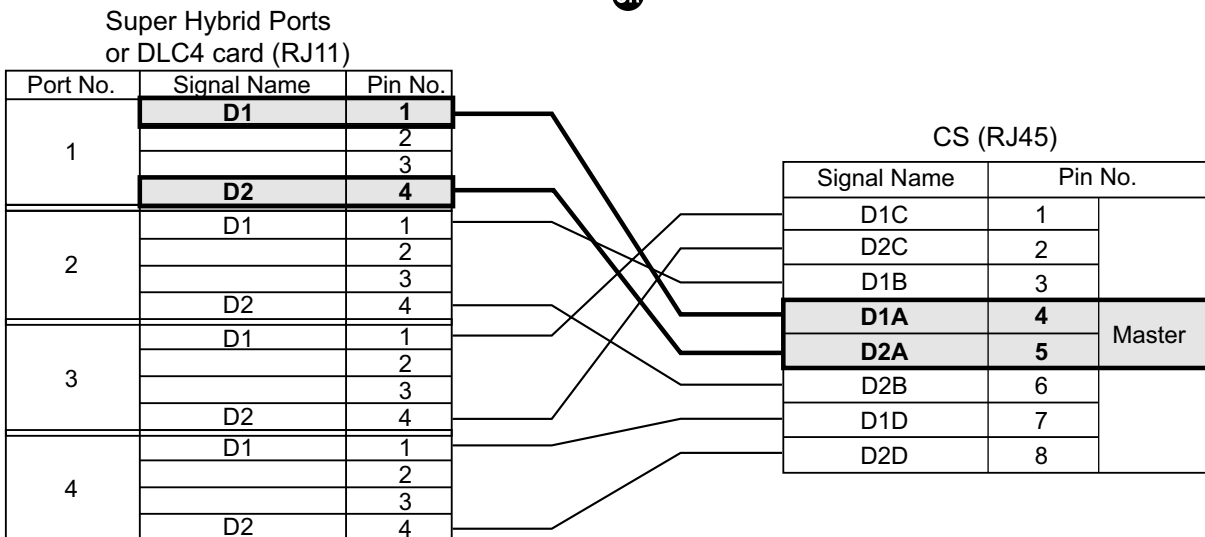Refer to the following examples to connect a CS to the PBX.
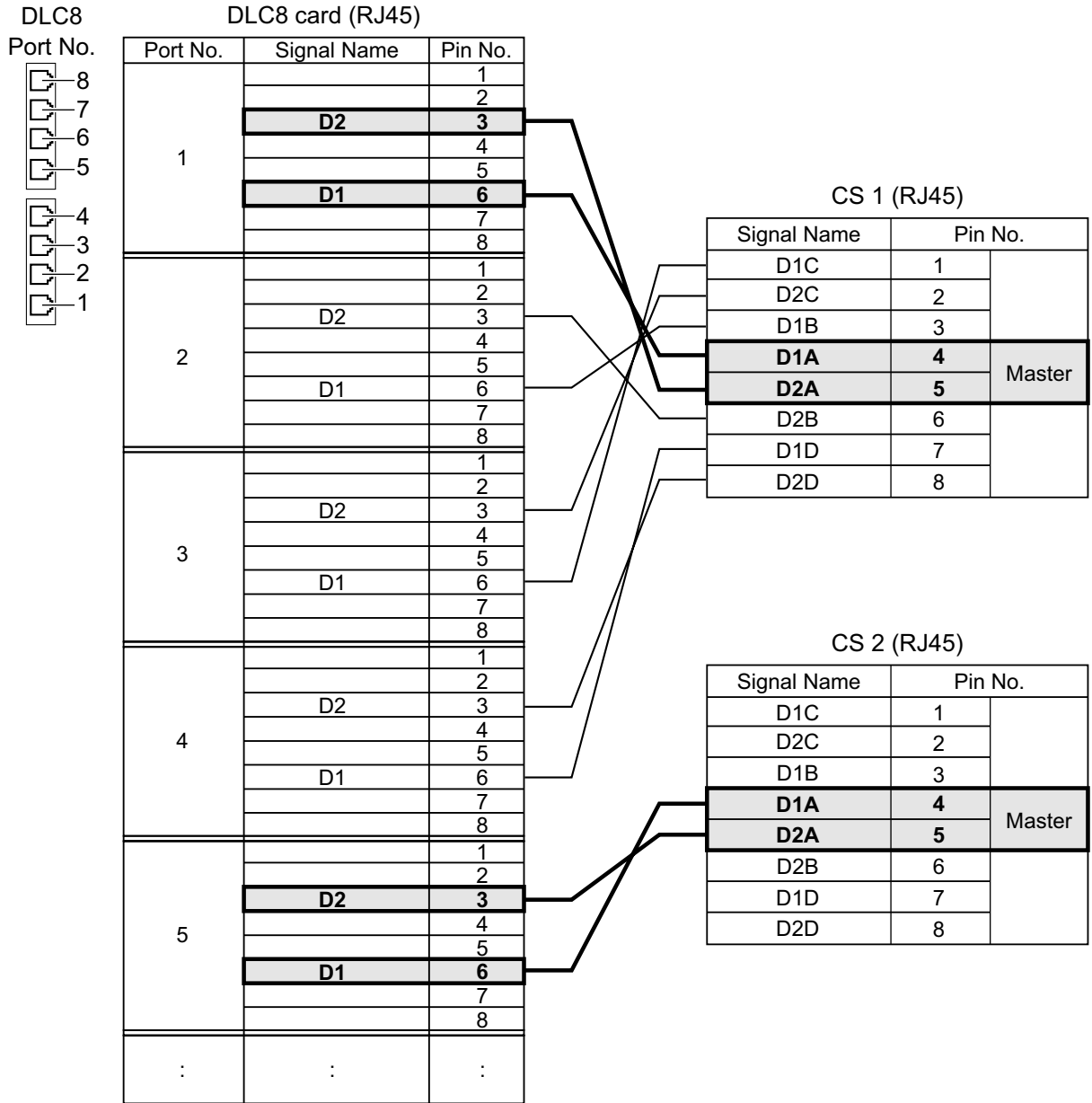
KX-TDA0158 connecting to KX-TDA30

Super Hybrid Port

Cable   Maximum Distance
ø 0.4 mm: 222 m
ø 0.5 mm: 347 m
ø 0.6 mm: 500 m
CAT 5:   347 m

Port No.
4
3

2
1

Super Hybrid Ports
or DLC4 card (RJ45)

Port No.	Signal Name	Pin No.
1		1
		2
	D2	**3**
		4
		5
	D1	**6**
		7
		8
2		1
		2
	D2	3
		4
		5
	D1	6
		7
		8
3		1
		2
	D2	3
		4
		5
	D1	6
		7
		8
4		1
		2
	D2	3
		4
		5
	D1	6
		7
		8

CS (RJ45)

Signal Name	Pin No.	
D1C	1	
D2C	2	
D1B	3	
D1A	**4**	Master
D2A	**5**	
D2B	6	
D1D	7	
D2D	8	

OR

Super Hybrid Ports
or DLC4 card (RJ11)

Port No.	Signal Name	Pin No.
1	**D1**	**1**
		2
		3
	D2	**4**
2	D1	1
		2
		3
	D2	4
3	D1	1
		2
		3
	D2	4
4	D1	1
		2
		3
	D2	4

CS (RJ45)

Signal Name	Pin No.	
D1C	1	
D2C	2	
D1B	3	
D1A	**4**	Master
D2A	**5**	
D2B	6	
D1D	7	
D2D	8	

DLC8
Port No.

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

DLC8 card (RJ45)

Port No.	Signal Name	Pin No.
1		1
		2
	D2	**3**
		4
		5
	D1	**6**
		7
		8
2		1
		2
	D2	3
		4
		5
	D1	6
		7
		8
3		1
		2
	D2	3
		4
		5
	D1	6
		7
		8
4		1
		2
	D2	3
		4
		5
	D1	6
		7
		8
5		1
		2
	D2	**3**
		4
		5
	D1	**6**
		7
		8
:	:	:

CS 1 (RJ45)

Signal Name	Pin No.	
D1C	1	
D2C	2	
D1B	3	
D1A	**4**	Master
D2A	**5**	
D2B	6	
D1D	7	
D2D	8	

CS 2 (RJ45)

Signal Name	Pin No.	
D1C	1	
D2C	2	
D1B	3	
D1A	**4**	Master
D2A	**5**	
D2B	6	
D1D	7	
D2D	8	

OR

DLC8 card (RJ11)

Port No.	Signal Name	Pin No.
1	**D1**	**1**
		2
		3
	D2	**4**
2	D1	1
		2
		3
	D2	4
3	D1	1
		2
		3
	D2	4
4	D1	1
		2
		3
	D2	4
5	**D1**	**1**
		2
		3
	D2	**4**
:	:	:

CS 1 (RJ45)

Signal Name	Pin No.	
D1C	1	
D2C	2	
D1B	3	
D1A	**4**	Master
D2A	**5**	
D2B	6	
D1D	7	
D2D	8	

CS 2 (RJ45)

Signal Name	Pin No.	
D1C	1	
D2C	2	
D1B	3	
D1A	**4**	Master
D2A	**5**	
D2B	6	
D1D	7	
D2D	8	

Accessories and User-supplied Items for the CS
   Accessories (included): Screws × 2, Washers × 2
   User-supplied (not included): RJ45 connector

