

Bell System (Telephones) Ltd.

bell*view*

**Video Entry System
1 Way**

**Installation & Operation
Manual**

PD-010 Issue 2

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General Description

The *bellview* Video Door Entry Telephone System is a high quality, versatile security product for controlling access to private houses, residential homes, blocks of flats and offices. The occupant is supplied with an individual video entry telephone, which enables them to view the person calling at the entrance; to converse with the caller; and if desired allow them access to the building via an electric lock release.

For a large flat or office, up to 3 extra video entry telephones (extension telephones) maybe used, enabling the occupant(s) to answer the caller from various locations, such as a kitchen or bedroom.

Video Telephone (model BV)

This is a slimline, wall-mounting unit, manufactured in high quality impact resistant ABS plastic. It has a 4" flat tube display with variable contrast and brightness, providing a high definition, high quality picture.

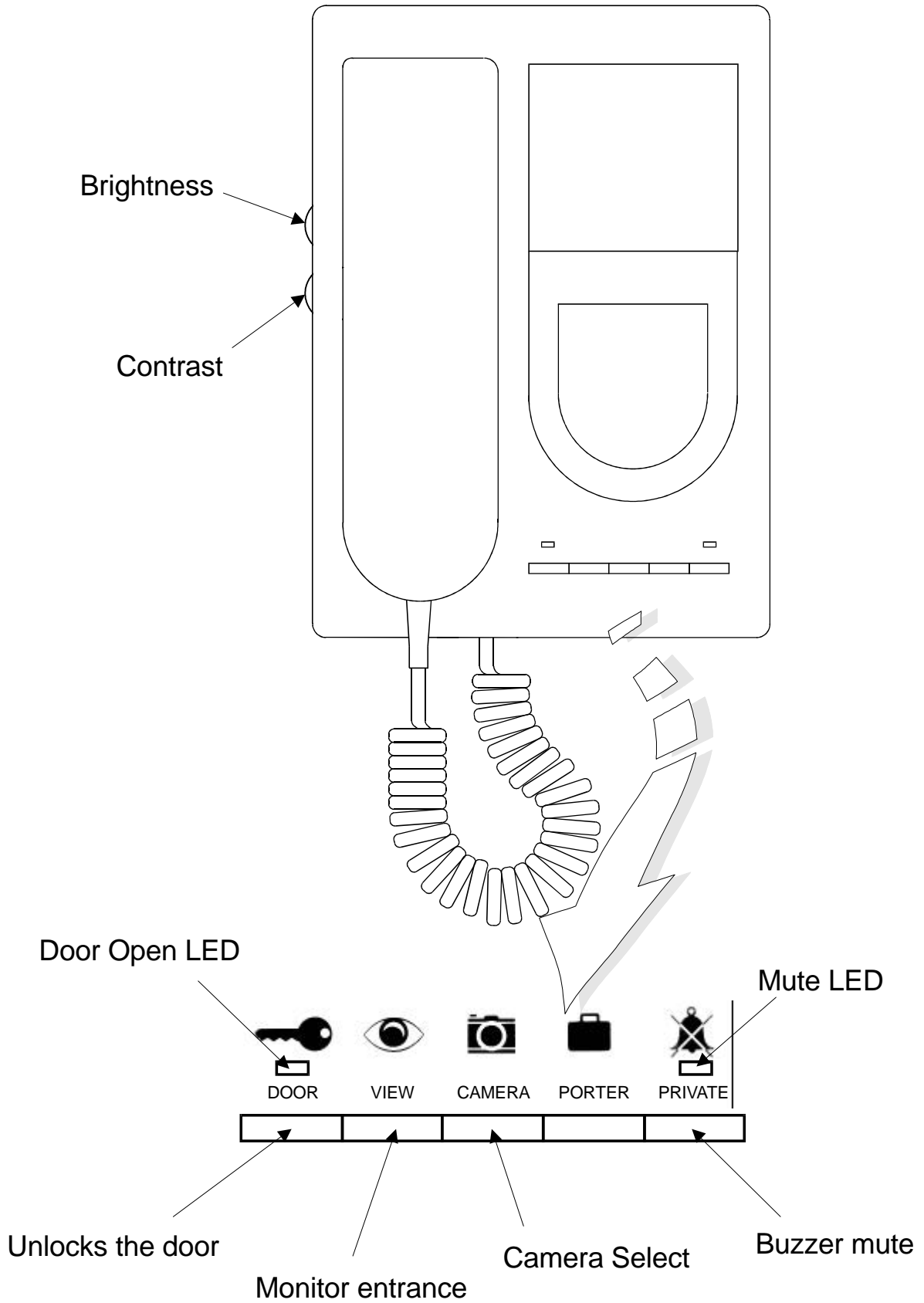
Entrance Panel (BVP series)

The BVP series aluminium panel is supplied with a flush-fitting back box. Stainless steel or brass Vandal Resistant panels are also available to order, engraved with the customers particular requirements. The panel includes a high quality two-way speech amplifier (model 61) concealed behind a grill, and a solid-state CCD camera (model BV700) which is protected by a high impact strength lexan window. The camera includes four, high intensity infrared lamps for illumination of the caller at night time.

