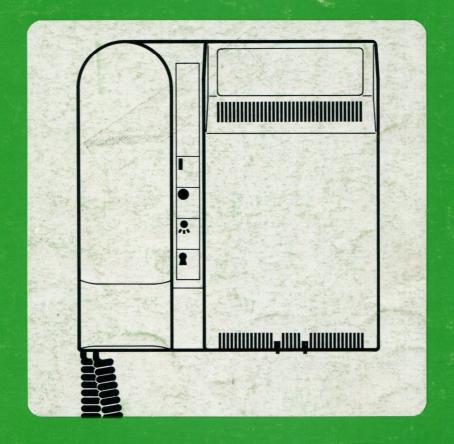
GTERRARED

videoporter 2000



Technical bulletin n. 82

G TERRANEO

videoporter 2000

Contents

Table of Electrical Symbols	2
General	3
Description of the Articles	5
General Installation Requirements	14
Trouble Shooting	22
Description of Installations: Single-Family Installation	26
Single-Family Installation with Entrance Call Unit and separate Water-proof Television Camera	28
Multi-Family Installation	30
Multi-Family Installation with Two Entrance Call Units	32
Multi-Family Installation with Two Entrance Call Units of which one with a television camera and the other with a sound-only connection	34
Installation with Porter Switchboard which can be commutated on an Entrance Call Unit	36
Installation with five Intercommunicating Video Internal Units and one Entrance Call Unit	38
Installation with one Internal Video Unit Intercommunicating with four Sprint Telephones and one Entrance Call Unit	40
Installation with 4 Video External Units	42
Installation with 4 External Units of which 2 Video and 2 Audio-only	44
Installation with one Video Internal Unit and one Telephone in Parallel or just Telephone	46

IMPORTANT

It is recommended that only original LT accessories be used, particularly our power units.

Material of other manufacturers, even if first class, cannot have the characteristics required for proper operation of the equipment described in this brochure.

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Table of electrical symbols

K	Microphone	\\ \-\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-\-	Double pole push button contact	-	Thermistor
1	Receiver		Bistable relay		Resistor
1	Loudspeaker		Relay		Potentiometer
₹	AC buzzer		Junction box	m	Inductor
7	DC buzzer	•	Integrated circuit	لسا	Transformer
2	AC bell		Diode	لسسسا	Transformer with 3 windings
₹	DC bell	 	Zener diode		Amplifier
3	Lamp	-	Thyristor	+	Video distributor
	Fuse	 	LED Light Emitting Diode	(-	Plug and socket
<u>m\</u>	Electromagnetic lock-door release		Bridge rectifier	- 0 -	Coaxial cable
/_	. Contact	7	PNP transistor		Radio receiver
E	Pushbutton -	7	NPN transistor		Earth
	Locking pushbutton contact		Electrolytic capacitor		Battery
	Double pole		Capacitor		

General

The VIDEOPORTER 2000 intercommunication system is manufactured by LT Terraneo. With the aid of an external television camera and internal monitor it is possible to establish who is calling at the entrance call unit, or who is nearby, without being seen and to subsequently decide whether to answer or not.

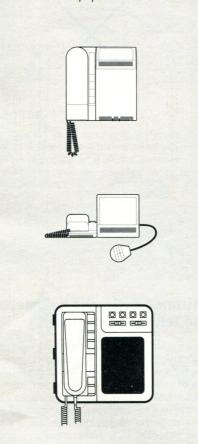
This system has several interesting technical characteristics such as:

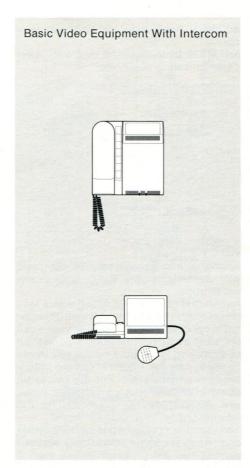
- centralized power supply for the monitors so that a maximum of 10 internal units can be kept on standy-by. All of these can be fully operational within 6 seconds of the call;
- parallel-type distribution of the video signal with active-type distributors;
- device for controlling the temperature of the entrance call unit.

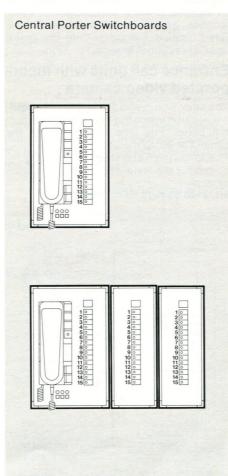
The type of installations which can be utilised fall into three different groups:

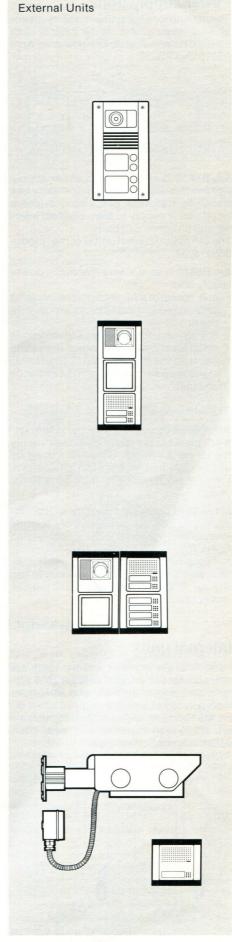
- BASIC VIDEO INSTALLATIONS for the audio-video connection between entrance call unit and the internal units.
- VIDEO INSTALLATIONS WITH CENTRAL SWITCHBOARD for conversations between entrance call units, switchboard and internal units and for audio-visual connections between the entrance call units and internal units
- INTERCOMMUNICATING VIDEO IN-STALLATIONS which, in addition to the performance offered by the basic video installations, also allow conversation between monitors and/or "SPRINT" type internal telephones.

Basic Video Equipment



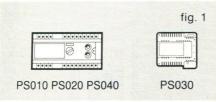






Power supply units

The network connection is made by means of a transformer Art. 45.14 220V / 24V 50Hz/60Hz which supplies power to Art.s PS010 and PS020.



Art. PS010 is an electronic power supply unit which supplies up to 10 monitors in a standy-by condition and also provides a timed power supply to the individual internal and entrance call units.

The call to the internal unit is of the "modulated" type.

Art. PS020 is an auxiliary electronic power supply unit:

- it is necessary for intercommunicating installations and installations with switchboard
- it is optional for basic-type installations to obtain a "monotone" signal indicating call from the floor and the "Ding-Dong" signal indicating a call from the entrance call unit.

The following articles are also available:

Art. PS030 connected directly to the network provides the stand-by power supply for up to 15 internal units. This must be used in addition to Art. PS010 in installations which have more than 10 internal units.

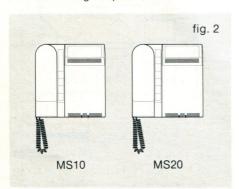
Art. PS040 connected directly to the network provides the power supply for one internal unit in parallel with that connected to Art. PS010.

For installations which have several parallel-type internal units it is necessary to use one Art. PS040 for each additional parallel unit connected.

Internal units

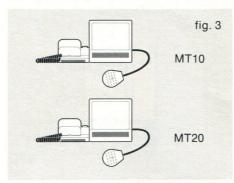
Four different types of internal units are available for the VIDEOPORTER 2000 system. All have a monitor and telephone incorporated in a single unit:

art. MS10 wall-mounted unit with telephone art. MS20 wall-mounted unit with intercommunicating telephone



art. MT10 table-mounted unit with telephone

art. MT20 table-mounted unit with intercommunicating telephone



Individual installations may be equipped with internal units either wall-or table-mounted or both.

All internal units are equipped with a system of electronic signalling which differentiates between a call from the entrance call units and a call from the floor. This method of signalling is initiated by the electronic power supply Art. PS020 which is connected to the installation. For the call to be heard in another room, an additional bell (Art. 40.50N) can be connected to the internal unit.

The modular configuration of the internal unit (video section + sound-only section) permits two-way communication even if the video module is removed. This characteristic is beneficial when considering maintenance, as it is possible to remove the video module without putting the entire installation out of service.

Entrance call units with incorporated video camera

The television camera is housed in a vertical position inside the Tersystem pushbutton panel. The lens is attached to the camera at 90° to the field of the view.

The following Tersystem modules are required for the installation of the television camera:

art. 2148 camera fixing module

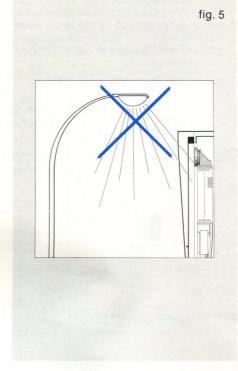


art. 2147 camera module with an illuminating light, heating resistance and thermostat for limiting the maximum temperature. Power is supplied to the system at 24 volts by means of the transformer Art. 45.14. All electrical functions which are common to the basic installation (timing, signals, etc.) are all obtained from the electronic power supply unit Art. PS010.

Television cameras

It is important to position the television camera away from direct sources of light (such as lamps, sunlight, reflecting surfaces, etc. Fig. 5).

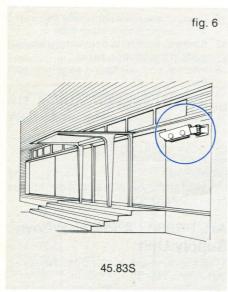
If this is not possible the monitor will show a poor contrast in the darker areas. This is due to the fact that brightness is adjusted automatically on the lighter part of the picture. The television cameras have a mechanical shutter which protects the vidicon from direct light whenever the installation is on stand-by. When the television camera is directed towards a source of strong light, it operates under adverse conditions and it can therefore suffer damage in the photo-sensitive layer of the vidicon: This may well bring about a worsening of the quality of the picture.



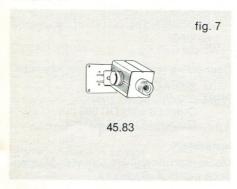
Entrance call units with separate television camera

This solution is appropriate for special application. The selection of the most suitable lens and the positioning of the television camera (which may be hidden) permit flexible coverage of the entrance area.

The camera for outdoor coverage art. 45.83 S, separate from the pushbutton panel (fig. 6), is mounted in a thermostatically-controlled water-proof housing which protects it from adverse atmospheric conditions.

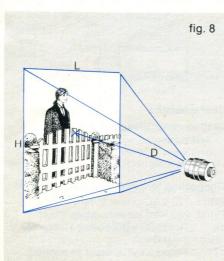


The television camera Art. 45.83, for indoor coverage separate from the pushbutton unit (Fig. 7), does not have the thermostatically-controlled housing and can therefore be mounted only in situations where there is no danger of water or dampness and where the temperature does not fall below 0 $^{\circ}$ C.



Lenses

Various types of lens with different focal lengths are available for installations which have a separate television camera so that the system can be adapted to different requirements.



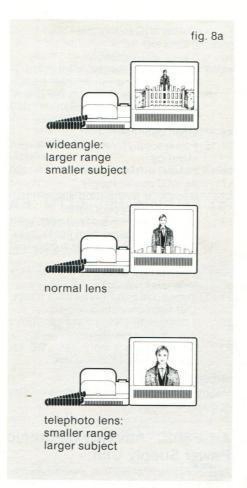


Fig. 8 shows the different viewing ranges in relation to the focal length of the lens. The lower the focal length, the larger the viewing range of the picture and the smaller the subject.

To find the correct lens proceed as follows (Fig. 8):

Define the distance of the subject from the television camera ($\bf D$ in metres). Establish the height of the picture to be viewed ($\bf H$ in metres).

The focal length **f (mm)** required is given by the equation:

$$f = \frac{(6.6 \times D)}{H}$$

Example of a calculation:

- distance D = 5m - height of the picture to be taken H = 2m $f = \frac{(6.6 \times D)}{H} = \frac{(6.6 \times 5)}{2} = 16.5 \text{mm}$



The lens to be used is Art. 45.81 f = 16 mm F

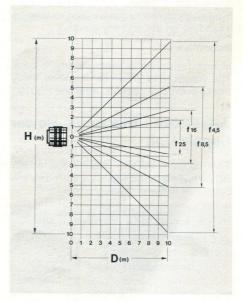
To increase the viewing range (to get a smaller subject) select a lens with a shorter focal length; to reduce the viewing range (and get a larger subject) select a lens with a longer focal length.

Adjustment of the Lens Aperture (f-number)

The position of the lens-stop has an effect on the depth of focus which increases as the aperture is reduced (higher f-number). In general, it is best to use as high an f-number as possible in relation to the light available at the entrance position.

A practical method is to frame the required scene with the least light and close the aperture until an acceptable picture appears on the screen.

For a selection of the lenses refer to the following diagram.



Lighting

Television cameras incorporated in the pushbutton panel are normally equipped with a lighting system which illuminates the subject only. To improve the quality of the picture in cases of low lighting conditions an additional light source of adequate power should be provided.

In the case of installations, however, with a separate television camera it is always necessary to light up the subject with appropriate lamps whose size is to be determined in relation to the surface to be illuminated. It is advisable to illuminate only the area which can be viewed by the television camera and to make sure that there is no light discontinuity between the television camera and the subject to be viewed. This can be obtained by placing the light source well behind the television camera.

Do not install lamps in such a manner that intense light, either direct or reflected, can impinge upon the television camera.

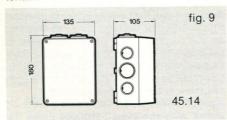
TERRANEO

Description of the articles

NOTE: all values of the electrical parameters given below refer to an operating installation.

Art. 45.14 - Transformer

With water-proof housing in insulating material.



Characteristics

- Power 90 VA
- Power supply 220 V 50 Hz protected by a 1A fuse
- Unfused Output 24 VAC
- Weight 4.2 Kg

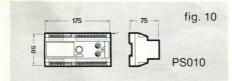
Any approved transformer with these electrical characteristics can be used as long as it has fuse on the primary winding.

Installation

Mounted on the wall with screws and holders. The transformer must be installed away from a source of heat and near the PS010.

Art. PS010 - Electronic Power Supply Unit

This contains all the circuits for: power supplies, timers and signals required for the operation of the installation.



Characteristics

- 10 module DIN housing
- F1 3A fuse for the protection of all circuits
- F2 1.6A fuse for internal electronic circuits, call signals, timed sound-only circuits and television camera stand-by.
- Weight 0.37 Kg

Connecting terminals and their functions

- 2 «Ding-Dong» control (to be connected to the additional power supply unit Art. PS020)
- 3 Two-tone call signal from the entrance call unit (pushbutton common) and internal control to turn on the screen.
- 4 Timed power supply 23 VDC (1 minute) for internal units, video distributors, monitor connection relays. Selfprotected against short circuits and overloads.
- 5 +15 VDC power supply for services, porter switchboard, additional power supply unit Art. PS020
- 6 15 VDC power supply for television camera stand-by
- Frame synchronism 15V pp 50 Hz
- 8 Timed television camera power sup-

- ply 20 VDC (1 minute)
- 9 0 volts DC
- 10 0 volts video section
- 11/12 0 volts for sound-only circuit; monitor connection relays, call signals and commands; internal circuit switchboard Art. 45.51, stairway light relay Art. 40.91 and auxiliary relays.
- 13 Open door control
- 14/15 Power supply for services and screen stand-by
- 16 24 VAC power supply
- 17 24 VAC power supply
- 18 0 volts for pushbutton and electromagnetic lock pilot lights
- 19 17 volts half-wave power supply for pushbutton panel pilot lights (max.6) and additional power supply unit Art.PS020
- 20 17 volts half-wave power supply for lock relay contact
- 21 Timed power supply 24 VAC (1 minute) for illuminating subject
- 22 17 volts half-wave power supply for pre-heating resistance
- 23 Timed power supply +15 VDC for sound-only circuit

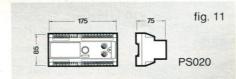
Installation

Mounted on the wall with screws and holders or on a DIN 35 guide.

Art. PS020 - Auxiliary Electronic Power Supply Unit

This contains the circuits which complement the functions provided by Art. PS010. Art. PS020 is:

- necessary for intercommunicating installations and installations with the porter switchboard
- optional for basic installations to obtain the "single-tone" to indicate a call from the floor and the "Ding-Dong" signal to indicate a call from the entrance call unit.



Characteristics

- 10 module DIN housing
- Weight 0.31 Kg

Connecting terminals and their functions

- 6 "Ding-Dong" control
- +8 VDC power supply switchboard Art. 45.51
- 8 Output of stairway light relay command
- 9 Entrance call unit porter loudspeaker section
- 10 Internal unit telephone microphone section
 11 Timed power supply +23 VDC internal
- unit
 12 Internal unit telephone microphone sec-
- tion
 13 NC timed contact +23 VDC for power supply to video section
- 14 NO timed contact +23 VDC for power supply to audio section
- 15 Entrance call unit porter microphone section

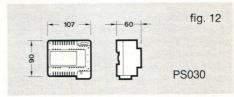
- 16 Input of stairway light relay command and intercommunicating call
- 17 Stairway light relay command from Tersystem pushbutton panel.
- 18 Internal unit telephone earphone sec-
- 19 Relay control from switchboard art. 45.51
- 20 DC power supply for internal circuits
- 21 0 volts for power supply for internal circuits and sound-only circuit
- 26 "Ding-Dong" oscillator output
- 28 Floor call output

Installation

Mounted on the wall with screws and holders or on a DIN 35 guide.