Note

- The no. 4 and no. 5 pins (Master) of the CS must be connected to a pair of pins on the Super Hybrid Ports or DLC4/DLC8 card. Then use 4 consecutive pairs of pins on the Super Hybrid Ports or DLC4/DLC8 card, starting with the pins corresponding to the Master, as in the example above.
- When connecting multiple KX-TDA0158 CSs to a DLC8 card, make sure that the no. 4 and no. 5 pins (Master) of adjacent CSs are at least 3 pairs of pins away on the card.
- For details about the Super Hybrid Ports or DLC4/DLC8 card, refer to the Installation Manual for your PBX.
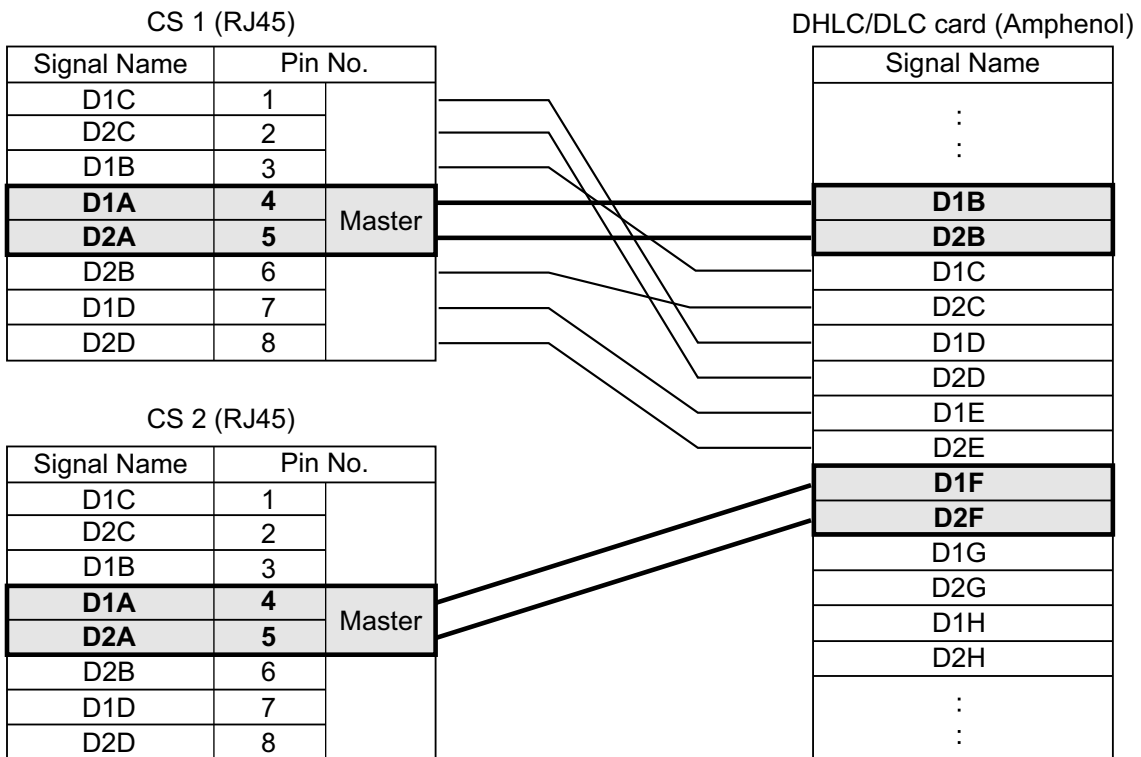- CS connections must be made within the Super Hybrid Ports or the same DLC4/DLC8 card.
- When a wrong connection is made, satisfactory performance of the CS cannot be guaranteed. Check the connection of CS and the PBX using the Maintenance Console. For information about how to view CS information using the Maintenance Console, refer to "Utility—CS Information" in the PC Programming Manual or the On-line Help for your PBX.

KX-TDA0155/KX-TDA0141 connecting to KX-TDA30

Super Hybrid Port

Cable	Maximum Distance
ø 0.4 mm:	222 m
ø 0.5 mm:	347 m
ø 0.6 mm:	500 m
CAT 5:	347 m

OR
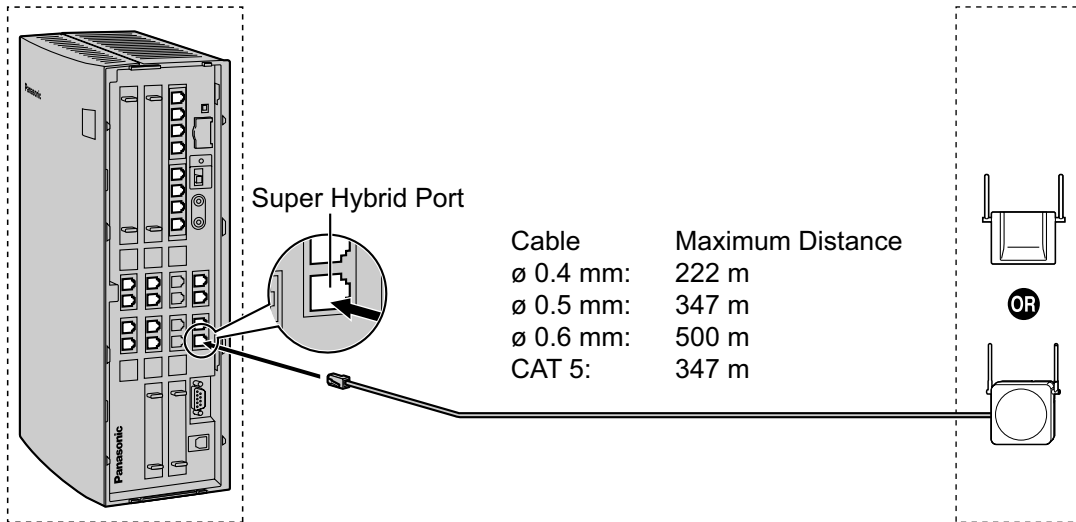
A Super Hybrid Port,
or DLC4/DLC8 card (RJ45)

Signal Name	Pin No.
	1
	2
D2	3
	4
	5
D1	6
	7
	8

CS (RJ11)

Pin No.	Signal Name
1	D1
2	
3	
4	D2

OR

A Super Hybrid Port,
or DLC4/DLC8 card (RJ11)

Signal Name	Pin No.
D1	1
	2
	3
D2	4

CS (RJ11)

Pin No.	Signal Name
1	D1
2	
3	
4	D2

Accessories and User-supplied Items for the CS
Accessories (included): Screws × 2, Washers × 2
User-supplied (not included): RJ11 connector

Note

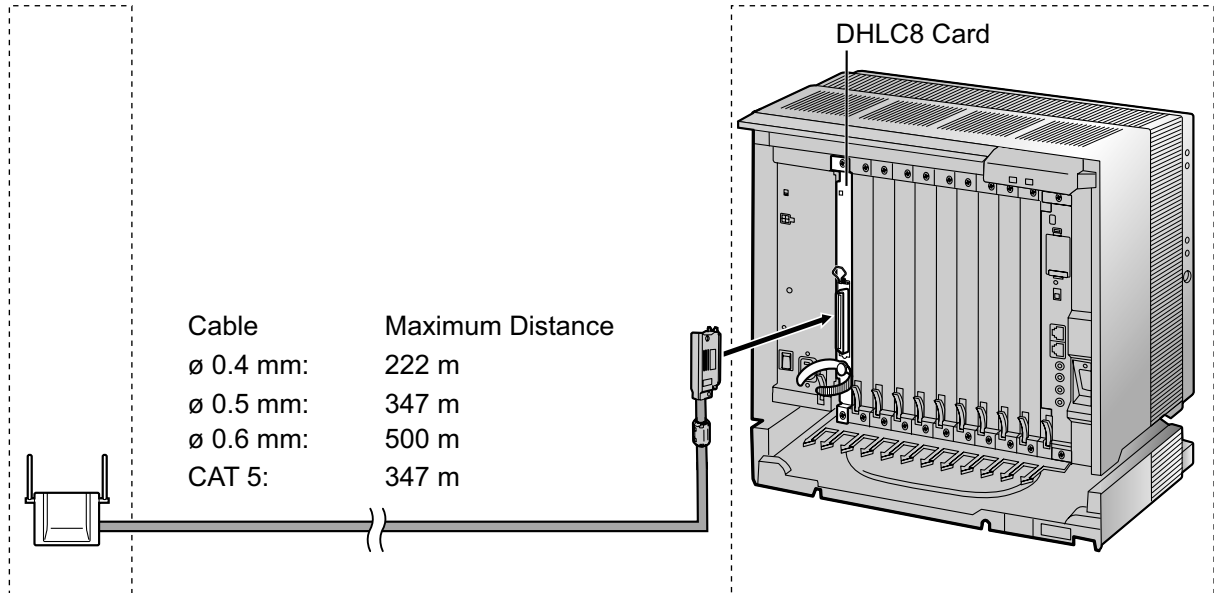For details about the Super Hybrid Ports or DLC4/DLC8 card, refer to the Installation Manual for your PBX.

Connection Examples for KX-TDA100/KX-TDA200/KX-TDA600/KX-TDE100/KX-TDE200/KX-TDE600

Refer to the following examples to connect a CS to the PBX.