System Features

- ! 4" Flat screen monitor
- ! High resolution CCD Camera with infrared lamps
- ! High quality, full-duplex speech amplifier
- ! Privacy function (buzzer mute)
- ! Full privacy of speech
- ! Outputs for fail safe and fail secure locks
- ! Lock release timer
- ! Up to 3 extension telephones

Telephone Controls



System Operation

General

The entrance panel, which includes the camera and speech unit, should be located on a wall adjacent to the building entrance. A visitor can contact the resident by pressing the call button on the entrance panel which will call the resident's video telephone (sounding a buzzer), activating the display and enabling speech. The resident can view the caller on the video screen and by picking up the handset freely converse with the visitor. The telephone will remain active for a fixed period (adjustable 30-120 seconds).

If the resident wishes the caller to gain access to the building, the **DOOR** button can be pushed while the video telephone is still active; this will operate an electric lock release on the entrance door for a short period (adjustable, typically 5 seconds).

Privacy mode (buzzer mute)

To avoid disturbance from nuisance calls the resident may push the **PRIVATE** button on the video telephone. This will mute the buzzer for a fixed period (adjustable between 1 minute and 10 hours) and illuminate a red indicator lamp. Pushing the button again will reenable the buzzer and extinguish the lamp.

Monitor Mode

A resident may view the entrance at any time by pressing the telephone **VIEW** button (This feature may be disabled if required).

Systems with extension telephones

When a visitor contacts a resident by pressing the call button, all telephones within the resident's dwelling will buzz, but the display will not automatically illuminate. The occupant can then press the **VIEW** button on the nearest telephone to activate the display and enable speech as above.

Installation

Important Safety Information

Connections to the 240V AC mains supply must be carried out by a qualified electrician or similar competent person, and made in accordance with accepted safety practices. A two-pole switch (as provided by a Consumer Unit or Switch-Fuse) must be included to isolate both Live and Neutral during Installation or Maintenance. The circuit must be protected by a fuse or other current-limiting device, rated according to the capacity of the cable used, up to a maximum of 10A. Use only mains cable to BS6004 or equivalent, within the following specified limits:

	Min	Max
Conductor Diameter	1.0mm (0.8mm ²)	2.25mm (4mm ²)
Cable Diameter	4.0mm	8.0mm

The M540 power supply is fitted with an internal mains fuse; always replace with the correct type and rating. The fuse must be of the 20mm glass type, approved to BS EN 60127 or equivalent:

T250mA 250V (250mA, 250V, Time delay)

Environment

All equipment except the entrance panel must be placed in a protected indoor environment.

Video Telephone

The display module of the video telephone has a high voltage circuit (2KV) which represents a shock hazard. When the top cover of the telephone is removed, precautions must be taken to avoid contact with this module.

Equipment supplied

BV1 Video System 1 Way Kit	
1	BV Video Telephone
1	BVP1 1 Button aluminium panel
1	61 Speech unit (inside the panel)
1	BV700 Camera (inside the panel)
1	540 Power Supply
1	210 Surface Lock Release (fail-secure)

The model 206 lock release can be supplied instead of a 210, if fail-safe operation is required. Refer to page 7.

Model 540 Power Supply

Read the section called 'Important Safety Information' before installing the power supply.

The power supply must be wall-mounted onto plasterboard, wood or a similar non-conductive material, in a protected indoor environment such as an electrical cupboard.

When fitting the power supply cable (both mains and low voltage) ensure the cable entry cutouts in the enclosure lid are no larger than necessary for the cable diameter used and under no circumstances must they be taken beyond the outer cutout zones.

Entrance Panel

Careful consideration should be given to the location of the entrance panel to ensure the best possible lighting conditions for the camera. In general strong backlighting of the subject (by the sun and sky) should be avoided as the contrast between foreground and background may be too great for the camera. The field of view should contain as little of the sky as possible, particularly if south facing. A wall or other buildings would be preferable. If a backlit situation is unavoidable, additional lighting may be necessary to illuminate the caller and avoid a dark outline image.

