# 1 by Multi Video Intercom System Installation Guide













### **Panasonic**

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# 1. Specifications

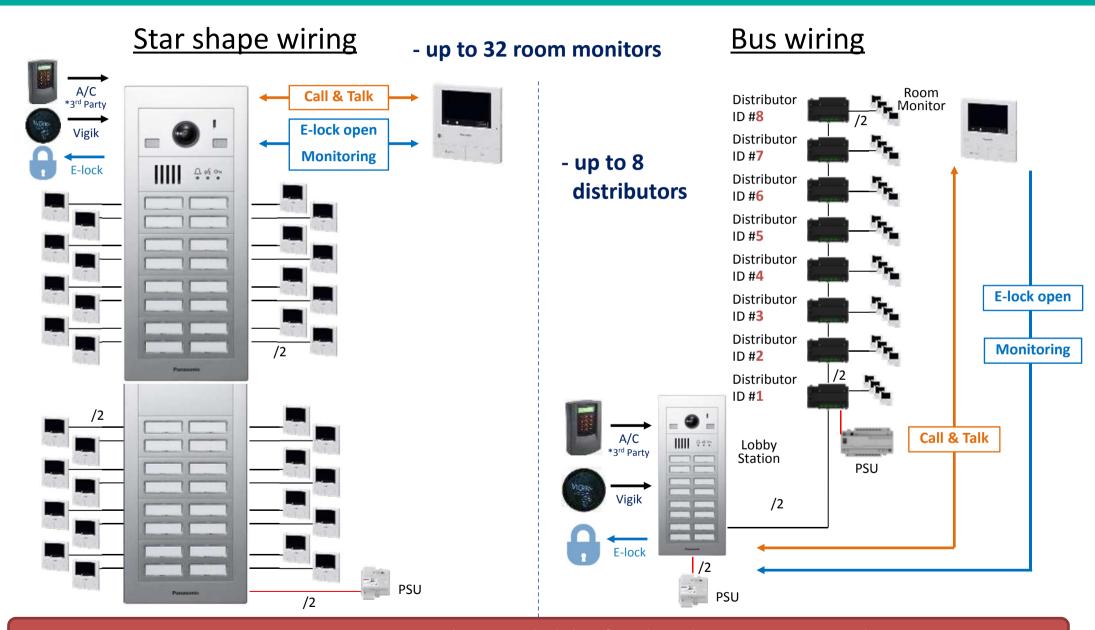
### 1. Specifications

# 1-1. Comparison

ltem		VL-VM Series (1 by Multi)	VL-V900 series (Analog)	
System diagram Example		Monitor  Monitor  Star-shape wiring  stributor	Distribution Box  Lift Controller  Distribution Box  Lobby station  Control Box  PBX  CCTV  Security  Camera	
	Expandability	32	560 ( Enhanced System : 2240 )	
	Power Source	DC 24V	DC 24V	
General	IP / IK rating	IP55 / IK08	IP55 / IK07	
General	Operating environment	- 15 deg. To 55 deg. Celsius	- 10 deg. To 55deg. Celsius	
	Surface material	Metal (Machine cut aluminum)	Stainless steel (partially ABS and PC)	
	Image sensor	Approx. 1M pixels C-MOS sensor	Approx. 1M pixels C-MOS sensor	
Camera	Camera angle	H. 170 degrees V. 110 degrees	H. 170 degrees V. 115 degrees	
Unit	Lighting method	White color LED	White color LED	
	Minimum illuminance	1 lx	1 lx	
Calling I/F Calling Method Direct Call Button Name plate access from front side White color LED		Call by input Key Room Number or selecting List of Phone book White color LED		

<sup>\*</sup>Some Power Supply Units (PSUs) are abbreviated in figures. The configuration of PSUs depends on system requirement and specification of devices selected in each system.

# 1-2. System Overview



Panasonic system is only available for both wiring topology.

### 1-3. Product Line-up

### Product Image





Camera Module VL-VM101



Surface Mount Cover (Smaller Type) VL-VM502



Surface Mount Cover (Large Type) VL-VM503



Distributor VL-VM701



High Power Type PSU VL-PS2410



-Button Module VL-VM301



3-Button Module VL-VM303



2-Button Module VL-VM302



4-Button Module VL-VM304



Blank Panel VL-VM901



Vigik Panel VL-VM902

\*Vigik module is sold by 3<sup>rd</sup> party.



Back Box (Small Type) VL-VM602



Back Box (Large Type) VL-VM603



Extension Cable VL-VM801







Room Monitor
VL-MWD501/VL-MVN511/VL-MV10EX

### 1. Specifications

# 1-4. Module Line-up

Model No.	Module	Image	Size	Description
VL-VM101EX	Camera module			Central unit with a camera, speaker and microphone.
		A ME On		*Camera = 1M pixels
VL-VM301EX	1-button module			
VL-VM302EX	2-buttons module		Half module size	Call button with backlight
VL-VM303EX	3-buttons module		Hall Illoudie Size	Call button with backlight
VL-VM304EX	4-buttons module			
VL-VM502EX	Surface Mount Cover (Small Type)		-	Cover for surface mount
VL-VM503EX	Surface Mount Cover (Large Type)			Cover for surface mount
VL-VM602EX	Back Box (Small Type)		_	Flush mount box
VL-VM603EX	Back Box (Large Type)			
VL-VM901EX	Blank Panel		Half module size	Panel for unfilled space.
VL-VM902EX	Vigik Panel		Half module size	
VL-VM801	Extension Cable		-	Cable for extension
VL-VM701EX	Distributer		-	Distribution box for room monitor
VL-PS2410	High Power Type PSU		-	High-power type PSU
VL-PS240	PSU	- X - X - X - X - X - X - X - X - X - X	-	Standard type PSU

# 1-5. Lobby Station-1



#### **Role of the Lobby Station**

Door entry panel for the public entrance of housing complexes. Direct button to call resident.