Art. PS030 - Additional Power Supply Unit

This contains the circuits for supplying stand-by power to 10 monitor.



Characteristics

- 6 module DIN housing
- Self-protected against short circuits and overloads
- Weight 0.85 Kg

Connecting terminals and their functions

PRIM. 220VAC power supply PRIM. 220VAC power supply

- Output 0 volts DC 600 mA

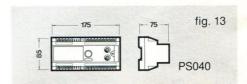
+ Output +21 VDC 600 mA

Installation

Mounted on the wall with screws and holders or on a DIN 35 guide.

Art. PS040 - Power Supply Unit for parallel operation (simultaneous)

Contains the circuits for the power supply for 1 monitor in parallel.



Characteristics

- 10 module DIN housing
- Self-protected against short circuits and overloads
- Weight 1 Kg

Connecting terminals and their functions

PRIM. 220 VAC power supply PRIM. 220 VAC power supply

- Timed 20 VDC output (1 minute) I = 600 mA
- 17 Timed 23 VDC input (1 minute)

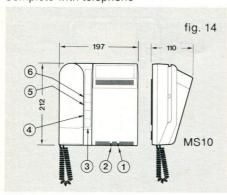
- 19 Standy-by 15 VDC
- 20 0 volts

Installation

Mounted on the wall with screws and holders or on a DIN 35 guide.

Art. MS10 - Internal Unit Wall-Mounted

Complete with telephone



- (1) Brightness adjustment
- (2) Contrast adjustment
- (3) Open door pushbutton
- (4) Stairway light pushbutton
- (5) Preview facility
- (6) Pushbutton for calling switchboard Art. 45.51

Characteristics

- 18÷23 VDC power supply
- Self-protected against short circuits and overloads by thermistor
- Power consumption with unit ON 600 mA
- Power consumption with unit on STAND-BY 40÷50 mA
- -5" 90° deflection screen
- Start-up time 6 seconds
- Amplitude of video signal at input 0.5÷
 1.5 V pp
- TV standard 625 lines
- Vertical frequency 50 Hz (synchronized with network)
- It is possible to effect electronic dual signalling to differentiate between a call from the floor or a call from outside (using the auxiliary electronic power supply unit Art. PS020)
- Timed ON for about 60 seconds
- Sound-only circuit with conversation security
- Weight 1.6 Kg

Connecting terminals and their functions

- 1 Internal unit telephone earphone section
- 2 Floor call
- 3 23 VDC power supply from switchboard Art. 45.51
- 4/5 Jumper for basic installation
- 5/6 Jumper for installation with the addition of Art. PS020
- 7 «Ding-Dong» oscillator input from Art. PS020
- 9 Coaxial cable: video signal
- 10 Coaxial cable: screen
- 12 Stairway light relay control Art. 40.91
- 13 Door open control
- 14 Monitor ON from internal unit

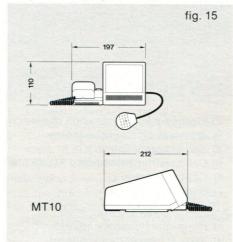
- 15 0 volts for sound-only circuit
- 16 Insertion of internal unit from switchboard (sound-only)
- 17 Insertion of screen and call from entrance call unit
- 18 Stand-by power supply for screen
- 19 Timed 23 VDC power supply
- 20 0 volts video section
- 21 Internal unit telephone microphone section

Installation

Mounted on the wall with screws and fixing plugs.

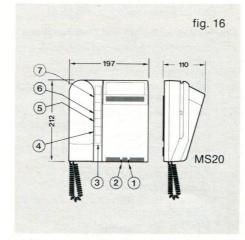
Art. MT10 - Internal Unit Table- Mounted

As for Art. MS10 but for table installation, complete with plug.



Art. MS20 - Internal Unit Wall-Mounted With Intercommunicating Facilities

Complete with intercommunicating telephone for the connection of up to 5 internal units.



- (1) Brightness adjustment
- (2) Contrast adjustment
- (3) Open door pushbutton (4) Stairway light pushbutton (5)
- (5) Preview facility
- (6) Pushbutton for intercommunicating call
- (7) Pushbutton for intercommunicating call

Characteristics

- 18÷23 VDC power supply
- Self-protected against short circuits and overloads by thermistor
- Power consumption with unit ON 600 mA
- Power consumption with unit on stand-by 40÷50 mA
- -5" 90° deflection screen
- Start-up time 6 seconds
- Amplitude of video signal at input 0.5÷
 1.5 V pp
- TV standard 625 lines
- Vertical frequency 50 Hz (synchronized with network)
- It is possible to effect electronic signalling to differentiate call from the floor, from the outside and from the internal units
- Timed ON for about 60 seconds
- Sound-only circuit with conversation security cutting out the entrance call unit
- Weight 1.6 Kg

Connecting terminals and their functions

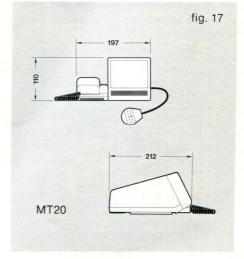
- 1 Internal unit telephone earphone section
- 2 Floor call
- 3÷6 Intercommunicating call
- 7 «Ding-Dong» oscillator input
- 9 Coaxial cable: video signal
- 10 Coaxial cable: screen
- 12 Stairway light relay control Art. 40.91
- 13 Door open control
- 14 Preview facility
- 15 0 volts for sound-only circuit
- 16 Input for intercommunicating call
- 17 Activation of monitor and call from entrance call unit
- 18 Stand-by power supply for screen
- 19 Timed 23 VDC power supply
- 20 0 volts video section
- 21 Internal unit telephone microphone section

Installation

Mounted on the wall with screws and fixing plugs.

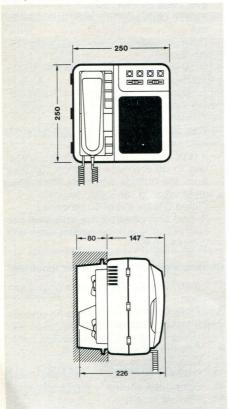
Art. MT20 - Table-Mounted With Intercommunicating Facilities

As for Art. MS20 but for table installation, complete with plug.



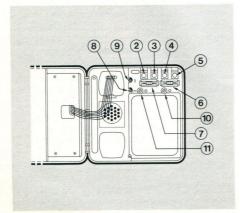
Art. MI100 Recess-Mounted Internal Unit

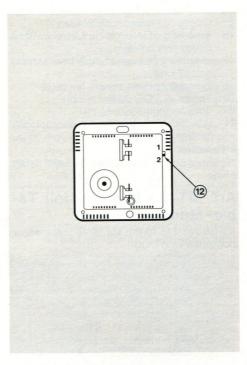
complete with telephone



Characteristics

- Supply 220V/50Hz (on request: 240V/ 50Hz., 110V/60Hz).
- Consumption in working condition: 24VA
- Consumption in st-by condition: 4,5VA
- Screen 7" 110° deflection.
- Start-up time ≤ 4"
- Input video signal amplitude: 1.8Vpp
- TV standard: 625 lines-50 semi-frames/ sec
- Horizontal frequency: 15625Hz
- Vertical frequency: 50Hz. synchronised with mains
- Electronic differentiated calling from floor and from outside.
- Timed insertion of about 60 seconds.
- Private sound-only conversation
- Weight: 4 Kg.





- 2) Electronic lock pushbutton release 🖘
- 3) Stair-way light pushbutton (2)
- 4) Self trigger pushbutton (
- 5) Call to porter switchboard Art. 45.51
- 6) Contrast control 0
- 7) Brightness control *

Accessible under the front cover:

- 8) Horizontal frequency adjustment
- 9) Vertical frequency adjustment.
- 10) Fuse 0.25A inserted on the primary of supply transformer.
- 11) Fuse 1.6A inserted on the secondary of supply transformer.

Accessible at the rear:

 Switch: position 1 for installation complete with central porter switchboard 45.51; position 2 for installation without central porter switchboard 45.51.

Connecting terminals and their functions

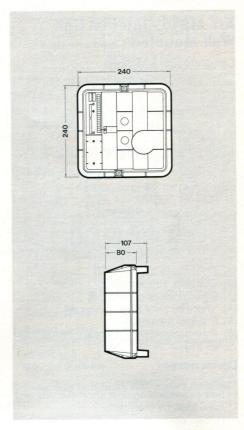
- 1 Internal unit telephone earphone section
- 2 Floor call
- 3 23VDC power supply from switchboard Art. 45.51
- 4/5 Jumper for basic installation
- 5/6 Jumper for installation with the addition of Art. PS020
- 7 «Ding-Dong» oscillator input from Art. PS020
- 9 Coaxial cable: video signal
- 10 Coaxial cable screen
- 12 Stairway light relay control Art. 40.91
- 13 Door open control
- 14 Monitor ON from internal unit
- 15 0 volts for sound-only circuit
- 17 Insertion of screen and call from entrance call unit
- 19 Timed 23VDC power supply
- 21 Internal unit telephone microphone section

Installation

Recessed mounted by means of Art. SI100 back box.

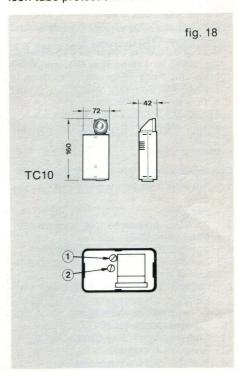
Art. SI100 Recessed Back Box

Recessed back box for Art. MI100 complete with terminal box and connecting terminals.



Art. TC10 - Television Camera

For use with Tersystem pushbutton panel. Complete with 8.5 mm F1.5, 90° lens and incorporating a mechanical shutter for Vidicon tube protection.



- (1) Screw for mechanical focusing
- (2) Screw for isolating the mechanical shutter (adjust only if the shutter is defective)

Characteristics

- Power supply 16÷20 VDC
- Power consumption with unit ON 400 mA
- Power consumption with unit on stand-by 70 mA
- Random interlace
- Scanning standard 625 lines 50 halfsquares/second
- Horizontal frequency 15625 Hz
- Vertical frequency 50 Hz
- Definition at the centre of the picture >500 lines
- Minimum illumination 10 lux
- Range for automatic brightness adjustment from 10 to 40,000 lux
- Video output 1.2 V pp on 75 ohms
- Start-up time < 6 seconds</p>
- Operating temperature 20° to + 50° C (if installed in the entrance call unit)
- Weight 0.38 Kg

Connecting terminals and their functions

- 1 Coaxial cable: screen
- 2 Coaxial cable: video signal
- 3 0 volts
- Timed power supply for television camera 16÷20 VDC (1 minute)
- 5 Television camera stand-by 15 VDC
- 6 Screen synchronisms 15 V pp

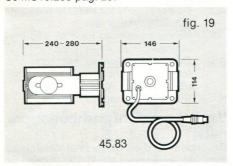
Installation

Fitting into Tersystem pushbutton panels with appropriate modules Art. 2147 and Art. 2148.

Art. 45.83 - Television Camera

For fitting indoors with wall fastening. Complete with adjustable bracket and incorporated mechanical shutter for Vidicon tube protection. It is not supplied with a lens (see table of lenses for Art. 45.83S below)

For the proper operation of the installation it is necessary to add a 100-ohm 1 W resistance in series with terminal 2 of the connecting module Art. 45.97C, see diagram Sc MS10.203 pag. 29.



Characteristics

- Power supply 16 VDC
- Power consumption with unit ON 10 W
- Power consumption with unit on stand-by
 1 W
- Random interlace
- Scanning standard 625 lines 50 halfsqua-

- res/second
- Horizontal frequency 15625 Hz
- Vertical frequency 50 Hz (synchronized with the mains)
- Definition at the centre of the picture >500 lines
- Minimum illumination 10 lux
- Range for automatic brightness adjustment from 10 to 40,000 lux
- Video output 1.5 V pp \pm 10% on 75 ohms
- Start-up time < 6 seconds
- Operating temperature 0 °C to + 50 °C
- Weight 1.8 Kg

Connecting terminals



View from the front of the 7-pole DIN 45329 plug

- 0 volts
- 2 Television camera stand-by power supply 6.5 VDC
- 3 Coaxial cable: video signal
- 4 Frame synchronisms 13 VAC 50 Hz
- 5 Timed power supply for television camera 16 VDC (1 minute)
- 7 Coaxial cable: screen

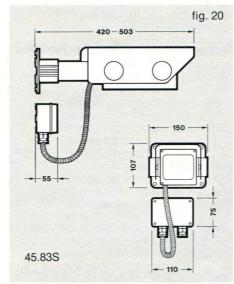
Installation

Wall-mounted with screws and fixing plugs. For connections use module Art. 45.97C 7-pole connector with terminal board (see figure 44 on page 12)

Art. 45.83S - Water-resistant Television Camera

Without lens, with thermostat, anti-rain protection and adjustable bracket for out-door use.

For the correct operation of the installation it is necessary to add a 100-ohm 1 W resistance in series with terminal 2 of the television camera.



Characteristics

See Art. 45.83

Weight 8 Kg

Connecting terminals and their functions

R-R 17 V half-wave power supply for heater

- 7 Coaxial cable: screen
- 3 Coaxial cable: video signal
- 5 Timed power supply for television camera 16 VDC (1 minute)
- 2 Television camera stand-by power supply 6.5 VDC
- 4 Frame synchronising voltage 13 VAC 50 Hz

Lenses available and their characteristics

Art.	Focal length f mm Aperture F				Diaphragm	Focus	
45.79		f	8.5	F	1.3	fixed	adjust.
45.80		f	8.5	F	1.3	adjust.	adjust
45.81	tele	f	16	F	1.4	adjust.	adjust
45.82	tele	f	25	F	1.4	adjust.	adjust.
45.87 widea		-	4.5	F	2	adjust.	fixed
						The second second	

Installation

Wall mounted with screws and fixing plugs.

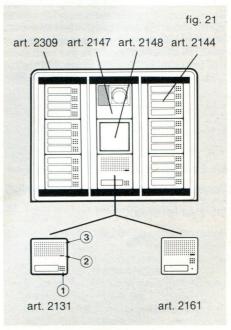
Tersystem 2000 Pushbutton units

These can be assembled in various configurations: with a limited number of components it is possible to obtain any type of pushbutton panel. Fig. 21 shows a typical arrangement.

When the pushbutton panel is recessed and in a position where it is not protected against the rain it is necessary to install the rain protection housings illustrated in the commercial catalogue.

Modules must be installed in the pushbutton panels so that the pushbuttons are on the right-hand side.

Colours available are: natural anodized aluminium, lacquered white or metallic brown.



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- (1) Call button
- (2) Stairway light relay pushbutton ●≡
- (3) Grille for "Porter" speaker unit Art. 2659

General Characteristics

The system consists of:

- recess-mounted boxes with aluminium profile plate
- rain protection housings for recess or surface-gate mounting
- modules complete with grille for "Porter" speaker unit
 - In module Art. 2131 it is only possible to mount the Porter Art. 2659
- modules from 1 to 4 pushbuttons
- hole-cover modules or with illuminated sign plate
- fixing module Art. 2148
- camera module with lamp and thermostat Art. 2147

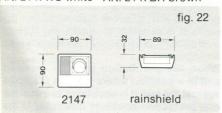
Description of Modules of Fig. 21

Art. 2147 - Camera Module

Complete with small illuminating lamp, pre-heating resistance and device for controlling the temperature of the entrance call unit. One 2147 module is required for each television camera.

This article is supplied complete with rainshield to be installed in the Tersystem pushbutton panels (see general installation instructions on page 19).

Colour: Art. 2147 natural anodized aluminium Art. 2147WS white Art. 2147BR brown

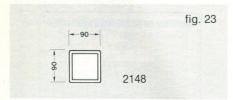


Art. 2148 - Fixing Module

This module is used for fixing the television camera Art. TC10 in the Tersystem push-button panels. One 2148 module is required for each television camera. For the fixing position in the pushbutton panel refer to the general installation instructions on page 19.

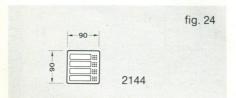
Colour: Art. 2148 natural anodized aluminium Art. 2148 WS white

Art. 2148 BR brown



Art. 2144 - Module with 4 pushbuttons

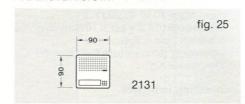
Colour: Art. 2144 natural anodized aluminium Art. 2144 WS white Art. 2144 BR brown



Art. 2131 - "Porter" Speaker Module

Without Porter speaker, complete with a pushbutton. The Porter Art. 2659 can be mounted on Art. 2131.

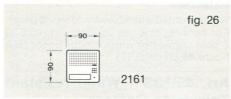
Colour: Art. 2131 natural anodized aluminium Art. 2131WS white Art. 2131BR brown



Art. 2161 - Module with Porter speaker and 1 call pushbutton incorporated

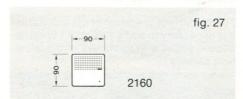
Complete with Porter speaker and one pushbutton. It is also equipped with potentiometers for the continuous adjustment of the levels of reception and transmission. Can be mounted as an alternative to the combination module for Porter Art. 2131 + porter Art. 2659.

