X1:
EXPANDABLE TWO-WIRE VIDEO ENTRY SYSTEM

From a single home to a condominium. The X1 system can be expanded to meet any requirement – number of receivers, distances between the various parts of the system and control of the entry panels. The X1 system can be supplemented by installing auxiliary cameras, remote actuators and many other features.

This is the most complete system available in terms of flexibility and control of all the parameters for the operation of the system, from the duration of the call tone to the customisation of the auxiliary services for each individual receiver.

100 CALLS

2 NON-POLARIZED WIRES

PROGRAMMING VIA SOFTWARE

SELF-LEARNING

INTEGRATION WITH CCTV AND ACCESS CONTROL SYSTEM

INTERCOM BETWEEN UP TO 10 RECEIVERS

AUDIO/VIDEO CONVERSATION CONFIDENTIALITY

X1 SYSTEM.
THE ADVANTAGES OF ADVANCED TECHNOLOGY

2 NON-POLARIZED WIRES: UNBEATABLE PERFORMANCE, LONG-DISTANCE COVERAGE, REDUCED COSTS

A single non-polarized two-wire cable can connect with XAS/301 up to 100 receivers: rapid installation and low cost.

SELF-LEARNING FUNCTION: FOOLPROOF AND VERSATILE

The system is designed for simple, rapid programming without irritating DIP-switches or other configuration devices: no possibility of errors, no extra costs.

INTERCOM FUNCTION: UP TO 10 MONITORS WITHOUT ADDITIONAL CONDUCTOR

One or more intercom receiver groups can be set up without modifying the riser.

INTEGRATION WITH CCTV AND ACCESS CONTROL

The video entry system can be transformed into an active home security system.

X1 SYSTEM: FULL-OPTIONAL

- Audio/video conversation confidentiality
- Self-connection/scanning of entry panels and video cameras
- Door lock release with variable activation time
- Doorbell on landing
- Incoming call notification
- Auxiliary functions
- System busy signal

PERFORMANCE AND TECHNICAL DATA

- 1 power supply (12 DIN) powers the entire system
- 3 colour entry panels in star configuration
- 100 receivers
- 650 metres between entry panel and last receiver with XAS/301's
- 8 CCTV cameras
- 500 different access badges
- 500 different access codes

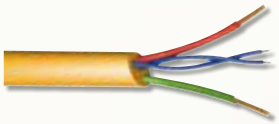
CABLES

The X1 system by Bpt guarantees excellent performance and signal quality on a variety of cable types including CAT5, with the minimum number of cores required. This makes it particularly suited to replacing older systems or where cable availability is limited. High specification VCM/1D and VCM/2D custom cable from Bpt is also available to optimise system performance.

VCM/2D CABLE BY BPT (OPTIMUM PERFORMANCE)

Cable comprising twisted-pair (wire section 0.28 mm²) + two 1 mm² wires.

PVC insulating sheath, diameter 8 mm, colour: RAL 1021 yellow. Twisted pair, 70mm twist pitch. Copper wires. Colour: white/light blue and light blue for twisted pair - red and green for power supply wires. Nominal impedance of twisted pair 100 ohm (±20%) (f = 1 MHz), capacitance 50 pF (at 20°C).
Minimum cable curvature 80 mm. Fully compliant with CEI 46-6 (latest amendment), CEI 20-11 (latest amendment), CEI 20-37.
Supplied in 100m or 500m coils.

		Colour of wire	Thickness	Type of cable
VCM/2D		Green	1.00 mm²	Power supply
		Red	1.00 mm²	
		Light Blue	0.28 mm²	Bus
		White/Light Blue	0.28 mm²	

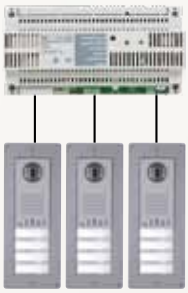
VCM/1D CABLE BY BPT (OPTIMUM PERFORMANCE)

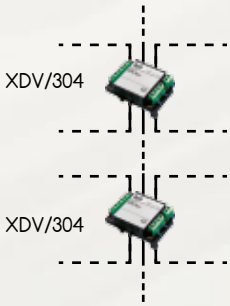
Twisted-pair cable (wire section 1 mm²)

PVC insulating sheath, diameter 7 mm, colour: RAL 1021 yellow. Twisting pitch 10 twists/m. Tinned copper wires, colour: RAL 9001 white and RAL 5015 blue. Nominal impedance 100 ohm (±15%) (f = 1 MHz), capacitance 50 pF (at 20°C).
Minimum cable curvature 80 mm. Fully compliant with CEI 46-6 (latest amendment).
Supplied in 100m or 500m coils.

		Colour of wire	Thickness	Type of cable
VCM/1D		Blue	1.00 mm²	Bus/Power supply
		White	1.00 mm²	

RECOMMENDED WIRES FOR EACH TYPE OF CONNECTION

TYPE OF CONNECTION		RECOMMENDED WIRE
Connection between entry panels and power supply modules		• VCM/2D (Optimum performance) • CAT5 • Twisted pair + Power

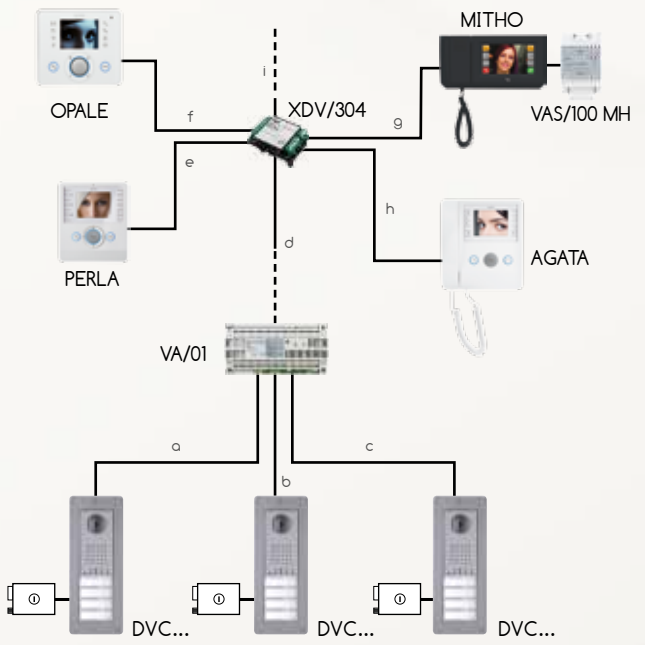
TYPE OF CONNECTION		RECOMMENDED WIRE
Distribution on riser		For X1 systems with seperate power supply for the receivers: • VCM/2D (Optimum performance) • CAT5 • Twisted pair + Power For X1 systems with bus powered receivers: • VCM/1D (Optimum performance) • CAT5 • Twisted pair + Power

DISTANCES

The X1 system by Bpt guarantees excellent performance and signal quality on a variety of cable types including CAT5. Distances shown are the same for all entry panels and monitors types and represent expected working capability.

For systems using UTP Cat5 or alternatives, expected working distance may be much greater than shown. (dependent on situation)

