

Panasonic



Quick Installation Guide

DECT 4-Channel IP Cell Station Unit

Model No. **KX-NS0154**

Thank you for purchasing this Panasonic product.
Please read this manual carefully before using this product and save this manual for future use.

Notes

- In this manual, the suffix of each model number (e.g., KX-NS0154**CE**) is omitted unless necessary.
- The screen shots shown in this guide are provided for reference only, and may differ from the screens displayed on your PC.
- The contents and design of the software are subject to change without notice.

KX-NS0154: Software File Version 01.000 or later

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1 Regional 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.

Cd

Additional Information

F.C.C. AND INDUSTRY CANADA RELEVANT INFORMATION

CAUTION

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

Privacy of communications may not be ensured when using this unit.

Notice

FCC ID can be found on the back of this unit.

Note

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the distance between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Some wireless telephones operate at frequencies that may cause interference to nearby TVs and VCRs. To minimize or prevent such interference, the base of the wireless telephone should not be placed near or on top of a TV or VCR. If interference is experienced, move the wireless telephone further away from the TV or VCR. This will often reduce, or eliminate, interference.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

RF Exposure Warning:

This product complies with FCC/IC radiation exposure limits set forth for an uncontrolled environment. To comply with FCC/IC RF exposure requirements, this product must be installed and operated in accordance with the provided instructions. The installed unit requires a minimum 20 cm (8 inches) of spacing between the antenna and a person's body during wireless modes of operation.

This transmitter must not be co-located or operated in conjunction with any other antennas or transmitters.

For Users in Canada Only

This Class B digital apparatus complies with Canadian ICES-003.

Note

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Privacy of communications may not be ensured when using this telephone. Some wireless telephones operate at frequencies that may cause interference to nearby TVs and VCRs. To minimize or prevent such interference, the base of the wireless telephone should not be placed near, or on top of, a TV or VCR. If

interference is experienced, move the wireless telephone further away from the TV or VCR. This will often reduce, or eliminate, interference.

Notes

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2 Overview

Outline

This document describes the installation, deployment, configuration of a DECT system that works with the Panasonic IP-PBX. In this system, DECT 6.0 Portable Stations are used together with IP Cell Stations.

Related Documentation

Important Information

Describes the safety precautions to prevent personal injury and/or damage to property.

Please refer to the following web site for more information:

<http://panasonic.net/pcc/support/pbx/>

Terminology

Air Sync Group

Air Synchronization Group

To obtain steady air synchronization over a wide area, it is necessary to create Air Sync Groups.

DECT 6.0

Digital Enhanced Cordless Telecommunication for North America

Handover

Allows you to move between IP Cell Station coverage areas during a conversation without disrupting the call.

This is only possible within the same Air Sync Group.

IP-CS

IP Cell Station

Primary IP-CS

Primary IP-CS for air synchronization

PS

IP-CS compatible Portable Station/Handset

Secondary IP-CS

Secondary IP-CS for air synchronization

Super Master IP-CS

Master IP-CS of Air Sync Group 1

This IP-CS manages configuration for the whole system.

Web Maintenance Console

Used for system programming, diagnosis and administration of the KX-NS series PBX via PCs. Web Maintenance Console is accessed through a Web browser running on a networked PC.

System Overview

This IP-CS can be connected to a KX-NS series PBX via LAN. The IP-CS supports existing DECT Portable Stations (PSs) with Wide-Band audio up to 4 simultaneous calls. When the Activation Keys are applied, the number of simultaneous calls can increase up to 8 with narrow band. Not only Air synchronization but WAN synchronization allow for easy and cost-saving installation using an existing IP network infrastructure.

The IP-CS provides the following:

- Wireless systems using a converged voice and data network infrastructure.
- Wireless branch offices and wireless solutions by long distance installation on larger premises.
- Reliable wireless communication using DECT technology over an IP network.
- High quality voice communication.

- Easy maintenance using wireless download.

Activation Key Code and Key Management System

To obtain additional activation keys, you need to purchase the appropriate activation key codes and access the Key Management System. You can download the activation keys as an activation key file from the Key Management System.

