



LASKOMEX®

INSTALLATION, SERVICE
AND PROGRAMMING MANUAL

CD-2502xx



 **LASKOMEX®**
CD-2502
microprocessor control

DIGITAL ENTRY PHONE SYSTEM

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Changes in software (electronic cassette):

Software version	Version release date	Changes
v6_8	11-2010	- Added function that turns off the camera in an external panel during the call - an additional option "b" in the calling options in individual settings. - Changed name of parameter EUC on CAon - Added parameter CAin that determines the supported video inputs of CVP-x switch - Added parameter CATP that determines time interval of switching picture - Added the ability to cooperate with the CVP-2 switch - Removed P-7 procedure (electro-catch test) - Moved MLX support to P-7 - exchange of data requires an administrator password - Added function of testing the electro-catch control frequency after changing the Fry parameter - Increased entrance preview time after the entry of coded lock code
v6_7	06-2010	- Added keypad blocking function during RFID reading - New parameters LdP and NbP in H version of electronic cassette in procedure P-1 - New parameter APo in procedure P-2 - Removed parameters t1t, F1 and F2 from procedure P-1 - Additional numbers are priority numbers - If local number is in the range of serviced numbers and is turn off, than is automatically treated as unserviced number - important for LdP - Added function that turns off confirmation the use of lock code and electronic keys for individual occupant - additional option "P" in Calling option (parameter No. 4 in P-5) - Added parameter CHA in procedure P-2. - Changed name of parameter Ldn on Un in procedure P-1. - Changed names of parameters ibE and ibA on idE and idA in procedure P-2. - Increased speed of searching electronic keys
v6_6	01-2010	- Added 10 additional numbers out of serviced range - Added DJ function - Improve P-4-0 function in H version of electronic cassette - Added automatic door open function - additional option "d" in Entrance service (parameter No. 5 in P-5)

NOTE!

Entry phone CD-2502 is available in two versions: audio and video. In both versions the same electronic cassette EC-2502 and power supply adapters are used, in both versions parameters are set in the same way. The two versions differ mainly with the types of used panels, additional elements in video version (panels in video version, switches, distributors and monitors) and the method of performance of power system. Both versions of entry system are described in the instruction. In case of installation and activation of audio version one should disregard recommendations referring to video version.

In entry phone CD-2502 one type of electronic cassette is used - EC-2502. The use of the device (main or subordinate entrance) is defined by program.

In the description abbreviations are used — exchange configured for the service of the main entrance is designated EC-2502/H and exchange for the service of subordinate entrance EC-2502/U. Cassettes are default configured as EC-2502/U.

1 Conditions of operation

- Prior to the installation and use of an entry phone one should get acquainted with the installation and operation instruction.
- Wiring system should be performed according to standard PN-IEC-60364-1 by an authorized person. It should be made in such a way as to avoid the risk of lightning.
- Monitor should be mounted in a place that is easily accessible for users at a height of min. 1.5 m, in such a way as to eliminate the danger for the users and accidental jostling. Monitor should be installed at a distance of min. 1.5 m from the sources of strong electromagnetic interferences — transformer feeders, magnets, metal sewage and gas pipes because it can result in picture distortion.
- It is forbidden to connect the entry phone elements to installations other than made according to the recommendation of an entry phone producer.
- Monitor, uniphone and electronic cassette should not be exposed to high temperature or humidity. These elements should not be installed in bathrooms or close to heaters.
- Openings in a monitor and uniphone should not be covered because it can result in their improper operation.
- No metal objects can be put into the openings in uniphones or monitors because this can cause electric shock or fire.
- El. supply from external supply sources should not be connected to uniphone terminals because it can cause its damage or fire.

- **It is forbidden to hold the receiver near an ear and push the lever (hook-switch) in the uniphone/monitor base at the same time or hold the receiver near an ear while the lever (hook-switch) is pushed because this may cause a loud call signal in a receiver that can result in hearing defect.**
- It is forbidden to repair the entry phone equipment by unauthorized persons because it may cause a threat to health and life.
- El. supply from sources of parameters other than recommended by a producer should not be connected to uniphone terminals. Producer will not bear responsibility for losses resulting from the use of improper feeders.
- Neither petroleum nor any solvents or strong detergents can be used for the cleaning of entry phone elements because they may cause damage of the equipment surface.
- Picture distortion appearing during rain or right after raining is transient and connected with collection of water in the area of lens and is not the sign of equipment defect.
- Signals from entry phones should not be sent to RTV sets because this may result in the damage of such sets or entry phone.
- Outside panels should not be sealed with e.g. silicone because it worsens ventilation and leads to corrosion.

2 Installation of entry phone

The following items include the most important stages of design, performance and activation of an entry phone system. Item numbers in instruction containing the detailed information are given in brackets.

- Get acquainted with the operation instructions especially with the entry phone conditions of use.
- Define the final configuration, operation mode and then select the necessary elements
- Define the place of installation of the system elements.
- Design the wiring system for the accepted configuration; select the kind and cross sections of wires.
- Define logical and physical equipment addresses.
- Install the equipment of the entry phone system and connect according to the connection diagram.
- Activate the system
- Set the operation parameters of the entry phone system. If possible, inform occupants about entry phone use and hand out codes of coded locks.

- In case the system of entrance hierarchy is activated, set the range limits for the apartments in cassettes operating as EC-2502/U (for subordinate entrances). Leaving default settings in these cassettes may cause wrong operation of the entry phone system.
- In case of need tune the acoustic path.
- Check the operation of the system using the installation procedure.

3 Elements of entry phone

Electronic cassette

In entry phone CD-2502 one type of electronic cassette is used — EC-2502 for main or subordinate entrances. Its operation mode is defined by an installing specialist. The cassette operates in default setting in U mode and is used for subordinate entrance. Service of the main entrance (operation in mode H) requires the change of cassette configuration (see programming, page 28).

External panel

For CD-2502 system a few types of external panels were designer. Panels are produced in audio and video version (with colour camera and LED lighting). They are made of zinc coated sheet covered with powder paint or of stainless steel; in all panel optical keyboard is used. Panels may be equipped with an iButton electronic touch key reader or RFID proximity key reader. Electronic key is an alternative to a combination lock, it is also a very good replacement of a traditional mechanic key because it is lighter and more comfortable in use. Furthermore, an electronic key may be easily programmed in any number of entry phones equipped with readers. The following external panels are available:

Type of panel	Description
CP-2502/xx	standard panel in colour xx
CP-2502T/xx	panel with key reader
CP-2502N /xx	panel with a list of occupants
CP-2502NR /xx	panel with a list of occupants and RFID key reader
CP-2502VT/xx	panel in video version with key reader and black-white camera
CP-2510T	panel in audio version made of stainless steel (horizontal)
CP-2520T	panel in audio version made of stainless steel (vertical)
CP-2510VT	panel in video version (with color camera) made of stainless steel (horizontal)
CP-2520VT	panel in video version (with color camera) made of stainless steel (vertical)
CP-2530T	panel in audio version made of stainless steel (narrow version - 100mm width)
CP-2530VT	panel in video version (with color camera) made of stainless steel (narrow version - 100mm width)

Illuminator in panels in version video makes it possible to recognize the face at a distance of approx. 50 cm from the video camera. Lighting diodes are placed behind the display, so they are effective only if the face of a visiting person is directed towards the entry phone keyboard.

Inside the external panel there is a photoelement which reacts on light. When the external illumination is good enough, the illumination of keyboard and camera are turn off.

In CD-2502 system to one electronic cassette only one external panel can be connected.

Uniphones

Uniphones for digital Laskomex entry phones co-operate with digital entry phone system CD-2502. They are models: LF-8, LT-8, LX-8, LR-8 or LM-8 in all varieties.

It is allowed to use the uniphones produced by other manufacturer, provided that the impedance of uniphone (during the call and conversation) $Z \geq 40 \Omega$ and the line current in the active state $I=(70-100\text{mA})$.

The use of uniphones not made by Laskomex may be associated with the invalid operation of entry phone system. Laskomex does not take the responsibility for damage caused by equipment made by other manufacturers and may refuse to perform warranty repair of any damage or injury in entry phone system caused by using uniphones not made by PPUH Laskomex or not accredited by it.

Uniphone LM-8W/1 has an additional switch to control the gateway drive. The use of uniphones of other producers is not recommended because it may cause the wrong operation of the whole entry phone system.

Uniphone LM-8W/3 is equipped with a highly effective receiver which ensures call signal louder by approx. 6 dB than in standard LM-8 uniphone.

Uniphone LM-8W/4 has a door-bell function. Additional terminals in the uniphone enable the connection of bell button. Pressing the button results in switching on the gong. Uniphone requires additional supply.

Loud speaking Uniphone LG-8 and LG-8D

Uniphone LG-8 is intended for digital entry phone systems produced by Laskomex (CD-2502 and CD-3100). Uniphone LG-8 operates in simplex system — during the conversation the user must press TALK pushbutton when he is speaking. Uniphone LG-8D operates in duplex system (conversation is possible in both directions without activating buttons or switches). Uniphone requires external supply from central feeder 15 V DC/ 4 A (up to 40 uniphones) or own feeder 15 V DC/1A . Uniphone functions also as a door-bell. Bell button is connected to two terminals in uniphone and its pressing results in generating gong signal in uniphone. Detailed information on connection, programming and use of uniphone LG-8 is included in the instruction

enclosed to it.

Monitor MVC-6550 and 6650

Colour monitors for Laskomex digital systems. They are loud speaking monitors without receivers with TFT display operating in duplex system. Detailed information on monitor assembly and use are included in the instruction enclosed to them.

Signal distributor CVR-1 and CVR-2.

Vision signal distributor is intended for the entry phone in video version. It enables connecting the monitors to entry phone installation or branching the electrical installation of entry phone. Furthermore, distributor amplifies vision signal.

Electric system, which connects electronic cassette with monitors, is made in form of bus-bar with distributors CVR-x on the floors. Wires from monitors should be routed to the distributors. The installation method is important - wire should be routed from one distributor to the next one and in the distributor at the end of bus-bar the line load should be configured properly (see dwg 14, page 23).

Signal distributor has one input of signals L+,L-,C+,C- with screw terminals (ARK) and four independent outputs with sockets RJ45 (CVR-1) or ARK (CVR-2).

Distributor CVR-1 does not require power supply adaptor – it is supplied from monitors connected to it, although it has clamps enabling supplying it from other source e.g. electronic cassette EC-2502. It is used when the distributor operates as signal adapter.

Distributor CVR-2 require external power supply adaptor, which can be also used to supply monitors.

In the distributor there is an amplifying and correction system of video signal allowing optimal adjustment of distributor parameters to the parameters of electrical system.

Video signal change-over switch CVP-1 and CVP-2

Change-over switch CVP-x is used for the selection of the source of video signal displayed on the monitor screen of entry phone CD-2502 in video version, operating in a system with main entrance. Switching-over is made between a signal from the video camera in external panel at the main entrance and a signal from the video camera in external panel at the subordinate entrance (staircase). In CVP-2 switch there are 2 additional inputs (can be connected signals from additional cameras) where video signal is switched between them - a total of 4 video signal inputs. The switch has 2 outputs X and Y, which can be used for branching the signal installation. If there is need to distribute the signal to a larger number of branches, then signal distributor CVR-x should be used. Change-over switch CVP-x should be mounted at each subordinate entrance possibly close to electronic cassette and power supply adapter.

Power supply

Ac power supply adapter ZS-K-25/01 art.0018 or TSZZM 25/021M should be used for supplying electronic cassette.

Electro-catch or electromagnetic lock

Entry phone CD-2502 can control electro-catch or electromagnetic lock. Operation time is programmed and can be changed by an installing specialist. It is recommended to use electro-catches for voltage 12V AC/DC and power consumption not exceeding 1A. Default control of electro-catch by run of 50 Hz frequency with characteristic buzzing of electro-catch.

Electromagnetic lock should be supplied by voltage 12 V DC/1A. In order to use the electromagnetic lock, contact ZT1 in electronic cassette should be switched to 'ELECTROMAGNETIC LOCK' position. It is also necessary to set the frequency of voltage run supplying the lock on '0', because supplying the lock with alternating voltage makes that the door blocking force is considerably weaker. Jumper should be put on contact J3. It is intended to liquidate residual magnetism which can hamper opening of door.

Demagnetization system should be absolutely switched off during the operation with electro-catch.

Reverse electro-catches work on the similar principle. They keep door blocked as long as voltage is supplied to them. Using reverse electro-catch requires configuration of entry phone for operation with electromagnetic lock.

Door opening pushbutton.

Pushbutton is used for unblocking the electro-catch or electromagnetic lock when leaving the building. Any short circuit pushbutton can be used – e.g. bell or attack pushbutton used in alarm systems; signaling diode can be connected as well.

Additional call module PW-1

The module enables an additional call signal (acoustic or optical) in the uniphone. It is used in a situation when a uniphone is installed in a room of high noise level or there are partially deaf people in a room. It enables - during calling - the activation of any equipment supplied by voltage 12...24 V AC - bell, siren or signaling lamp.

External panel casing

As a standard external panels and lists of occupants are delivered in a frame mounted under plaster, casings enable their mounting on plaster.

Name of casing	Destination - type of panel	Description
DA-1 DA-2H DA-2V DA-3H DA-3V	CP-2502xx	one segment casing two segment casing, horizontal two segment casing, vertical three segment casing, horizontal three segment casing, vertical
DAX1-1 DAX1-2H DAX1-2V	CP-2510	one segment casing two segment casing, horizontal two segment casing, vertical
DAX2-1 DAX2-2H DAX2-2V	CP-2520	one segment casing two segment casing, horizontal two segment casing, vertical
DAX3-1 DAX3-2V	CP-2530	one segment casing two segment casing, vertical
NP-3000	CP-2502xx	list of occupants
NP-2511 NP-2512	CP-2510	list of occupants, horizontal list of occupants, vertical
NP-2521 NP-2522	CP-2520	list of occupants, horizontal list of occupants, vertical
NP-2531	CP-2530	list of occupants

Accumulator

An accumulator can be connected to electronic cassette which is used for supplying entry phone in case of loss of voltage in power network. It is recommended to use accumulators 12V/7Ah. Electronic cassette is equipped with an accumulator loading system and protection against complete accumulator unloading. Emergency loading time depends on the capacity of accumulator and intensity of entry phone use and is from a few to several hours.

4 Numbering modes

Digital entry phone as a standard can operate numbers within a range 1...255, however, very often it is necessary to operate higher numbers or numbers of considerably wider range. This is possible owing to different numbering modes.

4.1 Normal mode

In normal mode physical number of uniphone (programmed by jumpers) corresponds to logical number (selected from the keyboard of talking cassette). This is a default mode of operation of entry phone exchange.

4.2 Numbering mode with range shift

In this numbering mode physical number of a uniphone (programmed by jumpers) differs from its logical number (under which a uniphone rings after having selected

the number from the keyboard). This numbering mode is used for apartments of numbers higher than 255.

$$\text{logical number} = \text{physical number} + \text{range shift}$$

This numbering mode is switched on in a moment of setting of parameter value 'range shift' to the value higher than '0'.

Example:

In a building an entry phone should be used for apartments Nos. 301...310.

- In uniphones physical numbers should be programmed as follows: in apartment 301 number 1, in apartment 302 number 2 etc.
- Then cassette programming mode should be entered (see item 8, page 27) and the parameter of range shift should be set to value 300.

After having done this and selecting from a keyboard number 301 the uniphone in which number 1 has been programmed will ring, after having selected number 302 uniphone with number 2 will ring etc.