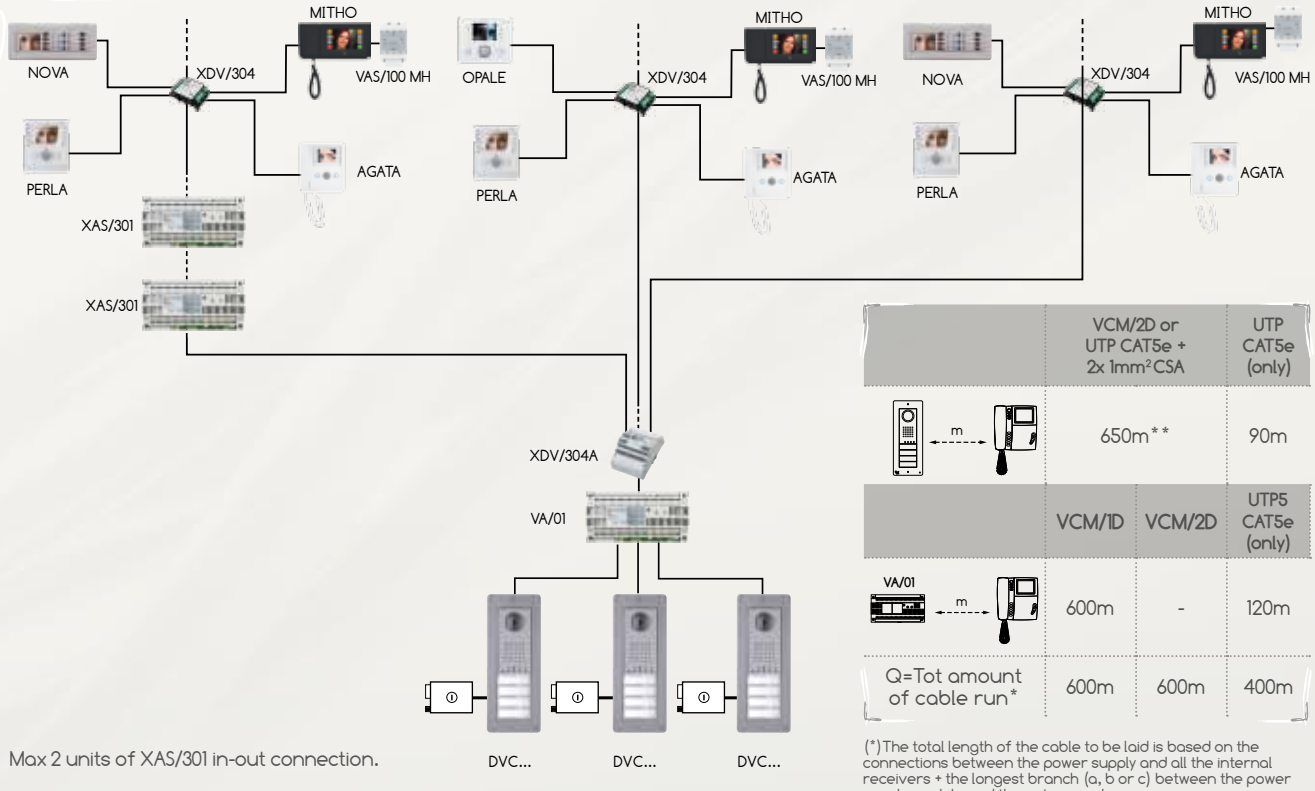
STANDARD SYSTEM



	VCM/2D or UTP CAT5e + 2x 1mm² CSA	UTP CAT5e (only)
m	150m	60m
	VCM/1D / **VCM/2D**	**UTP5 CAT5e (only)**
VA/01 m	100m / 100m	30m
Q=Tot amount of cable run*	600m / 600m	400m

(*) The total length of the cable to be laid is based on the connections between the power supply and all the internal receivers + the longest branch (a, b or c) between the power supply module and the entry panel.
Total length of cable=(a) or (b) or (c)+d+e+f+g+h+i+...

SYSTEM WITH LINE AMPLIFIER



	VCM/2D or UTP CAT5e + 2x 1mm² CSA	UTP CAT5e (only)
m	650m**	90m
	VCM/1D / **VCM/2D**	**UTP5 CAT5e (only)**
VA/01 m	600m / -	120m
Q=Tot amount of cable run*	600m / 600m	400m

Max 2 units of XAS/301 in-out connection.

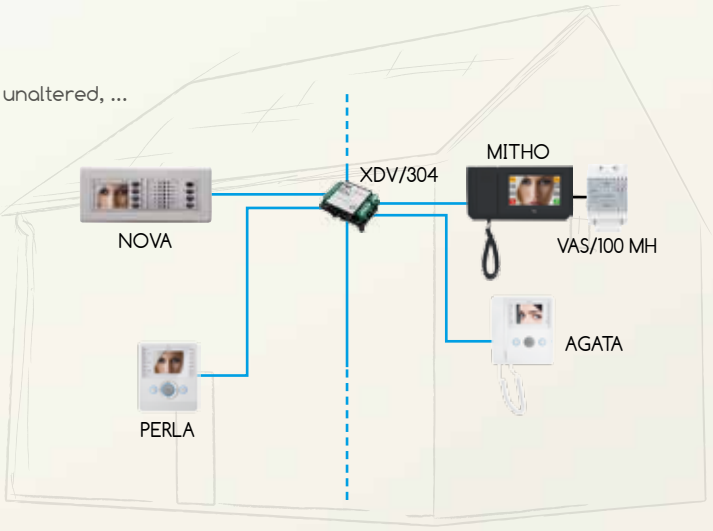
(*) The total length of the cable to be laid is based on the connections between the power supply and all the internal receivers + the longest branch (a, b or c) between the power supply module and the entry panel.
Total length of cable=(a) or (b) or (c)+d+e+f+g+h+i+...

(**) The maximum distance between the entry panel and the receiver and between the VA/01 power supply module and the receiver is increased by 250 metres for each supplementary XAS/301 power supply module (plus 1,000 metres total cable length), on condition that no receivers are installed between the XAS/301 power supply modules or between the XAS/301 and the XDV/304A modules, or if the receivers are powered locally.

PERFORMANCE AND COMPATIBILITY

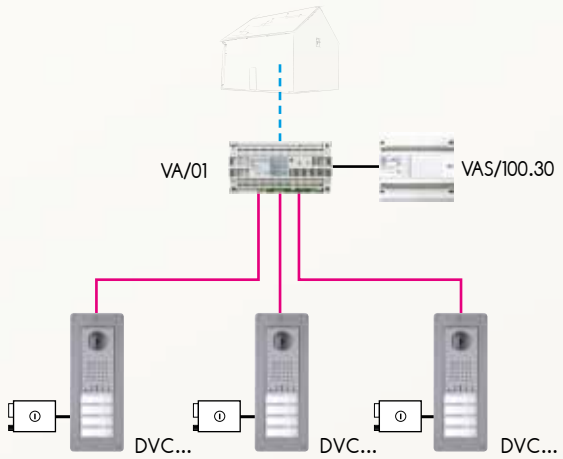
THANGRAM ENTRY PANELS AND VA/01 POWER SUPPLY

For a given riser
whose characteristics remain unaltered, ...

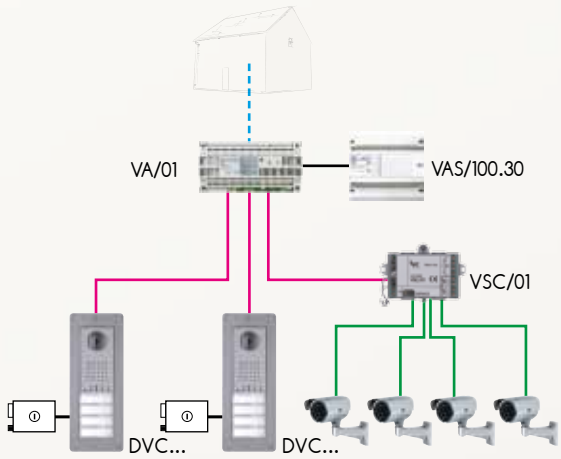


VCM/1D
VCM/2D
COAX
2 WIRES
USB
(OR SUITABLE EQUIVALENT)

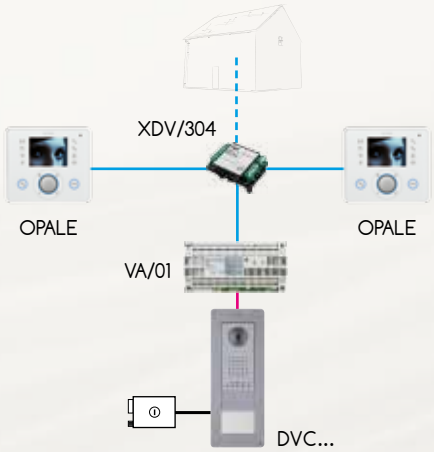
... it is possible to create systems with 3 separate entry panels connected in 'star' configuration and 100 receivers.



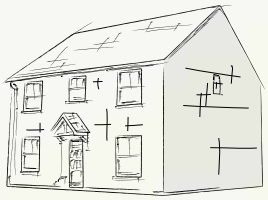
... or systems with cyclic selection of 4/8 video cameras that can be viewed from the receivers.



