Note: DAB+ digital radio broadcasts may not be available in all areas.
Contents

Features .......................................................... 4
Specifications ...................................................... 4
Cabling - Important information ...................................... 5

Cabling Overview
   Systems without a Master station ................................ 6
   Systems with a Master station ...................................... 7, 8
Load resistors ....................................................... 9

Wiring Connections - Systems with a Master
   One Video Room station using CAT5 + RG59 ......................... 10
   One Video Room station using Valet cable ............................. 11
   Multiple Video Room stations using CAT5 + RG59 ..................... 12
   Multiple Video Room stations using Valet cable ....................... 13

Wiring Connections - Systems without a Master station
   One Video Room station using CAT5 + RG59 ......................... 14
   One Video Room station using Valet cable ............................. 15
   Multiple Video Room stations using CAT5 + RG59 ..................... 16
   Multiple Video Room stations using Valet cable ....................... 17

Programming
   Backlighting levels, set the station number and other options .......... 18

Operation
   Door call / House Call / Select Call. ................................ 19
   Communication Volume .................................................. 19
   Privacy Mode / Music Mode / Monitor Mode .......................... 20
   Lock Control ............................................................. 20
   Video Operation / Video Monitoring ................................. 20
Features

- Configurable for operation With or Without a Master
- Adjustable Keypad Backlighting
- Digital Volume Control
- Independent Volume Adjustment for Music and Communication
- Collective or Individual Communication with other internal stations
- Lock Release Control
- Audio Monitoring
- Video Monitoring
- Do Not Disturb Mode
- Privacy Mode

Specifications

Display: 5” Colour TFT LCD PAL/NTSC with 640 x 480 Resolution
Speaker: 70mm x 40mm Cloth Surround Speaker 16 Ohm
Microphone: 9.7mm Electret Microphone
Video input: Analogue video (CVBS) 1Vp-p 75 ohm, 4:3 image ratio preferred
Voltage: 13.8Vdc
Current 330mA (450mA Peak)
Dimensions: (W) 264mm x (H) 124.5mm
Recess: (W) 200mm x (H) 90mm x (D) 28mm
IMPORTANT INFORMATION ABOUT CABLING

Video Room Station Cabling

Video room stations can be cabled using either CAT5 & RG59 or VALET Cable. The maximum cable length from the master (or central connection point) to each video room station is 25m.

This distance can be doubled by adding a booster supply at the video room station or by running an additional Fig-8 wire (in parallel with the standard wiring) for the POS and NEG connections.

Where a booster supply is used, fitting diodes in series with the POS and NEG outputs is recommended to ensure the booster supply voltage is slightly lower than the voltage at the main power supply.

It is important to wire the system exactly as per the wiring diagrams, particularly where Valet cable is being used.

When using Valet cable, the use of the shielded inner core conductors for video is not recommended. For best results, select and follow the appropriate wiring diagram as per this manual.

Please note that the AUX terminal is not connected when using Valet cable so Auxiliary functions are not available unless the system is programmed to Double Digit mode. This affects the activation of Auxiliary Outputs (where used) or the ability to monitor cameras from video room stations on command (where required).

Power Supply Cabling

Because video room stations consume up to three times the peak current of standard room stations, it is important to maintain a stable supply voltage at the master (or station to which all other stations are wired).

To achieve this, it is important to use a sufficient gauge of wire from the power supply to the master (or central connection point).

The required wire gauge will vary, depending on the length of the cable used. The following guide should be followed (based on a peak load of up to 5A):

<table>
<thead>
<tr>
<th>Number &amp; Size of Strands</th>
<th>Maximum Length</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>24/0.20</td>
<td>1.4M</td>
<td>Fig-8 Cable</td>
</tr>
<tr>
<td>41/0.20</td>
<td>2.5MM</td>
<td>Fig-8 Cable</td>
</tr>
<tr>
<td>2 x 24/0.20</td>
<td>3M</td>
<td>2 x Fig-8 Cables in Parallel</td>
</tr>
<tr>
<td>79/0.20</td>
<td>5.0M</td>
<td>Fig-8 Cable</td>
</tr>
<tr>
<td>2 x 41/0.20</td>
<td>5.0M</td>
<td>2 x Fig-8 Cables in Parallel</td>
</tr>
<tr>
<td>2 x 79/0.20</td>
<td>10m</td>
<td>2 x Fig-8 Cables in Parallel</td>
</tr>
</tbody>
</table>

Where a power supply comes with an output lead already attached, cut the attached lead to 20cm and then connect to the recommended Fig-8 cable as per the above guide.
System Cabling – No Master
One Video Room