4.3 Hotel numbering mode

This numbering mode is meant for the buildings in which room number starts with a digit defining number of floor on which the room is located (hotels, resort houses, dormitories etc.). Physical number of a uniphone is calculated according to the formula:

$$\text{Physical number} = P * LL + XX (A)$$

where P - floor number, LL - amount of rooms on one floor (value of parameter [LPi]) - see dwg. 30), XX - number of room on the floor – number from the range 1 ... [LPi]

This numbering mode will be activated at the moment of setting the value of parameter [LPi] "amount of rooms on a floor" to value higher than zero.

Example: An entry phone should be mounted in a five-storied building in which the numbering system is as follows: on the ground floor 1 ... 20, on the first floor 101 ... 102 etc. There are 20 rooms on the ground floor. On next floors, after taking into account full hundred numbers which are also taken into consideration in calculations (100, 200, 300...) we get 21 numbers for each floor. First of all the cassette programming mode should be entered and parameter [LPi] (amount of rooms on the floor) should be set to value 21. After quitting the programming mode the exchange operates in hotel numbering mode.

Then it should be defined which logical numbers will correspond to individual physical numbers of uniphones. To do this a formula or a calculator available in one

of entry phone programming procedures in the exchange can be used (P-3-5, P-3-6).

numbers of rooms	1... 20	uniphone number	1, 2, ..20	ground floor
numbers of rooms	101...120	uniphone number	21, 22,...41	I floor
numbers of rooms	201...220	uniphone number	42, 42,...62	II floor
.....				
numbers of rooms	601...620	uniphone number	125, 126,...146	VI floor

Finally uniphones should be programmed to the numbers settled before.

Total number of uniphones used in this numbering mode should not exceed 255.

4.4 Mode with building numbering

This numbering mode can be used only in entry phone system with entrance hierarchy. In order to get connection with an apartment from an external panel at the main entrance one should first of all select building number and then apartment number. This numbering mode allows repeating apartment numbers in different buildings. The following operations should be made in order to activate this mode:

- In electronic cassette for subordinate entrance set parameter [nbL] (block number) in procedure P-1 to value higher then zero. (see page 30). To get connection with any apartment in this staircase the apartment number should be preceded by set number.
- The operation should be repeated for other staircases (buildings). Values [nbL] can be repeated in subordinate systems provided that these systems operate with other logical numbers of uniphones.
- In electronic cassette for main entrance set the value of parameter [NbL] in procedure P-2 to 1 (see page 32).

4.5 Range of operated numbers

In numbers entry phone the range of operated numbers can be limited. (see page 30). In default setting the operation of all apartment numbers is included. If the range is limited, selection of a number outside the set range will result in displayed message [OFF].

Limiting is set for physical not logical numbers!

Limiting of the range should be set especially in electronic cassettes for subordinate entrances (multi-entrance system with entrance hierarchy) because leaving default range setting may hamper using or make impossible the activation of the whole entry phone system.

Default set range 1...240.

4.6 Additional numbers

In many cases it is necessary to operate numbers which do not belong to the operated range. In entry phone CD-2502 these numbers can be associated with fourteen physical numbers: 241...254 (parameter Un in procedure P-1). For each of the mentioned numbers it is possible to set individually any number from the range 1...9998.

4.7 Directing the numbers that are not serviced

In entry phone CD-2502 all numbers which are not operated by entry phone CD-2502 can be directed to one selected number. Owing to this entry phone CD-2502 can be used in a single-family home – entry phone can be configured in such a way that any number selected by the keyboard will result in entry phone ringing at one selected number.

5 Configurations of entry phone operation

5.1 Basic system

In basic version the entry phone operates for one staircase or building with one entrance. The system consists of electronic cassette EC-2502 working in U mode, external panel, feeder and from 1 to 255 uniphones. External panel should be mounted at a distance not exceeding 15 m from the cassette. Basic system can be used for staircases in apartment houses, tenement houses, companies etc. to which there is only one entrance.

5.2 System with entrance hierarchy

In a system with entrance hierarchy there are two types of entrances: the main entrance and subordinate entrances. System CD-2502 can operate for one main entrance and max. 64 subordinate entrances. From the main entrance a connection can be made with each apartment in any building or staircase serviced by the entry phone system. Using panels at the entrance to staircase (subordinate entrance) a connection can be made with the apartments located in this staircase only. Entry phones at subordinate entrances can be used independently.

During the conversation held between the main entrance and an apartment located in one of the staircases the whole line in this staircase is busy and a message ZAJ will be displayed on the outside panel display at the entrance to this staircase. In order to use the combination lock or get the connection with any apartment one should wait till the conversation from the main entrance is finished. If during the conversation held from the subordinate entrance in one of the buildings (staircases) there will be made an attempt of connection from the main entrance with any apartment in this building (staircase), the conversation started earlier will be interrupted

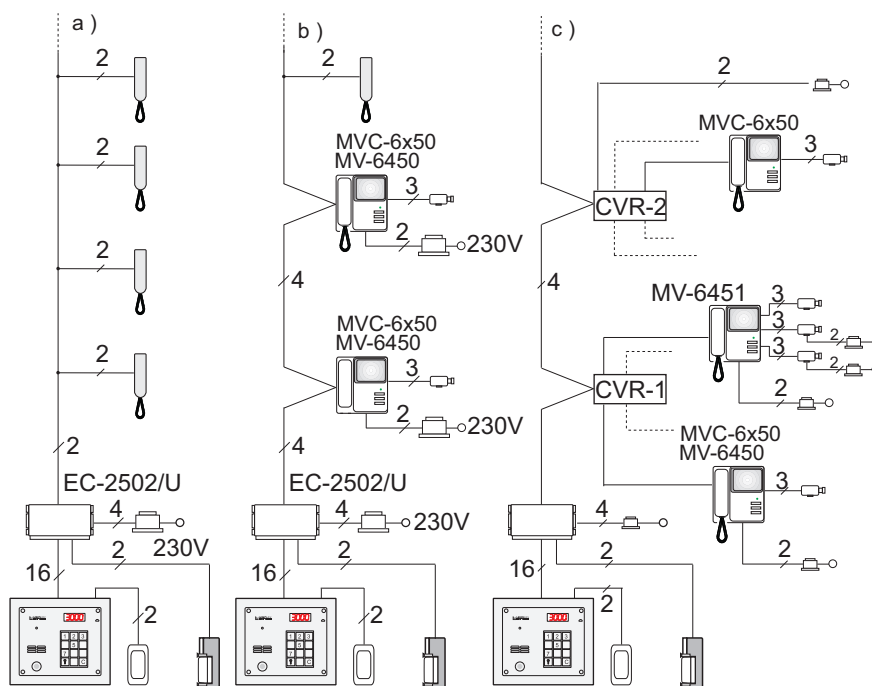


Figure 1: Basic system: a) audio version, b) video version with direct connection of monitors to bus-bar, c) video version with distributors. The diagram shows selected models of monitors.

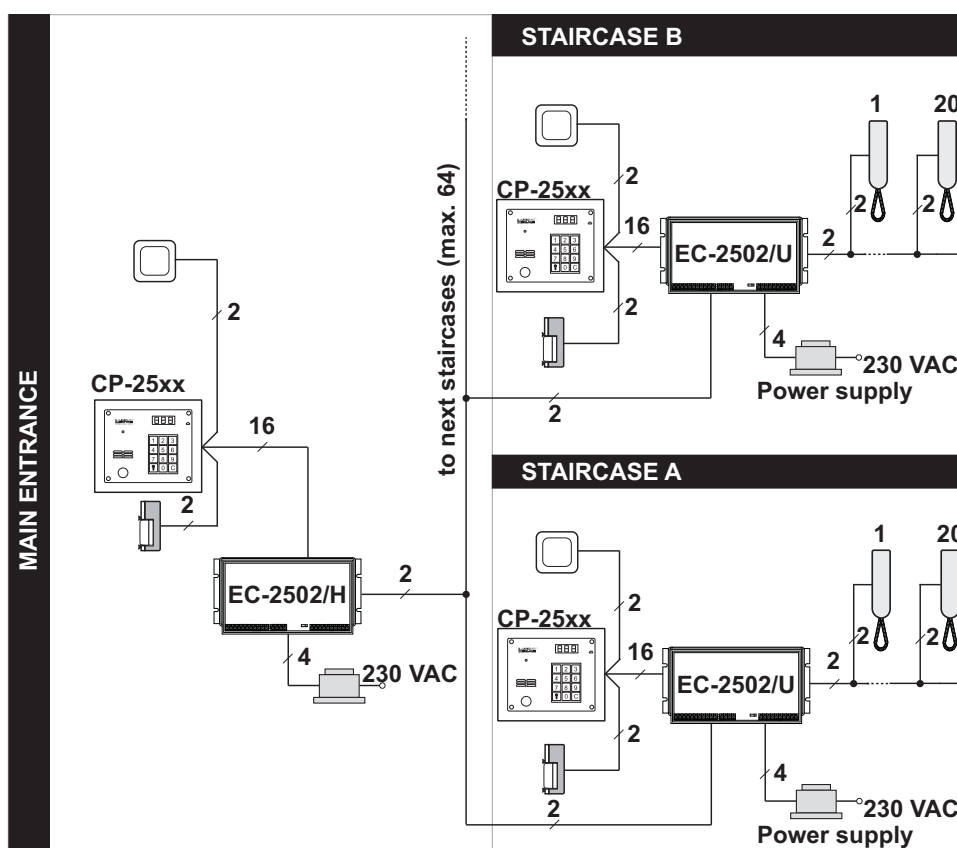


Figure 2: System with entrance hierarchy, version audio.

and a connection attempt will be made from the main entrance. Electro-catch is always released at the entrance from which a call has been made. A coded lock or electronic key can be used at both the main and the local entrance. Entry phone is

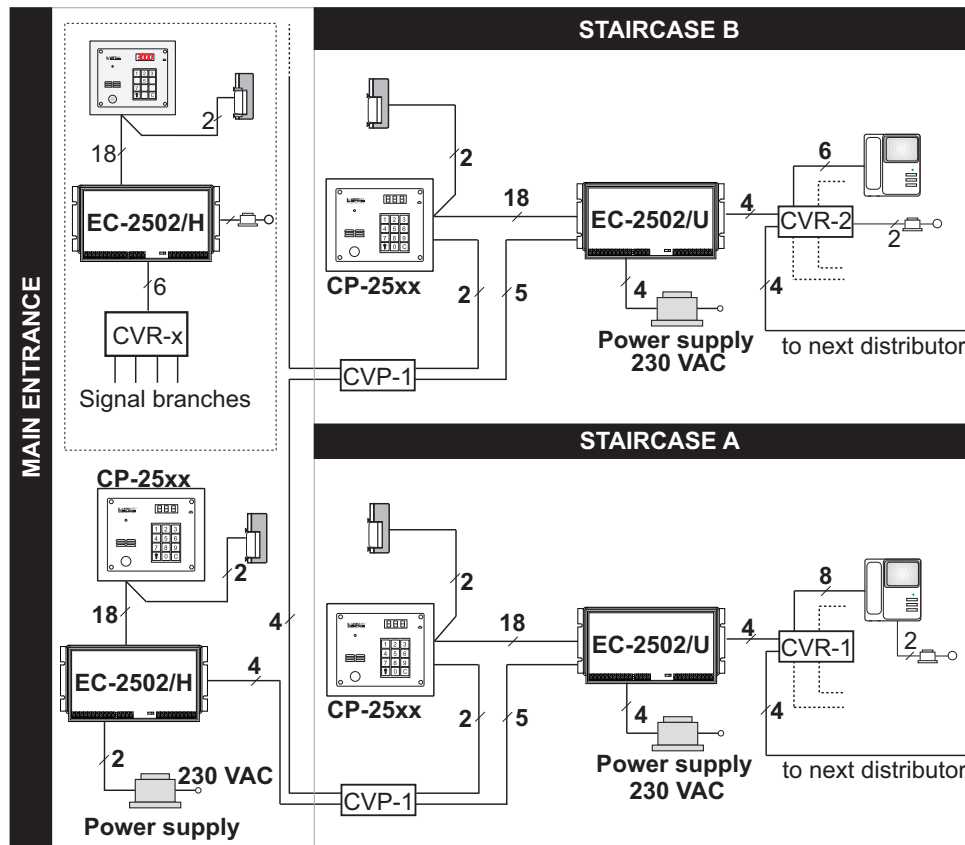


Figure 3: System with entrance hierarchy, version video.

equipped with a "fast entrance" function which facilitates using entry phone system with main entrance. (see dwg. 41). Fig. 2 and 3 show diagrams of multi-entrance systems with the required amounts of wires in the individual sections of entry phone electrical system.

6 Installation and activation of entry phone

6.1 Performance of wiring system

Entry phone CD-2502 is available in audio and video version. Performance of wiring system depends on the version of entry phone.

General recommendations on performance of wiring system

- Electrical system should be made according to standard PN-IEC 60364-1 by a person authorized to make such installations.
- Wire cross section depends on the distance between the elements that are connected (see chapter "Selection of wires", page 58). In order to ensure proper cross section the selected connections can be doubled or wires of larger diameters can be used.

- In installations with the main entrance operation mode is set in electronic cassette. Depending on the selection they can function as cassettes servicing the main entrance (EC-2502/H) or subordinate entrance (EC-2502/U). Default setting of the cassette is configured to operate with the subordinate entrance.
- It is recommended that electronic cassette, power supply adapter and CVP-1 switch be placed possibly close to one another e.g. in an installation box. Power supply adaptor should be installed at such a distance as to enable its connection by means of an original cable.
- Total distance between electronic cassette and uniphone (monitor) should not exceed 150m.
- It is recommended to route all cables as away as possible from other installations. The cables of entry phone system should be routed at a distance not smaller than 20 cm from power cables.

Wiring system of entry phone in audio version

- Section between external panel and electronic cassette should not exceed 15 m. Spiral wire of dia. min. 0.5 mm should be used. Minimal number of entry phone wires amounts 16 for entry phone without gateway drive control and 18 with gateway control.
- Number of wires can be limited if door opening button and list of occupants are not used in the entry phone.
- For the connection of electronic cassette with external panel spiral wire should be used. For routing in the earth, wire protected against moisture should be used. Wires YTDY, YTKSY, UTP, LAN T11 or similar are recommended.
- During wire connection a special attention should be paid to correct pairing of connections. On the diagrams spiral wire is marked with thick and thin line with grey filling between them.
- In a multi-entrance system an electronic cassette at the main entrance (EC-2502/H) should be connected with all electronic cassettes at the subordinate entrances (EC-2502/U). A spiral min. two wires should be used (at gate control two additional wires should be reserved).
- Connection between electronic cassette and uniphones should be made by means of any double wire e.g. YTDY. In case of gate control min. 4 wire conductor should be used.
- In audio version the routing of wiring system from electronic cassette to uniphones does not make any difference. Each uniphone can be connected by a separate wire, wiring can be router from one uniphone to the next one or uniphones can be connected on a common bus-bar. The distance between

a uniphone and an electronic cassette should not exceed 150m for wire dia. 0.5 mm. This distance can be extended by increasing the cross-section of connecting wires.