Colour: Art. 2161 natural anodized aluminium Art. 2161WS white Art. 2161BR brown

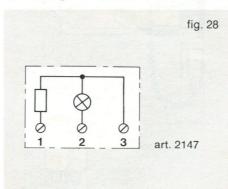


Art. 2160 - Module with Porter incorporated

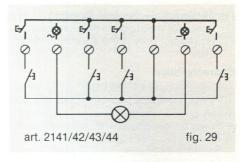
As for Art. 2161 but without the pushbutton

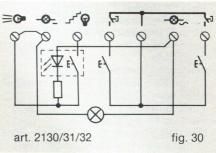


Connecting terminals and their functions



- 1 24V half-wave input for 5W 24V pre-heating resistance
- 2 24V AC input for 24V 18W illuminating lamp
- 3 0 volts





Pushbutton output

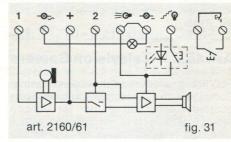
Power supply for module illumination light and LED for pushbutton with symbol ●

Pushbutton common

Control for stairway light relay and temporary pushbutton panel illumination

Power supply for module illumination lamp

Power supply for LED for pushbutton with symbol ●



1 Microphone output (adjustable)

Power supply for module illumination light and LED for pushbutton with symbol ●≡

+ +8 ÷ 15VDC power supply

2 Loudspeaker input (adjustable)
 ● See Power supply for LED for pushbutton with symbol

Power supply for module illumination lamp

Control for stairway light relay and temporary pushbutton panel illumination

Pushbutton output

Vandal-resistant pushbutton panels

Described in the commercial catalogue; they require camera art. TC20 instead of art. TC10.

Pushbutton Units (sound-only)

These are described in detail in the commercial catalogue and are available in various configurations according to the type of mounting required: recessed in the wall, on the wall or on the gate. Available series:

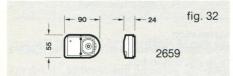
- 1) 900
- 2) Composit
- 3) 500
- 4) Tersystem 2000
- 5) Vandal-resistant AV

The entrance call unit can have a Postalbox which, in addition to the normal pushbutton functions, also includes an anodized aluminium post box.

The pushbutton panel should be fastened so that the "Porter" grille is about 150 cm high from the ground.

Art. 2659 Electronic Porter

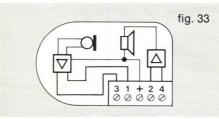
For all kinds of pushbutton panel



Characteristics

- Electret microphone and loudspeaker amplified
- Weight 0.130 Kg.

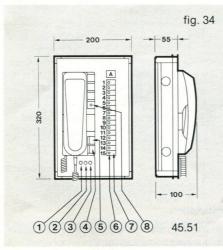
Connecting terminals and their functions



- 3 60% microphone output
- 1 100% microphone output
- + 8 VDC power supply
- 2 Loudspeaker input
- 4 Loudspeaker adjustment: with jumper 2 - 4 100% without jumper 2 - 4 60%

Art. 45.51 - Sound-only Switchboard

Base unit for up to 15 video installations.



- (1) Switch in NIGHT position
- (2) Switch in DAY position
- (3) Switch in AUTOMATIC position
- (4) Electromagnetic lock pushbutton
- (5) Pushbutton for connection of soundonly circuit to entrance call unit
- (6) Storage of calls from selected internal units (each call from the selected circuit is stored in memory and indicated by the corresponding led ON)
- (7) Pushbuttons used to call the internal units
- (8) Indication of busy line (operates in the NIGHT position and indicates that a conversation is in progress between the entrance call unit and a called internal unit).

Characteristics

- Conversation is possible between:
 - a) entrance call unit/switchboard
 - b) entrance call unit/selected internal unit (with video connection)
 - switchboard/selected internal unit and viceversa
- Storage of the calls from the selected internal units
- Conversation security
- Three different operating modes: 1) daytime; 2) nighttime; 3) automatic
- Monotone electronic signalling from the internal units
- Weight 2.42 Kg

Connecting terminals and their functions

34 0 volts input

- 35 0 volts output for «Please wait» lamps and for blocking relay of Art. 45.32 with switchboard in «DAYTIME» position
- 2 Internal unit telephones microphone section
- 3 External units porter microphone section
- 10B Timed output 15 VDC (1 minute) to enable sound-only circuit of internal unit to switchboard in «DAYTIME» position
- 8A Timed output 15 VDC (1 minute) for insertion of monitor relay and for enabling of internal unit sound-only circuit with switch-board in «NIGHTTIME» position 32 0 volts output for illuminating
- lamps relay Art. 40.92 with switchboard in «NIGHTTIME» position Timed input 15 VDC (1 minute)
- 33 As for 34
- Internal unit telephones earphone section
- 4 Porter entrance call units loudspeaker section
- 23 Door open control
 - 8 VDC input for sound-only circuit
 0 volts for internal circuits Art.
 45.51 and for sound-only circuit
- 18 Switchboard power supply 24 VAC
- 31A/B/C/D Output pushbutton common for installations with only one entrance call unit or «bi-porter» two-way switching unit Art. 45.32 for installations with more than one entrance call unit.
- 6A/B/C/D Output for two-tone call control from entrance call units

17V half-wave output for «bi-

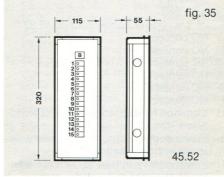
- porter» two-way switching unit Art. 45.32
- 1÷15 Outputs for the corresponding internal units
- NPSL Outputs for the corresponding terminals of the extension unit Art. 45.52

Installation

Recessed, surface and table.

Art. 45.52 - Extension Unit for Art. 45.51

With 15 lines for sound-only switchboard Art. 45.51



Characteristics

- 15 pushbuttons with leds indicating calls made
- Connection to Art. 45.51 by means of special threaded coupling
- Weight 1.14 Kg

Connecting terminals and their functions

- 1÷15 Outputs for the corresponding internal units
- NPSL Connecting terminals to Art. 45.51 and 45.52

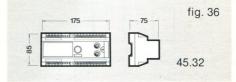
Installation

See Art. 45.51

Art. 45.32 - «Bi-porter» Two-door Switching Unit

This unit is for installations with more than one entrance call unit.

Art. 45.32 controls both the sound and the video connections as well as the open-door control of the entrance call unit from which the call is being made. For installations with more than two entrance call units as many Art.s 45.32 are connected in series as are necessary (see special wiring diagrams).



Connecting terminals and their functions

- 20 Common for exchange contacts terminals 19 - 22
- 21 Common for exchange contacts terminals 18 23
- 28 15 VDC (1 minute) timed input for blocking relay of Art. 45.32
- O volts for «Please wait» lamps and internal circuits Art. 45.32
- 26 0 volts input for blocking relay of Art. 45.32, for installations with switchboard

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Art. 45.51 or with Art.s 45.32 connected in cascade

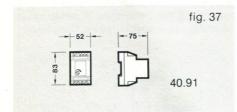
- 27 0 volts input for blocking relay of Art.s 45.32 connected in cascade
- 14 Pushbutton common of entrance call unit 1
- 13 Pushbutton common of entrance call unit 2
- 24 17 V half-wave for power supply of Art. 45.32 in installations with switchboard Art. 45.51
- 15 Two-tone call control from entrance call unit 2
- 16 Two-tone call control from entrance call unit 1
- 12 Not used
- + 24 VAC power supply for Art. 45.32
- 22 NO contact
- 23 NO contact
- 18 NC contact
- 19 NC contact
- 3 NC contact
- 4 NO contact
- 11 Common for exchange contacts terminals 1 2
- 8 Power supply output for «Please wait» lamps entrance call unit 2
- 7 Power supply output for «Please wait» lamps entrance call unit 1
- 10 Internal unit telephones microphone section
- 2 NO contact
- 1 NC contact
- 6 Porter entrance call unit 1 loudspeaker section
- 5 Porter entrance call unit 2 loudspeaker section
- 9 Common for exchange contacts terminals 3 - 4

Installation

Mounted on the wall with screws and holders or on a DIN 35 guide.

Art. 40.91 - Timed Relay for Stairway Light Control

The timer can be operated both by the 220 V mains and by the telephone system 12÷30 V (DC or AC), even simultaneously. Continuous adjustment between 15 seconds and 10 minutes. Timing is reset each time the stairway light pushbutton is operated.



Characteristics

- Power supply 220 V 50 Hz
- NO contact 220 V 50 Hz 10 A
- Timing from 15 seconds to 10 minutes
- Operation 220 VAC or 12÷30 V DC or AC

Connecting terminals and their functions

- 1-2 NO Contact
- 5-4 12÷30 VAC/DC relay control (positive pole to terminal 4)
- 3 220 VAC relay operation

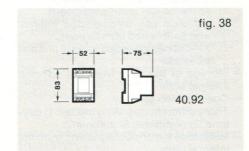
Installation

Mounted on the wall with screws and holders or on a DIN 35 guide.

Note: if illuminated pilot lights are used for the 220 V operation, the number must not exceed 15.

Art. 40.92 - Relay

Relay with a closed contact and a changeover contact to be used for each of the controls: illuminating lamp, additional bells, electromagnetic locks supplied with voltages other than those which are available on the electronic power supply unit.



Characteristics

- Power supply 12 V AC or DC
- Contacts 5A 220 V
- -3 module DIN housing

Connecting terminals and their functions

 $+/\sim$ 12 V AC or DC

-/~ 12 V AC or DC

3/4 NO contact

1/5 NC change-over contact

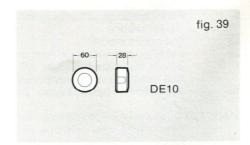
1/2 NO change-over contact

Installation

Mounted on the wall with screws and holders or on a DIN 35 guide.

Art. DE10 - Video Signal Distributor with Low Insertion Loss

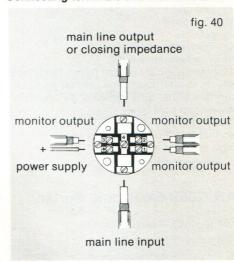
This is used to provide three buffered outputs.



Characteristics

- Power supply 19÷23 VDC timed (1 minute)
- Damping 0.7 dB
- Power consumption 40 mA

Connecting terminals and their functions

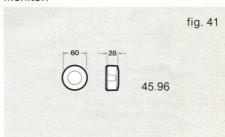


Installation

Mounted on the wall with screws and holders or in a junction box.

Art. 45.96 - Video Signal Amplifier

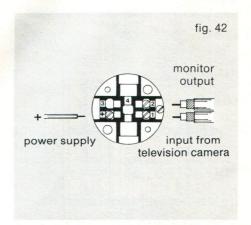
This should be fitted in the case of installations which are particularly extensive. Its purpose is to compensate the video signal damping when the television camera is at more than 300 metres from the furthest monitor.



Characteristics

- Power supply 19÷23 VDC timed (1 minute)
- Gain 6 dB
- Power consumption 100 mA

Connecting terminals and their functions

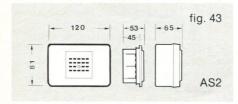


Installation

Mounted on the wall with screws and holders or in a junction box.

Art. AS2 - Flush or surface wall mounting socket.

For connecting Art.s MT10 and MT20. Complete with rectangular recessing box or on surface.

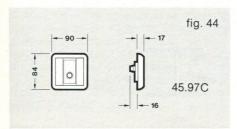


Installation

Mounting on rectangular recessing box or on surface.

Art. 45.97C - Connecting Module

For Art. 45.83 television cameras. Includes a 7-pole connector with a terminal board.



Connecting terminals and their functions

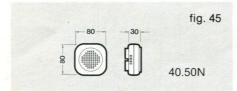
For connecting the 7-pole connector see the connecting terminals of Art. 45.83. For the proper operation of this installation it is necessary to add a 100-ohm 1 W resistance in series with terminal 2 of the connecting module.

Installation

On the wall in a recessed \emptyset 60 mm box; one connecting module for each television camera Art. 45.83.

Art. 40.50N - Additional Electronic Bell

This is used for remote signalling in other rooms of the same dwelling and for calls from the entrance call unit to the switchboard Art. 45.51.



Characteristics

It differentiates calls coming from the entrance call unit and from the floor.

Connecting terminals and their functions

7 Two-tone call from the entrance call

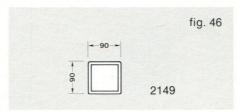
- unit for additional 40.50N's in installations with switchboard Art. 45.51
- 17 Two-tone call from the entrance call unit
- 8 Attenuated input call signal, mono- or two-tone
- 18 Input call signal, mono- or two-tone
- 0 0 volts loudspeaker
- 3 0 volts
- 11 0 volts
- 13 Mono-tonal call from the floor

Installation

Mounted on the wall with screws and holders or in a recessed box \emptyset 60 mm.

Art. 2149 - Information Module

Complete with «Please wait» signal card. This is used in installations with more than one entrance call unit to signal that a conversation is taking place from one of the other entry points.



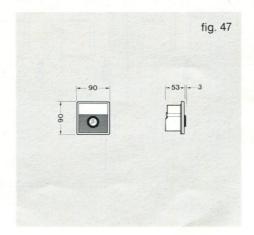
Installation

Mounting on Tersystem pushbutton panels

Solid State television camera

This camera is of very small size and requires one single Tersystem 2000 module without any additional accessories for installation. A modern solid state sensor using MOS technology provides exceptional performance without any maintenance. It is equipped with a 4.6mm f1.4 lens with automatic diaphragm.

Adjustment of the height of the picture to be viewed is possible. The module includes an illuminating lamp and a demisting resi-



With the video camera art. TC91 all the installations already possible with the vidicon camera TC10 can be realized.

The connecting diagrams for the video camera TC10 indicated in the technical bulletin 82 can be also used for the video camera TC91, considering but the following:

- The video camera TC91 replaces the video camera TC10 and the two Tersystem modules art. 2147 and art. 2148.
- Terminals 1, 2, 3 of the video camera TC91 correspond respectively to terminals 1, 2, 3 of the video camera TC10.
- Terminals 5, 6, 7 of the video camera TC91 correspond respectively to the terminals 1, 2. 3 of the camera module art. 2147.
- 4) The power supply (terminal 4) of the video camera of the video TC91 must come from terminal 23 of art. PS010 and not from terminal 9 as for the video camera TC10.
- 5) For the video camera TC91 both standby and synchronising are not needed, therefore terminals 5 and 6 of the video camera TC10 and the respective connections are not necessary.
- The video camera TC91 has been realized according to the EIA television standard with 60Hz frame frequency.

However it is possible to use standard monitors MS10, MS20, MT10 and MT20 with 50Hz frame frequency. In this case a calibration of the vertical amplitude is recommended in order to achieve a better image geometry.

Besides a range of monitors already calibrated in factory according to the EIA standard (60Hz) is available: MS11, MS21,

MT11 and MT21.

NOTE

Some units are already described in other LT publications:

- Art.s 600, 603N, 603S telephones in Technical Bulletin No. 10
- For information on pushbutton panels series 500, 900, Composit, Tersystem 2000, Postalbox and Vandal-resistant pushbutton panel see Commercial Catalogue.

If required, the units designed for 220 V 50 Hz previously described can be supplied for other standards (for example, 240V 50Hz; 110V 60Hz, etc.).

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General installation requirements

General instructions and tables

Check that during cabling operations the transformer Art. 45.14 is not connected to the supply mains.

Distribution of the Video Signal

For all connections of the video signal use a coaxial cable with a characteristic impedance of 75 ohms and low loss.

The maximum distance between the television camera and the furthest monitor is 300 metres with a coaxial cable type RG59B/ U. Beyond 300 metres it is necessary to use the Art. 45.96 amplifier. Its position in the installation must be established in each individual instance (in this case consult our Assistance and Technical Consulting Servi-

With the Art. DE10 video distributor it is possible to connect the monitor directly from the riser. The outputs of the Art. DE10 which are not used, must remain open; the last video distributor of the video signal must be closed with a 75 ohm resistance on the main line.

The wiring diagrams Sc MS10.216/217 show two typical examples of the distribution of the video signal:

Sc MS10.216 Video signal distribution with 1

Sc MS10.217 Video signal distribution with 3 risers. In this last kind of installation (from 3 risers onwards) it is necessary to use Art. PS040 in addition to the Art. PS010 power supply to supply the video signal distributors.

Cross-sections of Connecting Cables

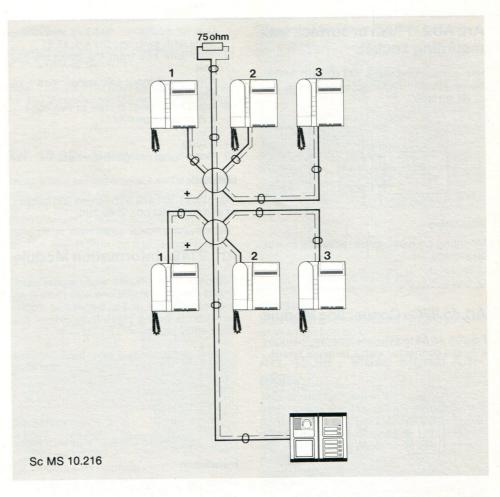
The table below gives the cross-sections of the cables in relation to the distances involved. The diagrams show with a thicker line those conductors which must have a crosssection that is greater than that of the other cables in the installation.