... it is possible to create an intercom system



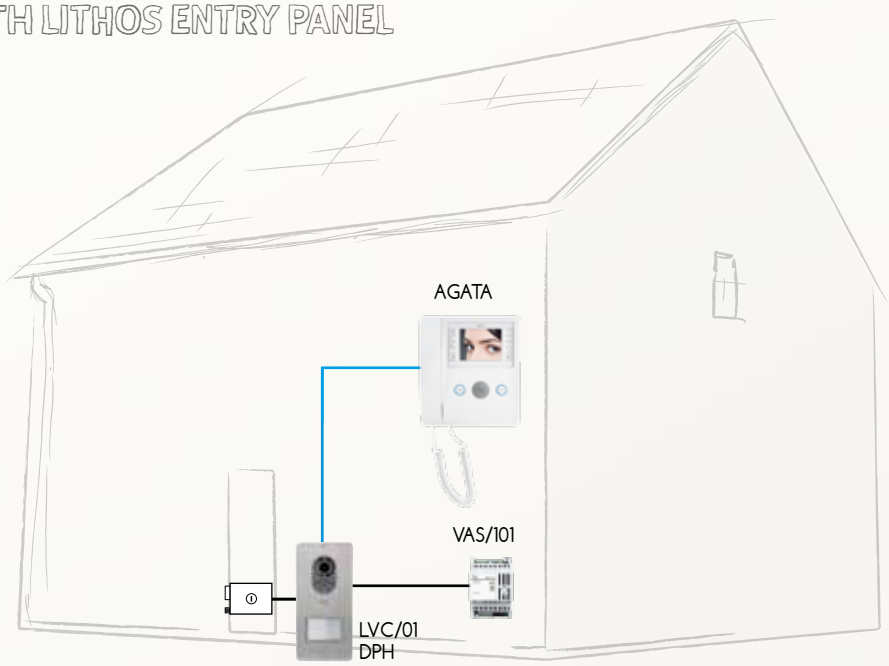
EXAMPLES OF



SINGLE HOUSE SYSTEM WITHOUT INTERCOM FUNCTION

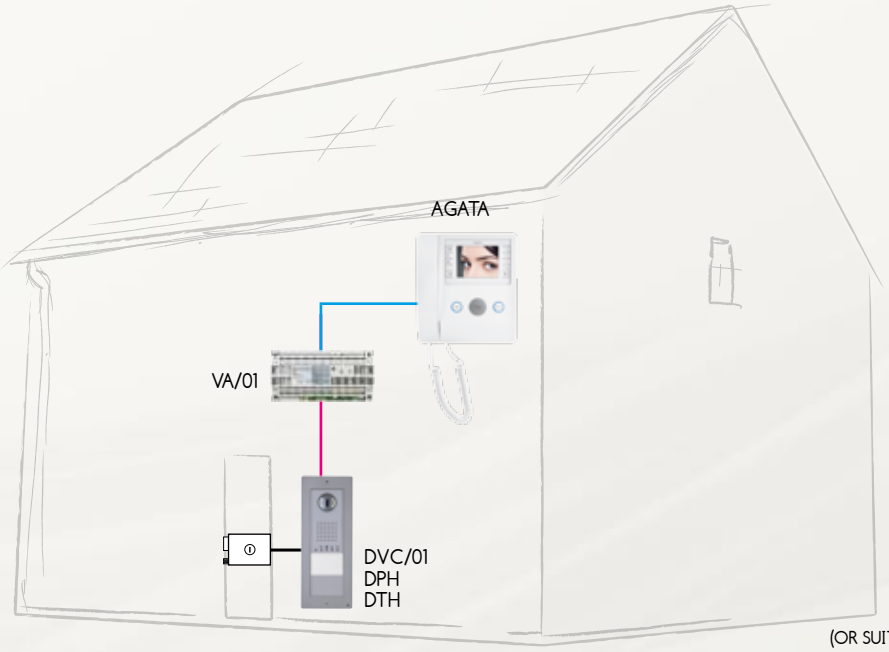
To create a single-home system without the intercom function, it is sufficient to connect the receiver directly to the power supply module VA/01 or the entry panel LVC/01. In this case, no supplementary components are required.

SYSTEM WITH LITHOS ENTRY PANEL



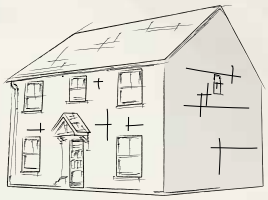
VCM/1D
2 WIRES
(OR SUITABLE EQUIVALENT)

SYSTEM WITH THANGRAM ENTRY PANEL



VCM/1D
VCM/2D
2 WIRES
(OR SUITABLE EQUIVALENT)

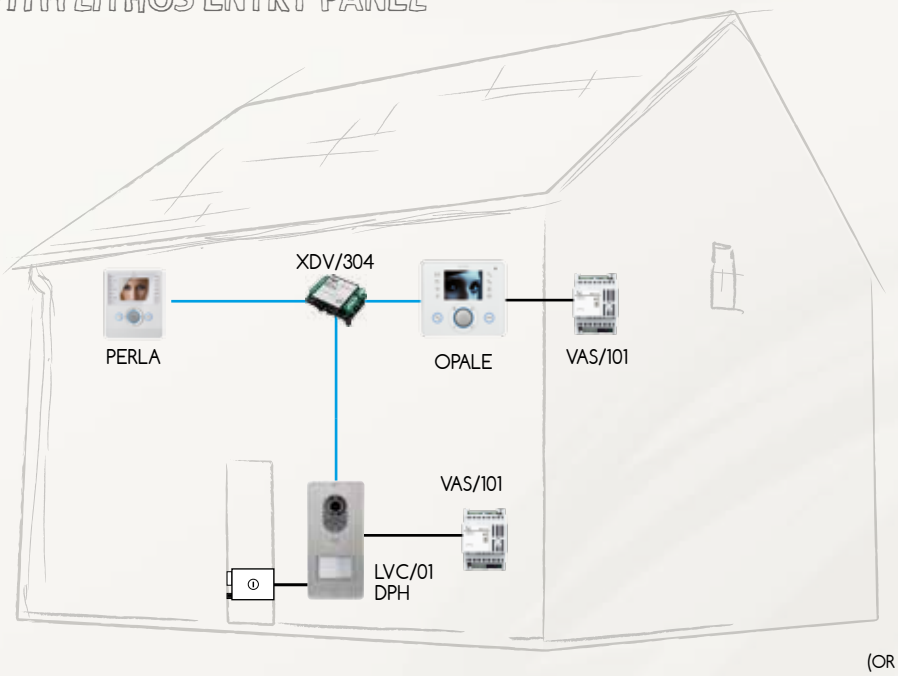
APPLICATIONS



SINGLE HOUSE SYSTEM WITH INTERCOM FUNCTION

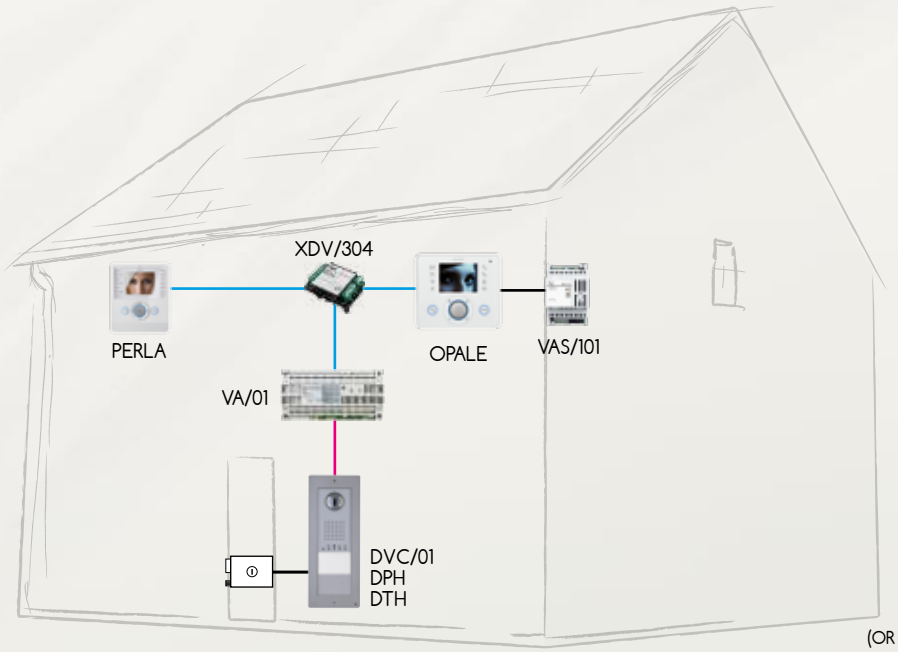
To create a single-home system with intercom function, it is sufficient to connect the receiver directly to the power supply module VA/01 or the entry panel LVC/01. In this case, no supplementary components are required.