#### **Features**

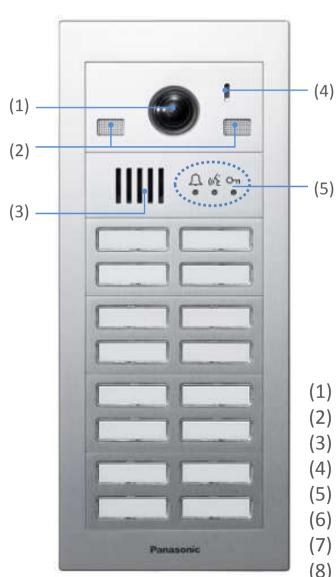
- 1M pixels camera
- Wide angle camera (Horizontally=approx.170°, Vertically=approx.110°)
- White key backlit with illuminance sensor.
- Front accessible name plate (Inaccessible type is also available)
- White coloured LED<sup>\*\*</sup> lights for night colour vision with illuminance sensor (\*The life of a Key backlight LED : 23 years)
- Status Indicators (Calling/Talking/Door Opening)
- Audio guidance for DDA. (Door opening=EN, FR, DE, ES, IT, NL, AR, FA)
- IP55/IK08 (Aluminum panel)

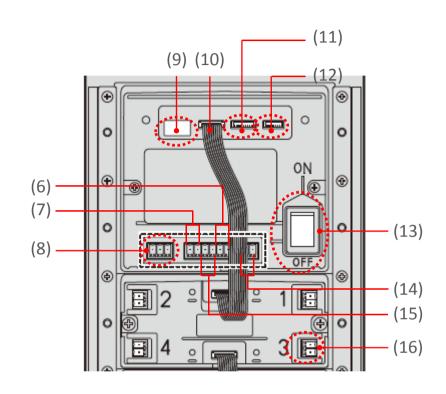
### **Connectable devices**

- Electric locks (3<sup>rd</sup> party)
- Access control (3<sup>rd</sup> party)

#### 1. Specifications

### 1-6. Lobby Station-2



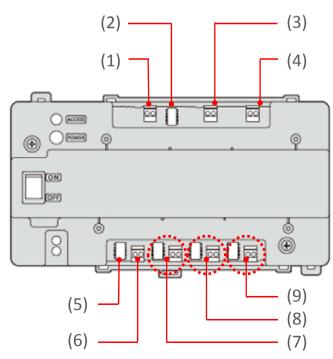


- Camera lens
- Light (for night vision)
- Speaker
- Mic
- Status indicator (Calling/Talking/Door opening) (13) Power switch
- Terminal for bus wiring
- Vigik module input
- K-OUT for NC/NO

- Dip switch for setting
- (10) Connector cable for module connection
- (11) Connector for DDA module (TBD)
- (12) Connector for 12key module (TBD)
- (14) Terminal for DC in
- (15) K-IN
- (16) Terminal foe star shape wiring

### 1-7. Distributor: VL-VM701





### **Role of the Distributor**

Distribution box for the room monitor in "Bus Wiring". This unit is not necessary for "Star-Shape Wiring".

#### **Features**

- Up to 4 room monitors can be connected per a distributor.
- Powered by PSU(PS240 or PS2410), or bus-powered by previous distributor.

- (1) Terminal for DC in
- (2) DIP SW for distributor ID
- (3) Terminal for bus wiring input
- (4) Terminal for bus wiring output
- (5) DIP SW for Line1 Room No.
- (6) Terminal for Line1
- (7) Terminal & DIP SW for Line2
- (8) Terminal & DIP SW for Line3
- (9) Terminal & DIP SW for Line4

### 1-8. High Power Type PSU: VL-PS2410



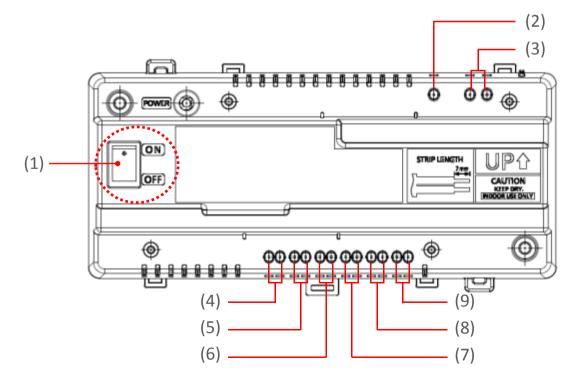
#### Role of the High Power Type PSU

High power type PSU which is suitable for apartment system.

Input : 220-240 VAC.
Output : 24 VDC. / 2.5A

#### **Features**

- Up to 6 outputs. Total output current < 2.5A Mountable on a DIN rail or attach to a wall directly.



- (1) Power Switch
- (2) Terminal for Ground
- (3) Terminal for AC input
- (4) Terminal for DC output 1
- (5) Terminal for DC output 2
- (6) Terminal for DC output 3
- (7) Terminal for DC output 4
- (8) Terminal for DC output 5
- (9) Terminal for DC output 6

# 2. Features

# 2-1. Stylish Design



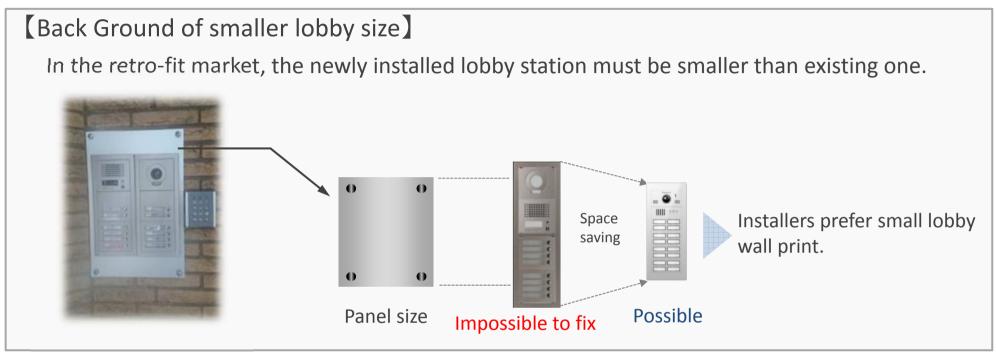
# **Stylish Lobby Station**

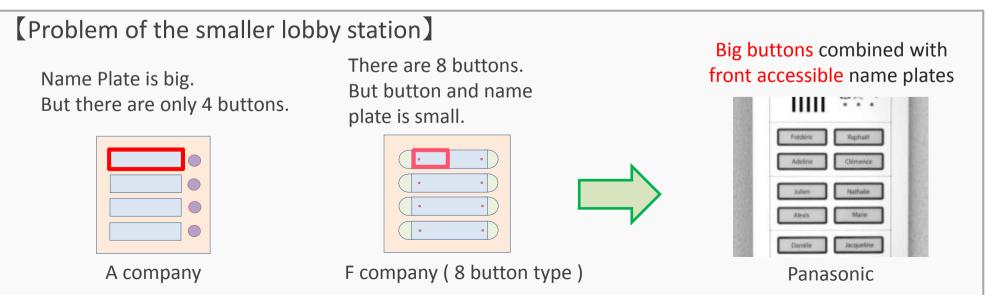




- Hairline Finish
- Compact Design
- Big Button
- LED Indicator

### 2-2. Compact Design



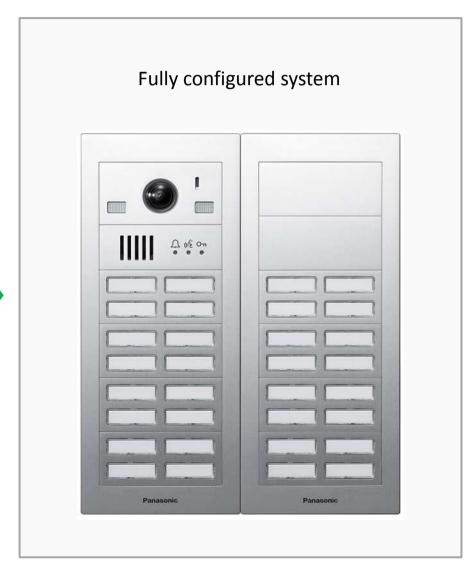


### 2-3. Customization with Each Module -1

It is possible to select according to the customer requirement.

