Panasonic®
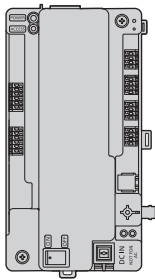
Installation and Operating Instructions

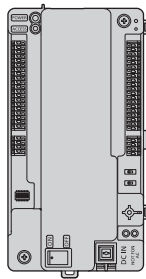## Video Intercom System for Apartment Complexes
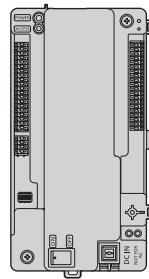Model No. **VL-V900 / VL-V901 and VL-V700 Series**
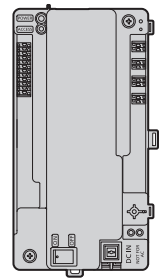
VL-V900
VL-V901

VL-V700

VL-V701

VL-V702

VL-V703

Thank you for purchasing a Panasonic product.
Please follow all instructions in this document and save it for future reference.

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1. Introduction

2. Important Information

3. Preparation

4. Installation

5. Programming

6. Basic Operations

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1.1 System overview

This document explains how to install and configure a Video Intercom System for Apartment Complexes comprised of the following devices.
- VL-V900/VL-V901 Lobby Station
- VL-V700 Control Box
- VL-V701 Distribution Box
- VL-V702 Lift Controller
- VL-V703 Extension Box

Additionally, general information is provided for connecting other devices to the system.

1.1.1 Main features

Large-capacity, expandable
- The system supports up to 560 room units (main monitors) and 3 lobby stations.
- Optional devices such as cameras, access controllers (door openers, key switches, card scanners, etc.), electric locks, and a TV monitor can be connected.
- The system can be integrated with a PBX system used by facility staff.
- Extension boxes can be used to increase the number of lobby stations that can be used in the system. Up to 3 extension boxes can be connected to the control box, and up to 6 lobby stations can be connected to each extension box.
- **For systems that support enhanced features version 2 or later (page 92)**

  Up to 4 control boxes can be connected to extension boxes. This enables the system to support up to 54[*1] lobby stations and 2240 room units (main monitors).

  [*1]   Consult your certified Panasonic dealer for more information about expanding the system.

Easy to configure and maintain
- System settings can be configured in advance using a computer, and uploaded on-site via USB connection.
- System settings can be configured on-site using a lobby station, main monitor, and PBX extension telephone.
- System events can be logged on an optional SD card.

Convenient features for residents, visitors, and facility staff
- The system can be used in "room mode" (visitors can call rooms directly) or "reception mode" (visitors calls are routed through a receptionist).
- Visitors can use a lobby station to call residents or facility staff.
- Residents can use their room units (main monitors) to monitor lobby stations and optional cameras, and can allow visitors to enter the lobby and lift.
- Residents can use their main monitors to make emergency calls to facility staff. (VL-MVN511 or other compatible main monitor is required.)
- Facility staff can make and receive calls to and from residents and visitors.
- **For systems that support enhanced features version 2 or later (page 92)**

  If the terminal at the gate is used to call residents when using the gate call settings, residents can use their main monitors to check images from the gate and confirm who is visiting.
  - When 1 control box is used in a composition with an extension box with a C suffix for the serial number, gate call settings support up to 560 room units.
  - To compose a system of 2 or more control boxes, extension boxes with D suffixes or later for the serial number are required. In this case, gate call settings support up to 2240 room units (page 75, page 92).

  The terminal and lobby station or camera located at the gate must be configured in advance (page 74).
- **For systems that support enhanced features version 3 or later (page 92)**
  - When relay signalling is used by the lift controller, settings for stopping on multiple floors for all lifts (up to 5 separate floor settings) are supported.
  - An "Open code" for unlocking the lobby station can be configured for each resident.
  - When a lobby station is unlocked, a notification sound can be sent from the lobby station depending on the settings.

1.1.2 System configuration

Basic system example (up to 20 room units)

Lobby Station (1)   **Control Box (1)   Distribution Box (1)**   **Room units (up to 20)**

Fully expanded system example

Lobby Station (up to 3)   **Distribution Box (up to 28)**   **Room units (up to 560)**
(4 branches x 7 distribution boxes)   (20 room units x 28 distribution boxes)

Repeater (up to 4)

Security camera, access controller,
electric lock (1 each for each lobby station)

Control Box (1)
(4 distribution box branches,
3 lift controller branches)

Repeater

Lift Controller (up to 15)
(3 branches x 5 lift controllers)

Terminal (up to 4)

Lift
(up to 3)

PBX (1)   TV monitor (1)   PC (1)
(programming)

Emergency Terminal (1)

Fully expanded system with extension box example

Lobby Station (up to 18)
Security camera, access controller, electric lock (1 each for each lobby station)

Lobby station 1 group — up to 6

Lobby station 2 group — up to 6

Lobby station 3 group — up to 6

Extension Box (up to 3)
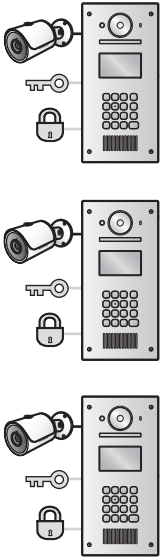
Control Box (1) (4 distribution box branches, 3 lift controller branches)
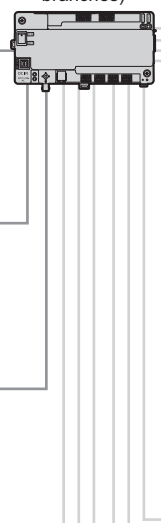
Distribution Box (up to 28) (4 branches x 7 distribution boxes)
Repeater (up to 4)
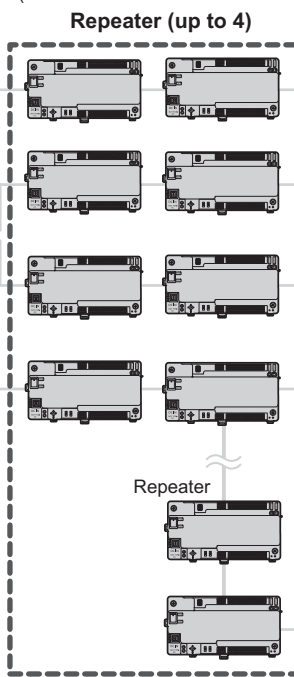
Room units (up to 560) (20 room units x 28 distribution boxes)

Repeater

Lift Controller (up to 15) (3 branches x 5 lift controllers)

Lift (up to 3)
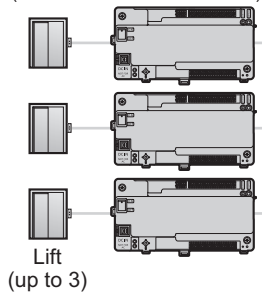
Terminal (up to 4)

PBX (1)

Emergency Terminal (1)

TV monitor (1)

PC (1) (programming)

Expanded system for enhanced features version 2 or later (page 92) example

Lobby Station (up to 18)[*1]
Security camera, access
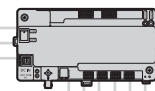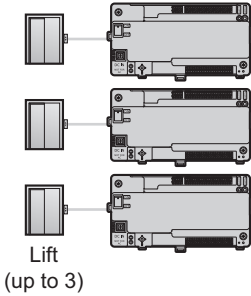controller, electric lock
(1 each for each lobby station)
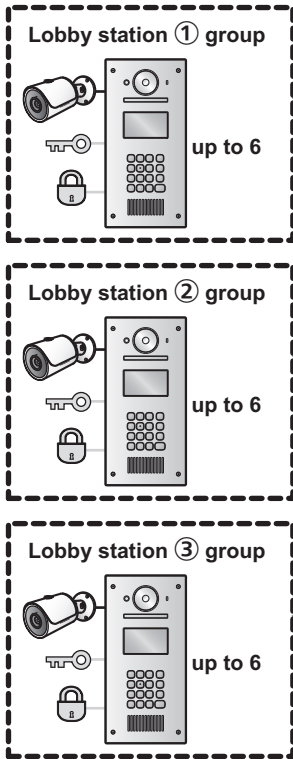
Control Box (up to 4)
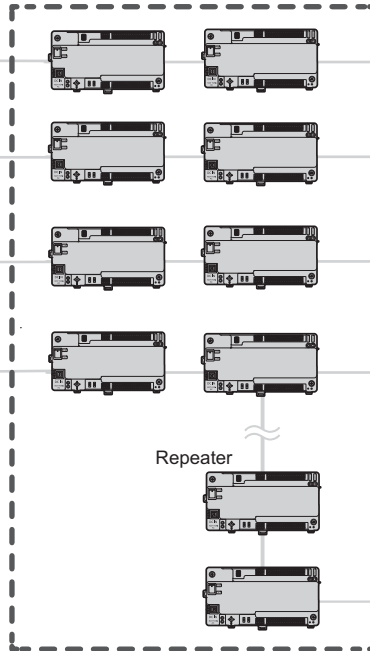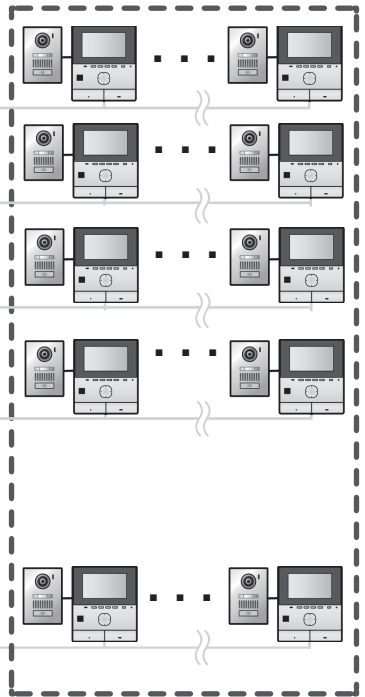(4 distribution box branches,
3 lift controller branches)

Lobby station ① group
up to 6

Extension Box[*1] **(up to 3)**
4 3 2 1

1
③ ② ①
TV monitor (1)

1

Lobby station ② group
up to 6
4 3 2 1

2
③ ② ①
TV monitor (1)

2

Lobby station ③ group
up to 6
4 3 2 1

3
③ ② ①
TV monitor (1)

3

4
③ ② ①
TV monitor (1)

4
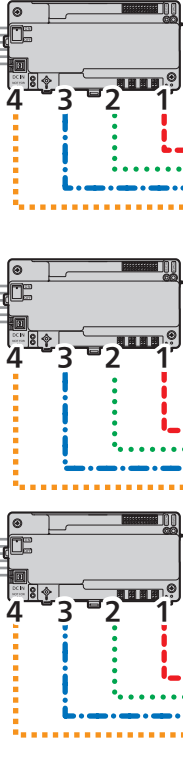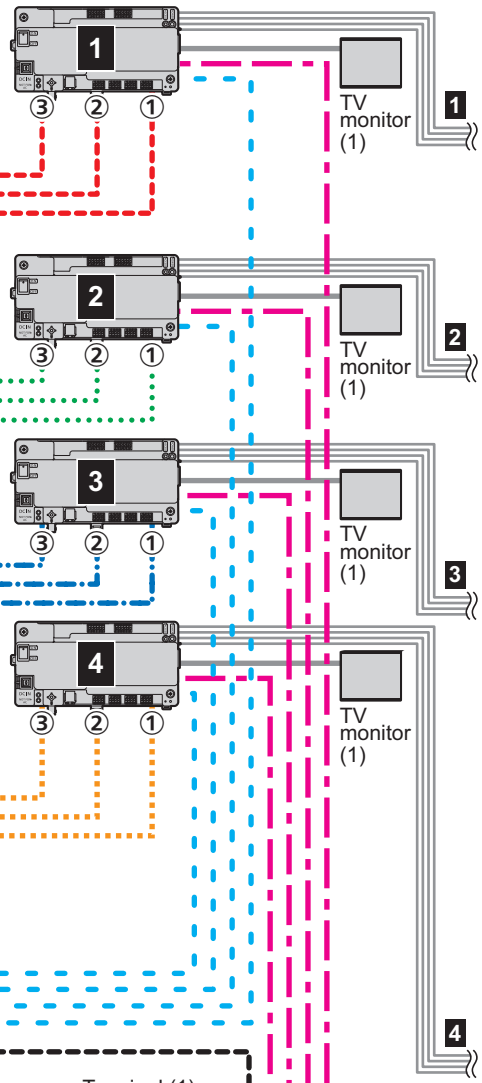
PBX system (up to 16 terminal)
(4 control boxes x 4 terminals)

Terminal (up to 4)

Emergency Terminal (1)

(up to 1 for each control box)

PBX (1)
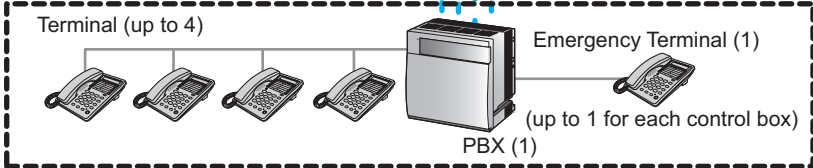
PC (1) (programming)
Connect a USB cable to each control box and upload the system data using the setup tool.

1

2

3

4

*1 Fully expanded systems support up to 54 lobby stations. (Consult your certified Panasonic dealer for more information about expanding the system.)

*2 The number of distribution boxes can be increased from 7 to 10. However, the number of supported room units remains unchanged at 560 units.

<For the entire system>
Distribution Box (up to 160)
(4 control boxes x 4 branches x 10 distribution boxes)
Repeater (up to 16)
(4 control boxes x 4 branches)

<For the entire system>
Room units (up to 2240)
(4 control boxes x 560 room units)[*2]

1 **For Control Box 1**

Distribution Box (up to 40)
(4 branches x 10 distribution boxes)[*2] **Room units (up to 560)**[*2]
Repeater (up to 4)

Repeater

2 **For Control Box 2**

Distribution Box (up to 40)
(4 branches x 10 distribution boxes)[*2] **Room units (up to 560)**[*2]
Repeater (up to 4)

Repeater

3 **For Control Box 3**

Distribution Box (up to 40)
(4 branches x 10 distribution boxes)[*2] **Room units (up to 560)**[*2]
Repeater (up to 4)

Repeater

4 **For Control Box 4**

Distribution Box (up to 40)
(4 branches x 10 distribution boxes)[*2] **Room units (up to 560)**[*2]
Repeater (up to 4)

Repeater

<For the entire system>
Lift Controller (up to 60) (4 control boxes x 3 branches x 5 lift controllers)

1 **For Control Box 1** **Lift Controller 1 (up to 15)**
Lift (up to 3) **(up to 5)**

2 **For Control Box 2** **Lift Controller 2 (up to 15)**
Lift (up to 3) **(up to 5)**

3 **For Control Box 3** **Lift Controller 3 (up to 15)**
Lift (up to 3) **(up to 5)**

4 **For Control Box 4** **Lift Controller 4 (up to 15)**
Lift (up to 3) **(up to 5)**
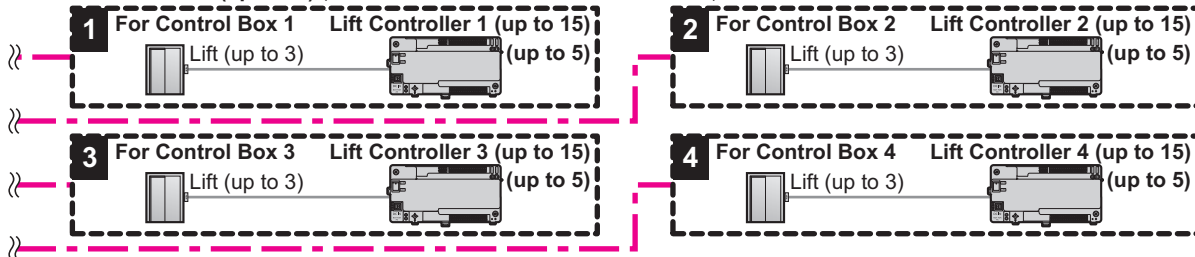
2.1 Important safety information

To prevent severe injury and loss of life/property, read this section carefully before using the product to ensure proper and safe operation of your product.

⚠ WARNING

Preventing fire and electric shock

- The product shall be installed by qualified service personnel.
- **For Australia/New Zealand only:**
  VL-PS240 only: Installation must only be by a registered electrician. Wiring must be performed according to AS/NZS 3000 wiring rules.
- Use only the power supply unit VL-PS240.
- Do not place objects on the power cord. Install the product where no one can step or trip on the cord.
- Do not allow the power cord to be excessively pulled, bent or placed under heavy objects.
- Make sure all connections from the power source to the power supply unit are secure.
- Never touch the power supply unit with wet hands.
- Do not use the power supply unit for outdoor installations (it is for indoor use only).
- Do not disassemble this product under normal circumstances. Refer servicing to an authorised service centre when service is required. Opening or removing covers may expose you to dangerous voltages or other risks.
  However, when removing the cover of the lobby station in order to adjust the volume, first, make sure to turn off the power at the breaker. Next, refer to the instructions of the documentation carefully and install the lobby station safely and correctly.
- Do not touch the product and the power supply unit during an electrical storm. There may be a remote risk of electric shock from lightning.
- Never push any objects through slots in this product.
- Disconnect this product from the power source and refer servicing to an authorised service centre when the following conditions occur:
  – If it emits smoke, an abnormal smell or makes unusual noise.
  – If the power cord is damaged or frayed.
  – If metal objects have been dropped inside the product.

Preventing accidents

- SD cards may become a choking hazard. Keep SD cards out of reach of children. If you suspect a child has swallowed an SD card, seek medical advice immediately.

⚠ CAUTION

- Make sure you turn off the power at the breaker before performing any wiring work.
- Always connect AC or DC cables to the appropriate connection terminals. Incorrectly connecting the AC or DC cables may damage the power supply unit.
- To prevent the power cables from disconnecting and to prevent electric shock, secure the power cables using the cable binders (accessory) and attach the cable covers.
- Insert the power cables firmly all the way into the terminals. If the cables are not inserted all the way, heat may be generated.
- If the wiring is outdoors, use a protection tube and a surge protector.
- If the wiring is underground, use a protection tube and do not make any connections underground.
- Install the product securely adhering to the instructions in this manual to prevent it from falling off the wall. Avoid installing onto low-strength walls, such as gypsum board, ALC (autoclaved lightweight concrete), concrete block, or veneer (less than 18 mm thick) walls.
- The power supply unit is used as the main disconnect device. Ensure that the power source is installed near the product and is easily accessible.
- Do not put your ear(s) near the speaker, as loud sounds emitted from the speaker may cause hearing impairment.
- When using this product, basic safety precautions should always be followed to reduce the risk of fire, electric shock, or personal injury.
  1. Do not use this product (excluding the lobby station) near water. For example, near a bathtub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, and the like.
  2. Use only the power supply unit indicated in this document.

SAVE THESE INSTRUCTIONS

2.2 Privacy and rights of portrait

When installing or using the product, please take into consideration the rights of others with regard to privacy and rights of portrait.

- It is generally said that "privacy" means the ability of an individual or group to stop information about themselves from becoming known to people other than those whom they choose to give the information. "Rights of portrait" means the right to be safe from having your own image taken and used indiscriminately without consent.
- Please observe the legal regulations (data protection, video surveillance) in your country during use.

2.3 Data security

In order to use the system safely and correctly, the data security guidelines (listed below) must be observed. Failure to do so may result in the following.

- Loss, leakage, falsification or theft of user information.
- Unauthorised or illegal use of the system by a third party.
- Interference or suspension of service caused by a third party.

What is user information?

User information is defined as the following types of information.

1. Information stored on the SD memory card
   - System event information
   - Doorphone camera images
2. Information stored in the control box and lobby station
   - Resident names and room numbers
   - System settings
3. Information stored on the computer that is used by the setup tool
   - Resident names and room numbers
   - System settings

Data security guidelines

- **Do not allow unauthorised access to the control box and its SD memory card.**
  The control box should be installed in a restricted access location, where only authorised personnel may gain access through the use of a special tool, lock and key, or other means of security.
  Note that the SD memory card, which contains a log of all system event information, can be removed by anyone with access to the control box.
- **Observe proper management of passwords, access codes, etc.**
  Access codes can be used to program the system, open doors, etc. Select codes that are difficult to guess, change them regularly, and keep them secret.
- **Protect user information when sending the control box or lobby station to be repaired, or when handing them over to a third party.**
  Remove the SD memory card from the control box. Keep it in a secure place until lit is needed again.
  Use the setup tool to download all data stored in the control box and lobby station. (This will back up all data and save it on your computer.) Then use the setup tool to upload blank configuration files (i.e., files that contain no user information) to the control box or lobby station.
- **Protect user information stored on the computer used to configure the system.**
  When user information is sent stored on a computer, the confidentiality of that information becomes the responsibility of the customer. Before disposing of the computer, ensure that data cannot be retrieved from it by formatting the hard disk and/or rendering it physically unusable.
- **Protect user information when disposing of the control box or lobby station.**
  Remove the SD memory card from the control box. Render it physically unusable and dispose of it.
  Use the setup tool to upload blank configuration files (i.e., files that contain no user information) to the control box or lobby station.

2.4 Other information

- If you stop using the product, remove it from the walls to prevent it from falling off.
- When power fails, this product cannot be used.
- Panasonic may not be liable for damages due to external factors such as power failures.
- The recorded images may be lost when:
  - Mishandled
  - Electric shock or radio wave interference occurs.
  - The power is turned off during use.
- To the maximum extent permitted by applicable law, Panasonic assumes no responsibility for injuries or property damage resulting from failures arising out of improper installation or operation inconsistent with this document.

Disposal of Old Equipment (Only for European Union and countries with recycling systems)

This symbol (①) on the products, packaging, and/or accompanying documents means that used electrical and electronic products must not be mixed with general household waste.
For proper treatment, recovery and recycling of old products, please take them to applicable collection points in accordance with your national legislation.
By disposing of them correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment. For more information about collection and recycling, please contact your local authority.
Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

Information on Disposal in other Countries outside the European Union

This above symbol (①) is only valid in the European Union. If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

2.5 For Europe

Ecodesign information

Ecodesign information under EU Regulation (EC) No. 1275/2008 amended by (EU) Regulation No. 801/2013. From 1 January 2015.

Please visit here: http://www.ptc.panasonic.eu/erp
Click [Downloads] → [Energy related products information (Public)]

Power consumption in networked standby and guidance are mentioned in the web site above.