Audio Room

Video Room

Power Supply

System Cabling – No Master
Multiple Video Rooms

Video Spitter

Video Room

Audio Room

Audio Room

Power Supply

RG59

CAT5

FIG-8
System Cabling – With Master
One Video Room

--- 1 PR SHIELDED AUDIO
------- 300 ohm RIBBON

- RG59
- CAT5
- FIG-8

Video Master

Video Door 1

Video Door 2

Video Room

Audio Room

Audio Room

Music I/P Jack

Power Supply

AM ANT*
FM ANT*

* For DAB Radio, RG59 & 300 ohm Ribbon are not required. Use 1 x RG6 instead

* Video Splitter only required for multiple video room stations
System Cabling – With Master Multiple Video Rooms

- - - - - - 1 PR SHIELDED AUDIO
---------- 300 ohm RIBBON

RG59
CAT5
FIG-8

Video Master

Video Spitter

Power Supply

Music I/P Jack

* For DAB Radio, RG59 & 300 ohm Ribbon are not required. Use 1 x RG6 instead

* Video Splitter only required for multiple video room stations
AUDIO & VLC LOAD RESISTORS

Audio Volume Level Compensation – for smaller systems
System One communication volume levels are optimal in systems consisting of 7 stations in total (Any combination of Master, Room and Door stations)

For smaller systems (consisting of less than 7 stations in total), a resistor can be added across the COM1 & COM2 terminals (at one station only) to add the appropriate amount of loading, as follows.

<table>
<thead>
<tr>
<th>No of Stations</th>
<th>Load Resistor</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3K9</td>
</tr>
<tr>
<td>3</td>
<td>4K7</td>
</tr>
<tr>
<td>4</td>
<td>6K8</td>
</tr>
<tr>
<td>5</td>
<td>10K</td>
</tr>
<tr>
<td>6</td>
<td>22K</td>
</tr>
<tr>
<td>7</td>
<td>N/A</td>
</tr>
</tbody>
</table>

VLC Load Resistor – for systems not using a master station
System One requires a load resistor from VLC to NEG for the system to transmit and receive control signals correctly.

Master stations have a built in load resistor so systems using a master do not require an additional load resistor.

For systems not using a master (i.e. systems using just room and door stations), a 22K resistor will need to be fitted across the NEG and VLC terminals at one station only.

(This resistor would usually be fitted at the room station to which the power supply is connected)
Master to Video Room
Using CAT5 + RG59 Cables
* No Video Splitter
(for Connecting Only One Video Room)

<table>
<thead>
<tr>
<th>Connections (System with a Master)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIDEO MASTER STATION</td>
</tr>
<tr>
<td>VDC IN</td>
</tr>
<tr>
<td>13.8V</td>
</tr>
<tr>
<td>0V</td>
</tr>
<tr>
<td>POS</td>
</tr>
<tr>
<td>GR-W</td>
</tr>
<tr>
<td>NEG</td>
</tr>
<tr>
<td>GR</td>
</tr>
<tr>
<td>TC</td>
</tr>
<tr>
<td>OR-W</td>
</tr>
<tr>
<td>VLC</td>
</tr>
<tr>
<td>OR</td>
</tr>
<tr>
<td>COM1</td>
</tr>
<tr>
<td>BL-W</td>
</tr>
<tr>
<td>COM2</td>
</tr>
<tr>
<td>BL</td>
</tr>
<tr>
<td>AUX</td>
</tr>
<tr>
<td>BR-W</td>
</tr>
<tr>
<td>VIDEO OUT</td>
</tr>
<tr>
<td>12V</td>
</tr>
<tr>
<td>SIG</td>
</tr>
<tr>
<td>GR59</td>
</tr>
<tr>
<td>GND</td>
</tr>
<tr>
<td>V-CON</td>
</tr>
<tr>
<td>V-SIG</td>
</tr>
<tr>
<td>V-GND</td>
</tr>
</tbody>
</table>

* Refer to Special Notes on Power Supply Cable
* If optional booster supply fitted to video room station, 2 diodes will need to be fitted as illustrated. Recommended diode: 1N4001 or 1N4002 or 1N4004
* Be sure to load the audio lines with the appropriate resistor in relation to the total number of stations connected – See page 9
Master to Video Room
Using VALET Cable
* No Video Splitter
(for Connecting Only One Video Room)

**Connections (System with a Master)**

* If optional booster supply fitted to video room station, 2 diodes will need to be fitted as illustrated. Recommended diode: 1N4001 or 1N4002 or 1N4004

* Be sure to load the audio lines with the appropriate resistor in relation to the total number of stations connected – See page 9
Master to Video Room
Using CAT5 + RG59 Cables
and Video Splitter
(for Multiple Video Rooms)