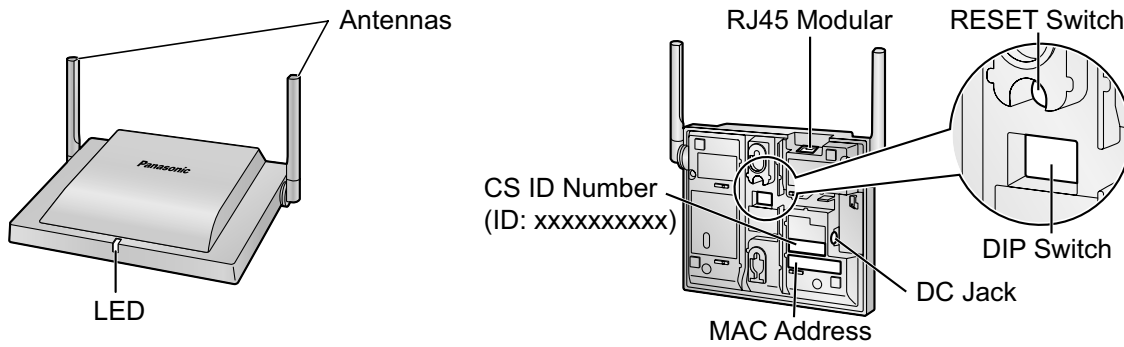
To download the activation keys, enter the MPR ID number shown on the back of the main unit, and activation key number and registration ID provided on each activation key code.

For information about the type of activation key codes available, refer to "Activation Keys".

3 Installing the IP-CSs

3.1 Overview of IP-CSs

Names and Locations



Unpacking

Unpack the box and check the items below:

IP-CS	1
Wall Mounting Plate	1
Screws	2
Washers	2

LED Indications

IP-CS status indication

Color		Status
Green/ Blue ¹	ON	Stand-by (no active calls)
	Slow Flashing	Talk (active calls)
	Moderate Flashing	Busy ²
Red	ON	Fault
	Slow Flashing	Out of Service/Starting up (data link establishment → air synchronization)
	Moderate Flashing	(power on → data link establishment)

Amber	ON	Stand-by (unstable synchronization [no active calls])
	Slow Flashing	Talk (unstable synchronization [active calls])
	Moderate Flashing	Busy ² (unstable synchronization)

¹ When the Activation Keys are applied, the Green color turns into Blue.

² All channels are occupied.

IP-CS status indication during the site survey

Color		Status
Red	ON	The IP-CS is connected to the AC adaptor.
	Moderate Flashing	The IP-CS is connected to a PoE device.

IP-CS status indication while restarting the IP-CS

Color		Status
Red	Moderate Flashing	Moderate Red Flashing: The IP-CS is restarting.

Note

LED flashing patterns are as follows:

- Slow Flashing: 60 times per minute
- Moderate Flashing: 120 times per minute

Activation Keys

The IP-CS supports the following activation keys to expand the maximum number of calls from 4ch to 8ch.

Model No.	Activation Key Type	Description
KX-NSE201	1 IP-CS to 8 ch	Allows the use of 1 IP-CS to 8 ch.
KX-NSE205	5 IP-CSs to 8 ch	Allows the use of 5 IP-CSs to 8 ch.
KX-NSE210	10 IP-CSs to 8 ch	Allows the use of 10 IP-CSs to 8 ch.
KX-NSE220	20 IP-CSs to 8 ch	Allows the use of 20 IP-CSs to 8 ch.

3.2 Connecting IP-CSs

Connecting an IP-CS to a LAN

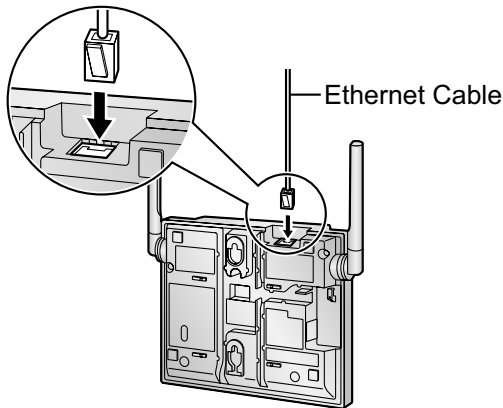
Notice

- Connect the units to the LAN only after completing network settings.
- When connecting a unit to the LAN, connect it to a switching hub.