KX-TDA0156/KX-TDA0142 connecting to KX-TDA100/KX-TDA200/KX-TDA600/KX-TDE100/KX-TDE200/KX-TDE600

Note

The illustration of the PBX is based on the KX-TDE200.
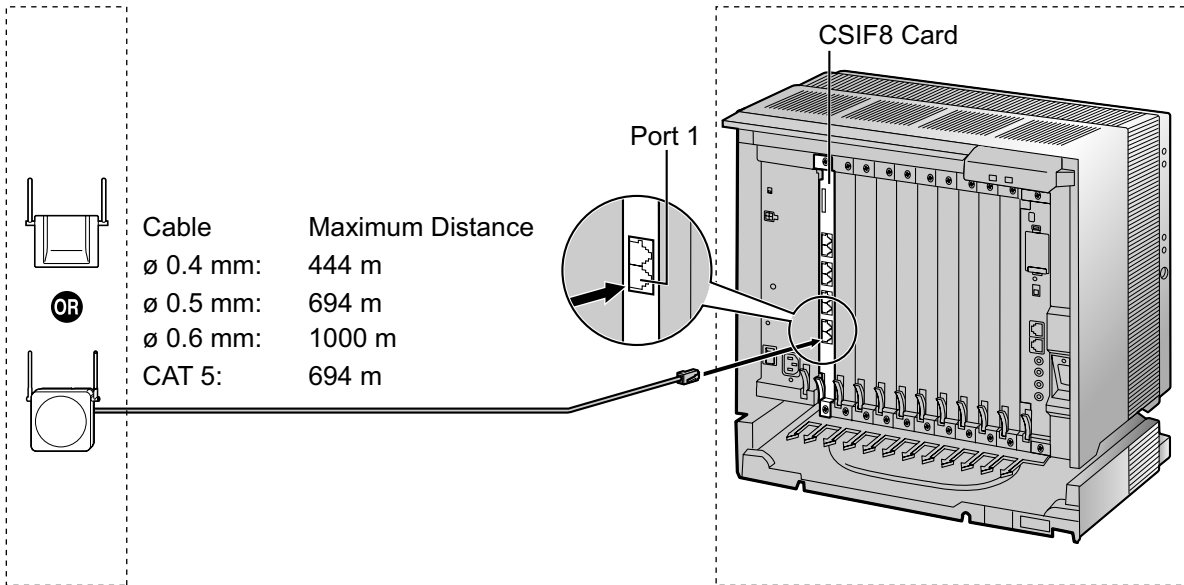
Cable	Maximum Distance
ø 0.4 mm:	444 m
ø 0.5 mm:	694 m
ø 0.6 mm:	1000 m
CAT 5:	694 m

CS (RJ11)

Signal Name	Pin No.
D1	1
POWH	2
POWL	3
D2	4

CSIF card (RJ45)

Pin No.	Signal Name
1	
2	
3	D1
4	POWH
5	POWL
6	D2
7	
8	

Accessories and User-supplied Items for the CS
Accessories (included): Screws × 2, Washers × 2, Ferrite core × 1
User-supplied (not included): RJ11 connector

Note

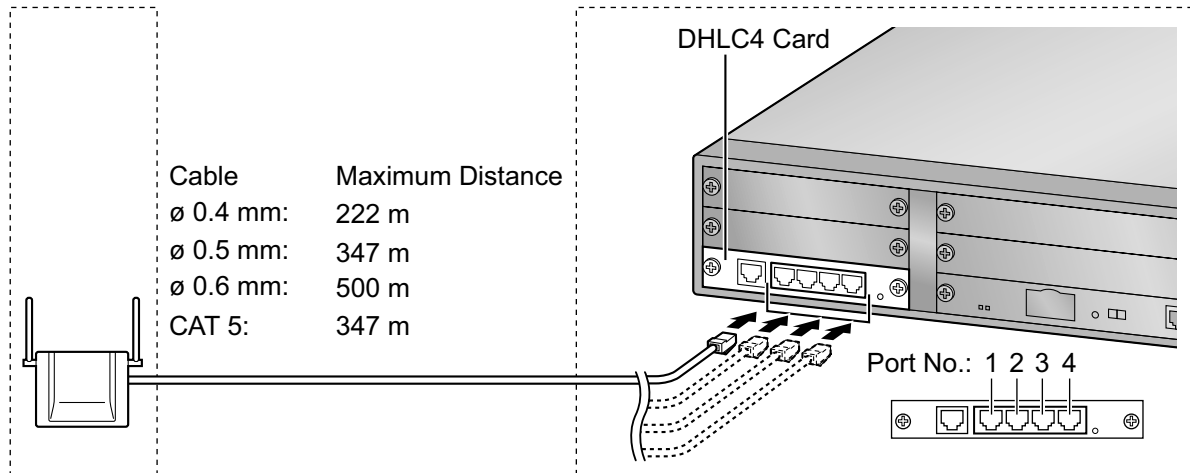For details about the CSIF card, refer to the Installation Manual for your PBX.

**KX-TDA0158 connecting to KX-TDA100/KX-TDA200/KX-TDA600/KX-TDE100/KX-TDE200/
KX-TDE600**

Note

The illustration of the PBX is based on the KX-TDE200.

DHLC8 Card

Cable	Maximum Distance
ø 0.4 mm:	222 m
ø 0.5 mm:	347 m
ø 0.6 mm:	500 m
CAT 5:	347 m

CS 1 (RJ45)

Signal Name	Pin No.	
D1C	1	
D2C	2	
D1B	3	
D1A	**4**	Master
D2A	**5**	Master
D2B	6	
D1D	7	
D2D	8	

DHLC/DLC card (Amphenol)

Signal Name
⋮
D1B
D2B
D1C
D2C
D1D
D2D
D1E
D2E
D1F
D2F
D1G
D2G
D1H
D2H
⋮

CS 2 (RJ45)

Signal Name	Pin No.	
D1C	1	
D2C	2	
D1B	3	
D1A	**4**	Master
D2A	**5**	Master
D2B	6	
D1D	7	
D2D	8	

Accessories and User-supplied Items for the CS
  Accessories (included): Screws × 2, Washers × 2
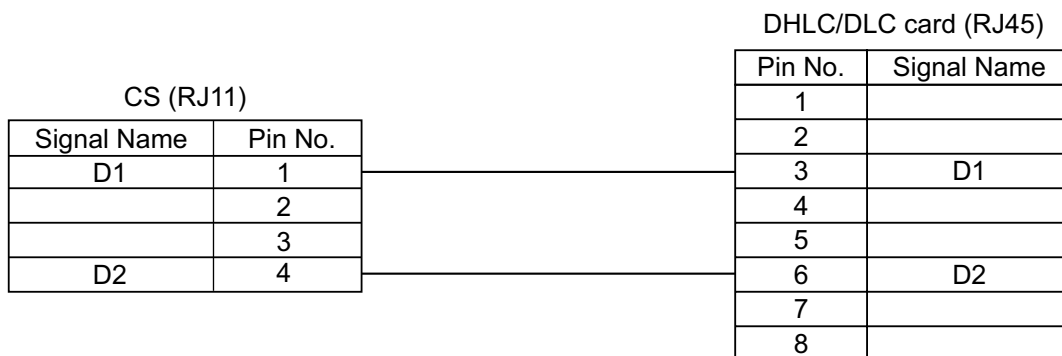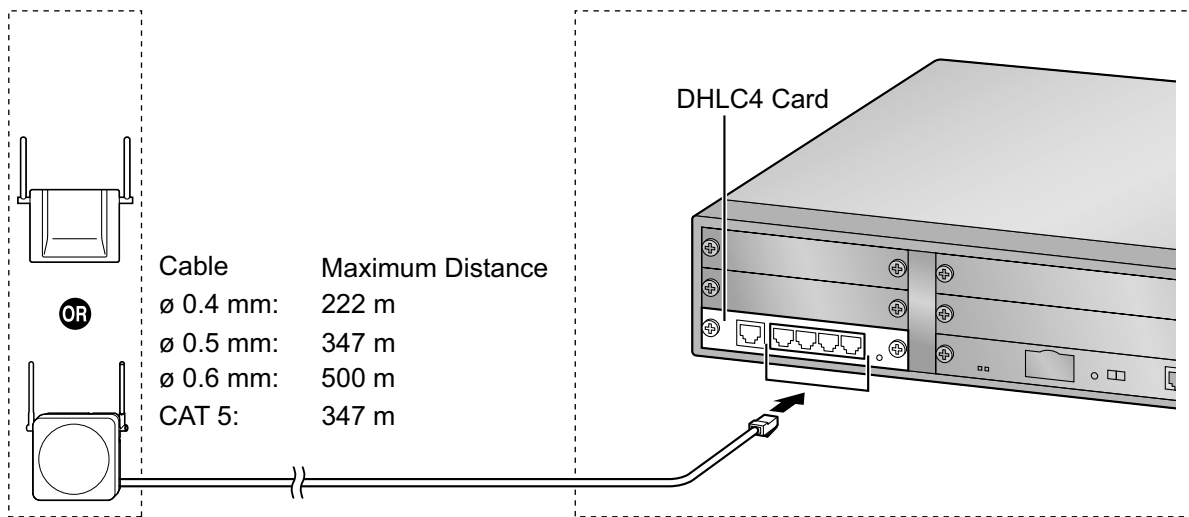 **User-supplied (not included):** RJ45 connector

Note

- The no. 4 and no. 5 pins (Master) of the CS must be connected to a pair of pins on the DHLC/DLC card. Then use 4 consecutive pairs of pins on the DHLC/DLC card, starting with the pins corresponding to the Master, as in the example above.
- When connecting multiple KX-TDA0158 CSs to a DHLC/DLC card, make sure that the no. 4 and no. 5 pins (Master) of adjacent CSs are at least 3 pairs of pins away on the card.
- For details about the DHLC/DLC card, refer to the Installation Manual for your PBX.
- CS connections must be made within the same DHLC/DLC card.
- When a wrong connection is made, satisfactory performance of the CS cannot be guaranteed. Check the connection of CS and the PBX using the Maintenance Console. For information about how to view CS information using the Maintenance Console, refer to "Utility—CS Information" in the PC Programming Manual or the On-line Help for your PBX.

