

# Panasonic®

## Installation Manual DECT Repeater

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Model No. **KX-A405**

Thank you for purchasing a Panasonic DECT Repeater.  
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:

<b><u>WARNING</u></b>	This notice means that misuse could result in death or serious injury.
<b><u>CAUTION</u></b>	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. 88 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 unit is no longer in use, make sure to detach it from the wall.
- Do not connect or disconnect the AC plug with wet hands.
- Disconnect the unit from the AC outlet and contact the dealer if:
  - The AC adaptor cord or AC plug becomes damaged or frayed.
  - 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 AC outlet 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.
- Clean the AC plug periodically with a soft, dry cloth to remove dust and other debris.
- Do not touch the unit or AC adaptor during a lightning storm.
- Use only the included AC adaptor (PQLV219).
- Do not allow anything to rest on the AC adaptor cord. Do not locate this unit where the AC adaptor cord may be stepped on or tripped on.

### **CAUTION**

#### **SAFETY REQUIREMENTS**

- The unit 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 unit should not be placed outdoors (use indoors).
- The unit should not be placed near high-voltage equipment.
- The unit 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 cable. Also, do not allow anything to rest on the cable.
- The unit and the cable should never be placed near or over a radiator or other heat source.
- Do not bundle the cable that is connected to the unit with the AC power cords of machines located nearby.
- Make sure the cable is securely fastened to the wall.
- The AC adaptor is used as the main disconnect device. Ensure that the AC adaptor is located near the unit and is easily accessible.
- Disconnect the AC adaptor 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 AC outlet.
- **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.

## SECURITY REQUIREMENTS

### Preventing Data Disclosure Over the Network

- To ensure the security of private conversations, only connect the unit to a secure network.
- To prevent unauthorised access, only connect the unit to a network that is properly managed.

### 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 AC adaptor cord, then connect again.
- The unit may not operate in the event of a power failure.
- 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.

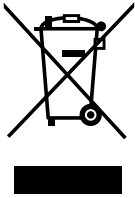
### Note

In this manual, the suffix of each model number (e.g., KX-TDA0155**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.

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# 1 Overview

## System Overview

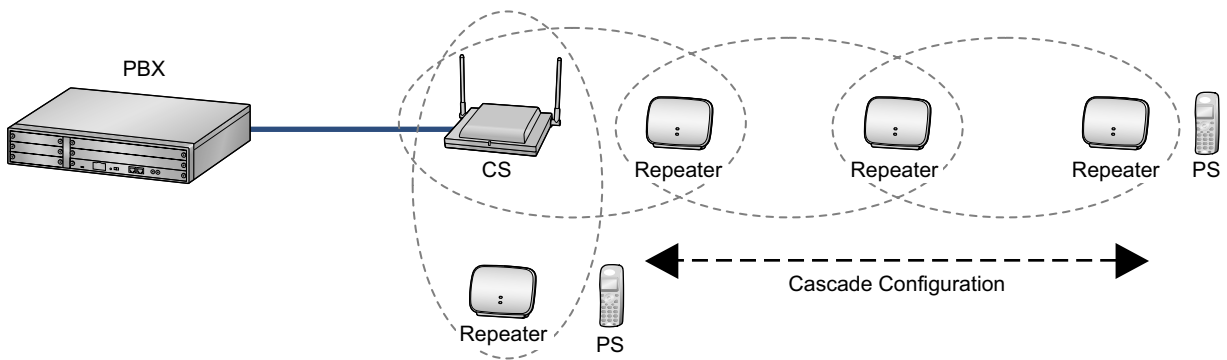
A repeater is used when you need to extend the range of a DECT Portable Station (PS) to include areas where reception was previously not available. The repeater extends the range in all directions, allowing several floors to be covered.

Up to 6 repeaters can be registered to one Cell Station (CS), and up to 3 repeaters can be arranged in a cascade configuration.