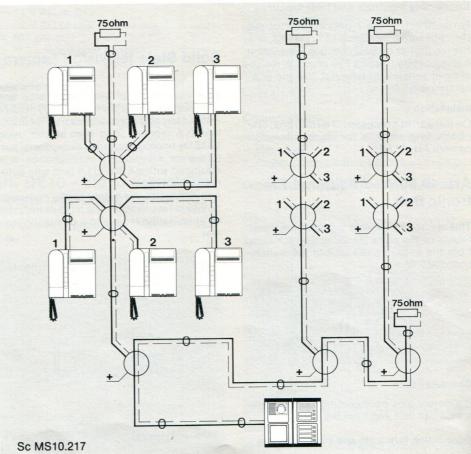
	Cross-sections (mm²)	
Distance (m)	Thicker cables from power supply unit	Other cables
()	and two-door switching unit to:	

	• • • • • • • • • • • • • • • • • • • •	9	
	Camera module Illuminat- ing lamp- electr. lock	Monitor camera Porter switchboard	
50	0.5	0.3	0.3
100	1.5	1	0.5
200	2.5	1.5	1
300	4	2.5	1.5
400	-	-	1.5

As the total distance between the external unit and the remotest internal unit must not to be greater than 300 metres, if the external unit is, for instance, 100 metres away from the power supply, the remotest, internal unit could not be 200 metres farther from the power supply or vice versa.

For installations in which the distance between the power supply unit and the entrance call unit is greater than 20 metres it is necessary that the cables supplying the lamp of the entrance call unit and the television camera synchronisation (terminals 7-18-19 and 21 of Art. PS010) be placed in separate sheaths.





Supplementary Bells:

- Use Wiring Diagram Sc PS020.100 (page 16) for connecting a supplementary bell in parallel with a monitor Art. MS/MT10.
- It is possible to install two bells Art.s 40.50N in parallel with one another, in which case the bells must be connected to terminal 8 rather than 18. The bells connected in parallel must not be more than 2 for each monitor.
- For installations with a switchboard the supplementary bells connected to the monitor must have the input of the call signal from the entrance call unit connected to terminal 7 rather than 17.
- In the case of electro-mechanical bells or bells which operate at the mains voltage, use a relay Art. 40.92 connected as shown in the wiring diagram Sc 40.92.100 in which the call circuit is clearly indicated.

Additional Electromagnetic Locks

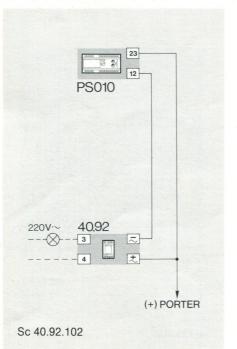
— For controlling an additional electromagnetic lock operating at a voltage other than that which is available between terminals 18 and 20 of Art. PS010, use a relay Art. 40.92 connected as shown in the diagram Sc 40.92.101 in which the open-door circuit is indicated.

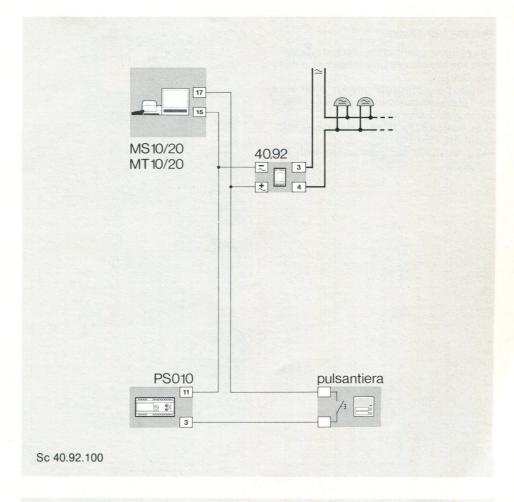
Note that the control of the lock supplied by the auxiliary transformer occurs by means of the "stairway light relay" pushbutton of the monitor. This pushbutton is thus used solely for this function.

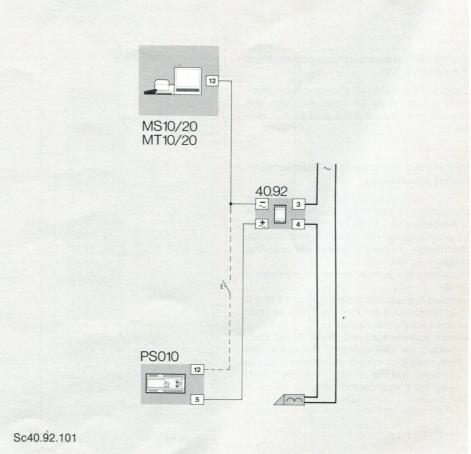
Note: This connection is only possible with internal units MS10 and MT10.

Auxiliary Illuminating Lamps

For connecting auxiliary illuminating lamps use a relay Art. 40.92 connected as shown in the diagram Sc 40.92.102. The auxiliary lamps will thus be timed as for the television cameras.







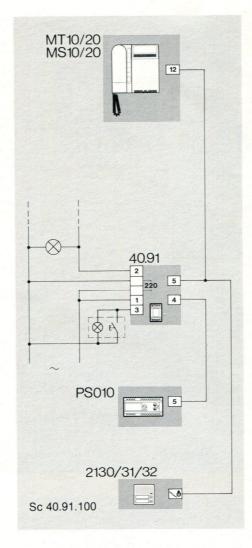
G TERRANEO

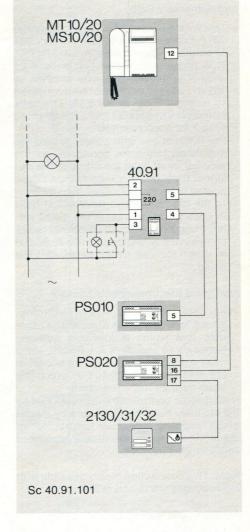
Stairway Light Relay

The monitor pushbutton marked a controls the timed lights by means of a relay Art. 40.91.

It is also possible to operate Art. 40.91 from the Tersystem pushbutton panel by means of the pushbutton marked ● ≡ .

- Sc 40.91.100 for basic installations without Art. PS020
- —Sc 40.91.101 for installations with Art. PS020





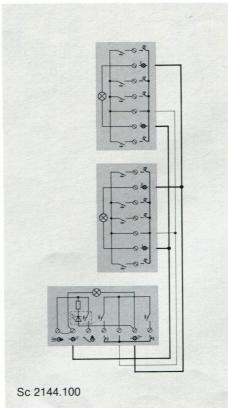
Connection of several pushbutton modules Art.s 2141/2/3/4

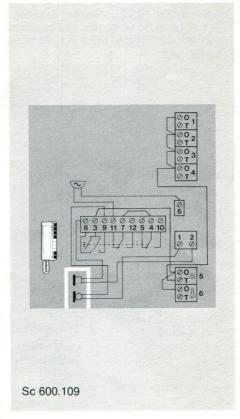
Diagram Sc 2144.100 shows the connections which must be made between the "Porter" modules and the pushbutton modules.

SPRINT 600 Telephones for Intercommunicating Installations

For connecting a SPRINT telephone in an installation of intercommunicating videos it is necessary to add an appropriate number of pushbuttons Art. 600ETE and change the internal connections as shown in wiring diagram Sc 600.109:

- remove the jumper between terminals 3
- move the jumper from terminals 7 and 0 to terminals 3 an 0 (of the stairway light and lock pushbuttons)
- add pushbuttons Art. 600ETE for each telephone and connect the commons between terminals 0 of the added pushbuttons and the terminal T of the "stairway light" pushbutton.





DING-DONG and Mono-tonal calls

With the electronic power supply unit Art. PS010 it is only possible to obtain a two-tone call signal. For mono-tonal and DING-DONG calls the auxiliary electronic power supply Art. PS020 must be added to Art. PS010 and connected as shown in wiring diagram Sc PS020.100 for the internal units MS/MT10.

Note:

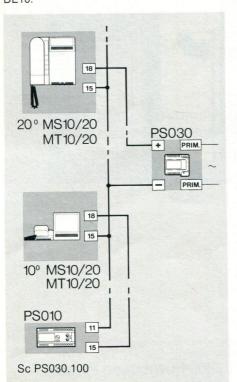
- —in the internal units MS10-MT10 move the jumper from terminals 4-5 to terminals 5-6 (Sc PS020.100)
- the diagram indicates the connection of a supplementary bell Art. 40.50N in parallel with the internal unit.
- it is possible to connect two Art. 40.50N bells in parallel between them, in this case the two bells have to be connected with terminal 8 instead of 18. Each monitor can have max. two bells connected in parallel.

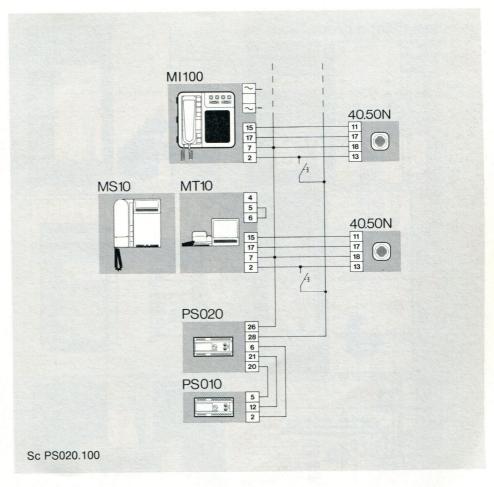
Auxiliary Power Supply Unit Art. PS030

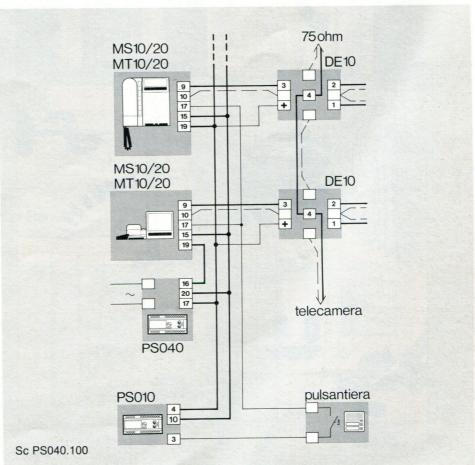
The basic power supply unit Art. PS010 is used for keeping up to a maximum of 10 monitors on stand-by; beyond this number it is necessary to fit the auxiliary power supply units Art. PS030 along the riser. Each of these power supply units can operate up to 15 internal units on stand-by. All connections are shown in wiring diagram Sc PS030.100.

Start-up of Several Monitors in Parallel

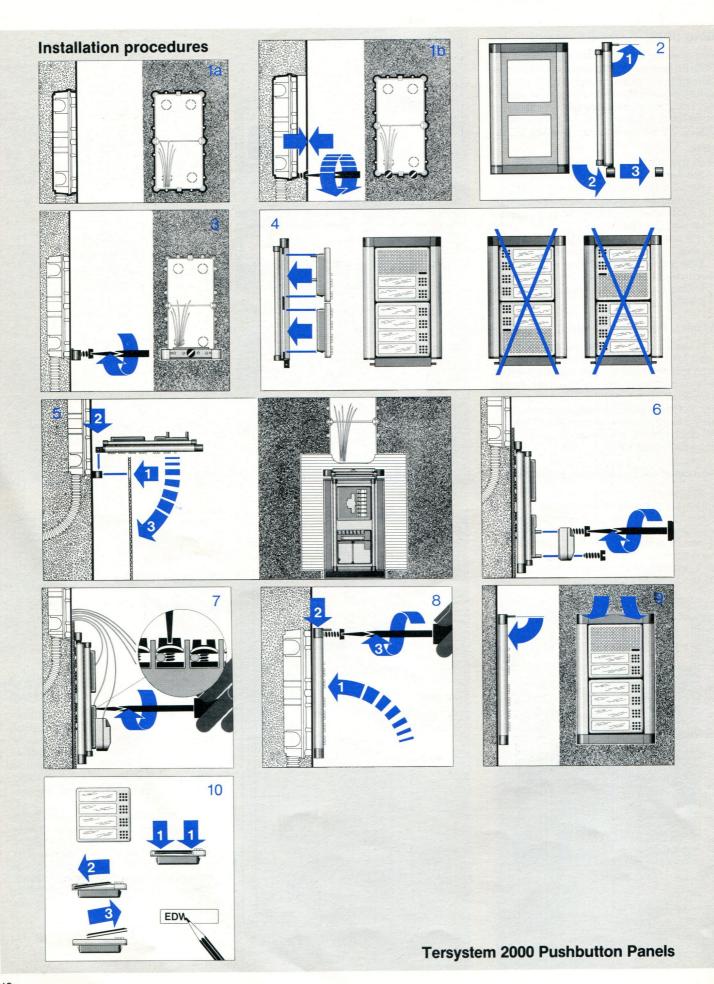
If several monitors are turned on simultaneously it is necessary, for each additional monitor, to install an auxiliary power supply unit Art. PS040. All connections are shown in wiring diagram Sc PS040.100. Each screen in parallel must be connected to a single video signal distributor Art. DE10.



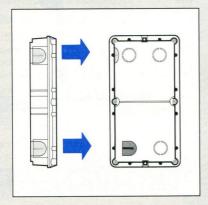


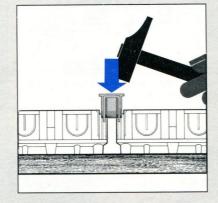


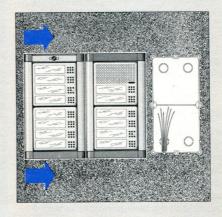
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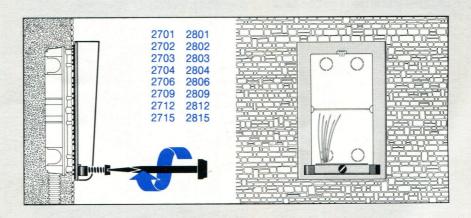
Wall Recess-mounted Housing for Tersystem 2000 Pushbutton Panels



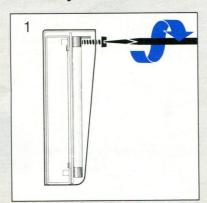


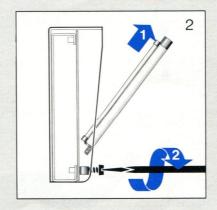


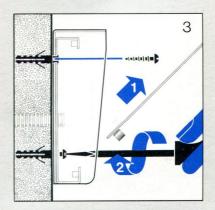
Rainshields and Frames for Tersystem 2000 Pushbutton Panels



Wall Surface-Mounted Housing for Tersystem 2000 Pushbutton Panels







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TC10 Television Cameras

Rainshield

When the Tersystem pushbutton panel is installed in a position which is not protected against rain the television camera protection shield must be mounted (see Fig. 22 on page 9 and Fig. 1 on page 19). This is not necessary for the 2300 series.

The rainshield, must be fixed as high up as possible, inside the Tersystem 2000 pushbutton panel.

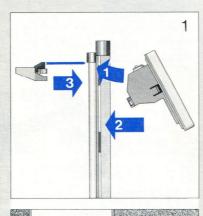
Entrance Call Unit Connections

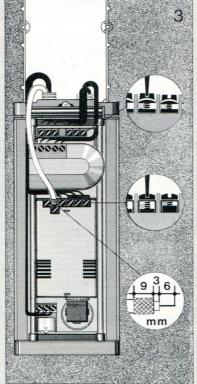
The cables connecting the entrance call units must be cut out so that the pushbutton panel can be easily closed after all connections have been completed.

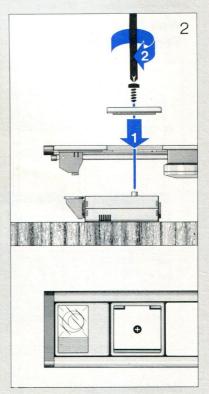
Please also note that the connecting cables of the camera module Art. 2147 must pass along the side of the television camera and not along its bottom.

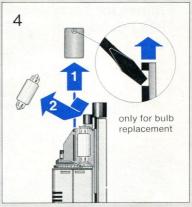
Positioning the Camera Fixing Module

Install the module Art. 2148 so that the continuous groove is on the left hand side. With this arrangement it is possible to remove the nameplate as indicated in the instructions enclosed with the article (see Fig. 2 on page 19)

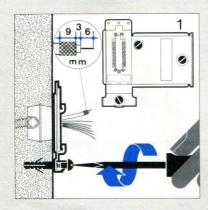


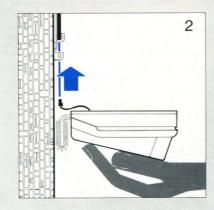


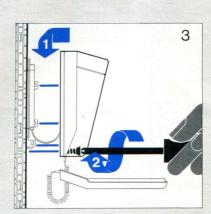




Internal Units MS10/20







Testing the installations

The operations described below must be carried out after all connections have been made in accordance with the installation procedures already described.

Preliminary Operations:

Check that the connections of the installation have been made in accordance with the corresponding wiring diagram and that, when the mains are on, at least 24 VAC \pm 10% are available at terminals 16 - 17 of the electronic power supply unit Art. PS010.

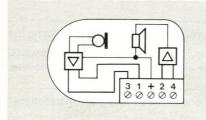
Check the video circuit:

Call each internal unit in turn from the pushbutton panel and adjust the contrast brightness to get a good-quality picture. In case of any defect consult the chapter "Trouble Shooting".

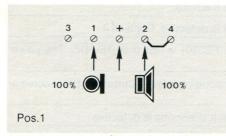
Check the audio circuit with "Porter" Art. 2659

To adjust the sensitivity of the "Porter" consult the diagram below. Adjustment may or may not be necessary. This depends on the ambient conditions at each location.