KX-TDA0155/KX-TDA0141 connecting to KX-TDA100/KX-TDA200/KX-TDA600/KX-TDE100/KX-TDE200/KX-TDE600

Note

The illustration of the PBX is based on the KX-TDE200.

Cable	Maximum Distance
ø 0.4 mm:	222 m
ø 0.5 mm:	347 m
ø 0.6 mm:	500 m
CAT 5:	347 m

DHLC8 Card

CS (RJ11)

Signal Name	Pin No.
D1	1
	2
	3
D2	4

DHLC/DLC card (Amphenol)

Signal Name
D1
D2

Accessories and User-supplied Items for the CS
  Accessories (included): Screws × 2, Washers × 2
  User-supplied (not included): RJ11 connector
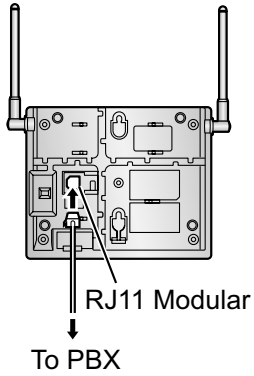
Note

For details about the DHLC/DLC card, refer to the Installation Manual for your PBX.

Connection Examples for KX-NCP500/KX-NCP1000

Refer to the following examples to connect a CS to the PBX.

KX-TDA0158 connecting to KX-NCP500/KX-NCP1000

Note

The illustration of the PBX is based on the KX-NCP500.

DHLC4 Card

Cable	Maximum Distance
ø 0.4 mm:	222 m
ø 0.5 mm:	347 m
ø 0.6 mm:	500 m
CAT 5:	347 m

Port No.: 1 2 3 4

DHLC4 card (RJ45)

Pin No.	Signal Name	Port No.
1		
2		
3	D1	
4		1
5		
6	D2	
7		
8		
1		
2		
3	D1	
4		2
5		
6	D2	
7		
8		
1		
2		
3	D1	
4		3
5		
6	D2	
7		
8		
1		
2		
3	D1	
4		4
5		
6	D2	
7		
8		

CS 1 (RJ45)

Signal Name	Pin No.	
D1C	1	
D2C	2	
D1B	3	
D1A	**4**	Master
D2A	**5**	
D2B	6	
D1D	7	
D2D	8	

DLC8

Port No.: 1 2 3 4 5 6 7 8   9 10 11 12 13 14 15 16

DLC16

DLC8/DLC16 card (RJ45)

Pin No.	Signal Name	Port No.
1		
2		
3	D1	
4		1
5		
6	D2	
7		
8		
1		
2		
3	D1	
4		2
5		
6	D2	
7		
8		
1		
2		
3	D1	
4		3
5		
6	D2	
7		
8		
1		
2		
3	D1	
4		4
5		
6	D2	
7		
8		
1		
2		
3	D1	
4		5
5		
6	D2	
7		
8		
:	:	
:	:	:

CS 1 (RJ45)

Signal Name	Pin No.	
D1C	1	
D2C	2	
D1B	3	
D1A	**4**	Master
D2A	**5**	
D2B	6	
D1D	7	
D2D	8	

CS 2 (RJ45)

Signal Name	Pin No.	
D1C	1	
D2C	2	
D1B	3	
D1A	**4**	Master
D2A	**5**	
D2B	6	
D1D	7	
D2D	8	

Accessories and User-supplied Items for the CS
   Accessories (included): Screws × 2, Washers × 2
   User-supplied (not included): RJ45 connector

Note

- The no. 4 and no. 5 pins (Master) of the CS must be connected to a pair of pins on the DHLC/DLC card. Then use 4 consecutive pairs of pins on the DHLC/DLC card, starting with the pins corresponding to the Master, as in the example above.
- When connecting multiple KX-TDA0158 CSs to a DHLC/DLC card, make sure that the no. 4 and no. 5 pins (Master) of adjacent CSs are at least 3 pairs of pins away on the card.
- For details about the DHLC/DLC card, refer to the Installation Manual for your PBX.
- CS connections must be made within the same DHLC/DLC card.
- When a wrong connection is made, satisfactory performance of the CS cannot be guaranteed. Check the connection of CS and the PBX using the Maintenance Console. For information about how to view CS information using the Maintenance Console, refer to "Utility—CS Information" in the PC Programming Manual or the On-line Help for your PBX.

KX-TDA0155/KX-TDA0141 connecting to KX-NCP500/KX-NCP1000

Note

The illustration of the PBX is based on the KX-NCP500.

Cable	Maximum Distance
ø 0.4 mm:	222 m
ø 0.5 mm:	347 m
ø 0.6 mm:	500 m
CAT 5:	347 m

DHLC4 Card

CS (RJ11)

Signal Name	Pin No.
D1	1
	2
	3
D2	4

DHLC/DLC card (RJ45)

Pin No.	Signal Name
1	
2	
3	D1
4	
5	
6	D2
7	
8	

Accessories and User-supplied Items for the CS
Accessories (included): Screws × 2, Washers × 2
User-supplied (not included): RJ11 connector

Note

For details about the DHLC/DLC card, refer to the Installation Manual for your PBX.

Connecting the CS

1. Connect the cable from the PBX to the CS.

KX-TDA0155/KX-TDA0156   **KX-TDA0158**   **KX-TDA0141/KX-TDA0142**

RJ11 Modular

To PBX

RJ45 Modular

To PBX

RJ11 Modular

To PBX
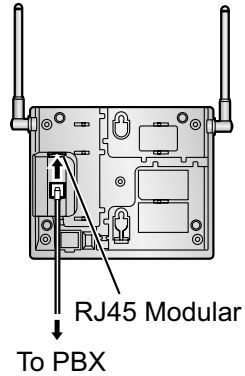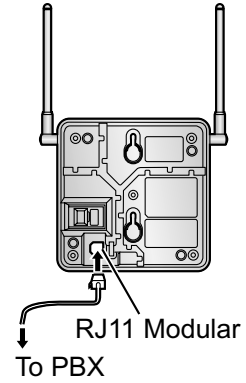
2. Pass the cable through the groove of the CS (in any direction depending on your preference).

KX-TDA0155/KX-TDA0156   **KX-TDA0158**

TO MAIN UNIT / PABX

To PBX

To PBX

KX-TDA0141/KX-TDA0142

TO MAIN UNIT / PABX

To PBX
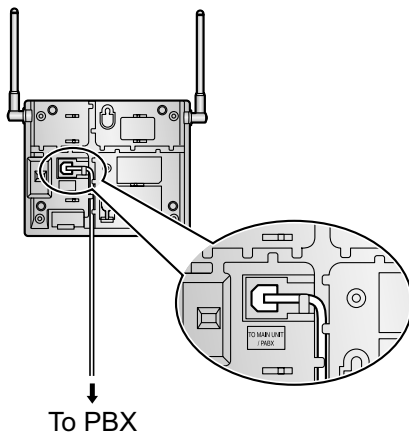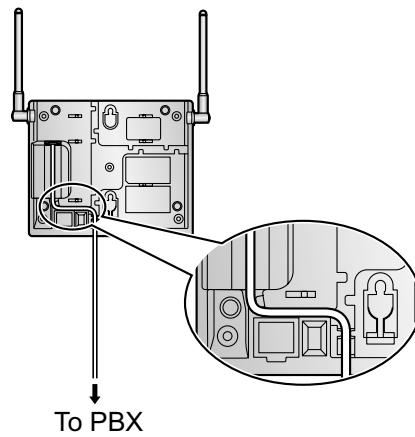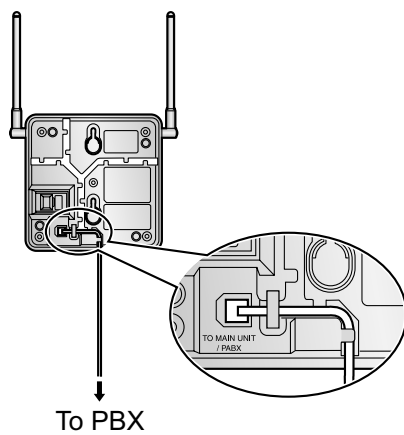
For the KX-TDA0142 User only:

3. Wrap the cable once around the ferrite core. Then close the case of the ferrite core.

To PBX
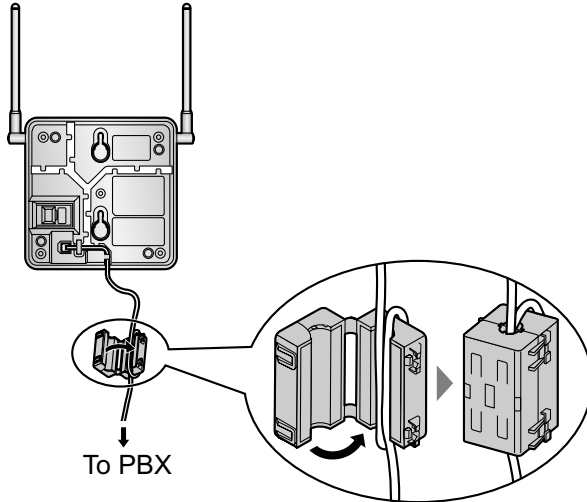
Note

> If you need to open the ferrite core, use a flathead screwdriver to unlatch the case of the ferrite core.
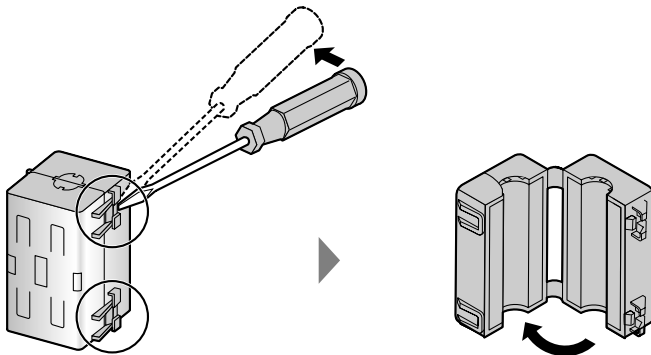
Registering the PS

The PS must be registered to the PBX before it can be used. Programming of both the PS and PBX is required. A Proprietary Telephone (PT) with multiline display (e.g., KX-T7636 6-line display) is required to perform the PBX system programming.