SYSTEM WITH LITHOS ENTRY PANEL



VCM/1D
2 WIRES
(OR SUITABLE EQUIVALENT)

SYSTEM WITH THANGRAM ENTRY PANEL



VCM/1D
VCM/2D
2 WIRES
(OR SUITABLE EQUIVALENT)

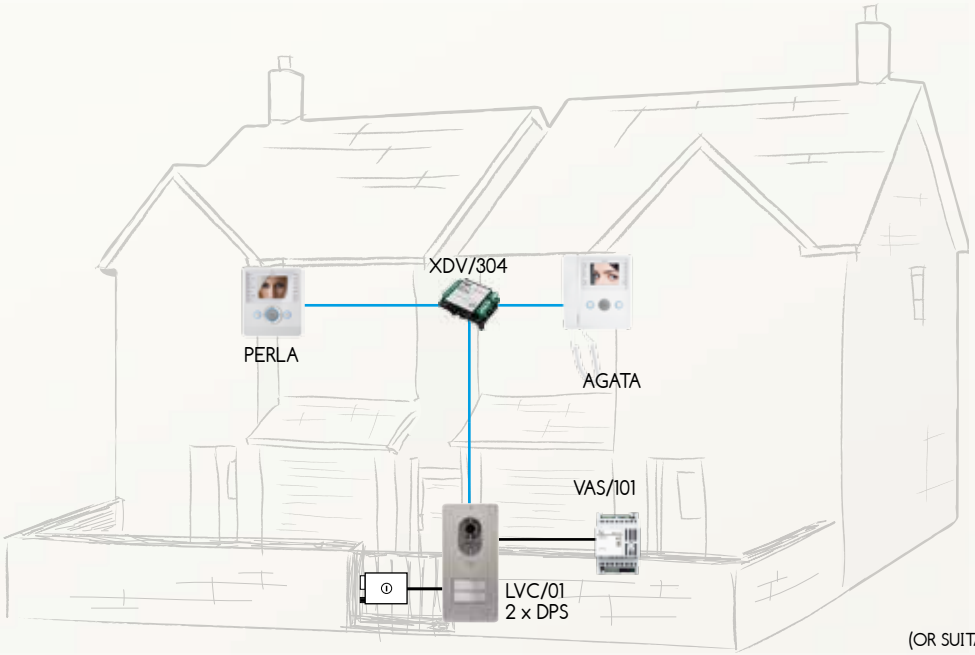
NOTE: The XDV/304 using permits the "star" connection of the video receivers: in case it is possible the video receivers "daisy-chain" connection (max 5).

EXAMPLES

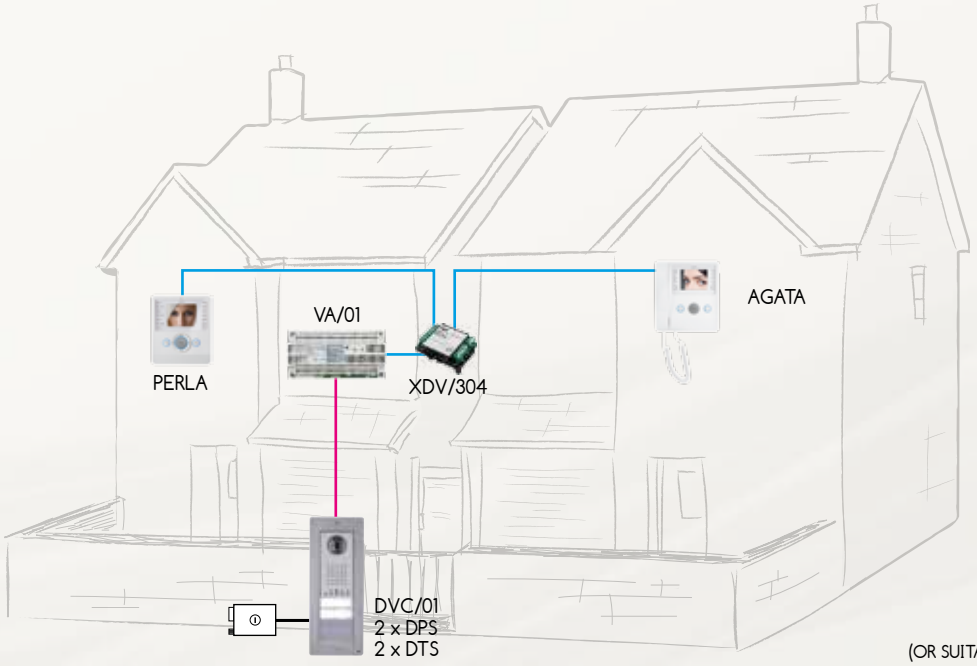
TWO-FAMILY HOUSE SYSTEM WITHOUT INTERCOM FUNCTION

For a two-family system without intercom, it is sufficient to connect the receivers directly to the power supply module (VA/01) or to the entry panel. In this case, no supplementary components are required.

SYSTEM WITH LITHOS ENTRY PANEL



SYSTEM WITH THANGRAM ENTRY PANEL



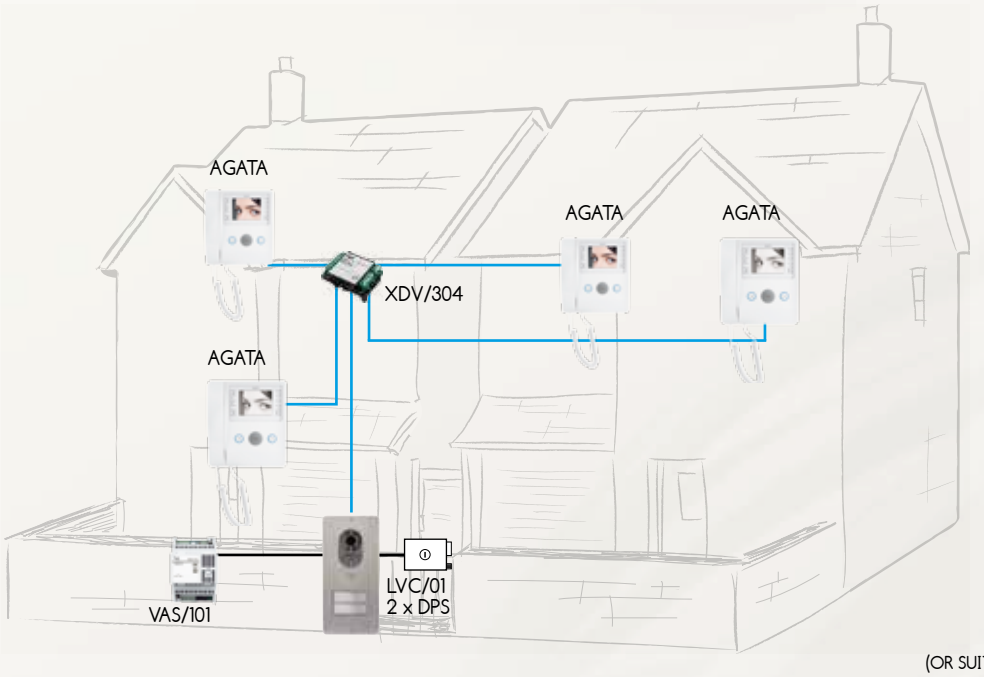
NOTE: The XDV/304 using permits the "star" connection of the video receivers: in case it is possible the video receivers "daisy-chain" connection (max 5).

OF APPLICATIONS

TWO-HOUSE SYSTEM WITH INTERCOM

For a two-family system with 2 intercom groups, it is sufficient to add a VSE/301 selector for each apartment with Thangram system.

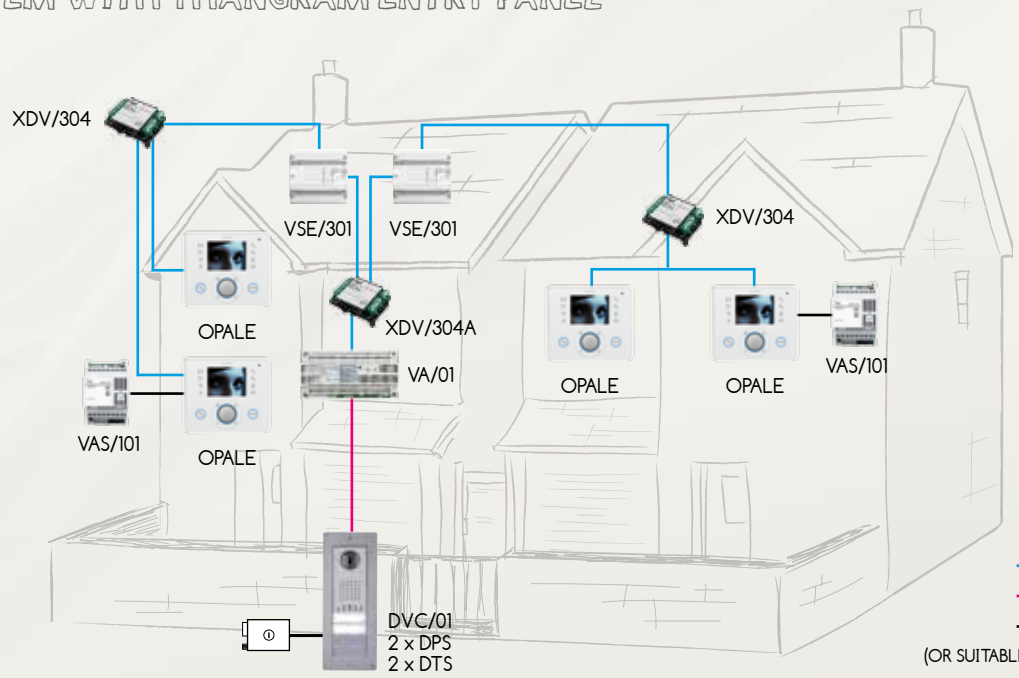
SYSTEM WITH LITHOS ENTRY PANEL AND AGATA STANDARD RECEIVER



VCM/1D
2 WIRES
(OR SUITABLE EQUIVALENT)

NB: Agata and Perla X1 Monitors offer a Master/Slave function: The Audio/Video link will be initially activated on the master receiver only. However, the call can be answered from a slave receiver, where video/Audio will be tranferred when the call is picked up.