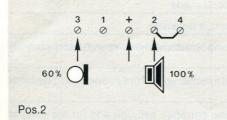
Internal Diagram



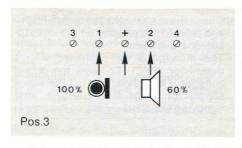
Volume Adjustment



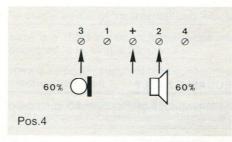
As indicated on all wiring diagrams of installations with an electric porter, the terminal + must be connected to the positive terminal 23 of the power supply unit PS010 while terminals 1 and 2 are connected to the common wires of the riser.



If a whistling sound (acoustic feedback) occurs the microphone power must be reduced to 60%. Starting from position 1 move the wire connected with terminal 1 to terminal 3.



As an alternative to position 2 the loudspeaker power can be turned down to 60%. Starting from position 1 remove the jumper between terminals 2 and 4.



If acoustic feedback persists it is necessary to reduce to 60% the power of both the microphone and the loudspeaker. Starting from position 1 move the wire from terminal 1 to 3 and remove the jumper between terminals 2 and 4.

It may occur, though not frequently, that the feedback persists even after making the connections as indicated at position 4 (minimum gain for both microphone and loudspeaker). Should the disturbing signals continue, return to position 3 and insert a resistance of 200–500 ohms in series with the wire connected to terminal 1.

Check the Audio Circuit of Modules with "Porter" Art. 2160/2161

The "Porter" modules Art. 2160 and Art. 2161 have two potentiometers for the adjustment of the power of both the microphone \square and the loudspeaker \square .

— If a feedback is experienced reduce first the power of the microphone by using a screwdriver to turn the corresponding potentiometer until a satisfactory level is reached.

If feedback persists turn the loudspeaker potentiometer until the noise is eliminated.

— If the volume is too low increase first the volume of the loudspeaker and, if necessary, the volume of the microphone. Bear in mind that it is better to have a clear transmission with no interferance rather than one which is at the feedback limit.

Notes

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Trouble shooting

In case of any malfunction in the operation of the Videoporter 2000 installation always carry out the following preliminary checks first:

- Check that the power supply unit is connected to the mains and that tha mains voltage is not ± 10% of the nominal value.
- Check the fuses.

- Check the output voltages on Art. PS010 and refer to the chapter on the description of the articles.
- The monitor is self-protected with a thermistor (PTC). To reset the output voltages it is sufficient to cut the mains supply for about 1 minute and, after removing the short circuit, to reconnect

the power supply unit again.

 Check that the cross sections of the wires used are in accordance with the table on page 13.

— Check that the distribution of the video signal by means of the 75-ohm coaxial cable is in accordance with the general installation instructions.

TROUBLE SHOOTING TABLES

Audio Section

nadio occion	
DEFECT	PROBABLE FAULT
Reception is faulty at an entrance call unit from one internal unit	The microphone of the corresponding telephone is defective. Replace it
Reception is faulty at an entrance call unit from all internal units	The "Porter" loudspeaker is adjusted to too low a level of gain. Consult the "Testing the Installations" section on page 23
	The amplifier of the "Porter" loudspeaker does not work properly because it is defective Replace the "Porter"
Reception is faulty at one internal unit	The receiver cartridge is defective. Replace it
Reception is faulty from an entrance call unit at all internal units	The "Porter" microphone is adjusted to too low a level of gain. Consult the "Testing the Installations" section on page 23
	The amplifier of the "Porter" microphone does not work properly because it is defective Replace the "Porter"
Reception is faulty between the entrance call unit and the internal unit on both sides	The "Porter" is adjusted to too low a level of gain. Consult the "Testing the Installations' section on page 23
	The conductors connected to terminals 1 and 2 of the "Porter" are inverted
	Some handsets have not been properly placed on the hook
	The "Porter" does not amplify properly because it is defective. Replace it
	The audio power supply (terminals 11-23 of Art. PS010) is less than 15V DC. The powe supply unit is defective. Replace it
No reception in one internal unit	The wires connected to terminals 1-21 of the corresponding internal unit are not connected or are cut
	The cradle switch of the corresponding internal unit telephone is defective
No reception anywhere in the installation	The wires connected to terminals 16/17 of the power supply unit Art. PS010 are not connected or are cut
	Check the connection of terminals 11 and 23 of the electronic power supply unit Art. PS010
	There is a short circuit. Check the connections, remove the short circuit and replace fuses F1 3A and F2 1.6 A if they are blown
Background noise can be heard in one	Microphone and receiver connection are not properly made
internal unit	The cradle switch of the corresponding internal unit is defective
A 50 Hz background noise can be heard in the entire installation	The connecting wires have been channelled for a long stretch with other conductors carrying high-load alternating currents
	The common of the audio circuit (terminal 15 of the internal unit) is not connected to termina 11 of Art. PS010
	The power supply conductors for the lamps at the entrance call unit and for the camera synchronisation (terminals 7-18-19 and 21 of Art. PS010) have been channelled in the same sheath for a long stretch with other conductors

nent. The power supply unit is defective. Replace it

The audio power supply (terminals 11/23 of Art. PS010) have too high an alternating compo-

The call from an entrance call unit does not get to the internal unit	The handset is not properly replaced on the hook
	Check the connection of terminal 17 of the corresponding internal unit. For installations with only power supply unit Art. PS010 check that terminals 4 and 5 are connected
	For installations with power supply unit Art. PS020 also check the connection to terminal 7 and the jumper between terminals 5 and 6
	The cable connecting the entrance call unit to the internal unit is cut
	The pushbutton of the entrance call unit corresponding to the internal unit is defective. Replace the pushbutton for pushbutton panels series 500-900 - Composit or the pushbutton module for pushbutton panels of the Tersystem series
	The earphone of the corresponding internal unit is not connected or is defective
	The call signal generator of the corresponding internal unit is defective. Replace the unit
	The cradle switch of the internal unit telephone is defective
The call from the entrance call unit does not arrive at any internal unit	There is a short circuit in installations which have the Art. PS020 too: check the cables connected to terminals 26 - 21
	There is no power supplied between terminals 12 - 15 of Art. PS010. The power supply unit is defective, replace it
Radio reception at entrance call and/or internal units	This occurs if a high-power AM transmitter is present near the installation. Connect a 0.1 \div 0.5 μ F capacitor between the 2/+ terminals of the "Porter"
	If the disturbance persists consult our Technical Assistance
A whistle is heard at the entrance call unit	The "Porter" is not properly positioned in the pushbutton housing
(Larsen effect)	The "Porter" is adjusted to too high a level of gain. Consult the "Checking the Installations" section on page 23
	The audio power supply (terminals 11-23 of Art. PS010) is higher than 15V DC. Replace Art. PS010
The electromagnetic lock does not work	The connection of cable 13 of Art. PS010 is open circuit
	The connection to terminal 13 of the corresponding internal unit is open circuit
	The flexible cable connecting the electromagnetic lock to the junction box is cut
	There is a short circuit: Check all connections, remove the short circuit and replace fuse F13A if it is blown
	The cross-section of the wires connected to terminals 20 - 18 of the power supply unit Art. PS010 is not sufficient
	The 1 internal unit pushbutton does not operate

FOR ALL TYPES OF INSTALLATIONS

DEFECT	PROBABLE FAULT
One monitor is on with no picture	The coaxial cable is open circuit or shortcircuit
	The corresponding video distributor Art. DE10 is defective. Replace it
	The monitor is defective. Replace the video part of the internal unit
All monitors are on but there is no picture	The lens shutter of the television camera is not open
	The coaxial cable from the television camera is open circuit or shortcircuit
	The cables supplying power to the television camera are not connected or they are open circuit
	The mechanical shutter of the television camera does not open. Check this condition by rotating the shutter adjustment screw pos. (2) Fig. 18 on page 8. If the picture appears on the screen the shutter is defective; replace the television camera
	The television camera is defective

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All monitors are on but the picture is out of	Check that the coaxial cable is of the 75-ohm type		
focus	Check that the last video distributor is closed on a 75-ohm resistance		
	Check the focusing of the television camera: — for cameras with 90° lens adjust the screw [see pos. (1) of Fig. 18 on page 8] — for cameras with a normal lens turn the focus adjustment		
One monitor does not come on	The PTC protection circuit has operated because there is a short circuit or the screen is defective. Replace the internal unit after checking that all connections have been made in accordance with the wiring diagram		
No monitor are on	One or more cables in the riser are open circuit		
	The electronic power supply unit PS010 is defective. Replace it		
The monitor displays noise and a black band on the side	Check that the 0 volts DC connections (terminal 10 of Art. PS010; terminal 3 of Art. TC10; terminal 20 of Art. MT10/20 and Art. MS10/20) have been made correctly		

FOR INSTALLATIONS WITH TWO ENTRANCE CALL UNITS

Audio Section

DEFECT	Probable Fault
One pushbutton panel is not operational	The call wire from the pushbutton panel is open circuit or it is not properly connected
	The two-door switching unit Art. 45.32 is defective. Replace it
The sound is on the pushbutton panel which is not calling	The sound connection wires have been inverted (terminals 5-6 of Art. 45.32 and terminals 4-4 of the two Art. 40.92)
	The two-door switching unit Art. 45.32 or auxiliary relay 40.92 do not switch. Replace the defective article
The pushbutton panel which is not calling is not cut out	There is no connection to terminal 28 of the two-door switching unit Art. 45.32
	The two-door switching unit Art. 45.32 is defective. Replace it

FOR INSTALLATIONS WITH TWO ENTRANCE CALL UNITS

Video Section

DEFECT	PROBABLE FAULT
There is no call from the entrance call units and one monitor does not come on	The wire from the calling pushbutton to the corresponding monitor is open circuit or it is not properly connected
The call from the entrance call unit does not arrive and the monitors are not operational	The calling wire from the two-door switching unit 45.32 (terminals 13-14) to the pushbutton common of the corresponding entrance call is open circuit or is not properly connected.
	The two-door switching unit Art. 45.32 is defective. Replace it
The call from the entrance call unit arrives at the internal unit but the monitor is not on	The connector between the internal unit and the fixing plate is not properly inserted
The monitors are on but there is no video signal from either of the two entrance call units	The connection of the coaxial cable, terminals 20-21 of Art. 45.32 is not correct
The monitors are on but there is no video	The connection of the coaxial cable, terminals 22-23 or 18-19 of Art. 45.32 is not correct
signal from an entrance call unit	The two-door switching unit Art. 45.32 does not operate because it is defective. Replace it
	The television camera of the corresponding entrance call unit is defective

FOR INSTALL	ATIONS WITH PORTER	SWITCHBOARD
FUR INSTALL	ALIUNS WITH PURIER	SWILLINGER

DEFECT	PROBABLE FAULT	
The pushbutton panels do not send the call	Check that the connections to terminals 31A-6A of the switchboard have been made correctly	
The system is on but the monitors are off	There is no timed + VDC to terminal 11 of art. PS020	
The system is on but the monitors are off in the NIGHTTIME position	There is no timed + VDC to terminal 13 of Art. PS020	
The internal units communicate only with the switchboard or with the entrance call units, independently of the DAY or NIGHT position at the switchboard	The manual DAY-NIGHT switch of the switchboard does not work. Replace the switchboard	
The switchboard does not receive the audio signal from the internal units in the DAY position	The wire from terminal 2 of the switchboard is not connected or is open circuit or the earphone of the switchboard is defective	
The internal units do not hear the swit- chboard	The wire from terminal 1 of the switchboard is not connected or is open circuit	
	The microphone of the switchboard is defective	
The switchboard does not call and is not called from an internal unit	The call wire from the internal units (terminal 16) to the switchboard is not properly connected	
The switchboard does not open the electromagnetic lock	- The switchboard pushbutton is defective	
In the DAY position the internal units are not enabled even though they receive the call	There is no connection to terminal 14 of Art. PS020	
On Art. 45.51 the booking led of an internal unit is always on	The supplementary bell of the corresponding internal unit has the input of the entrance call unit signal at terminal 17 instead of at terminal 7	

FOR INSTALLATIONS WITH INTERCOMMUNICATING UNITS

Audio Section

DEFECT	PROBABLE FAULT	
The call sent from an internal unit does not arrive at the unit corresponding to the operated pushbutton	The wires connecting the pushbuttons which select the audio line are not connected in the proper sequence	
During intercommunications the entrance call unit is not inhibited	The call is made with the handset on the hook and the auxiliary electronic unit PS020 does not switch	
	The auxiliary electronic unit Art. PS020 does not switch because it is defective. Replace it	
The internal unit does not control the stairway light relay	An intercommunicating call has been made and the receiver has not been replaced on the hook.	

Description of installations

Single-Family Installation

Performance

With this installation it is possible to establish both an audio and a video link between the internal unit and the entrance call unit. When a visitor presses a pushbutton on the pushbutton panel at the entrance to the building an electronic call signal is sent to the internal unit and, after about 6 seconds, the monitor will show the picture of the person who is calling.

If the person called so wishes, the handset can be lifted off the hook and a conversation may be started which will last for about 60-70 seconds.

The internal unit is also equipped with a preview pushbutton (symbol ●) which will activate the camera and the monitor without a call being made.

Installation

- a) Select the articles required by consulting Table 1.
- b) Lay the wires in accordance with the single-wire diagram Sc MS10.200 which shows the number of conductors required for connecting the different items.
- c) Install and connect the units as shown in the diagram Sc MS10.201 in accordance with the installation requirements on page 14. Remember that for the signal from the entrance call unit to be enabled, it is necessary to connect a jumper between terminals 4 and 5 of all internal units.
- d) Test the installation as described on page

The diagram shows as a dotted line the optional connection of the pushbutton I for the operation of the electromagnetic entrance lock.

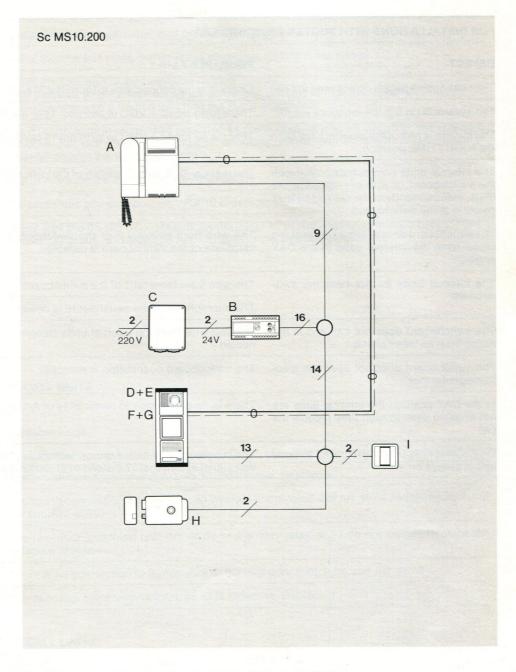
For the following optional services refer as follows:

- 1 for insertion of stairway lights from the internal unit: see diagrams Sc 40.91.100 and Sc 40.91.101 on page 16.
- 2 for a call from an entrance call unit with a DING-DONG sound: see diagram Sc PS020.100. on page 17.
- 3 for differentiated call from the floor and from the entrance call unit: see diagram Sc PS020.100 on page 17.
- 4 for supplementary bells: see diagram Sc PS020.100 on page 17.

To obtain the operation as indicated at point 2, 3 and 4 it is also necessary to use the power supply unit Art. PS020.

In installations where the distance between the power supply unit and the entrance call unit is greater than 20 metres it is necessary that the connecting cables to the entrance call unit illumination lights and to the television camera synchronising (terminals 7-18-19 and 21 of Art. PS010) be placed in separate sheaths.

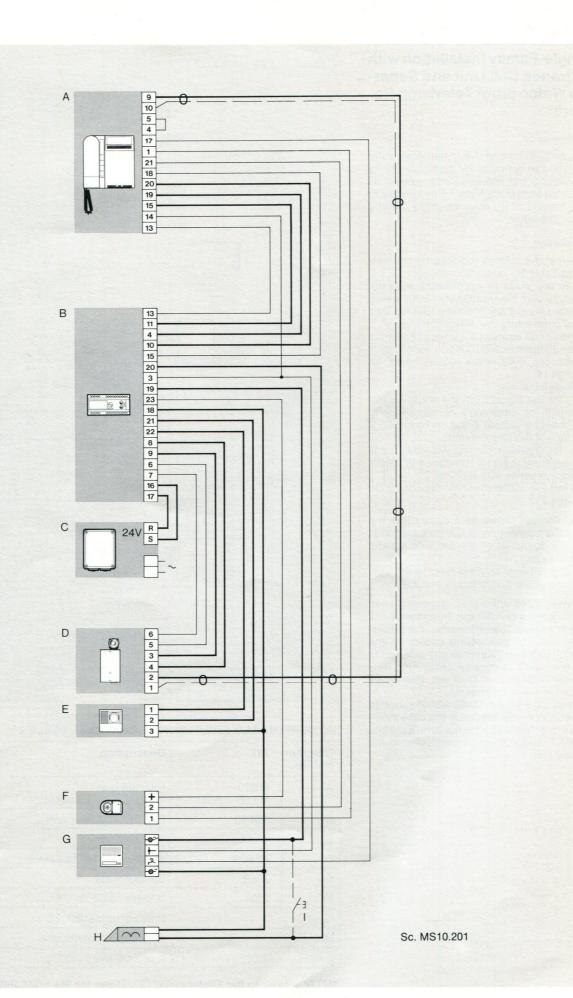
As internal unit, Art. MI100 with 7" tube can be used, considering that in this case terminals 4-5-6-16-18-20 have not to be used and that Art. MI100 must be connected to the supply mains.



