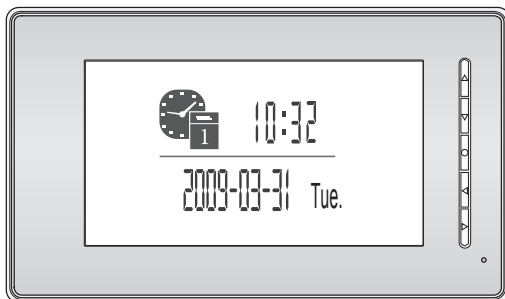# 2-wire Intercom System

DT6910 user manual

PRECAUTIONS

- Read this manual through before using the product.

- Slots or openings in the back of the monitor, are provided for ventilation and to ensure reliable operation of the video monitor or equipment and to protect if from overheating. These openings must not be blocked or covered. The monitor should never be placed near or over a radiator or heat register and should not be placed in a built-in installation such as a bookcase unless proper ventilation is provided.

- All parts should be protected from violence vibration. And not allow be impacting, knocking and dropping.

- For clean the LCD screen, using hands or wet cloth is forbidden.

- Please do the cleanness with soft cotton cloth, please do not use the organic or chemical clean impregnate. If necessary, please use pure water or dilute soap water to clean the dust.

- Image distortion may occur if the video door phone is mounted too close to magnetic field e. g. Microwaves, TV, computer etc.

- Please keep away the video door monitor from wet, high temperature, dust, and caustic and oxidation gas in order to avoid any unpredictable damage.

- Do NOT open the device in any condition, call the administrator for help if there is any problem or mulfunction happens.
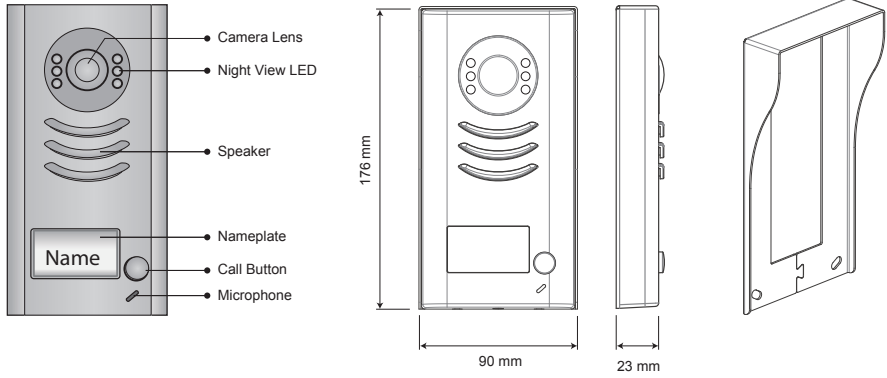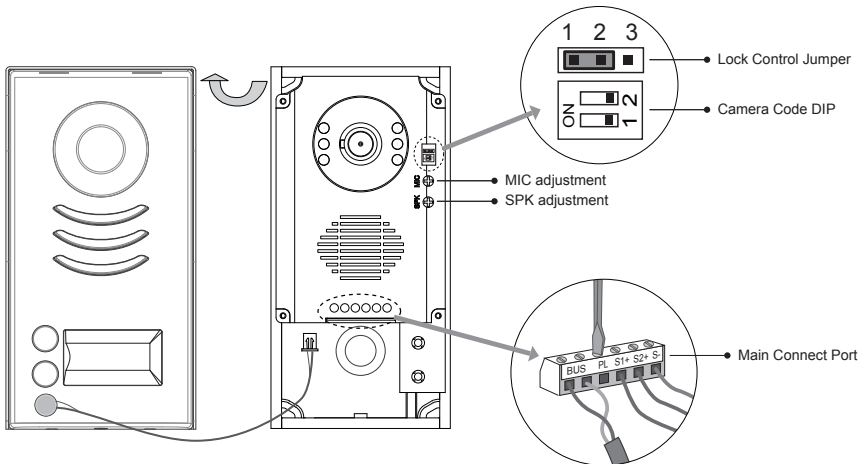
CONTENT

1. Door Camera DT591

Parts and functions

The DT 591 is a special design for the DT 2-wire system:

- Full matel cover with backlight nameplate
- 4 Door cameras connection
- Directly connect 2 separate electronic locks, unlock time controlled by Monitor
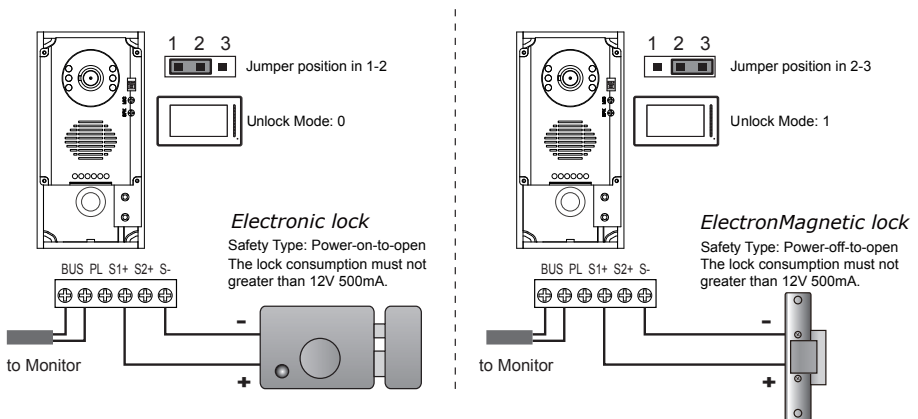

Terminal Descriptions

- **Lock Control Jumper:** To configure the electronic lock safety type; set the jumper in 1-2 position for Power-to-Unlock type(pulse activated electronic lock), set the jumper in 2-3 position for the Power-Off-to-Unlock type(electromagnetic lock). Remove the jumper if using external power supply for the lock.(the power+ will be connected to the PL on the Main Connect Port)

- **Camera Code DIP:** To set the code for the door camera, total 4 cameras can be connected in the system; See chapter *18 Multiple Door Camera Connection -- Note 3*.