SYSTEM WITH THANGRAM ENTRY PANEL



VCM/1D
VCM/2D
2 WIRES
(OR SUITABLE EQUIVALENT)

NOTE: The XDV/304 using permits the "star" connection of the video receivers: in case it is possible the video receivers "daisy-chain" connection (max 5).

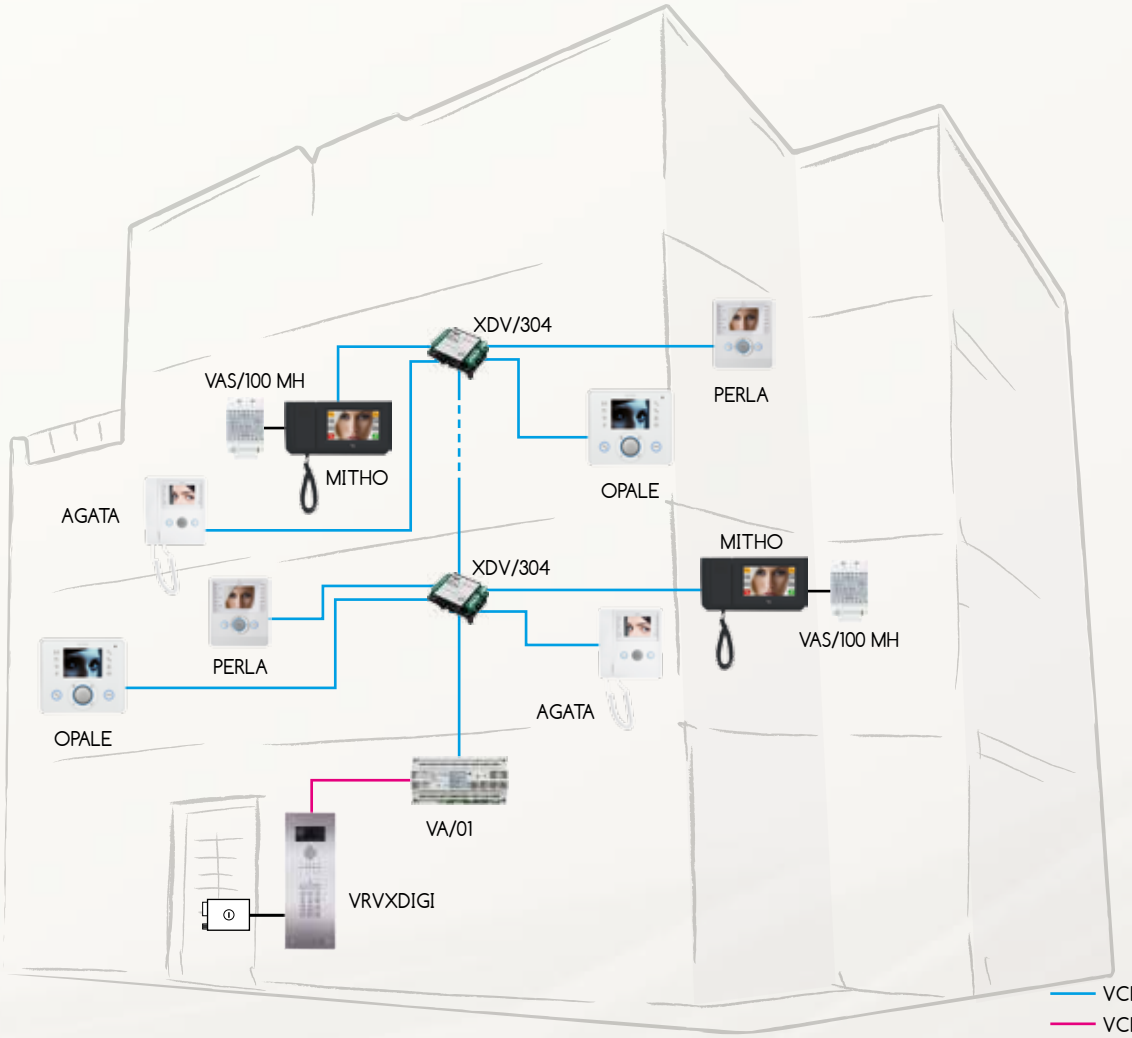
EXAMPLES OF

MULTI-FAMILY RESIDENTIAL BLOCK WITH SINGLE ENTRANCE WITH INTERCOM FUNCTION

To create this type of system, it is necessary to install the entry panel together with one or more additional pushbutton panels, depending on the number of users. A single entry panel with double pushbuttons can serve up to eight lines.

For systems with larger numbers of apartments, a digital call entry panel can be considered to reduce the need for additional entry panels and large numbers for push buttons.

SYSTEM WITH RECEIVER POWERED VIA BUS



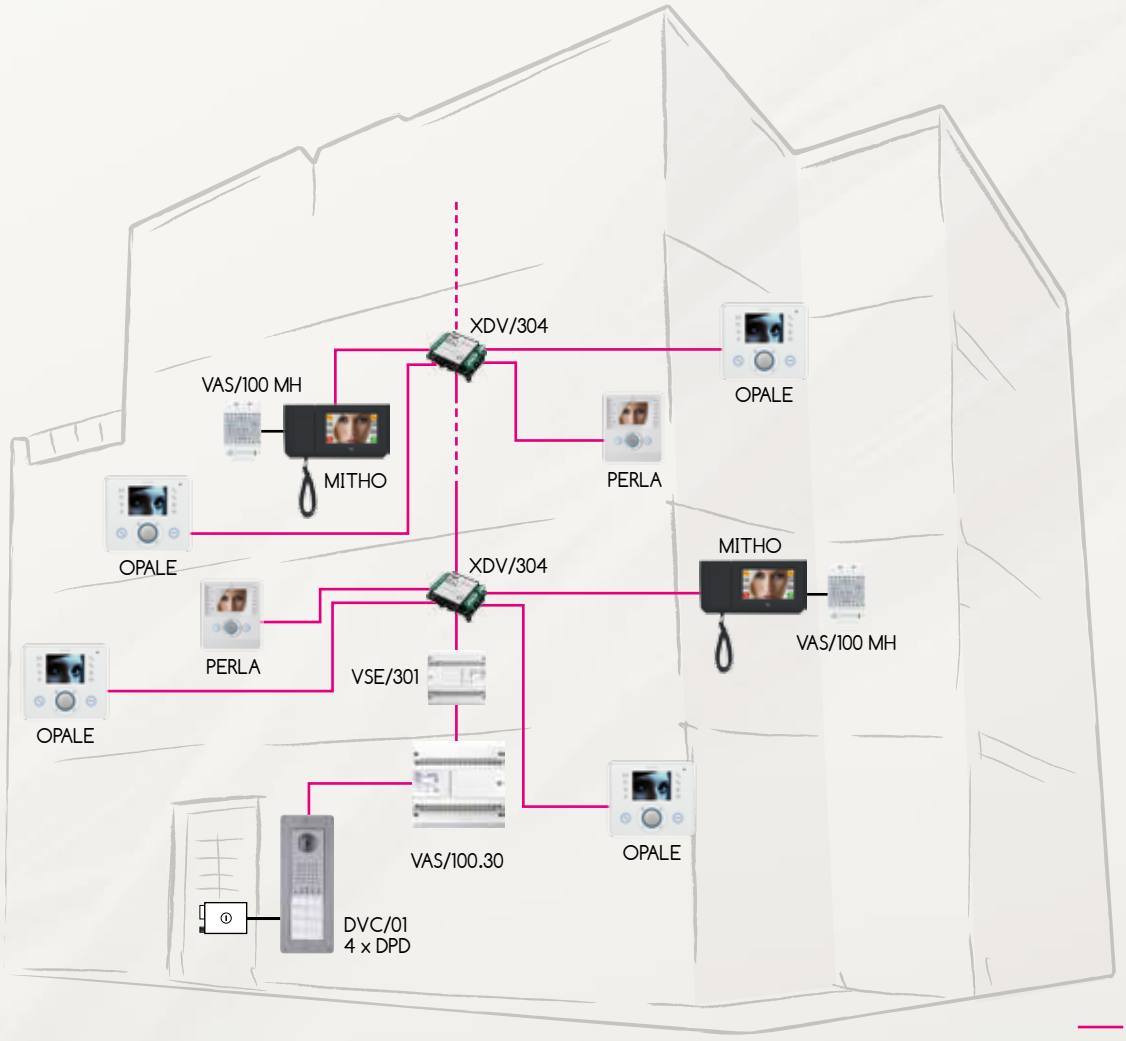
VCM/1D
VCM/2D
2 WIRES

(OR SUITABLE EQUIVALENT)