UNITS REQUIRED FOR THE INSTALLATION - TABLE 1

Diagram Ref.No.	Art.	Description	Quantity
Α	MS10 MT10 + AS2	Internal unit Internal unit + socket	1
В	PS010	Electronic power unit	1
С	45.14	Transformer	1
D	TC10 2148	Television camera Fixing module	1
E	2147	Camera module	1
F	2659	Speaker unit	1,
G	2131	"Porter" module	* - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1
Н		Electromagnetic lock	1
1	4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Open door pushbutton	1

NOTE: - Refer to the Commercial Catalogue for the front plate with back box.



Single-Family Installation with Entrance Call Unit and Separate Water-proof Television Camera

Performance

The performance of this installation is the same as that indicated for the single-family installation but the television camera is mounted separately from the entrance call unit instead of it being mounted directly inside the latter.

Installation

- a) Select the articles required by consulting Table 2.
- b) Lay the wires in accordance with the single-wire diagram Sc MS10.202 which shows the number of conductors required for connecting the different items.
- c) Install and connect the units as shown in the diagram Sc MS10.203 in accordance with the installation requirements on page 14.

Remember that:

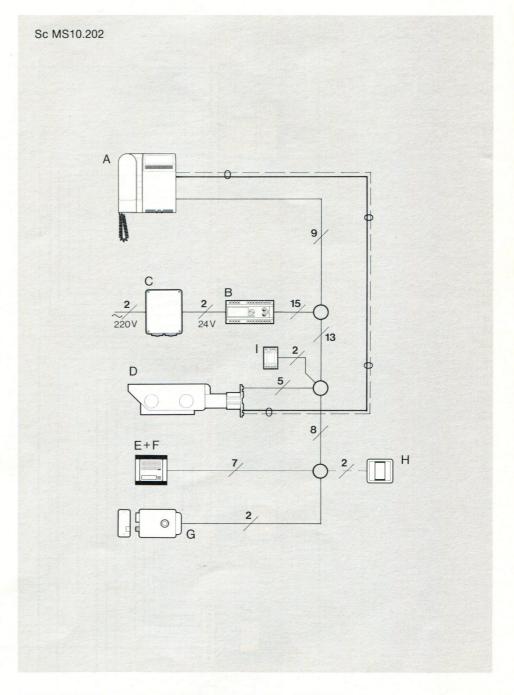
- for the signal from the entrance call unit to be enabled, it is necessary to connect a jumper between terminals 4 and 5 of the internal unit.
- for television camera Art. 45.83S it is necessary to add a 100-ohm 1 W resistance in series with terminal 2
- d) Test the installation as described on page 21.

The diagram shows as a dotted line the optional connection of the pushbutton H for the operation of the electromagnetic entrance lock.

For the optional services refer to the description of the single-family installation.

In installations where the distance between the power supply unit and the entrance call unit is greater than 20 metres it is necessary that the connecting cables to the entrance call unit illumination lights and to the television camera synchronising (terminals 7-18-19 and 21 of Art. PS010) be placed in separate sheaths.

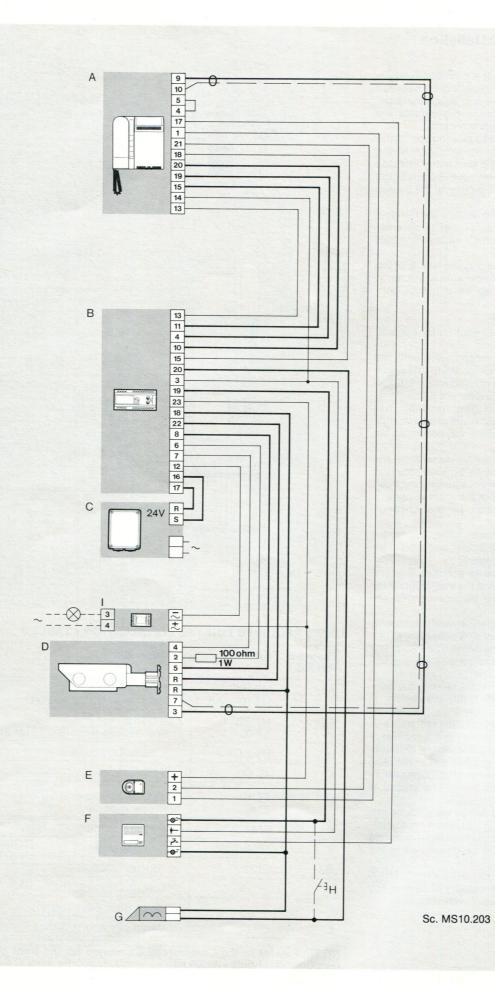
As internal unit, Art. MI100 with 7" tube can be used, considering that in this case terminals 4-5-6-16-18-20 have not to be used and that Art. MI100 must be connected to the supply mains.



UNITS REQUIRED FOR THE INSTALLATION - TABLE 2

Diagram Ref.No.	Art.	Description	Quantity
Α	MS10 MT10 + AS2	Internal unit Internal unit + socket	1
В	PS010	Electronic power unit	1
С	45.14	Transformer	1
D	45.83S	Water-proof Tel. camera	1
E	2659	Speaker unit	1
F	2131	"Porter" module	1
G		Electromagnetic lock	1
Н		Open door pushbutton	1
1	40.92	Auxiliary relay	1

NOTE: - Refer to the Commercial Catalogue for the front plate with back box.



Multi-Family Installation

Performance

With this installation it is possible to establish a video and audio connection between the entrance call unit and several internal units. Both video and audio circuits are guaranteed for complete security.

When a visitor presses a pushbutton on the pushbutton panel at the entrance to the building a call signal is sent to the selected internal unit and, after about 6 seconds, the monitor will show the picture of the person who is calling.

If the person called so wishes, the handset can be lifted off the hook and a conversation may be started which will last for about 60-70 seconds.

In this installation the preview facility of the monitor from the internal unit is not made so the pushbutton

must not be connected.

Installation

- a) Select the articles required by consulting Table 3.
- b) Lay the wires in accordance with the single-wire diagram Sc MS10.204 which shows the number of conductors required for connecting the different items.
- c) Install and connect the units as shown in the diagram Sc MS10.205 in accordance with the installation requirements on page 14.
 - Remember that for the signal from the entrance call unit to be enabled, it is necessary to connect a jumper between terminals 4 and 5 of the internal units.
- d) Test the installation as described on page 21.
- e) For connecting several pushbutton modules Art.s 2141/2/3/4 refer to the diagram Sc 2144.100 on page 16.

The diagram shows as a dotted line the optional connection of the pushbutton I for the operation of the electromagnetic entrance lock.

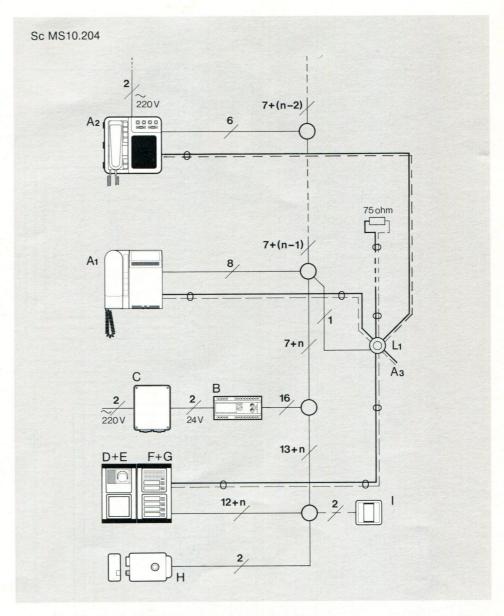
For stand-by operation of installations with more than 10 monitors it is necessary to use Art. PS030, see wiring diagram Sc PS030.100 as well as the general installation instructions on page 17.

For the optional services refer to the description of the single-family installation.

In installations where the distance between the power supply unit and the entrance call unit is greater than 20 metres it is necessary that the connecting cables to the entrance call unit illuminating lights and to the television camera synchronising (terminals 7-18-19 and 21 of Art. PS010) be placed in separate sheaths.

As internal unit, Art. MI100 with 7" tube can be used, considering that in this case terminals 4-5-6-16-18-20 have not to be used and that Art. MI100 must be connected to the supply mains.

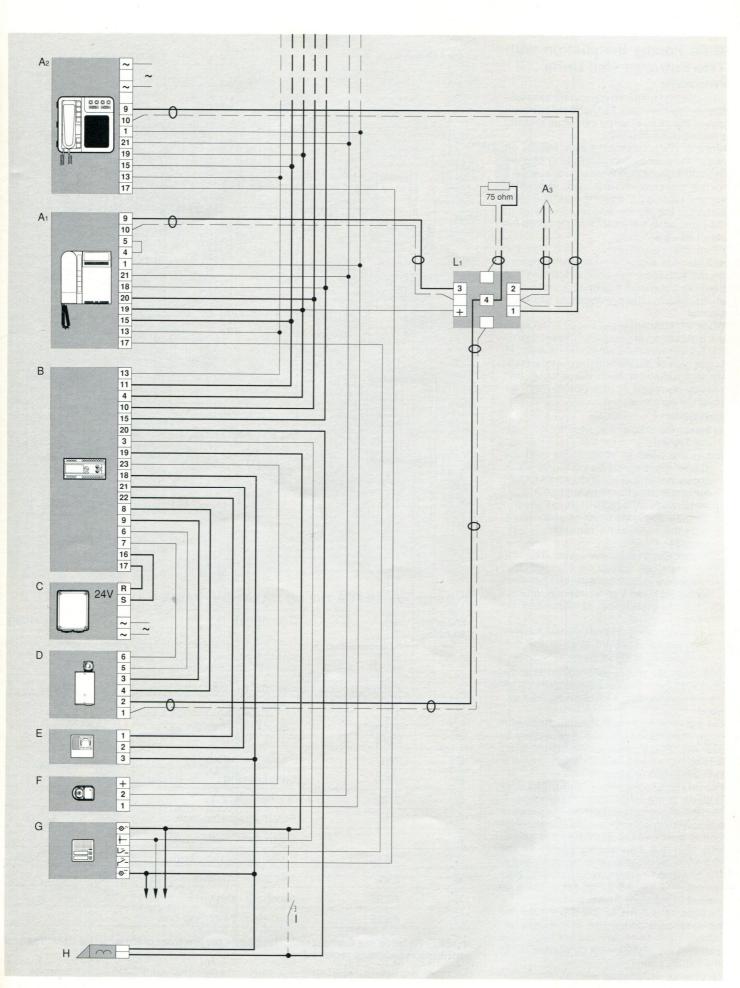
In case of installation with all Art. MI100 monitors, it is not necessary to foresee any additional Art. PS030 power supplies.



UNITS REQUIRED FOR THE INSTALLATION - TABLE 3

Diagram Ref.No.	Art.	Description	Quantity
A1	MS10 MT10 + AS1	Internal unit 5" Internal unit 5" + socket	1÷n
A2	MI100 SI100	Internal unit 7" Wall recess-mounted 7" for art. MI100	1÷n 1÷n
В	PS010	Electronic power unit	1
С	45.14	Transformer	1
D	TC10 2148	Television camera Fixing module	1
E	2147	Camera module	1
F	2659	Speaker unit	1
G	2132	"Porter" module	1
Н		Electromagnetic lock	1
I		Open door pushbutton	1
L	DE10	Video signal distributor	1/3A

NOTE: - Refer to the Commercial Catalogue for the front plate with back box and pushbutton modules required



Multi-Family Installation with Two Entrance Call Units

Performance

With this installation it is possible to establish an audio-video connection between one of the two entrance call units and the selected internal unit.

When a visitor presses a pushbutton on one of the pushbutton panels at one of the two entrance call units a call signal is sent to the selected internal unit and, after about 6 seconds, the monitor will show the picture of the person who is calling and, at the same time, the installation is timed for about 60-70 seconds.

When the person being called lifts the receiver, the signal «Please wait» appears on the entrance call unit which has not been used and from this unit it is not possible to call until the previous call has been cleared.

When the handset is put back on the hook the installation is completely reset even if the full conversation length is not over. In this type of installation the preview facility of the monitor from the internal unit cannot be made so the pushbutton must not be connected.

Installation

- a) Select the articles required by consulting Table 4.
- b) Lay the wires in accordance with the single-wire diagram Sc MS10.206 which shows the number of conductors required for connecting the different items.
- c) Install and connect the units as shown in the diagram Sc MS10.207 in accordance with the installation requirements on page 14.
 - Remember that for the signal from the entrance call unit to be enabled, it is necessary to connect a jumper between terminals 4 and 5 of all internal units.
- d) Test the installation as described on page 21.
- e) For connecting several pushbutton models Art.s 2141/2/3/4 refer to the diagram Sc 2144.100 on page 16.

The diagram shows as a dotted line the optional connection of the pushbutton I for the operation of the electromagnetic entrance lock.

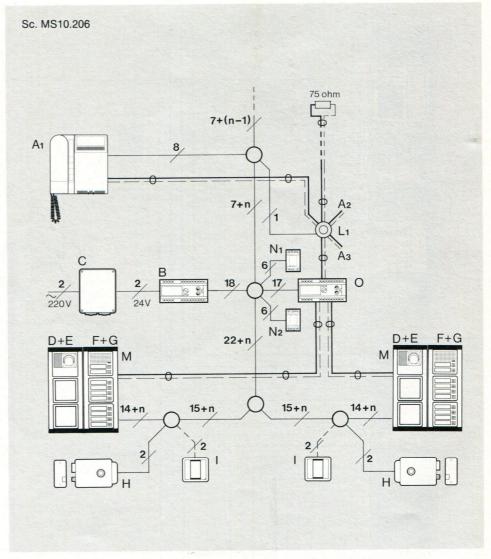
For stand-by operation of installations with more than 10 monitors it is necessary to use Art. PS030; see wiring diagram Sc PS030.100 as well as the general installation instructions on page 17.

For all optional services refer to the description of the single-family installation.

In installations where the distance between the power supply unit and the entrance call unit is greater than 20 metres it is necessary that the connecting cables to the entrance call unit illuminating lights and to the television camera synchronising (terminals 7-18-19 and 21 of Art. PS010) be placed in separate sheaths.

As internal unit, Art. MI100 with 7" tube can be used, considering that in this case terminals 4-5-6-16-18-20 have not to be used and that Art. MI100 must be connected to the supply mains.

In case of installation with all Art. MI100



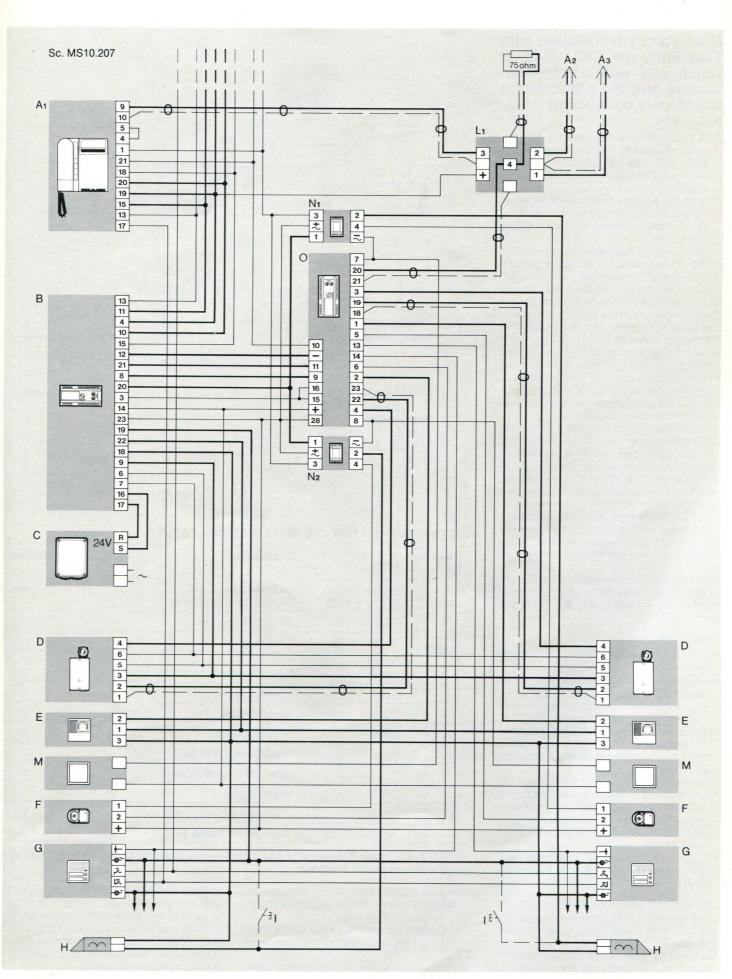
UNITS REQUIRED FOR THE INSTALLATION - TABLE 4

Diagram Ref.No.	Art.	Description	Quantity
Α	MS10 MT10 + AS2	Internal unit Internal unit + socket	1÷n
В	PS010	Electronic Power Unit	1
С	45.14	Transformer	1
D	TC10 2148	Television camera Fixing module	2 2
Е	2147	Camera module	2
F	2659	Speaker Unit	2
G	2132	"Porter" module	2
Н	<u> </u>	Electromagnetic lock	2
The state of	Andrew Comments	Open door pushbutton	2
L	DE10	Video signal distributor	1/3A
М	2149	«Please wait» illum. signal	2
N	40.92	Auxiliary relay	2
0	45.32	Two-door switching unit	1

NOTE: - Refer to the Commercial Catalogue for the front plate with the back box and pushbutton modules required

monitors, it is not necessary to foresee any

additional Art. PS030 power supplies.