For information of Compliance with EU relevant Regulatory Directives,

Contact to Authorised Representative:
Panasonic Testing Centre
Panasonic Marketing Europe GmbH
Winsbergring 15, 22525 Hamburg, Germany
http://www.ptc.panasonic.eu/doc

2.6 General information
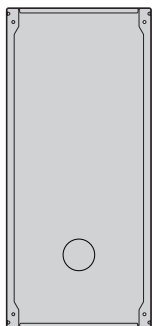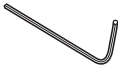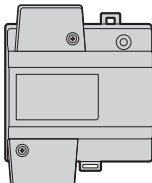
Graphical symbols for use on equipment and their descriptions

Symbol	Explanation
$\sim$	Alternating current (A.C.)
$---$	Direct current (D.C.)
⏚	Protective earth
⏚	Protective bonding earth
⏚	Functional earth
⌂	For indoor use only
▢	Class II equipment (equipment in which protection against electric shock relies on Double Insulation or Reinforced Insulation)
|	"ON" (power)
○	"OFF" (power)
⏻	Stand-by (power)
⏼	"ON"/"OFF" (power; push-push)
⚡	Caution, risk of electric shock
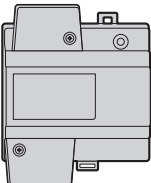
3.1 Included items

3.1.1 Lobby Station

Additional items required for installation are noted on page 13.
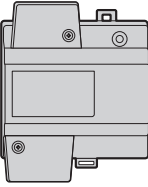
Item	Quantity
Flush mount box	1
Screw (for securing the lobby station to the flush mount box) 4 mm × 25 mm	4
Hex wrench	1
Power supply unit VL-PS240	1
Screw (for mounting the power supply unit) 4 mm × 40 mm	2
Cable binder (for securing the AC and DC cables)	2

3.1.2 Control Box
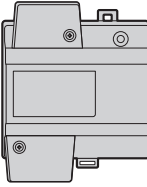
Item	Quantity
Screw (for mounting the box) 3.8 mm × 20 mm	2
Cable binder (for securing the connected wires)	1
Power supply unit VL-PS240	1
Screw (for mounting the power supply unit) 4 mm × 40 mm	2
Cable binder (for securing the AC and DC cables)	2
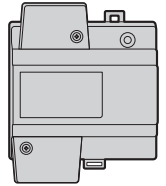
3.1.3 Distribution Box

Item	Quantity
Screw (for mounting the box) 3.8 mm × 20 mm	2
Cable binder (for securing the connected wires)	1
Power supply unit VL-PS240	1
Screw (for mounting the power supply unit) 4 mm × 40 mm	2
Cable binder (for securing the AC and DC cables)	2

3.1.4 Lift Controller

Item	Quantity
Screw (for mounting the box) 3.8 mm × 20 mm	2
Cable binder (for securing the connected wires)	1
Power supply unit VL-PS240	1
Screw (for mounting the power supply unit) 4 mm × 40 mm	2
Cable binder (for securing the AC and DC cables)	2

3.1.5 Extension Box

Item	Quantity
Screw (for mounting the box) 3.8 mm × 20 mm	2
Cable binder (for securing the connected wires)	1
Power supply unit VL-PS240	1
Screw (for mounting the power supply unit) 4 mm × 40 mm	2
Cable binder (for securing the AC and DC cables)	2

3.1.6 Additional items

The following items are also required for installation and are not included.
– **Power cables**
   Used to connect power supply units to lobby stations, the control box, distribution boxes, and lift controllers. For details, see page 36.
– **Signal wires**
   Used to connect lobby stations, the control box, distribution boxes, lift controller, main monitors, and other devices. For details, see page 36.
– **SD card**
   Used to log system event information. For details, see page 77.

3.2 Device diagrams

3.2.1 Lobby Station

Front view
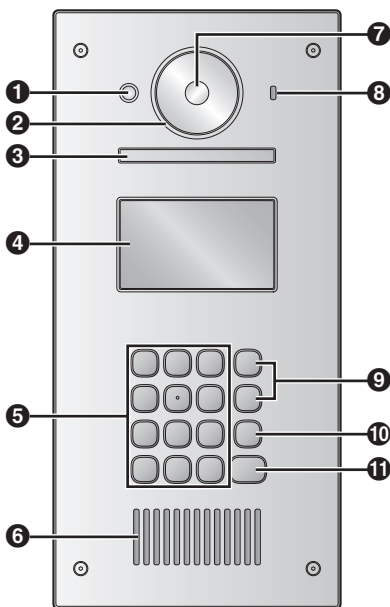
❶ **Heat sensor**
Turns on the display when a visitor is detected.

❷ **Lens cover**

❸ **Light**
Illuminates subjects in dark environments.

❹ **Display**

❺ **Keypad**

❻ **Speaker**

❼ **Camera lens**

❽ **Microphone**

❾ **Search buttons (▲ and ▼)**
Used to select items shown on the display.

❿ **Cancel button (✕)**

⓫ **Call button (🔔)**

Rear view
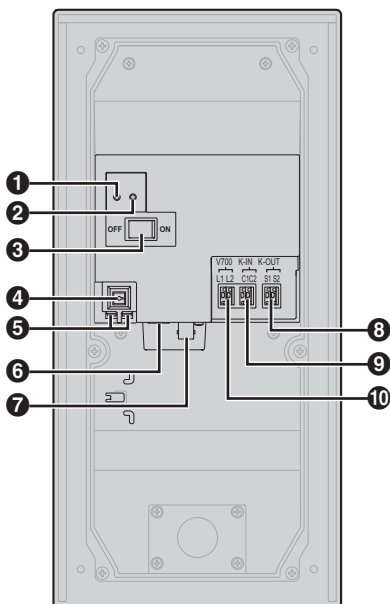
❶ **Reset button (•)**
Used when restarting the lobby station.

❷ **Function button (• •)**
For internal use only.

❸ **Power switch**

❹ **Cable release button for DC power supply cable**

❺ **Connection terminals for power supply**

❻ **USB port**
For internal use only.

❼ **Coaxial connector for external camera**

❽ **Connection terminals (output) for electric lock (K-OUT)**
Used to send signals to the electric lock.

❾ **Connection terminals (input) for access controller (K-IN)**
Used to receive signals from the access controller.

❿ **Connection terminals for control box or extension box**

3.2.2 Control Box
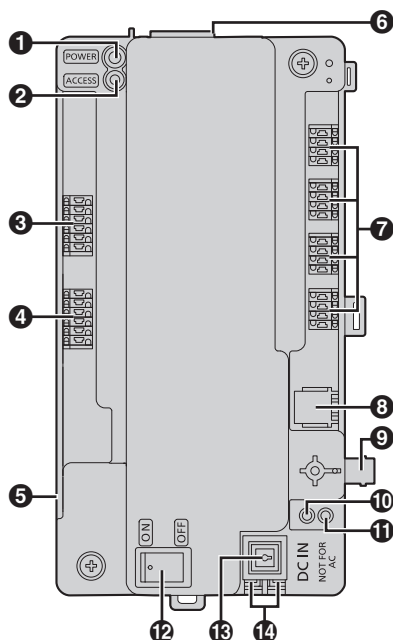
❶ **Power indicator (POWER)**
See 5.12.1 Control box indicators (Page 79).

❷ **Access indicator (ACCESS)**
See 5.12.1 Control box indicators (Page 79).

❸ **Connection terminals for lobby stations or extension boxes**

❹ **Connection terminals for lift controllers**

❺ **USB port** (underneath dust cover)
USB 2.0, standard-B connector. Used for PC programming.

❻ **SD card slot**
Used to save the system log.

❼ **Connection terminals for distribution boxes**

❽ **RJ11 jack for connection to PBX**

❾ **Coaxial connector for external TV monitor**

❿ **Reset button (•)**
Used when restarting the control box.

⓫ **Function button (• •)**
For internal use only.

⓬ **Power switch**

⓭ **Cable release button for DC power supply cable**

⓮ **Connection terminals for DC power supply**

3.2.3 Distribution Box
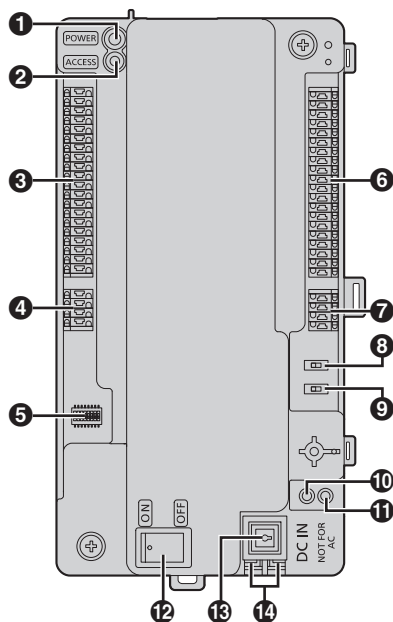
❶ **Power indicator (POWER)**
See 5.12.2 Distribution box indicators (Page 79).

❷ **Access indicator (ACCESS)**
See 5.12.2 Distribution box indicators (Page 79).

❸ **Connection terminals for main monitors**

❹ **Connection terminals (input) for control box or distribution box**

❺ **DIP switches**
See page 37.

❻ **Connection terminals for main monitors**

❼ **Connection terminals (output) for distribution box**

❽ **Terminate switch**
See page 37.

❾ **Repeater switch**
See page 37.

❿ **Reset button (•)**
Used when restarting the distribution box.

⓫ **Function button (• •)**
For internal use only.

⓬ **Power switch**

⓭ **Cable release button for DC power supply cable**

⓮ **Connection terminals for DC power supply**

3.2.4 Lift Controller
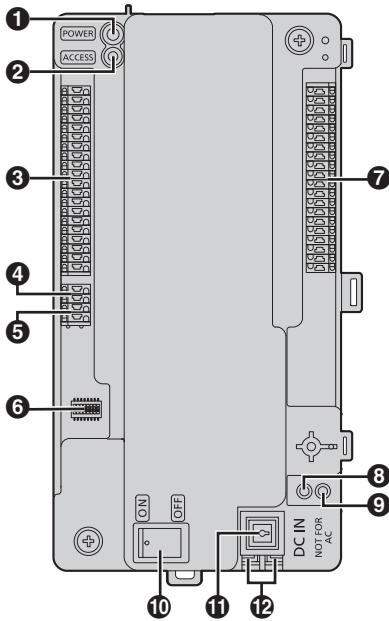
❶ **Power indicator (POWER)**
See 5.12.3 Lift controller indicators (Page 79).

❷ **Access indicator (ACCESS)**
See 5.12.3 Lift controller indicators (Page 79).

❸ **Connection terminals for lifts**

❹ **Connection terminals (output) for lift controller**
Used to send signals to a lift controller.

❺ **Connection terminals (input) for control box or lift controller**
Used to receive signals from the control box or a lift controller.

❻ **DIP switches**
See page 42.

❼ **Connection terminals for lifts**

❽ **Reset button (•)**
Used when restarting the lift controller.

❾ **Function button (• •)**
For internal use only.

❿ **Power switch**

⓫ **Cable release button for DC power supply cable**

⓬ **Connection terminals for DC power supply**

3.2.5 Extension Box
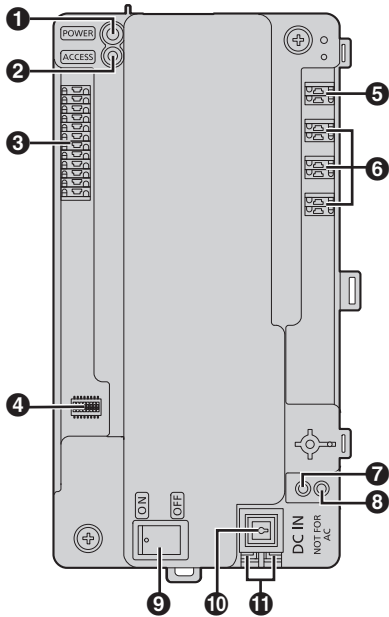
❶ **Power indicator (POWER)**
See 5.12.4 Extension box indicators (Page 80).

❷ **Access indicator (ACCESS)**
See 5.12.4 Extension box indicators (Page 80).

❸ **Connection terminals for lobby stations**

❹ **DIP switches**
See page 43 and page 71.

❺ **Connection terminals for control box**

❻ **Connection terminals for control box 2 to 4[*1]**
*1 **Fully expanded system for enhanced features version 2 or later (page 6, 92)**

❼ **Reset button (•)**
Used when restarting the extension box.

❽ **Function button (• •)**
For internal use only.

❾ **Power switch**

❿ **Cable release button for DC power supply cable**

⓫ **Connection terminals for DC power supply**

3.3 Specifications

Lobby Station (VL-V900/VL-V901)

Power source	Power supply unit (VL-PS240: 220 – 240 V AC, 0.2 A, 50 / 60 Hz) 24 V DC, 0.6 A
Power consumption	Standby: Approx. 1.9 W Operating: Approx. 4.5 W
Dimensions (mm) **(height × width × depth)**	Approx. 373 × 179 × 2.5 (excluding sections embedded into the wall)
Mass (weight)	Approx. 2.0 kg
Operating environment	Ambient temperature for lobby station: approx. -10 °C to +55 °C Ambient temperature for power supply unit: approx. 0 °C to +50 °C Relative humidity: up to 90% (non-condensing) (outdoor installation available; power supply unit is for indoor use only)
Display	Approx. 10.92 cm (4.3 inches) monochrome display (white backlit LCD) Display the date, room number inputted by visitors, how to use, name of residents, and custom item
Installation method	Flush mount (flush mounting box supplied)
External material	Stainless steel (partially ABS and PC)
Talking method	Hands-free
Heat sensor	Pyroelectric sensor installed (detecting human body, part of the stations become luminous)
Image sensor	6.35 mm (1/4 inch) CMOS sensor (approx. 1M pixels)
Viewing angle	Super wide view (H: approx. 170° / V: approx. 115°[*1] / 110°[*2])
Minimum illuminance	1 lx
Lighting method	White coloured LED lights
Waterproof property	IP55
Vandal proof property	Compliant with IK07
Display languages	English

*1   VL-V900
*2   VL-V901

Control Box (VL-V700)

Power source	Power supply unit (VL-PS240: 220 – 240 V AC, 0.2 A, 50 / 60 Hz) 24 V DC, 0.6 A
Power consumption	Standby: Approx. 3.5 W Operating: Approx. 3.7 W
Dimensions (mm) **(height × width × depth)**	Approx. 210 × 108.5 × 52.5 (excluding protruding sections)
Mass (weight)	Approx. 400 g
Operating environment	Ambient temperature: approx. -10 °C to +50°C Ambient temperature for power supply unit: approx. 0 °C to +50°C Relative humidity: up to 90% (non-condensing) Indoor installation only
Installation method	Wall mount or attach to DIN rail
External material	ABS (flame retardant ABS resin)
Log	**Text log** Save the text logs in the external SD memory card more than 90000 items (date, caller, receiver, operation, status) **Image log** Save the image logs in the external SD memory card up to 90000 images (over write save) (visitors call)
Supported functions	• USB 2.0 connection (to computer) Supported operating systems: Microsoft® Windows® 7, Windows 8, Windows 8.1, Windows 10 • Date and time setting • Download/upload the name of residents, room number, and monitor setting • Output the system configuration data • Estimate the status of equipment in the system • Operation setting (Terminal, terminal and camera name, pass code, and so on) • Supported language: English (for administrators) • Video output up to 1 (NTSC) • RJ-11 PBX terminal function (connected to PBX system to guard station)
Connectivity	**To lobby stations or extension boxes** Number of connectable stations: 3[*1] *1 6 lobby stations per extension box Wire: 1 pair PE insulation, thickness of one conductor is from 0.65 – 1.2 mm Distance: up to 200 m (in case of 1.2 mm thickness) **To distribution box** Number of connectable stations: 4 directly (including the repeaters) Wire: 2 pair PE insulation, thickness of one conductor is from 0.65 – 1.2 mm Distance: up to 200 m (in case of 1.2 mm thickness) **To lift controller** Number of connectable stations: 3 directly Wire: 1 pair PE insulation, thickness of one conductor is from 0.65 – 1.2 mm Distance: up to 200 m (in case of 1.2 mm thickness) **To monitor** Number of connectable stations: 1 (NTSC) Distance: based on camera specification **To PBX** RJ-11 jack Distance: comply with the PBX specification

	USB USB 2.0, standard-B connector **SD card** 4–64 GB SDHC / SDXC memory card is supported

Whole system capacity	• Lobby station (VL-V900/VL-V901):
	   – **Fully expanded system (page 4):** up to 3
	   – **Fully expanded system using 3 extension boxes (page 5):** up to18 (6 lobby stations per extension box with a maximum of 3 extension boxes connected to 1 control box)
	   – **Fully expanded system for enhanced features version 2 or later (page 6, 92):** up to 54[1]
	
	  [1] Consult your certified Panasonic dealer for more information about expanding the system.
	• Main monitor (VL-MW251, VL-MVN511, VL-MV26, VL-MWD272, VL-MWD273, VL-MV71, VL-MV72):
	up to 560 (The maximum, for each branch, 7 distribution boxes, 1 repeater, and 140 main monitors can be connected.)
	Fully expanded system for enhanced features version 2 or later (page 6, 92): up to 2240
	(The maximum, for each branch, 10 distribution boxes, 1 repeater, and 140 main monitors can be connected.)
	• Lift controller (VL-V702): up to 3 branches, totally up to 15 lift controllers
	• Guard stations: up to 4 (in case of connecting to the PBX system)
	Fully expanded system for enhanced features version 2 or later (page 6, 92): up to 16 (in case of connecting to the PBX system)

Distribution Box (VL-V701)

Power source	Power supply unit (VL-PS240: 220 – 240 V AC, 0.2 A, 50 / 60 Hz) 24 V DC, 0.6 A
Power consumption	Standby: Approx. 1.2 W Operating: Approx. 2.0 W
Dimensions (mm) **(height × width × depth)**	Approx. 210 × 108.5 × 52.5 (excluding protruding sections)
Mass (weight)	Approx. 400 g
Operating environment	Ambient temperature: approx. -10 °C to +50 °C Ambient temperature for power supply unit: approx. 0 °C to +50 °C Relative humidity: up to 90% (non-condensing) Indoor installation only
Installation method	Wall mount or attach to DIN rail
External material	ABS (flame retardant ABS resin)
Connectivity	**To main monitor** Number of connectable stations: 20 Wire: 1 pair PE insulation, thickness of one conductor is from 0.65 – 1.2 mm Distance: up to 200 m (in case of 1.2 mm thickness) **To control box** Number of connectable stations: 1 Wire: 2 pair PE insulation, thickness of one conductor is from 0.65 – 1.2 mm Distance: up to 200 m (in case of 1.2 mm thickness) **To distribution box** Number of connectable stations: 1 Wire: 2 pair PE insulation, thickness of one conductor is from 0.65 – 1.2 mm Distance: up to 200 m (in case of 1.2 mm thickness)

Lift Controller (VL-V702)

Power source	Power supply unit (VL-PS240: 220 – 240 V AC, 0.2 A, 50 / 60 Hz) 24 V DC, 0.6 A
Power consumption	Standby: Approx. 0.4 W Operating: Approx. 4.4 W
Dimensions (mm) (height × width × depth)	Approx. 210 × 108.5 × 52.5 (excluding protruding sections)
Mass (weight)	Approx. 400 g
Operating environment	Ambient temperature: approx. -10 °C to +50 °C Ambient temperature for power supply unit: approx. 0 °C to +50 °C Relative humidity: up to 90% (non-condensing) Indoor installation only
Installation method	Wall mount or attach to DIN rail
External material	ABS (flame retardant ABS resin)
Connectivity	**To control box** Number of connectable stations: 1 Wire: 1 pair PE insulation, thickness of one conductor is from 0.65 – 1.2 mm Distance: up to 200 m (in case of 1.2 mm thickness) **To lift** Number of outputs to lift: 20 **To lift controller** Number of outputs to lift controller: 1

Extension Box (VL-V703)

Power source	Power supply unit (VL-PS240: 220 – 240 V AC, 0.2 A, 50 / 60 Hz) 24 V DC, 0.6 A
Power consumption	Standby: Approx. 1.5 W Operating: Approx. 1.5 W
Dimensions (mm) (height × width × depth)	Approx. 210 × 108.5 × 52.5 (excluding protruding sections)
Mass (weight)	Approx. 350 g
Operating environment	Ambient temperature: approx. -10 °C to +50 °C Ambient temperature for power supply unit: approx. 0 °C to +50 °C Relative humidity: up to 90% (non-condensing) Indoor installation only
Installation method	Wall mount or attach to DIN rail
External material	ABS (flame retardant ABS resin)
Connectivity	**To lobby stations** Number of connectable stations: 6 Wire: 1 pair PE insulation, thickness of one conductor is from 0.65 – 1.2 mm **To control box** Number of connectable stations: 1 **Fully expanded system for enhanced features version 2 or later (page 92):** Number of connectable stations: 4 Wire: 1 pair PE insulation, thickness of one conductor is from 0.65 – 1.2 mm **Note:** ● When an extension box is connected, the maximum wire length from the lobby station to the control box does not change.

4.1 Installation cautions

<table>
<tr><td>⚠</td><td>CAUTION</td></tr>
</table>

- Make sure you turn off the power at the breaker before performing any wiring work.
- Always connect AC or DC cables to the appropriate connection terminals. Incorrectly connecting the AC or DC cables may damage the power supply unit.
- To prevent the power cables from disconnecting and to prevent electric shock, secure the power cables using the cable binders (accessory) and attach the cable covers.
- If the wiring is outdoors, use a protection tube or a surge protector.
- If the wiring is underground, use a protection tube and do not make any connections underground.
- Install the product securely adhering to the instructions in this document to prevent it from falling off the wall. Avoid installing onto low-strength walls, such as gypsum board, ALC (autoclaved lightweight concrete), concrete block, or veneer (less than 18 mm thick) walls.

4.2 Installing the Power Supply Unit

The following 2 methods can be used for installation.
– mounting on a DIN rail
– attaching directly to a wall

About the installation location
- The device must be installed inside an electrical panel or cabinet.
- A readily accessible disconnect device shall be incorporated external to the equipment.
  – The external disconnect device must be certified, and have a creepage and clearance distance of 3 mm or more.

Connecting the power cables (AC and DC cables)

Connect the power supply unit (accessory) and AC and DC cables (user supplied).

1. Strip the AC and DC cables as follows:

AC cable	DC cable
45 mm 7 mm	25 mm 7 mm
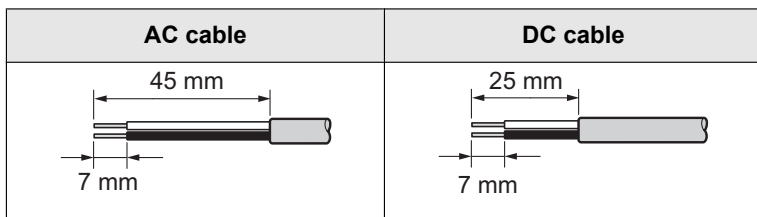
2. Remove the screws (①) and then remove the cable covers (②).
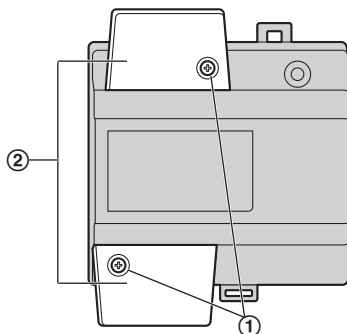
3. Connect the AC cable to the AC IN terminal on the top of the power unit, and the DC cable to the DC OUT terminal on the bottom of the power supply unit, and then securely fasten the screws (③).

Front view*1

Top view*1

AC cable
binder hole

AC IN terminal

Bottom view*1

DC cable
binder hole

DC OUT terminal
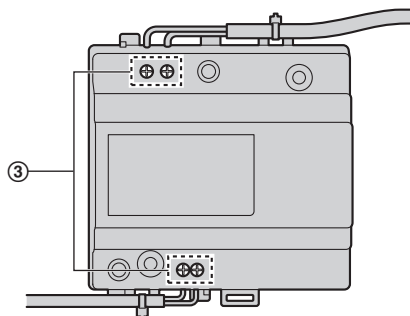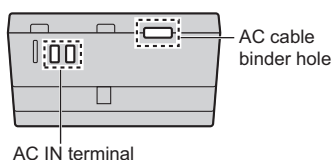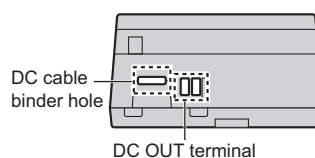
*1   View with the cable covers removed.

