



Code 50124591

Video door  
entry system  
with unpolarised  
2 wire installation

# V2PLUS

Instructions manual

TV2PLUS ML rev.0111

First of all we would like to thank and congratulate you for the purchase of this product manufactured by Golmar.

The commitment to reach the satisfaction of our customers is stated through the ISO-9001 certification and for the manufacturing of products like this one.

Its advanced technology and exacting quality control will do that customers and users enjoy with the legion of features this system offers. To obtain the maximum profit of these features and a properly wired installation, we kindly recommend you to expend a few minutes of your time to read this manual.

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## STARTING RECOMMENDATIONS

- ☞ The installation and handling of this equipment must be performed by authorised personnel.
- ☞ Install or modify the equipment without the power connected.
- ☞ Do not use excessive force when tightening the power supply connection block screws.
- ☞ The entire installation must be at least 40 cm. away from any other installation.
- ☞ Before connecting the system, check the connections between door panel, distributors, monitors, telephones and the transformer connection. Do always follow the enclosed information.
- ☞ When starting the equipment for the first time, or after a modification, the system will remain inactive for around 45 seconds due to the initial busy channel time.
- ☞ Use Golmar RAP-2150 cable.
- ☞ Do always follow the enclosed information.

- ☞ Install or modify the equipment without the power connected.
- ☞ The installation and handling of these equipments must be performed by authorised personnel.
- ☞ The entire installation must be at least 40 cm. away from any other installation.
- ☞ With power supply:
  - ⌚ Do not use excessive force when tightening the connector screws.
  - ⌚ Install the power supply in a dry and protected place without risk of drip or water projections.
  - ⌚ Avoid to place it near to heating sources, in dusty locations or smoky environments.
  - ⌚ Do not block ventilation holes of the unit so that air can circulate freely.
  - ⌚ To avoid damage, the power supply has to be firmly fixed.
  - ⌚ To avoid an electrical shock, neither remove the protection cover nor handle the connected wire in the terminals.
- ☞ With monitor, telephones and distributor:
  - ⌚ Do not use excessive force when tightening the connector screws.
  - ⌚ Install the power supply in a dry and protected place without risk of drip or water projections.
  - ⌚ Avoid to place it near to heating sources, in dusty locations or smoky environments.
  - ⌚ Do not block ventilation holes of the equipments so that air can circulate freely.
- ☞ Remember, the installation and handling of these equipments must be performed by authorized personnel and in the absence of electrical current.
- ☞ Do always follow the enclosed information.

## SYSTEM CHARACTERISTICS

- ☞ Video door entry system with simplified installation (2 wire bus without polarity).
- ☞ 1 access door panel, (up to 3 access door panel with *MC-V2Plus* multiplexer) .
- ☞ Up to 32 monitors or telephones per installation without using converters or multiplexers.
- ☞ Up to 32 apartments with push button door panels and 32 apartments with coded panel (being necessary the use of digital converter *CD-V2Plus*).
- ☞ Up to 120 elements (monitors, telephones or call repeaters) and 120 apartments per installation or backbone with 4 risers (being necessary the use of multiplexer *MC-V2Plus*).
- ☞ Up to 480 elements (monitors, telephones or call repeaters) and 120 apartments per installation or backbone with 16 risers (being necessary the use of multiplexers *MC-V2Plus* connected in daisy chain) or 250 apartments with coded panel (it also needs *CD-V2PLUS* converter).
- ☞ Up to 16 monitors or telephones and apartments in daisy chain installations (without distributor) per installation or backbone without using converters or multiplexers.
- ☞ Up to 3 elements (monitors, telephones or call repeaters) per apartment.
- ☞ Acoustic call acknowledgement signals.
- ☞ Maximum distance between the door panel and the last monitor (telephone): 150m.
- ☞ Maximum distance between the distributor and monitor (telephone): 15m.
- ☞ Maximum length of all the bus wiring in the installation: 450m.
- ☞ Door opening timed at 3 seconds.
- ☞ a.c or d.c lock release operated by relay.
- ☞ With *Platea-V2Plus* monitor:
  - ⌚ Privacy on audio and video communications.
  - ⌚ "Video-spy" function with the communication channel remaining free.
  - ⌚ "Autoswitch-on" function.
  - ⌚ Contact free auxiliary push button for activating auxiliary devices:
    - ✳ Voltage free contact (Max. current: 40mA).
  - ⌚ B/W & Color Monitor.
  - ⌚ Three-position control for call volume: maximum, medium and minimum.

Continue

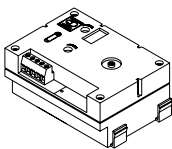
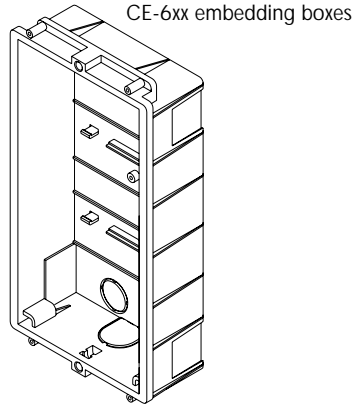
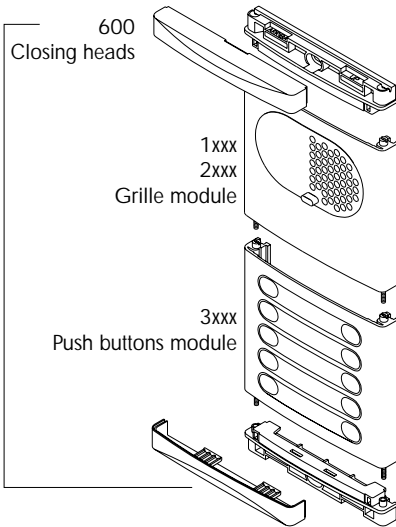
Coming from previous page

- ☞ Brightness and contrast control (color control in case of color screen).
- ☞ Different call tones which identify the call procedure (door panel or apartment door).
- ☞ Input for external door bell push button.
- ☞ With T7822VD telephone:
  - ☞ Total private conversation.
  - ☞ Contact free auxiliary push button for activating auxiliary devices:
    - ✦ Voltage free contact (Max. current: 40mA).
  - ☞ Three-position control for call volume: maximum, medium and off.
  - ☞ Different call tones which identify the call procedure (door panel or apartment door).

## SYSTEM OPERATION

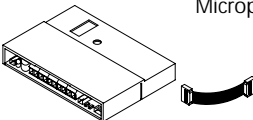
- ☞ To make a call the visitor should press the push button corresponding to the apartment he / she wants to contact: Some acoustic tones will be heard confirming the call is in progress once the push button has been pressed. At this moment the call will be received at the monitor (telephone) in the dwelling. During the call the visitor can correct his / her call by pressing the push button corresponding to the desired apartment, cancelling the original call.
- ☞ The call tone lasts for 45 seconds. Unknown to the visitor, his/her image is displayed on the master monitor just a few seconds after the call is received. To see the image on a slave monitor press the ⊕ push button. This will cause the image on the other monitor to disappear. If the call is not answered in 45 seconds, the system will be freed.
- ☞ To establish communication pick up the monitor (telephone) handset.
- ☞ The communication will last for 90 seconds or until the handset is replaced. Once the communication has finished the system will be freed.
- ☞ To open the door, press the door release push button during call or communication progresses: with one press, the lock release is activated for 3 seconds pressing once the push button.
- ☞ The description of the function push buttons is shown on pages 96 and 100.

## Door panel description.



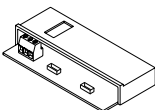
### Sound module

EL530 , on video systems with b/w camera.  
EL531 , on video systems with color camera.  
EL540 , on audio systems.



### Microprocessor circuit

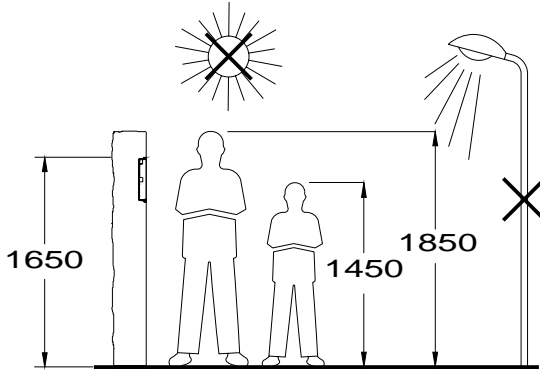
EL500/V2PLUS , on audio and video systems.



### Push buttons encoder

EL516SE , on systems with more than eight push buttons.

## E mbedding box positioning.

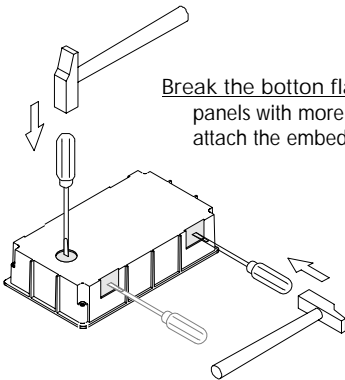


The upper part of the door panel should be placed at 1,65m. height roughly. The hole dimensions will depend on the number of door panel modules.

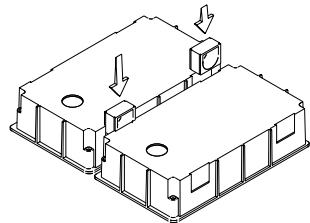
Modules Model	1 CE610	Compact CE615	2 CE620	3 CE630
W	125	125	125	125 mm.
H	140	220	257	374 mm.
D	56	56	56	56 mm.

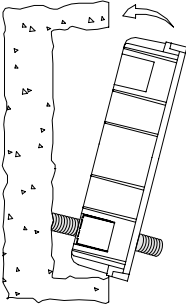
The door panel has been designed to be placed under most of the environmental conditions. However, so as to extend its service life, it is recommended to take additional precautions (visors, covered areas ...). To obtain a quality image on video door entry systems, avoid direct incidence from light sources (sun, street lights, ...).

## P reparing the cables entry.



Break the bottom flange to pass the cables through it. In case of door panels with more than one embedding box, break the side flanges and attach the embedding boxes using UC junctions.