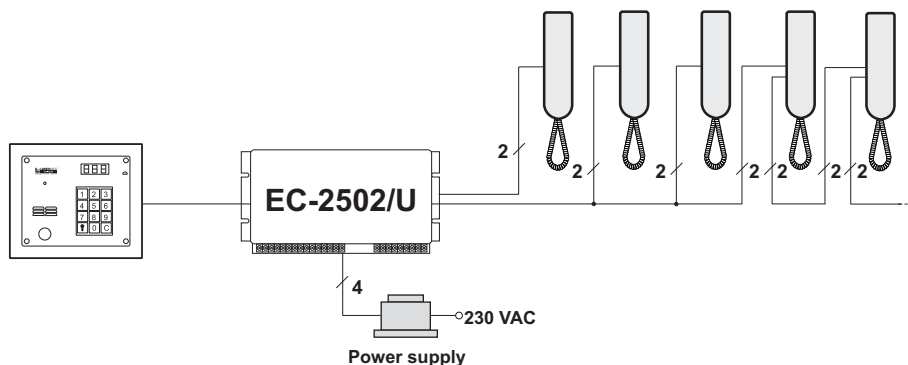


Figure 4: Method of connecting uniphones to electronic cassette.

Wiring system of entry phone in video version

- Section between external panel and electronic cassette should not exceed 15 m. Spiral wire of dia. min. 0.5 mm and impedance 100, 124 or 136 Ω should be used. Minimal number of entry phone wires amounts 18 for entry phone without gateway drive control and 20 with gateway control.
- Number of wires can be limited if door opening button and list of occupants are not used in the entry phone.
- For the connection of electronic cassette with external panel spiral wire should be used. For routing in the earth, wire protected against moisture should be used. Wires YTDY, YTKSY, UTP, LAN T11 or similar are recommended.
- During wire connection a special attention should be paid to correct pairing of connections. On the diagrams a spiral pair is marked with thick and thin line with grey filling between them.
- In a multi-entrance system an electronic cassette at the main entrance (EC-2502/H) should be connected with all electronic cassettes at the subordinate entrances (EC-2502/U). A spiral with min. two wires should be used (at gate control two additional wires should be reserved).
- Connection between electronic cassette and uniphones should be made by means of any double wire e.g. YTDY. In case of gate control min. 4 wire conductor should be used.
- Signal video in CD-2502 system is sent by symmetrical line. Such solution ensures low susceptibility of line to external interferences and enables sending picture at relatively long distances, however it requires observing the regulations during the performance of wiring system.

- It is forbidden to make wire branching (e.g. in junction boxes). Wire should be routed from one receiver (monitor, distributor, switch) to the next one. A rule should be obeyed that signal sent to the receiver by one wire and goes out by the other. Both wires are connected on receiver terminals.
- Wiring system at the section between electronic cassette and monitors should be made in form of bus-bar with distributors CVR-x. To one distributor 4 monitors should be connected.
- Section between electronic cassette and distributors should be made using spiral UTP cat.5 or telecommunication spiral (e.g. YTKSY).
- Section between distributor and monitors should be made using spiral UTP cat.5. In case of CVR-1 plugs RJ45 should be installed on wire ends at the distributors (according to the instruction).
- Total length of a segment electronic cassette – distributor + distributor – monitor should not exceed 150m.
- In entry phones with many occupants a wiring system should be made in form of a branch. In one branch up to 10 receivers (monitors or distributors) can be connected. The next branch can be made by treating one of the outputs from any distributor as a beginning of a branch.
- An attention should be paid to the adjustment of wire wave impedance to the impedance of the connected equipment. In equipment installed at the beginning and at the end of the line a resistor should be installed in parallel to the line of value equal to cable wave impedance. In other equipment connected to the line no load resistors should be installed. Load resistance in external panel, monitors, distributors and switches is set by jumpers.
- Mixed systems, in which uniphones and monitors are used at the same time, are allowed.

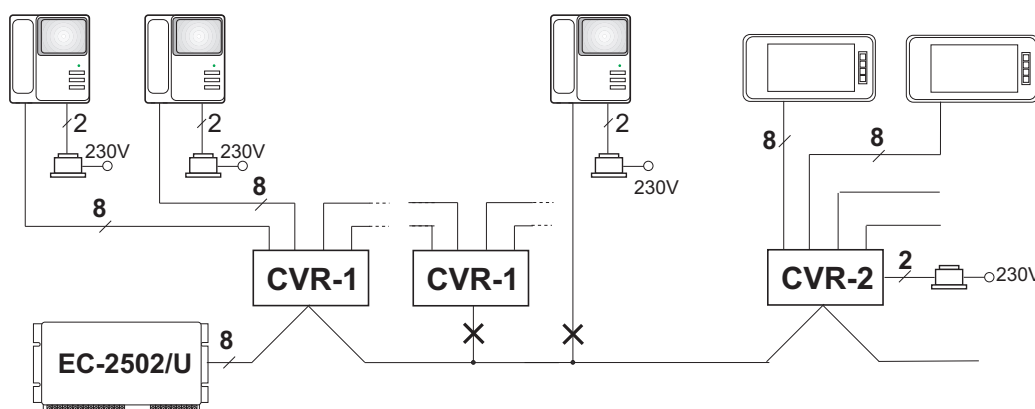


Figure 5: Connection of monitors by means of distributors CVR-x

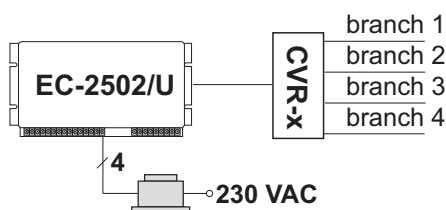


Figure 6: Branching of video entry phone system by means of distributor CVR-x

6.2 Installation of external panel

Setting jumpers. Set correctly contact JP1 in symmetrizer plate (see dwg. 8). Value of selected resistance should correspond to wave impedance of used wire or cable. Standard setting value $100\ \Omega$ corresponds to the impedance of UTP spiral cables and telephone cables (e.g. YTKSY dia. $\phi\ 0,5$). Set correctly contacts JP1 and JP2 in panel's electronic plate (see dwg. 9).

Adjustment of camera position in the external panel in video version - not applicable to CP-2502.

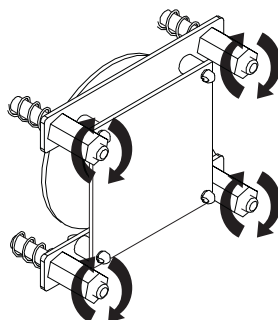


Figure 7: The way of adjustment of camera position in the external panel in video version - not applicable to CP-2502

Mounting under the plaster. In the wall cut out an opening of the dimensions that would enable to place the external panel freely in it and the frame should completely cover the opening edges. Then 4 holes $\phi 10$ should be drilled for strut pins. The tightening force (important when the cut out opening is deeper than cassette depth) should be matched to avoid bending of a frame. Make electrical connections and fix panel with a keyboard by two M4 screws and two rivets (included in the set). If possible the external panel should be mounted inside wind shields; the panel is better protected against weather conditions. Keyboard soiling (snow, mud) may result in its defective operation – in such cases the dirt should be immediately cleaned.

Mounting on the plaster. Drill openings for mounting the panel casing (mounted on the plaster), place the frame (or frames) in the casing mounted under the plaster and screw both elements by strut pins. Connect the wires and fix the panel with keyboard by screws and rivets.

During the assembly of panels proper ventilation of sub-assemblies should be ensured. That is why sealing (with silicone, foam, etc.) of space between frame and panel

is not recommended.

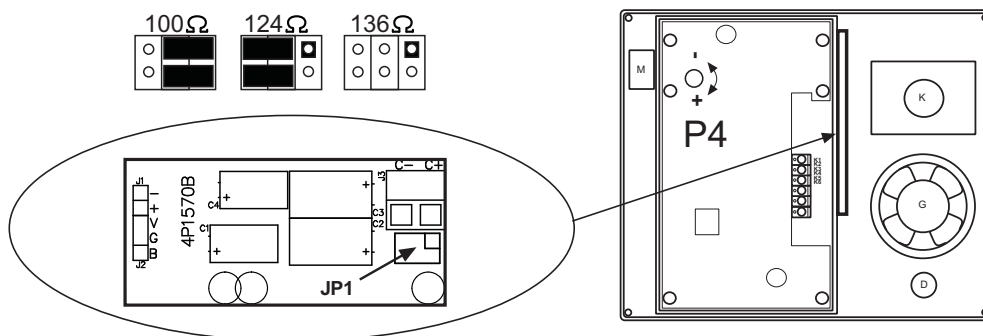


Figure 8: External panel – setting output impedance in a panel in video version.

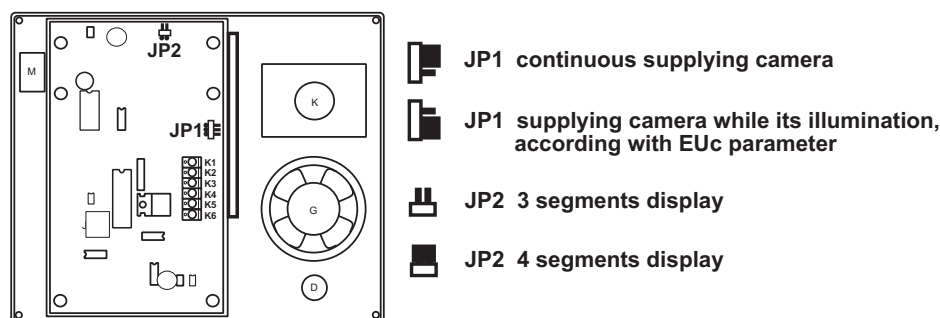


Figure 9: External panel – setting supplying camera and kind of used display in a panel in video version.

Installation of a panel with the list of occupants Panel with the list of occupants CP-2502N cannot be equipped with video camera so it is not used in entry phones in video version.

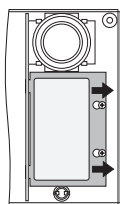
When installing a cassette with a list of occupants one must remember to place a description prior to placing the rivets. The description should be made on a piece of paper of dimensions 51 x 90 mm. It is best to make a print on A4 sheet of paper and then it should be cut to get the required size. 4 mm margin should be left at each edge of the sheet. Print should be made on a white sheet of paper of basis weight approx. 100 g/m² using a laser printer. Ink printer should not be used for this purpose because the print may be smeared due to moisture. That is why it is recommended to laminate the sheet with a printed list. Any graphic program may be used for making the print e.g. Corel Draw or Photoshop.

In video version lists of occupants are not available.

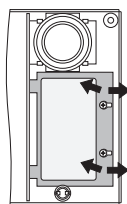
6.3 Installation of electronic cassette and Power supply adaptor

Electronic cassette and power supply adaptor should be mounted inside the building, most preferably in a place which is not accessible for unauthorized persons. It is recommended to place both devices in an installation box, the cassette is mounted by means of 4 screws or on a rail DIN. To the place where the power supply adapter

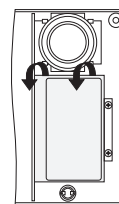
Loosen the mounting screws and move the frame towards the outside edge of a panel



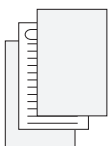
Remove the frame by lifting it slightly and then moving towards the outside edge of a panel



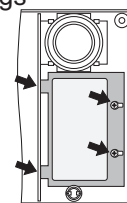
Remove plexi glass plates



Place a sheet of paper with a description between the plates and put them back in a panel remembering that thin plate should be placed at the casing back side



Dents on the frame left side should be put in the openings in a casing panel. The frame should be pushed so that screws are inserted in frame openings



Move the frame as shown on the drawing and tighten the screws

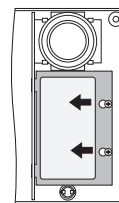


Figure 10: Replacement of a sheet with a list of occupants in panel CP-2502N

is mounted supply from power network should be routed.

Electronic cassette casing is fixed to the base by means of two screws. Removal of cassette casing requires disassembly of the whole cassette, because screws mounting the casing are placed at the back of the plate.

Wire ends from feeding transformer should be wound on the smaller ferrite core included in the set. Each wire should be wound 2.5 coils as shown on drawing 11. Wire connecting the talking cassette with electronic cassette should be wound similarly – at the side of electronic cassette the wire end should be wound on the bigger core. If this is impossible due to the thickness of wire, insulation should be removed and only those wires which are used for connection should be wound on the core. Connect the wires according to connection diagram. If on the display

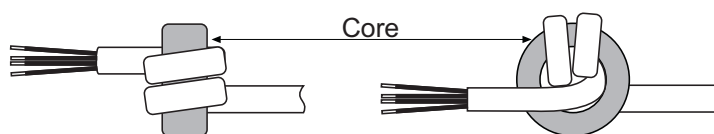


Figure 11: Assembly of ferrite core on wires

appears message [E-2] this means that there is a wire short circuit in entry phone line. Entry phone CD-2502 is resistant to such short circuit, however, it should be repaired as soon as possible. Electronic cassette is preliminarily adjusted and, unless it is necessary, the position of control elements should not be changed. In case of need the entry phone should be adjusted after the activation of all uni-phones.

Then an installation procedure should be started P-3 (see p. 21) and an installation and activation should be carried out.

Entry phone CD-2502 can control electro-catch or electromagnetic lock (or reverse electro-catch). Both elements are controlled in different ways. In case of electro-catch release of entrance interlock takes place after supplying voltage to electro-catch. Electromagnetic lock operates in reverse way - the entrance is blocked as long as voltage is supplied to the lock.

The selection of control method enables jumper ZT1.

If electromagnetic lock is used jumper on joint J3 which is used for lock demagnetization which can hamper opening of door. In case electro-catch is used jumper should be removed from joint J3. **For electromagnetic lock set control frequency to 0!** (see page 29). Setting frequency to value above 0 will result in a considerable decrease of force of blocking the door with electromagnetic lock.

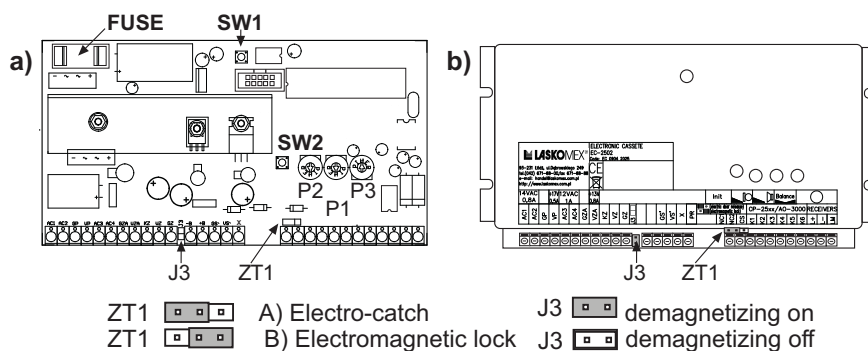


Figure 12: Selection of electro-catch or electromagnetic lock.

6.4 Installation of modules CVP-1 and CVP-2

Switch should be installed in junction box or on the wall inside the building. Four screws should be driven to mount the casing cover to its base. After taking off the cover, make openings in the base for mounting screws (W1, W2) for strut pins and screw the base to the wall. Connect wires to terminals ARK in switch, in casing cover break off plugs in places in which wires will be introduced to casings and screw the cover to the base.

Signal from video camera in external panel at the main entrance should be connected to terminals C1, signal from the video camera in panel at the subordinate entrance (e.g. at the staircase) should be connected to terminals C2. In CVP-2 switch to the terminals C3 and C4 may be connected signals from additional cameras.

Switch has two signal outputs X and Y from which signal may be sent to monitors or signal distributors CVR-x.

Switch is supplied from electronic cassette EC-2502 (terminals +V and G). Switch control signal is sent to CS input.

Switch functions also as an amplifier and signal correction system. Switching on the correction system and degree of amplification for both outputs X and Y are defined by the position of a jumper on the joint JP3 (see dwg 13).

In order to get picture free from deformation one should perform correctly electrical system and adjust input and output impedance of electrical equipment (monitors,

distributors, switches) to wire impedance.