- Recommended torque:
    – AC terminal: 0.4 N·m {4.1 kgf·cm}
    – DC terminal: 0.45 N·m {4.6 kgf·cm}

⚠ CAUTION

- Insert the AC and DC cables firmly all the way into the terminals. If the cables are not inserted all the way, heat may be generated.

4. Use the cable binders (accessory) to secure the AC and DC cables (double-coated area) to the power supply unit.
5. Make sure to replace the cable covers (②) and then securely fasten the screws (①).

Mounting on a DIN rail

Follow the procedure in the order described below so that hook (①) is positioned at the bottom.
1. Hang the top hooks (②) on the DIN rail (③).
2. Pull and hold the lever down (④).
3. Secure the bottom hook (①) to the DIN rail (⑤).
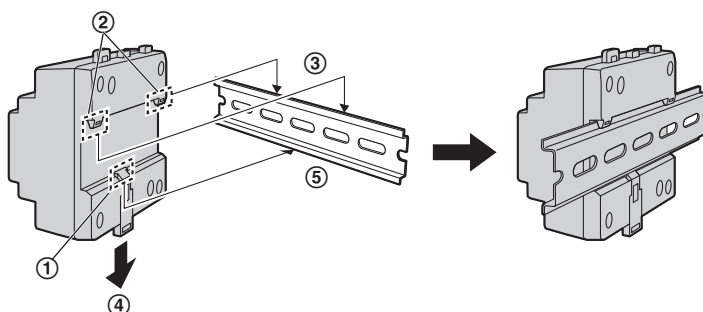
Attaching directly to a wall

Attach the power supply unit to the wall securely using the 2 supplied screws (①).
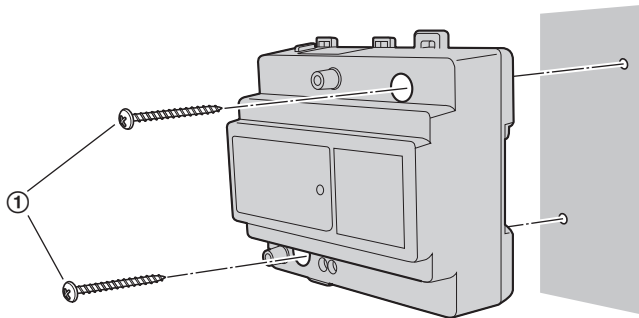
4.3 Installing the Lobby Station

Before installation

- Do not install the lobby station in the following locations. There may be a risk of malfunction or communication disturbances.
    - Places where vibration, impact, or echoing occurs.
    - Places near a high concentration of dust, hydrogen sulphide, ammonia, sulphur, or noxious fumes.
    - Places where there is excessive smoke, dust, and high temperature.
    - Places exposed to direct sunlight.
    - Places where most of the background is the sky.
    - Places where the background is a white wall, and direct sunlight will reflect off it.
    - Near ocean coasts, where sea breezes will contact the product directly, or near sulphuric hot springs (exposure to salt can reduce the product's life expectancy).

Important:

- **DO NOT USE ANY SOLVENTS CONTAINING CHLORINE. This causes the product to rust.**
- **Do not use any cleaning products that contain alcohol, polish powder, powder soap, benzine, thinner, wax, petroleum, or boiling water. Also do not spray the product with insecticide, glass cleaner, hair spray or wall paint. This may cause a change in colour or quality of the product.**

Installation position of the lobby station and camera range

Views when the camera is facing forwards at 0°. Example: Installation height is 1500 mm.
● The measurements and angles shown here are for reference purposes and may vary depending on the environment.

Side view

Image range

Approx. 115° *1
Approx. 110° *2

Centre of
the Camera
lens

Approx. 2300 mm *1
Approx. 2200 mm *2

Approx. 1600 mm *1
Approx. 1400 mm *2

Approx. 1500 mm

Approx. 500 mm

Approx. 700 mm *1
Approx. 800 mm *2

Top view
(view when looking from above)

Approx. 500 mm

Approx. 170°

*1 VL-V900
*2 VL-V901
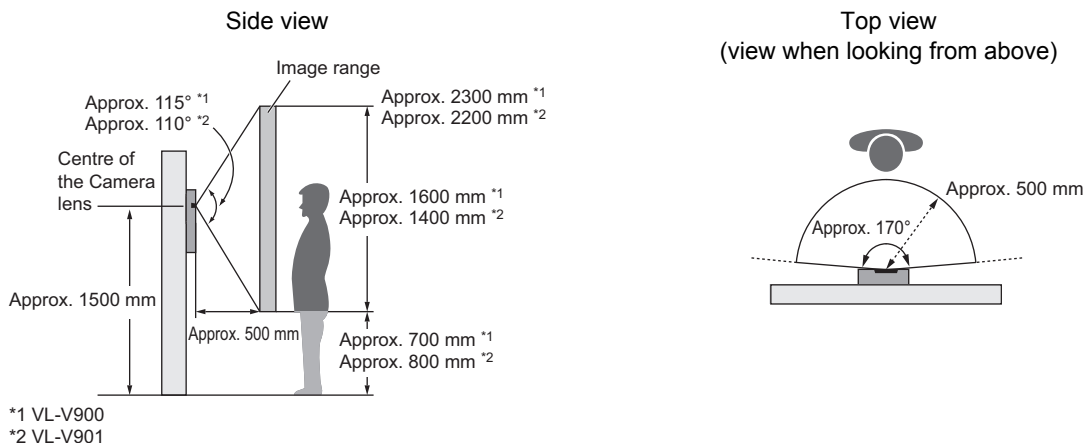
Note:
● Install the lobby station so that the lobby station is not exposed to strong light. If strong light shines on the lobby station, the visitor's face may not be distinguishable.

Installation

1. Open a hole in the wall for the flush mount box.
   ● Note the drilling dimensions of the wall surface of the flush mount box.

Front view

Side view

353 mm

159 mm

80 mm
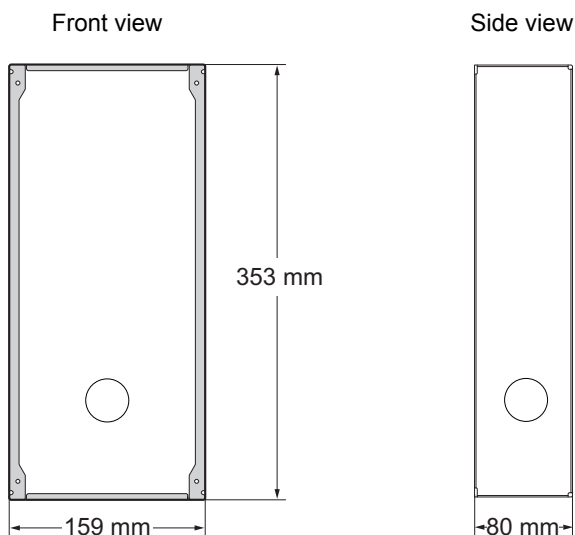
2. Open the knockout holes of the flush mount box, and then pass all necessary cables and wires (DC cable, wires for control box, access controller, electric lock, etc.) through the knockout holes.
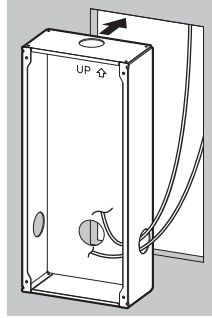
3. Mount the box in the wall.

4. Connect the wires and cables to the lobby station.
   - Strip the wires and cables as shown below.
   - See 4.5.1 Wiring schematics (Page 29) for wiring schematic diagrams.

❶ Cable release button for DC power supply cable

❷ DC cable from power supply unit

❸ Hooks for securing the DC cable

❹ Coaxial cable from external camera

❺ Wires from control box or extension box

❻ Wires from access controller

❼ Wires from electric lock

❽ Wire release button

❾ Connection terminal

   - To connect the DC cable from the power supply unit, press the cable release button while inserting the cable into the connection terminals. (To disconnect the cable, press the button while pulling it out.) Use the hooks to secure the cable.
   - To connect wires, press the wire release button with a pointed object such as a screwdriver while inserting the wire into the connection terminal. (To disconnect a wire, press the button while pulling it out.)
   - Refer to 4.5.2 Wire type and maximum wire length (Page 36) for information on the type and length of wires that can be used.

5. Attach the lobby station to the flush mount box.

6. Secure the lobby station to the flush mount box using the 4 supplied screws. Use the supplied hex wrench to fasten the screws.
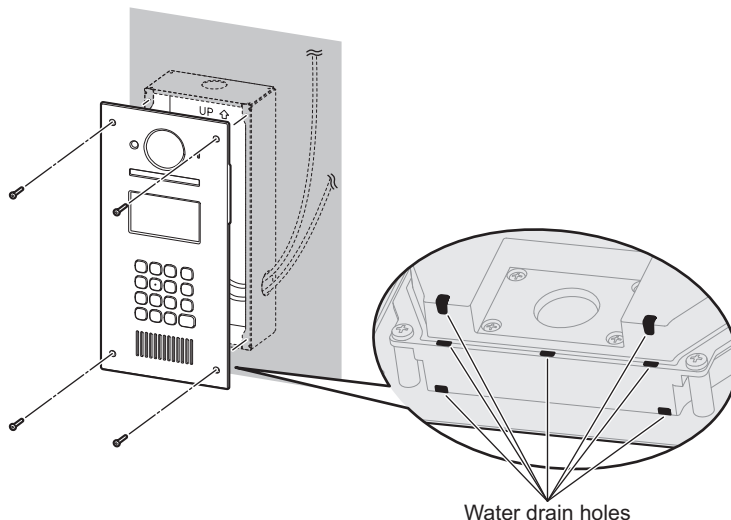
Water drain holes

Note:
● Do not cover the water drain holes.

Registering the lobby station

Perform this procedure once for each lobby station after it is connected to the control box.

1. Press any number key.

2. Press **【🔔】**.
   ● The lobby station is registered in the system.
   ● If an error is displayed, the lobby station will still be registered to the system.

4.4 Installing the Control Box/Distribution Box/Lift Controller/ Extension Box

The following 2 methods can be used for installation.
– mounting on a DIN rail
– attaching directly to a wall

Note:
● Keep the control box away from electrical noise generating devices, such as fluorescent lamps and motors.
● Do not remove the dust cover covering the control box's USB port (page 15) during installation, and make sure it completely covers the USB port to prevent any debris from falling into the USB port.

Mounting on a DIN rail

Mount the unit on the DIN rail (①) using the hooks (②).
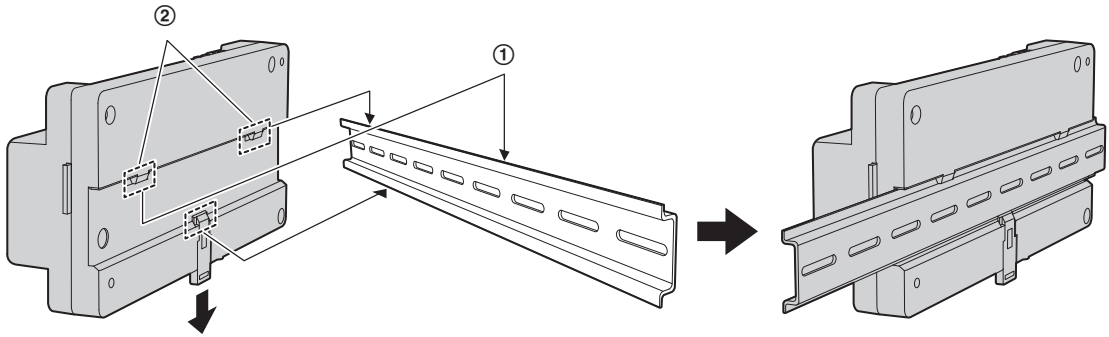
Attaching directly to a wall

Attach the unit to the wall securely using the 2 supplied screws (①).
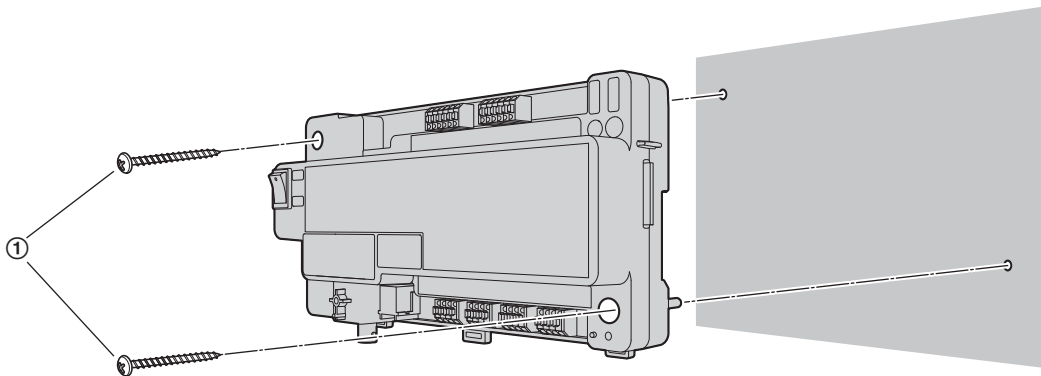
4.5 Wiring Connections

4.5.1 Wiring schematics

Note:

- See 4.5.4 Distribution box switch settings (page 37, 38, and 40) for information about distribution box switch settings **(3 types of switches: DIP switches, terminate switch, and repeat switch)**.
- See page 42 for information about lift controller DIP switch settings.
- Insert the wires fully into the connection terminals. After inserting the wires, pull slightly on each wire to make sure it is firmly connected.

Basic system example
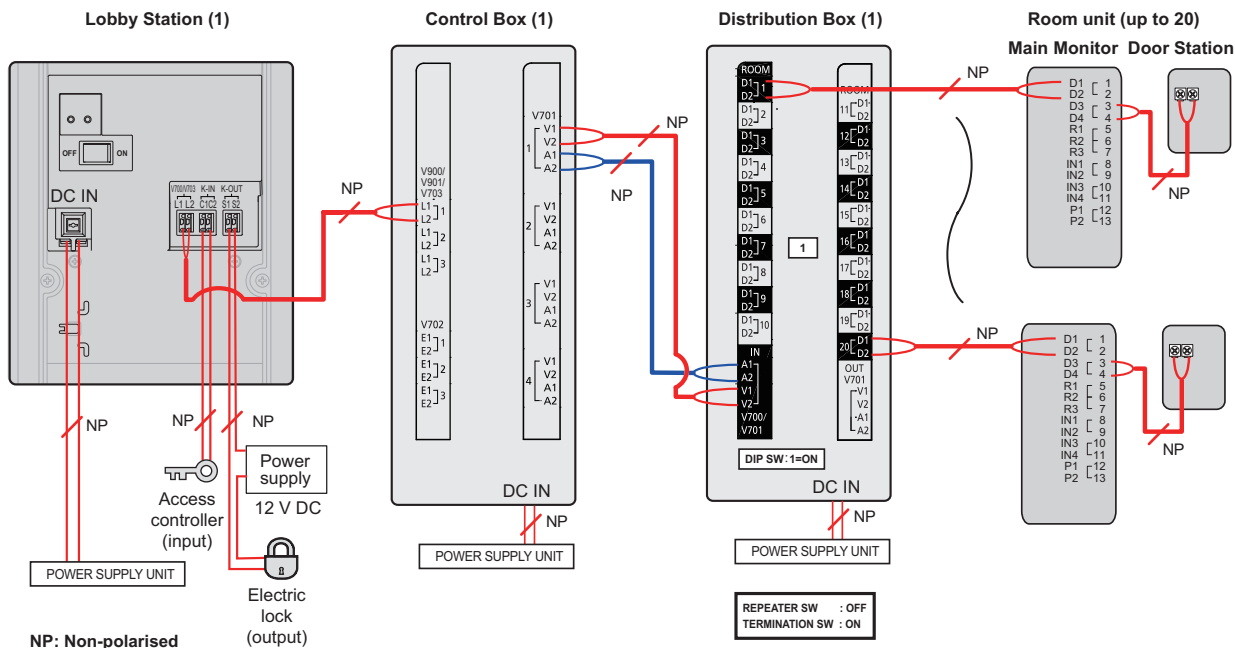
- The required distribution switch settings for the basic system example are as follows.
    - DIP switch: only set the number 1 switch to the "on" position
    - Terminate switch: set to the "on" position
    - Repeat switch: set to the "off" position

Expanded system example

Lobby Station (up to 3)

Control Box (1)

Distribution Box (up to 28)
Repeater (up to 4)

Room unit (up to 560)

Main Monitor   Door Station

NP: Non-polarised

Lift Controller (up to 15 for Relay)
Lift Controller (up to 3 for Binary)

Repeater

To Distribution Box (INPUT)
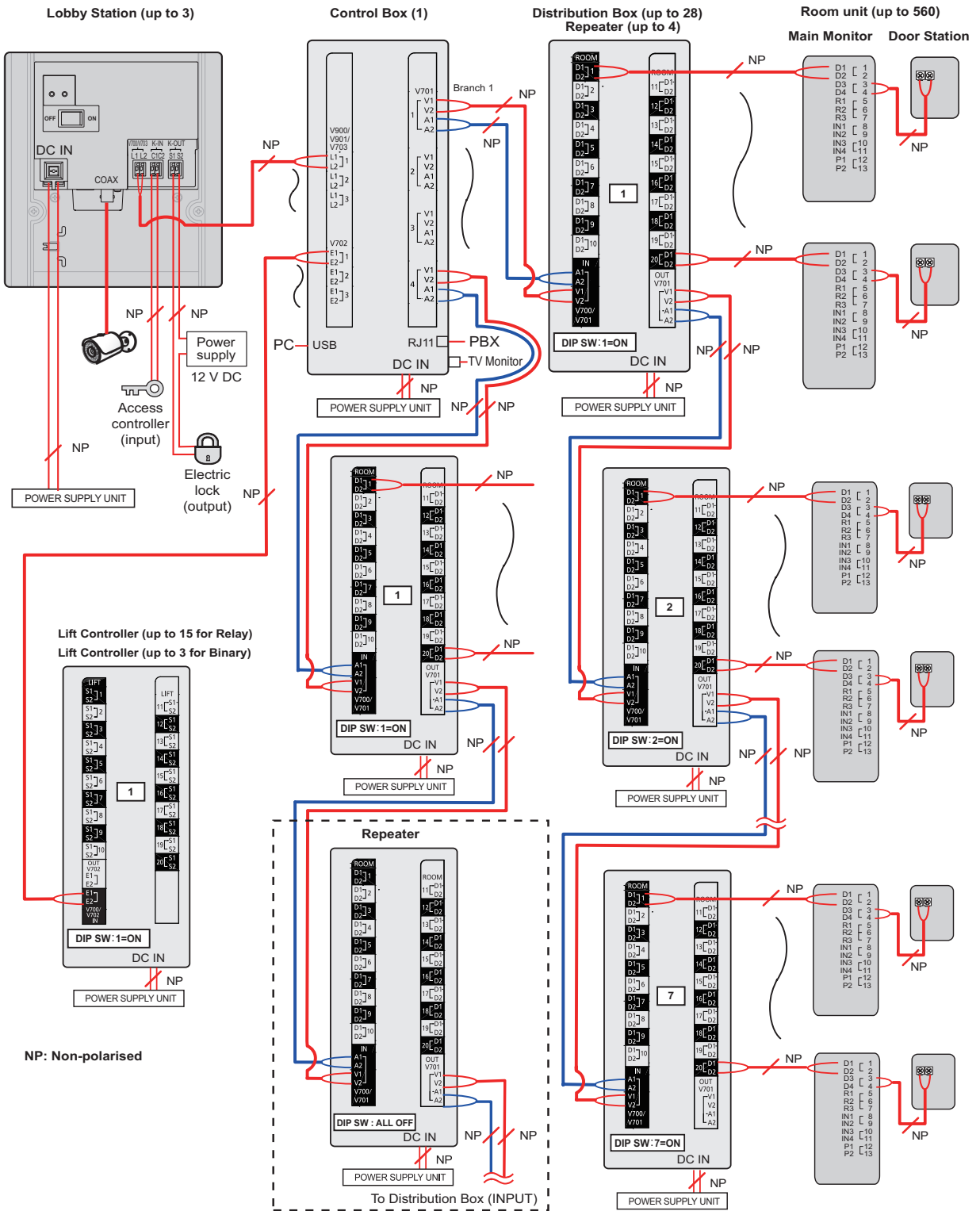
Expanded system with extension box example
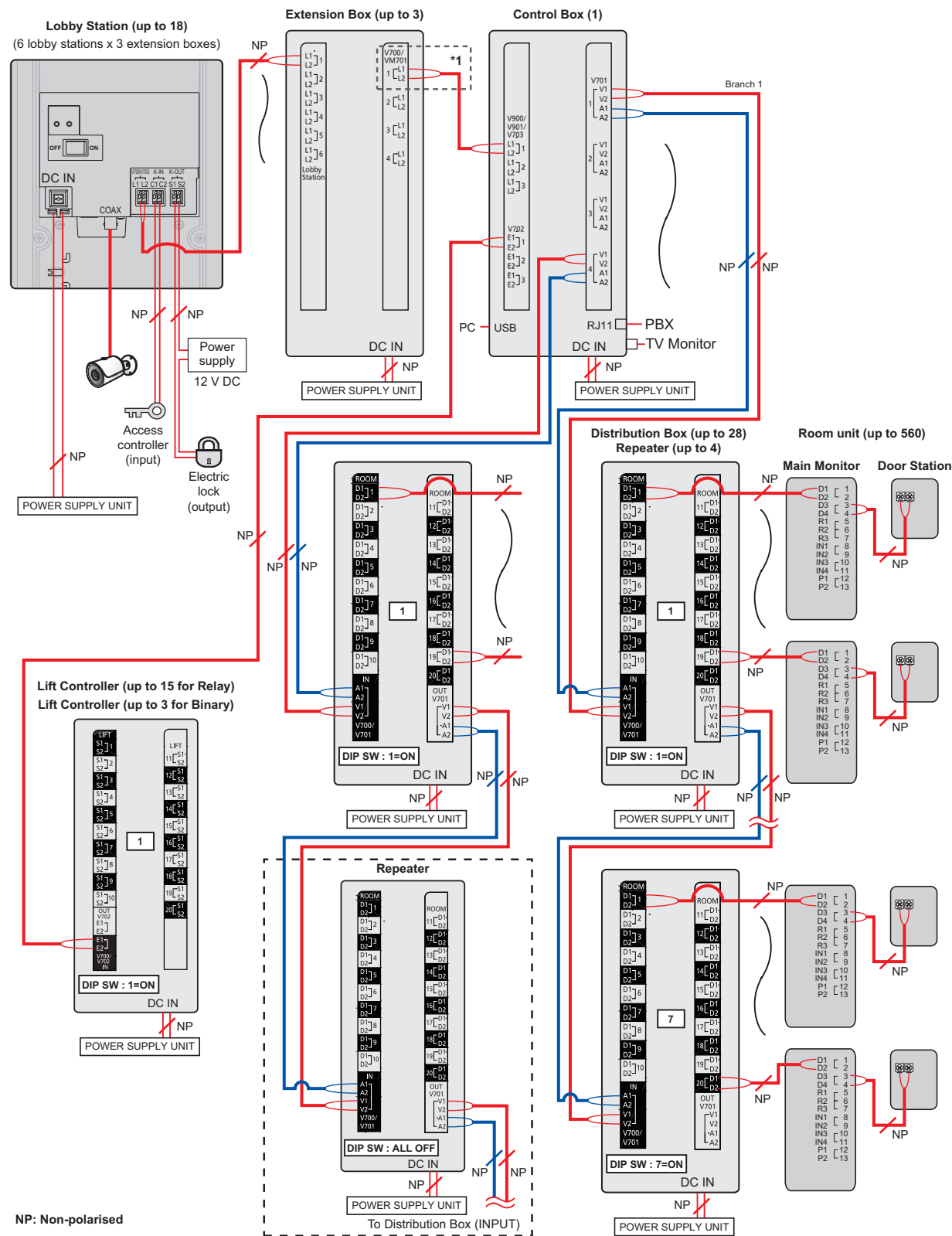
*1   When connecting wires from an extension box to a control box, only connect to port 1.