Multi-Family Installation with Two Entrance Call Units of which one with a television camera and the other with a sound-only connection

Performance

With this installation it is possible to:

- establish an audio-video connection between the entrance call unit equipped with a television camera and the selected internal unit
- establish an audio connection between the entrance call unit equipped with the pushbutton panel only and the selected internal unit.

When a visitor presses a pushbutton on the pushbutton panel at the entrance call unit equipped with the television camera a call signal is sent to the selected internal unit and, after about 6 seconds, the monitor will show the picture of the person who is calling while, at the same time, the installation is timed for about 60 to 70 seconds.

When the person being called lifts the receiver, the signal «Please wait» appears at the entrance call unit which does not have the television camera and from this unit it is not possible to call until the previous call has been cleared.

When the handset is put back on the hook the installation is completely reset even if the full conversation length is not over.

Similarly, when the call is made from the entrance call unit which is not equipped with the television camera, the installation is timed for about 60-70 seconds and a conversation is possible. When someone lifts the handset off the hook, at the entrance call unit with the television camera the sign "Please wait" appears and it is not possible to call from this unit.

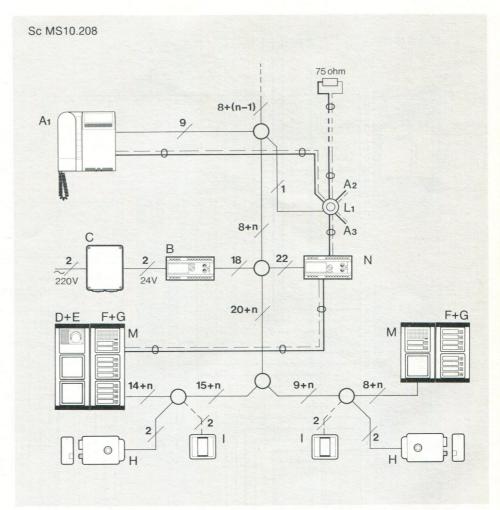
In this type of installation the preview facility of the monitor from the internal unit is not foreseen, so the pushbutton must not be connected.

Installation

- a) Select the articles required by consulting Table 5.
- b) Lay the wires in accordance with the single-wire diagram Sc MS10.208 which shows the number of conductors required for connecting the different items.
- c) Install and connect the units as shown in the diagram Sc MS10.209 in accordance with the installation requirements on page 14.
 - Remember that for the signal from the entrance call unit to be enabled, it is necessary to connect a jumper between terminals 4 and 5 of all internal units.
- d) Test the installation as described on page 21.
- e) For connecting several pushbutton modules Art.s 2141/2/3/4 refer to the diagram Sc 2144.100 on page 16.

The diagram shows as a dotted line the optional connection of the pushbutton I for the operation of the electromagnetic entrance lock.

For stand-by operation of installations with more than 10 monitors it is necessary to



UNITS REQUIRED FOR THE INSTALLATION - TABLE 5

Diagram Ref.No.	Art.	Description	Quantit
Α	MS10 MT10 + AS2	Internal unit Internal unit + socket	1÷n
В	PS010	Electronic power unit	1
С	45.14	Transformer	1
D	TC10 2148	Television camera Fixing module	1 2
E	2147	Camera module	1
F	2659	Speaker unit	2
G	2132	"Porter" module	2
Н		Electromagnetic lock	2
1		Open door pushbutton	2
L	DE10	Video signal distributor	1/3A
М	2149	«Please wait» illum. signal	2
N	45.32	Two-door speaker unit	1

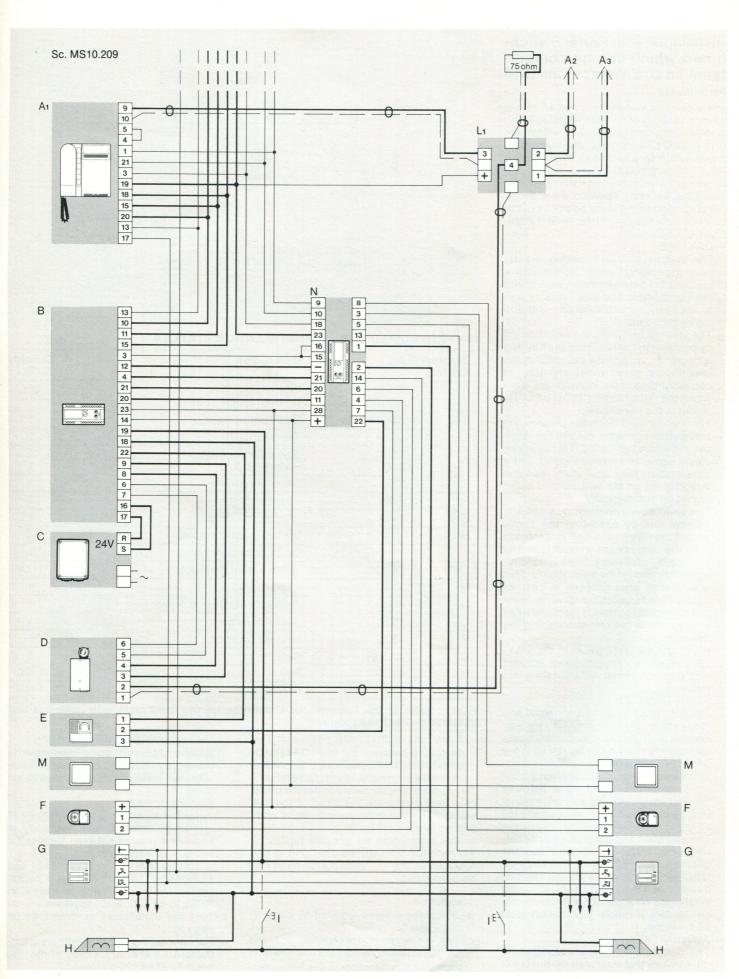
NOTE: Refer to the Commercial Catalogue for the front plate with the back box and pushbutton modules required

use Art. PS030; see wiring diagram Sc PS030.100 as well as the general installation instructions on page 17.

For all optional services refer to the description of the single-family installation.

In installations where the distance between

the power supply unit and the entrance call unit is greater than 20 metres it is necessary that the connecting cables to the entrance call unit illuminating lights and to the television camera synchronising (terminals 7-18-19 and 21 of Art. PS010) be placed in separate sheaths.



Installation with Porter Switchboard which can be commutated on an Entrance Call Unit

Performance

The electronic switchboard Art. 45.51 has a basic capacity of 15 internal units. It can also be connected to Art. 45.52 with which it is possible to increase the number of internal units by a further 15 units for each Art. 45.52 connected.

In the case of an installation with a switchboard the following operations are possible according to the three positions of the function switches: DAYTIME, NIGHTTIME, AUTOMATIC:

- DAYTIME

The external unit is excluded directly from the internal units; conversations are possible between internal units and the switchboard and vice-versa as well as between the entrance call unit and the switchboard.

The internal unit calls the switchboard by pressing the appropriate pushbutton with the symbol; the call reaches the switchboard (fixed tone) and the led corresponding to the internal unit, from which the call is coming, lights up and is stored in the switchboard.

The switchboard operator presses the pushbutton corresponding to the internal unit which has called. This causes a sound signal to reach the caller and a conversation may now start, with the indicator led on the switchboard being turned off automatically.

The switchboard operator may call any internal unit by executing the above operations. When the call is executed from the switchboard without it having been called previously, there is no luminous indication at the switchboard. This is similar to what happens in installations without a switchboard: when a new call is made the system is reset and a call in progress is cut off, establishing the new call.

When the switchboard is in the DAY-TIME position a luminous sign appears on the entrance call unit indicating this status.

- NIGHTTIME

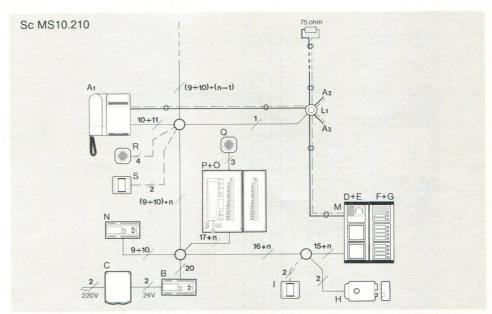
The entrance call unit is connected and the switchboard operates as if it were an internal unit and it can communicate with any internal unit by switching to the DAY TIME position.

This switching is possible when a conversation is not taking place between the entrance call unit and an internal unit, as indicated by an appropriate led on the switchboard itself.

The operation and the performance between the entrance call unit and the internal units are the same as those indicated for the installations without a switchboard. When the switchboard, however, must hold a conversation with the entrance call unit, a special pushbutton must be operated.

- AUTOMATIC

The performance of the installation is the same as that indicated for the DAY-



UNITS REQUIRED FOR THE INSTALLATION - TABLE 6

Diagram Ref.No.	Art.	Description	Quantity
Α	MS10 MT10 + AS2	Internal unit Internal unit + socket	1÷n
В	PS010	Electronic power unit	1
С	45.14	Transformer	1
D	TC10 2148	Television camera Fixing module	1
E	2147	Camera module	1
F	2659	Speaker unit	1
G	2132	"Porter" module	1
Н		Electromagnetic lock	1
1		Open door pushbutton	1
Ĺ	DE10	Video signal distributor	1/3A
M	2149	«Please wait»	1
N	PS020	Auxiliary electronic power unit	1
0	45.51	Switchboard	1
Р	45.52	Unit for 15 lines	1÷n
Q	40.50N	Bell	1
R	40.50N	Bell	1÷20
S		Pushbutton	1÷10

NOTE: Refer to the Commercial Catalogue for the front plate with back box and pushbutton modules required.

TIME and NIGHTTIME positions. The switching between the two «DAYTIME» and «NIGHTTIME» positions occurs automatically by simply lifting the receiver.

Any supplementary bells connected to the monitors must have the input of the call signal from the entrance call units connected to terminal 7.

In this installation the preview facility of the monitor from the internal unit is not foreseen so the pushbutton must not be connected.

Installation

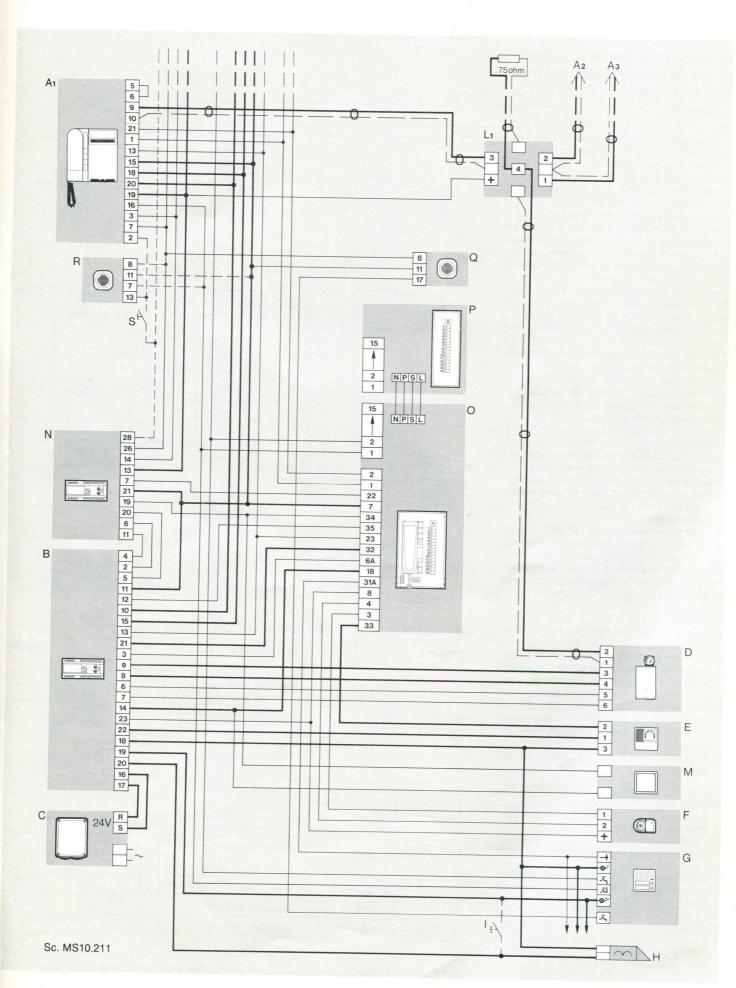
- a) Select the articles required by consulting Table 6.
- b) Lay the wires in accordance with the single-wire diagram Sc MS10.210 which shows the number of conductors required

for connecting the different items.

 c) Install and connect the units as shown in the diagram Sc MS10.211 in accordance with the installation requirements on page 14.

Remember that:

- for the signal from the entrance call unit to be enabled, it is necessary to connect a jumper between terminals 4 and 5 of all internal units.
- for the connection of Art. 45.51 and 45.52 and of two Art. 45.52 it is necessary for the terminals with the indication NPSL to be connected together.
- d) Test the installation as described on page 21.
- e) For connecting several pushbutton modules Art.s 2141/2/3/4 refer to the diagram Sc 2144.100 on page 16.



Installation with five Intercommunicating Video Internal Units and one Entrance Call Unit

Performance

With this installation it is possible to:

- establish an audio-video connection between the entrance call unit and the different internal units.
- establish an audio communication between the internal units up to a maximum of 5 lines.

When a visitor calls from the entrance call unit the DING-DONG signal is received at the internal unit A1 and its monitor screen is activated. It is possible to connect additional bells (maximum 2) so that the call is also heard in other rooms.

The call may be answered from this unit or, by pressing the pushbutton, the call may be transferred to another monitor, thus connecting it with the entrance call unit.

The video-audio communication is timed for about 60-70 seconds.

The internal units are equipped with a pushbutton with a symbol

so that the monitor can be turned on without a call having been received.

The audio intercommunicating calls are signalled by a two-tone sound generated inside the monitor. The conversation between internal units has no time limits.

There is no security during intercommunication but when the system is used in this way the entrance call unit is excluded from the conversation.

If a call from the entrance call unit arrives during an intercommunicating conversation between internal units it will be necessary for the receivers to be put back on the hook so that the system is reset and the external call can be made properly.

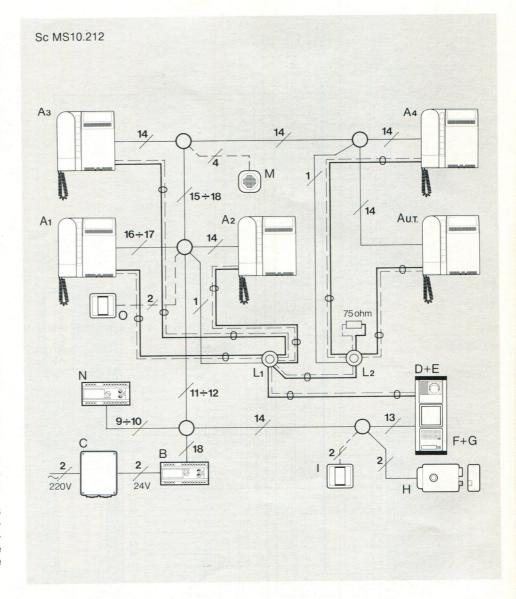
Installation

- a) Select the articles required by consulting Table 7.
- b) Lay the wires in accordance with the single-wire diagram Sc MS10.212 which shows the number of conductors required for connecting the different items.
- c) Install and connect the units as shown in the diagram Sc MS10.213 in accordance with the installation requirements on page 14.
- d) Test the installation as described on page 21.

The diagram shows as dotted lines the following optional connections:

- pushbutton I for operating the electromagnetic entrance lock
- call from the floor
- insertion of possible supplementary bell.

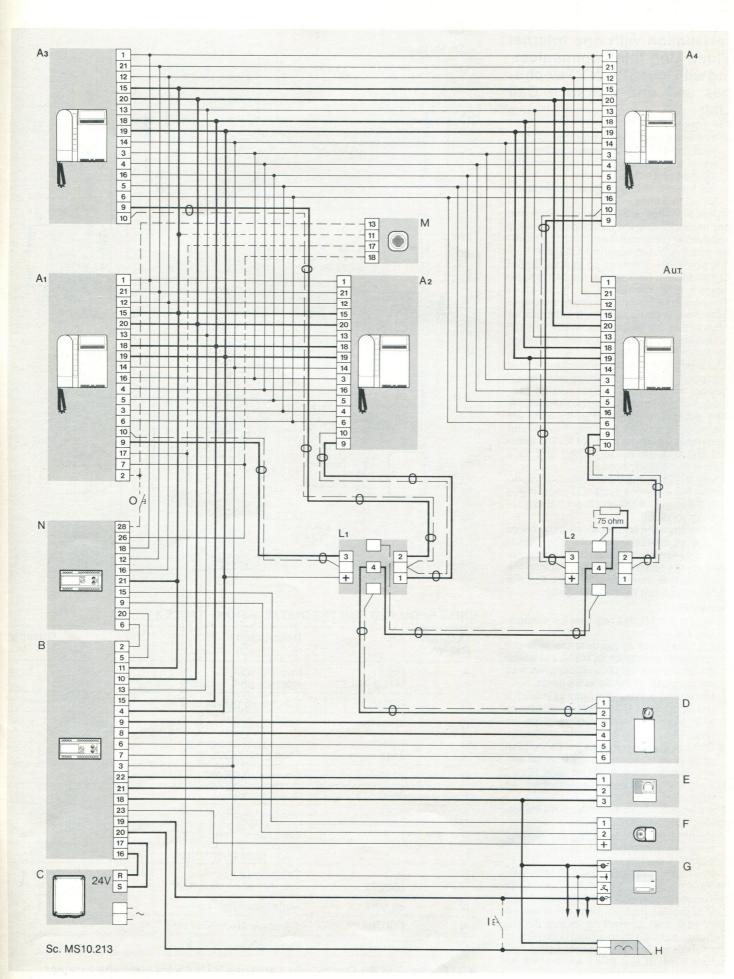
In installations where the distance between the power supply unit and the entrance call unit is greater than 20 metres it is necessary that the connecting cables to the entrance call unit illuminating lights and to the television camera synchronising (terminals 7-18-19 and 21 of Art. PS010) be placed in separate sheaths.