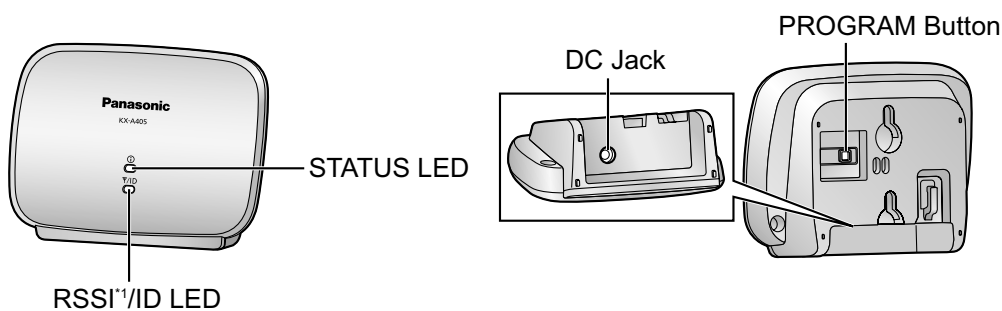
## System Connection Example

### Note

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



## Names and Locations



\*1 RSSI: Received Signal Strength Indication

## Unpacking

Unpack the box and check the items below:

Repeater (KX-A405)	1
AC Adaptor (PQLV219)	1
Screws	2
Washers	2

## LED Indications

The LED patterns and the corresponding status of the repeater in each mode are as follows. For details about each mode, refer to "3 Registering the Repeater" or "4 Using the Repeater".

Mode	Status	LED	
		STATUS	RSSI/ID
—	Power Off	Off	Off
De-registration Mode	Entering De-registration mode (0–5 seconds <sup>*1</sup> )	Red Flashing	Off
	Entering De-registration mode (5–10 seconds <sup>*1</sup> )	Quick Red Flashing	
	De-registration complete (after 10 seconds <sup>*1</sup> )	Red On	
Registration Mode (Easy/Manual)	Searching for devices	Red Flashing	Off
Operation Mode	Standby (signal is strong)	Green On	Green On
	Standby (signal is weak)		Amber On
	Standby (out of range)	Red On	Red On
	Talking (signal is strong)	Green Flashing	Green On
	Talking (signal is weak)		Amber On
	Busy (signal is strong)	Quick Green Flashing	Green On
	Busy (signal is weak)		Amber On

Mode	Status	LED	
		STATUS	RSSI/ID
Manual Registration Mode	Entering Manual Registration Mode (after 5 seconds <sup>2</sup> )	Quick Green Flashing	Off
	ID1	Green On	1 Red Flash
	ID2		2 Red Flashes
	ID3		3 Red Flashes
	ID4		4 Red Flashes
	ID5		5 Red Flashes
	ID6		6 Red Flashes
	ID assigned		Red On
ID Modification Mode	Entering ID Modification Mode (after 5 seconds <sup>3</sup> )	Quick Amber Flashing	Off
	ID1	Amber On	1 Red Flash
	ID2		2 Red Flashes
	ID3		3 Red Flashes
	ID4		4 Red Flashes
	ID5		5 Red Flashes
	ID6		6 Red Flashes
	ID assigned		Red On
ID Confirmation/ Verification Tone Mode	ID1	Amber On	1 Green Flash
	ID2		2 Green Flashes
	ID3		3 Green Flashes
	ID4		4 Green Flashes
	ID5		5 Green Flashes
	ID6		6 Green Flashes



Mode	Status	LED	
		STATUS	RSSI/ID
Site Survey Mode <sup>4</sup>	Channel 1	1 Green Flash	Off
	Channel 2	2 Green Flashes	
	Channel 3	3 Green Flashes	
	Channel 4	4 Green Flashes	
	Channel 5	5 Green Flashes	
	Channel 6	6 Green Flashes	
	Channel 7	7 Green Flashes	
	Channel 8	8 Green Flashes	
	Channel 9	9 Green Flashes	
	Channel 0	10 Green Flashes	

<sup>1</sup> The time elapsed after turning on the repeater while pressing and holding down the PROGRAM button.

<sup>2</sup> The time elapsed after pressing and holding down the PROGRAM button in Operation mode.

<sup>3</sup> The time elapsed after pressing and holding down the PROGRAM button in ID Confirmation/Verification Tone mode.

<sup>4</sup> For the KX-A405X, channels 0 and 1 cannot be used during a site survey.