Note

> For details about system programming using a PT, refer to "PT Programming" in the Feature Guide, and "PT Programming" in the PT Programming Manual for your PBX.

Entering the System Programming Mode

PT (Administrator Level)

○ PROGRAM/PAUSE ▶ ✱ ▶ # ▶ | System Password for Administrator— for PT Programming ◆ 1234 | ▶ | Programming No. 3 digits |
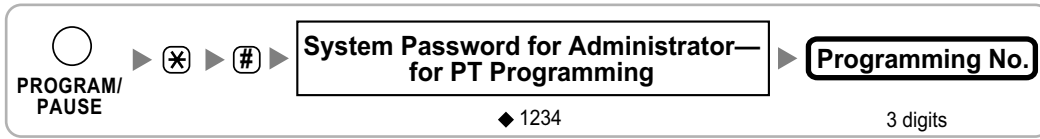
Note

◆ means default value throughout this section.

Setting the Personal Identification Number (PIN) for PS Registration

To prevent registering the PS to a wrong PBX, a PIN for PS registration can be set to the PBX. Before registering the PS to the PBX, enter the PIN set to the PBX into the PS. By doing so, the PS will only be registered to the PBX with the matching PIN.

CAUTION

To avoid unauthorised access and possible abuse of the PBX, we strongly recommend:
a. Keeping the password (PIN for PS registration) secret.
b. Not using the default password and changing the password regularly.
c. Selecting a complex, random password that cannot be easily guessed.

Note

The PIN for PS registration will only be used when registering the PS to the PBX. Therefore, during normal operation after registration, even if there is more than 1 PBX with the same PIN near the PS, the PS will not be inadvertently linked to a different PBX.

Setting the PIN for PBX

[692] ▶ (ENTER) ▶ | PIN for PS Registration 4 digits ◆1234 | ▶ (ENTER) ▶ □ END (HOLD)
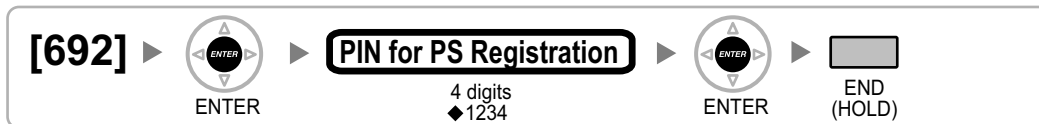
Setting the PIN for PS
Using the KX-TCA175/KX-TCA275

Press POWER for 2 seconds. ▶ (menu) ▶ (navigate) ▶ **OK** ▶ Select "Setting Handset". ▶ (navigate) **OK** ▶ Select "System Option". ▶ (navigate) **OK** ▶▶

▶▶ *If required* | System Lock Password 4 digits | ▶ (navigate) Select "Change PIN". ▶ **OK** (navigate) ▶▶

▶▶ | PIN for PS Registration 1 to 8 digits ◆ 1234 | ▶ **OK** (navigate) ♪ C.Tone
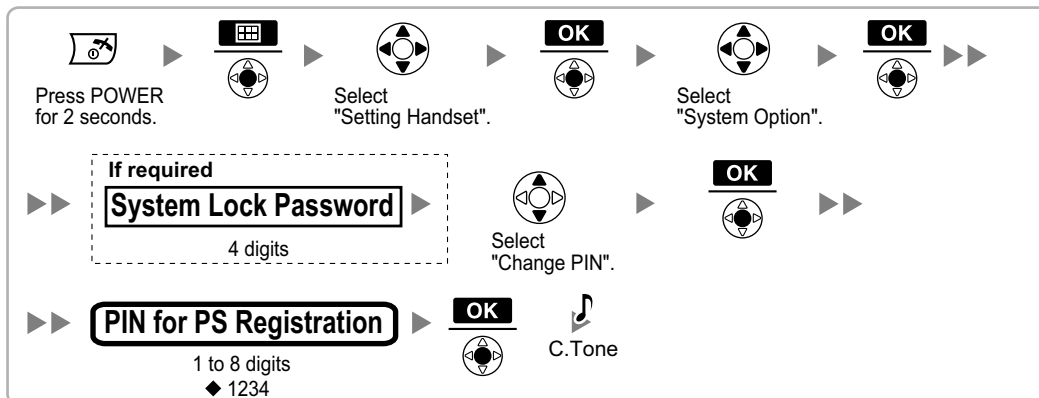
Changing the Display Language of the PS

Using the KX-TCA175/KX-TCA275
Refer to "PS Registration".
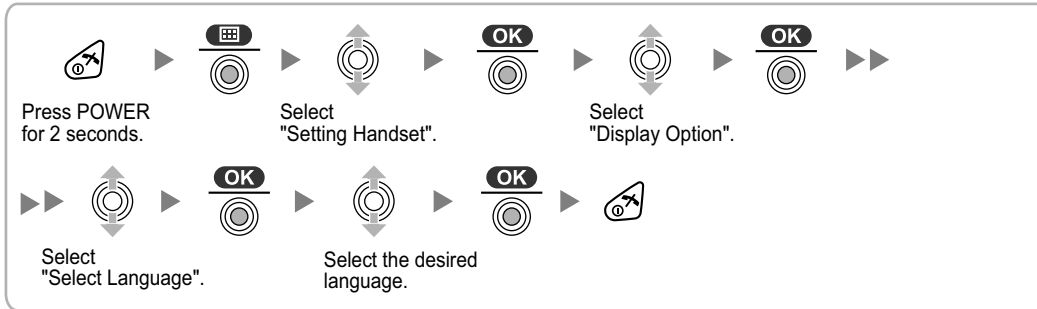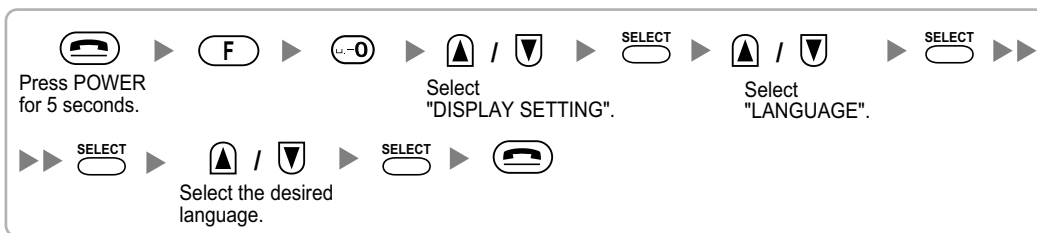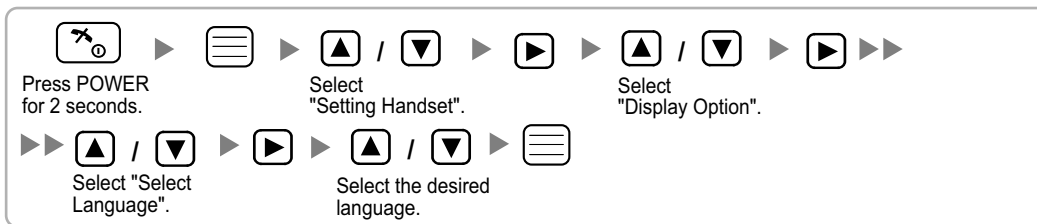
Using the KX-TCA155/KX-TCA255/KX-TCA256/KX-TCA355

Press POWER for 2 seconds. ▶ Select "Setting Handset". ▶ Select "Display Option". ▶▶ Select "Select Language". ▶ Select the desired language.

Using the KX-TD7590

Press POWER for 5 seconds. ▶ Select "DISPLAY SETTING". ▶ Select "LANGUAGE". ▶▶ Select the desired language.

Using the KX-TD7580

Press POWER for 2 seconds. ▶ Select "Setting Handset". ▶ Select "Display Option". ▶▶ Select "Select Language". ▶ Select the desired language.

PS Registration

[690] ▶ ENTER ▶ PS No. 001 to max. no. of PSs (3 digits) ▶ Extn. No. 1 to 5 digits ▶ ENTER ▶ To the PS operation below ▶ END (HOLD)
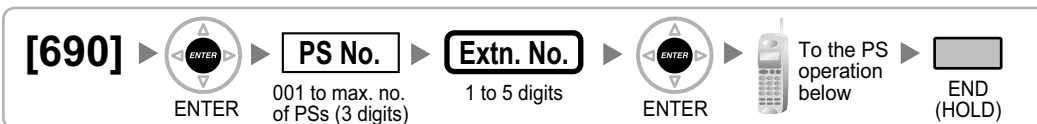
Using the KX-TCA175/KX-TCA275

When the PS has not been registered yet
When registering the PS for the first time, it is possible to select the desired language for the display. (You do not need to enter the PS system programming mode when registering for the first time.)