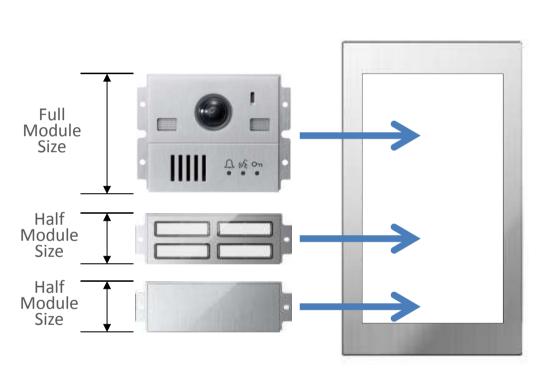






### 2-4. Customization with Each Module -2

#### Small size Back Box (VM602)

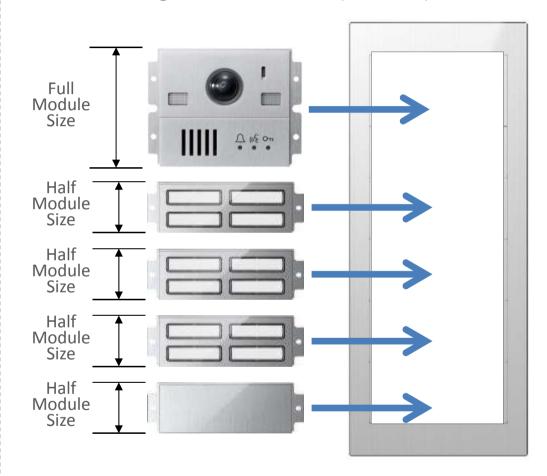


#### Small size Back Box configuration example

Camera Module (VM101/full) : 1 pc.4-button module (VM304/half) : 1 pcs.

- Blank Panel (VM901/half) : 1 pc.

#### Large size Back Box (VM603)



#### Large size Back Box configuration example

- Camera Module (VM101/full) : 1 pc.

- 4-button module (VM304/half) : 3 pcs.

- Blank Panel (VM901/half) : 1 pc

### 2-5. Customization with Each Module -3

It is possible to select according to the customer requirement.

(Unit: pcs)						O:	0: 	0:1	
Number of call buttons	32	28	16	13	24	16	8	7	6
VL-VM101	1	1	1	1	1	1	1	1	1
VL-VM301				1					
VL-VM302									1
VL-VM303								1	
VL-VM304	8	7	4	3	6	4	2	1	1
VL-VM901	2	3				2			
VL-VM502/VM503		VL-VM503: (1) *1		VL-VM502: (2) *1		VL-VM502: (1) *1			
VL-VM602/VM603 VL-VM603: 2		VL-VM603: 1		VL-VM6	VL-VM602: 2		VL-VM602: 1		
VL-VM801	1	1			1	1			

<sup>\*1</sup> When the flush mount installation method is used, a Surface Mount Cover cannot be installed.

### 2-6. Easy Accessible Name Plate

#### **Back Ground**

Building managers can not change the name plate by themselves.



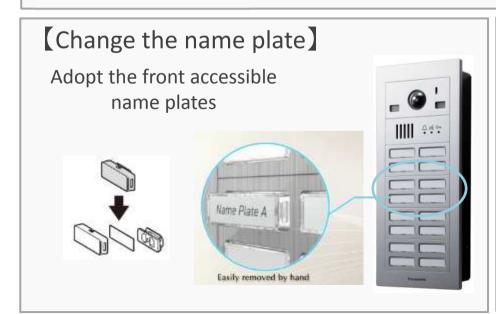
■ Factor
To change the name plates, have to remove the panel and access to rear side.

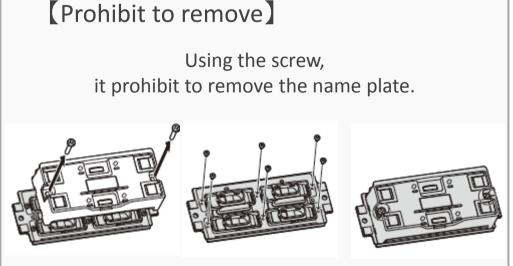
Manager

Not comfortable to ask installers just to change name plates.

Installer

Just changing name plates does not generate profit.





### 2-7. Camera Angle

The wide-angle camera gives a wide view of the front porch area.

Left/right angle comparison image (Horizontally)

Approx. 170°





Almost the full width is visible.

Upper/lower angle comparison image (Vertically)

Approx. 110°



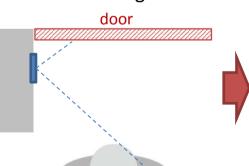
The face can be seen regardless of height and posture.





If lobby station installed vertically toward the door, it is difficult to catch the visitor by standard angle camera.

■ Standard angle



Wide angle

door

Difficult to catch the face.

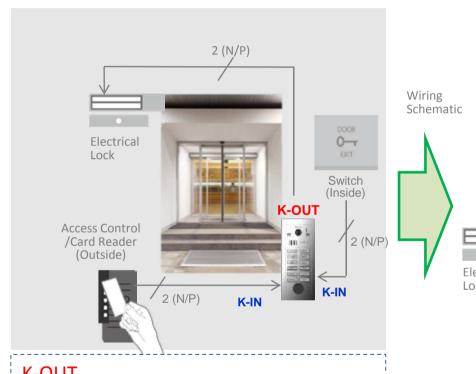
Possible to confirm whole image.

The wide image taken with the wide-angle lens enables easy, complete confirmation.