Expanded system enhanced features version 2 or later (page 92) example

Lobby Station (up to 18)*1
(6 lobby stations x 3 extension boxes)

Extension Box (up to 3)

Control Box (up to 4)
(4 distribution box branches,
3 lift controller branches)

DC IN

COAX

OFF | ON

V700/V703 K-IN K-OUT
L1 L2 C1 C2 S1 S2

NP NP

NP NP

Power supply 12 V DC

Access controller (input)

Electric lock (output)

POWER SUPPLY UNIT

Up to 6 Lobby Station

Up to 15 Lift Controller

PC — USB

RJ11 — PBX
TV Monitor

DC IN

POWER SUPPLY UNIT

NP

1-1-1

2-1-1

3-1-1

4-1-1

4-4-1

<For the entire system>
Lift Controller
up to 60 for Relay
(4 control boxes x 15 lift controllers)

up to 12 for Binary
(4 control boxes x 3 lift controllers)

1 For Control Box 1
Lift Controller (up to 15)

DIP SW : 1=ON

DC IN

POWER SUPPLY UNIT

Important:
- **When multiple extension boxes and control boxes are connected together, make sure that the control box connection port number of each extension box is connected to the corresponding control box.**

*1 Fully expanded systems support up to 54 lobby stations. (Consult your certified Panasonic dealer for more information about expanding the system.)

*2 When using gate calls, the polarity must be matched. See "Checking the polarity of wiring connections" in "Gate call settings".

<For the entire system>
Distribution Box (up to 160)
(4 control boxes x 4 branches x 10 distribution boxes)
Repeater (up to 16)
(4 control boxes x 4 branches)

<For the entire system>
Room units (up to 2240)
(4 control boxes x 560 room units)

1 **For Control Box 1**
Room unit (up to 560)
Main Monitor   **Door Station**

2 **For Control Box 2**
Room unit (up to 560)

3 **For Control Box 3**
Room unit (up to 560)

4 **For Control Box 4**
Room unit (up to 560)

To Room Units

DIP SW : 2=ON 8=ON
DIP SW : 1=ON
DIP SW : ALL OFF

DC IN
NP
POWER SUPPLY UNIT

To Distribution Box (INPUT)

NP: Non-polarised

33

Lift controller wiring example (relay signalling)

Control Box (1)　　　　　　　　**Lift Controller (up to 15; up to 5 lift controllers per lift x 3 lifts)**

NP: Non-polarised

Lift controller wiring example (binary signalling)

Control Box (1)

Lift Controller (up to 3)

V701
V1
V2
A1
A2

V900/
V901/
V703
L1] 1
L2]
L1] 2
L2]
L1] 3
L2]

V702
E1] 1
E2]
E1] 2
E2]
E1] 3
E2]

V1
V2
A1
A2

USB

DC IN

NP

POWER SUPPLY UNIT

LIFT

DIP SW : 1=ON

DC IN

NP

POWER SUPPLY UNIT

0 F

99 F

Lift 1

NP

LIFT

DIP SW : 1=ON

DC IN

NP

POWER SUPPLY UNIT

0 F

99 F

Lift 2

NP

LIFT

DIP SW : 1=ON

DC IN

NP

POWER SUPPLY UNIT

0 F

99 F

Lift 3

NP

NP: Non-polarised

4.5.2 Wire type and maximum wire length

Wiring run			Wire diameter	Max. length
Control box	↔	Lobby station	0.65 mm (22 AWG)	approx. 100 m
			1.2 mm (17 AWG)	approx. 200 m
Control box	↔	**Distribution mode** The farthest distribution box	0.65 mm (22 AWG)	approx. 100 m
			1.2 mm (17 AWG)	approx. 200 m
Control box	↔	**Repeater mode** The distribution box that is operating as a repeater	0.65 mm (22 AWG)	approx. 100 m
			1.2 mm (17 AWG)	approx. 200 m
Repeater mode The distribution box that is operating as a repeater	↔	**Distribution mode** The farthest distribution box	0.65 mm (22 AWG)	approx. 100 m
			1.2 mm (17 AWG)	approx. 200 m
Distribution box	↔	Main monitor	0.65 mm (22 AWG)	approx. 100 m
			1.2 mm (17 AWG)	approx. 200 m
Control box	↔	The farthest lift controller	0.65 mm (22 AWG)	approx. 100 m
			1.2 mm (17 AWG)	approx. 200 m
Power supply unit	↔	Lobby station Control box Distribution box Lift controller	0.65 mm (22 AWG)	approx. 10 m
			2 mm (12 AWG)	approx. 20 m
Power supply unit	↔	AC power source	1.2 mm (17 AWG)	No requirement
			2 mm (12 AWG)	
Lobby station	↔	Electric lock	0.5 mm (24 AWG)	According to specification of connected device.
			1.2 mm (17 AWG)	

Note the following when selecting wiring

● Use 2-conductor (solid copper) wiring with a PE (polyethylene)-insulated PVC jacket.
  Mid-capacitance, non-shielded cable is recommended.
● A certified power supply wiring has to be used with this equipment. The relevant national installation and/or equipment regulations shall be considered. A certified power supply wiring not lighter than ordinary polyvinyl chloride flexible wiring according to IEC 60227 shall be used.
● When connecting an electric lock to the electric lock connection terminal (K-OUT), select a device that meets the following guidelines.
  – N/C or N/O dry closure contact
  – 12 V AC/DC, less than 1 A
● When an extension box is connected, the maximum wire length from the lobby station to the control box does not change.

When connecting the control box to a PBX

Refer to the PBX's specifications for connecting analogue extension telephones.

4.5.3 Connecting wiring for the Control Box/Distribution Box/Lift Controller/Extension Box

Refer to the following when connecting the wires and cables to each device.
● Strip the wires and cables as shown below.
● See 4.5.1 Wiring schematics (Page 29) for wiring schematic diagrams.

❶ Wire release button

❷ Connection terminal

❸ Wires to/from other devices

❹ Cable release button for DC power supply cable

❺ DC cable from power supply unit

❻ Cable binder (accessory)

● To connect the DC cable from the power supply unit, press the cable release button while inserting the cable into the connection terminals. (To disconnect the cable, press the button while pulling it out.) Use the hooks to secure the cable.
● To connect wires, press the wire release button with a pointed object such as a screwdriver while inserting the wire into the connection terminal. (To disconnect a wire, press the button while pulling it out.)
● Refer to 4.5.2 Wire type and maximum wire length (Page 36) for information on the type and length of wires that can be used.

4.5.4 Distribution box switch settings

The distribution box has 3 types of switches that determine how it operates.
DIP switches
DIP switches determine the distribution box number (1–7[*1]) of each distribution box in the branch.
Terminate switch
Set this switch to the "on" position for the last distribution box in a branch. Set this switch to the "off" position for all other distribution boxes in the branch.
Repeat switch
Determines whether the distribution box is used in distribution mode or repeater mode.

In distribution mode, distribution boxes are connected in serial (up to 7 per branch[*1]) and up to 20 main monitors can be connected to each distribution box. In repeater mode, distribution boxes are connected in serial (up to 7 per branch[*1]), with one distribution box in a branch can be used only to forward signals from one distribution box to another. This is useful when you need to extend the maximum distance between 2 distribution boxes. No main monitors can be connected to a distribution box that is used in repeater mode.

*1 **For systems that support enhanced features version 2 or later (page 92)**
   Up to 10 distribution boxes can be connected to each branch from the control box.

Note:
● In order to help prevent operating problems or other issues from occurring, recheck the switch settings after completing the wiring.

- If problems occur after installation, refer to 7.1 Basic troubleshooting (Page 84) or the following web site.
  https://panasonic.net/cns/pcc/support/intercom/v900

Distribution mode example

Control box   ❶   ❷   ❸   ❹   ❺   ❻   ❼

For systems that support enhanced features version 2 or later (page 92)

Control box   ❶   ❷   ❸   ❹   ❺   ❻   ❼   ❽   ❾   ❿

*1   Room units: up to 560 for each control box
The number of distribution boxes can be increased from 7 to 10.
However, the number of supported room units remains unchanged at 560 units.

Distribution box	DIP switch[*1]	Repeat switch[*2]	Terminate switch[*3]
❶	ON/OFF 1 2 3 4 5 6 7 8 (1 ON)	(off)	(off)
❷	ON/OFF 1 2 3 4 5 6 7 8 (2 ON)	(off)	(off)
❸	ON/OFF 1 2 3 4 5 6 7 8 (3 ON)	(off)	(off)
❹	ON/OFF 1 2 3 4 5 6 7 8 (4 ON)	(off)	(off)
❺	ON/OFF 1 2 3 4 5 6 7 8 (5 ON)	(off)	(off)
❻	ON/OFF 1 2 3 4 5 6 7 8 (6 ON)	(off)	(off)
❼	ON/OFF 1 2 3 4 5 6 7 8 (7 ON)	(off)	(on)[*4]

For systems that support enhanced features version 2 or later (page 92)

Up to 10 distribution boxes can be connected to each branch from the control box.

Distribution box	DIP switch[*1]	Repeat switch[*2]	Terminate switch[*3]
❽	ON / OFF 1 2 3 4 5 6 7 8	(off)	(off)
❾	ON / OFF 1 2 3 4 5 6 7 8	(off)	(off)
❿	ON / OFF 1 2 3 4 5 6 7 8	(off)	(on)

*1 Each DIP switch setting can only be used one time per branch.
*2 In distribution mode, the repeat switch of all distribution boxes in the branch is set to the "off" position.
*3 The terminate switch of the last distribution box in the branch is set to the "on" position. All others are set to the "off" position.
*4 **For systems that support enhanced features version 2 or later (page 92)**
    When connecting 8 or more distribution boxes, set the terminate switch of the 7th distribution box to the "off" position.

Repeater mode example
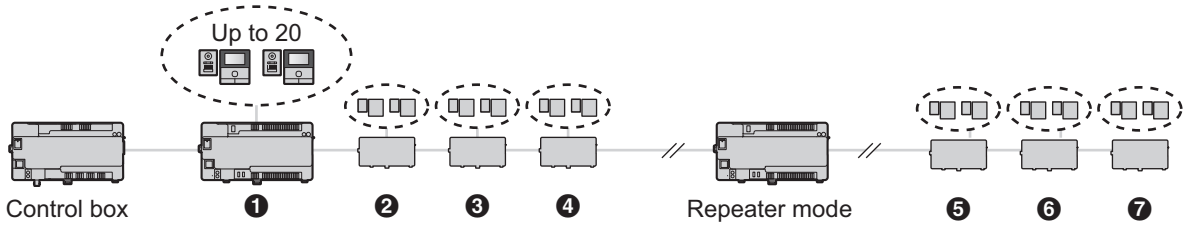
For systems that support enhanced features version 2 or later (page 92)

*1 Room units: up to 560 for each control box
The number of distribution boxes can be increased from 7 to 10.
However, the number of supported room units remains unchanged at 560 units.

Distribution box	DIP switch*1	Repeat switch*2	Terminate switch*3
❶	ON / OFF — switch 1 ON, 2–8 OFF (1 2 3 4 5 6 7 8)	(off)	(off)
❷	ON / OFF — switch 2 ON (1 2 3 4 5 6 7 8)	(off)	(off)
❸	ON / OFF — switch 3 ON (1 2 3 4 5 6 7 8)	(off)	(off)
❹	ON / OFF — switch 4 ON (1 2 3 4 5 6 7 8)	(off)	(off)
Repeater mode*4	ON / OFF — all neutral (1 2 3 4 5 6 7 8)	(on)	(on)
❺	ON / OFF — switch 5 ON (1 2 3 4 5 6 7 8)	(off)	(off)
❻	ON / OFF — switch 6 ON (1 2 3 4 5 6 7 8)	(off)	(off)
❼	ON / OFF — switch 7 ON (1 2 3 4 5 6 7 8)	(off)	(on)*5

For systems that support enhanced features version 2 or later (page 92)

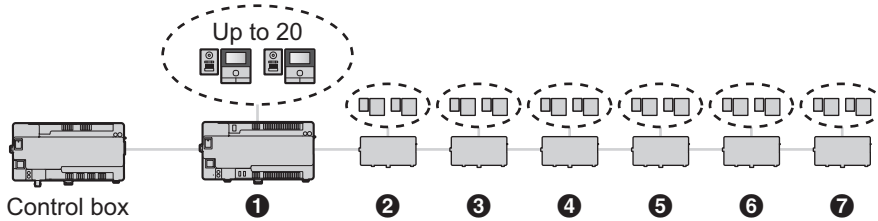Up to 10 distribution boxes can be connected to each branch from the control box.

Distribution box	DIP switch[*1]	Repeat switch[*2]	Terminate switch[*3]
❽	ON / OFF — 1 2 3 4 5 6 7 8	(off)	(off)
❾	ON / OFF — 1 2 3 4 5 6 7 8	(off)	(off)
❿	ON / OFF — 1 2 3 4 5 6 7 8	(off)	(on)

*1 Each DIP switch setting can only be used one time per branch.
*2 In repeater mode, the repeat switch of one distribution box in the branch is set to the "on" position. All others are set to the "off" position.
   Only one distribution box per branch can be used in repeater mode.
   Main monitors cannot be connected to a distribution box that is set to repeater mode.
*3 The terminate switch of the last distribution box in the branch is set to the "on" position. All others (except for a distribution box that is operating in repeater mode) are set to the "off" position.
*4 The distribution box functioning in repeater mode can be located between the control box and a distribution box, or between 2 distribution boxes.
*5 **For systems that support enhanced features version 2 or later (page 92)**
   When connecting 8 or more distribution boxes, set the terminate switch of the 7th distribution box to the "off" position.

4.5.5 Lift controller DIP switch settings

The lift controller supports the following methods for sending signals to the lift. Select the signalling method according to the specifications of the lift by setting the lift controller's DIP switches.

Relay signalling
Each port of the lift controller controls one floor of the lift. Each lift controller can control 20 different floors; up to 5 lift controllers can be used to control up to 100 different floors.
When using relay signalling, DIP switches determine the lift controller number of each lift controller in the branch.

Binary signalling
One lift controller can control up to 100 different floors.

Normally open and normally closed connections
For both relay and binary signalling, the number 8 DIP switch determines whether connections are normally open or normally closed.

Note:
● After you have set the DIP switches, you must also configure the system to use relay signalling or binary signalling. Use PC programming (page 46) to configure the **[Lift Signal Mode]** setting, or lobby station programming (page 58) to configure the **"SIGNAL MODE TO LIFT"** setting.

Relay signalling example
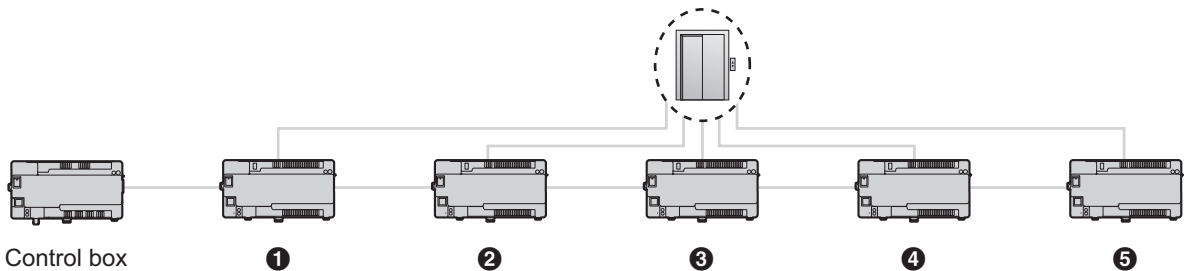
Lift controller	DIP switch[*1]	Floors
❶	1 2 3 4 5 6 7 8 / 8	0–19 (0 is the ground floor)
❷	1 2 3 4 5 6 7 8 / 8	20–39
❸	1 2 3 4 5 6 7 8 / 8	40–59
❹	1 2 3 4 5 6 7 8 / 8	60–79
❺	1 2 3 4 5 6 7 8 / 8	80–99

*1 For switches 1–5, each switch setting can only be used one time per branch.
The number 6 and 7 switches must always be set to the "off" position.
The number 8 DIP switch determines whether connections are normally open (switch is in the "off" position) or normally closed (switch is in the "on" position).

Binary signalling example

Control box ❶

Lift controller	DIP switch[*1]	Floors
❶	ON ■□□□□□□□ / ■ OFF □■■■■■■■ / □ 1 2 3 4 5 6 7 8 8	0–99 (0 is the ground floor)

*1 The number 2–7 switches must always be set to the "off" position.
 The number 8 DIP switch determines whether connections are normally open (switch is in the "off" position) or normally closed (switch is in the "on" position).

Lift floor stop settings

Important:

● **To prevent unauthorized entry to floors, configure suitable settings for stopping only on the floors where visitors are allowed to enter.**

For systems that support features version 1 or version 2 (page 91, 92)

Settings (up to 1 floor setting) for stopping floors for all lifts are supported. (The same floor settings are used for all lifts.)
Lift stop timing:
– Stopping at floors can be allowed with unlocking operations from main monitors.
– Only 1 type of floor unlocking method can be operated by facility staff from extension telephones (page 83).

For systems that support features version 3 or later (page 92)

When relay signalling is used by the lift controller, settings for stopping on multiple floors for all lifts (up to 5 separate floor settings) are supported. (The same floor settings are used for all lifts.) These settings can only be configured with PC programming (page 46).
Lift stop timing:
– Stopping at floors can be allowed with unlocking operations from main monitors.
– Only 1 type of floor unlocking method can be operated by facility staff from extension telephones (page 83).

Note:

● In order to configure lift floor stop settings, the following composition settings must be configured using PC programming (page 46). See **[Floor No.]** and **[Lift access permission (Lift 1–3)]** in the **[Room settings]** of the control box with 5.2.13 List of PC programming parameters (page 53, 56).

4.5.6 Extension box switch settings

The extension box's DIP switches are only used when configuring settings for the extension box and lobby stations connected to the extension box.
When settings are completed, make sure to set all of the DIP switches to the "off" position.
See 5.6.2 Extension box DIP switch settings (Page 71) for information on DIP switch settings when configuring extension box settings.

4.6 Connecting other devices

4.6.1 Connecting electric locks

An electric lock can be connected to the electric lock connection terminal located on the rear of the lobby station (page 14).
● One electric lock can be connected to each lobby station.
● After connecting an electric lock to the lobby station, confirm that the door can be properly locked and unlocked using the main monitor.

4.6.2 Connecting to a PBX

The control box can be connected to a Panasonic PBX. Use the RJ11 jack located on the side of the control box (page 15) to connect it to an extension port of the PBX. Consult your certified Panasonic dealer for more information.
● The control box can be connected to only one PBX.
● For information on how to connect extensions telephones to the PBX, see the operating instructions included with the PBX.
  – 4 extension numbers of the PBX can be registered with the control box for use by facility staff, receptionists, etc.
  – One extension number of the PBX can be registered with the control box for use as the emergency terminal.
● Configure settings so that the caller's extension number is notified for each terminal connected to the PBX. Refer to the documentation provided with the PBX for more information.
● The system software saved in the control box is software for use with either analog PBXs or digital PBXs. You can determine which software is saved to the control box by checking the suffix of the serial number label attached to the control box. (Refer to 7.5.2 Serial number suffixes (Page 89) for information on suffixes and the types of PBX software available.)
  If the type of software saved to the control box does not match the type of PBX being used, download the type of system software that matches the PBX type to the control box. (Updating is not required if the type of PBX and system software match.)
  – Download information is available at the following web site.
    https://panasonic.net/cns/pcc/support/intercom/v900
  – Refer to 5.10 Upgrading the system software (Page 78) or consult your certified Panasonic dealer for information about upgrading the system software.

4.6.3 Connecting to lifts

A lift can be connected to the lift connection terminals located on the side of the lift controller (page 16). For information on how to connect lifts to the lift controller, refer to the operating instructions included with the lift.
● Up to 3 lifts can be controlled.

4.6.4 Connecting cameras

A camera can be connected to the coaxial connector located on the rear of the lobby station (page 14).
● One camera can be connected to each lobby station.
● Compatible cameras:
  – Cameras that support PAL or NTSC video signals. Consult your certified Panasonic dealer for more information.

4.6.5 Connecting a TV monitor

A TV monitor can be connected to the coaxial connector located on the side of the control box (page 15).
● One TV monitor can be connected to the control box.
● Note that the control box can only output NTSC video signals to the TV monitor.
● Compatible TV monitors:
  – TV monitors that support NTSC video signals. Consult your certified Panasonic dealer for more information.

4.7 Basic settings

The following is a list of basic settings we recommend that you configure before using the system. Most items can be configured using PC programming, but other programming methods may be available. See the programming chapter (page 46) for details.

- **For the control box**
  - Date and time
    Configure using PC programming (5.2.9 Setting the control box's date and time (Page 51))
  - Room number and other information for each room
    Configure using PC programming (Control Box — Room settings (Page 53))
  - General system settings
    Configure using PC programming (Control Box — General settings (Page 53))

  For systems that support enhanced features version 2 or later (page 92)
  When there are multiple control boxes used in the system and you want to download data from the system's devices, you must specify which control box (1-4) you are connected to.

- **For lobby stations**
  - General settings stored in each lobby station
    Configure using PC programming (Lobby Station 1–3 — General settings (Page 54))
  - Room number and name stored in each lobby station
    Configure using PC programming (Lobby Station 1–3 — Room settings᾽ (Page 54))

  For systems that support enhanced features version 2 or later (page 92)
  When there are multiple control boxes used in the system, building settings must be configured before room settings.

- **For distribution boxes**
  - DIP switch settings
    Configure using the device's DIP switches (4.5.4 Distribution box switch settings (Page 37))

- **For lift controllers**
  - DIP switch settings
    Configure using the device's DIP switches (4.5.5 Lift controller DIP switch settings (Page 42))
  - Lift access permissions for each room
    Configure using PC programming (Control Box — Room settings (Page 53))
  - Confirming the connection
    Perform using the setup tool (5.2.11 Confirming the control box's connection to the lift controllers (Page 51))

- **For main monitors**
  - Room number and other information for each room
    We recommend using PC programming for initial setup (Control Box — Room settings (Page 53). You can change these settings on a room by room basis using main monitor programming if necessary (5.5 Main monitor programming (Page 64)).
  - Applying room settings to the main monitors
    Perform using the setup tool (5.2.10 Configuring the main monitors (Page 51))

- **For electric locks and access controllers**
  - Door open times, codes, signals types, and various other settings
    Configure using PC programming (Lobby Station 1–3 — General settings (Page 54))

- **For terminals**
  - Extension numbers, terminal names, and various other settings
    Configure using PC programming (Control Box — General settings (Page 53))

5.1 Programming overview

There are 2 methods for configuring the system.
– Using a computer to configure the system. This is called "PC programming".
– Using individual station devices (lobby stations, main monitors, and PBX extension telephones) to configure the system. This is called "lobby station programming" (page 58), "main monitor programming" (page 64), and "Telephone programming" (page 62).

You can combine these methods to suit your needs. For example, you can configure the system for the first time using a PC, and then make small changes to the system later using a station device.