- **Main Connect Port:** To connect the bus line and the electronic locks.
- BUS: Connect to the bus line, no polarity.
- PL: External lock power input, connect to the power positive(power +).
- S1+, S2+: Lock power(+) output, to connect 2 electronic locks.
- S-: Lock power(-) output, connect to the power(-) input of electronic locks(only when using the camera to power the locks, if using the external power supply for the locks, the S- will not be connected)
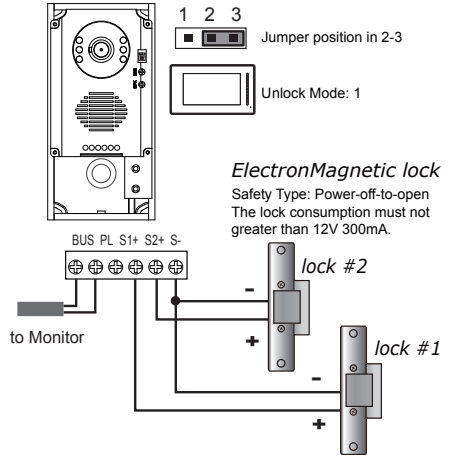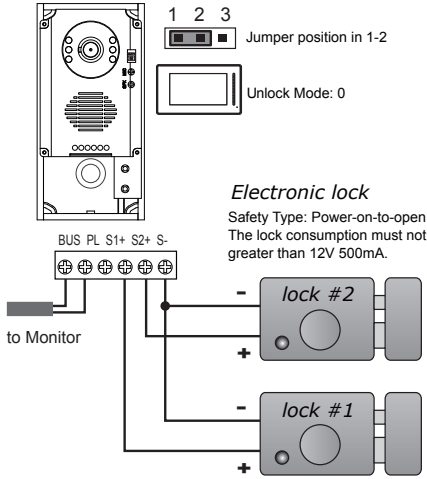
2. Electronic Lock Connections

Inner Power 1 Lock Connection

The standard inner power lock connection, use the Camera power to supply the lock, no need for external power supply. In this way, the Lock Control Jumper and Unlock Mode in the monitor need to be set: for Power-to-Unlock type electronic lock, set to position 1-2 and Unlock Mode 0; for Power-Off-to-Unlock type electromagnetic lock, set to position 2-3 and Unlock Mode 1(see chapter 16 *Unlock Mode Setting*).

1 2 3 — Jumper position in 1-2

Unlock Mode: 0

Electronic lock
Safety Type: Power-on-to-open
The lock consumption must not greater than 12V 500mA.

BUS PL S1+ S2+ S-

to Monitor

1 2 3 — Jumper position in 2-3

Unlock Mode: 1

ElectronMagnetic lock
Safety Type: Power-off-to-open
The lock consumption must not greater than 12V 500mA.
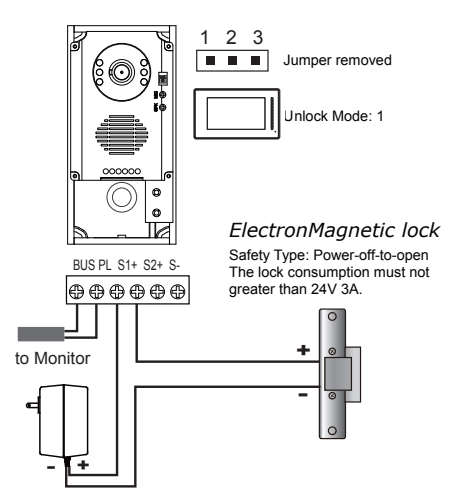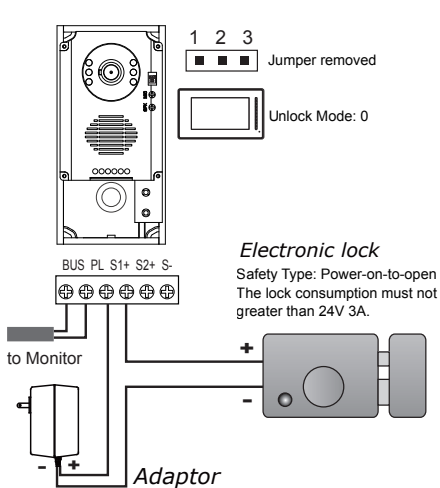
BUS PL S1+ S2+ S-

to Monitor

Inner Power 2 Locks Connection

Directly connect 2 electronic locks to the door station and use the Camera power to supply the locks. There are 2 separate unlock icons on Monitor for opening each lock. Note that the 2 locks should be the same safety type.
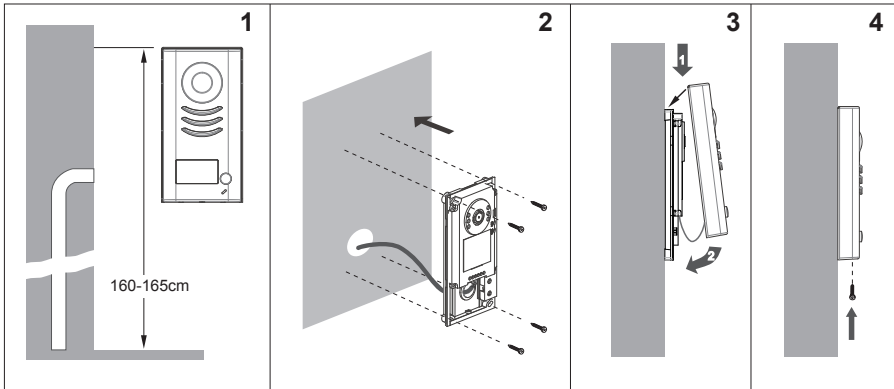

1 2 3 — Jumper position in 1-2

Unlock Mode: 0

Electronic lock
Safety Type: Power-on-to-open
The lock consumption must not greater than 12V 500mA.