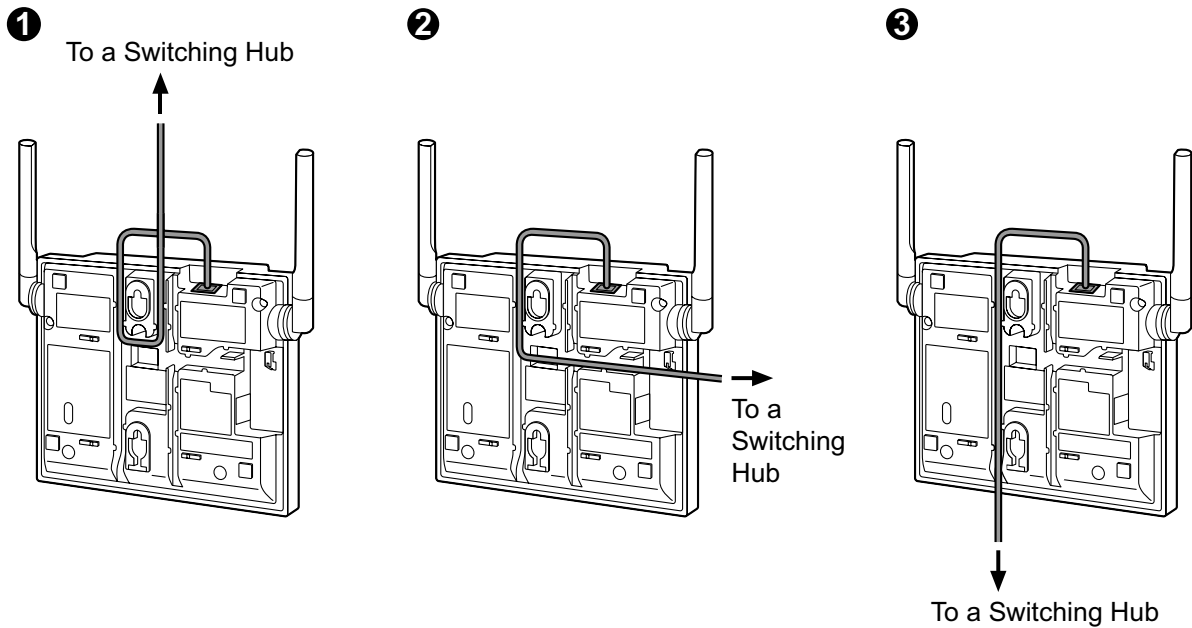
Note

- Use an Ethernet straight cable with an RJ45 connector to connect the unit to a switching hub. The cable should be a 10BASE-T/100BASE-TX CAT 5 (Category 5) or higher cable, and the diameter of the cable must be 6.5 mm or less.
- It is possible to connect the unit to the LAN while registering the unit to the PBX.

1. Connect the cable to the unit.



2. Pass the cable through the groove of the unit in one of the following three ways.



3. Connect the other end of the cable to the switching hub.

Connecting an AC Adaptor to an IP-CS

The units comply with the IEEE 802.3af Power-over-Ethernet (PoE) standard. If PoE is available on your network, these units can receive the necessary power supply from the network through the network cable. In this case, no AC adaptor is needed for the units.

However, if PoE is not available, you will need to connect an AC adaptor to the unit.

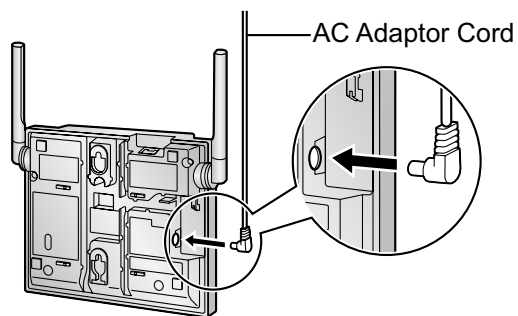
WARNING

When installing or testing a unit 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.