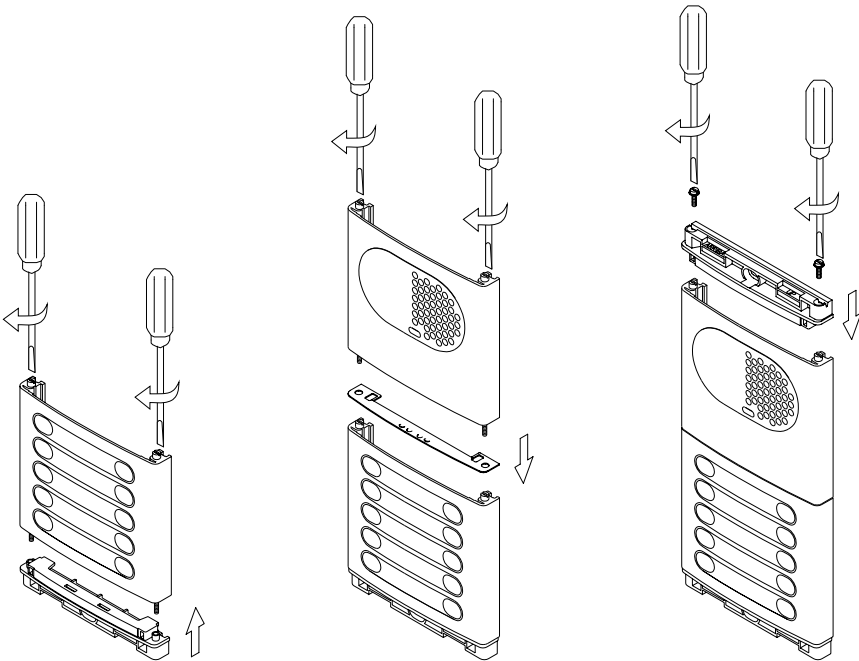




**P**lace the embedding box.

Pass the wiring through the hole made in the bottom part of the embedding box. Level and flush the embedding box. Once the embedding box is placed, remove the protective labels from the attaching door panel holes.

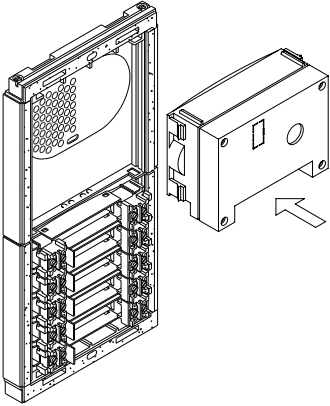
**A**ssemble the door panel modules.



Insert the header DOWN marked in the lower module and fix it by screwing the module shafts. Place the module spacer between lower and next modules, assuring that the spacer adjustment notches are inside the panel. Fix the module by screwing the shafts. Repeat this procedure in case of door panels with one more module (the maximum number of modules placed vertically is three).

Insert the header UP marked in the last module and fix it by screwing the supplied screws.

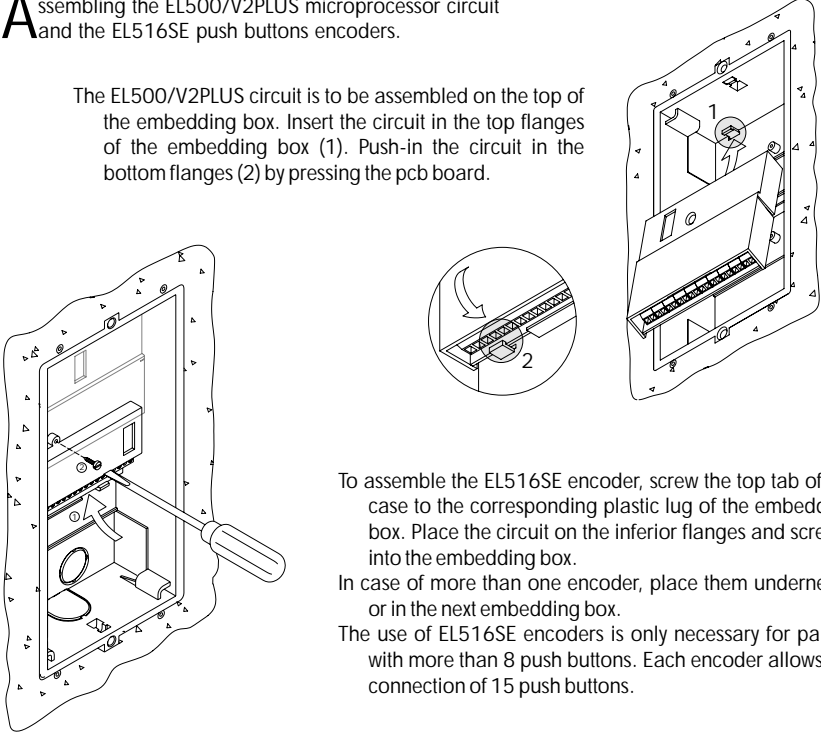
**A**ssemble the sound module.



Insert the sound module in the grille module. For a proper assembly, align the light push button and the microphone rubber of the sound module with its corresponding holes in the grille module.

**A**ssembling the EL500/V2PLUS microprocessor circuit and the EL516SE push buttons encoders.

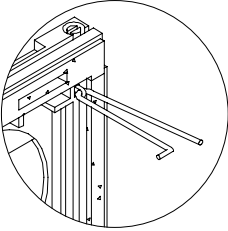
The EL500/V2PLUS circuit is to be assembled on the top of the embedding box. Insert the circuit in the top flanges of the embedding box (1). Push-in the circuit in the bottom flanges (2) by pressing the pcb board.



To assemble the EL516SE encoder, screw the top tab of the case to the corresponding plastic lug of the embedding box. Place the circuit on the inferior flanges and screw it into the embedding box. In case of more than one encoder, place them underneath or in the next embedding box. The use of EL516SE encoders is only necessary for panels with more than 8 push buttons. Each encoder allows the connection of 15 push buttons.



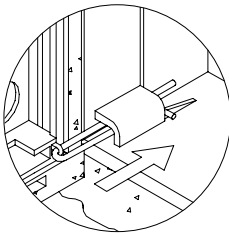
**H**old the door panel on the embedding box.



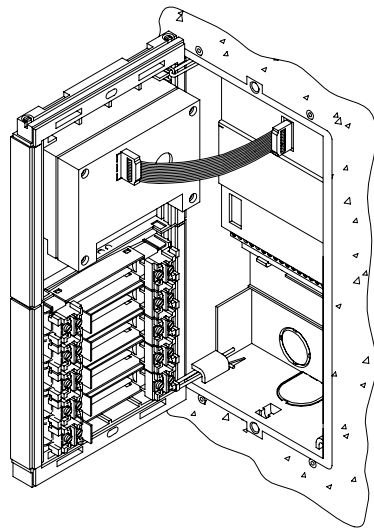
Select a direction to open the door panel; this selection should ease the door panel wiring.

The opening direction will be settled through the hinges position, that must be passed through the header clips as shown. For example, if the hinges are placed on both clips of the lower header, the door panel will open downwards; if they are placed on the right clips of both headers, the door panel will open to left.

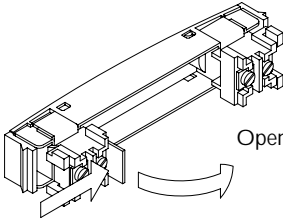
To hold the door panel on the embedding box, insert the hinges in the embedding box lockers as shown.



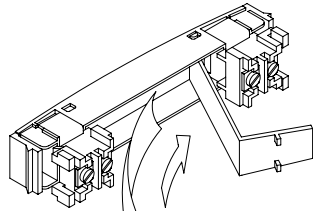
Link the sound module with the EL500/V2PLUS microprocessor circuit by using the supplied flat cable.



Place the nameplate labels.

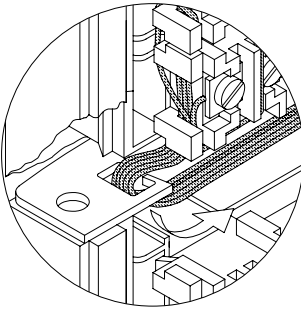


Open the label holder.



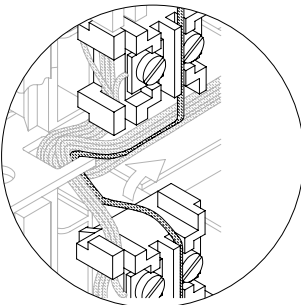
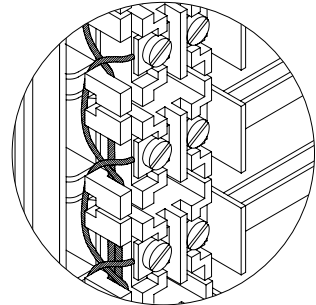
Place the label and close.

Push buttons wiring.



For a quality finish, pass the push buttons wires through the spacer hole of the closest module. It's recommended to use wires with sections between 0,1 and 0.25mm<sup>2</sup> section.

Twist the call wires as shown. The call wires will be connected to the EL500/V2PLUS microprocessor circuit or to the corresponding EL516SE push buttons encoder.



**IMPORTANT:** link the push buttons common terminal of the several push buttons modules. The common terminal of the push buttons contained in a module are linked from factory.

This wire must be connected to the CP terminal of the EL500/V2PLUS microprocessor module and to the corresponding CP terminal of its EL516SE encoder circuit (if there is).

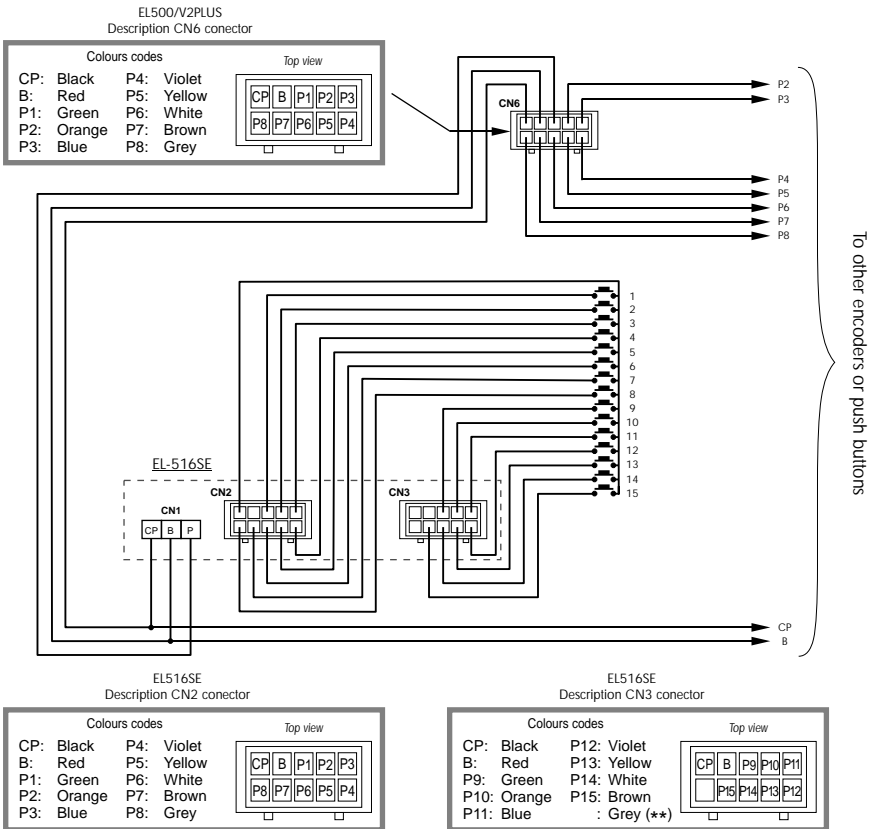
## Push buttons wiring.



Plug the push buttons connection cable to the CN6 connector of the EL500/V2PLUS microprocessor circuit, this cable has 10 conductors (P1 to P8, B and CP) for the connection of push buttons or EL516SE.

The CP terminal must be connected to the push buttons common terminal and to the CP terminal of the push buttons encoder circuits. Connect B terminal to the B terminal of the encoders.