## Flashing Speeds

LEDs flash in a cycle at the following speeds:

Type of Flashing	Speed
Regular Flashing	640 ms On → 640 ms Off
Quick Flashing	320 ms On → 320 ms Off
1 Flash	Regular Flashing → 3 s Off
2 Flashes	Regular Flashing × 2 → 3 s Off
3 Flashes	Regular Flashing × 3 → 3 s Off
:	:

## Compatible Devices

Compatible Device	Model No.
CS	<ul style="list-style-type: none"><li>• KX-TDA0141</li><li>• KX-TDA0142</li><li>• KX-TDA0155</li><li>• KX-TDA0156</li><li>• KX-TDA0158</li><li>• KX-NCP0158 (IP-CS)</li></ul>
PS	<ul style="list-style-type: none"><li>• KX-TCA155</li><li>• KX-TCA175</li><li>• KX-TCA256</li><li>• KX-TCA275</li><li>• KX-TCA355</li><li>• KX-TCA364<sup>*1</sup></li><li>• KX-WT115</li></ul>

<sup>\*1</sup> Not supported by the KX-A405X.

## Specifications

### Basic Specifications

Maximum Number of Simultaneous Calls	4 <sup>*1</sup>
Maximum Number of Cascade Steps	3
Maximum Number of Repeaters Registered to a CS	6

\*1 The maximum number of simultaneous calls may decrease depending on the wireless environment or the PBX's system configuration.

### General Specifications

Dimensions	111 mm (W) × 82 mm (H) × 39 mm (D)
Weight	88 g
Power Supply	AC Adaptor (PQLV219) Input <sup>*1</sup> : AC 220 V–240 V, 50 Hz/60 Hz Output: DC 6.5 V, 500 mA
Operating Temperature	0 °C to 40 °C

\*1 For the KX-A405X, the value is AC 100 V–120 V, 60 Hz.

### RF Specifications

Wireless Interface	DECT
Radio Access Method	MultiCarrier TDMA-TDD
Frequency Band	1880 MHz to 1900 MHz <sup>*1</sup>
Number of Carriers	10 <sup>*2</sup>
Carrier Spacing	1728 kHz
Bit Rate	1152 kbps
Modulation Scheme	GFSK
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.

## 2 Procedure Overview

When registering and installing the repeater, follow the procedure below to ensure smooth operation.

### Registering the Repeater

#### Note

- Register repeaters one by one. Do not register multiple repeaters simultaneously.
  - Do not disconnect the AC adaptor of any registered repeaters until the registration of all repeaters is complete.
  - After the registration of all repeaters is complete, proceed to the next step—"Installing the Repeater".
- a. Place the unregistered repeater(s) (including cascade configuration repeaters) near the CS you are attempting to register to.
  - b. Turn on the repeater by connecting the AC adaptor.
  - c. **When registering to a CS:**  
The repeater is automatically registered to the CS in Easy Registration mode. For details about the easy registration procedure, refer to "Easy Registration".  
**When creating a cascade configuration:**  
Each repeater in the cascade is automatically registered to the CS in Easy Registration mode when it is turned on.  
Then, in Manual Registration mode, register each cascade repeater to its destination repeater. For details about the manual registration procedure, refer to "Manual Registration".

## Installing the Repeater

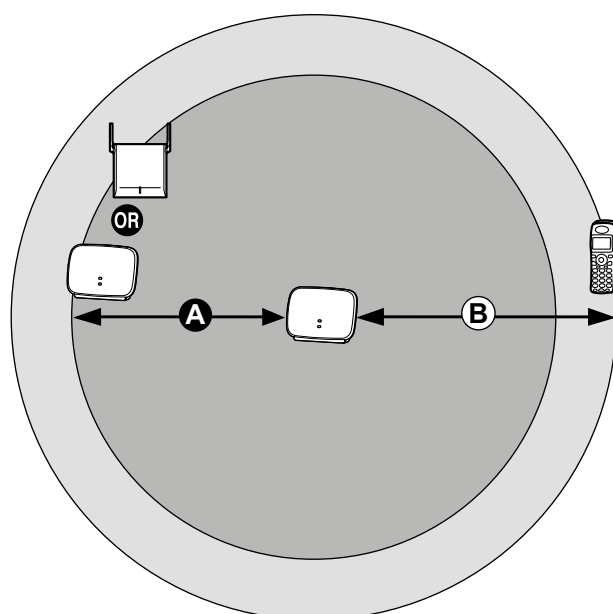
- a. After all registration is complete, place the repeater where you want to install it.

### Repeater Coverage Area

As a guideline, the example below shows the size of the coverage area where one repeater can synchronise with a CS/destination repeater, or provide coverage for a PS, if it is installed in an area with no obstacles.

#### Note

- The distance may vary depending on the environment.
- If the repeater's STATUS LED and RSSI/ID LED turn green (the radio signal strength level is strong) after turning on the repeater, the site is suitable for installing the repeater.