▶ Press POWER for 2 seconds. ▶ **If required** Select the desired language. ▶ OK C.Tone ▶ F Press "F" for 2 seconds. C.Tone ▶
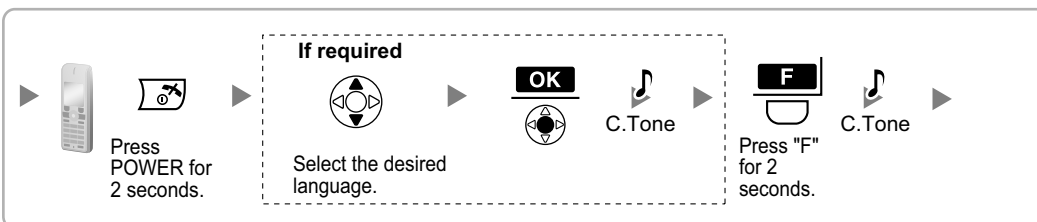
When the PS has already been registered to another PBX

One PS can be registered to a maximum of 4 different PBXs.

Press POWER for 2 seconds.
Select "Setting Handset".
Select "System Option".

If required
System Lock Password
4 digits

Select "Register H/S".
Select "Base 1–4".

"Please wait".
C.Tone

Using the KX-TCA155/KX-TCA255/KX-TCA256/KX-TCA355

Press POWER for 2 seconds.
Select "Setting Handset".
Select "Registration".

Select "Register H/set".
Select "Base 1–4".

"Please wait".

"Enter Base PIN".
PIN for PS Registration
4 digits

C.Tone
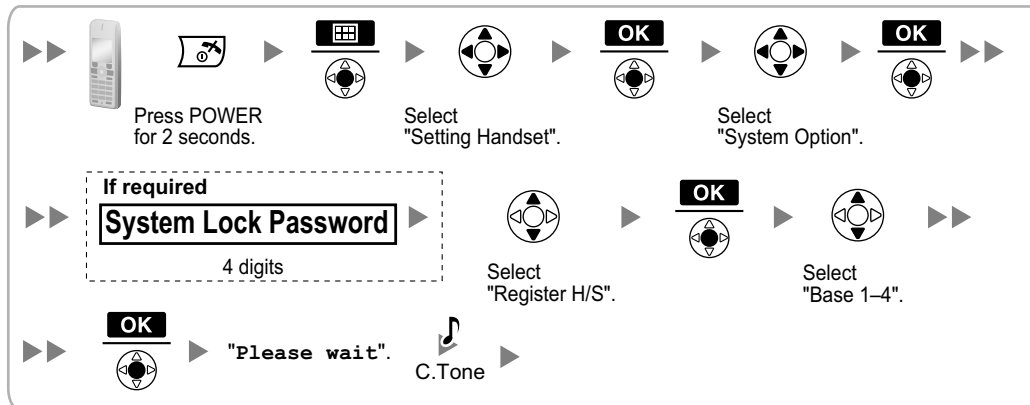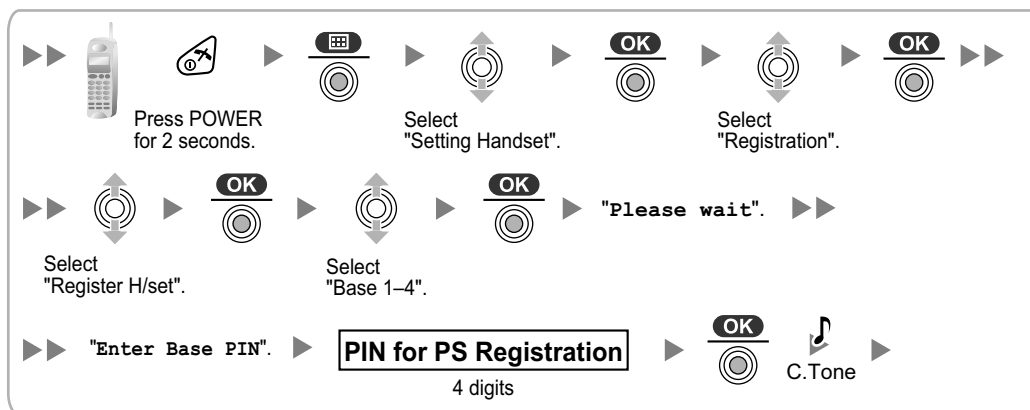
Using the KX-TD7590
After PS registration, it is possible to set a 4-digit system lock password to prevent unauthorised access to PS system settings. When system lock is enabled, the system lock password will be required to access PS system settings.

CAUTION

To avoid unauthorised access and possible abuse of the PBX, we strongly recommend:

a. Keeping the password secret.

b. Changing your password regularly.

c. Selecting a complex, random password that cannot be easily guessed.
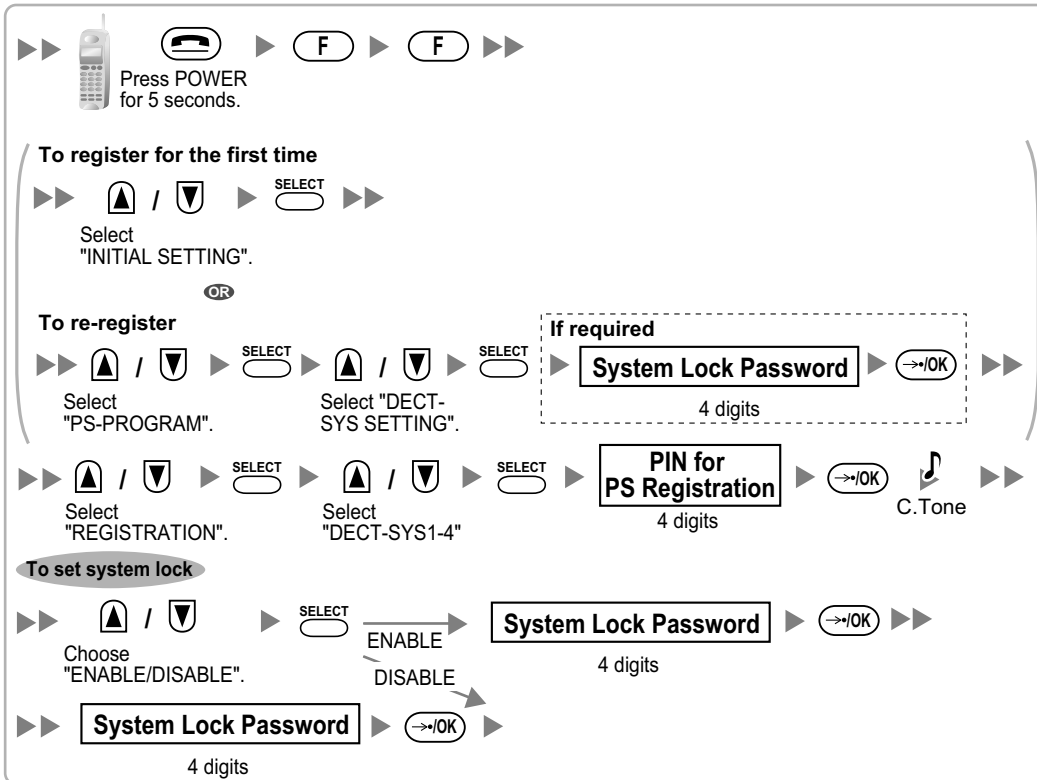
Using the KX-TD7580
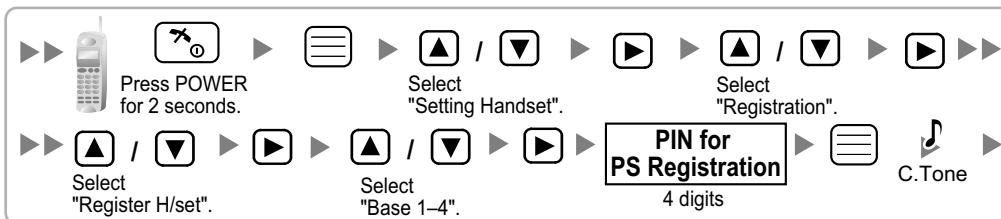
PS Termination

Confirm the following before cancelling the PS registration:

• The PS is turned on.

• The PS is within range.

[691] ▶ ENTER ▶ **PS No.**
001 to max. no.
of PSs (3 digits) ▶ ENTER ▶▶

If "Rejected" or "Time out" is displayed
▶▶ **CLEAR**
Press "CLEAR". ▶ **YES**
Press "YES". ▶ END
(HOLD)
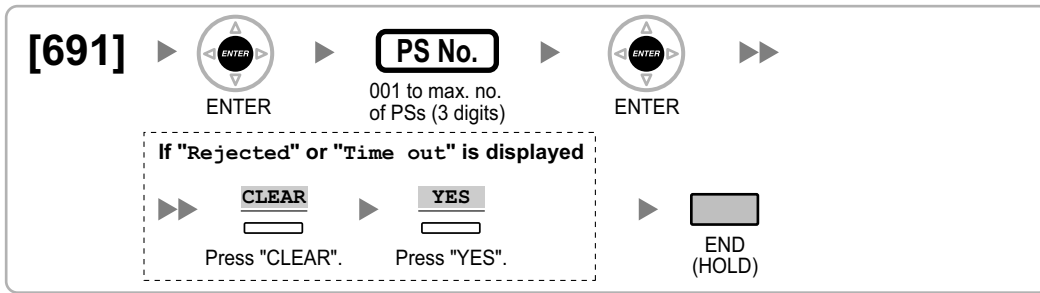
If "Rejected" or "Time out" is displayed
The registration information is still stored in the PS. You need to delete the registration information from the PS.