Link the push button inputs (P1...P8) to the push buttons and and/or to the encoder circuits (P) as shown in the example.



(\*\*) No function.

## Push buttons limit.

The number of push buttons that can be wired is limited to a maximum of 32 apartments, which can be increased up to a maximum of 120 apartments (requires the use of the riser multiplexer MC-V2Plus) and will be distributed in the EL516SE encoders as shown in the table below:

- Without EL516SE circuits: 8
- With 1 EL516SE circuit:  $7 + 15 = 22$
- With 2 EL516SE circuits:  $6 + 15 + 15 = 36$  (max. 32 without using multiplexer).
- With 3 EL516SE circuits:  $5 + 15 + 15 + 15 = 50$
- With 4 EL516SE circuits:  $4 + 15 + 15 + 15 + 15 = 64$
- With 5 EL516SE circuits:  $3 + 15 + 15 + 15 + 15 + 15 = 78$
- With 6 EL516SE circuits:  $2 + 15 + 15 + 15 + 15 + 15 + 15 = 92$
- With 7 EL516SE circuits:  $1 + 15 + 15 + 15 + 15 + 15 + 15 + 15 = 106$
- With 8 EL516SE circuits:  $0 + 15 + 15 + 15 + 15 + 15 + 15 + 15 + 15 = 120$

REMEMBER: The maximum number of apartments is 32, but this can be increased to 120 (requires the use of the multiplexer MC-V2Plus).

## Push buttons digital code.

The codes shown in the shaded column correspond with the push buttons directly connected to the corresponding CN6 terminal of the EL500/V2PLUS circuit, or to the terminal 1 of its corresponding EL516SE encoder.

		EL516SE circuit terminals														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
EL500/V2PLUS circuit terminals	P1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	P2	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
	P3	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
	P4	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
	P5	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
	P6	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
	P7	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105
	P8	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120

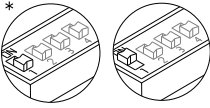
REMEMBER: The number of EL516SE encoders which can be used is limited to 2, given that the maximum number of push buttons (apartments) is 32 if the installation uses distributors, or 16 if it does not (daisy chain).

Up to 8 EL516SE encoders (requires the use of the multiplexer MC-V2Plus), can be used to increase the number of push buttons (apartments) to 120 if the installation uses distributors and 64 if it does not (daisy chain).

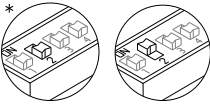
## Description of the configuration dip-switch of the EL500/V2PLUS microprocessor module.



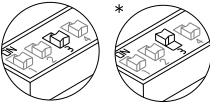
The SW1 configuration dip switch is located at the right side of the circuit. It is accessed by opening the terminal connection block protection cover.



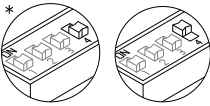
Set the master door panel to OFF, if there is a *MC-V2Plus* multiplexer with access doors panels in the installation or backbone, only one door panel can be configured as the master, the rest must be slaves and set to ON. *Each backbone must only have one door panel or CD-V2Plus converter configured as the master.*



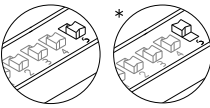
Set to ON the switch number 2 for monitor or telephones programming. Once the programming has finished, return the switch to the OFF position. The programming process is described on pages 99 (monitors) and 102 (telephones).



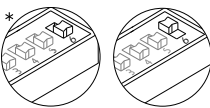
Placed in ON allows autoswitch-on (audio and video communication without having been called), if there is a *MC-V2Plus* multiplexer with access doors panels in the installation or backbone activate this function only in one of them; in systems with general door panel (necessary the use of converter *CD-V2Plus*) this function can be activated in one door panel of each backbone.



Selects whether the door panel has a telecamera or not. Set to ON if the door panel does not have a telecamera.



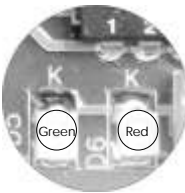
Set to ON so that the volume tone emitted by the door panel are *HIGH*, or set to OFF if a *LOW* volume tone is desired.



Set to ON if there are distributors in the backbone (single-user or multi-user) or the door panel is connected to the riser multiplexer *MC-V2Plus* with daisy chain multiplexers.

Set to OFF if the backbone is daisy chain (without distributors) or the door panel is connected to the riser multiplexer *MC-V2Plus* without daisy chain multiplexers.

\* Factory default



## Description of autodiagnostic LEDs.

The autodiagnostic LEDs are found on the right side of the circuit, beside the CN6 connector.

### Green LED

**Fixed:** Correct operation.

**Blinking:** Door panel is being programmed (dip-switch 2 is ON).

### Red LED

**Fixed:** More than one module is configured as the Master or module is faulty.

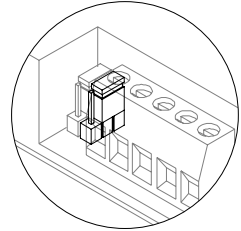
**Blinking:** There is a short circuit in the installation\* between the bus wires.

\* If the short circuit is removed before 2 minutes (approx.), the door panel will automatically reset. Past this time it will be necessary to switch it off and then switch it on again the power.

## Lamps wiring.

Once the nameplate labels are placed, wire the lamps from different modules and connect them to terminals L1 and L2 of the sound module.

If the number of door panel lamps is higher than six, connect the TF-104 transformer between the ~1 and ~2 terminals of the sound module and change the JP2 jumper position.



**NOTE:** Don't change JP1 jumper position. JP1 and JP2 jumpers are placed on the left side of the sound module terminal connection block. If the TF-104 transformer with alternating current lock release is also used, wire ~1/~2 terminals of the sound module with CV1/CV2 terminals respectively of the EL-500/V2Plus.

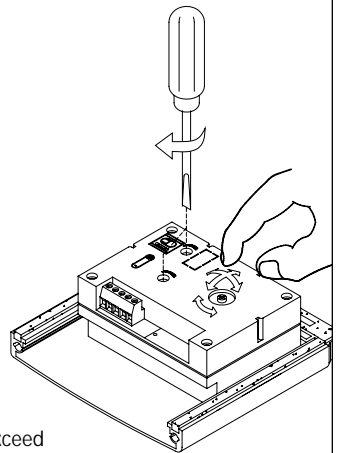
## Final adjustments.

### Sound Module:

If after starting the system it's considered that the audio volume isn't correct, proceed with the necessary adjustments as shown.

The telecamera has a pan and tilt mechanism. If the orientation is not adequate then correct its position.

In case of low light conditions, an external illumination can be activated by connecting a SAR-12/24 relay between the '+H' and 'L2' terminals of the sound module.

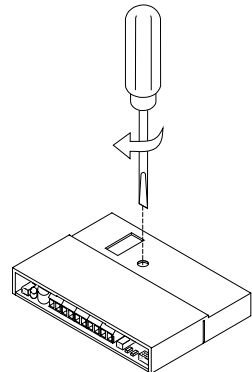


**IMPORTANT:** The power to the SAR-12/24 relay must not exceed 1,8A to 30Vdc/250 Vac.

See document TSAR-12/24 for its connection and characteristics.

### Microprocessor Circuit:

The EL500/V2PLUS microprocessor circuit has a potentiometer "PT1" to remove the possible audio feedback in the installation. The potentiometer can be accessed via a hole, making it unnecessary to remove the circuit protection cover. Make the adjustment as shown in the picture.



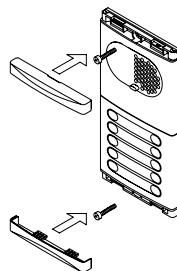
**IMPORTANT:** If feedback persists after having adjusted the potentiometer "PT1", then consult the "troubleshooting hints" section on page 119.

**C**lose the door panel.

Fix the door panel to the embedding box using the supplied screws and washers.

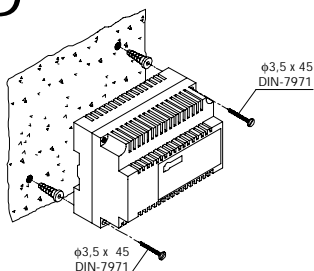
Finish the door panel assembly by pressing the closing heads.

If it were necessary to open the door panel once closed, use a plain screwdriver to remove the closing heads.



## POWER SUPPLY INSTALLATION

**D**etail of the FA-V2PLUS power supply installation.



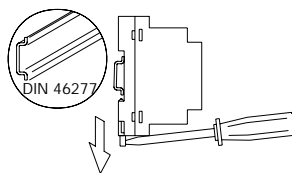
Install the power supply in a dry and protected place without risk of drip or water projections.

To avoid damage, the power supply must be firmly fixed. The current regulation forces you to protect the power supply with a thermo-magnetic circuit breaker.

To install the power supply directly on the wall, drill two holes of  $\phi 6\text{mm}$ . and insert the wallplugs. Fix the power supply with the specified screws.

The power supply can be installed on a DIN 46277 guide simply pressing it. To disassemble the power supply from the DIN guide, use a plain screwdriver to lever the flange as shown on the picture.

The FA-V2PLUS power supply uses 6 units over DIN guide.



Replace the protection cover once the input terminals have been wired.

## LOCK RELEASE INSTALLATION

**L**ock release installation.

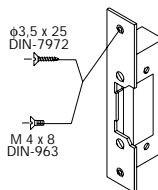
If the lock release will be installed in a metal door, use a  $\phi 3,5\text{mm}$ . drill and tap the hole.

In case of wood door, use a  $\phi 3\text{mm}$ . drill.

**IMPORTANT:**

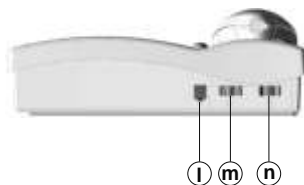
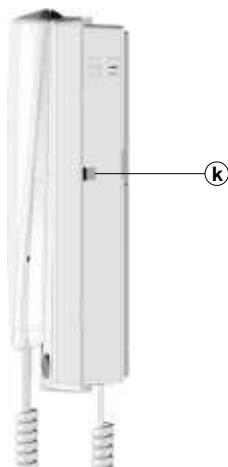
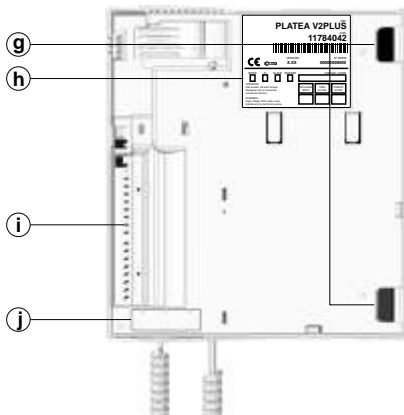
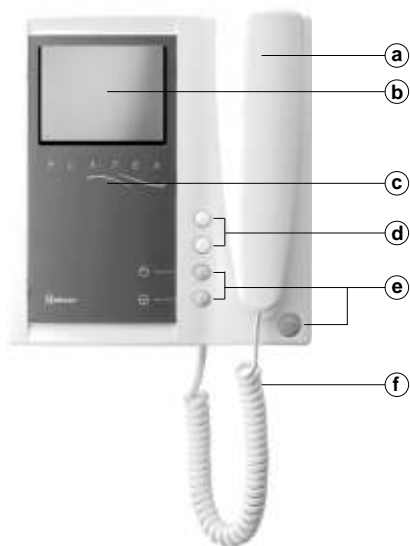
The lock release must be 12V d.c or a.c (see pages 109 to 118).