**A** Repeater Coverage Area for Synchronisation between CS/Destination Repeater  
Maximum Distance: 40 m to 50 m

**B** Repeater Coverage Area for Using PS  
Maximum Distance: 50 m to 60 m

- b. Turn on the repeater by connecting the AC adaptor. The repeater enters Operation mode.
- If the STATUS LED and the RSSI/ID LED turn green (the radio signal strength level is strong), the site is suitable for installing the repeater.
  - If the RSSI/ID LED turns amber or red (the radio signal strength level is weak or out of range), turn off the repeater by disconnecting the AC adaptor. Then, move the repeater closer to the CS/destination repeater, turn on the repeater again by connecting the AC adaptor, and confirm that the RSSI/ID LED turns green.
- c. Check whether the PS can be used at any location within the coverage area required by the user. For details about conducting the site survey using a PS, refer to "Site Survey Mode".

# 3 Registering the Repeater

## Easy Registration

In easy registration, the repeater can be registered to a CS easily.

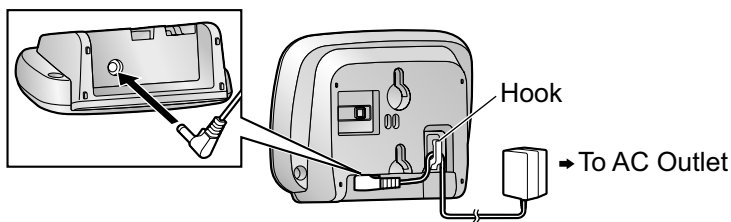
### **WARNING**

- **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.**
- **Completely insert the AC adaptor/power plug into the AC outlet. Failure to do so may cause electric shock and/or excessive heat resulting in a fire.**

### **Note**

- Easy registration cannot be performed if the repeater is already registered to another CS. In this case, de-register the repeater before attempting easy registration. For details about the de-registration procedure, refer to "De-registration".
- We recommend that you power down any CS that you do not wish to connect to the repeater prior to registration.

1. Turn on the repeater by connecting the AC adaptor.



The STATUS LED and the RSSI/ID LED will turn amber for 2 seconds.

2. If the repeater is unregistered, the STATUS LED will flash red, and the repeater automatically enters Easy Registration mode.
3. When the repeater has found a CS, the STATUS LED will turn green. Registration is complete.

## Manual Registration

In manual registration, the repeater can be registered to another repeater to create a cascade configuration.

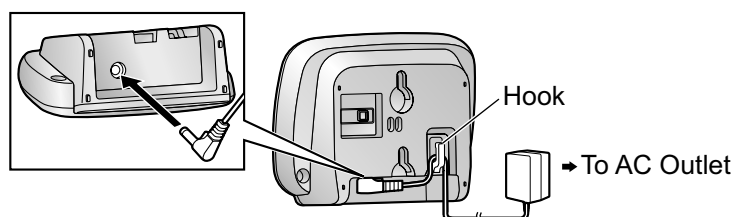
### **WARNING**

- **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.**
- **Completely insert the AC adaptor/power plug into the AC outlet. Failure to do so may cause electric shock and/or excessive heat resulting in a fire.**

### **Note**

It is necessary to check the ID of the repeater you are attempting to register to (destination repeater) just before starting the manual registration.

1. Check the ID of the destination repeater.
  - a. In Operation mode, press the destination repeater's PROGRAM button to switch to ID Confirmation mode.  
The ID is indicated by the number of times the RSSI/ID LED flashes green.
  - b. Return the destination repeater to Operation mode by pressing the PROGRAM button again.
2. Turn on the repeater you want to register by connecting the AC adaptor.



The STATUS LED and the RSSI/ID LED will turn amber for 2 seconds.

3. **When the repeater is unregistered:**  
The STATUS LED will flash red, and the repeater automatically enters Easy Registration mode.  
**When the repeater is registered:**  
The repeater automatically enters Operation mode.
4. Press and hold down the PROGRAM button for 5 seconds.  
The STATUS LED will flash green quickly.
5. Release the PROGRAM button to enter Manual Registration mode.  
The STATUS LED will turn green.  
The RSSI/ID LED will flash red once to indicate that the ID is currently set to 1.
6. If the ID of the destination repeater was not 1, press the PROGRAM button to select the ID that matches the destination repeater.  
The ID will change by one each time the PROGRAM button is pressed. (e.g., If you select ID3 by pressing the button 2 times, the RSSI/ID LED will flash 3 times.)
7. Press and hold down the PROGRAM button for 5 seconds to assign the ID to the repeater.  
The RSSI/ID LED will turn red.
8. Release the PROGRAM button to reset the repeater.  
The STATUS LED and the RSSI/ID LED will turn amber for 2 seconds and then the STATUS LED start flashing red. The repeater will then start searching for a repeater with the assigned ID.
9. When the repeater has found a repeater with the assigned ID, the STATUS LED will turn green.  
Registration is complete.