BUS PL S1+ S2+ S-

to Monitor

lock #2

lock #1

1 2 3 — Jumper position in 2-3

Unlock Mode: 1

ElectronMagnetic lock
Safety Type: Power-off-to-open
The lock consumption must not greater than 12V 300mA.

BUS PL S1+ S2+ S-

to Monitor

lock #2

lock #1

External Power Connection

Use external power supply to power the electronical locks, in this way, wide range lock from 5V to 24 V electronic locks can be used in the system. Note that in this case, the Lock Control Jumper is removed in both lock type.
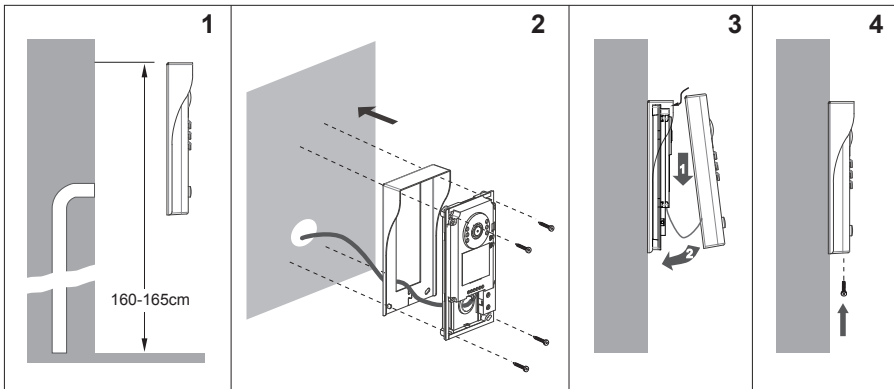

1 2 3 — Jumper removed

Unlock Mode: 0

Electronic lock
Safety Type: Power-on-to-open
The lock consumption must not greater than 24V 3A.

BUS PL S1+ S2+ S-

to Monitor

Adaptor

1 2 3 — Jumper removed

Unlock Mode: 1

ElectronMagnetic lock
Safety Type: Power-off-to-open
The lock consumption must not greater than 24V 3A.

BUS PL S1+ S2+ S-

to Monitor

3. Door Camera Installation

Mounting Without Rain Cover

160-165cm

Mounting With Rain Cover

160-165cm

Electronic Specifications

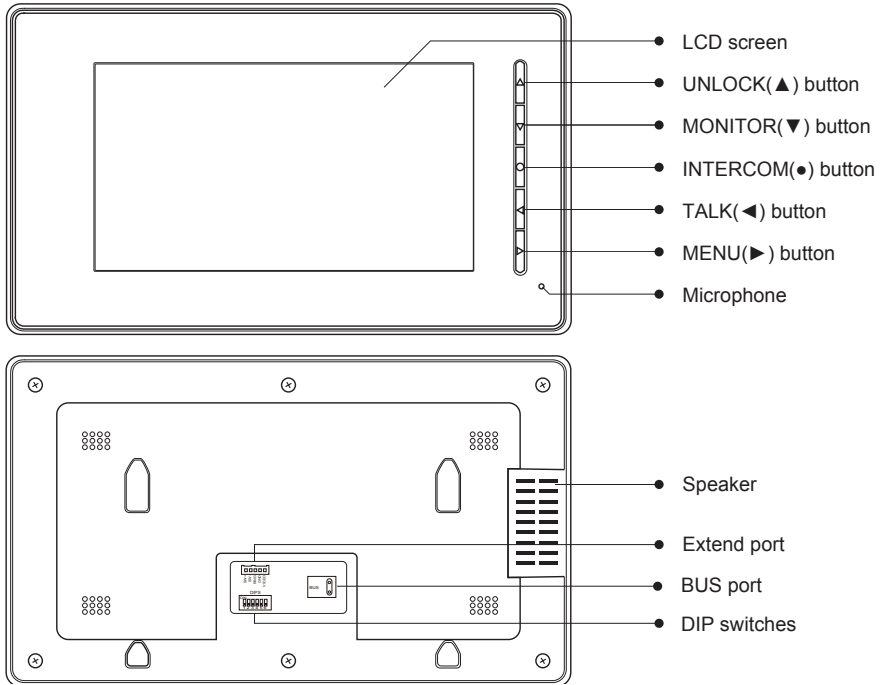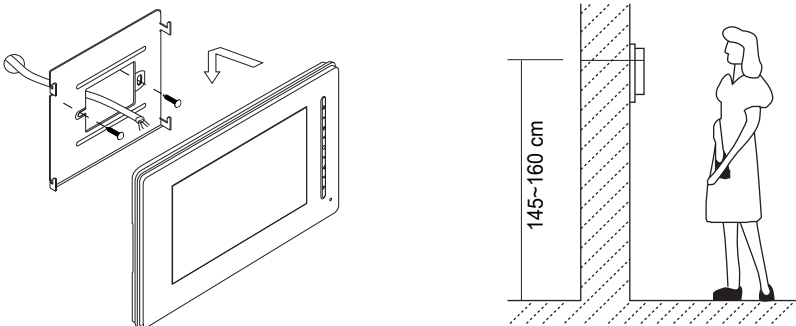|	
Lock Power supply:	12Vdc, 500mA(supplied by system)
Power Consumtion:	1W in standby, 12W in working
NO, COM exchange contact:	Max. 24V dc 3A
Unlocking time:	1 to 9 seconds, set by Monitor
Working temperature:	-5℃ +40℃