With a.c lock release, place the varistor provided on the lock release terminals.



## D

Description of the Platea V2Plus monitor.



- a. Telephone handset.
- b. B/W or color screen (depending on the model).
- c. Front film.
- d. Inoperative push buttons.
- e. Function push buttons.
- f. Cord.
- g. Attachment holes.
- h. Identification label.
- i. Connecting points.
- j. Sw2 Dip-switch.
- k. Three positions call reception volume control.
- l. Cable slot.
- m. Contrast control (colour control in colour monitors).
- n. Brightness control.



## Function push buttons.



Regardless of the handset's position, it activates the PA and PB voltage-free contacts. The JP2 jumper must be inserted (see page 108), or activate the SAR-2Plus unit if the JP1 jumper is inserted (see page 108), this second process taking place during call reception or communication.



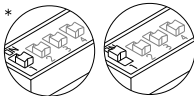
If the handset is on the cradle allows to see the picture from the door panel. If the handset is picked up, audio and video communication can be established with the door panel (the autoswitch-on function must be activated). This function is disabled if there is communication already in progress.



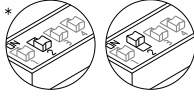
During call reception and communication processes, it allows lock release activation.

## End of line and amplifying the video signal.

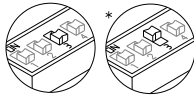
The Sw2 configuration dip switch is located on the rear of the monitor.



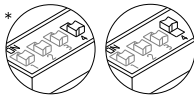
No function.



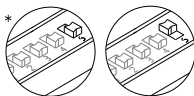
No function.



Set to ON to configure with the end of line resistor in monitors where bus wires terminate. Set to OFF only for intermediate monitors.



No function.



Set to On the monitors:

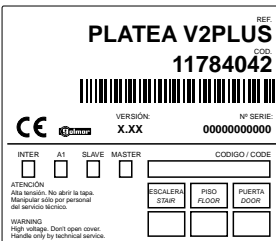
That distance is more than 65 m. from door panel or multiplexer. Connected from output No. 20 of the distributors (with door panel or multiplexer).

In an installation without distributors (daisy chain) from monitor No.9 or at a distance of more than 80m. from door panel or multiplexer.

\* Factory default

Set to OFF the rest of monitors.

## Description of the identification label.



For an easiest repair, replacement or increase of the existing monitors, fill the identifying label information.

MASTER: master monitor.

SLAVE: slave monitor 1 or slave monitor 2.

INTER: no function.

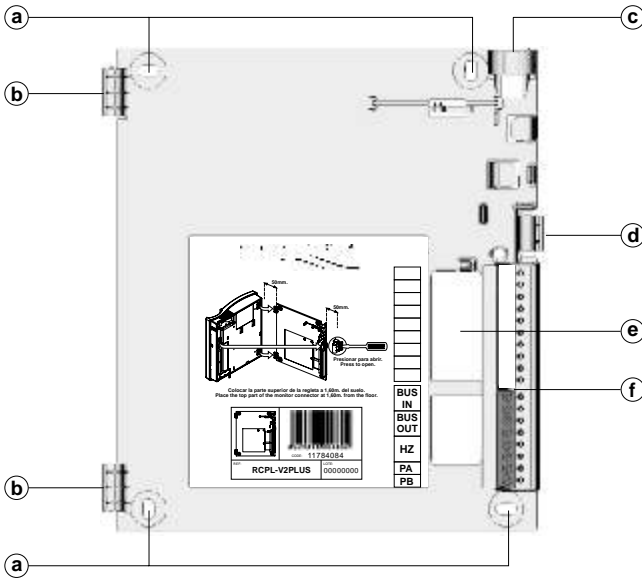
A1: no function.

CODE: push button code (see page 91).

STAIR: no function.

## D

escription of the RCPL-V2Plus monitor connection block.



- a. Wall attachment holes (x4).
- b. Monitor attachment hooks (x2).
- c. Vertical wiring input.
- d. Attachment clip.
- e. Central wiring input.
- f. Installation terminals:
  - Bus In: Digital communication bus input to monitor.
  - Bus Out: Digital communication bus output to additional monitor/telephone.
  - HZ: Door bell push button connection.
  - PA, PB: Voltage free contacts.

The Bus In and Bus Out terminals facilitate a daisy chain connection of other monitors or telephones. If the monitor is not placed on the connection block, subsequent daisy chain units will not be powered.

**F**ix the monitor connection block to the wall.

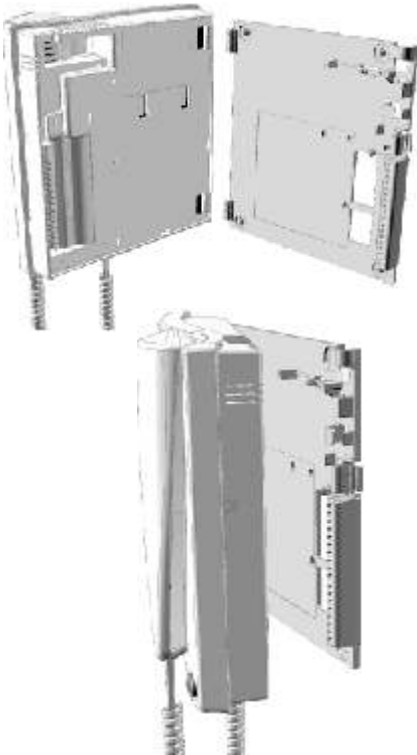
Avoid placing the monitor near sources of heat, in dusty locations or smoky environments.

To install the monitor directly over the wall, drill two holes of  $\varnothing 6\text{mm}$ . and use the supplied screws.

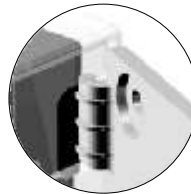
The upper part of the monitor connection block must be placed at 1,60m. height roughly. The minimum distance between the monitor connection block and the closest object must be 5cm.



**F**ix the monitor.

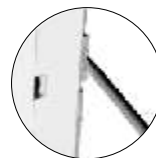


Place the monitor at right angles to the connection block and align the attaching holes of the monitor with the attachment hooks of the connection block, as it is shown on the drawing.



Lock out the monitor. Press the right side till the attachment clip locks the monitor firmly.

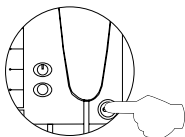
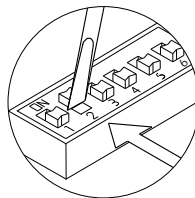
To disassemble the monitor from the connector, use a plain screwdriver to release the attachment clip. Remove the monitor from the connection block, taking special care that it does not fall.



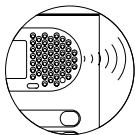
## Programming the monitors.

Locate the configuration dip switch situated under the protection cover of the EL500/V2PLUS microprocessor circuit and set number 2 to ON as described on page 92.

The door panel will reproduce a sound to advise that the system has entered into programming mode.

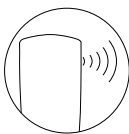
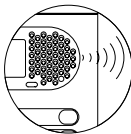
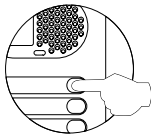


With the door release push button pressed, pick up the monitor's handset.



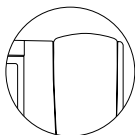
To show that the system is ready for programming, the door panel and the monitor's handset will reproduce tones and an image will appear on the monitor. Audio and video communication can also be established.

The door release push button can be released.

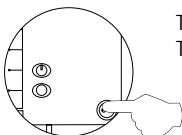


Press the door panel push button that will call to this monitor.

At this moment both door panel and handset will reproduce tones.

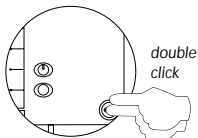


Master



1<sup>st</sup> Slave

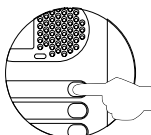
To program the monitor as master, replace the handset.  
To program it as 1<sup>st</sup> Slave press the lock release push button once. After the door panel and handset reproduce a short tone, replace the handset. If a long tone is reproduced then an error has occurred; reconfigure the monitor.



2<sup>nd</sup> Slave

To program it as 2<sup>nd</sup> Slave press the lock release push button twice. After the door panel and handset reproduce two short tones, replace the handset. If a long tone is reproduced then an error has occurred; reconfigure the monitor.

Each apartment must have one master unit only; if there is a parallel unit, be it a monitor or telephone, it must be configured as slave.



Make a call to check that the monitor has been successfully programmed.  
Repeat these steps to program the rest of monitors.

Once the programming has finished, set the programming switch to OFF. If you don't, the door panel will reproduce a sound to advise that the system is still into programming mode.

**D**escription of the T-7822VD telephone.

- a. Telephone handset.
- b. Speaker grille.
- c. Microphone hole.
- d. Subjection hole.
- e. Telephone cord connectors.
- f. Door release push button.
- g. Hook switch.
- h. Auxiliary function push button.
- i. Volume control.

**F**unction push buttons.

- ⏏ During call reception and communication processes, it allows lock release activation.
- ⏻ Regardless of the position of the handset, activate the PA and PB voltage-free contacts with the JP1 jumper inserted (see page 108), or activate the SAR-2plus unit if the JP2 jumper is inserted (see page 108), this second process taking place during call reception or communication.

**T**erminal connector description and JP3 configuration jumper.

T-7822VD: **S- S+ BUS HZ HZ PA PB BUS E.of Line**

JP3 configuration jumper:

- \*JP3 V2Plus system (video)
- JP3 2Plus system (Audio)

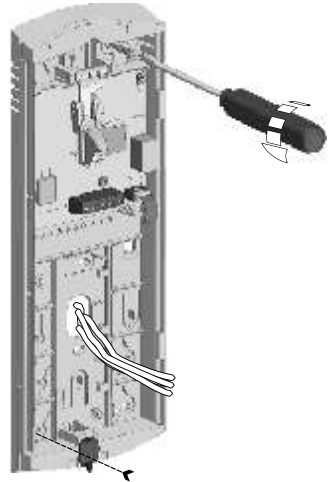
\*Factory default

- S+, S-: Connection to an S-45 call repeater.
- BUS: Digital communication bus.
- HZ : Door bell push button input.
- PA, PB: Voltage free contacts (see page 108).
- BUS: Digital communication bus.
- End of Line: End of line resistor.

**F**ix the telephone to the wall.



It is necessary to open the telephone for wiring and fixing purposes. To open the telephone, insert a plain screwdriver into the slots and gently lever as shown in the drawing.



Avoid placing the telephone near sources of heat, in dusty locations or smoky environments. The telephone can be fixed using an electrical embedding box or directly on the wall, as shown on the picture. If the telephone will be installed directly over the wall, drill two holes of  $\text{Ø}6\text{mm}$  on the specified positions, using 6mm wall plugs and  $\text{Ø}3.5 \times 25\text{mm}$  screws.