APPLICATIONS

The intercom function requires the installation of the VSE/301 selector connected after of the power supply module; this makes it possible to make confidential calls between all the apartments (up to a maximum of 6/10 apartments depending on the type of receiver).
For distribution of the signals along the riser, and from the riser to the various apartments, it is necessary to install XDV/304 video signal distributors.

SYSTEM WITH RECEIVER POWERED SEPARATELY



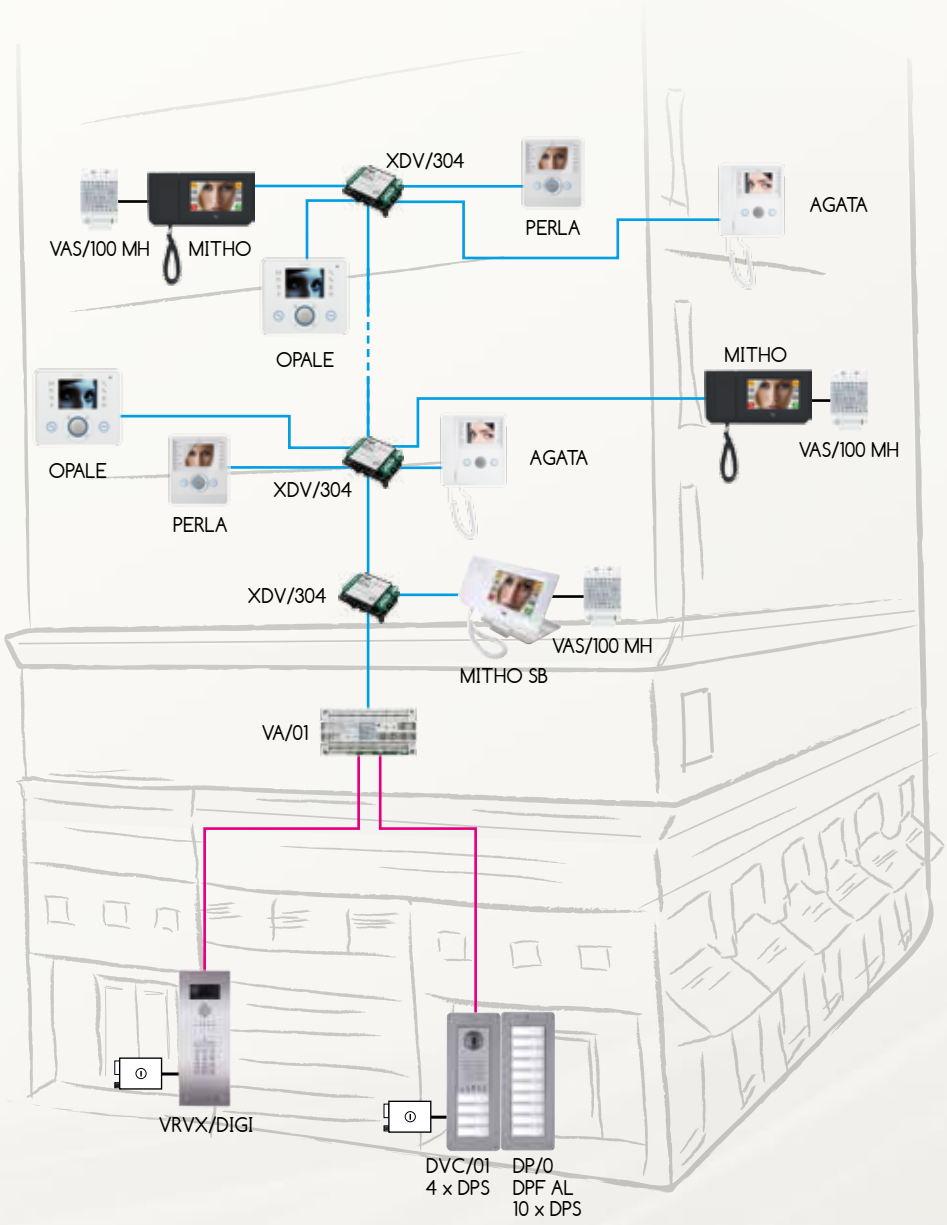
VCM/2D
2 WIRES
(OR SUITABLE EQUIVALENT)

EXAMPLES

MULTI-FAMILY RESIDENTIAL BLOCK WITH MULTIPLE ENTRANCES AND PORTER SWITCHBOARD

For this type of system, it is necessary to install the entry panels (up to a maximum of three) and to fit one or more additional pushbutton panels depending on the number of lines that are required. For up to eight calls, it is sufficient to install a single video entry panel with double pushbuttons. When a call is entered, the selector built into the power module automatically activates the relative audio/video channel and the door lock actioning signal to/from the calling entry panel, while the other entry panels are set to "busy". A porter switchboard, too, can be installed and programmed at selected times of the day to intercept calls made to the receivers. The porter switchboard can also be used to call the receivers directly and to transfer calls made from the entry panels. For distribution of the signals along the riser and between the riser and the various apartments, it is necessary to utilize XDV/304 video signal distributors. Any of the receivers in our range may be selected for the apartments.

SYSTEM WITH RECEIVER POWERED VIA BUS



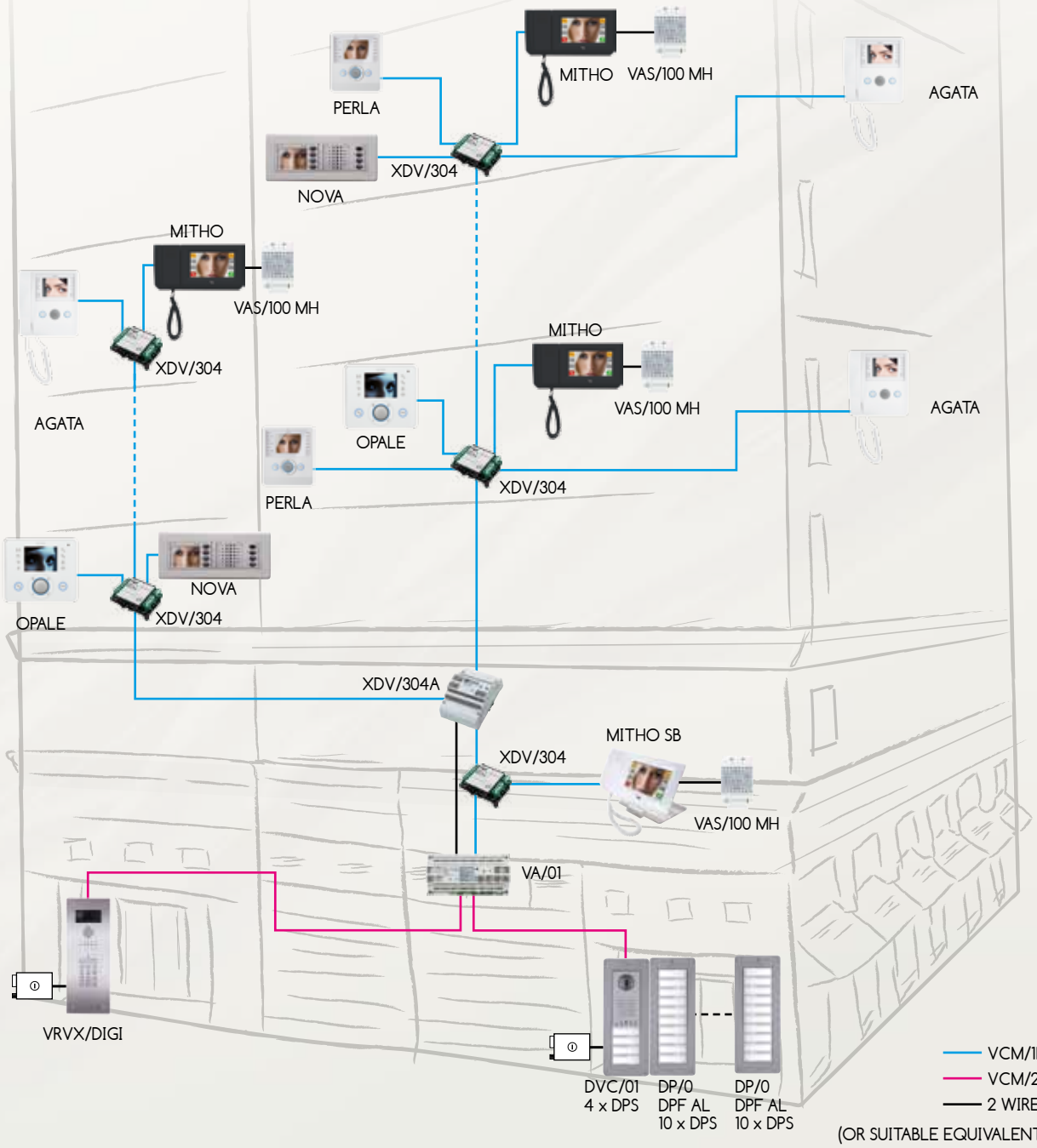
(OR SUITABLE EQUIVALENT)