5.2 PC programming

PC programming allows you to use a computer and the Panasonic Large Apartment System Setup Tool to create and edit system data while offline, and then upload the data to the system while on-site.

Important:
● **Depending on enhanced features supported by the device, the setup tool version used differs. See 7.5.3 Setup tool versions and serial number suffixes (Page 90) from more information.**
  – **Setup tool version 1: 5.2.3 Version 1 setup tool overview (Page 47)**
  – **Setup tool version 2 or 3: 5.2.5 Version 2 or 3 setup tool overview (Page 49)**
● **Refer to the following system software information to use system software for PBXs before editing system data with PC programming.**
  – **5.10 Upgrading the system software (Page 78)**
  – **7.5.2 Serial number suffixes (Page 89)**
● **After using the setup tool to communicate with the system, restart the control box (page 78).**

Note:
● The Panasonic Large Apartment System Setup Tool is also called "setup tool" in this document.

System requirements
– **Operating system:** Microsoft Windows 7, Windows 8, Windows 8.1, Windows 10
– **Additional framework:** .Net Framework 4.0 or later

5.2.1 Installing the setup tool and USB driver

1 Download the installer.
  ● Download information is available at the following web site.
    https://panasonic.net/cns/pcc/support/intercom/v900
2 Double-click the installer.
3 Follow the on-screen instructions and install the tool and the USB driver.

5.2.2 Connecting the computer to the control box

1 Connect a USB cable to your computer's USB port.
  ● Use a USB 2.0 cable with a standard-B connector for connecting to the control box.
2 Lift up the dust cover that protects the control box's USB port.
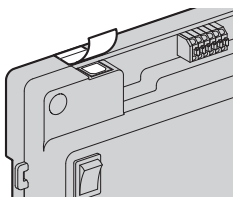
  ● Do not remove the dust cover.
3 Make sure no debris has fallen into the USB port.
4 Connect the USB cable to the control box's USB port.

Note:
- When disconnecting the USB cable from the control box, make sure the dust cover completely covers the USB port to prevent any debris from falling into it.

5.2.3 Version 1 setup tool overview

The setup tool is organized into the following sections.

❶ Select folder

Allows you to select the folder where you want to save your configuration files. Configuration files are saved in CSV format.

❷ Prepare the data

Allows you to choose whether you want to create new configuration files, use existing configuration files, or download the current data from the system's devices.

❸ Load and edit the data

Allows you to load the data saved in the configuration files into the setup tool for editing.

❹ Upload the data to device

Allows you to upload the data saved in the configuration files to the system's devices.

❺ Time and date settings

Allows you to set the control box's time and date settings (used for time stamps saved in the system log).

❻ Connection Check

Allows you to confirm the control box's connection to the main monitors and lift controllers.

5.2.4 Using the version 1 setup tool to edit data

1 Start the setup tool.

2 In the **[Prepare the data]** section, click **[Check Files]**.
- The paths of each configuration file are displayed in the **[Load and edit the data]** section.

3 In the **[Load and edit the data]** section, click **[Load / Edit ...]** next to a configuration file that you want to edit.
- The files's details are displayed.

4 **For [Room settings] for lobby stations 1–3**
- **a.** Click **[Edit ...]** to open the configuration file.
  - Use a third-party text editor or spreadsheet program to open the configuration file.
- **b.** Change the values in the appropriate columns, and then save the file.
- **c.** In the setup tool, click **[Reload]**.
  - The content of the configuration is reloaded and displayed.
- **d.** Click **[Close]**.

For all other settings
- **a.** Select the desired setting.
- **b.** Enter the desired value in the **[Edit Data]** section.
  - Acceptable values are displayed in a pop-up when you mouse-over the text field.
- **c.** Click **[Apply / Save]** to save the settings to the configuration file.
- **d.** Click **[Close]**.

5 Repeat from step 3 for each configuration file that you want to edit.
- Files that are ready to be uploaded are indicated by **[OK]** displayed in the right side of the **[Load and edit the data]** section.

6 In the **[Upload the data to device]** section, select the devices that you want to upload the data to and then click **[Upload]**.

Note:
- See 5.2.13 List of PC programming parameters (Page 53) for information about each parameter.

5.2.5 Version 2 or 3 setup tool overview

For systems that support enhanced features version 2 or later (page 92)

By using the version 2 or 3 setup tool and connecting control boxes to extensions boxes, the system can be expanded. The setup tool is organized into the following sections.
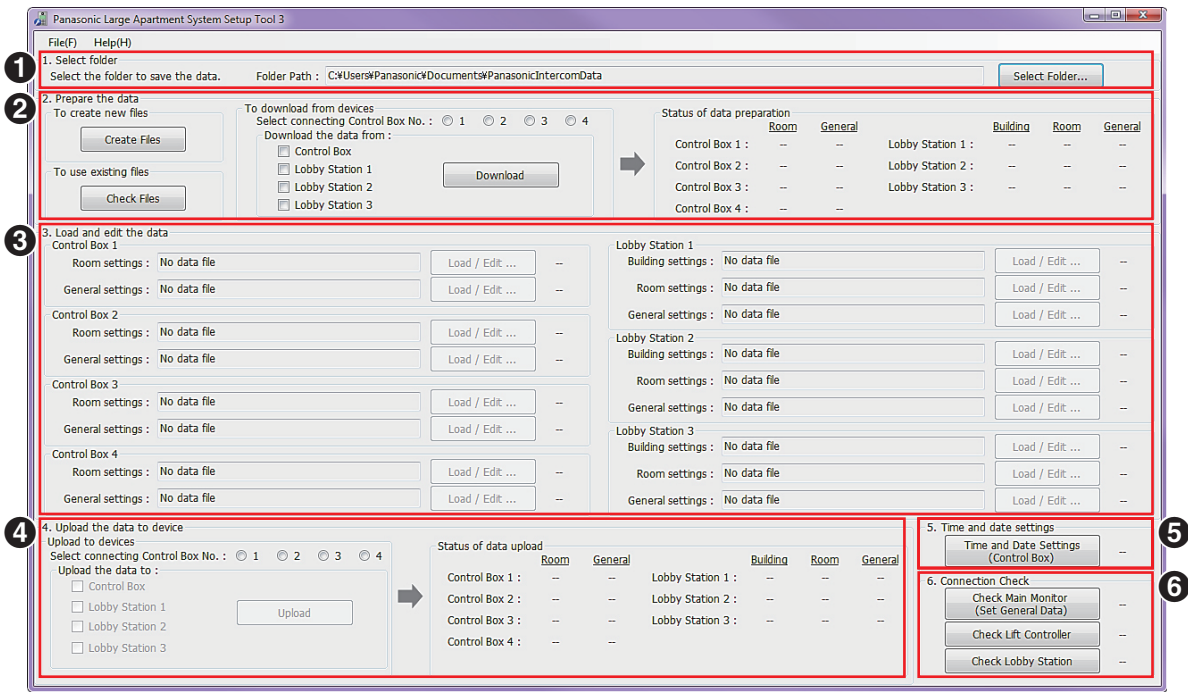
❶ Select folder

Allows you to select the folder where you want to save your configuration files. Configuration files are saved in CSV format.

❷ Prepare the data

Allows you to choose whether you want to create new configuration files, use existing configuration files, or download the current data from the system's devices.

- When there are multiple control boxes used in the system and you want to download data from the system's devices, you must specify which control box (1-4) you are connected to.

❸ Load and edit the data

Allows you to load the data saved in the configuration files into the setup tool for editing.

- When there are multiple control boxes used in the system, building settings must be configured before room settings.

❹ Upload the data to device

Allows you to upload the data saved in the configuration files to the system's devices.

- When there are multiple control boxes used in the system and you want to upload data to the system's devices, you must specify which control box (1-4) you are connected to.

❺ Time and date settings

Allows you to set the control box's time and date settings (used for time stamps saved in the system log).

❻ Connection Check

Allows you to confirm the control box's connection to the main monitors, lift controllers, and lobby stations.

5.2.6 Using the version 2 or 3 setup tool to edit data

For systems that support enhanced features version 2 or later (page 92)
The following settings can be configured.
– Settings for increasing the number of control boxes connected to extension boxes
  ● Building settings
  ● Settings for increasing the number of room units
– Gate call settings, etc.

For systems that support enhanced features version 3 or later (page 92)
The following settings can be configured.
– When relay signalling is used by the lift controller, settings for stopping on multiple floors for all lifts (up to 5 separate floor settings) are supported.
– An "Open code" for unlocking the lobby station can be configured for each resident.
– When a lobby station is unlocked, a notification sound can be sent from the lobby station depending on the settings.

1 Start the setup tool.

2 In the **[Prepare the data]** section, click **[Check Files]**.
  ● The paths of each configuration file are displayed in the **[Load and edit the data]** section.
  ● When there are multiple control boxes used in the system and you want to download data from the system's devices, you must specify which control box (1-4) you are connected to.

3 In the **[Load and edit the data]** section, click **[Load / Edit ...]** next to a configuration file that you want to edit.
  ● The files's details are displayed.

4 **When directly editing CSV files:**
  a. Click **[Edit ...]** to open the configuration file.
    ● Use a third-party text editor or spreadsheet program to open the configuration file.
  b. Change the values in the appropriate columns, and then save and close the file.
  c. In the setup tool, click **[Reload]**.
    ● The content of the configuration is reloaded and displayed.
  d. Click **[Close]**.

  When editing individual settings:
  a. Select the desired setting.
  b. Enter the desired value in the **[Edit Data]** section.
    ● Acceptable values are displayed in a pop-up when you mouse-over the text field.
  c. Click **[Apply / Save]** to save the settings to the configuration file.
  d. Click **[Close]**.

5 Repeat from step 3 for each configuration file that you want to edit.
  ● Files that are ready to be uploaded are indicated by **[OK]** displayed in the right side of the **[Load and edit the data]** section.

6 In the **[Upload the data to device]** section, select the devices that you want to upload the data to and then click **[Upload]**.
  ● When there are multiple control boxes used in the system and you want to upload data to the system's devices, you must specify which control box (1-4) you are connected to.

5.2.7 Downloading and backing up data

You can download the data that is saved in the system's devices, and back them up on your computer.

1 Start the setup tool.

2 In the **[Prepare the data]** section, turn on the checkboxes for the desired devices listed under **[Download the data from]**.

3 Click **[Download]**.
  ● The data from the selected devices is downloaded to your computer and overwrites the configuration files saved on your computer.
  ● Refer to the **[Select folder]** section and note the location of the configuration files.

4 Backup the configuration files as needed.

5.2.8 Editing configuration files directly

You can edit large amounts of data by editing configuration files directly.

1 Start the setup tool.

2 Refer to the **[Select folder]** section and note the location of the existing configuration files.
- If you want to create new configuration files in a different folder, create the folder on your computer, select the folder in the **[Select folder]** section, and then click **[Create Files]** in the **[Prepare the data]** section.
- **For systems that support enhanced features version 2 or later (page 92)**
  When there are multiple control boxes used in the system and you want to download data from the system's devices, you must specify which control box (1-4) you are connected to.

3 Using your computer's file explorer, open the folder containing the existing configuration files.

4 Open the desired configuration file.
- Use a third-party text editor or spreadsheet program to open the configuration file.

5 Change the values in the **[Data]** column as desired, and then save and close the file.
- Acceptable values are explained in the **[Data Note]** column.
- Descriptions of each setting and other information are explained in the **[Item Note]** column.
- See 5.2.13 List of PC programming parameters (Page 53) for information about each parameter.

6 Using the setup tool, click **[Check Files]** the **[Prepare the data]** section.
- The paths of each configuration file are displayed in the **[Load and edit the data]** section.

7 In the **[Load and edit the data]** section, click **[Load / Edit ...]** next to a configuration file that you want to upload.
- The files's details are displayed.
- **For systems that support enhanced features version 2 or later (page 92)**
  When there are multiple control boxes used in the system and you want to upload data to the system's devices, you must specify which control box (1-4) you are connected to.

8 Click **[Close]**.

9 Repeat from step 7 for each configuration file that you want to upload.
- Files that are ready to be uploaded are indicated by **[OK]** displayed in the right side of the **[Load and edit the data]** section.

10 In the **[Upload the data to device]** section, select the devices that you want to upload the data to and then click **[Upload]**.

5.2.9 Setting the control box's date and time

1 Start the setup tool.

2 In the **[Time and date settings]** section, click **[Time and Date Settings (Control Box)]**.

3 Set the date and time, and then click **[Set to Control Box]**.

5.2.10 Configuring the main monitors

After you have configured the settings in the **[Control Box — Room settings]**, use the following procedure to apply these settings to the main monitors.

1 Start the setup tool.

2 In the **[Connection Check]** section, click **[Check Main Monitor (Set General Data)]**, and then click **[Execute]**.

5.2.11 Confirming the control box's connection to the lift controllers

1 Start the setup tool.

2 In the **[Connection Check]** section, click **[Check Lift Controller]**.

5.2.12 Confirming the lobby station's connection

For systems that support enhanced features version 2 or later (page 92)
Connections with the lobby station can be checked.

1 Start the setup tool.

2 In the **[Connection Check]** section, click **[Check Lobby Station]**.

5.2.13 List of PC programming parameters

The following parameters are available when using PC programming.

Control Box — Room settings[1]

Parameter	Description and available settings	Default
Room No.	Determines the room number of the main monitor connected to the corresponding control box port, distribution box number, and distribution box port. (1–99999; 0 is displayed when the room is not configured)	—
Floor No.	Determines the floor number setting of the corresponding room number. (0–99; 0 is the ground floor)	0
Lift access permission (Lift 1–3)	Determines which lifts can be used by visitors to each lobby station.	0 (No lifts can be used)

Control Box — General settings

Parameter	Description and available settings	Default
Monitor Time Out	Determines the amount of time that passes when watching camera images before the standby screen is displayed. [0]: 180 SEC [1]: 90 SEC [2]: 60 SEC [3]: 30 SEC	0 (180 SEC)
Talk Time Out	Determines the amount of time that passes when talking before the standby screen is displayed. [0]: 90 SEC [1]: 60 SEC [2]: 30 SEC [3]: 180 SEC [4]: 300 SEC	0 (90 SEC)
Camera Signal	Tells the system what signal format is used by the external camera. [0]: PAL [1]: NTSC	0 (PAL)
Lift Signal Mode	Determines the signalling method used by the lift controller to communicate with the lift. Select the signal type according to the specifications of the lift. [0]: RELAY [1]: BINARY	0 (RELAY)
Lift Signal Time	After a visitor is admitted, this setting determines the amount of time that the visitor can use the lift to visit the corresponding floor. If the lift has a similar setting, set this parameter to any value other than "0"; the lift setting will take priority. (1–900 SEC, or 0 to disable)	300 (300 SEC)
Visitor Call Mode	Determines if visitors can call rooms directly or if their calls are directed to a reception terminal. [0]: ROOM MODE [1]: RECEPTION MODE	0 (ROOM MODE)
Terminal 1–4 Extension Number	Tells the system the extension number for terminal 1–4. (24 digits max.)	—

Parameter	Description and available settings	Default
Terminal 1–4 Name Code	Determines the name for terminal 1–4. [1]: TERMINAL # [2]: RECEPTION [3]: GATE [4]: CONTROL ROOM [5]: RESTAURANT [6]: HALL [7]: POOL [8]: SECURITY OFFICE [9]: ENTRANCE [10]: GYM [11]: GUEST ROOM [12]: KID'S ROOM [13]: PARKING [14]: TERRACE [15]: LIFT LOBBY	1 (TERMINAL #)
Terminal 1–4 Reception Code[2]	Determines whether terminal 1–4 is a reception terminal or a normal terminal (i.e., cannot be used as a reception terminal). [0]: NORMAL TERMINAL [1]: RECEPTION TERMINAL	0 (NORMAL TERMINAL)
Emergency Terminal Extension Number	Tells the system the extension number for the emergency terminal. (24 digits max.)	—
Emergency Terminal Emergency Mode	Determines whether the emergency terminal can talk to residents during an emergency call (emergency talk mode) or if the emergency terminal receives an announcement only (emergency notice mode). [0]: EMERGENCY TALK [1]: EMERGENCY NOTICE	0 (EMERGENCY TALK)

Lobby Station 1–3 — Room settings[3], [4]

Parameter	Description and available settings	Default
Room No.	Determines the room number. (1–99999; 0 is displayed when the room is not configured)	—
Resident Name	Determines the resident name for the corresponding room number. (20 characters max., uppercase letters only)	—

Lobby Station 1–3 — General settings[5]

Parameter	Description and available settings	Default
Door Key Open Time	Determines the amount of time the door stays open. If set to 0 SEC, the door cannot be opened. (1–20 SEC, or 0 to disable)	5 SEC
Door Key Out Signal	Determines whether the signal sent to the electric lock is a closed signal (i.e., the signal is normally open) or an open signal (i.e., the signal is normally closed). [0]: CLOSE [1]: OPEN	0 (CLOSE)

Parameter	Description and available settings	Default
Door Key Open Code	Determines the door open code. If disabled, the door cannot be opened using a code. (4 digits, or #### to disable)	#### (DISABLE)
Door Key External In	Tells the system whether an access controller (door opener, key switch, card reader, etc.) is connected to the lobby station and used to unlock the door. [0]: NO [1]: YES	0 (NO)
Door Key In Signal	Determines whether the signal received from the access controller is a closed signal (i.e., the signal is normally open) or an open signal (i.e., the signal is normally closed). [0]: CLOSE [1]: OPEN	0 (CLOSE)
Camera Connection	Tells the system whether a camera is connected or not. [0]: NO [1]: YES	0 (NO)
Camera Name	Determines the camera name. [1]: CAMERA # [2]: RECEPTION [3]: GATE [4]: CONTROL ROOM [5]: RESTAURANT [6]: HALL [7]: POOL [8]: SECURITY OFFICE [9]: ENTRANCE [10]: GYM [11]: GUEST ROOM [12]: KID'S ROOM [13]: PARKING [14]: TERRACE [15]: LIFT LOBBY	1 (CAMERA #)
Camera Display Priority	Determines which camera image is displayed when monitoring begins. [0]: LOBBY [1]: CAMERA [2]: CAMERA ONLY	0 (LOBBY)
Camera Switching Image	Determines whether visitors (lobby station users) can switch between the lobby station camera and the external camera. [0]: NO [1]: YES	0 (NO)
Wide/Zoom	Determines whether camera images are displayed in wide mode or in zoom mode when monitoring begins. [0]: WIDE [1]: ZOOM	0 (WIDE)

Parameter	Description and available settings	Default
Zoom Position	Determines the camera zoom position. [1]: UPPER LEFT [2]: UPPER SIDE [3]: UPPER RIGHT [4]: LEFT [5]: CENTRE [6]: RIGHT [7]: LOWER LEFT [8]: LOWER SIDE [9]: LOWER RIGHT	5 (CENTRE)
Power Frequency	Tells the system what frequency of power is supplied to the lobby station. [0]: 50 HZ [1]: 60 HZ	0 (50 HZ)
Access Code	Determines the access code that allows you to use lobby stations to configure the system. (6 digits)	123456

*1 **For systems that support enhanced features version 3 or later (page 92)**
When relay signaling is used by the lift controller, settings for stopping on multiple floors for all lifts (up to 5 separate floor settings) are supported. (The same floor settings are used for all lifts.)
Control Box — Room settings

Parameter	Description and available settings	Default
Room No.	Determines the room number of the main monitor connected to the corresponding control box port, distribution box number, and distribution box port. (1–99999; 0 is displayed when the room is not configured)	0
Floor No.	Determines the floor number setting of the corresponding room number. (0–99; 0 is the ground floor) ● **When determining the multi floor number setting (up to 5 separate floor settings):** Enter values such as the following in order to configure multiple stopping floors. Stopping floor entry example for 1F, 2F, 3F, 4F, and 5F: 1F2F3F4F5F	0
Lift access permission (Lift 1–3)	Determines which lifts can be used by visitors to each lobby station.	0 (No lifts can be used)

Note:
● When binary signaling is used by the lift controller, only stopping on the first configured floor is allowed even if multiple stopping floors are configured.

*2 **For systems that support enhanced features version 2 or later (page 92)**
Gate call settings can be configured for each lobby station and camera connected to each control box.
Control Box — General settings

Parameter	Description and available settings	Default
Terminal 1–4 Reception Code	Determines whether terminal 1–4 is a reception terminal or a normal terminal (i.e., cannot be used as a reception terminal). [0]: NORMAL [1]: RECEPTION ● **Gate call settings (page 74):** The lobby number of the reception room and the reception terminal used in the reception must be linked together in advance. When the number of extension boxes used is increased, the DIP switches of the extension boxes must be configured. [2]: GATE CALL (LOBBY GROUP 1) [3]: GATE CALL (LOBBY GROUP 2) [4]: GATE CALL (LOBBY GROUP 3)	0 (NORMAL)

*3 **For systems that support enhanced features version 2 or later (page 92)**
Lobby Station 1–3 — Building settings
Buildings must be registered. The settings can be used to change how many buildings are registered at each lobby station.

Parameter	Description and available settings	Default
Building No.	Registers the building number of a building. A maximum of 20 buildings can be registered. A maximum of 3 digits can be used (1–999; 0 cannot be registered).	1
Control Box No.	Determines the control box (1-4) to be linked to the building number.	1

Lobby Station 1–3 — Room settings
Room settings can be configured to support a maximum of 2240 rooms.

Parameter	Description and available settings	Default
Room No.	Determines the room number. (1–99999; 0 is displayed when the room is not configured)	0
Resident Name	Determines the resident name for the corresponding room number. (20 characters max., uppercase letters only)	—
Building No.	Determines the building number for the corresponding room number.	0

*4 **For systems that support enhanced features version 3 or later (page 92)**
An "Open code" for unlocking the lobby station can be configured for each resident.
Important:
● **To prevent intruders from entering the building, make sure to select open codes that are difficult to guess, change them regularly, and keep them secret. Inform all relevant staff and residents of these policies.**
Lobby Station 1–3 — Room settings

Parameter	Description and available settings	Default
Room No.	Determines the room number. (1–99999; 0 is displayed when the room is not configured)	0
Resident Name	Determines the resident name for the corresponding room number. (20 characters max., uppercase letters only)	—

Parameter	Description and available settings	Default
Building No.	Determines the building number for the corresponding room number.	0
Open Code	Determines the open code for each room number. If disabled, the door cannot be opened using a code. (4 digits, or #### to disable)	#### (DISABLE)

*5   **For systems that support enhanced features version 3 or later (page 92)**
When a lobby station is unlocked, a notification sound can be sent from the lobby station depending on the settings.
Lobby Station 1–3 — General settings

Parameter	Description and available settings	Default
Door Key Open Time	Determines the amount of time the door stays open. If set to 0 SEC, the door cannot be opened. (1–20 SEC, or 0 to disable)	5 SEC
Door Key Open Sound	Sends a notification sound to the lobby station when unlocking a door. (A notification sound is also sent when access controller (door opener, key switch, card reader, etc.) unlocks a door.) [0]: NO [1]: YES	0 (NO)

5.3 Lobby station programming

You can use a lobby station to configure various system settings.

1 Register the lobby station (page 27).
   ● If you have already registered the lobby station, skip this step.

2 Press **[#]** → enter the access code → **[🔓]**.
   For systems that support enhanced features version 2 or later (page 92)
   a. Enter the building number → **[🔓]**.
   b. Press **[#]** → enter the access code → **[🔓]**.
   ● The default access code is "123456". If necessary, you can change the access code (Changing the access code (Page 58)).

3 Set each parameter.
   ● You can browse parameters by pressing **[▲]** and **[▼]**, and select a parameter by pressing **[🔓]**.
   ● To cancel, press **[✕]**.
   ● See 5.3.1 List of lobby station programming parameters (Page 59) for information about each parameter.