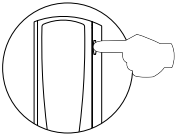
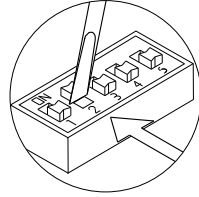


Pass the installation wires through the corresponding hole and connect them as shown on the installation diagrams. Close the telephone as shown on the picture. Once the telephone is closed, connect the handset using the telephone cord and put it on the cradle.

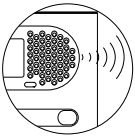
## Programming the telephones.

Locate the configuration dip switch situated under the protection cover of the EL500/V2PLUS microprocessor circuit and set number 2 to ON as described on page 92.

The door panel will reproduce a sound to advise that the system has entered into programming mode.

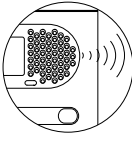
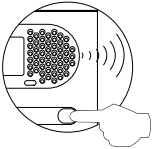


With the door release push button pressed, pick up the telephone's handset.

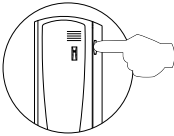
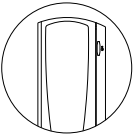


To show that the system is ready for programming, the door panel and handset will reproduce a tone, and audio communication can be established.

The door release push button can be released.



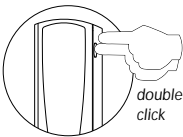
Press the door panel push button that will call to this telephone. At this moment both door panel and handset will reproduce tones.



To program the telephone as master, replace the handset. To program it as 1<sup>st</sup> Slave press the lock release push button once. After the door panel and handset reproduce a short tone, replace the handset. If a long tone is reproduced then an error has occurred; reconfigure the telephone.

Master

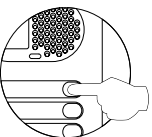
1<sup>st</sup> Slave



2<sup>nd</sup> Slave

To program it as 2<sup>nd</sup> Slave press the lock release push button twice. After the door panel and handset reproduce two short tones, replace the handset. If a long tone is reproduced then an error has occurred; reconfigure the telephone.

Each apartment must have one master unit only; if there is a parallel unit, be it a monitor or telephone, it must be configured as slave.



Make a call to check that the telephone has been successfully programmed.

Repeat these steps to program the rest of telephones.

Once the programming has finished, set the programming switch to OFF. If you don't, the door panel will reproduce a sound to advise that the system is still into programming mode.

The Golmar *V2PLUS* video door entry system is a digital system with simplified installation (2 wire bus without polarity), designed to new installations and to replace existing audio door entry systems in both apartment blocks and villas.

In installation for replacement it is necessary a detailed study of the existing installation before installing the system. To check that your installation complies with the system's minimum recommended requirements, please read carefully the following chapters, which provide details of the checks to be done.

## MINIMUM REQUIREMENTS

Before installing this system, we must ensure that the existing installation complies with the following requirements:

- The installation must be realized by multipaired cable, (not to use single-wire cables).
- The wires must not be spliced, frayed, nor touch metal parts, and must not vary in cross section throughout the entire installation.
- The entire installation must be at least 40cm away from any other installation otherwise there is a risk that the audio and video signal be exposed to interference, or that the system does not work correctly.
- All branch connections must be made using D4L-V2PLUS or D1L-V2PLUS distributors.
- Each floor must have physical space to situate the distributor/s, in case they are necessary.
- Each apartment must have sufficient space to install the video system monitor.
- Maximum installation distance it will depend on the section and the installed cable (see page 104&105).
- Installations with independent more common wires, only use the common wires (separate and do not connect the independent ones).
- 1 access door panel, (up to 3 access door panel with *MC-V2PLUS* multiplexer).
- Up to 32 (monitors, telephones or call repeaters) and apartments without using converters or multiplexers.
- Up to 16 (monitors, telephones or call repeaters) and apartments in daisy chain installations without distributor, per installation without using converters or multiplexers.
- Up to 3 elements (monitors, telephones or call repeaters S-45) per apartment.
- Installations with more than 32 elements or 1 riser (it needs the use of the multiplexer *MC-V2PLUS*).
- Installations with general door panels (it needs the use of the *CD-V2PLUS* converters).
- Before connecting the system's power supply, we must ensure that there are NO old parallel units, relays or call repeaters in the apartments. If so, we must disconnect them or replace them with units that are compatible with the new system, otherwise the installation could be seriously damaged or burnt.

If any of the first three requirements are not met, it will be necessary to replace the installation riser.

- \* If the branch connections to the apartments are in good condition, their replacement will not be necessary.
- \* If replacing the installation riser, use the Golmar cable *RAP-2150* and the next sections:

### One access and one riser

SECTIONS CHART	Door panel-Monitor	PS.- Door panel	Door panel - CV
Terminal	150m.	50m.	50m.
BUS, D	(1) RAP-2150		
+, -		1,5mm <sup>2</sup>	
(d.c lock release) CV1,CV2			0,5mm <sup>2</sup>
(a.c lock release) CV1,CV2, ~, ~		1mm <sup>2</sup>	1mm <sup>2</sup>

- \* Do not use different types of cable in the same installation (contact with our technical support department).

Continue



Coming from previous page

### Several accesses and risers

SECTIONS CHART	Door panel-Multiplexer	Multiplexer-Monitor	P.S.- Door panel	Door panel-CV
Terminal	200m.	150m.	50m.	50m.
BUS, D	(1) RAP-2150	(1) RAP-2150		
+, -			1,5mm <sup>2</sup>	
(d.c lock release) CV1,CV2				0,5mm <sup>2</sup>
(a.c lock release) CV1,CV2, ~, ~			1mm <sup>2</sup>	1mm <sup>2</sup>

#### IMPORTANT:

if the installation includes multiplexers in daisy chain with monitors B/W:

- Maximum distance between door panel/converter and multiplexer: 150m.
- Maximum distance between multiplexer in daisy chain and the last monitor B/W: 100m.

(1) Golmar has a special cable for this system, its reference number is RAP-2150. The use of this cable ensures the correct functioning of the system and simplifies the riser replacement given that it contains all the necessary wires for the installation.

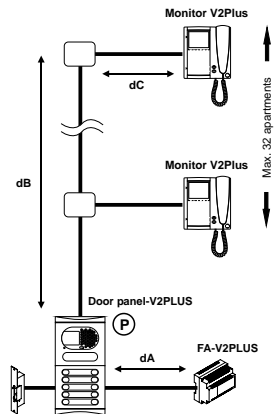
## INSTALLATION OF REPLACEMENT

**C**ompatibility of cables and sections.

### One access and one riser (without multiplexer)

#### Cables and distances chart

Cables and sections	dA	dB+dC	dC
0,25mm <sup>2</sup> (twisted).	10m.	40m.	15m.
0,5mm <sup>2</sup> (twisted).	20m.	70m.	15m.
1mm <sup>2</sup> (twisted).	40m.	100m.	15m.
1,5mm <sup>2</sup> (twisted).	50m.	100m.	15m.
0,18mm <sup>2</sup> (multipaired).	5m.	25m.	15m.
0,18x2 = 0,36mm <sup>2</sup> (multipaired).	10m.	50m.	15m.
0,18x4 = 0,72mm <sup>2</sup> (multipaired).	25m.	100m.	15m.
*Rap-2150 1mm <sup>2</sup> (twisted).	40m.	150m.	15m.
1 par UTP Cat 5 0,18mm <sup>2</sup> .	5m.	25m.	15m.
2 par UTP Cat 5 0,18x2 = 0,36mm <sup>2</sup> .	10m.	50m.	15m.
4 par UTP Cat 5 0,18x4 = 0,72mm <sup>2</sup> .	25m.	100m.	15m.



See the installation diagrams (page 109-118).

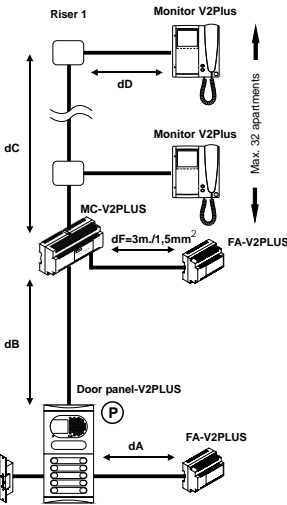
\* Use Golmar RAP-2150 cable, for new installations.

Continue

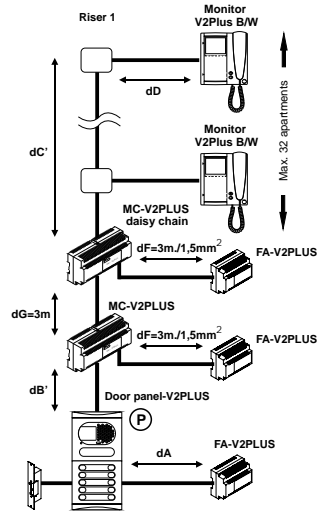
Coming from previous page

### Several accesses and risers (with multiplexers)

#### Installation with multiplexer



#### Installation with multiplexers in daisy chain and monitors B/W



See operation modes, configuration, programming and installation in the TMC-V2PLUSML instructions manual.

#### Cables and distances chart

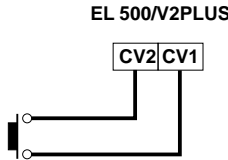
Cables and sections	dA	dB	dD	dC + dD	dB'	dC' + dD
0,25mm <sup>2</sup> (twisted).	10m.	50m.	15m.	40m.	37m.	26m.
0,5mm <sup>2</sup> (twisted).	20m.	100m.	15m.	70m.	75m.	46m.
1mm <sup>2</sup> (twisted).	40m.	100m.	15m.	100m.	75m.	67m.
1,5mm <sup>2</sup> (twisted).	50m.	150m.	15m.	100m.	112m.	67m.
0,18mm <sup>2</sup> (multipaired).	5m.	35m.	15m.	25m.	26m.	16m.
0,18x2 = 0,36mm <sup>2</sup> (multipaired).	10m.	70m.	15m.	50m.	52m.	33m.
0,18x4 = 0,72mm <sup>2</sup> (multipaired).	25m.	100m.	15m.	100m.	75m.	67m.
*Rap-2150 1mm <sup>2</sup> (twisted).	40m.	200m.	15m.	150m.	150m.	100m.
1 par UTP Cat 5 0,18mm <sup>2</sup> .	5m.	35m.	15m.	25m.	26m.	16m.
2 par UTP Cat 5 0,18x2 = 0,36mm <sup>2</sup> .	10m.	70m.	15m.	50m.	52m.	33m.
4 par UTP Cat 5 0,18x4 = 0,72mm <sup>2</sup> .	25m.	100m.	15m.	100m.	75m.	67m.

\* Use Golmar RAP-2150 cable, for new installations.

**E**xternal lock release activation.

The lock release can be activated at any moment by using an external push button, that must be connected between 'CV1' and 'CV2' of the door panel.

This function will allow to exit from the building being not necessary the use of a key.