4. Indoor Monitor

- LCD screen
- UNLOCK(▲) button
- MONITOR(▼) button
- INTERCOM(●) button
- TALK(◄) button
- MENU(►) button
- Microphone

- Speaker
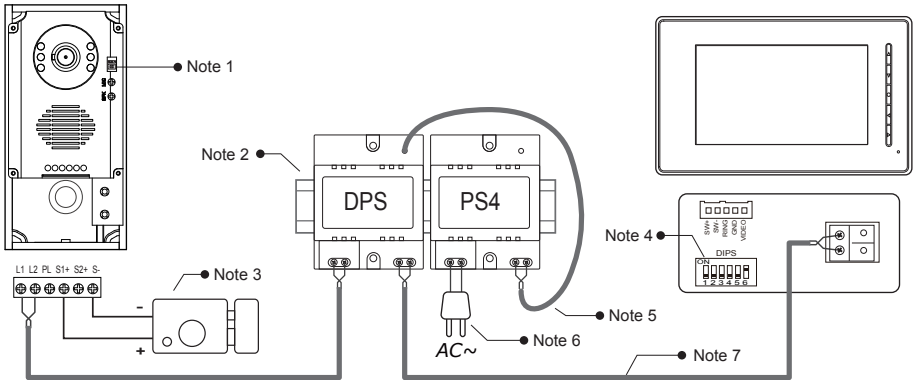- Extend port
- BUS port
- DIP switches

5. Monitor Mounting

145~160 cm

1. Use the screws to fix the Mounting Bracket on the wall.(fitting accesories includes a Bracket (Two 4X25 screws are needed for fastening the Mounting Bracket), Special 2 wire cables to connect with Monitor)

2. Wire the system correctly(see the later connection chapter) then hang the Monitor on the Mounting Bracket firmly.

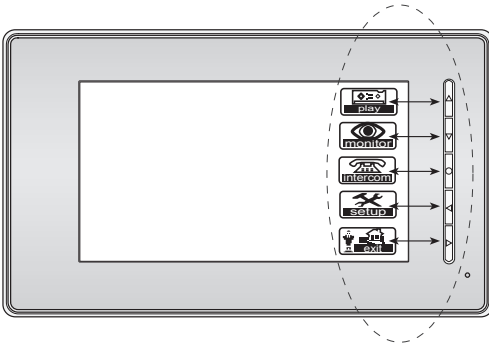# 6. System Connection(Basic)

- **Note 1:** When only one Door camera installed, set both the bit-1 and bit-2 to **OFF** state.

- **Note 2:** Mount the DPS and PS4 side by side on the DIN nail or on the wall.

- **Note 3:** See chapter *3 Electronic Lock Connections* for detail information.

- **Note 4:** The bit-1 to bit-5 DIP switches are for Monitor address settings when multiple Monitors installed, the bit-6 is for video impedance setting. When there is only one Monitor installed, set all the bit-1 to bit-5 to **OFF** state, and set the bit-6 to **ON** position.

- **Note 5:** Connect the DPS to the output of PS4, non-polarity connection.

- **Note 6:** Conncet to the AC Mains electricity, 100~240 V AC.

- **Note 7:** Non-polarity 2 wire bus cable. See *Table 2-1* for cable usage information.

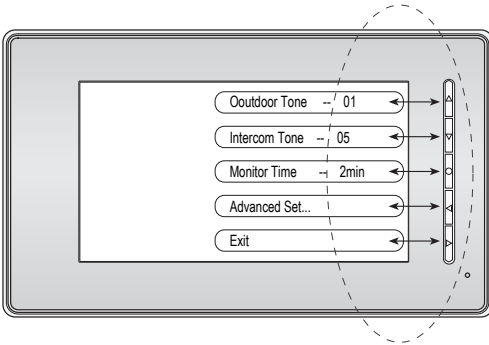| Cable type	Max. distance(meters)
RVV 2 * 1.5 mm^2	150 (Non-shielded, Twisted)
RVV 2 * 1.0 mm^2	100 (Non-shielded, Twisted)
RVV 2 * 0.75 mm^2	75 (Non-shielded, Twisted)

Table 2-1

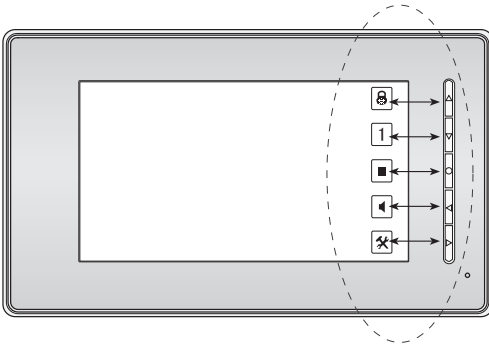# 7. Monitor Operation Introduction

In this Monitor, all the icons on the screen has a corresponding button, and each button has a corresponding LED indicator; the LED indicator also has a state-sencitive feature for easy operation.