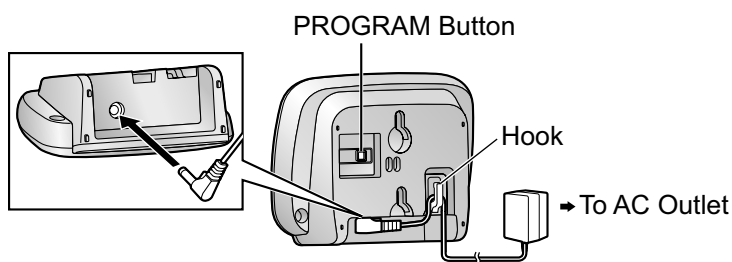
## De-registration

Perform de-registration to delete the ID of the CS/repeater that the repeater is registered to.

### **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.**
- **Completely insert the AC adaptor/power plug into the AC outlet. Failure to do so may cause electric shock and/or excessive heat resulting in a fire.**

1. While pressing and holding down the PROGRAM button, turn on the repeater by connecting the AC adaptor.



2. Continue to hold down the PROGRAM button for 10 seconds. When the STATUS LED turns red, de-registration is complete.

### **Note**

If the PROGRAM button is released after 5 seconds but before 10 seconds have elapsed, while the STATUS LED is flashing red quickly, the repeater will enter Site Survey mode.

3. Release the PROGRAM button to reset the repeater. The repeater automatically enters Easy Registration mode. For details about the easy registration procedure, refer to "Easy Registration".



## ID Modification

In ID Modification mode, the ID of the repeater (RPN [Radio Part Number]) can be selected. Registered repeaters are automatically assigned an ID during the registration process. This ID can be changed by following the procedure below.

1. In Operation mode, press the PROGRAM button to switch to ID Confirmation/Verification Tone mode.  
The STATUS LED will turn amber.
2. Press and hold down the PROGRAM button for 5 seconds.  
The STATUS LED will flash amber quickly.
3. Release the PROGRAM button to enter ID Modification mode.  
The STATUS LED will turn amber.  
The RSSI/ID LED will flash red once to indicate that the ID is currently set to 1.
4. Press the PROGRAM button to select the desired ID.  
The ID will change by one each time the PROGRAM button is pressed.
5. Press and hold down the PROGRAM button for 5 seconds to assign the ID to the repeater.  
The RSSI/ID LED will turn red.
6. Release the PROGRAM button to reset the repeater.  
The STATUS LED and the RSSI/ID LED will turn amber for 2 seconds and then the repeater will return to Operation mode.

## 4 Using the Repeater

### ID Confirmation/Verification Tone Mode

The ID of currently registered repeaters can be checked in ID Confirmation mode.

Also, the coverage area of registered repeaters can be checked using a PS, in Verification Tone mode. When the beep is no longer heard, the PS is no longer in range of the repeater.

1. In Operation mode, press the PROGRAM button to switch to ID Confirmation/Verification Tone mode. The STATUS LED will turn amber.
2. The current ID is indicated by the number of times the RSSI/ID LED flashes green. At the same time, the verification tone will be activated, and the coverage of the repeater can be checked.

**Note**

If the repeater loses synchronisation with the CS/destination repeater in ID Confirmation/Verification Tone mode, the repeater will automatically reset. After synchronisation is established, the repeater will automatically enter ID Confirmation/Verification Tone mode again.

3. Return the repeater to Operation mode by pressing the PROGRAM button again. The verification tone will be deactivated.

**Note**

If you press and hold down the PROGRAM button for 5 seconds, the repeater will enter "ID Modification" mode.

## Site Survey Mode

This function can be used to measure the transmission quality, and identify problematic transmission areas of the repeater installation. This function can be used when registered or de-registered.