4 Press **[✕]** when finished.
   ● The lobby station exits programming mode and the standby screen is displayed.

Entering numbers and characters

You can use the keypad to enter numbers and characters.
● Press a key repeatedly to scroll through the characters assigned to that key.
● Follow the hints displayed on the bottom of the display.
   – To erase all numbers or characters, press **[✳]**.
   – To advance the cursor, press **[#]**.
   – To cancel, press **[✕]**.
   – To confirm or save the entered numbers or characters, press **[🔓]**.

Changing the access code

The access code is required to use the lobby station programming.

1. Press **[#]** → enter the access code → **[🔔]**.
   For systems that support enhanced features version 2 or later (page 92)
   a. Enter the building number → **[🔔]**.
   b. Press **[#]** enter the access code → **[🔔]**.
   ● The default access code is "123456".
2. Select **"SET ACCESS CODE"** → **[🔔]**.
3. Enter the desired 6-digit code → **[🔔]**.
4. Press **[✕]**.

Changing open codes

For systems that support enhanced features version 3 or later (page 92)
When "Open codes" for unlocking the lobby are configured for each resident with the PC setup tool, "Open codes" can also be changed with Lobby station programming.
In order to use this feature, "Open code" settings must be configured in advance from the PC setup tool. See page 58.

Important:
● **To prevent intruders from entering the building, make sure to select open codes that are difficult to guess, change them regularly, and keep them secret. Inform all relevant staff and residents of these policies.**
● **When the open code is changed to "#### (Disable)", it must be configured from the PC setup tool the next time you use it.**

1. **For 1 building systems:**
   Enter the resident's room number.
   For multiple buildings systems:
   a. Enter the resident's building number.
   b. Press **[🔔]**.
   c. Enter the resident's room number.
2. Press **[#]**.
3. Enter your current (configured) 4-digit open code.
   ● Confirm the 4-digit open code with the facility staff.
4. Press **[✳] [#] [🔔]**.
5. Enter your desired 4-digit open code → **[🔔]**.

5.3.1 List of lobby station programming parameters

The following parameters are available when using lobby station programming.

Note:
● You can also use PC programming to configure these settings for each main monitor. Parameter names are slightly different when using PC programming.

Parameter	Description and available settings	Default
SET ROOM NO.[*1]	Determines the room number and resident name. (1–99999, 20 characters max., lowercase letters not available) ● See Entering numbers and characters (Page 58) for more information.	—
DELETE ROOM NO.	Deletes the room number and resident name. (1–99999)	—
SET DOOR KEY[*2]		
DOOR KEY OPEN TIME	Determines the amount of time the door stays open. If set to 0 SEC, the door cannot be opened. (01–20 SEC, or 00 to disable)	05 (5 SEC)

Parameter		Description and available settings	Default
	DOOR KEY OUT SIGNAL	Determines whether the signal sent to the electric lock is a closed signal (i.e., the signal is normally open) or an open signal (i.e., the signal is normally closed). [00]: CLOSE [01]: OPEN	00 (CLOSE)
	DOOR KEY OPEN CODE	Determines the door open code. If disabled, the door cannot be opened using a code. (4 digits, or #### to disable)	#### (DISABLE)
	DOOR KEY EXTERNAL IN	Tells the system whether an access controller (door opener, key switch, card reader, etc.) is connected to the lobby station and used to unlock the door. [00]: NO [01]: YES	00 (NO)
	DOOR KEY IN SIGNAL	Determines whether the signal received from the access controller is a closed signal (i.e., the signal is normally open) or an open signal (i.e., the signal is normally closed). [00]: CLOSE [01]: OPEN ● Available only when "DOOR KEY EXTERNAL IN" is set to "YES".	00 (CLOSE)
SET CAMERA			
	CAMERA CONNECTION	Tells the system whether a camera is connected or not. [00]: NO [01]: YES	00 (NO)
	CAMERA NAME	Determines the camera name. [01]: CAMERA # [02]: RECEPTION [03]: GATE [04]: CONTROL ROOM [05]: RESTAURANT [06]: HALL [07]: POOL [08]: SECURITY OFFICE [09]: ENTRANCE [10]: GYM [11]: GUEST ROOM [12]: KID'S ROOM [13]: PARKING [14]: TERRACE [15]: LIFT LOBBY	01 (CAMERA #)
	DISPLAY PRIORITY	Determines which camera image is displayed when monitoring begins. [00]: LOBBY [01]: CAMERA [02]: CAMERA ONLY	00 (LOBBY)
	SWITCHING IMAGE	Determines whether visitors (lobby station users) can switch between the lobby station camera and the external camera. [00]: NO [01]: YES	00 (NO)

Parameter	Description and available settings	Default
SET WIDE/ZOOM		
WIDE/ZOOM SETTINGS	Determines whether camera images are displayed in wide mode or in zoom mode when monitoring begins. **[00]: WIDE** **[01]: ZOOM**	**00** (**WIDE**)
ZOOM POSITION	Determines the camera zoom position. **[01]: UPPER LEFT** **[02]: UPPER SIDE** **[03]: UPPER RIGHT** **[04]: LEFT** **[05]: CENTRE** **[06]: RIGHT** **[07]: LOWER LEFT** **[08]: LOWER SIDE** **[09]: LOWER RIGHT**	**05** (**CENTRE**)
SET POWER FREQ.	Tells the system what frequency of power is supplied to the lobby station. **[00]: 50 HZ** **[01]: 60 HZ**	**00** (**50 HZ**)
SET CAMERA SIGNAL	Tells the system what signal format is used by the external camera. **[00]: PAL** **[01]: NTSC**	**00** (**PAL**)
SET TIME&DATE	Determines the system's time and date settings.	**1/JAN/2015** **00:00**
SET TIME OUT		
MONITOR TIME OUT	Determines the amount of time that passes when watching camera images before the standby screen is displayed. **[00]: 180 SEC** **[01]: 90 SEC** **[02]: 60 SEC** **[03]: 30 SEC**	**00** (**180 SEC**)
TALK TIME OUT	Determines the amount of time that passes when talking before the standby screen is displayed. **[00]: 90 SEC** **[01]: 60 SEC** **[02]: 30 SEC** **[03]: 180 SEC** **[04]: 300 SEC**	**00** (**90 SEC**)
SET LIFT		
SIGNAL MODE TO LIFT	Determines the signalling method used by the lift controller to communicate with the lift. Select the signal type according to the specifications of the lift. **[00]: RELAY** **[01]: BINARY**	**00** (**RELAY**)

Parameter		Description and available settings	Default
	`SIGNAL TIME TO LIFT`	After a visitor is admitted, this setting determines the amount of time that the visitor can use the lift to visit the corresponding floor. If the lift has a similar setting, set this parameter to any value other than "0"; the lift's box setting will take priority. (`001–900 SEC`, or `000` to disable)	`300` (`300 SEC`)
`SET ACCESS CODE`		Determines the access code that allows you to use lobby stations to configure the system. (6 digits)	`123456`

*1 **For systems that support enhanced features version 2 or later (page 92)**
Buildings must be registered. The settings can be used to change how many buildings are registered at each lobby station.
Configure the room number settings after configuring the building number settings.

Parameter		Description and available settings	Default
`SET BUILDING NO.`			
	`BUILDING NO.`	Registers the building number of a building. A maximum of 20 buildings can be registered. A maximum of 3 digits can be used (1–999).	1
	`CONTROL BOX NO.`	Determines the control box (1-4) to be linked to the building number.	1

Parameter	Description and available settings	Default
`SET ROOM NO.`	Determines the room number, resident name, and building number. (1–99999, 20 characters max., lowercase letters not available, 1–999) • The building number must be configured in advance. • See Entering numbers and characters (Page 58) for more information.	—

*2 **For systems that support enhanced features version 3 or later (page 92)**
When a lobby station is unlocked, a notification sound can be sent from the lobby station depending on the settings.

Parameter		Description and available settings	Default
`SET DOOR KEY`			
	`DOOR KEY OPEN TIME`	Determines the amount of time the door stays open. If set to 0 SEC, the door cannot be opened. (`01–20 SEC`, or `00` to disable)	`05` (`5 SEC`)
	`DOOR KEY OPEN SOUND`	Sends a notification sound to the lobby station when unlocking a door. (A notification sound is also sent when access controller (door opener, key switch, card reader, etc.) unlocks a door.) `[00]: NO` `[01]: YES`	`00` (`NO`)

5.4 Telephone programming

Use this procedure to configure the following settings.

– The extension numbers of the PBX that will be used as terminals 1–4 and the emergency terminal
– The names assigned to terminals 1–4
– Whether terminals 1–4 are used as a reception terminal or not
– Whether the emergency terminal can talk to the main monitor caller during an emergency call

1 Dial the extension number assigned to the control box.

2 Enter a feature number to specify which terminal you will assign.

Feature number	Description
# # * 0 #	Emergency terminal
# # * 1 #	Terminal 1
# # * 2 #	Terminal 2
# # * 3 #	Terminal 3
# # * 4 #	Terminal 4

3 Enter the extension number of the terminal that you want to assign → press #.
● Example: For extension 101, enter 1 0 1 #.

4 **Emergency terminal**

Skip this step.

Terminals 1–4

Enter a feature number to specify the terminal's name.
● This name can be used to call the terminal, and can be displayed when a station receives a call from the terminal.

Feature number	Description
0 1 # (default)	TERMINAL #
0 2 #	RECEPTION
0 3 #	GATE
0 4 #	CONTROL ROOM
0 5 #	RESTAURANT
0 6 #	HALL
0 7 #	POOL
0 8 #	SECURITY OFFICE
0 9 #	ENTRANCE
1 0 #	GYM
1 1 #	GUEST ROOM
1 2 #	KID'S ROOM
1 3 #	PARKING
1 4 #	TERRACE
1 5 #	LIFT LOBBY

5 Enter a feature number to specify the terminal's operation mode.

Feature number	Description
⓪⓪⌗ (default)	**For the emergency terminal** Selects EMERGENCY TALK mode. During an emergency call, the main monitor can talk to the emergency terminal (up to 10 minutes). **For terminals 1–4** Selects NORMAL TERMINAL mode. The terminal cannot be used as a reception terminal.
⓪①⌗	**For the emergency terminal** Selects EMERGENCY NOTICE mode. During an emergency call, the emergency terminal receives a repeating emergency announcement. **For terminals 1–4** Selects RECEPTION TERMINAL mode. The terminal can be used as a reception terminal. ● Refer to 6.3 Facility staff operations (Page 83) and switch the visitor call mode to reception mode.

For systems that support enhanced features version 2 or later (page 92)
Gate call settings can be configured for each lobby station and camera connected to each control box.

Feature number	Description
⓪②⌗: GATE CALL (LOBBY GROUP 1) ⓪③⌗: GATE CALL (LOBBY GROUP 2) ⓪④⌗: GATE CALL (LOBBY GROUP 3)	Gate call settings (page 74): The lobby number of the reception room and the reception terminal used in the reception must be linked together in advance. When the number of extension boxes used is increased, the DIP switches of the extension boxes must be configured.

6 Hang up.

Note:
● A compatible main monitor, such as the VL-MVN511, is required to make emergency calls to the emergency terminal.

Deleting a terminal assignment

Use this procedure to stop using a terminal with the system.

1. Dial the extension number assigned to the control box.
2. Enter a feature number to specify which terminal will be deleted.

Feature number	Description
⌗⌗✳⓪⌗　⌗	Emergency terminal
⌗⌗✳①⌗　⌗	Terminal 1
⌗⌗✳②⌗　⌗	Terminal 2
⌗⌗✳③⌗　⌗	Terminal 3
⌗⌗✳④⌗　⌗	Terminal 4

3. Hang up.

5.5 Main monitor programming

Use this procedures in this section to configure the following settings. Perform this procedure for each main monitor.
– Set the main monitor to apartment mode
– Set the room number

– Set the floor number
– Set lift permissions for visitors

Note:
● You can also use PC programming to configure these settings for each main monitor.
● Operations vary depending on the model number of the main monitor.

When programming the VL-MVN511

1. Press and hold the second soft key button from the left, 【OFF】, and 【«́ TALK】 at the same time (3 buttons total).
   ● Continue to hold the buttons and perform the next step.
2. Press and hold the 【RESET】 button for about 3 seconds, then release the 【RESET】 button only.
   ● The main monitor starts up and enters programming mode.
3. When the display lights up, release all the buttons.
4. Use the navigator key to select **"Apartment mode"** → ⌞ OK ⌟.
   ● The main monitor initialises its settings.
   ● While performing the next steps, you can cancel without saving your settings by pressing 【OFF】.
5. Enter the room number.
   a. Use the navigator key to select the desired number.
   b. Use the navigator key to accept the entered number and advance the cursor.
   c. Press ⌞ OK ⌟ when finished.
6. Enter the floor number.
   a. Use the navigator key to select the desired number.
   b. Press ⌞ OK ⌟ when finished.
7. Set the visitor lift permissions for **"Lift 1"**.
   a. Use the navigator key to allow or prohibit lift usage for visitors to each lobby.
   b. Use the navigator key to select the next lobby station.
   c. Press ⌞ OK ⌟ when finished.
      ● Repeat the above procedure for **"Lift 2"** and **"Lift 3"**.
8. Confirm the displayed settings.
   ● Press ⌞ EDIT ⌟ to go back and enter the desired settings again.
9. Press ⌞ SET ⌟ to check for a duplicate room number.
   ● If a duplicate room number is found, press ⌞ Yes ⌟ to overwrite the existing room number settings, or ⌞ No ⌟ to cancel saving the settings.
   If no duplicate is found, the settings are saved in the control box.

Note:
● If you press ⌞ SAVE ⌟, the settings will be saved in the main monitor only, and the main monitor will restart. To save the settings in the control box, press ⌞ SET ⌟.

When programming the VL-MW251

1. Press and hold 【OFF】, 【TALK】, and 【MENU】 at the same time (3 buttons total).
   ● Continue to hold the buttons and perform the next step.
2. Press and hold the 【RESET】 button for about 3 seconds, then release the 【RESET】 button only.
   ● The main monitor starts up and enters programming mode.
3. When the display lights up, release all the buttons.
4. Press the ⌞ ▲ ⌟ or ⌞ ▼ ⌟ soft keys to select **"APARTMENT MODE"** → ⌞ OK ⌟.
   ● The main monitor initialises its settings.
   ● While performing the next steps, you can cancel without saving your settings by pressing 【OFF】.
5. Enter the room number.
   a. Press ⌞ + ⌟ or ⌞ − ⌟ to select the desired number.
   b. Press ⌞NEXT▶⌟ to accept the entered number and advance the cursor.
   c. Press ⌞ OK ⌟ when finished.

6. Enter the floor number.
   a. Press ⎡ + ⎤ or ⎡ − ⎤ to select the desired number.
   b. Press ⎡ OK ⎤ when finished.

7. Set the visitor lift permissions for **"LIFT 1"**.
   a. Press ⎡ YES ⎤ or ⎡ NO ⎤ to allow or prohibit lift usage for visitors to each lobby.
   b. Press ⎡ ▼ ⎤ to select the next lobby station.
   c. Press ⎡ OK ⎤ when finished.
     • Repeat the above procedure for **"LIFT 2"** and **"LIFT 3"**.

8. Confirm the displayed settings.
   • Press ⎡ EDIT ⎤ to go back and enter the desired settings again.

9. Press ⎡ SET ⎤ to check for a duplicate room number.
   • If a duplicate room number is found, press ⎡ YES ⎤ or ⎡ NO ⎤ to select whether you want to overwrite the existing room number settings.
    If no duplicate is found, the settings are saved in the control box.

Note:
• If you press ⎡ SAVE ⎤, the settings will be saved in the main monitor only, and the main monitor will restart. To save the settings in the control box, press ⎡ SET ⎤.

When programming the VL-MV26

1. Press and hold 【 TALK/OFF】, 【 ⎡ ☻ ⎤ 】, and 【 ⎡ ☰ ⎤ 】 at the same time (3 buttons total).
   • Continue to hold the buttons and perform the next step.

2. Press and hold the 【RESET】 button for about 3 seconds, then release the 【RESET】 button only.
   • The main monitor starts up and enters programming mode.

3. When the display lights up, release all the buttons.

4. Enter the room number.
   a. Press ⎡ + ⎤ or ⎡ − ⎤ to select the desired number.
   b. Press ⎡NEXT▶⎤ to accept the entered number and advance the cursor.
   c. Press ⎡ OK ⎤ when finished.

5. Enter the floor number.
   a. Press ⎡ + ⎤ or ⎡ − ⎤ to select the desired number.
   b. Press ⎡ OK ⎤ when finished.

6. Set the visitor lift permissions for **"LIFT 1"**.
   a. Press ⎡ YES ⎤ or ⎡ NO ⎤ to allow or prohibit lift usage for visitors to each lobby.
   b. Press ⎡ ▼ ⎤ to select the next lobby station.
   c. Press ⎡ OK ⎤ when finished.
     • Repeat the above procedure for **"LIFT 2"** and **"LIFT 3"**.

7. Confirm the displayed settings.
   • Press ⎡ EDIT ⎤ to go back and enter the desired settings again.

8. Press ⎡ SET ⎤ to check for a duplicate room number.
   • If a duplicate room number is found, press ⎡ YES ⎤ or ⎡ NO ⎤ to select whether you want to overwrite the existing room number settings.
    If no duplicate is found, the settings are saved in the control box.

Note:
• If you press ⎡ SAVE ⎤, the settings will be saved in the main monitor only, and the main monitor will restart. To save the settings in the control box, press ⎡ SET ⎤.

When programming the VL-MWD272/VL-MWD273/VL-MV71/VL-MV72

1. Press and hold 【 TALK】, 【OFF】, and 【 ⎡ ⊸)) ⎤ 】 at the same time (3 buttons total).
   • Continue to hold the buttons and perform the next step.

2. Press and hold the **[RESET]** button for about 3 seconds, then release the **[RESET]** button only.
- The main monitor starts up and enters programming mode.

3. When the display lights up, release all the buttons.

4. Press the [▲] or [▼] soft keys to select **"Apartment mode"** → [OK].
- The main monitor initialises its settings.
- While performing the next steps, you can cancel without saving your settings by pressing **[OFF]**.

5. Enter the room number.
- **a.** Press [+] or [−] to select the desired number.
- **b.** Press [▶] to accept the entered number and advance the cursor.
- **c.** Press [OK] when finished.

6. Enter the floor number.
- **a.** Press [+] or [−] to select the desired number.
- **b.** Press [OK] when finished.

7. Set the visitor lift permissions for **"Lift 1"**.
- **a.** Press [Yes] or [No] to allow or prohibit lift usage for visitors to each lobby.
- **b.** Press [▼] to select the next lobby station.
- **c.** Press [OK] when finished.
  - Repeat the above procedure for **"Lift 2"** and **"Lift 3"**.

8. Confirm the displayed settings.
- Press [EDIT] to go back and enter the desired settings again.

9. Press [SET] to check for a duplicate room number.
- If a duplicate room number is found, press [Yes] or [No] to select whether you want to overwrite the existing room number settings.
  If no duplicate is found, the settings are saved in the control box.

Note:
- If you press [SAVE], the settings will be saved in the main monitor only, and the main monitor will restart. To save the settings in the control box, press [SET].
- When the mode (House mode or Apartment mode) of the main monitor is changed, the extension monitor automatically changes modes to match the main monitor.

When programming the VL-MV74

1. Press [☰] once. While pressing and holding the lower **[⬇]** button on the right side of the main monitor, press and hold the **[RESET]** button on the left side for about 3 seconds, then release the **[RESET]** button only.
- Continue to hold the lower **[⬇]** button and perform the next step.

2. When the screen turns a whitish colour, release the lower **[⬇]** button.

3. Press each of the following buttons once each in the following order.
  [TALK] → [OFF] → [•))]
- The main monitor starts up and enters programming mode.

4. Press the [▲] or [▼] soft keys to select **"Apartment mode"** → [OK].
- The main monitor initialises its settings.
- While performing the next steps, you can cancel without saving your settings by pressing **[OFF]**.

5. Enter the room number.
- **a.** Press [+] or [−] to select the desired number.
- **b.** Press [▶] to accept the entered number and advance the cursor.
- **c.** Press [OK] when finished.

6. Enter the floor number.
- **a.** Press [+] or [−] to select the desired number.
- **b.** Press [OK] when finished.

7. Set the visitor lift permissions for "`Lift 1`".

   a. Press ⬚ Yes ⬚ or ⬚ No ⬚ to allow or prohibit lift usage for visitors to each lobby.

   b. Press ⬚ ▼ ⬚ to select the next lobby station.

   c. Press ⬚ OK ⬚ when finished.

      ● Repeat the above procedure for "`Lift 2`" and "`Lift 3`".

8. Confirm the displayed settings.

   ● Press ⬚ EDIT ⬚ to go back and enter the desired settings again.

9. Press ⬚ SET ⬚ to check for a duplicate room number.

   ● If a duplicate room number is found, press ⬚ Yes ⬚ or ⬚ No ⬚ to select whether you want to overwrite the existing room number settings.
     If no duplicate is found, the settings are saved in the control box.

Note:

● If you press ⬚ SAVE ⬚, the settings will be saved in the main monitor only, and the main monitor will restart. To save the settings in the control box, press ⬚ SET ⬚.

● When the mode (House mode or Apartment mode) of the main monitor is changed, the extension monitor automatically changes modes to match the main monitor.

5.5.1 List of main monitor programming parameters

The following parameters are available when using main monitor programming.

Note:

● You can also use PC programming to configure these settings for each main monitor. Parameter names are slightly different when using PC programming.

Parameter	Description	Default
`ROOM NUMBER`	Tells the system what room the main monitor is installed in. (1–99999)	—
`FLOOR NUMBER`	Tells the system what floor the main monitor is installed on. (0–99; 0 is the ground floor)	—

`LIFT 1`
`LIFT 2`
`LIFT 3`
	Determines which lifts can be used by visitors to each lobby station.
	(Yes, No)
		No
		(No lifts can be used)

5.6 Extension box programming

Extension boxes are used to increase the number of lobby stations that can be used with the system. A maximum of 3 extensions boxes can be connected to the control box, and a maximum of 6 lobby stations can be connected to each extension box.

After completing the installation and wiring for the extension boxes and connected lobby stations, the lobby stations can be configured with the following 2 methods.

– Using a computer to configure settings (PC programming (Page 69)).
– Using individual station devices (lobby stations (page 58), main monitors (page 64), and PBX extension telephones (page 62)) to configure settings.

5.6.1 Configuring lobby stations connected to extension boxes

Important:
● **The following settings must be configured to the same values for all lobby stations connected to the same extension box.**
  – **Camera Connection**
  – **Camera Name**
  – **Camera Display Priority**
  – **Camera Switching Image**
  – **Camera Signal**
  – **Time and date settings**
  – **Monitor Time Out**
  – **Talk Time Out**
  – **Lift Signal Mode**
  – **Lift Signal Time**
● **Reception mode cannot be used with lobby stations connected to extension boxes.**
● **When the lobby stations are connected to extension boxes:**
  – **Main monitors cannot monitor the outside with the lobby stations.**
  – **When receiving an incoming call from a lobby station, the images from lobby stations are displayed in the main monitors of the room units, and the lobby station group number of the lobby station is displayed in the image. With the VL-MVN511 for example, if images from a lobby station in lobby station group 1 are displayed, is displayed in the image.**

PC programming

The following procedure describes the basic flow for configuring lobby stations connected to extension boxes with PC programming.