Load at C1 input should be set only in one of the switches - installed at the end of the line (by means of JP1 joint) in others all jumpers should be removed from the joint. Load in outputs X and Y should be set in each switch (joint JP6 and JP7). Load value for inputs and outputs should be selected for connection wire.

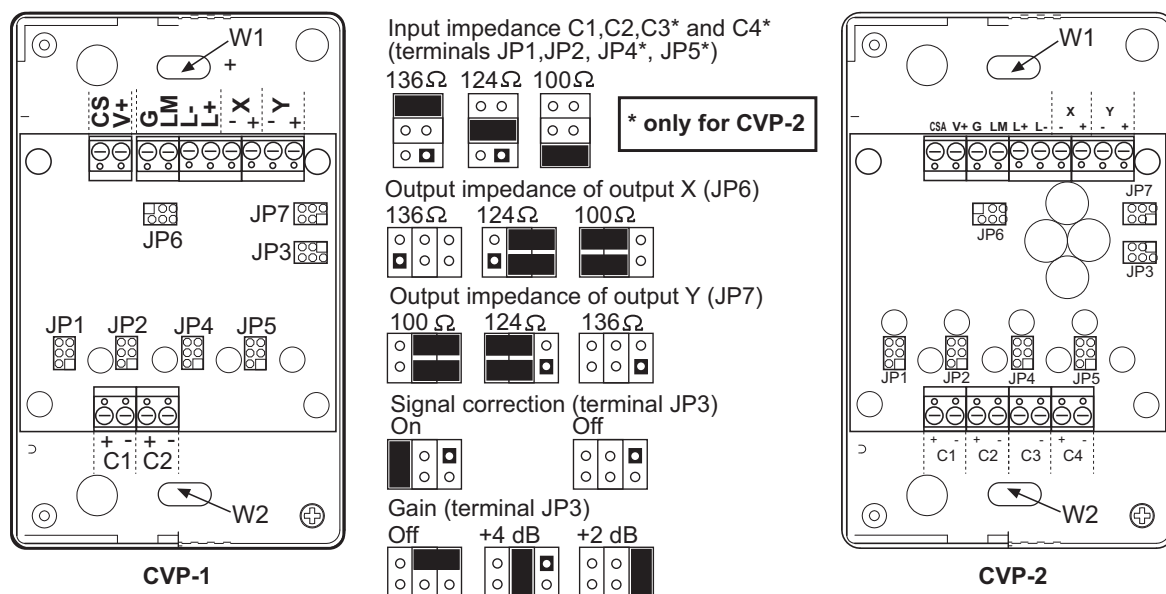


Figure 13: Configuration of module CVP-1 and CVP-2

6.5 Installation of distributor CVR-1 and CVR-2

Floor distributors CRV-x should be installed in staircases in which video entry phone is installed.

Distributor is fastened to the wall by two screws. Four screws should be driven to mount the casing cover to its base. After taking off the cover, make openings in the base for mounting screws (W1, W2, dwg. 14), apply it to the wall and mark the places for strut pins. Drill openings in the wall, put plastic elements of strut pins in them and screw the base to the wall. Then connect wires L+, L- and C+, C- to terminals ARK. Wire should be routed from one distributor to the next one. It is forbidden to connect distributors (or their parts) with electronic cassette by separate wires.

Apply for CVR-1

On the ends of wires from monitors converging at the distributor clamp the plugs RJ 45 paying special attention to correct order of wires in the plug. (see dwg. 15). Plugs should be put into distributor sockets. Distributor does not require individual power supply adaptor – it is supplied from any monitor which is connected with them - terminals VC and GND.

Apply for CVR-2

Distributor require 15V DC stab./4A external power supply adaptor which allowed to load each of 4 outputs by the current of 1A to supply monitors (+15V, GND).

It is not recommended to use with MV645x series monitors.

It is recommended that wires sections connecting distributor with monitor connected to sockets MON1 and MON2 have comparable length. The same principle refers to wires connected to sockets MON3 and MON4.

To ensure wave adjustment, which is the main condition of getting clear and free of interference picture, at the end of this line load in form of resistor should be connected of value equal to the impedance the wire used in this line. In distributors there are joints with jumpers allowing the connection of resistor of selected value (100, 124 lub 136 Ω). between terminals C+, C-. This resistance should be switched only in one distributor which was installed at the end of line C+,C-. If distortion is visible on the screen or the picture is not clear or pale amplifying and signal correction should be switched on. For MON1 and MON2 outputs correction and amplification are switched by jumpers in joint J2, while for output MON3 and MON4 – by jumpers in joint J3.

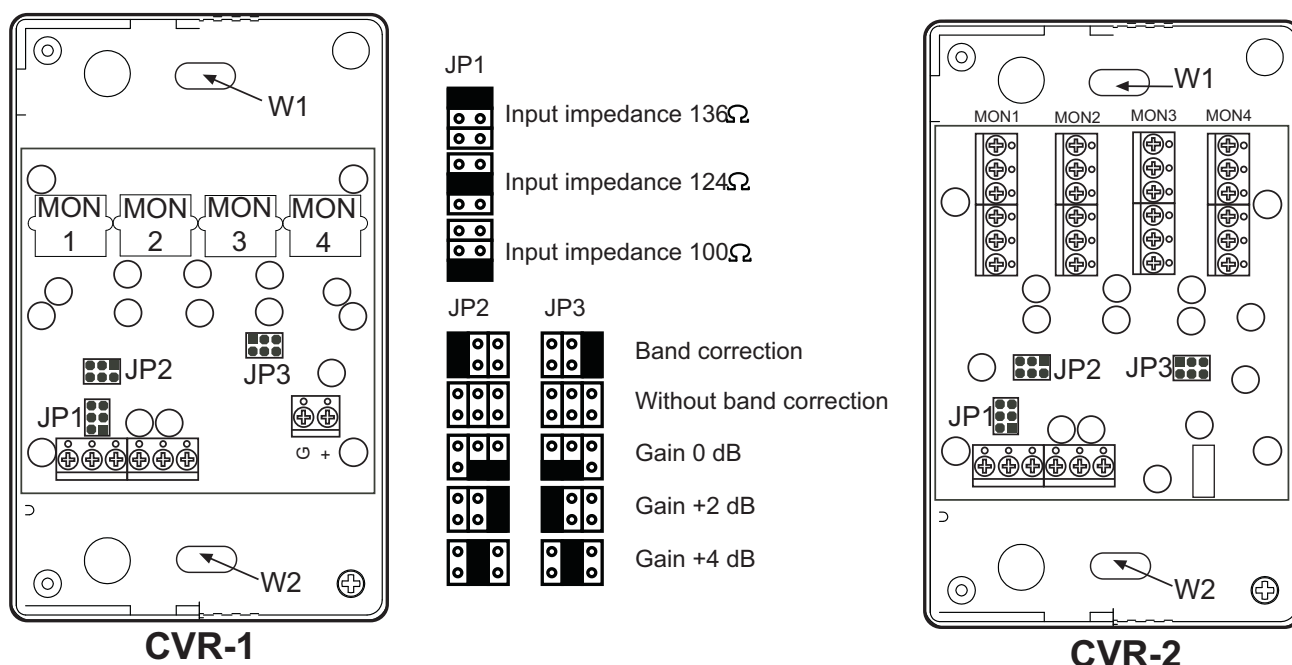
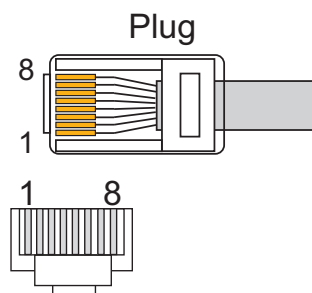


Figure 14: Configuration of distributor CVR-x

nr	clamp	color	function
1	T +	orange-white	uniwersal output
2	T -	orange	uniwersal output
3	Vc	green-white	power supply: +10VDC
4	L +	blue	uniphone line
5	L -	blue-white	uniphone line
6	GND	green	ground
7	C +	brown-white	video signal
8	C -	brown	video signal



Plug in accordance with EIA/TIA 568B standard

Figure 15: Joint MON-1 of distributor CVR-1

6.6 Installation of monitor.

Installation and connection of monitors should be made on the basis of instruction enclosed to models that were used.

6.7 Installation and programming of uniphone

We assume that for each apartment a uniphone connection wire is routed, this wire is connected to terminals L+, L- of the exchange and the line is not shorted. Prior to installation of a uniphone its cover should be removed. Uniphone base should be fixed to the wall with strut pins $\phi 6$ mm using openings in the uniphone base. Next uniphone number should be programmed. It is allowed to program at the most two uniphones (or monitors) with the same number. Programming is done by proper configuration of jumpers in joint inside uniphones. In uniphone physical number is programmed. Each number from a range 1...255 can be presented as a sum of numbers 1, 2, 4, 8, 16, 32, 64, 128. If a digit is included in the sum of the programmed number then we put a jumper in a position which corresponds to it, otherwise jumper should be removed (see dwg. 16).

Number "0" should not be programmed (removal of all jumpers)!

On uniphone plate are marked digits assigned to consecutive positions on the joint. Example: in order to program number 37, jumpers should be put on interfaces in positions 1, 4, 32 ($1 + 4 + 32 = 37$). Then wires should be connected to uniphone terminals paying attention to their appropriate polarization and the uniphone casing should be closed. Uniphone is ready for operation and it can be checked using procedure P-3.

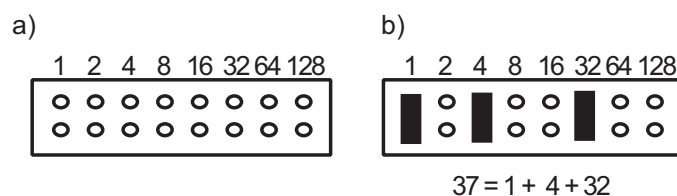


Figure 16: View of interface used for programming uniphone and example illustrating programming of uniphone to number 37.

6.8 Activation

The entry phone was designed in such a way as to enable its activation by one person. After performing entry phone electrical system as well as activating and configuring the electronic cassette assembly and activation of uniphones and monitors can be started. At this stage activation of installation procedure is required. In order to start installation procedure the following activities should be done:

- start programming mode and select procedure No. 3 - see item 8, 33).
- set upper and lower range of scanned numbers P-3-1, P-3-2 (option). Owing to this time required for finding of pick up receiver will be shortened

- start installation procedure (P-3-0).
- exit programming mode (e.g. P-8).

On display message **U** lub **LOC** will appear informing about installation procedure. Message **U** informs that installation procedure operates and occupants can use the entry phone. Message **LOC** informs that there is no possibility of entry phone use.

Install uniphone or monitor in the apartment and connect wires of electric system to it. Line L+, L- is protected against short-circuit, however short-circuits of wires, especially those which supply monitor should be avoided.

Then the uniphone receiver in an apartment should be picked up and electro-catch opening pushbutton should be pressed.

NOTE!

During this operation the receiver should not be kept close to an ear because loud sounds may be heard!

Electronic cassette will start to search the signal with picked up receiver, after it has been found a short signal will be heard in the receiver and the connection will be set with the external panel.

Next step is programming of calling signal. This operation can be ignored by replacing the receiver. In entry phone 8 different calling signals are available which may be individually programmed in each apartment. Calling signal is changed by pressing electro-catch button in the uniphone.

An installing specialist may change calling volume by pressing a lever under the receiver for a moment (approx. 0.5 s), in the receiver calling signal may be heard. Next pressing will result in next calling signal of different volume. Three short signals of increasing frequency in a receiver mean that calling signal of increasing frequency has been selected.

After having made the selection of calling volume and tone the receiver should be replaced to accept changes.

After hang up the uniphone, the system will call back and the installing specialist can check correctness of the acoustic line and electro-catch.

NOTE!

It is recommended to activate entry phones in apartments in order from the highest to the lowest numbers especially if the apartments are occupied. After the installing specialist has left, the occupants themselves can start installation procedure, in such situation the exchange will find and connect the uniphone of lower number.

7 Entry phone adjustment CD-2502.

Elements of entry phone system are preliminarily adjusted and position of internal potentiometers should not be changed without necessity.

Entry phone CD-2502 has the following adjustment elements (see dwg. 17):

- P1 — volume control in external panel loudspeaker
- P2 — volume control in uniphone loudspeaker (amplification of panel microphone)
- P3 — line balance responsible for the lack of acoustic interference

Potentiometers P1, P2 and P3 are placed in the electronic cassette.

- P4 — amplification of microphone track in external panel (potentiometer in external panel)
- P1 — amplification of microphone track in uniphone (potentiometer is in uniphone)

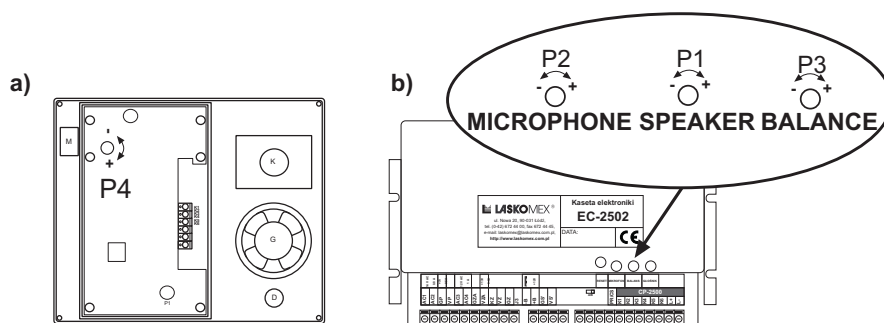


Figure 17: Control elements a) control amplification of microphone in panel, b) control elements in entry phone cassette

Volume control in external panel

If necessary, the volume of speaker in the external panel can be adjusted by potentiometer P1 which is placed in electronic cassette (gain adjust of a signal coming from the uniphones).

Gain adjust of microphone track in external panel

If necessary, the sensitive of microphone track can be adjusted by potentiometer P4 in external panel or potentiometer P2 (microphone) in electronic cassette. However it is recommended to adjust only by potentiometer P2 in electronic cassette. If the results will not be satisfy then adjust potentiometer P4 (position of potentiometer's knob should be at the maximum position).

Balance control

If during a conversation or replacing the receiver there are acoustic disturbances (whistles, squeaks etc.) line balance should be adjusted. For this purpose we call a uniphone installed more or less in the middle of the line length L+, L-. By potentiometers P2 and P1 we set preliminarily the volume of conversation in both directions. By potentiometer P3 we find two induction points (upper and lower) and set it in the midway between these points. Loudness of the conversation should be slightly increased by potentiometers P2 and P1 — these steps should be repeated until the maximal volume of the conversation is found. After optimal setting of P3 the volume of conversation in both directions can be decreased to the required value (P2 should be set to minimal sufficient volume, P3 should be set to approx. 25° below induction threshold). If in a few uniphones there is still induction, the amplification in these areas should be decreased by means of potentiometer P1 in a uniphone.

8 Programming of entry phone

In entry phone control program 9 procedures are available in which parameters effecting the operation of the whole system can be changed. In order to change cassette settings, it should be brought to programming mode. For this purpose, field marked with symbol of key should be touched five times. When four horizontal lines appear on display serial number of electronic cassette should be entered. The code can be read from a label placed on cassette bottom, on the exchange processor or sheet with the codes of the combination lock. If administrator key has been defined earlier, key can be applied to the reader instead of entering the code.