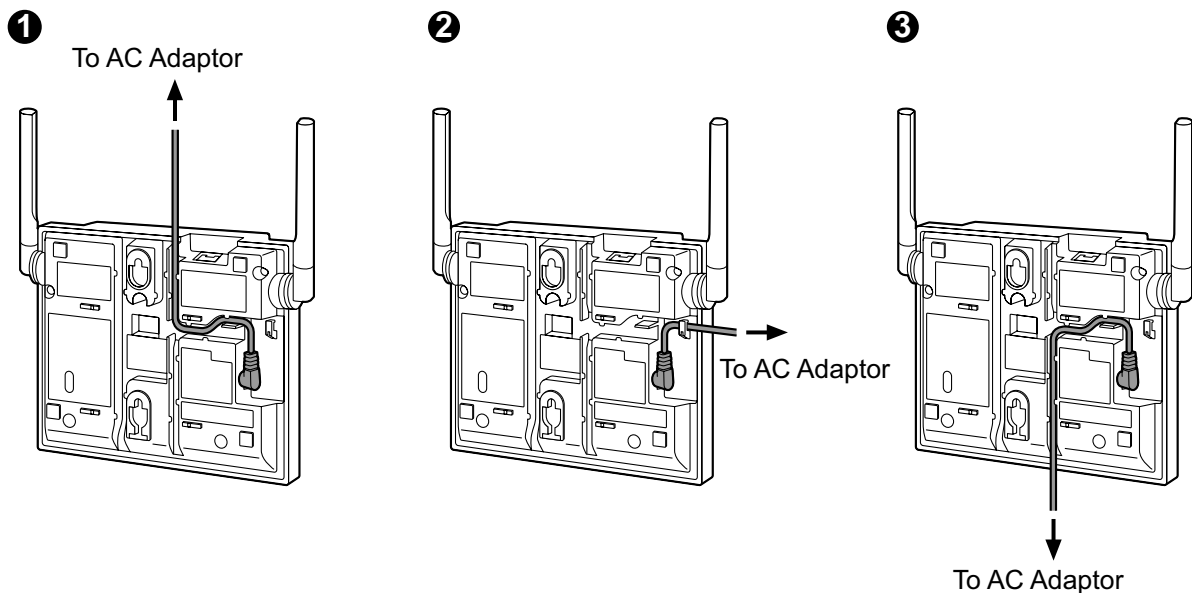
Note

Use only the optional AC adaptor KX-A239 for the unit.

1. Connect the AC adaptor cord to the unit.



2. Pass the cord through the groove of the unit in one of the following three ways.



3. Connect the AC adaptor to an AC outlet.

3.3 Wall Mounting

Mounting

WARNING

- **Make sure that the wall that the unit will be attached to is strong enough to support the unit (approx. 330 g). If not, it is necessary for the wall to be reinforced.**
- **Only use the wall-mounting equipment included with the unit.**
- **When the unit 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 unit 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 unit with the AC power cords of machines located nearby.
- Make sure the cables are securely fastened to the wall.

Notice

Panasonic assumes no responsibility for injuries or property damage resulting from failures arising out of improper installation or operation inconsistent with this documentation.