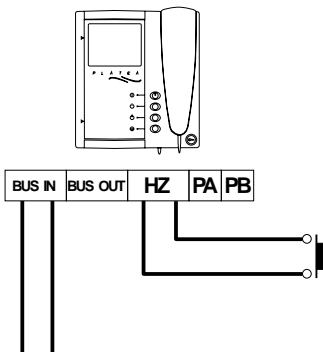


**D**oor bell push button connection.

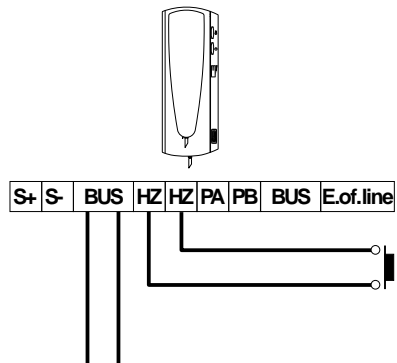
The *Platea V2Plus* monitors and the *T-7822VD* telephones, incorporate as standards the call reception from the door bell push button. This feature spares the use of a bell, by placing a push button between the "HZ" monitor or telephone terminals.

The reproduced acoustic tones are different depending on their provenance, that allows the user to distinguish where the call is made from. If during a conversation a call is made from the apartment door, acoustic tones will be reproduced on the handset to advise that someone is calling.

**Platea V2Plus**



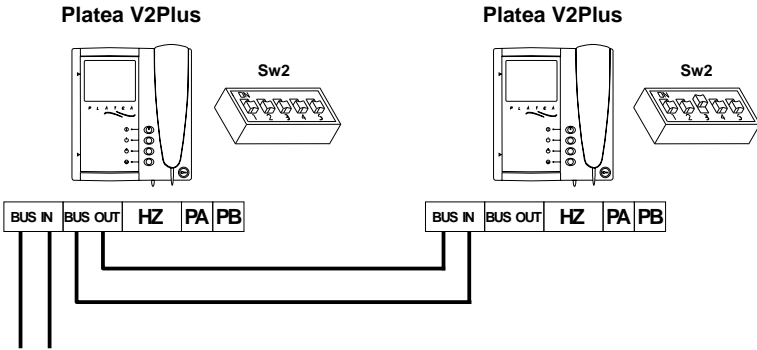
**T-7822VD**



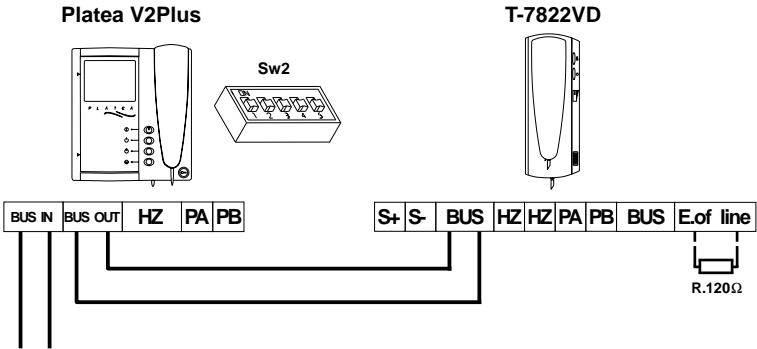
**C**onnecting a monitor, telephone or additional call repeater.

**REMEMBER:** The total number of elements per apartment (monitors, telephones or call repeaters) must never exceed three units.

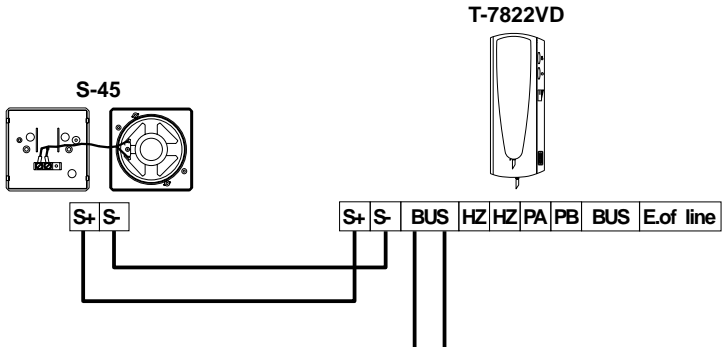
### Additional monitor



### Additional telephone



### Additional call repeater



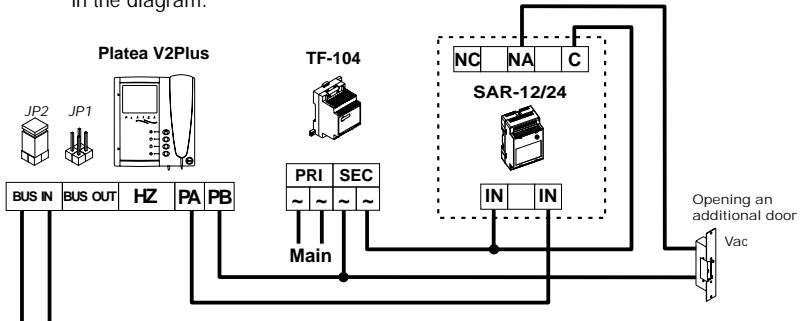
**P**latea V2Plus monitor auxiliary push button.



Activate the SAR-2Plus unit to switch on the lights, etc. See document TSAR-2Plus for its connection and configuration.



Activates the PA and PB contact closure of the monitor, so it can be used for switching on the lights, opening an additional door, etc. The maximum permitted current is 40mA, for higher values, install a SAR-12/24 relay and TF-104 transformer as shown in the diagram.



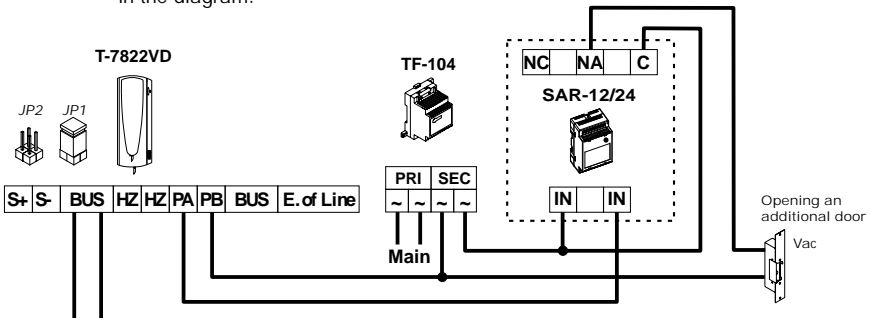
**T**-7822VD Telephone auxiliary push button.



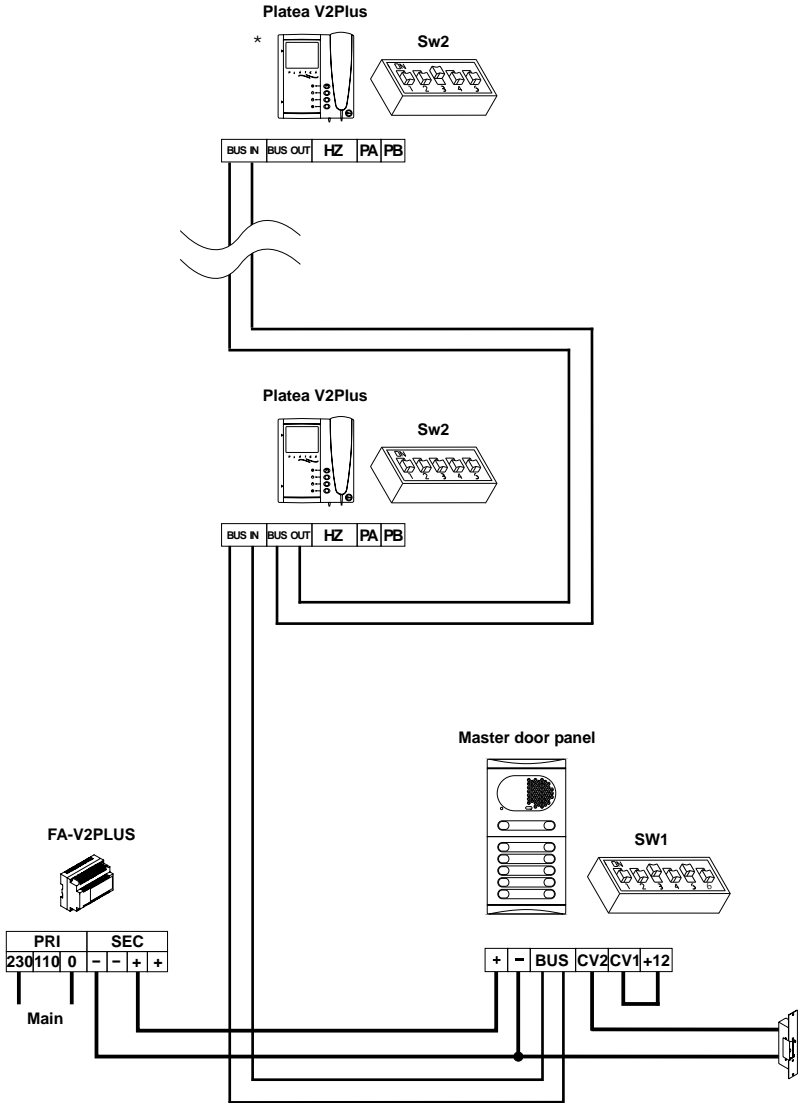
Activate the SAR-2Plus unit to switch on the lights, etc. See document TSAR-2Plus for its connection and configuration.



Activates the PA and PB contact closure of the telephone, so it can be used for switching on the lights, opening an additional door, etc. The maximum permitted current is 40mA, for higher values, install a SAR-12/24 relay and TF-104 transformer as shown in the diagram.



\* Configuring the end of line in the last monitor.



**D**aisy chain installation for a video door entry system without distributor and d.c lock release.

The installation diagram shows the connection of a video door entry system with one door panel to access the building, and with a daisy chain installation without distributor and d.c. lock release.

**REMEMBER:** The total number of daisy chain elements in the installation (monitors or telephones) must never exceed 16 units.

Sections chart

SECTIONS CHART	Door panel-Monitor	PS. - Door panel	Door panel - CV
Terminal	100m.	50m.	50m.
BUS, D	RAP-2150		
+, -		1,5mm <sup>2</sup>	
CV1,CV2			0,5mm <sup>2</sup>

For greater distances contact our technical support department.