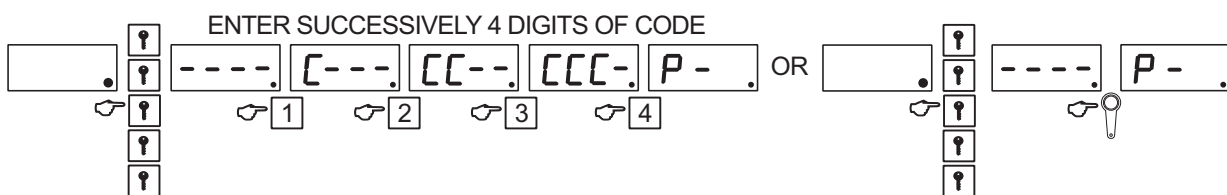


Figure 18: Entering programming mode

If installing specialist's code (serial number of electronic cassette) is correct or administrator's key was applied to the reader symbol **P-** will appear on the display which will inform that entry phone in the main menu of programming mode.

In programming mode 9 procedures are available in which values of consecutive parameters can be edited. In procedures P1 and P2 switching to next parameters is realized by means of pushbuttons 1, 4, 7 (scroll backward) and 3, 6, 9 (scroll forward). Value preview of actual parameter is realized by mean of pushbutton 2.

Edition of parameter value takes place after selecting key with symbol **KEY**. In edition mode flashing current parameter value appears on the display. This value can be changed by selecting a new value by the keyboard or deleting it by key **[C]** and entering a new value. The role of function keys in programming mode is

presented on the following drawing.

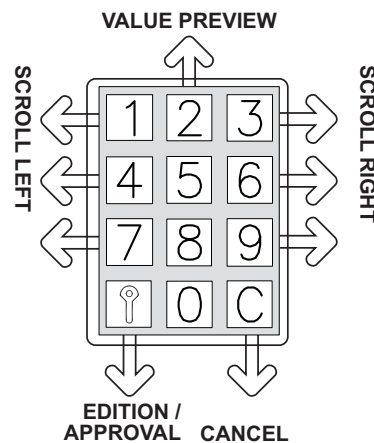


Figure 19: Function keys in programming mode

Function key **KEY** is used for switching to parameter edition mode and accepting entered values. Using key **KEY** it is possible to return to main menu level (on the display message **P- .**). To exit the programming mode, it is necessary to go back to the main menu **[P- .]** and use key **[C]**. Procedures available in entry phone programming mode are described below. Message displayed on external panel during the edition of given parameter is marked with bold type, allowable values of parameters are given in frames, default value of parameter is given in square brackets, while operation modes of electronic cassette, in which edition of a parameter is possible electronic is given in round brackets.

P-1 Operation parameters of entry phone

PARAM. No 1	PARAM. No 2	EDITION - OLD VALUE	EDITION - NEW VALUE	CHANGE ACCEPTATION	RETURN	
P -	EtYP.	toc.	30.	123.	toc.	P -
↵1	↵3	↵!	↵12	↵!	↵C	

In first column with bold font is a message that is shown on panel's display during edition of parameter. In third column are acceptable values of parameter. In fourth column default value is present and in fifth column type of electronic cassette (U or H) is shown where parameter's edition is possible.

EtyP	Operation mode of electronic cassette	0,1	0	U,H	Electronic cassette may service the main entrance (e.g. entrance in fence) or subordinate entrance. In default setting electronic cassette operates subordinate entrance e.g. entrance to staircase – operation in U mode (parameter value equal to 0). Setting parameter value to 1 makes that electronic cassette operates the main entrance (operation in H mode). The change of operation mode of electronic cassette (e.g. which earlier operated in H mode) results in the loss of some information including recorded in memory numbers of electronic. That's why this function should be used carefully. After the change of cassette type the operation of restoring default settings and erasing the electronic's key memory should be made (see page 45).
tOc	Waiting time for picking up the receiver in seconds	10...255	30	U,H	Parameter defines waiting time for receiver pick up in seconds after finishing of calling.
tro	Time of conversation	10...255	120	U,H	Conversation time after picking up the receiver is limited. 10 s before the lapse of conversation programmed time sound signals will be heard in the receiver, which will inform about approaching time of breaking.
Calling tone					
Calling signal consists of three tones of different frequency (F0, F1 i F2) generated in turn for some time (t1d), after that there is a break (tPA) – these make the complete calling cycle. Any proportions may be set between the signal generating time and the following break; furthermore time of an individual tone (t1t) as well as tone frequencies F1 and F2 may be changed as well. Owing to this a uniphone calling sound may be changed in a wide range.					
t1d	Time of signal generation	10...255	100	U,H	Duration of a signal consisting of tones repeated in cycles F1,F2,F3 expressed in ms (parameter value x 10 ms).
tPA	Pause time	20...255	150	U,H	Break after signal generation in ms (parameter value x10ms).
Electro-catch					
trY	Time of electro-catch operation in second	1...31	5	U,H	
FrY	Frequency of electro-catch supply voltage in Hz	0...200	50	U,H	Electro-catch supplied with alternating voltage from a transformer makes a characteristic sound (humming) which is often associated with opening of door. This parameter makes it possible to simulate the operation of an electro-catch. Entering value "0" makes that an electro-catch will operate without making any sound.

Video signal service					
CAin	Supported video inputs	0...1234	0	U	Inputs of CVP-x switch which are serviced by CD system. Value '0' of parameter means using a CVP-1 switch, while a value greater than zero means CVP-2 switch - the individual digits in the number means which inputs in the switch are used (eg. CAin=124 - picture from inputs 1 - H el. cassette, 2 - U el. cassette and 4 - additional camera eg. from parking lot)
CAtP	Time interval [s] of switching video signal	1...10	3	U	Switching interval between images from the cameras while preview is active - eg. parameter value CAtP = 3 will result in switching pictures from video inputs every 3 seconds.
Kind of numbering					
nbL	Block number	0...9998	0	U	Value above 0 is set in electronic cassette servicing subordinate entrance switches on mode with building numbering. This mode will operate properly if in electronic cassette, which services the main entrance, mode with building numbering is switched. Details in item "Numbering", see page 9.
Pnu	Range shift	0...9998	0	U	Parameter used in numbering mode with range shift. Details in item "Numbering", see page 9.
LPI	Amount of rooms on the floor	0...100	0	U	Parameter used in hotel numbering mode in which room number is preceded by a digit which defines the floor on which the room is located. Details in item "Numbering", see page 9.
LLo	Range of serviced numbers – low value	1...240	1	U	Parameter is used to set number range which is serviced by an entry phone. After selecting a number outside this range a message will appear on the display OFF . Limiting the range is recommended especially in case of an entry phone in a multi-entrance version. Be careful that $LLo < LHi$, otherwise selecting of any number will result in displaying a message OFF .
LHi	Range of serviced numbers – high value	1...240	240	U	Parameter is used to set number range which is serviced by an entry phone.
LdP	Directing of not serviced numbers	0...9998	0	U,H	All numbers which are not serviced by entry phone CD-2502, will be directed to uniphone number given as LdP value (see item 4 page 9).
NbP	Block number for directing of not serviced numbers	0...9998	0	H	All numbers which are not serviced by entry phone CD-2502, will be directed to uniphone number given as LdP value, connected to electronic cassette which parameter nbL is the same as parameter NbP (see item 4 page 9).
Un	Additional number not included in the serviced range	0...9998	0	U	<i>n</i> - number from the range 241...254 Number introduced as a value of this parameter will be assigned as a logical number of uniphone of physical number <i>n</i> . NOTE: If additional number will be the same as number that is already used, then the physical number that is assigned to this additional number will have a priority. This also applies to all individual settings.

P-2 Functions realized by entry phone

Parameters P2 can have values [-0-] or [-1-]. In third column default value of parameter is given. Value [-1-] means switched on function, value [-0-] – switched off function. In fourth column type of electronic cassette (U or H) is shown where parameter's edition is possible.

	PARAM. No 1	PARAM. No 2	EDITION - OLD VALUE	EDITION - NEW VALUE	CHANGE ACCEPTATION	RETURN
	P - .	EAu.	ton.	-1-.	-0-.	ton.
	↩ 2	↩ 3	↩ 1	↩ 1 2	↩ 1	↩ C

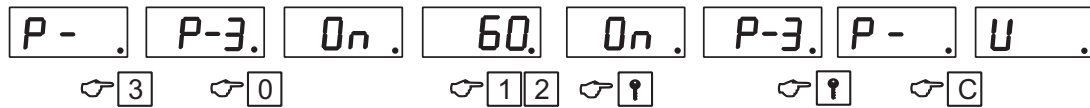
EAu	Sound signal of sign selected from the keyboard	1	U,H	Selection of any sign from the keyboard may be signaled with short acoustic signals.
ton	Multitone signalling of sign selected from the keyboard	1	U,H	Selection of a key may be signalled with the same sound (one tone signalling) or for every key sound of different pitch may be attributed (multitone signalling). The use of this function requires fulfilling the following condition EAu=1 and tone=1.
dJ		0	U,H	Duration of acoustic signal which signals selection of any sign from the keyboard is as long as time of keystroke but no longer then 1 second. The use of this function requires fulfilling the following condition EAu=1 and ton=1.
APo	Acoustic confirming opening the electro-catch	0	U,H	If parameter is set up on value "1" each opening of electro-catch will be signalized in external panel by acoustic signal.
CEn	Switching on coded lock service	1	U,H	Setting 0 value makes that function of coded lock will be switched off for all users regardless of setting for the individual apartments.
CEd	Permission to edition of coded lock codes by occupants	1	U	By default the occupants have the possibility to change the codes of a combination lock in user's menu. Setting this parameter to value "0" blocks this possibility to all occupants regardless of individual settings.
CPo	Permission to confirm the use of lock code	1	U	Each unblocking of door by means of a coded lock makes that three short acoustic signals are generated in a uniphone mounted in an apartment whose code was used to open the door. Parameter set to "0" enables to switch off this signalization in all uniphones. The signaling can be switched off for the selected numbers (see procedure 8, page 38).
CEr	Confirming the use of a wrong code of coded lock	0	U	Entering the wrong code to a combination lock makes that two long acoustic signals will be generated in a uniphone mounted in an apartment to which there was an attempt to use a code to open the door. This is a signal for occupants that somebody tries to break the code of a combination lock. This option allows switching off this signalization in all uniphones.
CHA	Request to enter code of coded lock during entering user's menu	0	U	Setting parameter value to "1" forces to enter the code of coded lock during entering user's menu.
idE	Switching on/off of electronic keys	1	U,H	Setting parameter value to "1" permits using electronic keys iButton (Dallas) and/or RFID.
idA	Registration of electronic keys by users	1	U,H	Setting parameter value to "1" permits the users to register new electronic keys from user's menu.
CAon	Supply of camera and illumination	0	U,H	Supply of camera and illumination of camera in external panel can be turn on continuously [1] or only during the conversation [0]. If users want to monitor picture from camera also in the night, than the illumination of camera should be turn on continuously. NOTE: Supplying camera is shown on picture 9. NOTE: Even if illumination of camera is turn on continuously, it will be turn off automatically by photoelement in case of good enough external illumination.

3C	Switching on three-position display	0	U,H	Function should be switched on when electronic cassette EC-2502 cooperates with the panel with three position of old type. In such case some messages appearing on the display will be distorted. Switching on the three position service makes that some messages appearing on the display will differ from those described in the instruction.
Ent	Fast entrance	1	U	In order to enter an apartment in a building with the main entrance two entrances protected by entry phone system should be passed. An occupant must activate electro-switch twice – the first time at the main entrance and the second time at the subordinate entrance (see page. 42).
NbL	Mode with building numbering	1	H	Switches on the mode with the building numbering. The function will operate properly if parameter nbL in U exchanges is above zero.

P-3 Installation procedure

The procedure facilitates the activation of an entry phone system. Starting procedure P3 enables the installing specialist to check the correctness of functioning of uniphones mounted in apartments without any help of other persons. Activation of CD-2502 was described in chapter 6.8, on page 24.

SWITCH ON THE INSTALLATION PROCEDURE



P-3-0	ON/OFF	Switching on/switching off of installation procedure. During activating the procedure their limit time should be entered - from 1 minute to 255 minutes (4h15m).
P-3-1	FLO	low range of searched numbers
P-3-2	FHi	high range of searched numbers
P-3-3		Searching for the picked up (incorrectly placed) receiver. When this procedure is started, searching for picked up (incorrectly placed) receivers begins. On the display numbers of successively checked apartments are being indicated. When uniphone with the picked up (incorrectly placed) receiver is found in one of such apartments, then the display of the external panel will show the number of such uniphone for a couple of seconds. In order to start searching for next uniphones, a key with a KEY symbol should be pushed or one must wait a couple of seconds. After that searching will be started automatically.
P-3-4	LOC/OFF	Blocking the possibility of using an entry phone. In this mode it is not possible to get connection with any apartment, however, entering any number from a keyboard of an entry phone will result in unblocking the entrance. This function can be used during the activation of an entry phone and enables the occupants to enter the staircase with a door equipped with self closing device.
P-3-5	L-F	Calculator converting uniphone logical number to its physical number. Calculator functions on condition that range shift parameter has been set or the exchange has been set to hotel numbering mode. In order to calculate the physical number of a uniphone, its logical number should be entered from a keyboard and then it should be confirmed by a key with a symbol of key.
P-3-6	F-L	Calculator converting the physical number to logical number. The principle of operation is similar to procedure P-3-5. In order to calculate the logical number of a uniphone, its physical number should be entered from a keyboard and then it should be confirmed by a key with a symbol of key.
P-3-7	SYS	Restoring the default parameters of the exchange operation (defined by procedures P-1 and P-2).
P-3-8	CoL	Restoring the default parameters of the values of the coded lock. Restoring the codes of a combination lock results in restoring the default code of an installing specialist.
P-3-9	OPL	Restoring the default values of individual settings in electronic cassette.

P-4 Electronic keys

Entry phone CD-2502 can be equipped with iButton and/or RFID electronic key reader. There are three kinds of keys in entry phone. Service keys enable change of entry phone configuration, special keys are used by postmen, administration etc. and keys for the occupants.

Keys should be registered at both the main and subordinate entrance. At the main entrance keys attributed to apartment cannot be registered.

Entry phone users can register their own electronic keys (see page. 43). This possibility can be switched off globally in procedure P-2 by setting parameter [iba] to value "0" or individually in procedure P-5.

Electronic keys can be used after their earlier registration in entry phone memory. Registration includes the activation of procedure (P-4-1 or P-4-2) and applying the key to the reader.

P-4-0	C0	Resetting electronic key memory	U,H	Installing specialist's code P- P- 4 --- CLR tSt P- 4 P- 4 0 1 2 3 4 ? Procedure is used for resetting all keys stored in entry phone system memory. Administrator code should be given to protect against accidental resetting. After having given the code or having used the service key during resetting time on display message CLR and tSt will appear. Procedure results in resetting of all user's code and service key codes which lasts approx. 5 sec.
P-4-1	Add	Addition of key without attributing to apartment	U,H	CELL NUMBER IN MEMORY P- P- 4 Add nEu 22. Add P- 4 4 1 ? C After applying the key to the reader its serial number will be read and stored in entry phone memory. On the display the following messages will be shown Add, NEU and xx, where xx is a number which defines number of memory cell in which key number was saved. If the key has already been saved in entry phone memory a message OLD will appear on the display. An installing specialists cannot change the item in which key number is saved. The key is registered in the next free memory item. An installing specialist can make a list in which key position in memory as well as the name of a person to which the key will be given. It is important in the case when the key has to be deleted from the memory, however this method is not comfortable.