### 2-8. E-lock & Access Control

Wiring schematic (VL-VM101)

(Access Control, E-lock & Lobby Station)



#### K-OUT

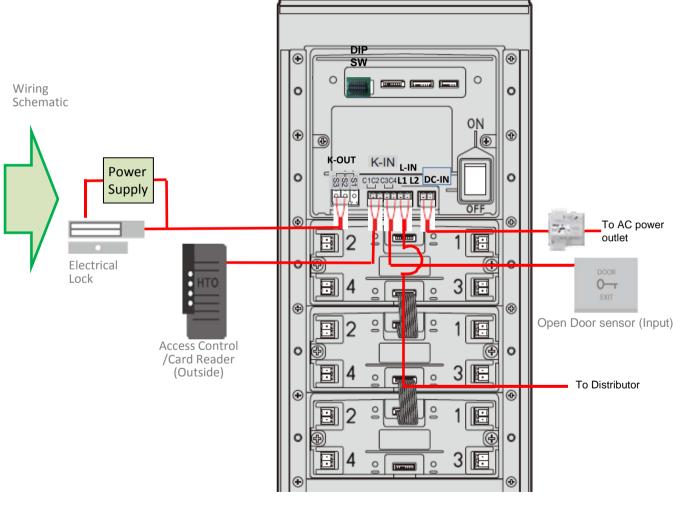
S1 and S2: Normally-Open (Active Close)

S2 and S3: Normally-Close (Active Open)

#### K-IN

C1 and C2: Access Controller(input)

C3 and C4: Open Door sensor(input)



It is possible to integrate with Access Control and E-lock.

# 3. Monitor Line Up

### 3-1. VL-MWD501 Series

- Answer visitors in anywhere at home by wireless sub monitor.
- Safety and convenient by picture recording function into SD card.

#### Sales point

#### 1. DECT wireless sub monitor

- Answer visitors in anywhere at home
- Support additional sub monitors up to 6

#### 2. Super wide angle camera

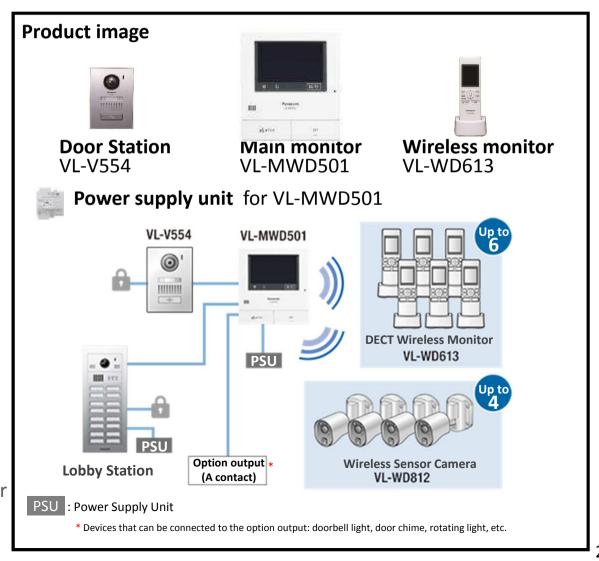
- Wide view with horizontal 170 degree
- Easy and smooth zoom

#### 3. Picture recording function into SD card

- Much memory capacity of SD card
- Auto picture recording even in your absence

#### Other feature

- Clear view LED light in night time
- Support E-lock connection from door camera
- Support extend of wireless range by DECT repeater



### 3-2. VL-MVN511 Series

■ Enhance our product line-up with unique intercom system with smart phone connect

#### Sales point

#### 1. Smart phone connectivity

- Easy setup
- Easy install with Wi-Fi connection.

#### 2. Picture recording function

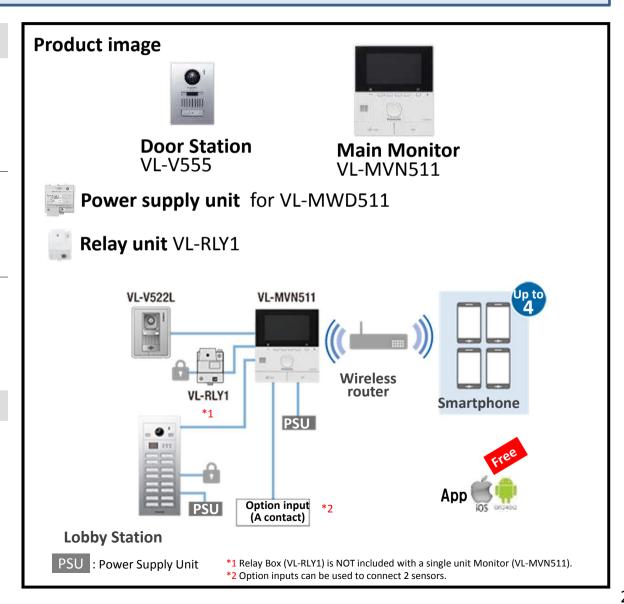
Up to 50 pictures recordable

#### 3. LED Lighting Door station

 Can see visitors in color even at night by LED is turned on.

#### Other feature

- Option Connectivity
- Door station
- Lobby Door station
- Repeater
- Digital PBX



### 3-5. VL-MV10EX1/EX2(French Model)

- Price conscious monitor which reduce the system price.
- Bus power supply makes installation easier.

#### Sales point

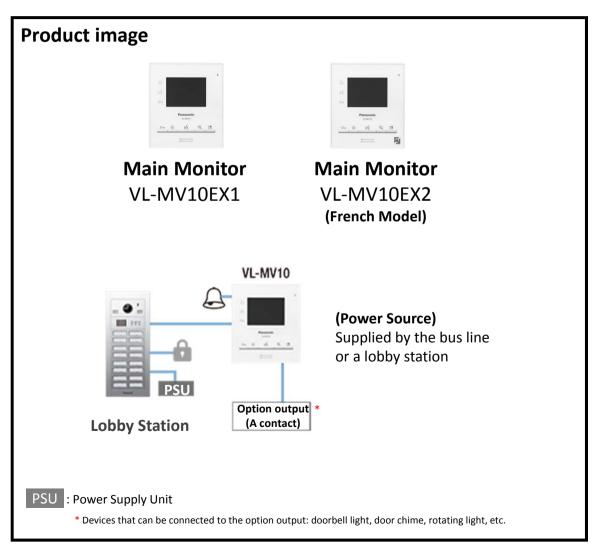
- 1. Simple feature and affordable price
  - Contribute to reduce system price.