### **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.**
- **Completely insert the AC adaptor/power plug into the AC outlet. Failure to do so may cause electric shock and/or excessive heat resulting in a fire.**

### **Note**

- The repeater's Site Survey mode works independently from the CS. This means that the CS does not have to be placed into Site Survey mode.
- When using more than 1 repeater in Site Survey mode simultaneously, please ensure repeaters are set to different channels.

1. While pressing and holding down the PROGRAM button, turn on the repeater by connecting the AC adaptor.  
The STATUS LED will flash red.
2. Continue to hold down the PROGRAM button for 5 seconds.  
The STATUS LED will flash red quickly.

### **Note**

If you continue to hold down the PROGRAM button for 10 seconds, the repeater will enter De-registration mode.

3. Release the PROGRAM button.  
The STATUS LED will flash red to indicate the current channel number, and a carrier sense will start to check whether the current channel is available (idle) or not.
4. If the current channel is available, the STATUS LED will change to flash green.  
Site Survey mode on the current channel is now operational.

### **Note**

A carrier sense is performed regularly in Site Survey mode. If the selected channel is not available (busy), the STATUS LED will flash red to indicate the channel number and the repeater will stop transmitting.

5. Activate the site survey function on the PS to measure the radio signal strength level. The repeater CSID is 1234567890.

### **Note**

- It is recommended that the radio signal strength level is "03" or greater.
- For details about using the PS during a site survey, refer to the appropriate CS Quick Installation Guide.

6. To change the site survey channel, press the PROGRAM button.  
The channel number will change by one each time the PROGRAM button is pressed.
7. To turn off Site Survey mode, turn off the repeater by disconnecting the AC adaptor, and then turn on the repeater by connecting the AC adaptor.

# 5 Wall Mounting

## Mounting

### **WARNING**

- Make sure that the wall that the unit will be attached to is strong enough to support the unit (approx. 88 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 unit is no longer in use, make sure to detach it from the wall.

### **CAUTION**

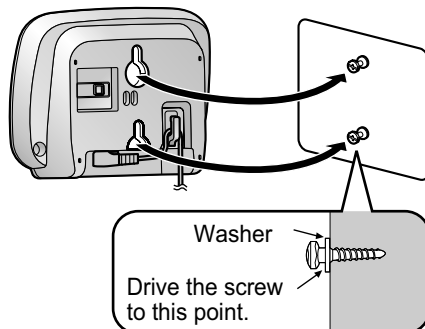
- When driving the screws into the wall, be careful to avoid touching any metal laths, wire laths or metal plates in the wall.
- Do not stretch or bend the cable. Also, do not allow anything to rest on the cable.
- The unit and the cable should never be placed near or over a radiator or other heat source.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

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**

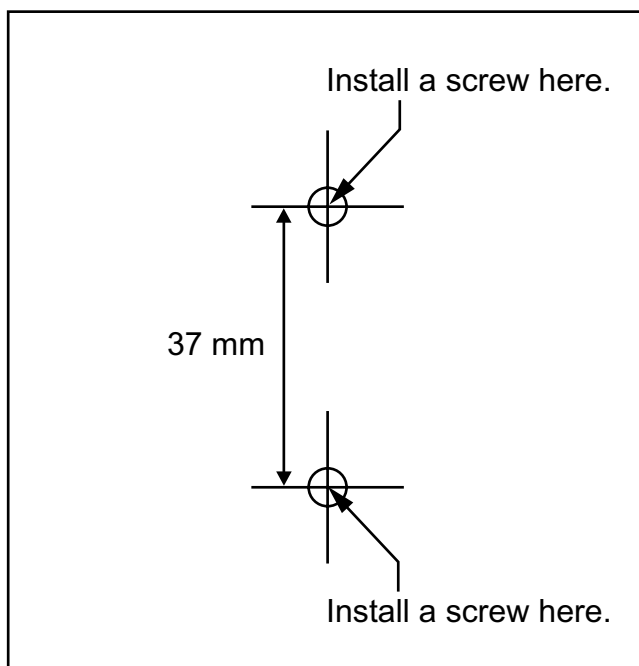
- Make sure that the screw heads are at the same distance from the wall.
- Install the screws perpendicular to the wall.

3. Hook the repeater on the screw heads.



## Reference for Wall Mounting

Print 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.