UNITS REQUIRED FOR THE INSTALLATION - TABLE 7

Diagram Ref.No.	Art.	Description	Quantity
Α	MS20 MT20 + AS2	Internal unit Internal unit + socket	2÷5
В	PS010	Electronic power unit	1
С	45.14	Transformer	1
D	TC10 2148	Television camera Fixing module	1
E	2147	Camera module	1
F	2659	Speaker unit	1
G	2131	"Porter" module	1
Н		Electromagnetic lock	1
1		Open door pushbutton	1
L	DE10	Video signal distributor	1/3A
М	40.50N	Supplementary bell	1÷2
N	PS020	Auxiliary electronic unit	1
0		Pushbutton	1

NOTE: Refer to the Commercial Catalogue for the front plate with back box.



TERRANED

Installation with one Internal Video Unit Intercommunicating with four SPRINT Telephones and one Entrance Call Unit

Performance

With this installation it is possible to:

- establish an audio-video connection between the entrance call unit and the internal unit with a monitor.
- the internal audio intercommunication for up to 5 lines.

When a visitor makes a call from the entrance call unit the DING-DONG call is received at the internal unit with the monitor which is automatically turned on.

It is possible to connect up to a maximum of 2 additional bells so that the call may be heard in other rooms.

The person being called may answer either from the unit equipped with the monitor or from any of the telephones. When the call is sent the audio-video installation is timed for about 60-70 seconds.

The internal unit with the monitor is also equipped with a pushbutton with a symbol so that the monitor can be previewed without a call having been activated. The audio intercommunicating calls are signalled as follows: by a two-tone sound generated inside the monitor for the internal unit with the monitor itself and by a buzzer for the telephones.

There is no security during intercommunication but when the system is used in this way the entrance call unit is excluded from the conversation.

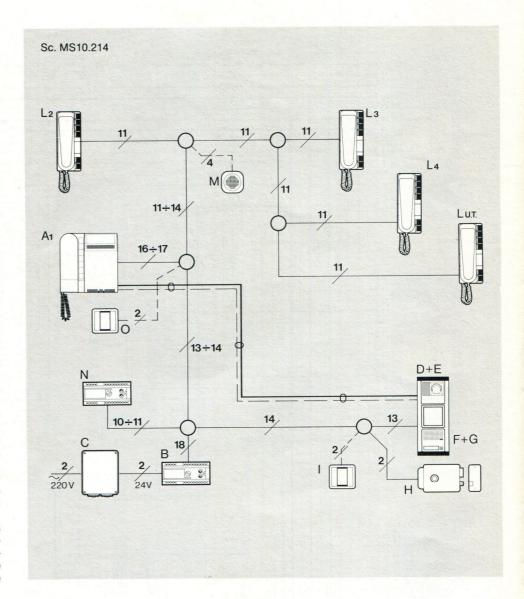
If a call from the entrance call unit arrives during an intercommunicating conversation between internal units it will be necessary for the receivers to be put back on the hook so that the system is reset and the external call can be made properly.

Installation

- a) Select the articles required by consulting Table 8.
- b) Lay the wires in accordance with the single-wire diagram Sc MS10.214 which shows the number of conductors required for connecting the different items.
- c) Install and connect the units as shown in the diagram Sc MS10.215 in accordance with the installation requirements on page 14.
- d) Change the connections inside the telephones as indicated in the internal wiring diagram Sc 600.109 on page 16.
- e) Test the installation as described on page 21.

The diagram shows as dotted lines the following optional connections:

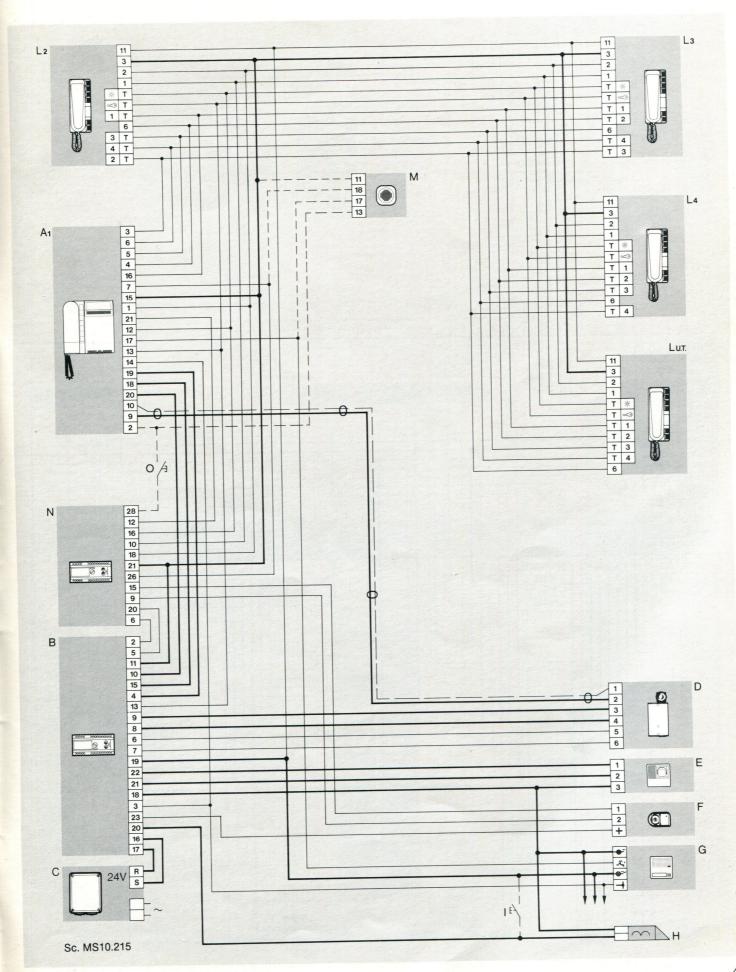
- pushbutton I for operating the electromagnetic entrance lock
- call from the floor
- insertion of possible supplementary bell. In installations where the distance between the power supply unit and the entrance call unit is greater than 20 metres it is necessary that the connecting cables to the entrance call unit illuminating lights and to the television camera synchronising (terminals 7-18-19 and 21 of Art. PS010) be placed in separate sheaths.



UNITS REQUIRED FOR THE INSTALLATION - TABLE 8

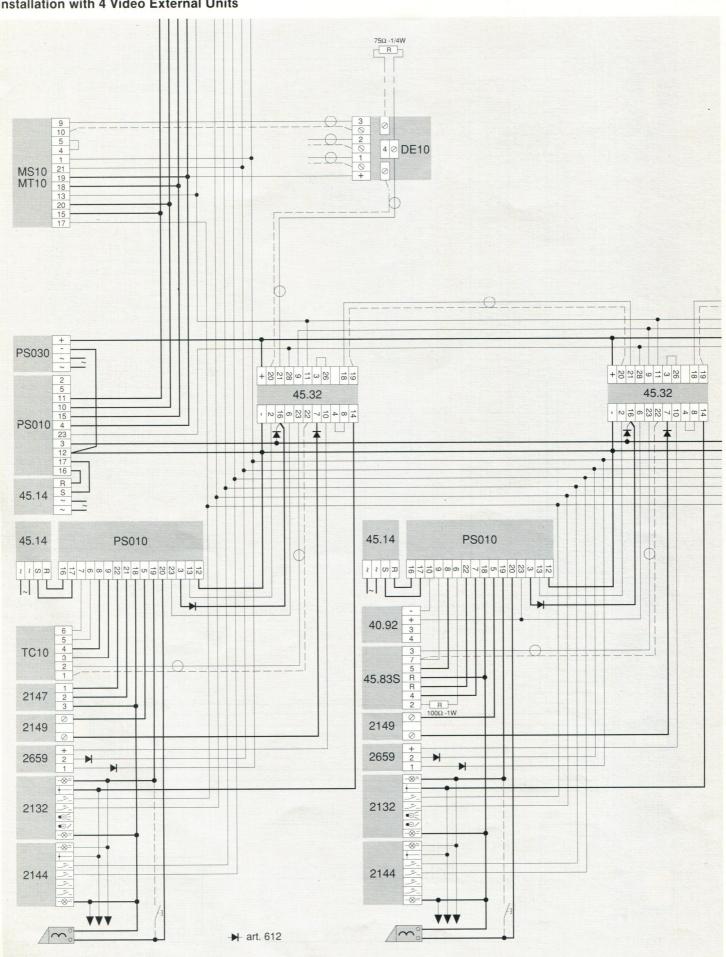
Diagram Ref.No.	Art.	Description	Quantity
Α	MS20 MT20 + AS2	Internal unit Internal unit + socket	1
В	PS010	Electronic power unit	1
С	45.14	Transformer	1
D	TC10 2148	Television camera Fixing module	1 1
E	2147	Camera module	1
F	2659	Speaker unit	1
G	2131	"Porter" module	11
Н		Electromagnetic lock	1
1		Open door pushbutton	1
L	600+ 600ETE	Telephone Additional pushbutton	1÷4 1÷16
М	40.50N	Supplementary bell	1÷2
N	PS020	Auxiliary electronic unit	1
0	The Republic Republic Republic	Pushbutton	1

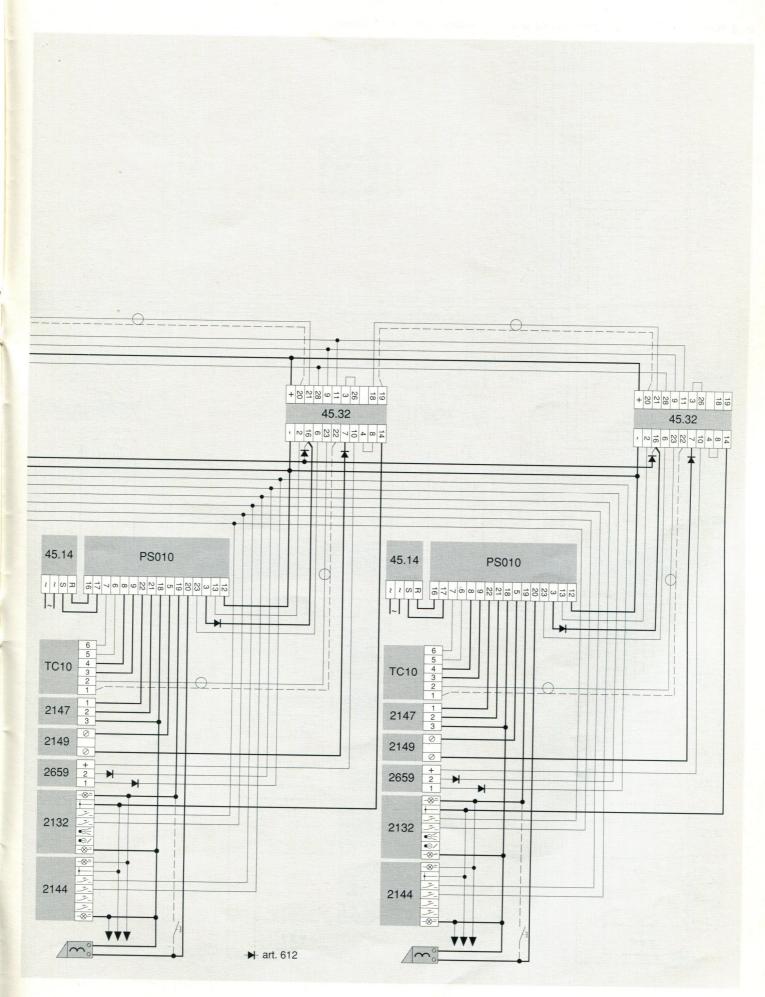
NOTE: - Refer to the Commercial Catalogue for the front plate with back box.



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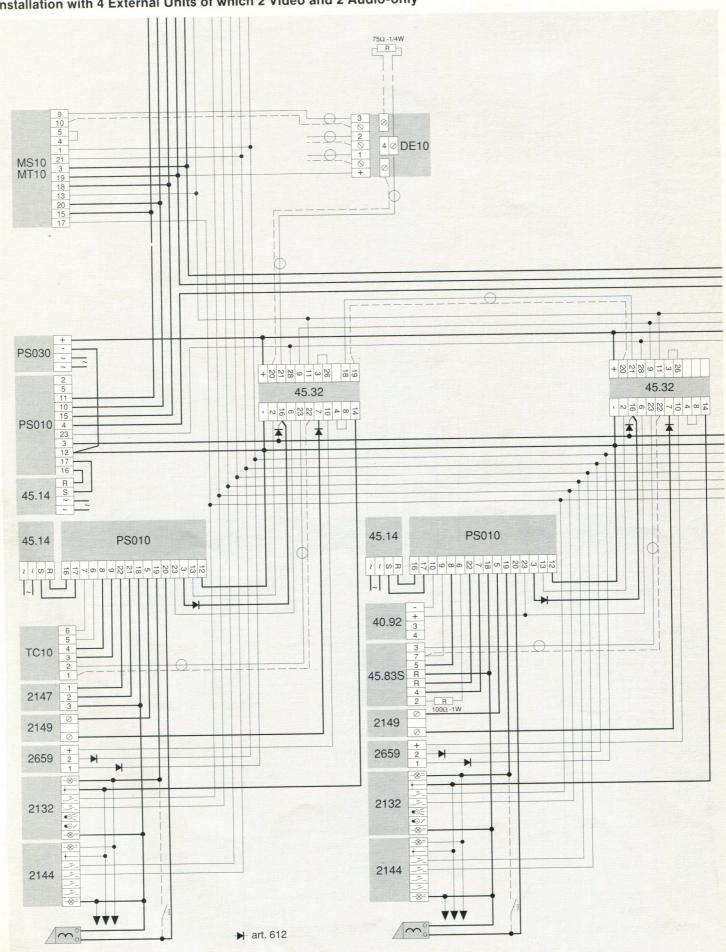
Installation with 4 Video External Units

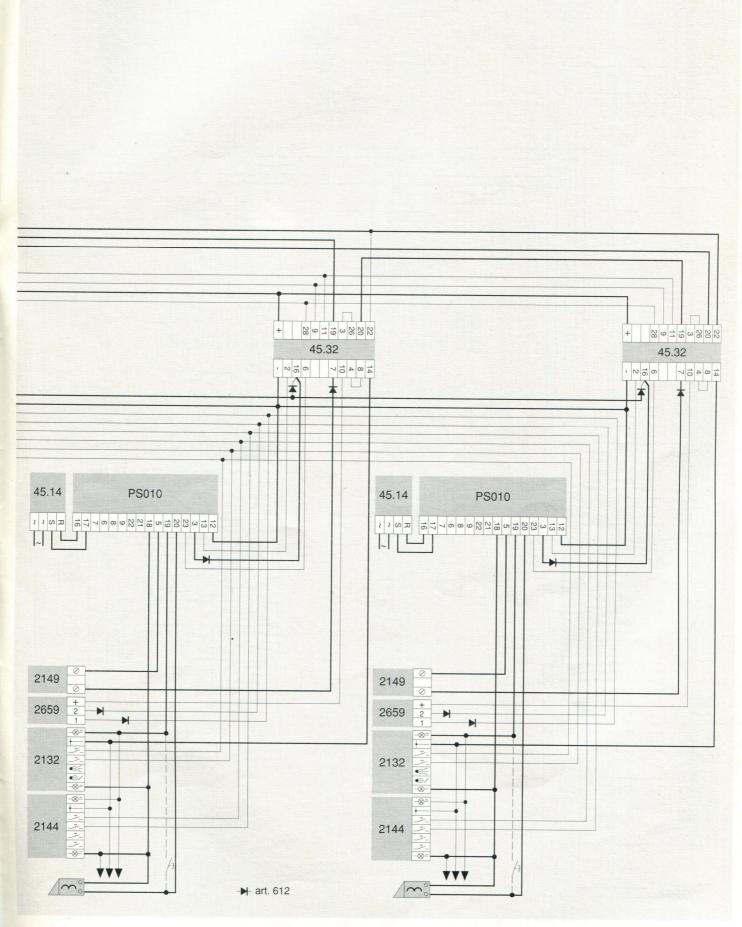




TERRANEO

Installation with 4 External Units of which 2 Video and 2 Audio-only





G TERRANED

Installation with one Video Internal Unit and one Telephone in Parallel or just Telephone