OF APPLICATIONS

MULTIPLE-ENTRANCE BLOCK WITH MULTIPLE STAIRCASES AND PORTER SWITCHBOARD

For this type of system, it is necessary to install the entry panels (up to a maximum of three) and to fit one or more additional pushbutton panels depending on the number of lines that are required. The XDV/304A amplified video signal distributor distributes the signals towards the various staircases (up to a maximum of four outputs for four risers). A porter switchboard, too, can be installed and programmed at selected times of the day to intercept calls made to the receivers. The porter switchboard can also be used to call the receivers directly and to transfer calls made from the entry panels. Along the riser between the various apartments, it is necessary to utilize XDV/304 video signal distributors. Any of the receivers in our range may be selected for the apartments

SYSTEM WITH RECEIVER POWERED VIA BUS

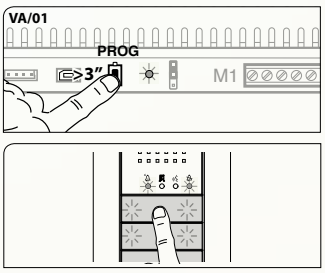


MANUAL PROGRAMMING

X1 is not simply a high-performance system that is simple to install; it is also extremely easy and quick to set up. Thanks to the self-learning function, programming can be carried out rapidly and is not prone to the errors and malfunctions that are typical of traditional systems with numerous jumpers and other configuration devices.

TYPES OF PUSHBUTTONS

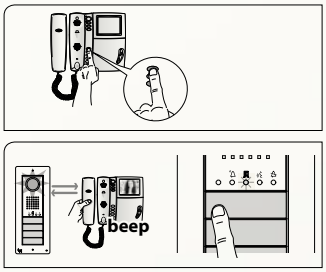
1



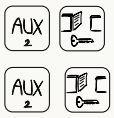
X1 offers great flexibility in the choice of pushbuttons (single, double, double-height) to suit the type of system. It is necessary simply to select programming mode and press the first button on the entry panel. For any other entry panels having the same configuration, no further action is necessary: they will be programmed in the same way as the first. Nothing could be easier!

MATCHING THE PUSHBUTTONS TO THE RECEIVERS

2

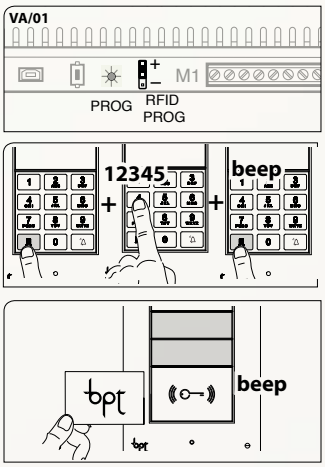


A call button on an entry panel can be associated with the appropriate receiver directly when the connection of the receivers is checked. To do so, simply press the door lock release button and AUX2 on the receiver to activate the audio and video line to the entry panel and press the call button on the entry panel for the receiver to be associated with it. A "beep" will sound to confirm that the link has been programmed. In case of an error, repeat the procedure.



MEMORIZING THE ACCESS BADGES OR CODES

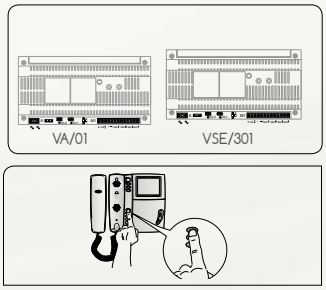
3



With X1, this operation, too, is incredibly simple.
Simply reposition the jumper on the power supply module to enter programming mode and enter the code using the keypad or position the badge so that it is 'read' by the reader.
In case of modification or misplacement of the codes, the procedure for removal or reprogramming is simple, fast and secure.

PROGRAMMING THE INTERCOM RECEIVERS

4

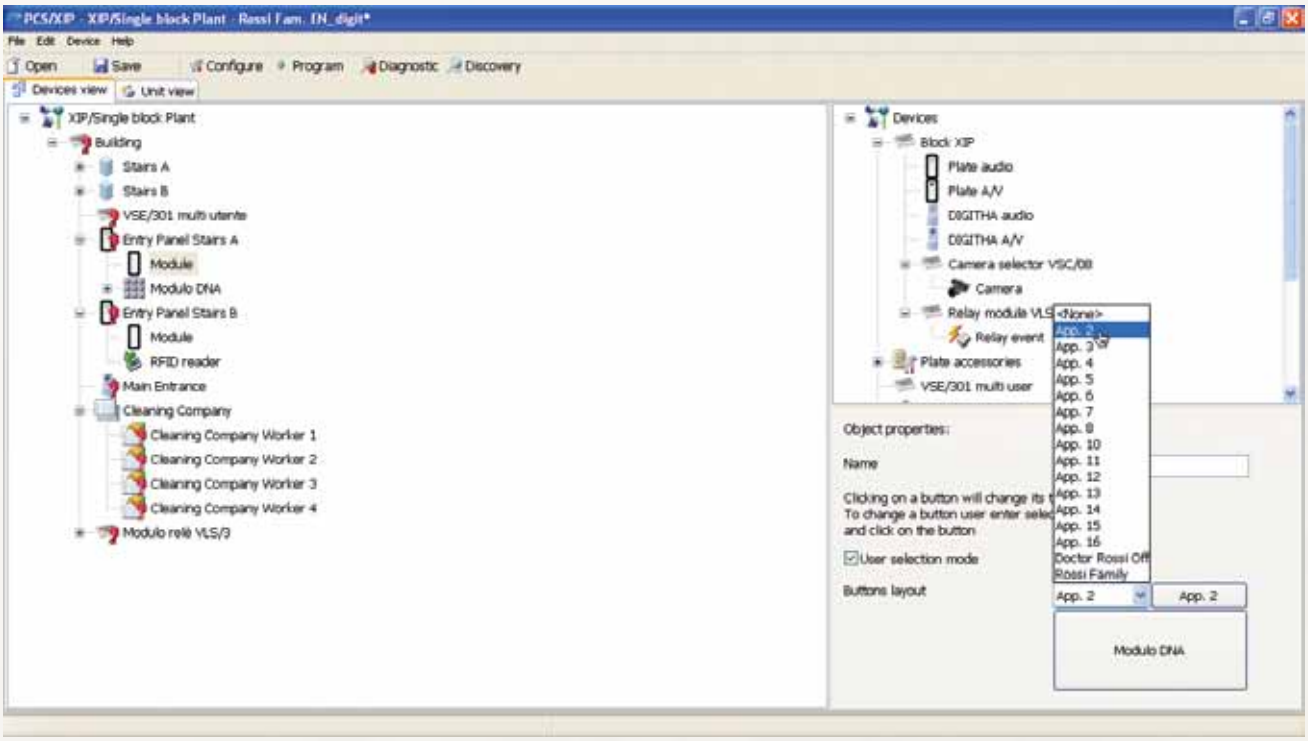


Programming of the intercom receivers is equally simple.
First, set the selector (VSE/301), or the power supply (VA/01), to 'programming' mode. Then, from the intercom receiver, press the call button for the intercom receiver to be connected and wait until three "beeps" sound to confirm the setting.