1. **Extension box:** Set the DIP switches of the extension box for the lobby station to be configured (page 71).
2. **PC setup tool:** Start the setup tool and configure the required **[Room settings]** and **[General settings]**.
   ● Refer to page 46 for more information about PC programming.
3. **PC setup tool:** Select the lobby stations to upload settings to and then click **[Upload]**.
   ● The lobby station specified here refers to the port of the control box that extension boxes are connected to. For example, to upload settings to a lobby station connected to an extension box that is connected to port 2 of the control box, select **[Lobby Station 2]**.
   ● When multiple lobby stations are connected to the same extension box, repeats steps 1 and 3 for each lobby station connected to the extension box.
4. **Extension box:** After configuring all the lobby stations, set all the DIP switches of the extension box to the "off" position (page 71).

Example of an extension box connected to port 1 of the control box ([Lobby Station 1] must be selected in the Setup tool)

The following procedure is an example of how to configure settings for the system shown in the following illustration.

Lobby station
(Up to 18: 6 lobby stations per extension box with max. of 3 extension boxes)
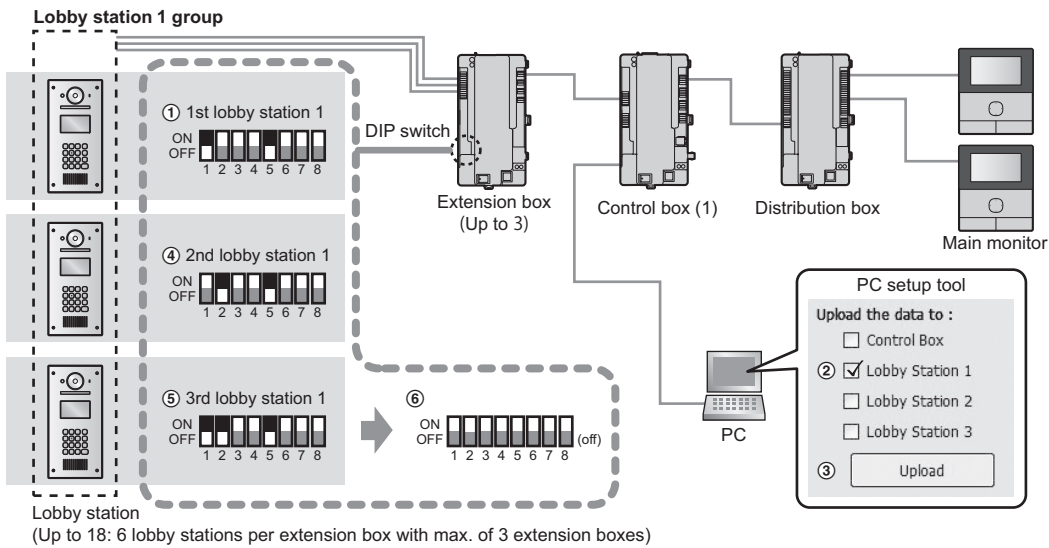
Important:

● **Settings for each lobby station connected to an extension box must be configured separately.**
● **DIP switches on the extension box are used to determine which lobby station that settings are uploaded to. The number 6 - 8 switches must always be set to the "off" position. (For a list of DIP switch settings, see page 71.)**
● **When you are using the PC setup tool with the extension box connected to the PC, set the DIP switches according to the instructions in 5.6.2 Extension box DIP switch settings (Page 71) before doing the following operations.**
  – **downloading from a lobby station**
  – **uploading to a lobby station**
  – **checking lobby station connections (for systems that support enhanced features version 2 or later (page 92))**

1. **DIP switch setting of extension box:**
   Set the DIP switches to the settings shown under "① 1st lobby station 1".
2. **PC setup tool: Load and edit the data**
   Start the setup tool. In the **[Load and edit the data]** section, configure the required **[Room settings]** and **[General settings]** for **[Lobby Station 1]**.
3. **PC setup tool: Upload the data to device**
   In the **[Upload the data to device]** section, select **[Lobby Station 1]** as shown next to "②" under "PC setup tool", and then click **[Upload]** as shown next to "③" under "PC setup tool".
4. **DIP switch setting of extension box:**
   Set the DIP switches to the settings shown under "④ 2nd lobby station 1".
5. **PC setup tool: Upload the data to device**
   Repeat step 3.
6. **DIP switch setting of extension box:**
   Set the DIP switches to the settings shown under "⑤ 3rd lobby station 1".
7. **PC setup tool: Upload the data to device**
   Repeat step 3.
8. **DIP switch setting of extension box:**
   After configuring all the lobby stations, set all the DIP switches of the extension box to the "off" position as shown under "⑥".
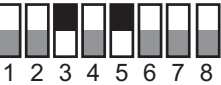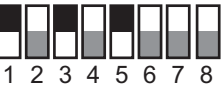
5.6.2 Extension box DIP switch settings

The DIP switches of the extension box are used when configuring lobby station settings.
Example:
When lobby stations 1-6 are configured using control box 1, set DIP switch "5" to "on".

DIP switch	Example where lobby stations 1-6 are configured from control box 1
ON / OFF — 1 2 3 4 5 6 7 8 (switches 1 and 5 ON)	1st lobby station
ON / OFF — 1 2 3 4 5 6 7 8 (switches 2 and 5 ON)	2nd lobby station
ON / OFF — 1 2 3 4 5 6 7 8 (switches 1, 2 and 5 ON)	3rd lobby station
ON / OFF — 1 2 3 4 5 6 7 8 (switches 3 and 5 ON)	4th lobby station
ON / OFF — 1 2 3 4 5 6 7 8 (switches 1, 3 and 5 ON)	5th lobby station
ON / OFF — 1 2 3 4 5 6 7 8 (switches 2, 3 and 5 ON)	6th lobby station

Turning off DIP switches

Under normal operations, set all the DIP switches to "off" as shown below after completing lobby station settings.

DIP switch
ON / OFF — 1 2 3 4 5 6 7 8 (off)

5.6.3 Extension box DIP switch settings when using multiple control boxes

For systems that support enhanced features version 2 or later (page 92)

Connect a PC to the control box and install the setting information of the PC setup tool to the lobby station.
When multiple control boxes (max. of 4) are connected to an extension box, the following patterns of DIP switch settings are used depending on which control box is used to connect with a PC.
DIP switch pattern "1" - "4": indicates the 1st to 6th lobby station within the lobby station group
DIP switch pattern "5" - "7": indicates the number of the control box to be connected to the PC

DIP switch	Example where lobby station 1 is configured from each control box 1-4[*1]
ON OFF 1 2 3 4 5 6 7 8	From control box 1 to 1st lobby station
ON OFF 1 2 3 4 5 6 7 8	From control box 2 to 1st lobby station
ON OFF 1 2 3 4 5 6 7 8	From control box 3 to 1st lobby station
ON OFF 1 2 3 4 5 6 7 8	From control box 4 to 1st lobby station

*1   Follow the settings in 5.6.2 Extension box DIP switch settings (Page 71) for the "1" - "4" DIP switch patterns of the 2nd to 6th lobby stations connect to the extension box.

5.7 Programming multiple control boxes

For systems that support enhanced features version 2 or later (page 92)

To increase the number of control boxes (max. of 4) that are connected to an extension box, do the following operations.

The following illustration is an example of when 3 extensions boxes are connected to 4 control boxes.
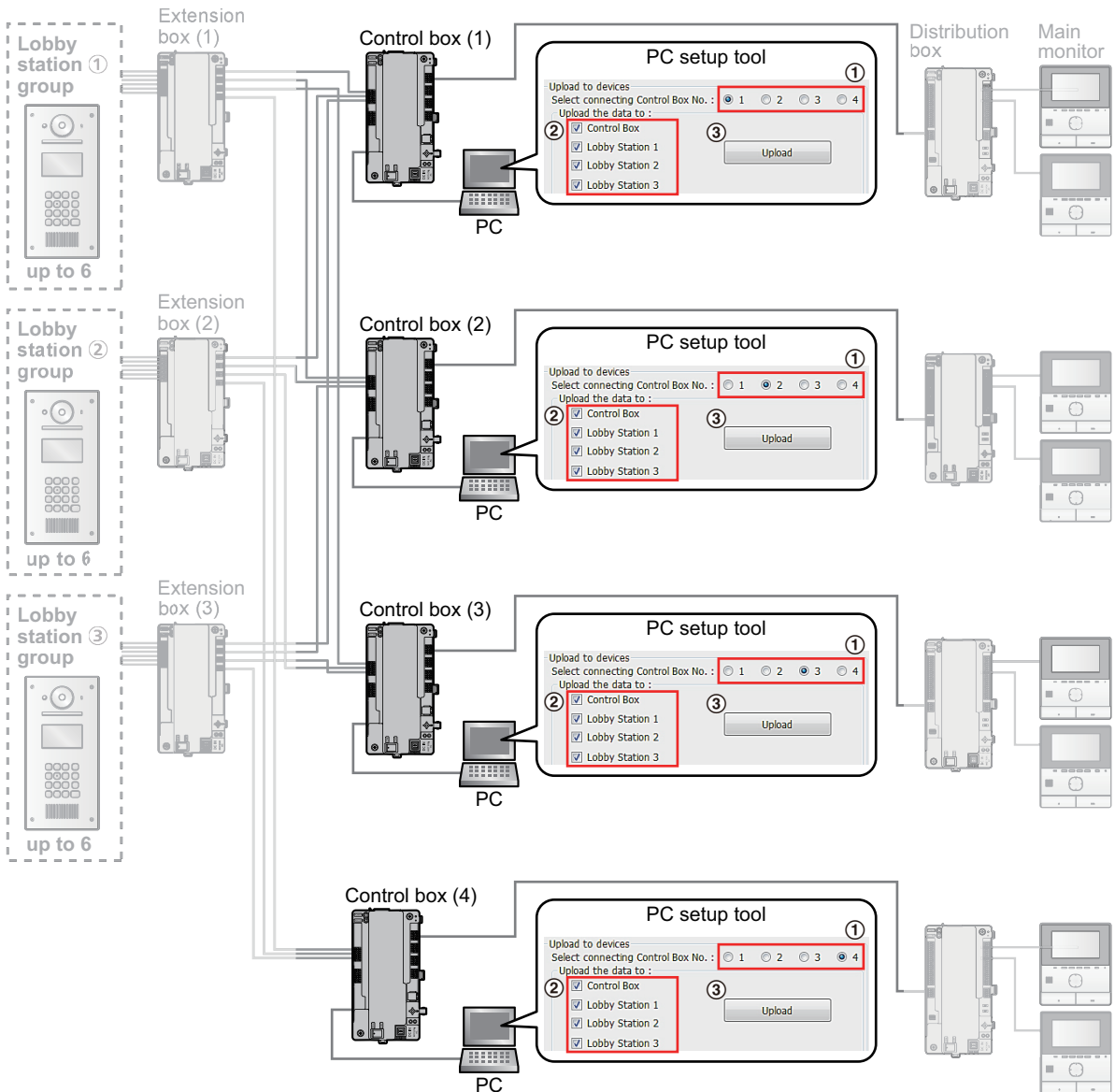
1 **PC setup tool: Load and edit the data**
   Start the setup tool. In the **[Load and edit the data]** section, configure the required **[Room settings]** and **[General settings]**.

2 **PC setup tool: Upload the data to device (when connected to control box 1)**
   To upload the system information using control box 1:
   a. Connect the PC to control box 1.
   b. Click **[1]** to select control box 1 as shown next to "①".
   c. Click all of the devices that you want to upload settings to as shown next to "②", and then click **[Upload]**.

3 PC setup tool: Upload the data to device (when connected to control boxes 2 to 4)

To upload the system information using control boxes 2 to 4, connect a PC to each control box and repeat step 2 with the appropriate control box number and upload devices selected.

5.8 Gate call settings

For systems that support enhanced features version 2 or later (page 92)

If the terminal at the gate is used to call residents when using the gate call settings, residents can use their main monitors to check images from the gate and confirm who is visiting.
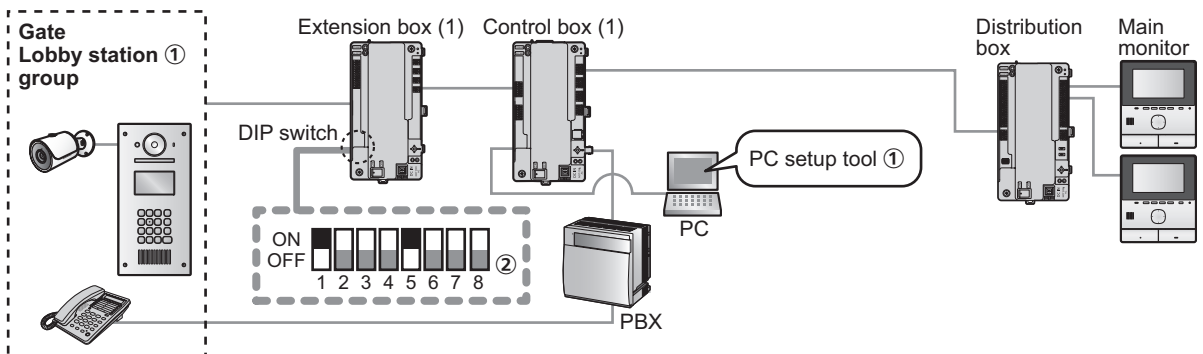
Gate call settings

There are 2 methods for configuring gate call settings.

– Using a computer to configure the system (5.2 PC programming (Page 46)).
– Using individual PBX terminals to configure settings (5.4 Telephone programming (Page 62)).

In addition, DIP switch configuration is required for extension boxes that will perform gate calls.

Example of Lobby station 1 (with priority for the external camera) and TERMINAL 1 are configured for gate calls

Important:

● **In order to activate the gate call settings, [Visitor Call Mode] in the [General settings] of the control box must be set to [ROOM MODE] with the setup tool (page 53). Gate call settings do not operate when the [RECEPTION MODE] setting is used.**

● **In order to display external camera images on a main monitor, one of following settings must be changed.**
  – **PC setup tool: Change [Camera Display Priority] in [General settings] of lobby station 1-3 to [CAMERA ONLY].**
  – **Lobby station: Change "DISPLAY PRIORITY" in "SET CAMERA" to "CAMERA ONLY".**

  When "CAMERA ONLY" is configured, lobby stations are only used to display gate call images and can't be used to call rooms or terminals connected to a PBX system.

1. **PC setup tool:** Start the setup tool and configure the **[Reception Code]** for terminals 1-4 in **[General settings]** of the control box as shown under "①".
   ● Refer to page 46 for more information about PC programming.
   or
   Telephone programming: Configure the settings at the applicable PBX terminal.
   ● Refer to page 62 for more information about telephone programming.

2. **Extension box:** After completing the above settings, set the DIP switches of the extension box as shown under "②".
   ● Set the DIP switches according to the settings of the applicable control box (page 72).

Note:

● When reception mode is used, the reception terminal user uses a reception terminal to unlock the lifts. However, when the gate call settings are used, lifts are unlocked by residents from their main monitors.

● When gate call settings are used, if another lobby station that is connected to the same extenison box that is connected to the gate lobby station group is being used, the main monitor cannot view images from gate reception calls.

DIP switch settings for gate call settings

Gate call settings can only be used for systems that are connected to 1 control box.

(Gate call settings support up to 560 room units.)

DIP switch	Description
ON/OFF — 1 2 3 4 5 6 7 8 (ON: 1, 5)	Example of when the 1st lobby station room control box 1 is set to gate call[1]

[1] Follow the settings in 5.6.2 Extension box DIP switch settings (Page 71) for the "1" - "4" DIP switch patterns of the 2nd to 3rd lobby stations connect to the extension box.

DIP switch settings for gate call settings

For extension boxes with D suffixes or later for the serial number (page 92):

When configuring gate call settings for systems with 2 or more control boxes connected to an extension box, set the DIP switches of the extension box to the following.

(Gate call settings support up to 2240 room units.)

DIP switch	Example where lobby stations 1-6 are configured from each control box 1-4
ON/OFF — 1 2 3 4 5 6 7 8 (ON: 1, 8)	1st lobby station
ON/OFF — 1 2 3 4 5 6 7 8 (ON: 2, 8)	2nd lobby station
ON/OFF — 1 2 3 4 5 6 7 8 (ON: 1, 2, 8)	3rd lobby station
ON/OFF — 1 2 3 4 5 6 7 8 (ON: 3, 8)	4th lobby station
ON/OFF — 1 2 3 4 5 6 7 8 (ON: 1, 3, 8)	5th lobby station
ON/OFF — 1 2 3 4 5 6 7 8 (ON: 2, 3, 8)	6th lobby station

Note:

- Gate mode settings are comprised of combinations of extension telephone numbers and lobby station numbers, and up to 3 combinations can be set to each control box.

Checking the polarity of wiring connections for gate call settings

For extension boxes with D suffixes or later for the serial number (page 92):
When configuring gate call settings when 2 or more control boxes are connected to an extension box, check the polarity of wiring in the following way. Set DIP switch 8 to the "on" position, and set the lobby station DIP switch settings for configuring gate call settings (page 75).
Connect the "+" side of the wire from the control box to L1 of the extension box.

Note:
- Make connections so that L1 on the control box and L1 on the extension box are connected.
1. After connecting to the control box side, measure the voltage of the 2 wires to be connected to the extension box side using an electrical tester.

NP: Non-polarised
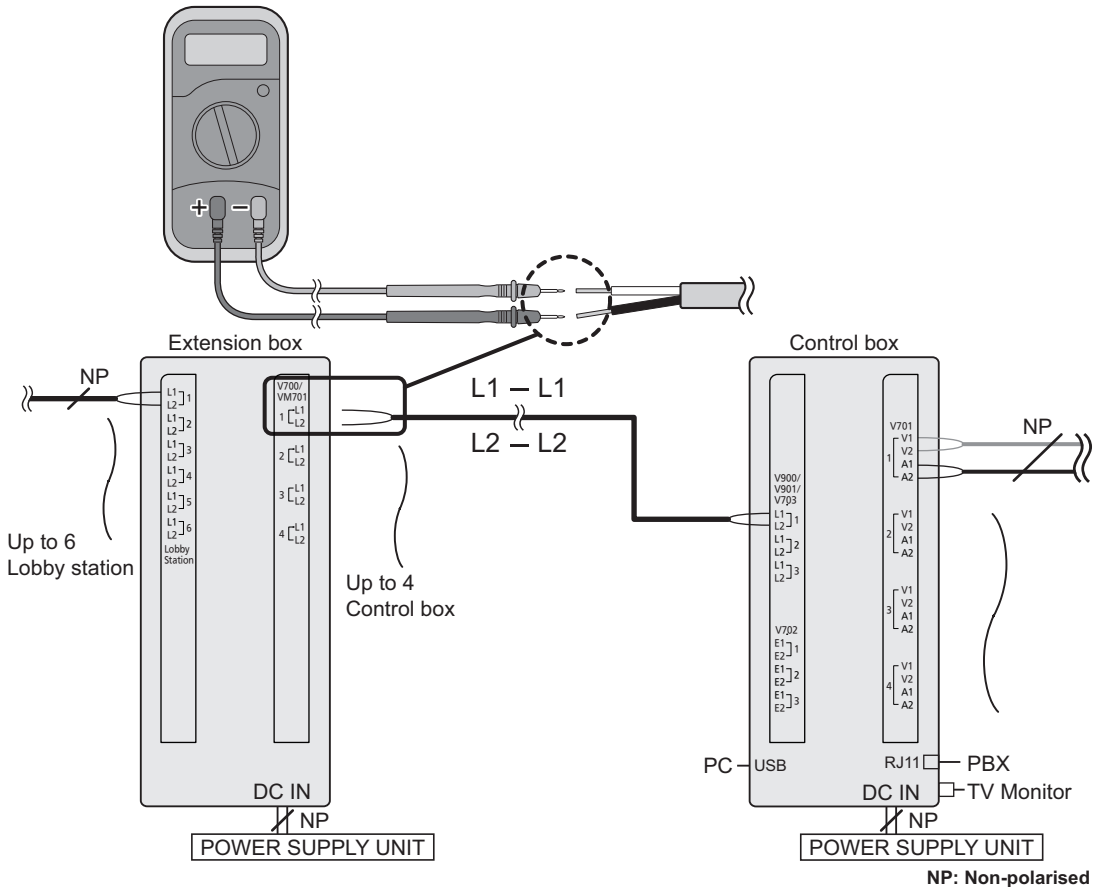
2. Connect extension box wires with the correct polarity as shown in the following.

If the electrical tester displays "approx. +5 V"	If the electrical tester displays "approx. –5 V"
Connection to L2 of the extension box	Connection to L1 of the extension box
Connection to L1 of the extension box	Connection to L2 of the extension box

5.9 System log

You can insert an SD into the control box and use it to log system event information. The following information can be logged.

– Caller and called party information (lobby station number, room number, terminal number, etc.)
– Whether the 2 parties talked
– Whether a door was unlocked or a lift was used
– The date and time for all events
– Images from lobby station cameras (captured when the lobby station called a room number)

Important:

● **An SD card must be inserted into the control box in order to use this feature.**
● **Before inserting an SD card into the control box, format the card using the tool described in "Formatting the SD card".**
● **Once the system is installed and functioning, view the system log to confirm that information is being logged.**

Note:

● Up to 90000 image files can be logged, after which new image files will overwrite old ones.

SD card specifications

● SDHC or SDXC
● Capacity: 4 GB or larger.

Formatting the SD card

Before inserting an SD card into the control box, format the SD card using your computer and the SD formatting tool available from the web page listed below.

www.sdcard.org/downloads/formatter_4/

Note:

● **If you do not format the card before using it with the control box**
  Information may not be logged properly, and new image files may not be able to overwrite old ones.

Viewing the system log

You can insert the SD card into a computer and view the log.

Note:

● **If you use a computer to modify the SD card's files or folders**
  The next time you insert the SD card into the control box, the log database will be rebuilt. This can take up to one hour. During this time, no information will be logged.
● **If you add data to the card using a computer, digital camera, or other device**
  Information may not be logged properly, and new image files may not be able to overwrite old ones.

5.10 Upgrading the system software

The system software saved in the control box can be upgraded.

The system software saved in the control box is software for use with either analog PBXs or digital PBXs. You can determine which software is saved to the control box by checking the suffix of the serial number label attached to the control box. (Refer to 7.5.2 Serial number suffixes (Page 89) for information on suffixes and the types of PBX software available.)

If the type of software saved to the control box does not match the type of PBX being used, download the type of system software that matches the PBX type to the control box. (Updating is not required if the type of PBX and system software match.)

Download new system software

1. Download the system software update file.
  ● **Refer the information on the following web site.**
    https://panasonic.net/cns/pcc/support/intercom/v900

2. Copy the update file to the root path of an SD card.

Upgrade the system software

1. Turn off the control box.

2. Insert the SD card containing the update file into the control box.

3. While pressing and holding the **【FUNCTION】** button, turn on the control box. Do not release the button yet.

4. Wait for about 20 seconds until the control box's **【POWER】** and **【ACCESS】** indicators flash quickly, and then release the **【FUNCTION】** button.
  ● When the update is complete, the control box's **【ACCESS】** indicator lights. (This may take about 20 minutes.)

Note:
● If you have configured or edited the system settings, back up the current configuration files with the following steps before upgrading the system software.
  1. Back up the currently used configuration files (page 50).
  2. Upgrade the system software (page 78).
  3. Upload the configuration files using the Upload the data to device function (page 47) of the setup tool.

5.11 Restarting a device

You can restart the control box, distribution box, or lift controller by pressing its reset button (●).