The panel should be mounted at an optimum height of 1.6 m, measured between the ground and camera window.

Electric Door Release

The system is supplied with a Fail-Secure release (FAIL-SECR connections), which requires power to release the lock and will secure the door upon power failure. Fail-Safe (FAIL-SAFE connections) lock releases and magnetic locks can also be connected, requiring continuous power to hold the lock and releasing the door upon power failure.

All of these types can be accommodated providing they are rated at 12V DC with a maximum current consumption of 0.5A. For lock releases that have different requirements contact your distributor for further guidance.

When installing lock releases please allow a little movement on the door as operation will be impaired if fitted too tight.

Video Telephones (Refer to diagram 1)

Refer to the 'Commissioning' section for further information.

The model 500PX series telephone (depending on the features required) maybe used in place of one or more video telephones, if audio only is required.

Up to 3 extension video telephones maybe fitted. If more than 4 video telephones are required refer to your distributor or the manufacturer for further guidance.

Commissioning

Video Telephone settings (refer to diagram 1)

IMPORTANT:

Single Telephone system

The video telephone must have the terminating slide switch set to 75R, to correctly terminate the 75Ω coax cable, refer to diagram 1.

The Auto-Display option must be set to on, refer to page 10.

Systems with Extension Telephones

The most distant telephone must have the terminating switch set to 75R, all others set to 'HI', refer to diagram 1.

The Auto-Display option must be set to off, refer to page 10.

Picture Adjustment

To adjust the BRIGHTNESS and CONTRAST of the picture adjust the two thumb-wheel controls at the left hand side of the telephone.

Buzzer mute time

This is the time for which the telephone buzzer will be switched off when the buzzer mute button is pressed. Set between 1 minute and 10 hours (see SW2 settings, overleaf).

Call Active time

The telephone active time is the duration for which the telephone remains active (display and speech) when called. Set between 30 and 120 seconds (see SW2 settings overleaf).

Auto - Display option

This option allows the display and speech to activate when the telephone is called; when deselected the telephone will buzz, but display and speech will not activate until the **VIEW** button is pressed, refer to page 10.

On systems with extension video telephones, to avoid an excessive power supply requirement, this option must be disabled.

Disabling the VIEW button

The VIEW button can be enabled/disabled by using the slide switch on the telephone PCB (BV/2), refer to diagram 1.

CAMERA button

The camera button is only used on systems with more than 1 door.

Lock Release Adjustment

540 Power Supply

Adjust the preset VR1 to the required time, turning clockwise to increase the time. Shorting 'Z' to '12V -' will operate the internal lock relay, for the preset time (and an audible click heard).

Speech Adjustments

Make sure the Speech Unit is fitted tight against the front grill to avoid possible feedback effects. The speech volume may be adjusted by carefully applying a small screwdriver to the back of the Speech Unit; 'A' (speaker symbol) adjusts the speech level at the panel and 'B' (microphone symbol) adjusts the speech level at the telephone.