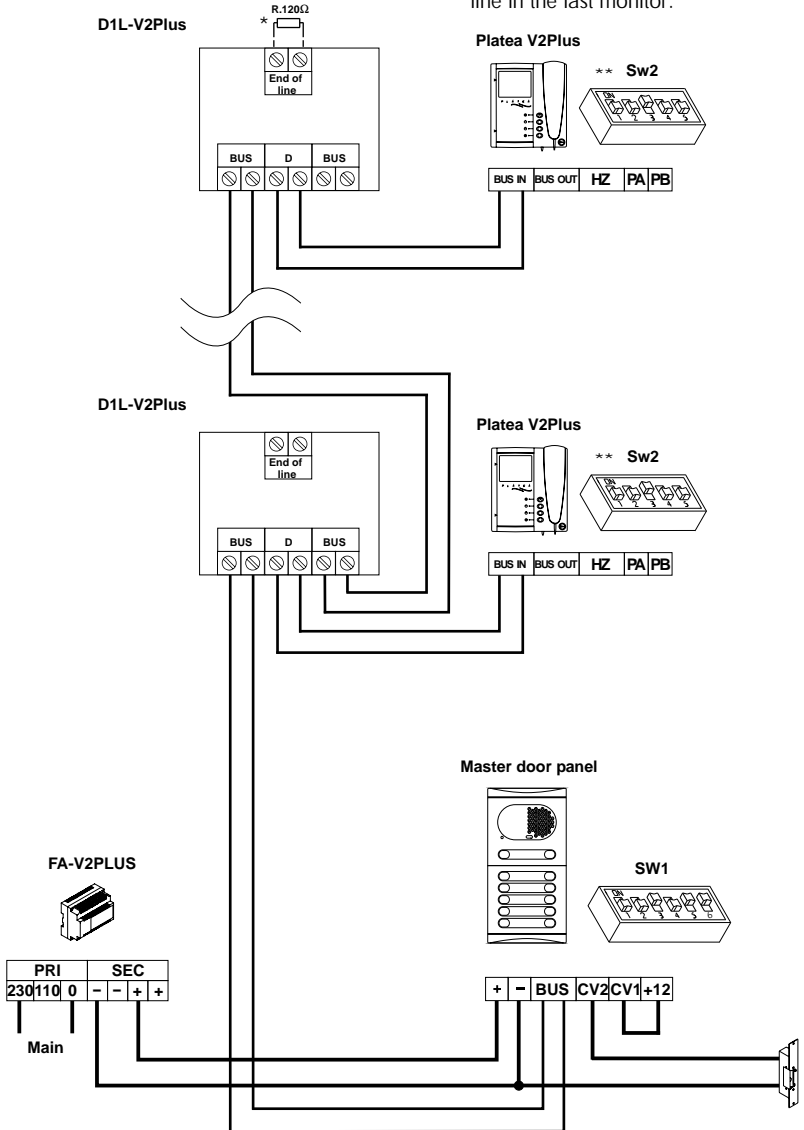
**R**AP-2150 cable characteristics.

CONSTRUCTIVE CHARACTERISTICS	VALUES
Flexible bare copper conductor of 1mm <sup>2</sup> (twisted)	Class V

ELECTRICAL CHARACTERISTICS	VALUES
Core max. electrical resistance to 20°C	19,5 Ω/Km
Nominal capacitance (core-core)	45pf/m ± 10%
Characteristic impedance	100 Ω ± 10%

\* Insert a 120 ohm end of line resistor in the last distributor.

\*\* Configuring the end of line in the last monitor.





**V**ideo door entry system with a 1 line distributor and d.c lock release.

The installation diagram shows the connection of a video door entry system with one door panel to access the building, with 1 line D1L-V2Plus distributors and d.c lock release.

**IMPORTANT:** In the output to the monitor/telephone of a distributor cannot be connected another distributor.

**REMEMBER:** Using distributors with one output, the total number of elements in the installation (monitors or telephones) must never exceed 32 units.

Sections chart

SECTIONS CHART	Door panel-Monitor	P.S. - Door panel	Door panel - CV
Terminal	100m.	50m.	50m.
BUS, D	RAP-2150		
+, -		1,5mm <sup>2</sup>	
CV1,CV2			0,5mm <sup>2</sup>

For greater distances contact our technical support department.

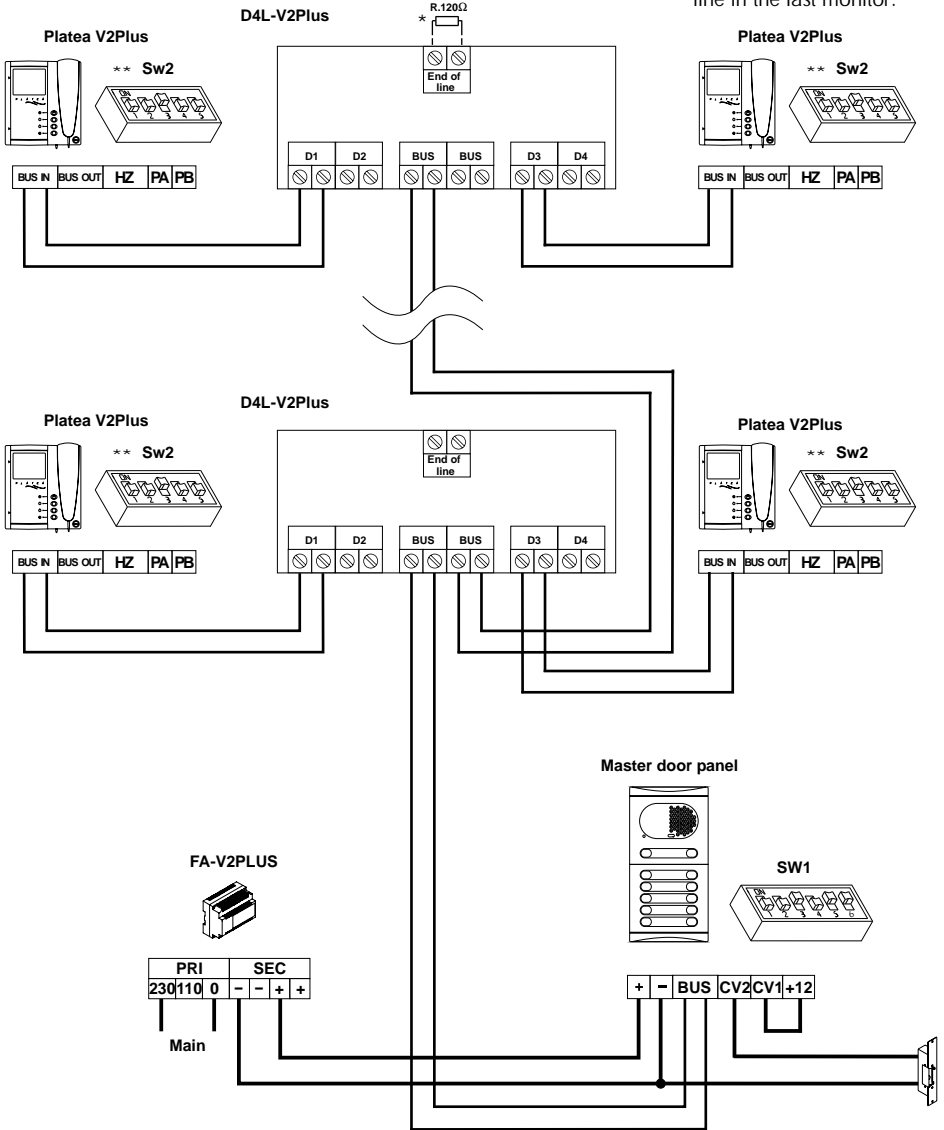
**R**AP-2150 cable characteristics.

CONSTRUCTIVE CHARACTERISTICS	VALUES
Flexible bare copper conductor of 1mm <sup>2</sup> (twisted)	Class V

ELECTRICAL CHARACTERISTICS	VALUES
Core max. electrical resistance to 20°C	19,5 Ω/Km
Nominal capacitance (core-core)	45pf/m ± 10%
Characteristic impedance	100 Ω ± 10%

\* Insert a 120 ohm end of line resistor in the last distributor.

\*\* Configuring the end of line in the last monitor.



**V**ideo door entry system with a 4 line distributor and d.c. lock release.

The installation diagram shows the connection of a video door entry system with one door panel to access the building, with 4 line D4L-V2Plus distributors and d.c. lock release.

**IMPORTANT:** In the output to the monitor/telephone of a distributor cannot be connected another distributor.

**REMEMBER:** Using distributors with 4 outputs, the total number of elements in the installation (monitors or telephones) must never exceed 32 units.

Sections chart

SECTIONS CHART	Door panel-Monitor	PS. - Door panel	Door panel - CV
Terminal	100m.	50m.	50m.
BUS, D	RAP-2150		
+, -		1,5mm <sup>2</sup>	
CV1,CV2			0,5mm <sup>2</sup>

For greater distances contact our technical support department.

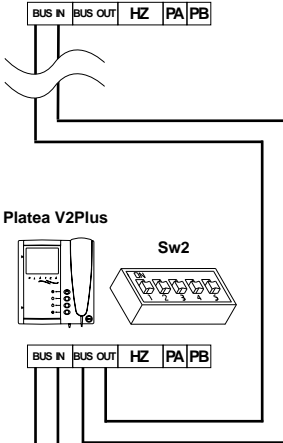
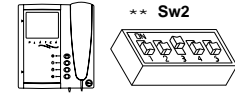
**R**AP-2150 cable characteristics.

CONSTRUCTIVE CHARACTERISTICS	VALUES
Flexible bare copper conductor of 1mm <sup>2</sup> (twisted)	Class V

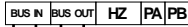
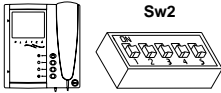
ELECTRICAL CHARACTERISTICS	VALUES
Core max. electrical resistance to 20°C	19,5 Ω/Km
Nominal capacitance (core-core)	45pf/m ± 10%
Characteristic impedance	100 Ω ± 10%

\*\* Configuring the end of line in the last monitor.

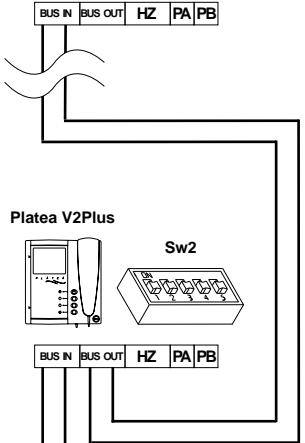
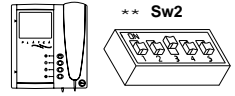
Platea V2Plus



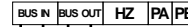
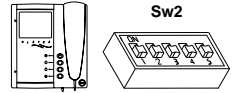
Platea V2Plus



Platea V2Plus

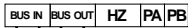
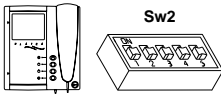


Platea V2Plus

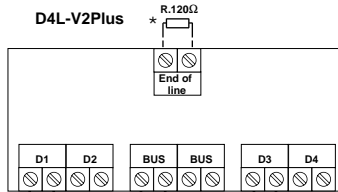


\* Insert a 120 ohm end of line resistor in the last distributor.

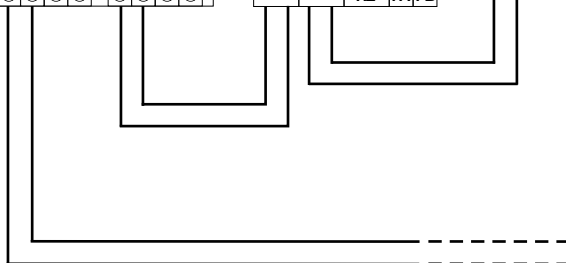
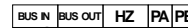
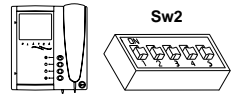
Platea V2Plus



D4L-V2Plus



Platea V2Plus



**D**aisy chain installation for a video door entry system with a 4 line distributor and d.c lock release.

The installation diagram shows the connection of a video door entry system with one door panel to access the building, two riser and one distributor of 4 line D4L-V2Plus with a daisy chain installation and d.c. lock release.