5.12 POWER and ACCESS indicators

You can use the POWER and ACCESS indicators to check the status of devices.
- All indicators lit in green indicate that there is no problem.
- A red flashing indicator indicates that there is an error.

5.12.1 Control box indicators

Category	Meaning	POWER (green)	ACCESS (red)
Normal operation	Idle	Lit	Off
	Call or monitoring in progress	Lit	Lit
	Accessing SD card	Lit	Flashing quickly
System setup or maintenance	Maintenance mode	Flashing slowly	Off
	Software update in progress	Flashing quickly	Flashing quickly
	Software update completed	Off	Lit
	PC programming in progress	Lit	Lit
	PC programming completed	Lit	Off
	PC connection check in progress	Lit	Lit
	PC connection check completed	Lit	Off
	Reset in progress	Flashing quickly	Off
	Reset completed	Off	Lit
Error	Duplicate distribution box number found	Off	Flashing slowly

5.12.2 Distribution box indicators

Category	Meaning	POWER (green)	ACCESS (red)
Normal operation	Idle	Lit	Off
	Call or monitoring in progress	Lit	Lit
Error	DIP switch 8 is in the "on" position	Off	Flashing slowly
	All DIP switches are in the "off" position (distribution mode)	Off	Flashing slowly
	All DIP switches are in the "off" position (repeater mode)	Lit	Off
	2 or more DIP switches are in the "on" position	Off	Flashing slowly

5.12.3 Lift controller indicators

Category	Meaning	POWER (green)	ACCESS (red)
Normal operation	Idle	Lit	Off
	Visitor is currently able to use the lift	Lit	Lit
Error	DIP switch 6 or 7 is in the "on" position	Off	Flashing slowly
	2 or more DIP switches are in the "on" position	Off	Flashing slowly

5.12.4 Extension box indicators

Category	Meaning	POWER (green)	ACCESS (red)
Normal operation	Idle	Lit	Off
	Call or monitoring in progress	Lit	Lit
Error	DIP switch 4 and/or 8 is in the "on" position	Lit	Flashing slowly

6.1 System conditions and limitations

Please note the following system conditions and limitations.
- Only one call or monitoring session can be handled at a time.
  Subsequent calls will disconnect the current call (if the current call has lower priority), or will not be connected (if the current call has higher priority).

Low priority	Monitoring
Medium priority	General calls (lobby to main monitor, main monitor to terminal, etc.)
High priority	**Emergency calls**

- All calls and monitoring sessions are disconnected after the pre-programmed "timeout" time elapses.
  The default time is 90 seconds for calls and 180 seconds for monitoring.
  Emergency calls are limited to 10 minutes.

6.2 Lobby station operations

6.2.1 Calling a resident

Entering a building number
For systems that support enhanced features version 2 or later (page 92)
If there are multiple buildings, a building number may need to be specified when entering the resident's room number.
1. Enter the resident's building number.
2. Press 【🔔】.

Entering a room number
1. Enter the resident's room number.
2. Press 【🔔】 to call.

Searching by first letter of the name
1. Press 【✱】.
2. Use the keypad to enter the first letter of the resident's name.
   - Press a key repeatedly to scroll through the letters assigned to that key.
   - Note the hints displayed at the bottom of the screen.
3. Press 【▲】 or 【▼】 to search for the desired name.
4. Press 【🔔】 to call.

Searching through all names
1. Press 【▼】.
2. Press 【▲】 or 【▼】 to search for the desired name.
3. Press 【🔔】 to call.

6.2.2 Calling a receptionist

1 Press 【▼】.
2 Press 【▲】 or 【▼】 to search for the receptionist.
3 Press 【🔔】 to call.

Note:

- **For systems that support enhanced features version 2 or later (page 92)**
  If there are multiple buildings, a building number may need to be specified when entering the resident's room number. When **"ENTER BUILDING NO."** is displayed when calling from a lobby station, enter the building number, and then press **[🔔]**.

6.2.3 Opening the door by entering an unlock code

1 Press **[#]**.

2 Enter the 4-digit unlock code.

3 Press **[🔔]**.

Note:

- **For systems that support enhanced features version 2 or later (page 92)**
  If there are multiple buildings, a building number may need to be specified when entering the resident's room number. When **"ENTER BUILDING NO."** is displayed when calling from a lobby station, enter the building number, and then press **[🔔]**.

6.2.4 Opening the door by entering the unlock code for residents

For systems that support enhanced features version 3 or later (page 92)
An unlock code (open code) for unlocking the lobby station can be used by each resident.

Important:

- **To prevent intruders from entering the building, make sure to select open codes that are difficult to guess, change them regularly, and keep them secret. Inform all relevant staff and residents of these policies.**

1 **For 1 building systems:**
Enter the resident's room number.
For multiple buildings systems:
  a. Enter the resident's building number.
  b. Press **[🔔]**.
  c. Enter the resident's room number.

2 Press **[#]**.

3 Enter the 4-digit unlock code.

4 Press **[🔔]**.

6.3 Facility staff operations

Facility staff can use an extension telephone of a PBX to perform a variety of operations.

Operations available when not on a call

1. Dial the extension number assigned to the control box.
   - **For systems that support enhanced features version 2 or later (page 92)**
     When multiple control boxes are connected, dial the extension number of the control box that the device to be called is connected to.
2. Enter the feature number according to the feature you want to operate.

Feature number	Assignment
(room number) #	Call the specified room number
* 1	Call lobby station 1
* 2	Call lobby station 2
* 3	Call lobby station 3
# # 0 0 #	Switch the visitor call mode to room mode
# # 0 1 #	Switch the visitor call mode to reception mode

3. Follow the voice guidance.

Operations available when on a call

Enter the feature number according to the feature you want to operate.

Feature number	Assignment
* 0 0 0 #	Open the entrance door(s)
* (2-digit floor number) #	Open the entrance door(s) and allow the lift to visit the specified floor
* #	Repeat the voice guidance

Room mode vs. reception mode

When the visitor call mode setting is set to room mode, lobby visitors can call a specific resident or room number, and speak with residents directly. The resident can open the entrance door based on the conversation he/she had with the visitor.

When the visitor call mode setting is set to reception mode, calls from lobby visitors are directed to a reception terminal, even if the visitor called a specific resident or room number. Visitors do not speak directly with residents. The reception terminal user can open the entrance door based on the conversation he/she had with the resident.

Gate call settings

Refer to 5.8 Gate call settings for more information on gate call settings.

For systems that support enhanced features version 2 or later (page 92)

If the terminal at the gate is used to call residents when using the gate call settings, residents can use their main monitors to check images from the gate and confirm who is visiting.

7.1 Basic troubleshooting

For advanced troubleshooting, refer the information on the following web site.
https://panasonic.net/cns/pcc/support/intercom/v900

If the system does not operate correctly, particularly after installing or modifying the system, first check the following points.

- Power is connected to each unit
- All cables are connected correctly and fully inserted into the terminals (see page 29 to 37)
  – You can also use the Connection Check function (page 48) of the setup tool to check connections.
- The in/out connections between units are correct (see page 29 to 35)
- The switch settings are correct (see page 37 to 43)

Red lit or flashing indicators

Indicators lit or flashing in red indicate there is an error. See 5.12 POWER and ACCESS indicators (Page 79) for more information.

General issues

Problem	Cause & Solution	Page
Calls are disconnected.	• The call with higher priority (such as an emergency call) was made, causing the current call to be disconnected. → Wait and try again later. • The current call timed out and was disconnected. → To conserve system resources, all calls time out and are disconnected after a programmed amount of time.	81
The lobby station screen is blank.	• The lobby station has not detected the visitor. → Lobby stations feature a motion sensing device that turns on the screen only when a visitor is detected. Stand in front of the lobby station when operating it.	14
Cannot monitor lobby stations from the main monitor.	• Lobby stations connected to extension boxes may not be able to be monitored from main monitors.	69
Cannot monitor lobby stations selected from the monitor list on the main monitor.	• If the selected lobby station is connected to an extension box, it may not be able to be monitored from main monitors.	69
Cannot call lobby stations from the terminal.	• If the lobby stations are connected to extension boxes, terminals cannot call the lobby stations.	69
The speaker volume of the lobby station is too low.	• If the lobby station supports enhanced features, the speaker volume of the lobby station can be increased. → Confirm the enhanced features supported by your device from the suffix of the serial number. → If supported, increase the volume of the speaker volume of the lobby station.	88 93

Setup issues

Problem	Cause & Solution	Page

Cannot upload data to the system.	• The cables are not correctly connected.
	  → Check cable connections and make sure that all cables are fully inserted into the terminals.
	    – You can also use the Connection Check function (page 48) of the setup tool to check connections.
	• Power is not connected to all units.
	  → Check the power connection and connect power to all units.
	• Switch settings are incorrect.
	  → Check the switch settings.
	• The in/out connections between units are incorrect.
	  → Check the connections.
		29 to 43

Main monitor display issues

Image from	Display	Cause & Solution	Page

Lobby station	• No image is displayed (blue screen).
	• Images have poor quality.
		• The cables are not correctly connected.
		  → Check cable connections and make sure that all cables are fully inserted into the terminals. In particular, check the connection between the terminals (V1 and V2) of the control box and distribution box.
		    – You can also use the Connection Check function (page 48) of the setup tool to check connections.
		• Power is not connected to all units.
		  → Check the power connection and connect power to all units.
		• The following settings are not configured to the same values for all lobby stations connected to the same extension box.
		  – Camera Connection
		  – Camera Name
		  – Camera Display Priority
		  – Camera Switching Image
		  – Camera Signal
		  – Time and date settings
		  – Monitor Time Out
		  – Talk Time Out
		  – Lift Signal Mode
		  – Lift Signal Time
		  → Configure the same values for the settings.
			29 to 37
			
			69

Camera	No image is displayed (blue screen).	• The cable is not connected to the camera.
		  → Connect the cable to the camera.
		• Power is not connected to the camera.
		  → Check the power connection and connect power to the camera.
		• The signal format (PAL or NTSC) used in incorrect.
		  → Match the signal format setting (page 53) to the signal format used by the camera.
			29 to 31

Error messages displayed on the main monitor

Message	Cause & Solution	Page
When connected to a PBX: `System in use`	• Another call is in progress. → Wait and try again later. • The control box is not connected properly to the PBX (telephone system) that controls the terminals, or the control box cannot call the PBX for some reason. → Check the connections between the control box and the PBX, and all relevant PBX settings.	31 36
• `Cannot connect` • `Setup failed` (displayed after selecting to overwrite a room number)	• The cables are not correctly connected. → Check cable connections and make sure that all cables are fully inserted into the terminals. – You can also use the Connection Check function (page 48) of the setup tool to check connections. • Power is not connected to the control box. → Check the power connection and connect power to the control box.	29 to 37
`System in use`	• The cables (except for the extension telephone's cable) are not correctly connected. → Check cable connections and make sure that all cables are fully inserted into the terminals. – You can also use the Connection Check function (page 48) of the setup tool to check connections. • Power is not connected to the control box. → Check the power connection and connect power to the control box.	29 to 37
blank display	• The extension telephone's cable is not correctly connected. → Connect the extension telephone's cable.	31 36

7.2 Cleaning

Wipe the product with a soft, dry cloth.
• For excessive dirt, wipe the product with a cloth slightly dampened with fresh water.
• When the product is installed near ocean coasts, wipe the product with a cloth slightly dampened with fresh water once every 2 to 3 months.

Important:
• **DO NOT USE ANY SOLVENTS CONTAINING CHLORINE. This causes the product to rust.**
• **Do not use any cleaning products that contain alcohol, polish powder, powder soap, benzine, thinner, wax, petroleum, or boiling water. Also do not spray the product with insecticide, glass cleaner, hair spray or wall paint. This may cause a change in colour or quality of the product.**

7.3 Trademarks

• Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.
• SDXC Logo is a trademark of SD-3C, LLC.

7.4 Terms and illustrations in this document

• SD memory cards are referred to as "SD cards".
• Model number suffixes (e.g., the "BX" in "VL-V900BX") are omitted unless necessary.

- Illustrations may vary slightly from the actual product.

7.5 Identifying enhanced features

Enhanced features are used to add to the capabilities of devices in the Video Intercom System for Apartment Complexes. You can identify the enhanced features by checking the suffix of the serial number.

7.5.1 Serial numbers

Serial numbers are attached as labels to devices.The suffix of the serial number can be used to determine which enhanced features are supported by the device.

Serial number example:

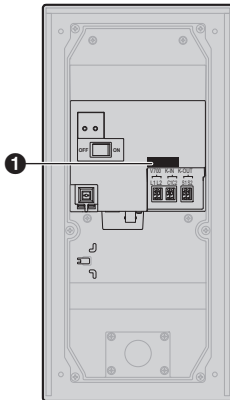| 5	J	A	C	A	0	0	1	0	0	1

5th digit: suffix (alphabet)
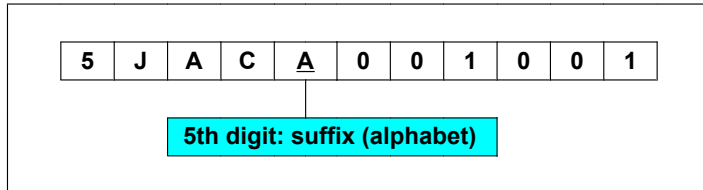
Note:
● The letter used for the suffix is updated for product changes or products with updated features.
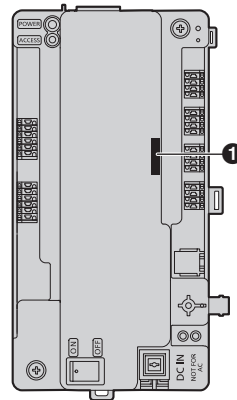
Serial number label locations

Lobby station (rear view)

❶ Serial number label

Control box

❶ Serial number label

7.5.2 Serial number suffixes

The suffix of the serial number can be used to determine which enhanced features are supported by the device.

Lobby station (VL-V900/VL-V901)

Model no.	Suffix (5th digit of serial number)	Meaning
VL-V900BX	**A, B, C**	–
VL-V900TK	**A**	
VL-V900SX	**A, B**	
VL-V900VN	**A, B**	
VL-V900BX	**D** or later	• Enables the volume of the lobby station speakers to be increased by sliding the switch on the printed circuit board of the lobby station.
VL-V900TK	**B** or later	
VL-V900SX	**C** or later	
VL-V900VN	**C** or later	
VL-V901BX	**A** or later	
VL-V901SX	**A** or later	
VL-V901VN	**A** or later	

Control box (VL-V700)

The system software saved in the control box is software for use with either analog PBXs or digital PBXs. You can determine which software is saved to the control box by checking the suffix of the serial number label attached to the control box.

If the type of software saved to the control box does not match the type of PBX being used, download the type of system software that matches the PBX type to the control box. (Updating is not required if the type of PBX and system software match.)

• Download information is available at the following web site.

   https://panasonic.net/cns/pcc/support/intercom/v900

• Refer to 5.10 Upgrading the system software (Page 78) or consult your certified Panasonic dealer for information about upgrading the system software.

Model no.	Suffix (5th digit of serial number)	Meaning	Software uploaded to the web site
VL-V700BX	**A, B, C, D, E**	Default: Analog PBX software • If you are using a digital PBX you must download the software for digital PBX and install it to the control box.	Software for analog PBX Software for digital PBX
VL-V700TK	**A, B**		
VL-V700SX	**A, B, C, D**		
VL-V700VN	**A, B, C, D**		
VL-V700BX	**F** or later	Default: Digital PBX software • If you are using an analog PBX you must download the software for analog PBX and install it to the control box.	
VL-V700TK	**C** or later		
VL-V700SX	**E** or later		
VL-V700VN	**E** or later		

7.5.3 Setup tool versions and serial number suffixes

The suffix of the serial number can be used to determine which enhanced features are supported by the device.

Setup tool versions

Important:
- **When enhanced version 2 devices are configured with the version 3 setup tool, regardless of whether settings could be configured with the setup tool, the following functions will not operate because the devices do not support the functions.**
  When the lobby station is enhanced version 2:
  – **unlocking code setting for each resident**
  – **lobby station unlocking notification sound settings**
  When the control box is enhanced version 2:
  – **multiple floor settings for lifts**

❶ If you know the features version of the control box, select the appropriate version. See page 91 for information on version numbers and suffixes.

❷ If you do not know the features version of the control box, click **[Auto Select by Control Box Version]** after connecting the PC to the control box. The setup tool will be automatically opened using the correct software version.

Note:
- If you are using enhanced features version 2, use the latest Setup Tool version 3.

Serial number suffixes for Lobby station (VL-V900/VL-V901), Control box (VL-V700), Extension box (VL-V703), and Distribution box (VL-V701)

Original features version 1

Model no.	Suffix (5th digit of serial number)	Changes summary	Software uploaded to the web site
VL-V900BX	**A, B, C, D, E**	–	Setup tool version 1
VL-V900TK	**A, B, C**		
VL-V900SX	**A, B, C, D**		
VL-V900VN	**A, B, C, D**		
VL-V700BX	**A, B, C D, E, F**		
VL-V700TK	**A, B, C**		
VL-V700SX	**A, B, C, D, E**		
VL-V700VN	**A, B, C, D, E**		
VL-V703BX	**A, B**		
VL-V703TK	**A, B**		
VL-V703SX	**A, B**		
VL-V703VN	**A, B**		
VL-V701BX	**A, B, C**		
VL-V701TK	**A, B**		
VL-V701SX	**A, B**		
VL-V701VN	**A, B**		

Enhanced features version 2

Model no.	Suffix (5th digit of serial number)	Changes summary	Software uploaded to the web site
VL-V900BX	**F** or later	• Enables the system to support up to 2240 room units (main monitors) by connecting up to 4 control boxes to extension boxes. • When using gate call settings, enables images (images of visitors) from lobby stations and external cameras to be shown on the main monitor when the PBX terminal of the reception is on a call with the main monitor. *1 When 1 control box is used in a composition with an extension box with a C suffix for the serial number, gate call settings support up to 560 room units. *2 To compose a system of 2 or more control boxes, extension boxes with D suffixes or later for the serial number are required. In this case, gate call settings support up to 2240 room units.	Setup tool version 2
VL-V900TK	**D** or later		
VL-V900SX	**E** or later		
VL-V900VN	**E** or later		
VL-V700BX	**G** or later		
VL-V700TK	**D** or later		
VL-V700SX	**F** or later		
VL-V700VN	**F** or later		
VL-V703BX	**C**[*1]		
VL-V703TK	**C**[*1]		
VL-V703SX	**C**[*1]		
VL-V703VN	**C**[*1]		
VL-V703BX	**D** or later[*2]		
VL-V703TK	**D** or later[*2]		
VL-V703SX	**D** or later[*2]		
VL-V703VN	**D** or later[*2]		
VL-V701BX	**D** or later	• Enables the maximum number of distribution boxes to be increased to 10.	
VL-V701TK	**C** or later		
VL-V701SX	**C** or later		
VL-V701VN	**C** or later		

Enhanced features version 3

Model no.	Suffix (5th digit of serial number)	Changes summary	Software uploaded to the web site
VL-V900BX	**G** or later	• When relay signalling is used by the lift controller, settings for stopping on multiple floors for all lifts (up to 5 separate floor settings) are supported. • An "Open code" for unlocking the lobby station can be configured for each resident. • When a lobby station is unlocked, a notification sound can be sent from the lobby station depending on the settings.	Setup tool version 3 (including PC Tool Version 2)
VL-V900TK	**E** or later		
VL-V900SX	**F** or later		
VL-V900VN	**F** or later		
VL-V901BX	**A** or later		
VL-V901SX	**A** or later		
VL-V901VN	**A** or later		
VL-V700BX	**H** or later		
VL-V700TK	**E** or later		
VL-V700SX	**G** or later		
VL-V700VN	**G** or later		

7.5.4 Increasing the volume of lobby station speakers

Refer to 7.5.1 Serial numbers (Page 88) in order to confirm that your lobby station supports enhanced features for adjusting the volume of lobby station speakers. The speaker volume can be adjusted by removing the cabinet cover and changing the position of the switches. After making adjustments make sure to reattach the cabinet cover.

Important:

- **Before removing the cabinet cover in order to adjust the speaker volume, make sure to turn off the power at the breaker. Next, refer to the safety information in 2 Important Information (Page 8) and then follow the procedure below to adjust the volume.**
  Refer servicing to an authorised service centre when service is required.
  Opening or removing covers may expose you to dangerous voltages or other risks.

1 If the lobby station is already installed, remove it (②) from the flush mount box (①). Use the supplied hex wrench to remove the 4 screws (③).
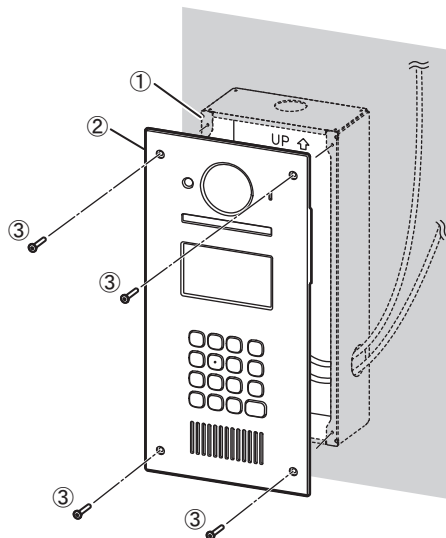
2 Remove the cabinet cover (①) from the front cabinet (②), adjust the volume, and then reattach the cabinet cover.
- Remove all 8 screws (③).
- Disconnect the connector (④) from the printed circuit board (⑤).
- There are 2 slide switches ⑥ ("BEEP" and "VOLUME") used to set the speaker volume on the printed circuit board.
  To increase the volume, slide both the "BEEP" and "VOLUME" switches to "LOUD".
  – The default setting of the switches is "N" (normal).
  – The speaker volume increases by about 6 dB.

- Attach the connector (④) to the printed circuit board (⑤), and then reattach the cabinet cover by securely fastening the screws (③).
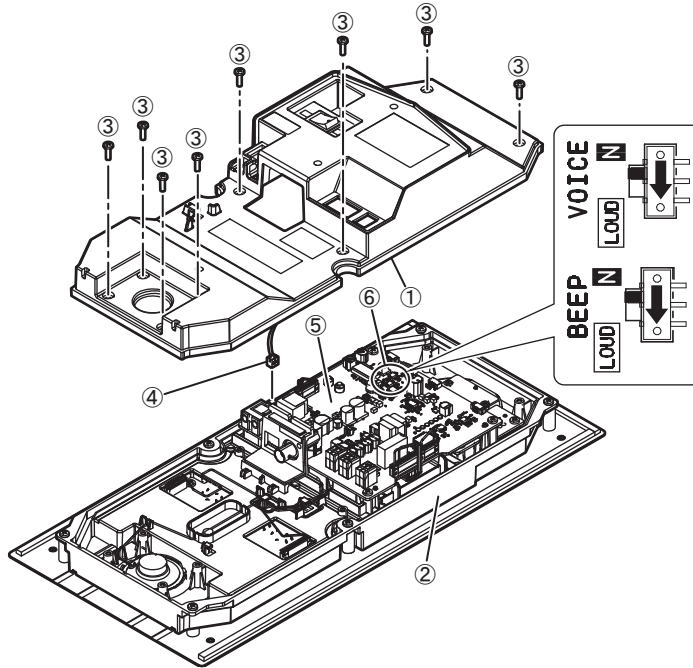
3 Refer to 4.3 Installing the Lobby Station (Page 24) and reattach the lobby station to the flush mount box.

PNQP1226QA C1115HH9049