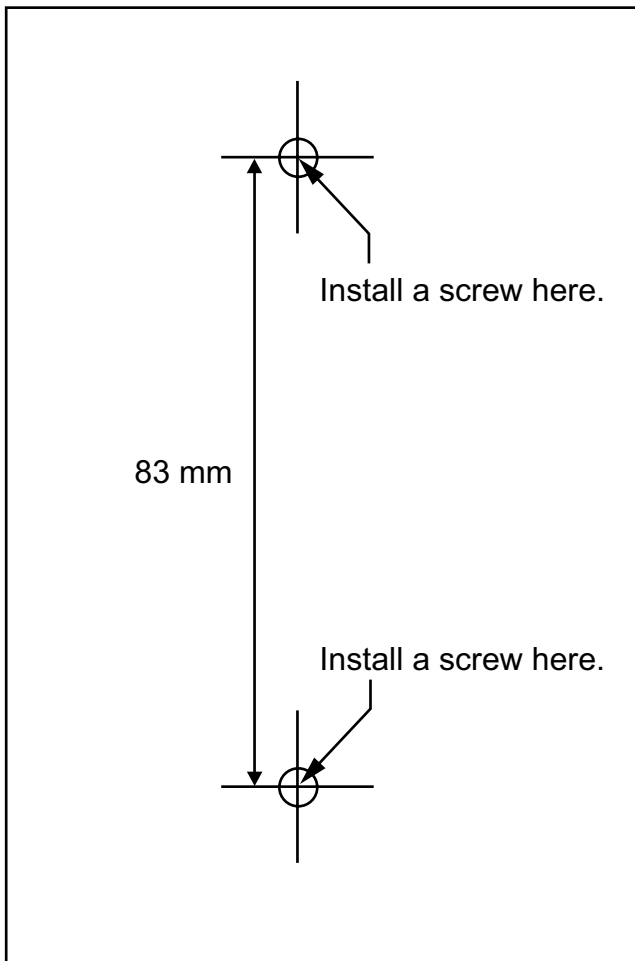
1. Place the reference for wall mounting on the wall to mark the 2 screw positions.
2. Install the 2 screws and washers (included) into the wall.

Note

- Make sure that the screw heads are at the same distance from the wall.
 - Install the screws perpendicular to the wall.
3. Insert the upper and lower tabs of the wall mounting plate into the designated openings in the unit.
 4. Pass the AC adaptor cord and LAN cable through the hole of the wall mounting plate.
 5. Slide the wall mounting plate in the direction of the arrow until it clicks.
 6. Hook the unit on the screw heads.

Reference for Wall Mounting

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.

3.4 Installing the Unified Maintenance Console

System Requirements

Required Operating System

- Microsoft® Windows® XP, Windows Vista® Business, Windows 7, Windows 7 Professional, Windows 8 or Windows 8 Professional operating system

Minimum Hardware Requirements

- HDD: 100 MB of available hard disk space
- The PC must fulfill the hardware requirements of the installed Microsoft Windows operating system.

Recommended Display Settings

- Screen resolution: XGA (1024 × 768)
- DPI setting: Normal size (96 DPI)

Installing the Maintenance Console

Note

- Make sure to install and use the latest version of the KX-TDA/KX-TDE/KX-NCP Unified Maintenance Console.
 - To install or uninstall the software on a PC running Windows XP Professional, you must be logged in as a user in either the "Administrators" or "Power Users" group.
 - To install or uninstall the software on a PC running Windows Vista Business or Windows 7 Professional, you must be logged in as a user in the "Administrators" group.
1. Copy the setup file of the Unified 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.