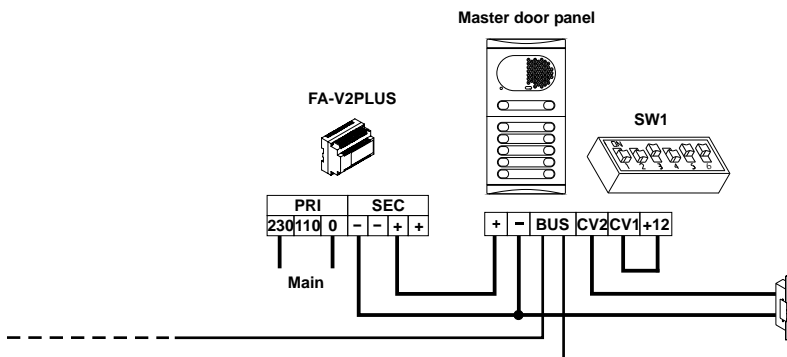
**IMPORTANT:** In the output to the monitor/telephone of a distributor cannot be connected another distributor.

**REMEMBER:** In a daisy chain installation with distributor, the total number of elements (monitors or telephones) distributed over all 4 outputs of the distributor must never exceed 32 units, while one single output must never exceed 16 units.

Sections chart

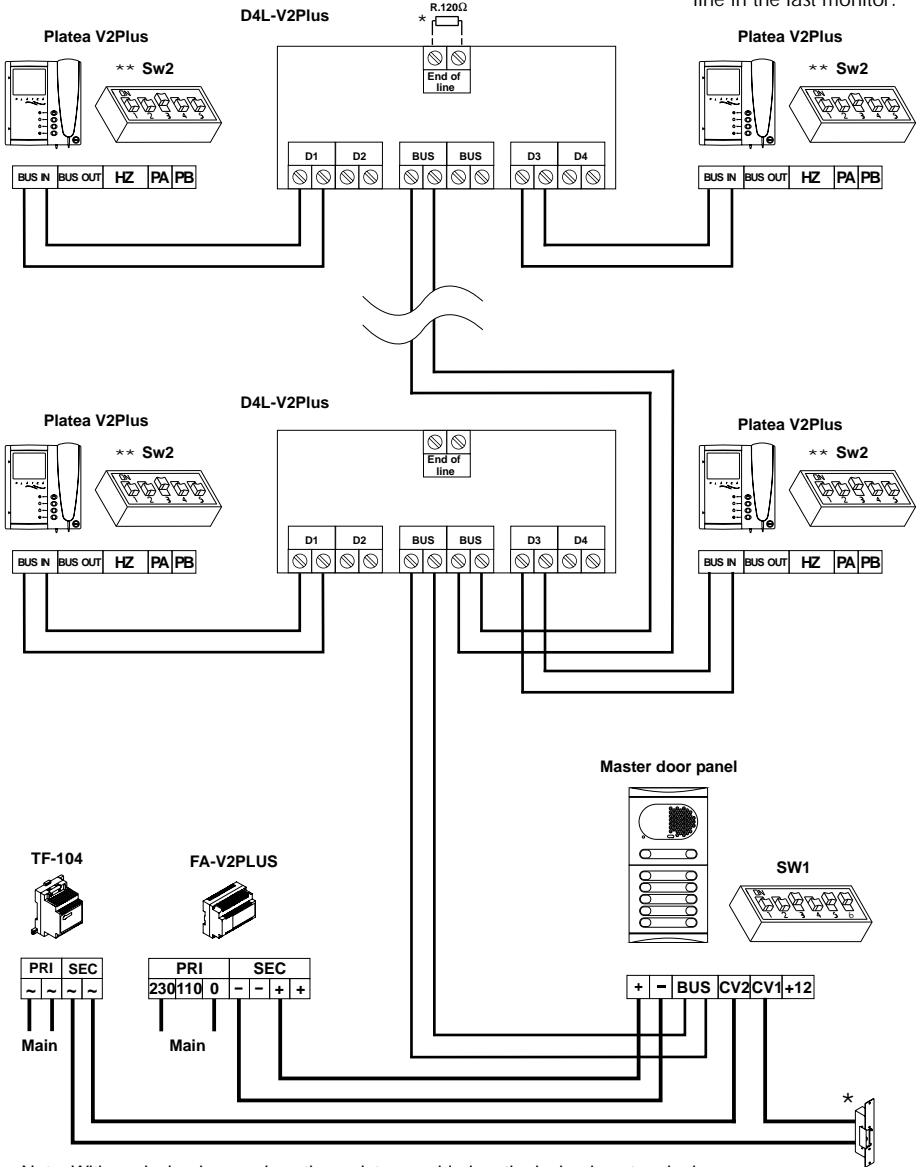
SECTIONS CHART	Door panel-Monitor	PS. - Door panel	Door panel - CV
Terminal	100m.	50m.	50m.
BUS, D	RAP-2150		
+, -		1,5mm <sup>2</sup>	
CV1,CV2			0,5mm <sup>2</sup>

For greater distances contact our technical support department.



\* Insert a 120 ohm end of line resistor in the last distributor.

\*\* Configuring the end of line in the last monitor.



Note: With a.c lock release, place the varistor provided on the lock release terminals.

**V**ideo door entry system with a.c. lock release.

The installation diagram shows the connection of a video door entry system with one door panel to access the building, with 4 line D4L-V2Plus distributors and a.c lock release.

Use the TF-104 transformer to power the lock release.

**IMPORTANT:** In the output to the monitor/telephone of a distributor cannot be connected another distributor.

- \* If the TF-104 transformer is used to supply the alternating current lock release and the door panel lamps, wire ~ 1/ ~ 2 terminals of the sound module with CV1/CV2 terminals respectively of the EL-500/R5 module.

**REMEMBER:** Using distributors with 4 outputs, the total number of elements in the installation (monitors or telephones) must never exceed 32 units.

#### Sections chart

SECTIONS CHART	Door panel-Monitor	PS. - Door panel	Door panel - CV
Terminal	100m.	50m.	50m.
BUS, D	RAP-2150		
+, -		1,5mm <sup>2</sup>	
CV1,CV2, ~, ~		1mm <sup>2</sup>	1mm <sup>2</sup>

For greater distances contact our technical support department.

**R**AP-2150 cable characteristics.

CONSTRUCTIVE CHARACTERISTICS	VALUES
Flexible bare copper conductor of 1mm <sup>2</sup> (twisted)	Class V

ELECTRICAL CHARACTERISTICS	VALUES
Core max. electrical resistance to 20°C	19,5 Ω/Km
Nominal capacitance (core-core)	45pf/m ± 10%
Characteristic impedance	100 Ω ± 10%

An easy way to check that the system is working properly is to disconnect the wiring from the door panel and to check the monitor directly connected to the EL500/V2Plus circuit.

A short circuit between different terminals of the installation will never damage the connected systems.

- ⇒ Nothing operates.
  - ☹ Remember that the system remains inactive for 45 seconds after connecting the power supply, the same occurs upon connecting any unit to the installation.
  - ☹ Check that the power supply's output voltage between the '-' and '+' terminals is 25,5 Vd.c. If not, disconnect the power supply from the installation and measure again. If it's correct now, it means there is a short circuit in the installation. Disconnect the power supply from mains and check the installation.
  - ☹ With system in rest, check the voltage between 'Bus' terminals of the EL500/V2Plus microprocessor module is from 23Vdc to 25,5 Vdc. If not, disconnect the 'Bus' wires and verify there is not a short circuit or anomaly in any point of the installation.
  - ☹ If these tests don't solve the problem, check the voltage between the '-' and '+ 12' terminals of the EL500/V2Plus microprocessor module; if the voltage is not 12 Vd.c. then replace the EL500/V2Plus.
  - ☹ If the previous verifications are correct then check the autodiagnostic LEDs (see page 92).
- ⇒ Inappropriate audio level.
  - ☹ Adjust the audio levels as shown on page 93.
- ⇒ Audio feedback.
  - ☹ Lower the volume of the sound module, using as well, the potentiometer located in the EL500/V2Plus microprocessor module as shown on page 93.  
If feedback doesn't disappear refer to the following hint.
- ⇒ Continuous audio feedback.
  - ☹ Check for short circuits in the BUS itself or between the BUS and any other terminal.
- ⇒ Door open function don't work.
  - ☹ Remember that this function is only available during call and communication progresses.
  - ☹ Create a short circuit between the 'CV1' and 'CV2' terminals of the EL500/V2Plus microprocessor module; once done, there should be 12 Vd.c. between the lock release terminals. If so, check the lock release and its wiring.
- ⇒ The system cannot be programmed.
  - ☹ Check that the switch number 2 of the configuration dip switch is set to ON (see page 92) and that the programming steps are correctly followed.
  - ☹ Check the autodiagnostic LEDs of the EL500/V2Plus microprocessor module (see page 92).
- ⇒ Some units don't receive calls.
  - ☹ Remember that each apartment must have only one terminal programmed as master. Check that the terminal is correctly programmed; if necessary, program it again.
- ⇒ Some monitors are not OK the image.
  - ☹ Check in the monitor the Sw2 dip switch is configured (see page 96).
- ⇒ Push buttons don't work.
  - ☹ When the push button is pressed check that the door panel reproduce a confirmation tone; if not, check the wiring of the push buttons (pages 89 and 90).
  - ☹ If there is a confirmation tone, check the programming of the monitors (page 99) and the telephones (page 102).



A large rectangular area with a dotted line pattern, intended for writing notes. The pattern consists of horizontal rows of small dots, spaced evenly down the page. The entire area is enclosed in a thin black border.

A large rectangular area containing 25 horizontal dotted lines, intended for writing notes.

A large rectangular box with a thin black border, containing 25 horizontal dotted lines for writing notes. The lines are evenly spaced and extend across most of the width of the box.

Este producto es conforme con las disposiciones de las Directivas Europeas aplicables respecto a la Seguridad Eléctrica 2006/95/CEE y la Compatibilidad Electromagnética 2004/108/CEE, así como con la ampliación en la Directiva del Mercado CE 93/68/CEE.

*This product meets the essentials requirements of applicable European Directives regarding Electrical Safety 2006/95/CEE, Electromagnetic Compatibility 2004/108/ECC, and as amended for CE Marking 93/68/ECC.*



**NOTA:** El funcionamiento de este equipo está sujeto a las siguientes condiciones:

(1) Este dispositivo no puede provocar interferencias dañinas, y (2) debe aceptar cualquier interferencia recibida, incluyendo las que pueden provocar un funcionamiento no deseado.

*NOTE: Operation is subject to the following conditions:*

*(1) This device may not cause harmful interference, and (2) this device must accept any received interference, including the ones that may cause undesired operation.*



golmar@golmar.es  
www.golmar.es



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