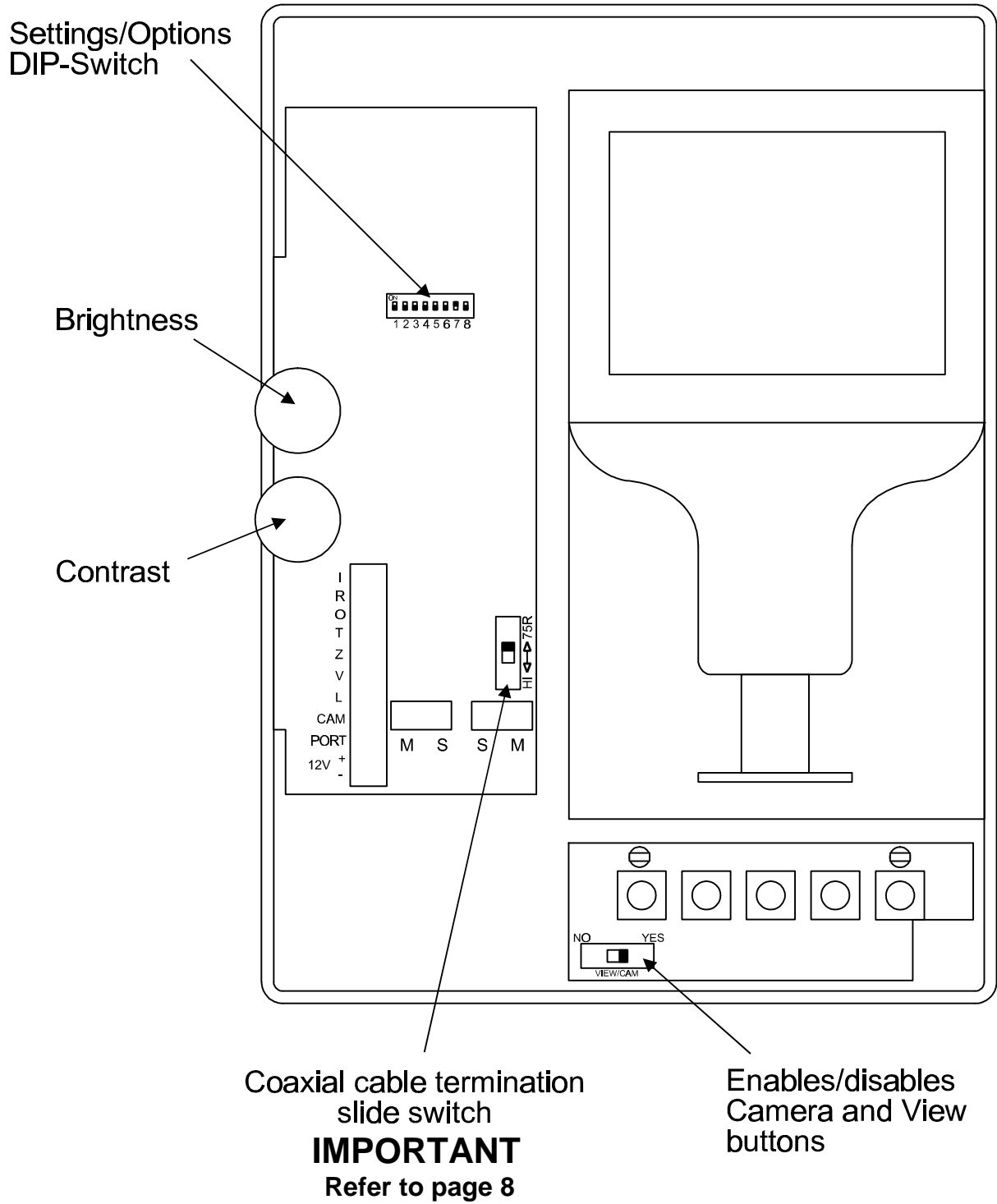
Video Telephone DIP switch settings

The location of the 8 way DIP switch is shown in diagram 1 and labelled 'SW2'.

Setting	DIP Switch Position							
	1	2	3	4	5	6	7	8
Buzzer Mute Time								
1 min	off	off	off	off	off - Switch down on - Switch up * - default setting # - must be set to this position			
2 min	off	off	off	on				
3 min	off	off	on	off				
5 min	off	off	on	on				
8 min	off	on	off	off				
10 min	off	on	off	on				
15 min	off	on	on	off				
20 min	off	on	on	on				
30 min	on	off	off	off				
45 min	on	off	off	on				
1HR	on	off	on	off				
2HR	on	off	on	on				
3HR	on	on	off	off				
5HR	on	on	off	on				
8HR	on	on	on	off				
* 10HR	on	on	on	on				
Call / Active Time					5	6		
30 sec					off	off		
* 60 sec					off	on		
90 sec					on	off		
120 sec					on	on		
Auto-Display option							7	
* Yes							on	
No							off	
Video Privacy option								8
# No								off

Diagram 1 : Video Phone Adjustments (top cover removed)

WARNING : HIGH VOLTAGES PRESENT



Troubleshooting

Fault Finding

Speech Problems	
Low speech volume	<ul style="list-style-type: none"> ! Volume adjustment required on the Speech Unit, see page 9 under SPEECH ADJUSTMENTS. ! Speech Unit is not tight against the panel grill. ! Panel grill is blocked. ! Speech Unit supply voltage low. Check 10V-15V across 'C' and 'H' on unit, after activating first.
Constant tone/feedback when in use.	<ul style="list-style-type: none"> ! Volume adjustment required on the Speech Unit, see page 9 under SPEECH ADJUSTMENTS. ! 'O' connection between Speech unit and telephone open circuit. ! Speech Unit is not tight against the panel grill. ! Entrance panel and telephone too close together. ! The entrance panel is surrounded by reflecting walls. ! Panel grill is blocked.
Speech not audible when phone is live.	<ul style="list-style-type: none"> ! Low speech volume. To increase refer to page 9 under SPEECH ADJUSTMENTS. ! No / low supply to Speech Unit. Check 10V-15V across 'C' (positive) and 'H' on the unit, after activating first. ! Faulty 'R', 'O', or 'T' line.
No speech when the phone is buzzed	<ul style="list-style-type: none"> ! Check 'Auto - Display' DIP switch setting is ON. Refer to pages 8 and 10. ! No / low supply to '+' and '-' video supply at the phone. Check 10V - 15V across connections. ! Wiring fault on the speech signal connections 'R' or 'T'. 'R' carries the phone microphone signal to the speech unit. 'T' the Speech unit microphone to the phone.