#### 2. No external Power Supply Unit

- Power is provided by the bus line or a lobby station (Easy to install)
- 3. Hearing aid connectivity (only for MV10EX2)
  - Comply with the French regulation

#### Other feature

- Status indicators (LED)
- 3.5 inch LCD display
- Door Bell (3<sup>rd</sup> Party)



# 3-4. Function Table

	VL-MWD501	VL-MVN511	
Power source	Power supply unit VL-PS240/or 241	Power supply unit VL-PS240/or 241	Bus power (No PSU required.)
Display	5-inch WVGA wide colour / Touch panel	5-inch WQVGA wide colour	3.5-inch colour
Frequency range	1.88 GHz – 1.90 GHz	Wi-Fi: (IEEE 802.11 b/g/n2.4 GHz)	-
Installation method	Wall mount (mounting bracket supplied)	Wall mount (mounting bracket supplied)	Wall mount (mounting bracket supplied)
Picture recording	Y (Up to 400 images) Up to 50 visitors 8 shots per visitor	Y (Up to 400 images) Up to 50 visitors 8 shots per visitor	-
Voice changer	Υ	Υ	-
Wireless monitor	Y (Up to 6)	-	-
Repeater	Y (Up to 2)	-	-
Smartphone connect	-	Y (Up to 4)	-
E-mail notification	-	Y (Up to 4) *1	-
Wireless sensor camera	Y (Up to 4) VL-WD812	-	-
Intercom call	Y*2	-	-
Door unit	Door Station VL-V554, VL-V554U VL-V555, VL-V522L	Door Station VL-V554, VL-V554U VL-V555, VL-V522L	Doorbell (3 <sup>rd</sup> Party)
Display language	EN, FR, DE, ES, IT, NL	EN, FR, DE, ES, IT, NL	Nil (pictogram)

<sup>\*1</sup> The main monitor must be connected to a Wi-Fi router that is connected to the Internet in order to use email feature.

<sup>\*2</sup> Multiple wireless monitors are required.

# 4. Installation

# 4-1. Lobby Station Assembly-1

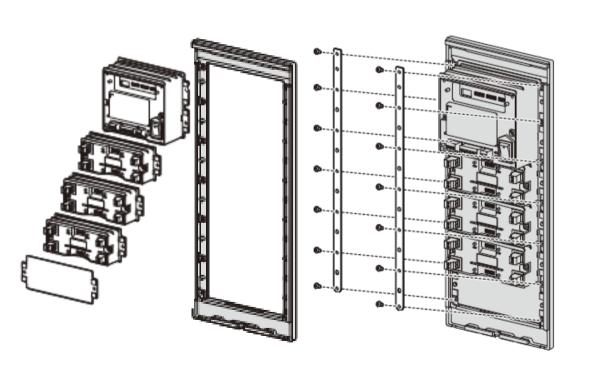
### Step-1

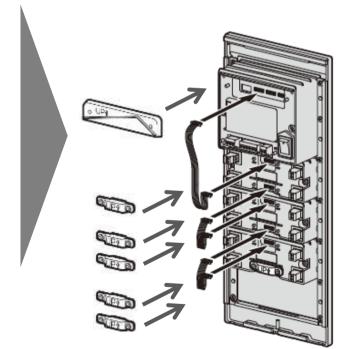
Attach the every modules to the frame.

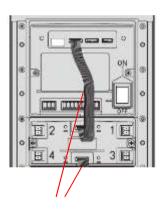
### Step-2

Connect each modules by wire connector.

Put the module cable cover on each.







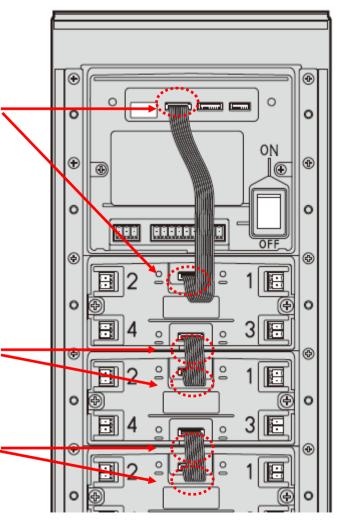
Wire connector

<sup>\*</sup>Need to attach upper side module first

### 4-2. Lobby Station Assembly-2

#### Detail for connector cable

1. Connect camera module with 1<sup>st</sup> button module.

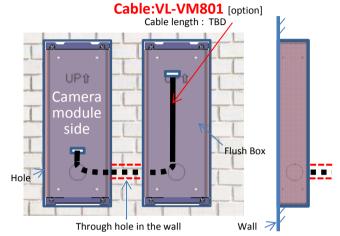


2.
Connect 1<sup>st</sup> button module with 2<sup>nd</sup> button module.

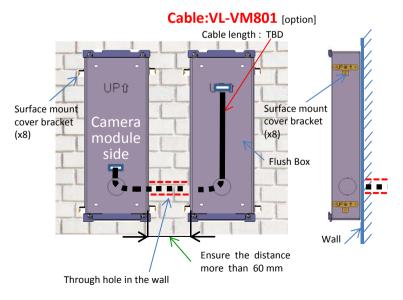
Connect 2<sup>nd</sup> button module with 3<sup>rd</sup> button module.

Repeat this procedure to last button module.

### Multi panel cabling



#### Long connector cable for flush mount

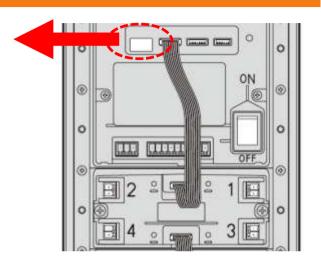


Long connector cable for surface mount

\*\*Surface mount cover is required.

# 4-3. Setting for Lobby Station

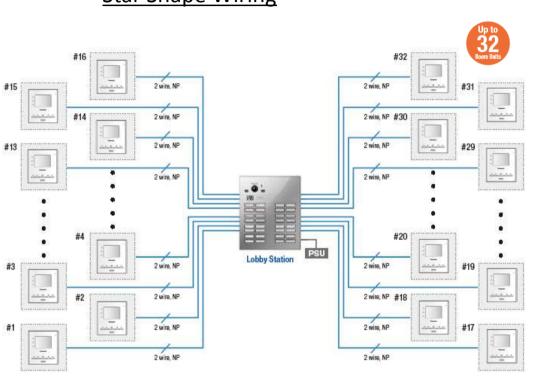
	Setting	DIP switch	
Wiring Method	Star shape wiring	ON OFF 12345678	bit1:0
	Bus wiring	ON 12 3 4 5 6 7 8	bit1:1
	Turns on in dark condition	ON DEPENDENT OF 1 2 3 4 5 6 7 8	bit 2-3:00
Key Backlit in Standby-Mode	Always On	ON 0FF 1 2 3 4 5 6 7 8	bit 2-3:10
	Always Off	ON HERE 1 2 3 4 5 6 7 8	bit 2-3 : 01
	No Audio Guidance	ON HEHELE HE OFF 1 2 3 4 5 6 7 8	bit 4-7 : 0000
	English	ON OFF 1 2 3 4 5 6 7 8	bit 4-7 : 1000
	German	ON HELLING OFF 1 2 3 4 5 6 7 8	bit 4-7 : 0100
Audio guidance	French	ON HERE 1 2 3 4 5 6 7 8	bit 4-7 : 1100
Language	Spanish	ON OFF 1 2 3 4 5 6 7 8	bit 4-7 : 0010
( Door Opening )	Italian	ON HELL HELL OF THE STREET OF	bit 4-7 : 1010
	Dutch	ON HELL HELL OF THE STREET OF	bit 4-7:0110
	Arabic	ON DEPARTMENT OF 1 2 3 4 5 6 7 8	bit 4-7 : 1110
	Persian	ON HEHELE HE OFF 1 2 3 4 5 6 7 8	bit 4-7 : 0001
Monitoring	Enable Monitoring	ON HARABARA OFF 1 2 3 4 5 6 7 8	bit8 : 0
(from R/M)	Disable Monitoring	ON DEPARTMENT OF THE PARTMENT	bit8 : 1



<sup>\*\*</sup>If the extension box (V703) will be applied, set this switch to OFF to disable monitoring.