## 6 Troubleshooting

PROBLEM	PROBABLE CAUSE	SOLUTION
<ul style="list-style-type: none"> <li>The repeater does not turn on.</li> </ul>	<ul style="list-style-type: none"> <li>The AC adaptor is not connected properly.</li> </ul>	<ul style="list-style-type: none"> <li>Make sure that the AC adaptor is properly connected to both the repeater and the AC outlet.</li> </ul>
<ul style="list-style-type: none"> <li>The repeater cannot be registered in Easy Registration mode. (The process keeps repeating automatically.)</li> </ul>	<ul style="list-style-type: none"> <li>The CS is out of range.</li> </ul>	<ul style="list-style-type: none"> <li>Move the repeater closer to the CS.</li> </ul>
	<ul style="list-style-type: none"> <li>The CS is not turned on.</li> </ul>	<ul style="list-style-type: none"> <li>Confirm that the CS is on.</li> </ul>
<ul style="list-style-type: none"> <li>The repeater cannot be registered in Manual Registration mode. (The process keeps repeating automatically.)</li> </ul>	<ul style="list-style-type: none"> <li>The destination repeater is not turned on.</li> </ul>	<ul style="list-style-type: none"> <li>Confirm that the destination repeater is on.</li> </ul>
	<ul style="list-style-type: none"> <li>The selected ID does not match the ID of the destination repeater.</li> </ul>	<ul style="list-style-type: none"> <li>Follow the procedure below to change the selected ID.               <ol style="list-style-type: none"> <li>Check the ID of the destination repeater in ID Confirmation mode (refer to "ID Confirmation/ Verification Tone Mode").</li> <li>Enter Manual Registration mode by pressing and holding down the PROGRAM button of the repeater for 5 seconds while the repeater's STATUS LED is flashing red, and releasing it.</li> <li>Select the ID that matches the destination repeater in manual registration again (refer to "Manual Registration").</li> </ol> </li> </ul>
<ul style="list-style-type: none"> <li>The repeater's STATUS LED and RSSI/ID LED flash green and red alternately (alarm indication).</li> </ul>	<ul style="list-style-type: none"> <li>The ID of the repeater is the same as the ID of another repeater (including cascade configuration repeaters) that is registered to the same CS.</li> </ul>	<ul style="list-style-type: none"> <li>Follow the procedure below to change the ID of the repeater.               <ol style="list-style-type: none"> <li>Press the PROGRAM button to cancel the alarm indication of the repeater. The repeater will enter ID Confirmation mode.</li> <li>Check the IDs of the repeater and the other repeater that is registered to the same CS, in ID Confirmation mode (refer to "ID Confirmation/ Verification Tone Mode").</li> <li>Enter ID Modification mode by pressing and holding down the PROGRAM button of the repeater for 5 seconds and releasing it.</li> <li>Change the ID of the repeater so as not to overlap with the ID of the other repeater in ID Modification mode (refer to "ID Modification").</li> </ol> </li> </ul>

PROBLEM	PROBABLE CAUSE	SOLUTION
<ul style="list-style-type: none"> <li>The PS is beeping.</li> </ul>	<ul style="list-style-type: none"> <li>The verification tone is turned on.</li> </ul>	<ul style="list-style-type: none"> <li>Turn the verification tone off (refer to "ID Confirmation/Verification Tone Mode").</li> </ul>
<ul style="list-style-type: none"> <li>Poor audio quality.</li> </ul>	<ul style="list-style-type: none"> <li>The CS is out of range.</li> </ul>	<ul style="list-style-type: none"> <li>Move the repeater closer to the CS.</li> </ul>
	<ul style="list-style-type: none"> <li>The PS is out of range.</li> </ul>	<ul style="list-style-type: none"> <li>Move the PS closer to the repeater.</li> </ul>
<ul style="list-style-type: none"> <li>A ringing call suddenly stops when moving between CS/repeater zones.</li> </ul>	<ul style="list-style-type: none"> <li>There is a delay when moving from a CS zone to a repeater zone when receiving a call in group ring mode.</li> </ul>	<ul style="list-style-type: none"> <li>Answer the call before moving between CS/repeater zones.</li> </ul>
<ul style="list-style-type: none"> <li>When talking and moving between zones, you hear an alarm or continuous noise, or your call is disconnected.</li> </ul>	<ul style="list-style-type: none"> <li>The new zone is "busy", so handover cannot occur.</li> </ul>	<ul style="list-style-type: none"> <li>Return to the original zone and continue your call.</li> </ul>

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Panasonic System Networks Co., 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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