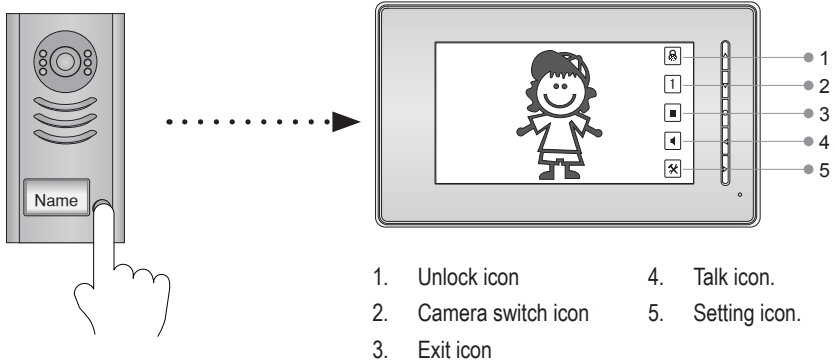When the screen showing the menus, press the corresponding buttons to enter the sub menu.

When the screen showing the item which have variable setting values, press the corresponding buttons to increase the value in sequence.

When the screen showing operation icons, press the corresponding buttons to execute the operation.
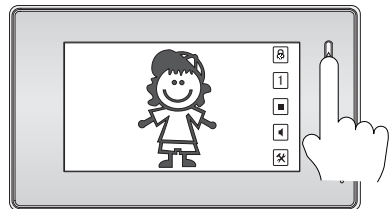
8. Talk/Unlock Operation

1.   When visitor presses the Call Button on the Outdoor Station, the monitor rings, at the same time, the screen displays the visitor image.
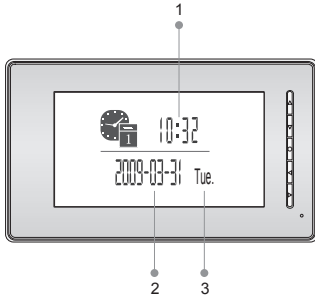

1.	Unlock icon	4.	Talk icon.
2.	Camera switch icon	5.	Setting icon.
3.	Exit icon		

2.   Press TALK ◄ Button, you can talk with the visitor for 90 seconds. During talking state, press the TALK ◄ Button again to end the conversation. If nobody answers the phone, the screen will be turned off automatically after 30 seconds. If the system connects two or more Monitors, when any Monitor starts to talk, the other Monitors will be automatically shut off.

3.   During the conversation, press UNLOCK ▲ Button to unlock the door. (if 2 locks connected to the Door Camera, press ▲ Button to show the 2 lock icons, press a lock button to open the matching lock)
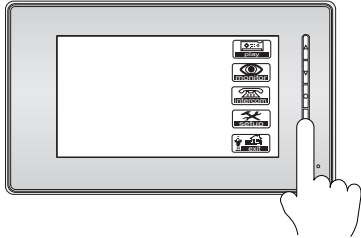
9. Ring Tone Setting

15 pieces ring tone can be selected. When the Monitor is in standy, press ► Button, a full screen calendar will be showed.
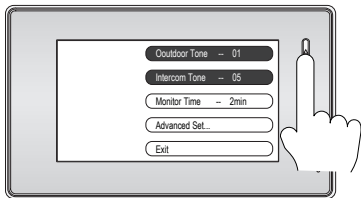

1. Current time.
2. Current date.
3. Current weekday.

Press ► Button to enter the main menu.
Press ◄ Button to enter **Setup** menu.

Press ▲ Button to select next **Outdoor Tone** oin sequence, Press ▼ Button to select next **Intercom Tone** in sequence.
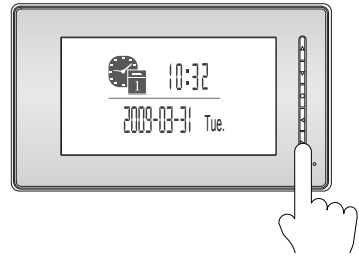

Settings will be performed immediately, press ► Button to exit.
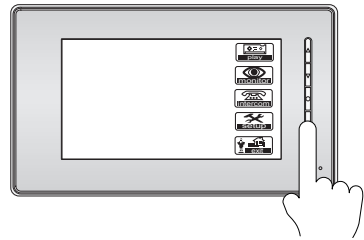
10. Monitor Time Setting

Monitor Time is the maximum monitoring time when the MONITOR ▼ Button is pressed in standby, after which the screen will be closed automatically.

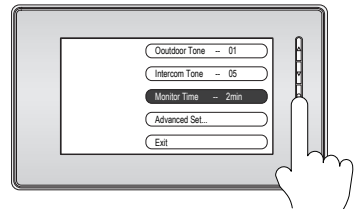When the Monitor is in standy, press ► Button to open the screen.

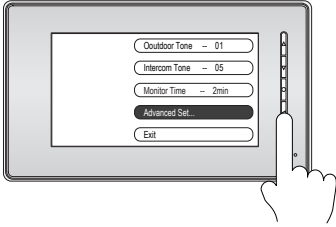Press ► Button to enter the main menu, press ◄ Button to select and enter **Setup** menu.

Press ● Button in sequence to modify the **Monitor Time**.

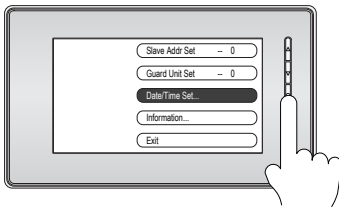Settings will be performed immediately, press ► Button to exit.

11. Time Setting

When the Monitor is in standby, press ▶ Button to open the screen, press ▶ Button again to enter the main menu. Then press ◀ Button to enter *Setup* menu, press ◀ Button to enter *Advanced Set* item.