### 4-4. System Overview





- Suitable for small size apartment
- Easy to replace from the door chime equipment

#### Wiring distance

Lobby Station – Room Monitor  $\rightarrow$  Max.100m ( $\phi$ 0.65) / Max.200m ( $\phi$ 1.20)

- **Bus Wiring** 
  - Suitable for medium size apartment
  - Easy to utilize the riser to wire the bus

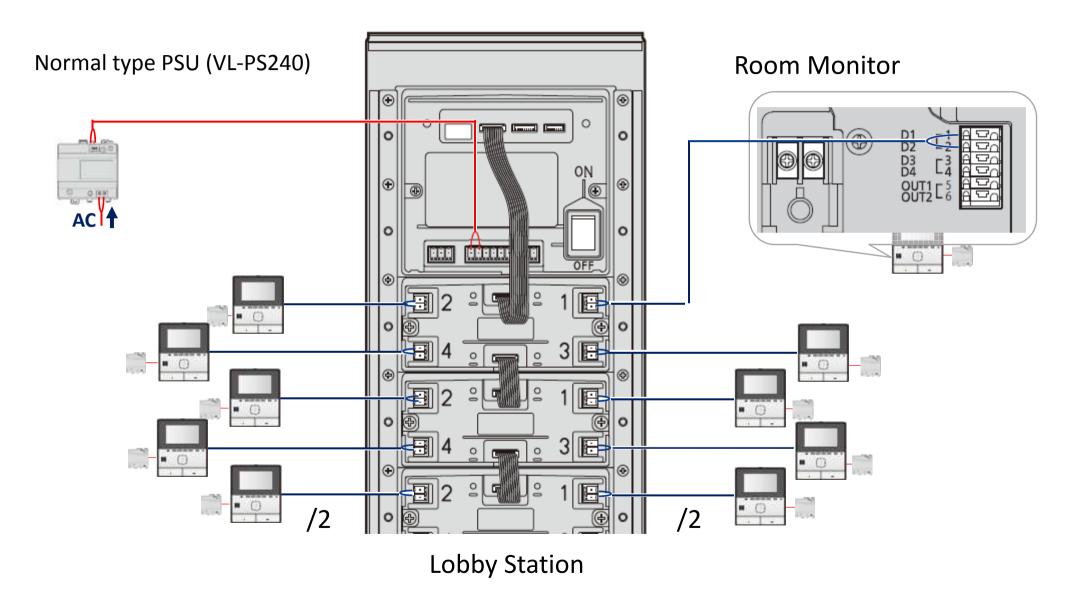
#### Wiring distance

Lobby Station – Distributor Distributor – Room Monitor

- → Max.100m (ф0.65) / Max.200m (ф1.20)
- → Max.100m (ф0.65) / Max.200m (ф1.20)

# **Star Shape Wiring**

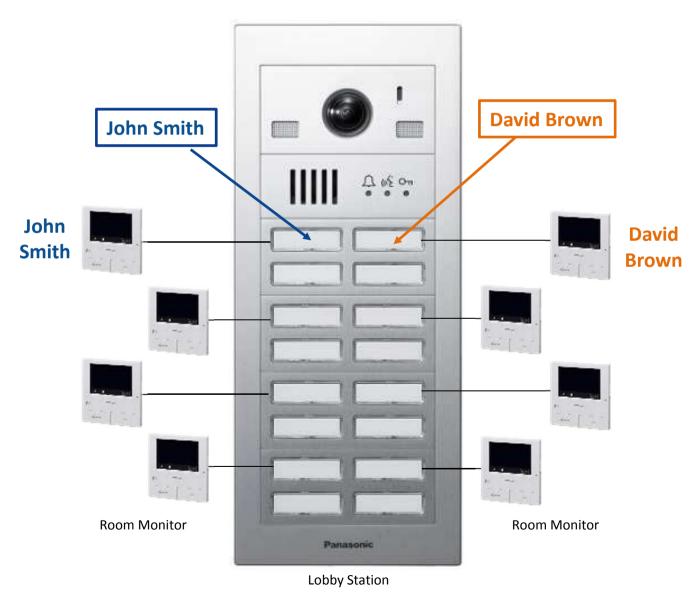
# 4-5. Wiring & Power Supply Unit (Star Shape Wiring)



Room monitor is connected with button module.

# 4-6. Room No. Setting (Star Shape Wiring)

### Star shape wiring



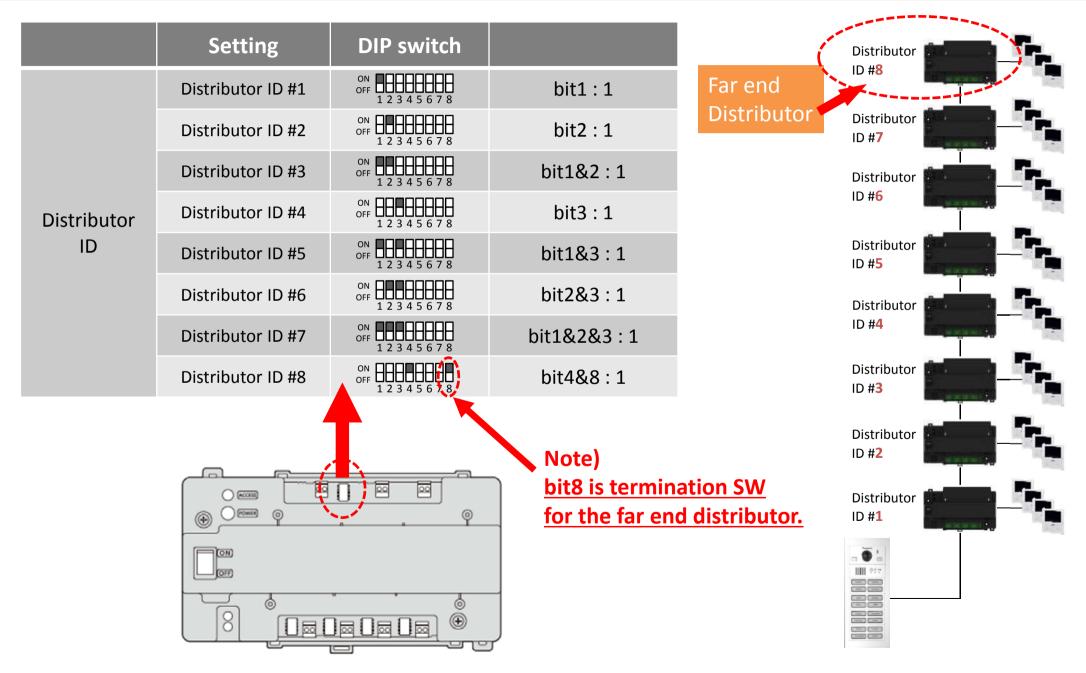
Each room monitor are connected to the button directly.