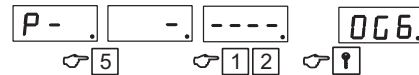
P-4-2	AdL	Addition of key with attributing to apartment	U	APARTMENT NUMBER P- P- 4 L--- 10 10 nEu 22 L--- P- 4 P- ↺4 ↺2 ↺10 ↺9 POSITION IN MEMORY ↺1 ↺1 END OF OPERATION Procedure enables adding of key and attributing it to selected apartment number, which facilitates keys management. The use of the key is signalled in uniphone receiver as in the case of combination lock. Programming is realized as follows: • After activation P-4-2 on the display a flashing message will appear L- - - . • Give apartment number and confirm it with key KEY . Digit on the display will flash slowly. • Apply key to the reader. On the display a message Add will appear for a moment and a number of memory item in which key number is saved. • When on the display a flashing apartment number reappears next key for this apartment can be registered. • Key KEY . should be used for registration of keys for next apartments. When message L- - - appears on the display the operation should be repeated.												
P-4-3	AdP	Programming of key on the selected item in memory	U,H	APARTMENT NUMBER P- P- 4 P--- AddP 15 AddP P--- P- ↺4 ↺3 ↺15 ↺9 ↺1 Key can be programmed in the selected item in key memory. Function is used for registering next special keys, because memory cells in which the keys are saved are protected against recording in other way. To reset special key or service key procedure P-4-6 should be used. Key organization in memory is as follows: <table><tr><td>Operation mode</td><td>EC-2502/U</td><td>EC-2502/H</td></tr><tr><td>Regular keys</td><td>0-999</td><td>0-1999</td></tr><tr><td>Special keys</td><td>1000-1019</td><td>2000-2039</td></tr><tr><td>Administrator's keys</td><td>1020-1023</td><td>2040-2047</td></tr></table> Registration of keys is as follows: • Start procedure P-4-3. On the display message AdP will appear and after a while P--- • Give item number and confirm by KEY . Message will stop flashing. • Apply the key to reader. On the display message Add will appear. • Repeat the operations for the following keys or finish it with KEY key	Operation mode	EC-2502/U	EC-2502/H	Regular keys	0-999	0-1999	Special keys	1000-1019	2000-2039	Administrator's keys	1020-1023	2040-2047
Operation mode	EC-2502/U	EC-2502/H														
Regular keys	0-999	0-1999														
Special keys	1000-1019	2000-2039														
Administrator's keys	1020-1023	2040-2047														

P-4-4	deL	Key deleting	U,H	APARTMENT NUMBER P- . P- 4 CAS. 15. CAS. P- 4 P- . ↺ 4 ↺ 4 ↺ ↺ 1 Deleting the key from memory will take place after applying it to the reader. On the display a message CAS will appear and a number which defines the memory item in which the deleted key was recorded. NOTE: To delete special key or administrator's key use procedure P-4-6.
P-4-5	Ldel	Resetting the key attributed to the apartment	U	APARTMENT NUMBER CELL NUMBER IN MEMORY P- . P- 4 LdE I. 63 F Ind. P 2. CAS. LdE I. P- 4 P- . ↺ 4 ↺ 5 ↺ 6 3 ↺ 1 ↺ C ↺ 1 ↺ 1 Key resetting procedures: • Start program P-4-5. On the display message LdEI will appear. • Give the apartment number and confirm it with key KEY. Entry phone will search the first memory item in which key number attributed to the selected apartment is recorded • If the key has been located, on the display the following messages will appear successively P and xx where xx is a number which defines number of memory cell in which key number was saved. • To reset the key select key C. On the display message CAS will appear for a moment. Entry phone will start searching next keys. • Use key KEY. to pass to the next item. If in the next few seconds none key is used, the entry phone will search automatically the next key attributed to the selected apartment number. • As soon as the whole base is searched message End will be displayed. End
P-4-6	Pdel	Resetting key recorded in the defined item	U,H	CELL NUMBER IN MEMORY P- . P- 4 PdE I. P- . 63. CAS. P- . P- 4 P- . ↺ 4 ↺ 6 ↺ 6 3 ↺ 1 ↺ 1 ↺ 1 Procedure is used for key resetting after having given the memory item in which the key was recorded. After starting the procedure on the display a message P— will appear. After memory item is given and after confirming with key KEY the key number will be deleted, which will be confirmed by message CAS. If given item is free on the display message FrEE will be shown.
P-4-7	Id	Key identification	U,H	CELL NUMBER IN MEMORY APARTMENT NUMBER P- . P- 4 Id P 1. L 12 Id P- 4 P- . ↺ 4 ↺ 7 ↺ ↺ 1 ↺ 1 Procedure is used for key identification. After applying the key to the reader on the display an information will appear in which item it will be recorded P - x and to which apartment it is attributed: L - x, (if it is not attributed L - 0). If identified key is defined as serviced message SER will appear on the display.

P-4-9	SEr	Programming of service key (administrator)	U,H	P- P- 4 SEr CAdd. P- 4 P-  4  9     Service key functions similarly to administrator's code it enables to enter programming procedures and service key functions independently of administrator's code. This operation results in replacing the old key with a new one. In order to register next service keys one should use procedure P-4-3. Service keys are registered in memory cells in the range 1020 ...1023 w EC-2502/U and 2040...2047 in EC-2502/H. Keys may be overtyped with other keys or delete from the definite memory cell with procedure P-4-6.
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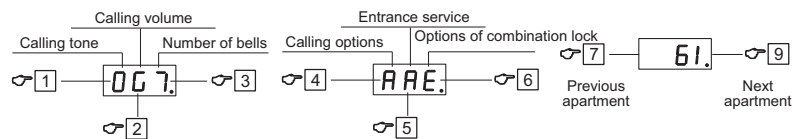
P-5 Individual settings

In system CD-2502 there is a possibility of individual settings of some parameters of entry phone connected with uniphone calling and functions of combination lock. Values of parameters 1-3 may be changed by occupants by user's menu (see page. 43), parameters 4-6 are available for the installing specialist only.



Starting the program of individual settings for the selected apartment (in example No. 12)

Parameter values are changed by means of keys 1 - 6. Each pressing of the selected button results in setting of next value of the parameter. Keys 7 and 9 are used for switching of the parameter edition mode – the previous and next apartment number.



Keys used for changing individual settings

Parameter No. 1. Calling tone, key 1

Parameter can take values from the range 0...7. Parameter value is defined by one of 8 pre-defined calling tones.

Parameter No. 2. Calling volume, key 2

Entry phone enables setting three volume levels and calling of increasing volume (requires setting at least three bells)

- **C** — silent bell
- **U** — moderate bell
- **G** — loud bell
- **N** — increasing bell

Parameter nr. 3. Number of bells, key 3

Entry phone allows defining the number of bells which will be generated after calling. From 1 to 8 bells can be set.

Parameter No. 4. Calling options, key 4

If needed entry phone reaction after calling can be changed:

- **-** - Uniphone switched off. Selection of this option makes that it is impossible to make a connection with the apartment for which such setting was selected. An attempt to make a connection will be followed by a message **OFF**.
NOTE! If local number is in the range of serviced number and parameter LdP in procedure P-1 is set up, than dial the uniphone which is switched off will cause the call forward.
- **d** - Uniphone functions as a bell. Uniphone may be called, however, conversation cannot be conducted and electro-catch cannot be controlled
- **A** - Active uniphone. Uniphone may be called, conversation can be conducted and electro-catch may be controlled.
- **P** - Active uniphone. Uniphone may be called, conversation can be conducted and electro-catch may be controlled. There is no confirmation of use of lock code and electronic keys.
- **b** - Active uniphone. Uniphone may be called, conversation can be conducted and electro-catch may be controlled. During connection the camera in external panel is turn off - blockade of vision.
NOTE! JP1 jumper that control the supply of camera in the panel must be set to supply in accordance with the setting parameter CAon (previously named EUC).

Parameter No. 5. Entrance service, key 5

In the entry phone it is possible to define how the pushbutton operates the electro-catch at the individual entrances.

- ☐ — No electro-catch control from the uniphone (monitor).
- ☐ U — Pushbutton activates electro-catch at the subordinate entrance only.
- ☐ H — Pushbutton activates electro-catch at the main entrance only.
- ☐ A — Pushbutton activates electro-catch at the main entrance and at the subordinate entrance.
- ☐ d — Pushbutton activates electro-catch at the main entrance and at the subordinate entrance. Additionally if the receiver is picked up, then entering the number of this uniphone will activate electro-catch automatically.

Parameter No. 6. Options of combination lock, key 6

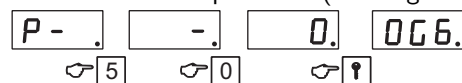
This parameter defines the operation of combination lock.

- ☐ — Combination lock switched off.
- ☐ A — Combination lock activated, occupant can neither change the code or register electronic keys.
- ☐ E — Combination lock activated, occupant may change the code and register electronic keys.

Copying of settings Entry phone CD-2502 enables copying the selected set of settings to group of numbers which is defined by a number range from the lowest number (LLO) to the highest (LHI). The logical range of numbers should be given (taking into account number shifting or hotel numbering).

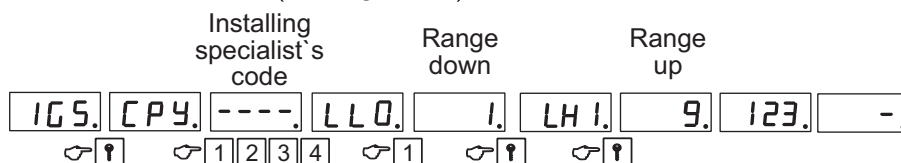
Copying of settings is realized as follows:

- start procedure P5 and give "0" as a number of apartment (see dwg. below)



Copying of settings - turn on the procedure

- using keys 1-6 set, according to the above instruction, the desired combination of individual settings.
- selected settings should be confirmed with a KEY symbol. On the display message [CPY] will appear for a moment and then horizontal bars (see dwg. below).

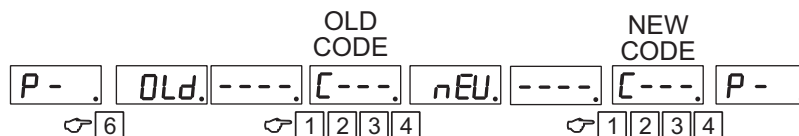


Copying of settings - choice of number range

- give the code of an installing specialist. This a security against an accidental copying of settings.
- give the lowest number from the number range to which the settings will be copied (LLO).
- give the highest number of his range (LHI) and confirm with a key with key symbol.
- on the screen fast changing digits will appear informing about copying of settings.

P-6 Change of installing specialist's code

The code of an installing specialists enables entering the entry phone programming code. In case of installing specialists or property administrators it is convenient to use one common code for all entry phones which should be maintained. After having restored default settings of entry phone or codes of combination lock the manufacturer's value of the code is restored. To change the old code of an installing specialist, the old code should be given and a new one should be entered.



P-7 MLX module support - backup/upload of EC parameters

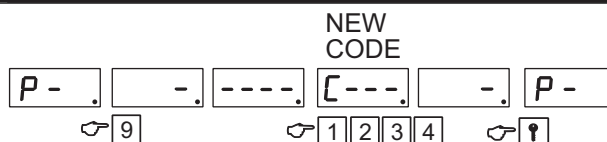
This procedure allows the installer to exchange data between electronic cassette and MLX module, which is making export of parameters from electronic cassette to the MLX module or import from MLX module to the electronic cassette.

P-8 Release of electro-catch in service mode

This procedure enables the installing specialist to enter the staircase e.g. to service the installation. Owing to this he does not have to ask for opening the door by the occupants. Activation of this procedure makes that the door is unblocked and then the entry phone returns to normal operation mode. This procedure may also be used for quick quitting the programming mode.



P-9 Change of coded lock code



To change the code of coded lock the following activities are done:

- Activate procedure P-9. When on the display of external panel a message [-] appears number of apartment for which lock code will be changed should be given.
- When on the display symbol [- - -] appears four digits of a new code should be entered.
- After having entered the last digit on the display a symbol [-] will appear. The operation can be repeated for the next number or finished by using a key KEY

9 Entry phone use

9.1 Connection with apartment

To make the connection with the apartment, its number should be entered from the keyboard. After the lapse of 3 s a uniphone in this apartment will ring and on the panel display message [CALL] will appear. Then on the display message [OuO] will appear which will inform that entry phone waits for picking up the

receiver. If the receiver in the apartment is picked up, this symbol changes to **[ouo]** and a conversation can be conducted. If the receiver in the apartment is not picked up then after several seconds the entry phone will return to normal operation mode. Time of conversation is limited and in standard setting it amounts 2 minutes, however, the installing specialist can change it. 10 seconds before the conversation is ended on the display digits will appear while in the uniphone receiver and panel loudspeaker short acoustic signals will be generated informing how many seconds are left till the conversation is ended. The conversation can be finished by hanging up the receiver. In any moment of the conversation the occupant may open the electro-catch by pushing the door opening button in uniphone or monitor. Electro-catch is activated in standard setting for 5 sec. Release of the entrance lock is signaled with acoustic signal from loudspeaker in external panel. In selected apartments an installing specialist may switch off the possibility of activating the electro-catch or limit it to the activation of electro-catch at the main or subordinate entrance. In entry phones with more than one entrance users may see a message **[ZAJ]**. This message means that a conversation is conducted at the other entrance and entry phone is busy at the moment. In such situation one must wait until the first conversation is finished (message **[ZAJ]** will disappear and it will be possible to use keyboard). In entry phone with the main entrance a situation may take place when from the main entrance an attempt will be made to connect the number from which a conversation is being conducted with the subordinate entrance. In such situation this conversation will be shortened. Entry phone within 10 sec will automatically finish the conversation, at the same time on the display digits will appear which would inform how many seconds are left till the conversation is ended and in the uniphone receiver short acoustic signals will be generated.

9.2 Connection from the main entrance

Using the entry phone at the main entrance is the same as at the subordinate entrance. If building numbering mode is activated, the number selected from the keyboard consists of two elements: building number and apartment number in this building (or staircase).

Number selection in this mode is as follows:

- Select the block number e.g. 8. On the display message **[b 8]** appears
- Confirm with key **KEY**. On the display message **[L]** will appear
- Enter apartment number
- Wait until entry phone rings and on the display message **[CALL]** appears.

Flashing message **[ZAJ]** visible on the display means that a conversation is conducted between the selected or other number in the same staircase from the subordinate entrance. This conversation will be broken after 10 sec; no action should be made, it is enough to wait until entry phone rings at the selected apartment which will

be signaled with message **CALL** Entry phone CD-2502 realizes functions "fast entrance" which is used only in entry phone with the main and subordinate entrances. In entry phone without this function one must ring the occupant twice in order to get to his apartment (the first time at the main entrance and the second time at the entrance to the staircase). Function "fast entrance" eliminates the second step. The function is activated by an occupant in his apartment:

- during the conversation with the person at the main entrance, the entrance should be unblocked by pressing the electro-catch pushbutton in uniphone or monitor. Then uniphone forks should be pressed for a while – activation of a function will be confirmed by three increasing sounds in the uniphone receiver.
- the function can be switched off by pressing uniphone forks for the second time. Switching off the function will be confirmed by three decreasing sounds in the uniphone receiver.
- Visiting person comes to the staircase and attempts to make a connection with the apartment by selecting its number from the keyboard. Entry phone instead of making the second connection with the apartment, releases door catch.
- Function remains activated for 4 min and 15 sec from the moment of its activation.
- Each electronic cassette servicing staircase can activate option for two apartments at the same time.
- For one apartment a function cannot be activated twice at the same time.

9.3 Use of uniphone

When holding a receiver close to an ear one should not press forks in the uniphone base for a longer time because a loud signal may be generated in the receiver, which can result in hearing defect.

During the conversation the user can in any moment press the button activating the electro-catch. Activation of electro-catch does not break the conversation.

Uniphone can be equipped with a key to control gate drive.