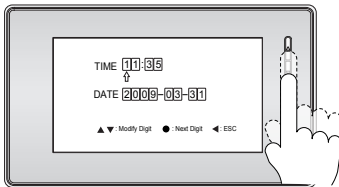| Ooutdoor Tone | – 01 |
| Intercom Tone | – 05 |
| Monitor Time | – 2min |
| Advanced Set... |
| Exit |

A password(*2008*) will be asked before enter Advanced Set menu, use ▲ / ▼ Button to increase /decrease the current number, press ● Button to confirm and switch to next digit.
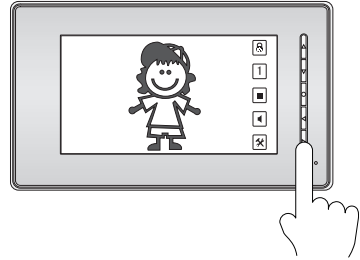
Press ● Button to enter *Date/Time Set* item

| Slave Addr Set | – 0 |
| Guard Unit Set | – 0 |
| Date/Time Set... |
| Information... |
| Exit |

Use the ▲ Button / ▼ Button to increase / decrease the current number, press ● Button to confirm and switch to next digit.

TIME 11:35
DATE 2009-03-31
▲▼:Modify Digit ●:Next Digit ◀:ESC

When all numbers have been input, the setting will be save automatically and exit, or press ◀ Button to quit.

12. Screen Setting

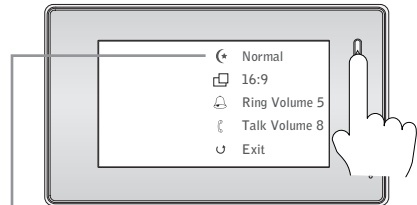When the Monitor is in monitoring or talking, Press ▶ Button to open the screen setting menu.

There are 4 setting items can be adjusted:

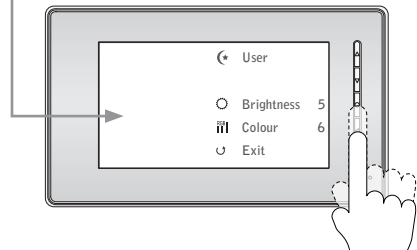**Screen Mode:** Normal, Soft, Bright and User. Different mode has different brightness and colour value.

Ratio: Can be set to 16:9 or 4:3.

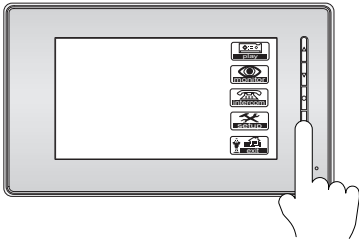**Ring Volume:** For ring tone volume adjust.

Talk Volume: For talk volume adjust.

☀	Normal
▱	16:9
♫	Ring Volume 5
♪	Talk Volume 8
↺	Exit

When the screen mode was switched to User mode, press ◀ Button / ● Button to set the Brightness and Colour independently.

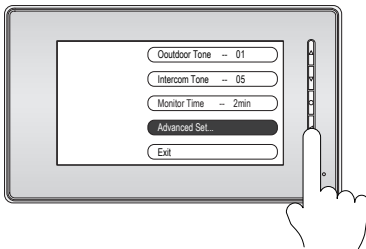| ☀ | User |
○	Brightness 5
🎨	Colour 6
↺	Exit

–10–

13. Slave Address Setting

When multiple Monitors installed(maximum 4 Monitors can be installed), the Slave Address must be set. Set to 0 for the master Monitor, set to 1/2/3 to the other Monitors. If only one Monitor is installed, set to 0.
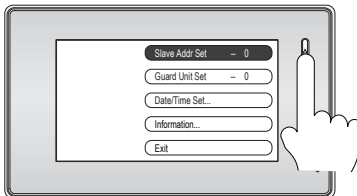
When the Monitor is in standby, press ► Button to open the time screen, press ► Button again to enter the main menu, then press ◄ Button to enter *Setup* menu.

Press ◄ Button to enter *Advanced Set* item.

Ooutdoor Tone   -- 01
Intercom Tone   -- 05
Monitor Time   -- 2min
Advanced Set...
Exit

Press ▲ Button to toggle the *1/2 Camera* item between 1 and 2.

Slave Addr Set   -- 0
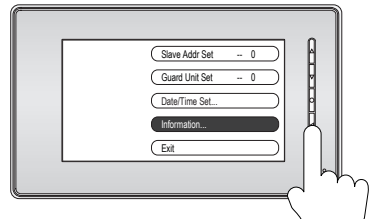Guard Unit Set   -- 0
Date/Time Set...
Information...
Exit

Settings will be performed immediately, press ► Button to exit.
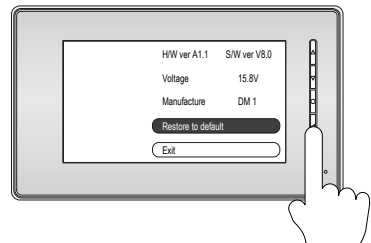
14. Restore to Default

The restore to default function allows the user to recover the settings to factory setting.

When the Monitor is in standby, press ► Button to open the time screen, press again to enter the main menu. press ◄ Button to enter *Setup* menu, then press *Advanced Set* item.

Slave Addr Set   -- 0
Guard Unit Set   -- 0
Date/Time Set...
Information...
Exit

In the Information menu, press *Restore to default* item, the default settings will be loaded. press *Exit* to exit out the menu.