No setup required.

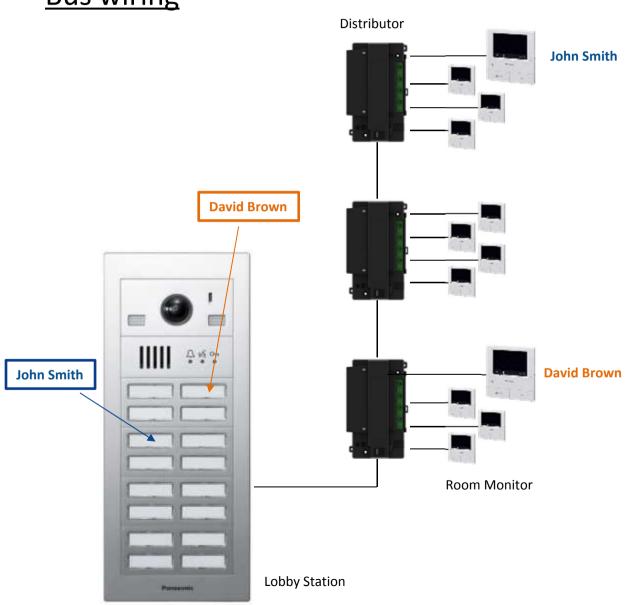
# **Bus Wiring**

# 4-7. Setting for Distributor ID (Bus-wiring)



### 4-8. Room No. Setting -1 (Bus Wiring)

### **Bus wiring**



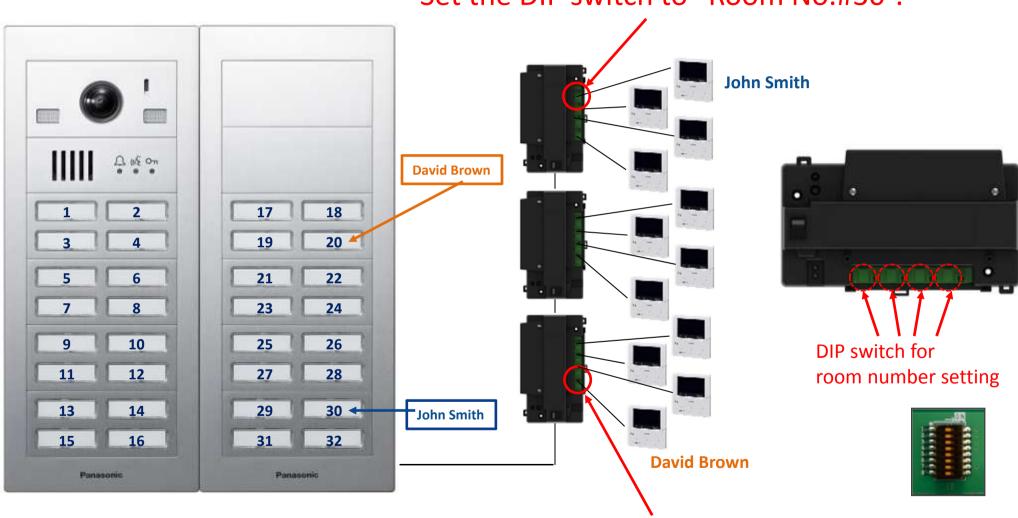
Each room monitor are connected to distributor randomly.



Need to set the room number on each distributor.

### 4-9. Room No. Setting -2 (Bus Wiring)

Set the DIP switch to "Room No.#30".



The button number is fixed on lobby station from 1 to 32.

Set the DIP switch to "Room No.#20".

# 4-10. Room No. Setting -3 (Bus Wiring)

	Setting	DIP switch	
	Button #1	ON OFF 1 2 3 4 5 6 7 8	bit1-6 : 100000
	Button #2	ON OFF 1 2 3 4 5 6 7 8	bit1-6:010000
	Button #3	ON OFF 1 2 3 4 5 6 7 8	bit1-6:110000
	Button #4	ON OFF 1 2 3 4 5 6 7 8	bit1-6:001000
	Button #5	ON OFF 1 2 3 4 5 6 7 8	bit1-6:101000
	Button #6	ON OFF 1 2 3 4 5 6 7 8	bit1-6:011000
	Button #7	ON OFF 1 2 3 4 5 6 7 8	bit1-6:111000
Room Number	Button #8	ON OFF 1 2 3 4 5 6 7 8	bit1-6:000100
Setting	Button #9	ON OFF 1 2 3 4 5 6 7 8	bit1-6:100100
	Button #10	ON OFF 1 2 3 4 5 6 7 8	bit1-6:010100
	Button #11	ON OFF 1 2 3 4 5 6 7 8	bit1-6:110100
	Button #12	ON OFF 1 2 3 4 5 6 7 8	bit1-6:001100
	Button #13	ON OFF 1 2 3 4 5 6 7 8	bit1-6:101100
	Button #14	ON OFF 1 2 3 4 5 6 7 8	bit1-6:011100
	Button #15	ON OFF 1 2 3 4 5 6 7 8	bit1-6:111100
	Button #16	ON OFF 1 2 3 4 5 6 7 8	bit1-6:000010