Bell View Video Entry System 1 Way

Video Problems	
Video picture impaired or unsynchronised.	<ul style="list-style-type: none"> ! 1 or more phone terminating slide switches have not been set correctly. Refer to page 7. ! Poor coaxial cable connection or screen not connected. ! Phone too close to a magnetic field, e.g. transformer. ! Coaxial cable running too close to mains cable. ! Coaxial cable is not of 75Ω type.
Entrance cannot be seen at night.	<ul style="list-style-type: none"> ! Power not connected to Camera IR night illumination. Connect '1' to '+' on Camera.
Picture does not appear when the phone is buzzed.	<p>If the screen lights up:-</p> <ul style="list-style-type: none"> ! Fault on Video coaxial cable. Check 'M' and 'S' connections. ! No / low supply to Camera. Check 10V-15V across Camera '+' and '-'. ! Coaxial cable is not of 75Ω type. <p>If the screen does not light up:-</p> <ul style="list-style-type: none"> ! Check 'Auto - Display' DIP switch setting is ON. Refer to pages 8 and 10. ! No / low supply to '+' and '-' video supply on phone. Check 10V-15V present.

Bell View Video Entry System 1 Way

Miscellaneous Problems	
Telephone will not buzz.	<ul style="list-style-type: none"> ! Buzzer disabled by PRIVATE button. Check red telephone LED is off. ! Faulty 'V', 'O' or 'I' line between power supply and phone. Check 10V - 15V across 'V' and 'O', and 10V - 15V across 'I' and 'O' when called. ! Faulty panel button.
Telephone 'DOOR' button does not operate release.	<ul style="list-style-type: none"> ! Telephone is not live. ! Fault on 'Z' or 'O' line. Check shorting 'Z' to 0V at the M540 power supply, when live, operates the release. ! Lock release supply low. Check 10V-15V across the release with the lock button pressed and the phone live. ! Faulty 'DOOR' button on telephone.
Lock release operates all the time.	<ul style="list-style-type: none"> ! If the lock is a 'fail safe' type it has been connected to 'FAIL SECR'/'fail secure' output. If the lock is a 'fail secure' type it has been connected to 'FAIL SAFE'/'fail safe' output. Check to see if the release is inactive when the lock button is pressed or try swapping the connections over. ! 'DOOR' button stuck down (lock operates only when live). ! 'Z' and 'O' lines permanently shorted together.
Supply voltage low (less than 10V, any system component).	<ul style="list-style-type: none"> ! Short circuit. Disconnect power supply loads and check the output is 12V - 15V. Systematically disconnect components one at a time or isolate floors, etc. until the voltage is correct. Start with connections close to the Power Supply. ! Cable voltage drop too high. Try doubling wires up with spare cores. Refer to the Cable and Wiring Details sections.

Specifications

Bell View Video Entry System 1 Way

Model BV Video Telephone	
Size	180 mm x 245 mm x 75 mm
Fixing	Wall mounted
Supply Voltage	10 V DC min. 15 V DC max.
Current consumption	405 mA maximum active 27 mA maximum idle
Call / Active time	30, 60, 90 or 120 seconds
Buzzer mute time	1 minute min 10 hours max

Model 61 Speech Unit	
Size	98 mm x 60 mm x 24 mm
Supply voltage	6 V AC/DC min. 15 V AC/DC max.
Current consumption	100 mA DC max. 140 mA AC max.

Model BV700 Camera	
Size	60 mm x 57 mm x 31 mm
Image Device	1/3" CCD
Sensitivity	0.1 lux.
Current consumption	175 mA max. without IR 215 mA max. with IR
Minimum focus	100 mm
Viewing angle	92° (typical)
Supply Voltage	9 V DC minimum 15 V DC maximum

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Model 540 Power Supply	
Size	236mm x 105mm x 81mm
Output Voltage (regulated)	12.0 V DC min. 13.8 V DC nom. 15.0 V DC max.
Output Current	1.5 A continuous 2.0 A peak (5 minutes max.)
Lock outputs	12 V DC @ 0.5 A max. resistive or inductive
Lock Time	3 seconds min. 27 seconds max.
Mains Supply Internal fuse	T250mA Anti-surge
Supply Voltage	240 V 50 Hz nominal
Temperature Range	0°C to 50°C

Notes

Cable and Wiring Details

**1 Way
Single Door System**

CW1

1 Way Single Door Systems

Cable Requirement (Refer to diagrams 2a and 2b.)