* Refer to Special Notes on Power Supply Cable

Connections (System with a Master)

- MASTER - CAT5 + RG59

- MULTIPLE VIDEO ROOMS
Connections (System without Master)

Master to Video Room using VALET Cable and Video Splitter (for Multiple Video Rooms)

- MASTER
- MULTIPLE VIDEO ROOMS
- VALET CABLE
Video Room to Door
Using CAT5 + RG59 Cables
* No Video Splitter
(for Connecting Only One Video Room)

Connections (System without Master)

**VIDEO ROOM STATION**

- POS
- NEG
- TC
- VLC
- COM1
- COM2
- AUX
- V-CON
- V-SIG
- V-GND
- Not Used

**VIDEO DOOR STATION**

- POS
- NEG
- TC
- VLC
- COM1
- COM2
- AUX
- V-CON
- V-SIG
- V-GND
- Not Used

* If optional booster supply fitted to video room station, 2 diodes will need to be fitted as illustrated.
Recommended diode: 1N4001 or 1N4002 or 1N4004

* Be sure to load the audio lines with the appropriate resistor in relation to the total number of stations connected – See page 9
Video Room to Door
Using Valet Cable
* No Video Splitter
(for Connecting Only One Video Room)

Connections (System without Master)

13.8V PPS

POS
NEG
TC
VLC
COM1
COM2
AUX
V-SIG
V-GND
V-CON
0V

VIDEO ROOM STATION

VIDEO DOOR STATION

OPTIONAL
13.8V PPS

DIODE
DIODE

POS
NEG
TC
VLC
COM1
COM2
V-SIG
SHLD
CH-

* If optional booster supply fitted to video room station, 2 diodes will need to be fitted as illustrated.
Recommended diodes: 1N4001 or 1N4002 or 1N4004

* Be sure to load the audio lines with the appropriate resistor in relation to the total number of stations connected—See page 9
Video Room to Door
Using CAT5 + RG59 Cables
and Video Splitter
(for Multiple Video Video Rooms)

Connections (System without Master)

- NO MASTER
- MULTIPLE VIDEO ROOMS - CAT5 + RG59

* If optional booster supply fitted to video room station, 2 diodes will need to be fitted as illustrated. Recommended diodes are: 1N4001 or 1N4002 or 1N4004

* Refer to Special Notes on Power Supply Cable
Connections (System without Master)

Video Room to Door
Using Valet Cable
and Video Splitter
(for Multiple Video Rooms)

* Refer to Special Notes on Power Supply Cable

**If optional booster supply fitted to video room station, 2 diodes will need to be fitted as illustrated. Recommended diodes are: 1N4001 or 1N4002 or 1N4004
PROGRAMMING

- **PROGRAM MODE**
  To enter program mode, press PRIV and MON buttons, both at the same time
  - Green Light ON – Master Mode (Default Setting)
  - Green Light OFF – No Master Mode
  - Red Light Flashing – Station Number (Default = 1)

- **MASTER/NO MASTER MODE**
  Use the HOUSE button to configure for use with or without a master station.
  - Green Light ON – for system with a master
  - Green Light OFF – for system without a master

- **KEYPAD BACKLIGHTING**
  To change the keypad Backlight level, repeatedly press the DOOR button
  - 3 levels – OFF, MEDIUM & HIGH

- **SINGLE DIGIT/DOUBLE DIGIT MODE**
  Use the AUX button to select Single Digit or Double Digit for calling individual stations. (Default Setting = Single Digit)

- **STATION NUMBER**
  If set to Single Digit (previous step) press a number button (1 to 7) to program the station number
  If set to Double Digit (previous step) press two number buttons in sequence to program the station number - First digit (1 to 3) and second digit (1 to 7)

- **EXIT PROGRAM MODE**
  Press the CLEAR button to exit program mode

---

**Single/Double Digit**

When calling individual stations, the system can be programmed for Single or Double Digit Dialling (as above).

- Single Digit – For systems with 7 indoor stations (or less)
- Double digit – For systems with 8 indoor stations (or more)

**Note:** For systems with 8 stations or more, Single Digit Mode can still be used but some stations will need to use duplicate numbers. Stations with duplicate numbers will form a group i.e. Pressing a number button to make a call will address all stations programmed to that number.

Single Digit and Double Digit cannot be used together. The whole system must be programmed to either Single Digit or Double Digit.