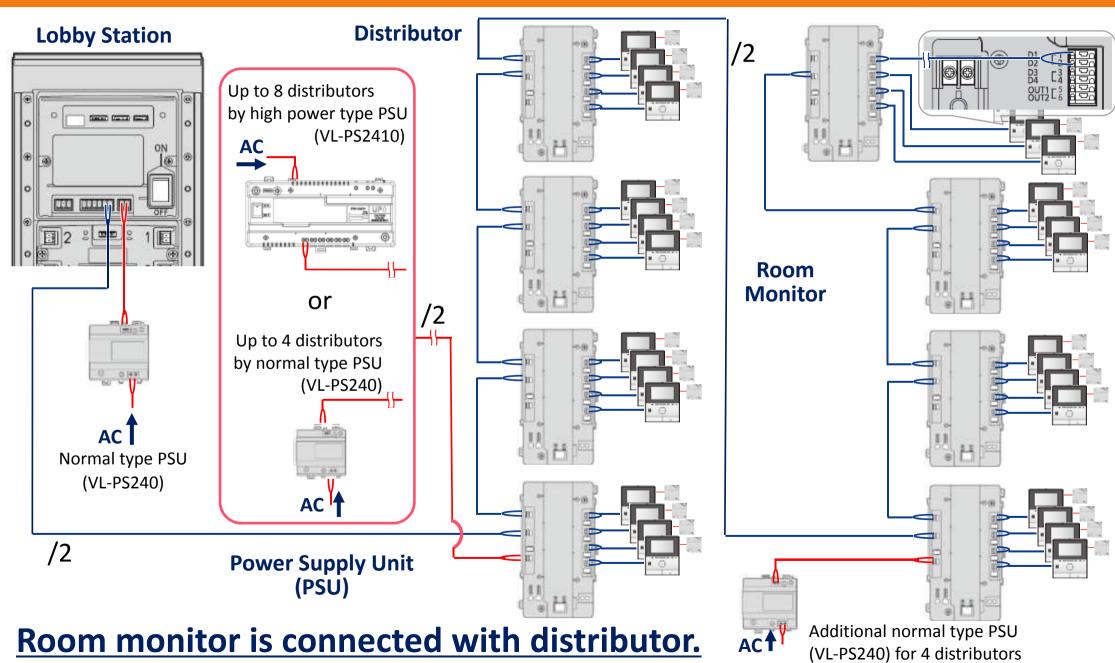


# 4-11. Room No. Setting -4 (Bus Wiring)

	Setting	DIP switch	
	Button #17	ON OFF 1 2 3 4 5 6 7 8	bit1-6 : 100010
	Button #18	ON OFF 1 2 3 4 5 6 7 8	bit1-6:010010
	Button #19	ON OFF 1 2 3 4 5 6 7 8	bit1-6 : 110010
	Button #20	ON OFF 1 2 3 4 5 6 7 8	bit1-6:001010
	Button #21	ON OFF 1 2 3 4 5 6 7 8	bit1-6 : 101010
	Button #22	ON OFF 1 2 3 4 5 6 7 8	bit1-6:011010
	Button #23	ON OFF 1 2 3 4 5 6 7 8	bit1-6 : 111010
Room Number	Button #24	ON OFF 1 2 3 4 5 6 7 8	bit1-6:000110
Setting	Button #25	ON OFF 1 2 3 4 5 6 7 8	bit1-6 : 100110
	Button #26	ON OFF 1 2 3 4 5 6 7 8	bit1-6:010110
	Button #27	ON OFF 1 2 3 4 5 6 7 8	bit1-6 : 110110
	Button #28	ON OFF 1 2 3 4 5 6 7 8	bit1-6:001110
	Button #29	ON OFF 1 2 3 4 5 6 7 8	bit1-6 : 101110
	Button #30	ON OFF 1 2 3 4 5 6 7 8	bit1-6:011110
	Button #31	ON OFF 1 2 3 4 5 6 7 8	bit1-6 : 111110
	Button #32	ON OFF 1 2 3 4 5 6 7 8	bit1-6:000001



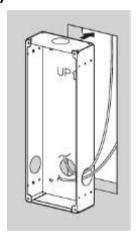
# 4-12. Wiring & Power Supply Unit (Bus Wiring)

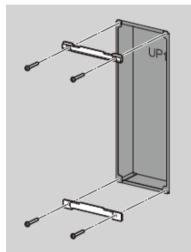


# 4-13. Install Lobby Station

### **Flush Mount**

(1) Fix the mount box into the wall

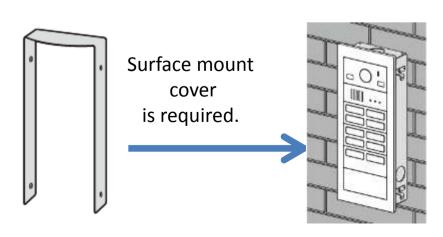




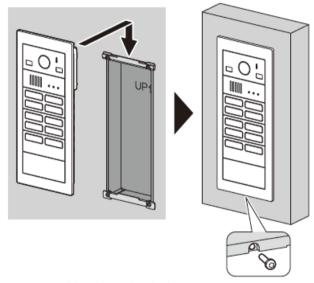


### **Surface Mount**

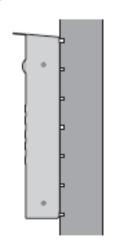
(1) Fix the mount box onto the wall







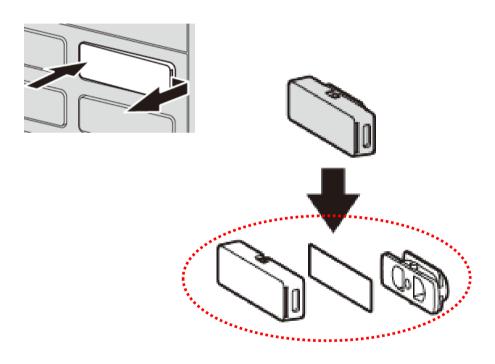
(2) Install the lobby station





### 4-14. Bundled Items

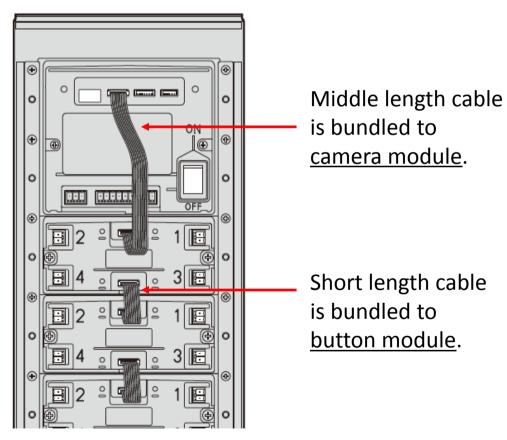
### **Spare Button**



Spare buttons are bundled to <u>button module</u>.

Button qty	Spare qty
1 Button module	1 no
2 Button module	1 pc
3 Button module	2 nos
4 Button module	2 pcs

### **Connector Cable**



# 5. Appendix

- The actual product may vary slightly from photograph.
- All pictures of the LCD display are simulated.
- Weights and dimensions are approximate.
- Design and Specifications are subject to change without notice.
- These products may be subject to export control regulations.