Cable types (solid core)

0.5 mm	Twisted pair, e.g. BT spec CW1308
1.0 mm	1.0 mm ² 'Twin & Earth'
Co-ax	75 Ohm Low loss, e.g. CT100, RG6

Video phones

Total Cable Length	Power (+,-)	Other connections	Video Signal
50 m	8 @ 0.5 mm [double +, -]		75 Ohm Co-ax
100 m	2 @ 1.0 mm	4 @ 0.5 mm	75 Ohm Co-ax

e.g. A Video phone with a 50 m length requires ; 8 conductors @ 0.5 mm.

Note

Where possible (for optimum speech clarity), a twisted-pair should be used for 'R' and 'O' connections to the video phone.

Entrance

Connections	No. of Cores	Max Length	Solid Core Diameter
Camera + Speech unit + Call Button	5 + 75 Ohm Co-ax	50 m	0.5 mm
Lock Release (up to 0.5 A)	2	25 m 100 m	0.5 mm 1.0 mm

Diagram 2a : Cabling for a 1 way Single door system

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BV 1

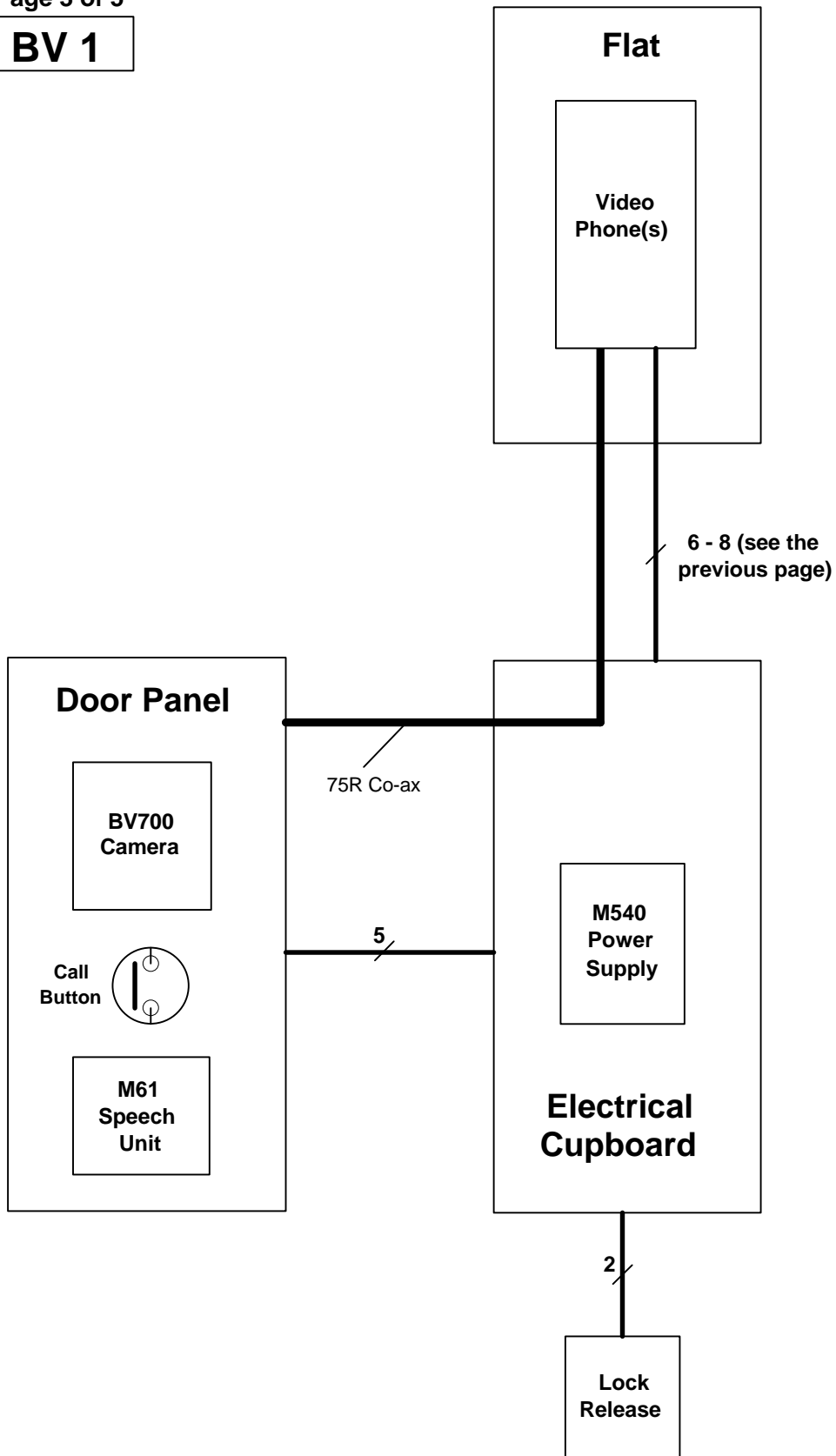


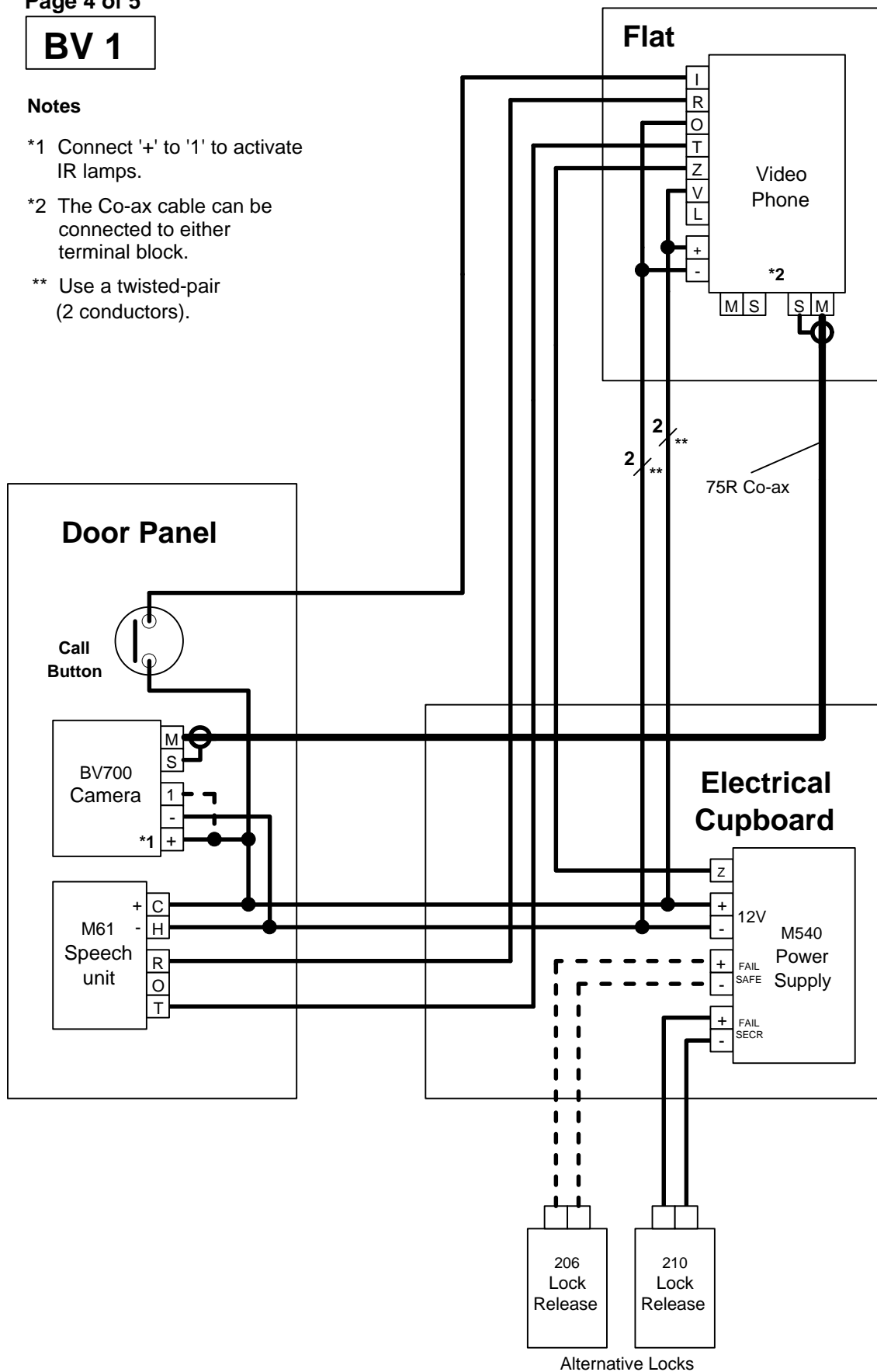
Diagram 2b : Wiring for a 1 way single phone system

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BV 1

Notes

- *1 Connect '+' to '1' to activate IR lamps.
- *2 The Co-ax cable can be connected to either terminal block.
- ** Use a twisted-pair (2 conductors).