**Suggestion:** If using the Double digit format for a two storey home, use 1 for the first digit of all stations on the lower storey and 2 for the first digit of all the stations on the upper storey
OPERATION

Calling Other Stations

**Door Call**
Press and hold the DOOR button to speak to the door station
Release the DOOR button to listen to the *hands free reply* from the door station
Press and hold the DOOR button again to continue the conversation
The Video Screen will display an image from the camera for the duration of communication
To end the call, press the CLEAR button or just allow the call to time out (20 sec)

**House Call**
Press and hold the HOUSE button to speak to all other stations
Release the HOUSE button to listen to the *hands free reply* from any of the other stations
Press and hold the HOUSE button again to continue the conversation
To end the call, press the CLEAR button or just allow the call to time out (20 sec)

**Select Call**
For systems programmed for Single Digit Dialling:
- Press and hold a number button (1 to 7) to speak to an individual station
- Release the number button to listen to the *hands free reply* from the other station
- Press and hold the number button again to continue the conversation
- To end the call, press the CLEAR button or just allow the call to time out (20 sec)

For systems programmed for Double Digit Dialling:
- Press the first digit (1 to 3)
- Press and hold the second digit (1 to 7) to speak to an individual station
- Release the second digit to listen to the reply
- Press and hold the second digit again to continue the conversation
- To end the call, press the CLEAR button or just allow the call to time out (20 sec)

**Green Light**
The green light will turn On when pressing a button to speak and will turn Off when the button is released to listen

**Red Light**
The red light will Flash for the duration of the conversation and will turn Off when the call times out (or is cancelled by pressing the CLEAR button)

**Communication Volume**
Volume for communication (and Chime) can be adjusted while receiving communication (or Chime) without having any affect on the volume setting for music.

* Hands Free Reply: The person replying does not need to press any buttons – just speak to reply
Operating Modes

Privacy Mode
Press the PRIV button to activate Privacy mode
- The green light flashes
- Automatic hands free reply is disabled from this station, preventing anyone at another station “listening in” to a private conversation.

Music Mode
Press the MUS button to activate Music mode
- The red light turns on
- Music playing through the system will be heard at this station
- Music volume can be adjusted without affecting chime or communication volume

Monitor Mode
Press the MON button to activate Monitor mode
- The green light turns on indicating the microphone is active
- Any sound being picked up by the microphone at this station can be heard at any other station set to Music mode
- Door chime and general communication will not be heard at this station
- Select calls made to this station will be heard
- Press the MON button again to turn off monitor mode

Note: Music Source (i.e. Radio) should be turned off at master when Monitor mode is in use.

Do Not Disturb Mode
Press and hold the MUS button for 3 seconds to activate Do Not Disturb mode
- The Red light will flash (one quick flash per second)
- Door chime and general communication will not be heard at this station
- Select calls made to this station will be heard
- Press the MUS button to turn off Do Not Disturb mode

Lock Control

For a system without a master
Pressing the LOCK button will activate the lock output* at any time.

For a system with a master
Pressing the LOCK button, while communicating with the door station, will activate the lock output*

*Only applicable where automatic gates, or an optional electric lock, have been connected to the system.
Video Operation

In Response to the Chime
When the chime is activated at the door station, the video image will be displayed at the video room station and will reset after 30 seconds if unanswered.

Note: When used without a master, the display time above can be extended to 60 seconds by changing the CH programming at the door station from Option #1 to Option #3

During Communication
If communication to the door is initiated from the video room station, the video image will be displayed until the call is cancelled or times out.

Video Monitoring
The video image from the camera (or any one of three cameras on a system with a master) can be monitored by the video room station on command.

For a system without a master:
- To display the video image from the door station – Press AUX and then press 5
- Video monitoring will automatically reset after 30 min.
- To manually reset video monitoring – Press AUX and then HOUSE
  (or again press AUX and then 5)

For a system with a master, programmed to Single Digit and with auxiliary circuit wired:
- To display the video image from camera #1 – Press AUX and then press 5
- To display the video image from camera #2 – Press AUX and then press 6
- To display the video image from camera #3 – Press AUX and then press 7
- Video monitoring will automatically reset after 90 min
- To manually reset video monitoring – Press AUX and then press HOUSE
  (or press AUX and then press the number corresponding to the active camera 5, 6 or 7)

For a system with a master and programmed to Double Digit:
- To display the video image from camera #1 – Press 7 and then press 5
- To display the video image from camera #2 – Press 7 and then press 6
- To display the video image from camera #3 – Press 7 and then press 7
- Video monitoring will automatically reset after 90 min
- To manually reset video monitoring – Press 7 and then press HOUSE
  (or press 7 and then press the number corresponding to the active camera 5, 6 or 7)

Note: For systems with a master, programmed to Double Digit mode, Camera Monitoring and Auxiliary Outputs can be activated without having the auxiliary circuit wired.

Systems with a master, programmed to Single Digit mode, will require the auxiliary circuit to be wired to allow activation of Camera Monitoring and Auxiliary Outputs.