H/W ver A1.1   S/W ver V8.0
Voltage   15.8V
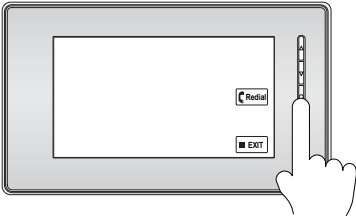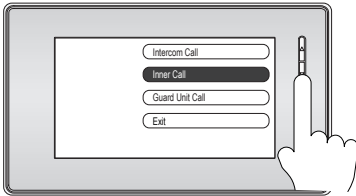Manufacture   DM 1
Restore to default
Exit

Press ► Button to exit.

15. Intercom Function

When multi Monitors are installed, intercom function is available. Intercom call can be started by any Monitor. When a intercom call has been started, all other Monitors will ring at the same time, if one called Monitor answers the call, other called Monitor will stop ringing. The intercom conversation time is limited to 90 seconds. Note that the intercom conversation will be interrupted by Door Camera call.
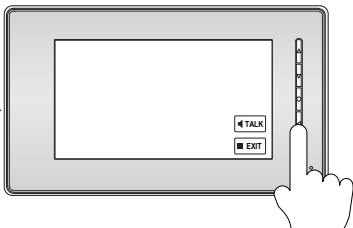
When the Monitor is in standby, press ● Button to start intercom menu.

Press ▼ Button to select *Inner Call*. (The *Intercom Call* and *Guard Unit Call* function are reserved.)
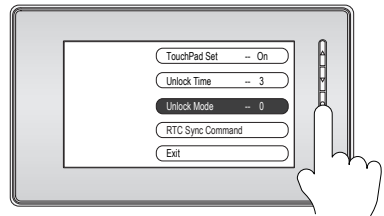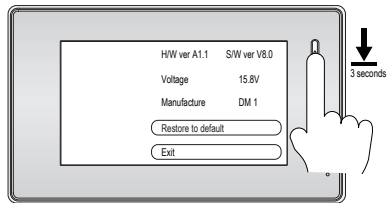

Press ● Button again to redial.

Press ► Button to cancel the call.

16. Unlock Mode Setting

The Unlock Mode is for electronic lock type setting, when connect Power-to-Unlock type lock(s), set the Unlock Mode to 0(which is the default setting), when connect Power-off-to-unlock type, set the Unlock Mode to 1.

Enter *Information...* page, press the ▲ Button and hold for 3 seconds to enter the Unlock setting page.
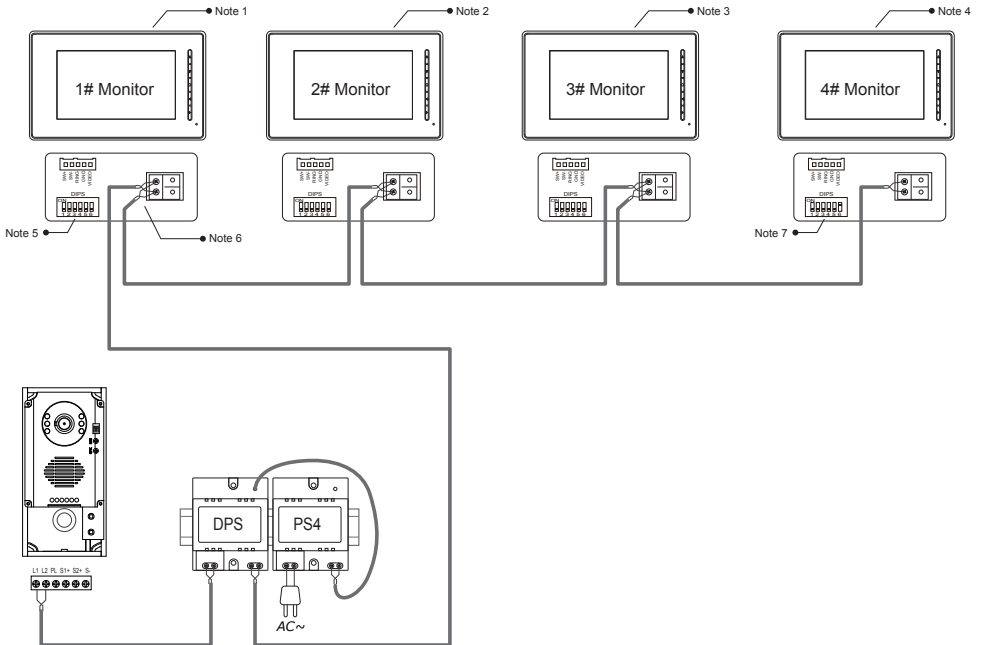

TouchPad Set item: function reserved.

Unlock Time: the duration of unlocking.