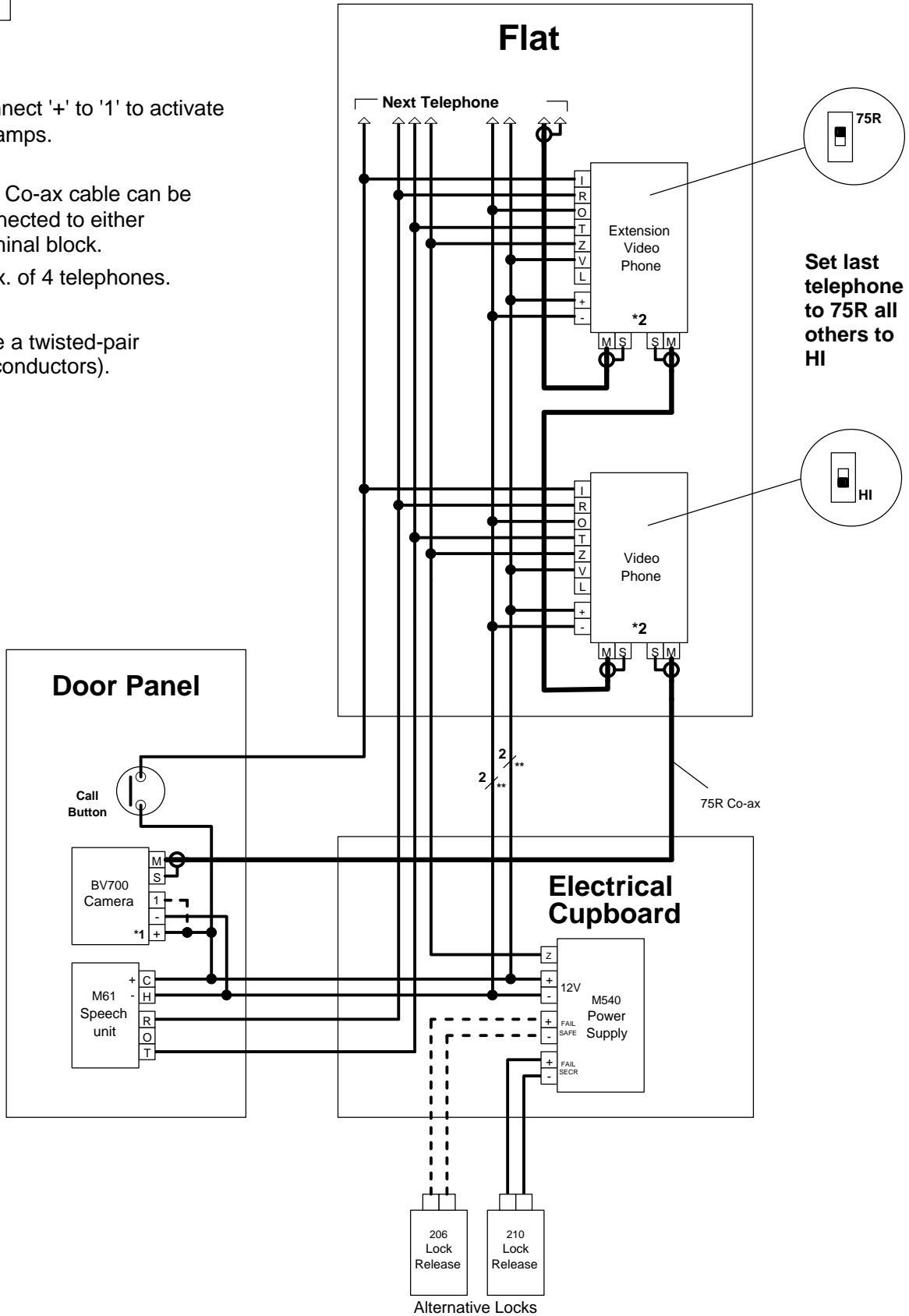
Bell View Video System


Diagram 2c : Wiring for systems with extension phones

BV 1

Notes

- *1 Connect '+' to '1' to activate IR lamps.
- *2 The Co-ax cable can be connected to either terminal block. Max. of 4 telephones.
- ** Use a twisted-pair (2 conductors).



 This product complies with European directive 89/336/EEC on
Electromagnetic Compatibility and Low Voltage Directive 72/23/EEC.

Emissions: Generic BSEN 50081-1
Immunity: Generic BSEN 50082-1 (IEC801-2, IEC801-6)
Low Voltage : Generic BSEN 60950

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Milton Keynes
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