Using the KX-TCA175/KX-TCA275

▶▶ Press POWER
for 2 seconds. ▶ Select
"Setting Handset". ▶ **OK** ▶ Select
"System Option". ▶ **OK** ▶▶

▶▶ **If required**
System Lock Password
4 digits ▶ Select
"Cancel Base". ▶ **OK** ▶ Select
"Base 1–4". ▶▶

▶▶ **√** ▶ **OK** ▶ Select
"Yes". ▶ **OK** C.Tone

Using the KX-TCA155/KX-TCA255/KX-TCA256/KX-TCA355

▶▶ Press POWER
for 2 seconds. ▶ Select
"Setting Handset". ▶ **OK** ▶ Select
"Registration". ▶ **OK** ▶ Select
"Cancel Base". ▶▶

▶▶ **OK** ▶ **Handset PIN**
4 digits ▶ Select
"Base 1–4". ▶ **√** ▶ **OK** ▶ Select
"YES". ▶ **OK** C.Tone
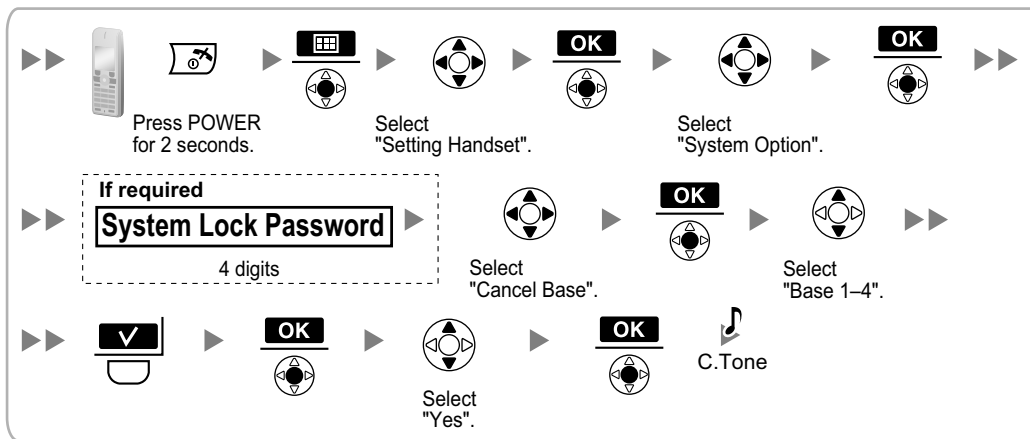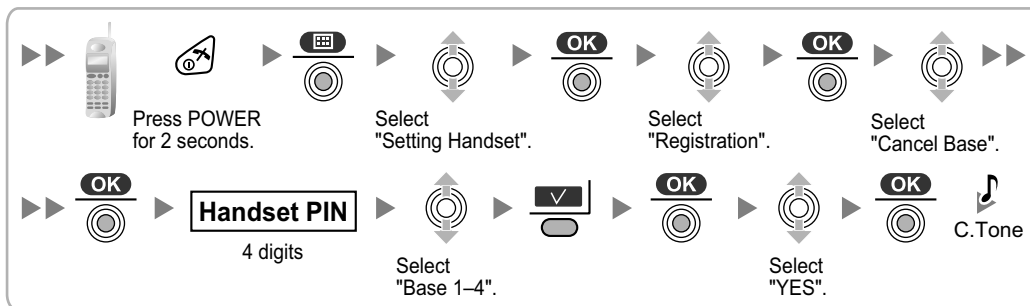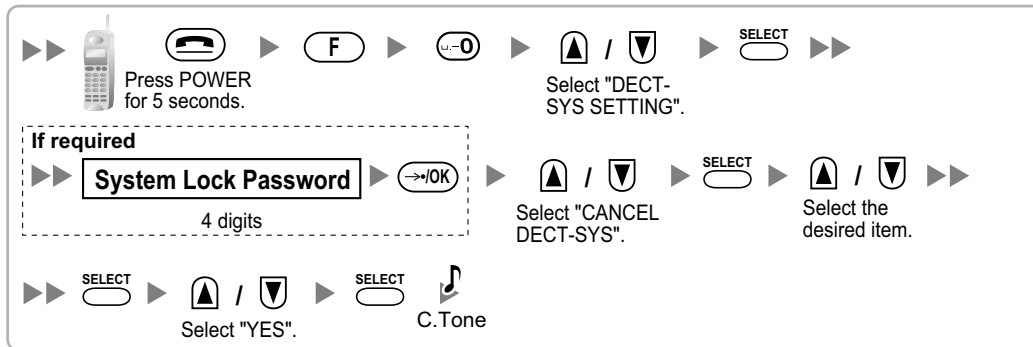
Using the KX-TD7590

Using the KX-TD7580
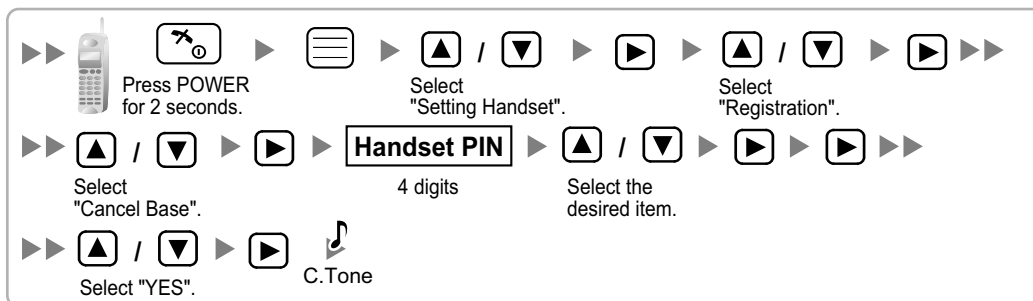
Testing the Operation

Walk around the service area while having a conversation using a registered PS. If noise is frequent or conversations disconnect, relocate the CSs or install an additional CS.

8   Wall Mounting

## Mounting the KX-TDA0155/KX-TDA0156/KX-TDA0158

WARNING

- **Make sure that the wall that the unit will be attached to is strong enough to support the unit (approx. 310 g). If not, it is necessary for the wall to be reinforced.**
- **Only use the wall-mounting equipment (screws, washers) included with the unit.**
- **When this product is no longer in use, make sure to detach it from the wall.**

CAUTION

- When driving the screws into the wall, be careful to avoid touching any metal laths, wire laths or metal plates in the wall.
- Do not stretch or bend the cables. Also, do not allow anything to rest on the cables.
- Use cables that are fire-resistant or fireproof.
- The CS and the cables should never be placed near or over a radiator or other heat source.
- Do not bundle cables that are connected to the CS with the AC power cords of machines located nearby.
- Make sure the cables are securely fastened to the wall.

1. Place the reference for wall mounting (KX-TDA0155/KX-TDA0156/KX-TDA0158) on the wall to mark the 2 screw positions.
2. Install the 2 screws and washers (included) into the wall.

   Note
   - Make sure that the screw heads are at the same distance from the wall.
   - Install the screws perpendicular to the wall.

3. Hook the CS on the screw heads.

   KX-TDA0155/KX-TDA0156

Washer

Drive the screw to this point.

KX-TDA0158


Washer

Drive the screw to this point.

4. Place the antennas so that they are pointing in directions that are 90 degrees apart (for antenna diversity), as follows:

45°

90°

45°
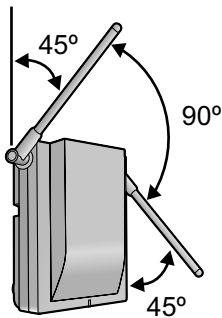
Reference for Wall Mounting (KX-TDA0155/KX-TDA0156/KX-TDA0158)

Please copy this page and use as a reference for wall mounting.
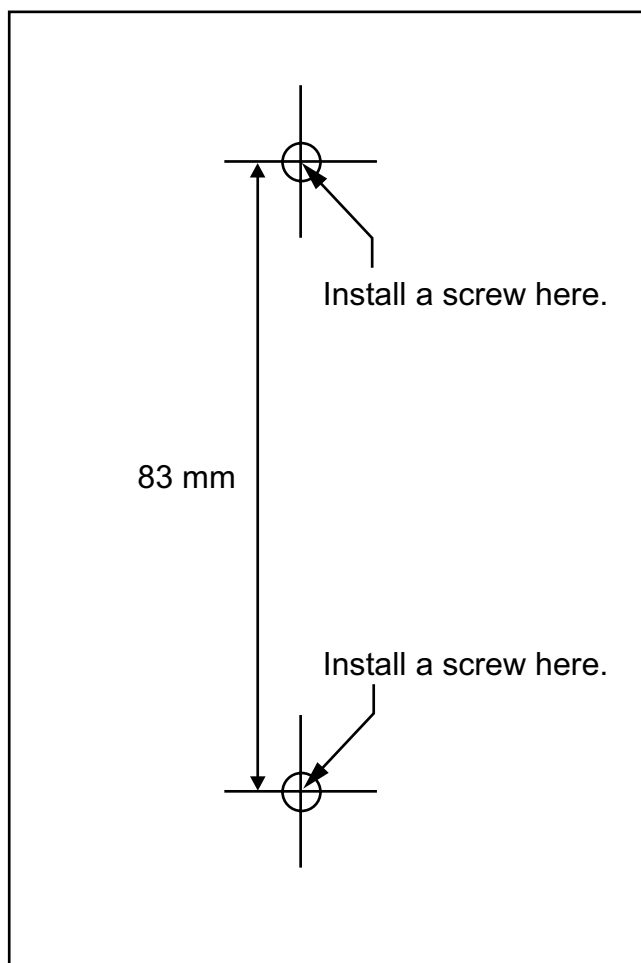
Install a screw here.