Unlock Mode: set to 0 for Power-to-Unlock type, set to 1 for Power-off-to-Unlock type.
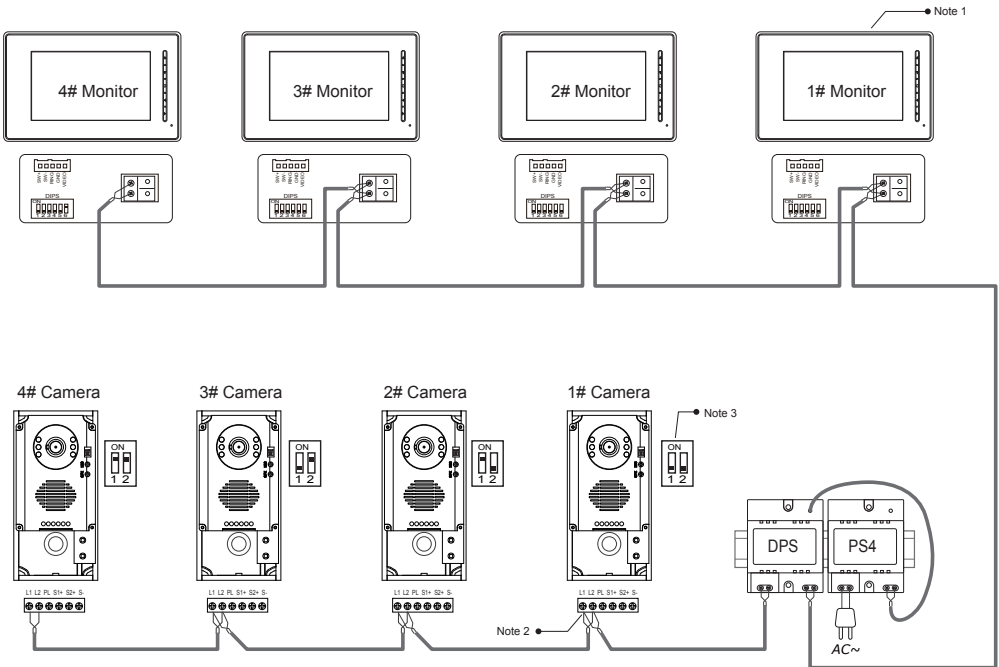
RTC Sync Command: to synchronise the time of all Monitors.

17. Multiple Monitors Connection

- ● **Note 1:** The *Slave Addr Set* on the 1# Monitor set to 0.
- ● **Note 2:** The *Slave Addr Set* on the 2# Monitor set to 1.
- ● **Note 3:** The *Slave Addr Set* on the 3# Monitor set to 2.
- ● **Note 4:** The *Slave Addr Set* on the 4# Monitor set to 3.
- ● **Note 5:** The bit-1 to bit-5 of all the Monitors are set to *OFF*. The bit-6 set to *OFF* for 1#, 2# and 3# Monitors.
- ● **Note 6:** All the connectors must use In-Out connection.
- ● **Note 7:** The bit-6 of the 4# Monitor must set to *ON* state.(the bit-6 of all the Monitors should be set to OFF state except the last one which is at the end of the bus line).
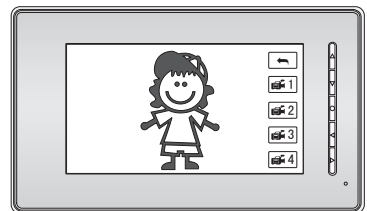
18. Multiple Monitors Connection

- **Note 1:** The settings for all the Monitors are the same as chapter 16 *Multiple Monitor connections*.
- **Note 2:** All the connectors must use In-Out connection.
- **Note 3:** The Address for each doorstation must be set. Set bit-1 = bit-2 = *OFF* for the 1# Door Camera; set to bit-1 = *ON*, bit-2 = *OFF* for 2# Camera; set to bit-1 = *OFF*, bit-2 = *ON* for 3# Camera; set to bit-1 = *ON*, bit-2 = *ON* for 4# Camera.

When multiple Door Cameras are installed, each Door Camera can connect its own electronic locks, and the Unlock operation will only unlock the lock connected to the calling Door Camera.
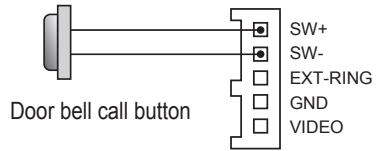
When monitoring, all Door Cameras can be swiched from one to another. On the monitoring or talking state, press the $\boxed{1}$ icon on the screen, will show the Camera select menu, than select a Camera.
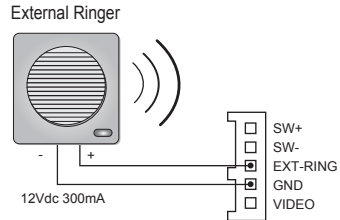
19. Extend Functions

1. Door Bell Call Button

Additional door bell call button can be connected to the Monitor, so that the visitors can ring the door bell again in front of the user's apartment. When the call button is pressed, the Monitor will output ring tones but the screen will keep off, and the external ringer will ring at the same time(if a external ringer is installed).

Door bell call button
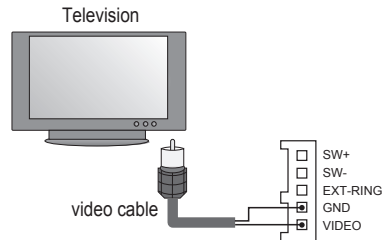
SW+
SW-
EXT-RING
GND
VIDEO

2. External Ringer

External ringer can be connected to the Monitor. The ringer will ring whenever the Door Station call button or the door bell call button is pressed, and it will stop ringing when the Monitor rejucted or answered the call.

External Ringer

- +

12Vdc 300mA

SW+
SW-
EXT-RING
GND
VIDEO

3. TV-out function

Connect television to the Monitor, when the Door Station calls, the user switch the channel to the AV channel, and the visitor's video will show up on the screen of the television. The core of the video cable must connect to the VD terminal, and the shielded layer connect to the GND.

Television

video cable

SW+
SW-
EXT-RING
GND
VIDEO

20. Specifications

- Power supply for indoor monitor: DC 24V (supplied by Adaptor)

- Power supply for Door Camera: DC 24V 500mA

- Power consumption: Standby 0.5W; Working status 15W

- Monitor screen: 7 Inch color TFT-LCD

- Display Resolutions: 1,440(R, G, B) x 234 pixels

- Monitor time: 30 seconds to 10 minutes

- Talking time: 30 seconds

- Monitor Dimensions: 143(H)×242(W)×23(D)mm

The design and specifications can be changed without notice to the user. Right to interpret and copyright of this manual are preserved.

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