This key can operate in two ways:

- key operates only during the conversation
- key operates in any moment

9.4 Use of monitor

A few models of monitors cooperate with entry phone CD-2502. Functions and use of monitor are described in the instruction enclosed to each monitor.

9.5 Using coded lock function

To each apartment one four digit number is attributed which is preliminary defined in the entry phone production process. This code can be changed by an installing specialist or occupant (unless this option is blocked). Door opening with lock code is as follows:

- Enter from the keyboard the number of apartment and confirm by a key KEY
- Enter four digit code.

After having given the correct code the electro-catch will be released. In the uniphone in an apartment whose code was used to open the door three short acoustic signals will be generated to inform the occupants that somebody has used their code. Each failed attempt to enter the code is signaled with two long signals in a uniphone receiver. Occupant can change the coded lock code that was given to him. Changing method is described below.

Using coded lock function by user can be blocked by the installer! - in procedure P-5 parameters No. 4 and 6 set up on value "-".

9.6 Using electronic keys

To unblock the entrance with iButton (DALLAS) or RFID key it should be put to the reader in an external panel (RFID key reader is mounted behind the keypad of panel). **NOTE: The keypad in external panel is blocking during reading RFID key and the value that was entered earlier is erased.** Entry phone will read the key serial number and will compare it with the numbers in the memory. If the read number corresponds to one of the programmed numbers, the entry phone opens the electro-catch signaling the opening of door with four short sound signals. Occupant can register next electronic keys (see next item of this instruction). The user can register keys only at the entrance leading to his apartment. Keys for the main entrance can be registered by an installing specialist only.

9.7 User's menu

This menu is available in systems named 2502 or 3100. In order to check which system is present, the button [9] should be chosen four times on the panel keyboard, after a moment on the panel display the system name and software version will appear.

Occupant can change from the entry phone keyboard (this refers to subordinate entrance) some operation parameters such as:

- calling tone,
- volume,
- number of rings,
- code of coded lock,

- register new electronic keys.

To make changes an occupant must activate user's menu. Some person in the apartment must help.

User's menu activation:

- Make connection with the apartment (only from the subordinate entrance panel).
- Press button with a sign of a key and while pressing it ask a person in the apartment to press the catch button five times. Activation of a function is signaled with three short signals in uniphone receiver and external panel and also with message [OPC] displayed temporarily on the external panel's display.
- Finish the conversation.
- Enter the apartment number and press button KEY.

NOTE! If parameter CHA is set up on value "1" then after pressing button KEY code of coded lock should be entered. On the display user's menu will be shown, where parameter's edition is available. (see dwg. 20).

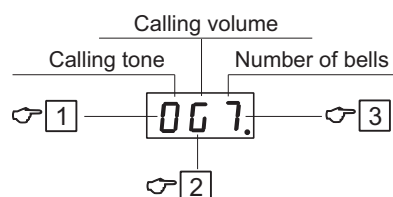


Figure 20: User's menu

- The first sign on the display defines calling tone (0...7). Calling signal can be changed by pressing the key marked with number [1].
- The second sign on the display defines volume of calling signal (G - loud, N - increasing, C - soft, U - moderate). Selection of increasing signal is sensible at the number of rings higher than 1. Volume is controlled with key [2].
- The third sign on the display defines the number of rings (1-8) - decides how long the uniphone rings. Number of signals is controlled with key [3].

Change of coded lock code

To change the code of coded lock, user's menu should be activated and key [0] should be selected. For a moment messages [NEU] and [CODE] and then four horizontal bars will appear and then new code of coded lock should be entered. New code should be entered twice. **Option of changing the code by the user can be blocked by an installer!**

Registering of a new electronic key

In user's menu after selecting 8, message [ADD] will appear on the display. Electronic key should be put to the reader. Message [NEU] means that key was recorded in memory and attributed to the apartment. If a key, which was recorded earlier is put to a reader, on the display message [OLD] will appear. **Option of registering of a new electronic key by the user can be blocked by an installer!**

Exit from user's menu

To exit from edition of user's menu (not to exit from the whole procedure) in order to check and to correct settings, press the key with a symbol of key [KEY]. There is a possibility to make a call.

To finally exit from the whole procedure press the key [C]. In this case the second enter to the menu requires repeating the whole procedure from the beginning.

After about 4 minutes of inactivity, access to the user's menu will be turn off automatically.

In this procedure the necessity of cooperation with other person has been introduced in order to prevent unauthorized changes of entry phone parameters.

10 Restoring the initial settings

NOTE!

Restoring the default settings results in the loss of information recorded in memory EEPROM of electronic cassette (changed codes of coded lock, numbers of electronic keys, individual settings etc.). Prior to this operation one should get acquainted with the content of this chapter.

In system CD-2502 restoring of default operation parameters for electronic cassette can be done in two ways: globally (refers to parameters set by procedures P-1, P-2, P-5, P-6 and P-10) or selectively (default values defined by individual procedures are restored).

Global restoration of default parameters. Reset of electronic cassette.

In order to restore default parameters of electronic cassette operation pushbutton INIT (SW2) should be pressed and then a pushbutton RESET (SW1, see dwg. 21) should be pressed for a while and released. After approx. 2 seconds pushbutton INIT (SW2) can be released, at that time on the display of the external panel quickly changing digits will appear. When the countdown visible on the display stops, all default settings will be restored in the cassette: default codes of coded locks, code of installing specialist, exchange operation parameters defined in procedures P-1, P-2, P-3 and P-5.

NOTE!

It pushbutton init after having initiated remains pushed in for longer than 10 s, electronic cassette will start resetting all recorded iButton and/or RFID keys.

Operation mode of electronic cassette will not be changed i.e. if before restoring

default settings the cassette was configured as EC-2502/H, after finishing of this operation the cassette will still operate in this mode.

Pushbutton RESET is used for momentary stopping the operation of a processor. Its pressing makes that the processor stops working, while the release causes the operation resumption; the processor starts the operation from the program beginning. The pushbutton is used in the case of exchange hang-up (it does not react to key selection and random signs appear on the display) and restoring default settings. Pressing pushbutton INIT is information for the processor that the default settings should be restored – video entry phone checks if this pushbutton was pressed just after switching on the supply or pressing and releasing of RESET pushbutton. That is why the sequence of operations is important during restoring the default values. Selective restoring of default settings of the entry phone system. Enables restoring the default values of the selected parameters without change of other parameters. This function is available for the installing specialist after entering the cassette programming mode and does not require the direct access to entry phone electronic cassette.

- P-3-7 Restoration of operation parameters and configuration of electronic cassette. Restores default values of parameters in procedures P-1 and P-2.
- P-3-8 Restores default values of coded lock codes and preset code the installing specialist. If the code of the installing specialist was changed earlier it should be remembered to change it again because quitting the programming mode will require entering the previous code. If the installing specialist has forgotten the previous code he can read it from a label on the cassette processor.
- P-3-9 Restoring the default values of individual settings for apartments.

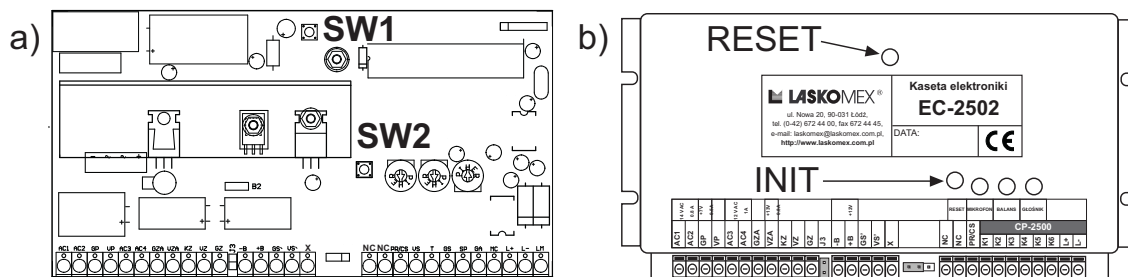


Figure 21: Position of pushbuttons INIT and RESET

11 Maintenance of entry phone

- In case the keyboard of entry phone gets dirty it should be wiped with a damp cloth. Surfaces through which lighting diodes are visible should be cleaned with special care. No visible dirt should be left on it. This surface should not be cleaned with sharp objects which can scratch the plate.
- External panels should be cleaned with means which do not contain solvents.

- Uniphones should be cleaned with a damp cloth or using the means for cleaning plastics. It is forbidden to use solvents.
- In case the monitor gets dirty it should be cleaned with a soft and damp cloth. It is recommended to do it with power cut off.
- No abrasive materials which might scratch the casing surface can be used. No benzene, solvents or strong detergents can be used because they might cause damage or discolouring of the surface.

12 Conformity with previous versions

12.1 Electronic cassette

Electronic cassettes EC-2502 can be used as replacements of electronic cassettes EC-2200, EC-2200/U, EC-2200H, EC-2500/S, EC-2500/U, EC-2500/H, EC-2501/U and EC-2501H.

Electronic cassettes will co-operate with all previous versions of external panels for the mentioned systems. If a three position display is installed in a panel, in electronic cassette settings an operation of three position display should be activated (procedure P2, parameter 3C).

12.2 External panel

External panels CP-2501xx, CP-2511xx, CP-2521xx can be used instead of panels CP-2500xx with the exception of panels equipped with electronic key readers. In previous versions of entry phones the panels were equipped with separate controllers. In system CD-2502 this function is taken over by electronic cassette so external panels have also been changed. However, there is a possibility of using the controller from the old electronic cassette and connecting it to the reader in the new panel. Using these panels requires modification of electronic cassette. Detailed information on this subject is available in Laskomex service.

NOTE!

Correct work of RFID function in CP-25xxR panel ensure cooperation only with EC-2502R electronic cassette.

12.3 Other entry phone systems

Systems CD-2501 and CD-2502 can cooperate with system CD-3100. This refers to situation when a few buildings should be enclosed with a fence in which there will be more than one entrance. In such case at the main entrance an entry phone CD-3100 should be installed (set consisted of EC-3100, CP-3100 and supplier). Subordinate entrances should be connected in such a way as if entry phone CD-2502 (line L+, L-) was installed at the main entrance. **If CD-3100 is connected with CD-2501 mode with building numbering will not operate.** In multi-entrance

system built on the basis CD-2501 or CD-2502, where to one of the staircases the service of the next staircase should be added entry phone CD-2501/U or CD-2502 can be replaced with entry phone CD-3100.

13 Messages about faults

The doorphone CD-2502 can signal the following faults:

- EC: Means that two or more infrared beams are damaged or covered
- E2: Means short-circuit of uniphone line. Installation should be checked, short-circuit should be eliminated or damaged uniphones should be replaced. By measuring current input on uniphone line, the nature of fault can be determined.
- E0: This message means that system memory EEPROM is damaged in the electronic cassette.
- EEr: Means an error in recording or in reading memory with system settings or codes of combination lock

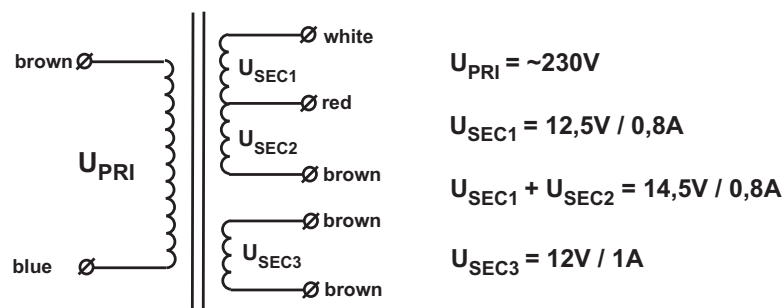
14 Technical data

Power supply of EC-2502 electronic cassette

Only from recommended power supply feeder (see subsection "Power supply", page 8 and the figure on page 48):

- 14,5V/0,8A (terminals AC1 and AC2)
- 12V/1A (terminals AC3 and AC4)

ZS-K-25/01 or TSZZM 25/021M power supply feeder of electronic cassette - description of wires



Power supply of CP-2502 external panel

Only from EC-2502 electronic cassette - 12V/250mA (terminals K1-K3)

Ambient temperature

$(-25 \div +55)^{\circ}\text{C}$

Degree of protection

Electronic cassette EC-2502:	IP20
External panel CP-xxx:	IP44
Uniphone (each model for CD-2502):	IP30
Monitor (each model for CD-2502):	IP30
CVR-1, CVR-2, CVP-1, CVP-2, MRL-1:	IP30

14.1 Description of terminals

Electronic cassette

AC1	cassette supply 14,5 V AC
AC2	cassette supply 14,5 V AC
GP	mass of non-stabilized voltage
VP	non-stabilized voltage output
AC3	electro-catch supply 12 V AC
AC4	electro-catch supply 12 V AC
GZA	mass of electro-catch supply
VZA	electro-catch supply
KZ	output of key switching on the electro-catch
VZ	output of key switching on the electro-catch
GZ	mass of the key switching on the electro-catch
GS'	mass of stabilized voltage
VS'	stabilized voltage +12 V
PR	door opening pushbutton
CS	selection of video signal source
K1 (VS)*	stabilized voltage +12 V
K2 (T)*	digital transmission
K3 (GS)*	mass of stabilized voltage
K4 (SP)*	loudspeaker
K5 (GA)*	analogue mass
K6 (MC)*	microphone
L+	uniphone line
L-	uniphone line
LM	master line (for connecting H type of electronic cassette)
NC	free terminal (e.g. for connecting two wire sections)
X	input of electronic key reader
B+	connection of accumulator (+)
B-	connection of accumulator (-)
NC	auxiliary terminal

External panel

K1	el. supply of the cassette digital part
K2	digital data from/to cassette
K3	digital mass (display system)
K4	loudspeaker of talking cassette
K5	analogue mass
K6	microphone of talking cassette
C1+	video signal output
C1-	video signal output
X+	electronic key reader
GX-	electronic key reader – mass

Uniphones

L+	uniphone line
L-	uniphone line mass
BR	control of entrance gate drive

CVR-1

T+, T-	universal outputs
L+, L-	digital-analogue line
C+, C-	video output
VC	supply (+)
GND	mass

CVR-2

L+, L-	digital-analogue line
C+, C-	video output
+15V	supply (+)
GND	mass

CVP-1 and CVP-2

CS	selection of video input
V+	supply of switch (+)
V-	supply of switch (–)
LM	LM line
L-	line L-
L+	line L+
X+, X-	vision signal output
Y+, Y-	vision signal output
C1+, C1-, C2+, C2-	video input
C3+, C3-, C4+, C4-	video input - only in CVP-2