83 mm

Install a screw here.

<u>Note</u>

Make sure to set the print size to correspond with the size of this page. If the dimension of the paper output still deviates slightly from the measurement indicated here, use the measurement indicated here.

Mounting the KX-TDA0141/KX-TDA0142

WARNING

- **Make sure that the wall that the unit will be attached to is strong enough to support the unit (approx. 310 g). If not, it is necessary for the wall to be reinforced.**
- **Only use the wall-mounting equipment (screws, washers) included with the unit.**
- **When this product is no longer in use, make sure to detach it from the wall.**

CAUTION

- When driving the screws into the wall, be careful to avoid touching any metal laths, wire laths or metal plates in the wall.
- Do not stretch or bend the cables. Also, do not allow anything to rest on the cables.
- Use cables that are fire-resistant or fireproof.
- The CS and the cables should never be placed near or over a radiator or other heat source.
- Do not bundle cables that are connected to the CS with the AC power cords of machines located nearby.
- Make sure the cables are securely fastened to the wall.

1. Place the reference for wall mounting (KX-TDA0141/KX-TDA0142) on the wall to mark the 2 screw positions.
2. Install the 2 screws and washers (included) into the wall.

   Note
   - Make sure that the screw heads are at the same distance from the wall.
   - Install the screws perpendicular to the wall.

3. Hook the CS on the screw heads.

Washer

Drive the screw to this point.
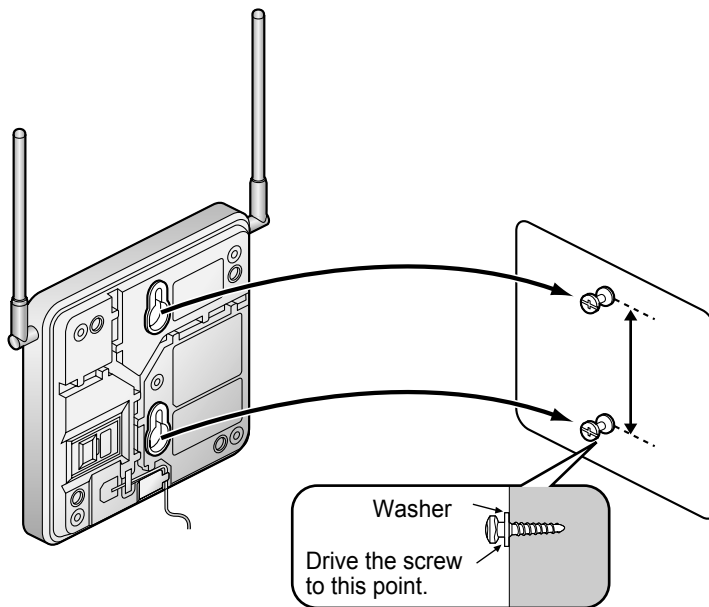
4. Place the antennas so that they are pointing in directions that are 90 degrees apart (for antenna diversity), as follows:
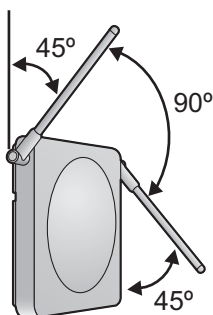
Reference for Wall Mounting (KX-TDA0141/KX-TDA0142)

Please copy this page and use as a reference for wall mounting.
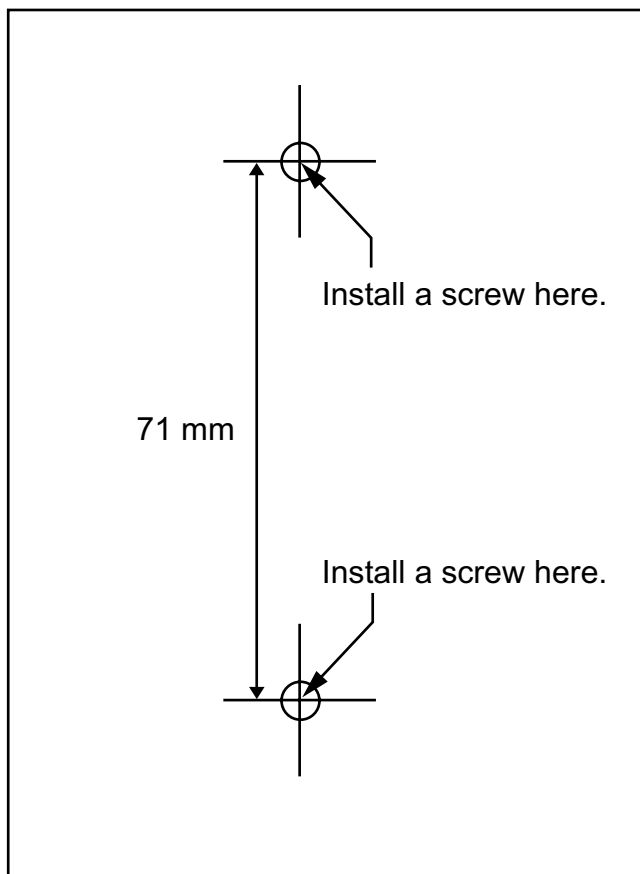
Note

Make sure to set the print size to correspond with the size of this page. If the dimension of the paper output still deviates slightly from the measurement indicated here, use the measurement indicated here.

9 Troubleshooting

PROBLEM	PROBABLE CAUSE	SOLUTION
• The LED of the CS does not change to Green ON.	• The optional service card is not working.	• Install the card properly.
	• CS is not connected properly.	• Make sure that the cable is connected properly with correct pin assignments. Also, make sure that the cable does not make short circuits.
	• CS is not set for normal operation.	• Switch all DIP switches off.
	• The status of the port that the CS is connected to is Out of Service.	• Change the port status from Out of Service to In Service using the Maintenance Console.
	<Only when connecting a KX-TDA0158 CS to a KX-TDA600/KX-TDE100/ KX-TDE200/KX-TDE600> • The Local Processor (LPR) software of the corresponding DHLC/DLC card is not version 5.000 or later.	• Upgrade the LPR software of the DHLC/DLC card.
<KX-TDA0158 only> • The maximum number of PS calls that the CS supports cannot be made.	• Poor connection	• Make sure that a 4-pair cable is used for connection.
• The LED of the CS stays Red ON during normal operation.	• CS malfunction	• Replace the CS.
• "CLEAR SCAN DATA" is displayed on the PS's screen after turning on the PS.	• The PS cannot be used for normal operation when scan data is stored on the PS.	• Clear the scan data by following the procedure described in "Clearing the Stored Scan Data" in "5 Site Survey Using the KX-TCA175/KX-TCA255/ KX-TCA256/KX-TCA275/KX-TCA355/ KX-TD7590".
• Cannot register the PS.	• Wrong Personal Identification Number (PIN) is registered to the PS.	• Enter the PIN set to the PBX into the PS.

PROBLEM	PROBABLE CAUSE	SOLUTION
• PS becomes out of range. • Cannot make calls using the PS.	• Location of CS is not good. • Access system of the PS is not properly set.	• Locate the CS properly (refer to "5 Site Survey Using the KX-TCA175/ KX-TCA255/KX-TCA256/KX-TCA275/ KX-TCA355/KX-TD7590"). • Change the access system setting of the PS to the appropriate system or automatic.
• Noise is frequent while using the PS. • Conversations disconnect while using the PS. • "NO SERVICE" is displayed on the PS's screen.	• Call handover is not working. • PS is out of CS coverage area.	• Locate the CS properly (refer to "5 Site Survey Using the KX-TCA175/ KX-TCA255/KX-TCA256/KX-TCA275/ KX-TCA355/KX-TD7590").
• The CS is not busy (i.e., the status of the LED is not Moderate Green Flashing), but calls cannot be made or received. • There is noise during a phone call.	• CSs are located too close together in the same area.	• Reduce the number of CSs in the area, or increase the distance between CSs (refer to "5 Site Survey Using the KX-TCA175/KX-TCA255/KX-TCA256/ KX-TCA275/KX-TCA355/ KX-TD7590").
• PS stays out of service when the CS status is changed from Out of Service to In Service.	• It may take about 20 s for the CS to start up after the status has been changed to In Service.	• Wait until the CS starts up.

CE 0682

KX-TDA0142CE

Panasonic System Networks Company U.K. Ltd. declares that this equipment is in compliance with the essential requirements and other relevant provisions of Radio & Telecommunications Terminal Equipment (R&TTE) Directive 1999/5/EC.

CE 1321

KX-TDA0141CE/KX-TDA0158CE

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KX-TDA0155CE/KX-TDA0156CE

Panasonic System Networks Co., Ltd./Panasonic System Networks Company U.K. Ltd. declares that this equipment is in compliance with the essential requirements and other relevant provisions of Radio & Telecommunications Terminal Equipment (R&TTE) Directive 1999/5/EC.

Declarations of Conformity for the relevant Panasonic products described in this manual are available for download by visiting:

http://www.doc.panasonic.de

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