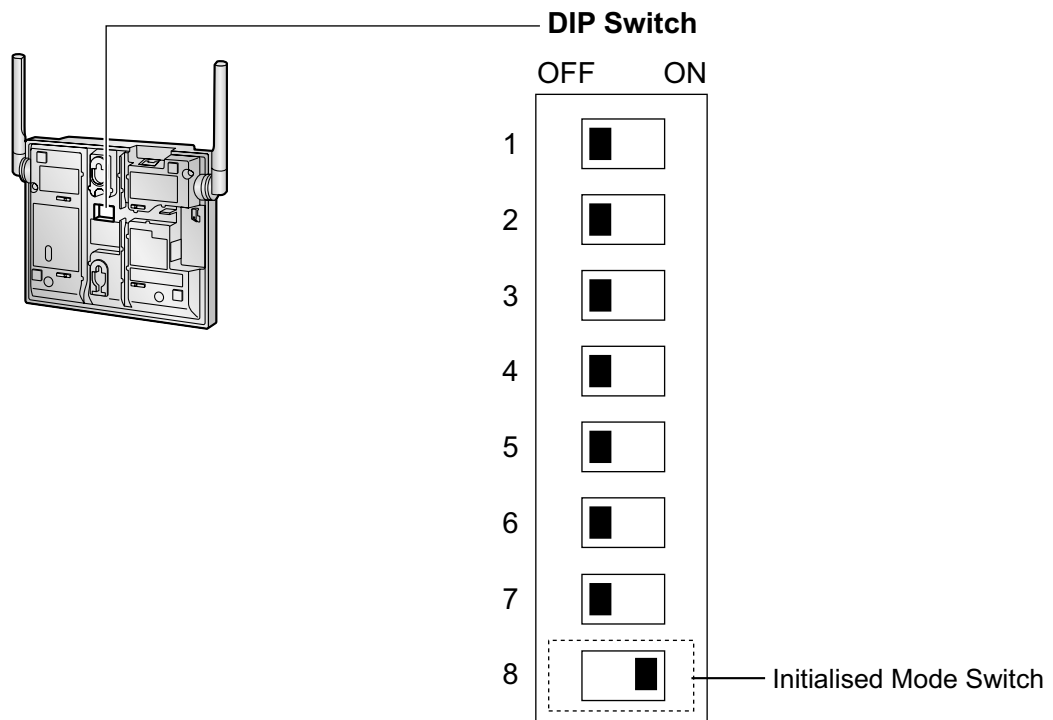
3.5 Initializing the IP-CS

If the IP-CS does not operate properly, initialize the IP-CS. Before initializing the IP-CS, try the system feature again to confirm whether there definitely is a problem or not.

The settings that are configured by using the IP Terminal Maintenance Console are changed back to their factory default by initializing the IP-CS.

While initializing the IP-CS, calls cannot be made or received and ongoing conversations will be disconnected.

1. Switch the Initialized Mode switch from OFF to ON.



2. Supply electricity to the IP-CS using an AC adaptor, PoE hub, or PoE adaptor (turn on the IP-CS).
3. While the LED indicator flashes red (Moderate Flashing: 120 times per minute), switch the Initialized Mode switch from ON to OFF.

Note

When the LED turns off for a while then flashes red, initialization is complete.

4 Deployment Procedure

4.1 Overview

4.2 Site Planning

4.3 Site Survey

4.4 Example of How to Conduct the Site Survey

4.5 Example of How to Make a Site Map

4.6 Basic Network Configuration

4.7 CS Registration

4.8 Configuration and PS Registration (for a system using a KX-NS series)

5 Troubleshooting

6 Appendix

6.1 Specifications

IP-CS Specification

Type	IP Cell Station Unit
Supported Audio	Narrowband
Radio Method	DECT 6.0
IP Port Number Flexible Setting	Yes
Local Setting	Yes (through Web application)
Site Survey Mode	Yes
Initialization	Yes
Maximum Simultaneous Calls	4, 8 ^{*1}
Power Supply	PoE (IEEE 802.3af Class2) Optional AC adaptor (KX-A239 [PQLV206])
VoIP Audio Codec	G.711, G.729A, G.726
LAN Port	10 BASE-T 100 BASE-TX
VLAN	Yes (802.1Q)
IP Addressing	DHCP Static IP Address Setting
Software Upgrade	Yes
Built-in VPN	No
Weight	330 g
Size	(W) 190 mm × (H) 133.9 mm × (D) 39.3 mm

*1 The activation keys are required to expand the maximum number of calls from 4ch to 8ch.
For more details, refer to "Activation Keys".

RF Specification

Item	Description
Radio Access Method	MultiCarrier TDMA-TDD
Frequency Band	1920 MHz to 1930 MHz
Number of Carriers	10
Carrier Spacing	1728 kHz

Item	Description
Transmission Output	Peak 250 mW

CAUTION

- The IP-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 IP-CS should not be placed outdoors (use indoors).
- The IP-CS should not be placed near high-voltage equipment.
- The IP-CS should not be placed on a metal object.

Compatible PSs

Model No.
<ul style="list-style-type: none">• KX-TCA185• KX-TCA285• KX-TCA385• KX-WT125/KX-WT126• KX-TD7685/KX-TD7695/KX-TD7969

Panasonic System Networks Co., Ltd. declares that the unit is in compliance with the essential requirements and other relevant provisions of Radio Telecommunications Terminal Equipment (RTTE) Directive 1999/5/EC. Declarations of Conformity for the relevant Panasonic products described in this manual are available for download by visiting:

<http://www.ptc.panasonic.eu>

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