THE INTELLIGENT SYSTEM:
When programming has been completed, after 30 minutes the system returns to normal operating mode automatically without any further intervention by the installing technician.

PROGRAMMING WITH SOFTWARE FOR PC

For more complex systems, Bpt has developed the PCS/XIP software for PCs. This software features an interface with intuitive graphics that makes programming quick and easy. The software can be used to read the monitor identifiers directly from the bus, to set up the pushbuttons on the entry panels (even if different models are installed) and to associate pushbuttons and receivers automatically.
By simply connecting to the power supply module or the entry panel, it is possible to modify and configure the actioning time for the door lock release, the ring tone, and the system activation time, or to test the lines for correct operation etc. – all directly from the PC.



SYSTEM COMPONENTS

POWER SUPPLY MODULES

VA/01

Video entry system power supply module for X1 systems.

Plastic housing, for installation in electrical control panels (EN50022). Dimensions: 12 low-profile DIN modules. Protection rating IP30. VSE/301 integrated intercom selector. Complete circuit board for control of entry panels (18 VDC - 1.1A max) and for control of the video entry system riser (20 VDC - 0.8A max). Electronic circuit-breaker for protection against overloads/short-circuits. Terminals for control of riser bus and terminals for bus connection to 3 entry panels. Open-collector outputs for auxiliary functions (AUX1 and AUX2). RS232 serial ports (for future functions) and mini USB for programming from PC (with LED indicators for 'connection' and 'data being transferred'). Manual system programming button with indicator LED. Jumper for access to programming of access control devices (cards and keys). Powered by mains circuit 230 VAC 50/60 Hz.

VAS/101

Audio entry system and/or supplementary power module for X1/XIP systems.

Plastic housing, for installation in electrical control panels (EN50022). Dimensions: 4 low-profile DIN modules. Protection rating IP30. Complete circuit board for power supply to entry panels and receivers (18 VDC - 1A max). Electronic circuit-breaker for protection against overloads/short-circuits. Terminals for control of riser bus. Fitted with terminals for connection of the device power supply modules. Powered by mains circuit 230 VAC 50/60 Hz.

VAS/100.30

Audio entry system and/or supplementary power module for X1/XIP systems.

Plastic housing, for installation in electrical control panels (EN50022). Dimensions: 8 low-profile DIN modules. Protection rating IP30. Electronic circuit-breaker for protection against overloads/short-circuits. Complete with output terminals for power supply to devices (17.5 VDC - 1.7A max). Powered by mains circuit 230 VAC 50/60 Hz. If used as the only power supply module for the system, RFID and DNA modules can not be used for access control.

XAS/301

Power supply module/repeater for audio, video and data signals.

Plastic housing, for installation in electrical control panels (EN50022). Dimensions: 12 low-profile DIN modules. Protection rating IP30. Complete circuit board for device control (20 VDC - 0.8 A max). Electronic circuit-breaker for protection against overloads/short-circuits. Complete with terminals for control of IN and OUT bus and 9 switch for compensation of signal according to distance. 2 LEDs for confirmation of connection and data transfer.
Potentiometers for compensation of audio volume to and from the receiver. Powered by mains circuit 230 VAC 50/60 Hz.

VIDEO SIGNAL DISTRIBUTORS

XDV/304

4-output video signal distributor.

Miniaturized housing for installation in junction boxes (dimensions 60x44x16 mm) or electrical control panels (EN50022), dimensions: 1 low-profile DIN module. Complete with 8 input terminals for 4 twisted pairs from the receivers and 4 terminals for IN/OUT connection from the riser. Line impedance closure jumper for each output. Passive device (power not needed).

XDV/304A

4-output video signal distributor, amplified.

Plastic housing for installation in electrical control panels (EN50022). Dimensions 4 low-profile DIN modules. Protection rating IP30. Complete with 8 input terminals for 4 twisted pairs from the receivers and 4 terminals for IN/OUT connection from the riser. Line impedance closure jumper for each output. Requires power supply (14 - 18 VDC, 60 mA).

SELECTORS

VSE/301

Intercom function selector for X1/XIP systems.

Plastic housing for installation in electrical control panels (EN50022). Dimensions: 8 low-profile DIN modules. Protection rating IP30. Complete with 4 terminals for IN/OUT to the bus line, as well as two switch for access to programming and resetting of the data stored in memory. Powered by mains circuit 230 VAC 50/60 Hz.

VSC/01

Manual cyclic selector for CCTV for X1 systems.

Miniaturized housing for installation in junction boxes (dimensions 85.5x60x21 mm) or electrical control panels (EN50022), dimensions: 1 low-profile DIN module. Complete with 8 input terminals for video signal from 4 standard B&W or colour video cameras (standard CCIR/EIA or PAL/NTSC) and three switches for programming of the number of video cameras connected. Key for access to programming mode. 7 LEDs indicating "video camera connected" and programming/data status. Power supply module 12 VDC 0.09A max.

PORTER SWITCHBOARD

MITHO SB NF

Table-top porter switchboard

Table-top porter switchboard with 4.3" 16:9 touch screen, hands-free audio and handset, colour Fusion Black.

MITHO SB BI

Table-top porter switchboard

Table-top porter switchboard with 4.3" 16:9 touch screen, hands-free audio and handset, colour Ice White.

OTHER COMPONENTS

VLS/101

Relay unit for auxiliary devices (lights, apertures, acoustic alarms etc.).

Plastic housing for installation in electrical control panels (EN50022), dimensions 4 low-profile DIN modules. Protection rating IP30. The relay features impulse switching contacts for control of the electrical functions (switching power 5A resistive -2A inductive at a maximum voltage of 250 VAC) powered by direct or alternating current or by a low-voltage signal from the system. Power supply 10/24V AC/DC - 60 mA.

VLS/300

Relay unit for auxiliary devices (lights, apertures, acoustic alarms etc.).

Plastic housing for installation in electrical control panels (EN50022), dimensions 4 low-profile DIN modules. Protection rating IP30.
The unit features two relays with a switching contact, switching power 2A resistive (1A inductive) at a maximum voltage of 250 VAC (excitation coil with power supply 10/14 VAC or 14/18 VDC - 50 mA). The two relays are associated by default to the door aperture and AUX2 commands. The unit also features 6 switch for programming of the command, one potentiometer for regulation of the activation time of relay 1 (door aperture) and one LED indicating the data reception status on the BUS line.

XDV/300A

Video signal amplifier.

Miniaturized plastic housing for installation in junction boxes (dimensions 60x44x16 mm) or electrical control panels (EN50022), dimensions: 1 low-profile DIN module. Complete with IN/OUT terminals for video signal and two switches for compensation of the signals for the method of connection. Power supply directly from X1 bus, absorption 20 mA max.

PROGRAMMING SOFTWARE

PCS/XIP

Programming software for X1/XIP systems for Windows XP (SP2) operating system (or later).

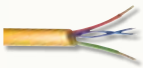
System requirements: PC with PENTIUM III 700 MHz processor or better, 128 MB available RAM, minimum space on HD 40MB, XVGA video card. Contents of box: 4m USB cable, 2 GB pen drive. Disk includes software and user manual.

CONNECTOR CABLES

VCM/1D or VCM/1DCUT (per meter)

Cable with 1 mm² twisted pair.

PVC insulating sheath, diameter 7 mm, colour RAL 1021 yellow. Twist pitch 10 twists/m. Tinned copper wires, colour: RAL 9001 white and RAL 5015 blue. Nominal impedance 100 ohm (f=1 MHz), capacitance 50 pF (at 20°C).
Minimum cable curvature 80 mm. Fully compliant with CEI 46-6 (latest amendment).
Supplied in 100m coils or cut lengths by the metre



VCM/2D or VCM/2DCUT

Cable with two 0.28 mm² twisted pairs and two 1 mm² wires.

PVC insulating sheath, diameter 8 mm, colour: RAL 1021 yellow. Twisted pair, 70mm twist pitch. Tinned copper wires. Colour: white/light blue and light blue for twisted pair - red and green for power supply wires. Nominal impedance of twisted pair 100 ohm (f=1 MHz), capacitance 50 pF (at 20°C).
Minimum cable curvature 80 mm. Fully compliant with CEI 46-6 (latest amendment), CEI 20-11 (latest amendment), CEI 20-37.
Supplied in 100m coils or cut lengths by the metre