15 Dimensions of elements

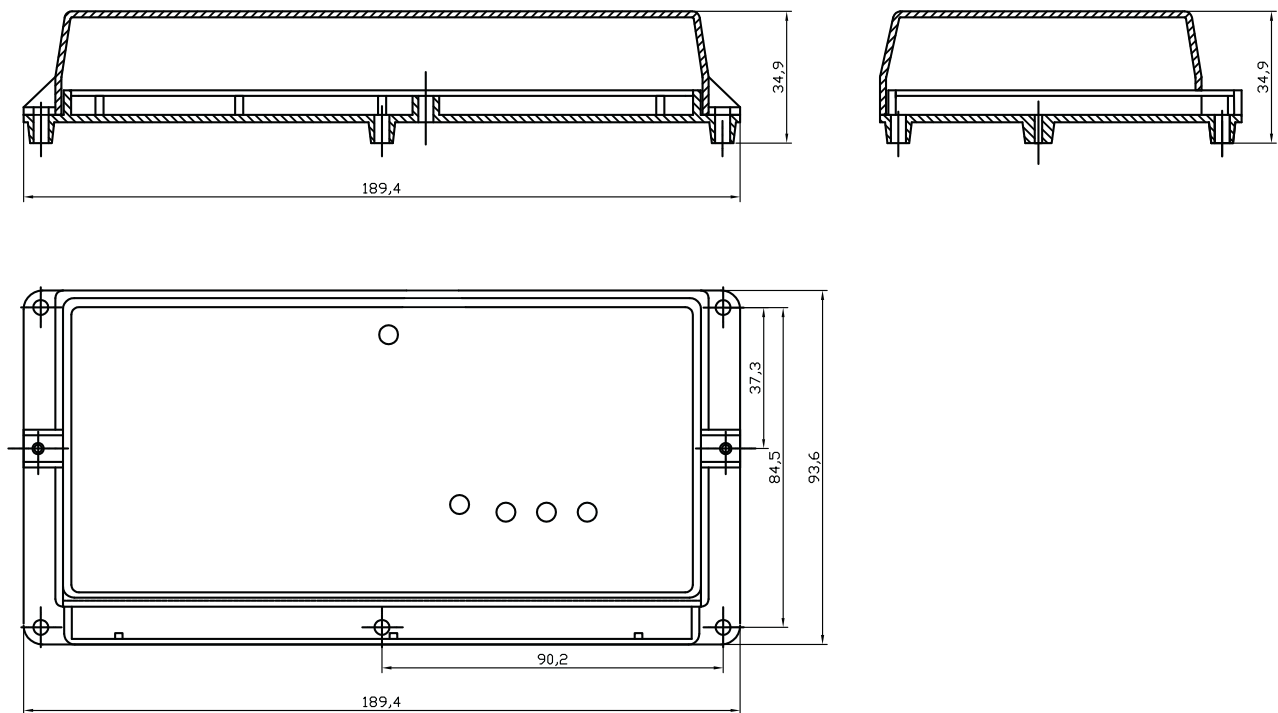


Figure 22: Dimensions of electronic cassette EC-2502

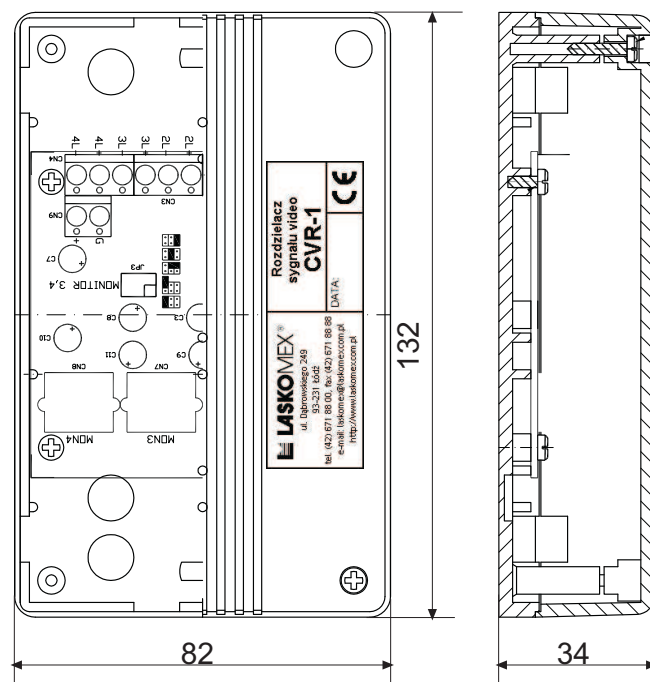


Figure 23: Dimensions of distributor CVR-1, CVR-2 and switch CVP-1 and CVP-2

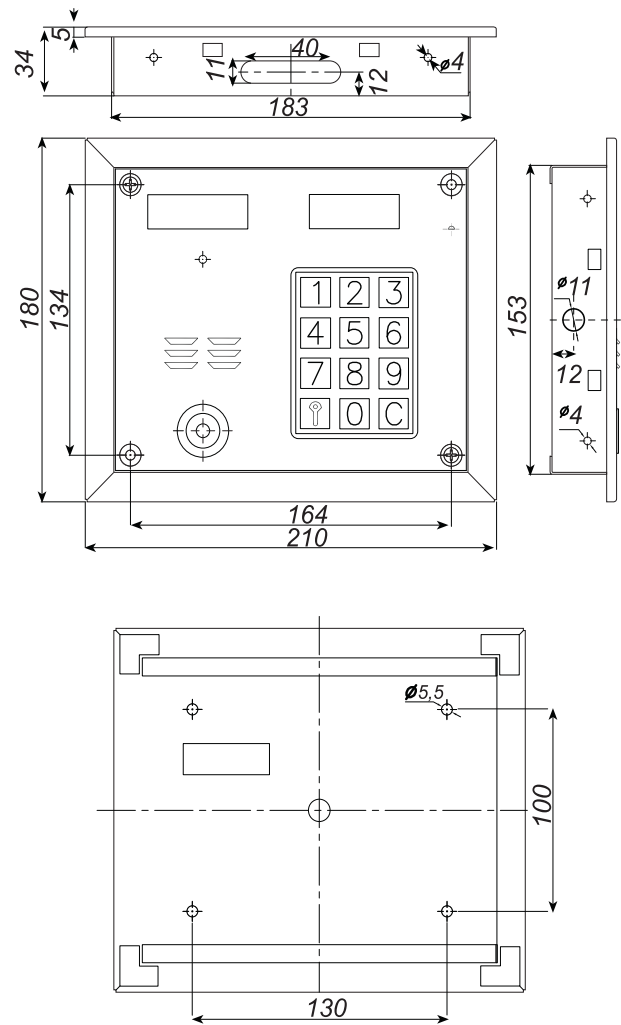


Figure 24: Dimensions of panels CP-2502xx with a frame for mounting under plaster

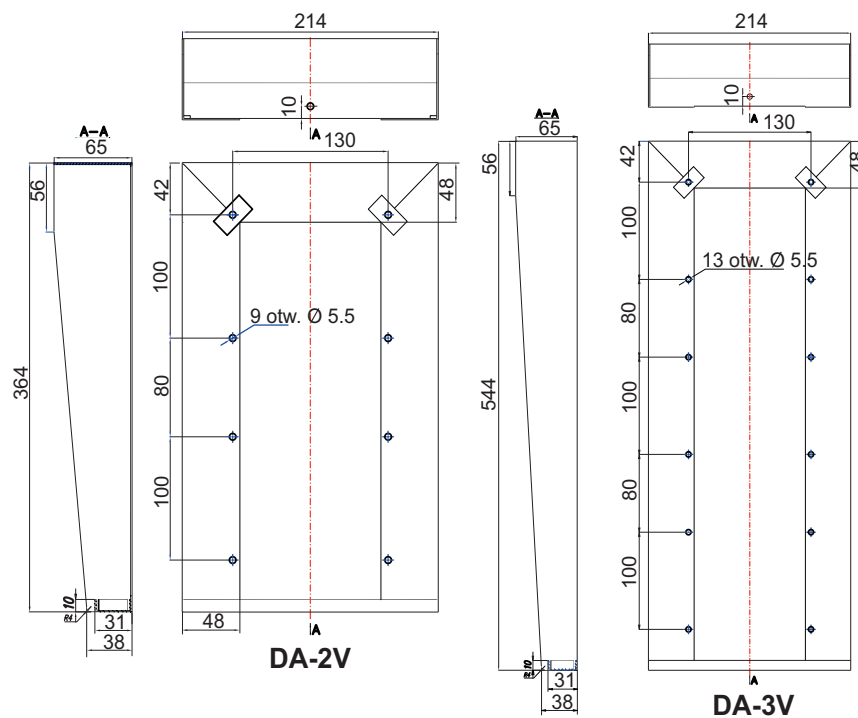


Figure 25: Dimensions of casings mounted on plaster in vertical arrangement, for CP-2502xx

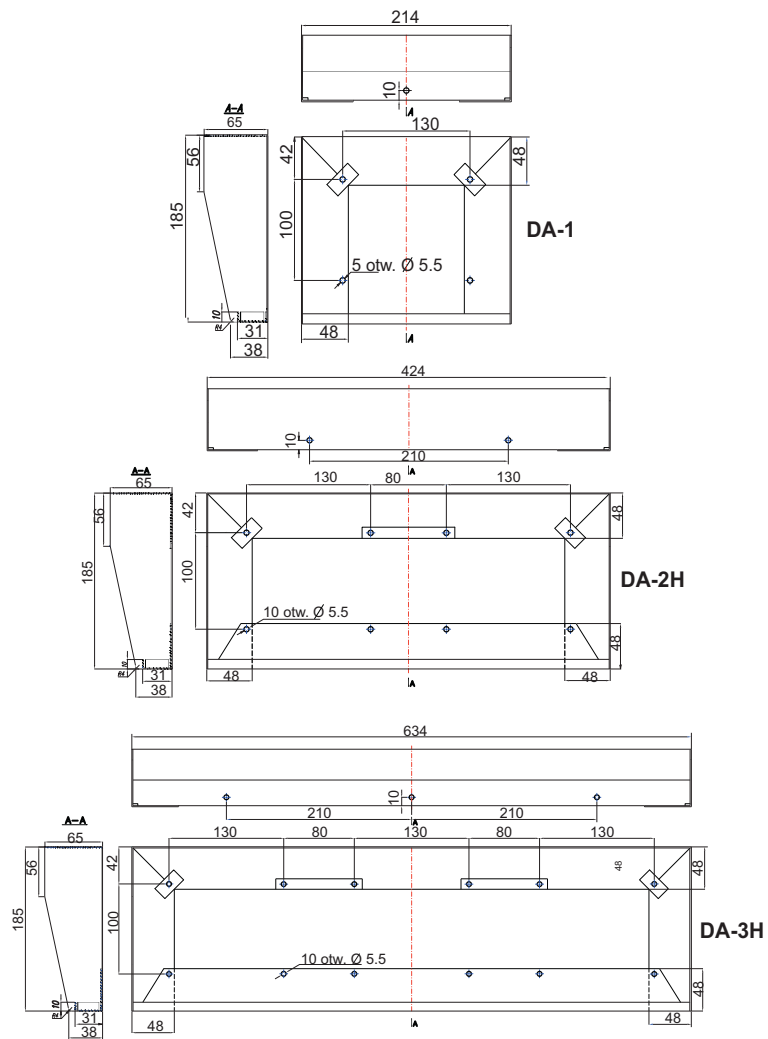


Figure 26: Dimensions of casings mounted on plaster in horizontal arrangement, for CP-2502xx

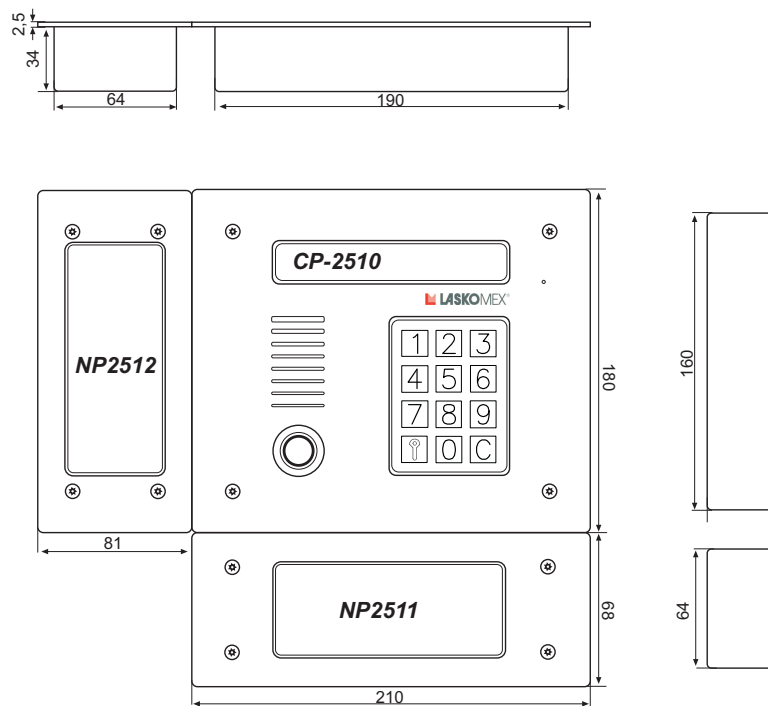


Figure 27: Dimensions of panels CP-2510 and panels NP2512, NP2511

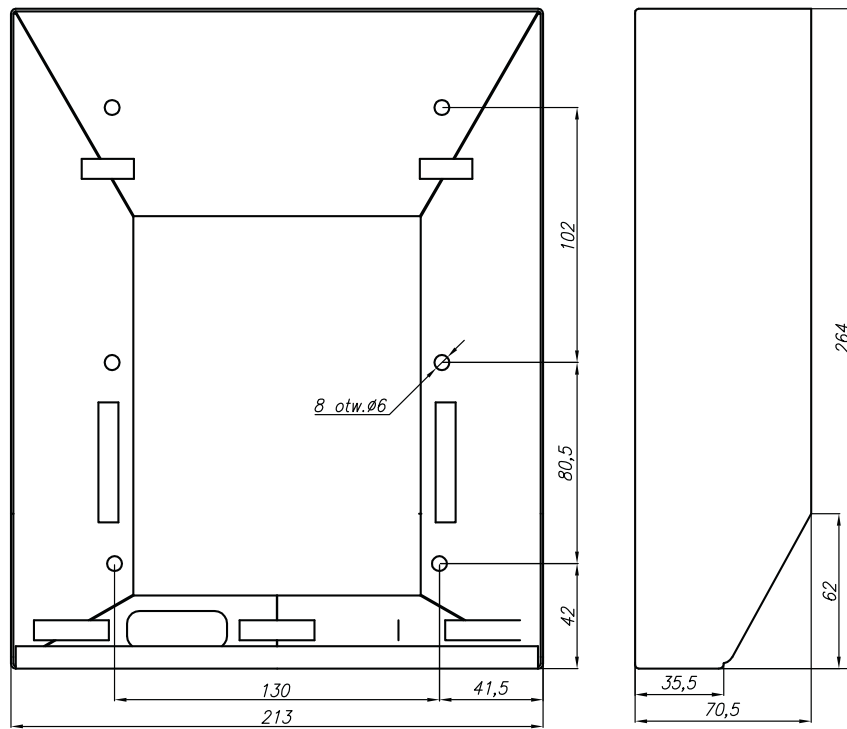
**DAX1-2V**

Figure 28: Dimensions of casings mounted on plaster in vertical arrangement, for CP-2510

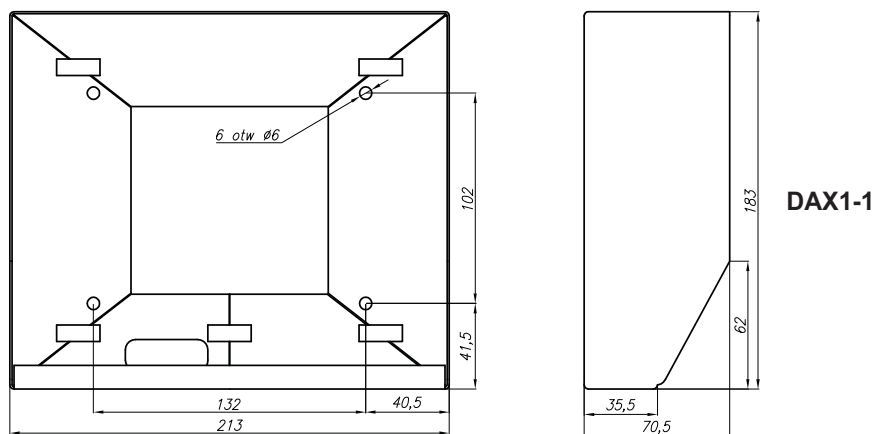
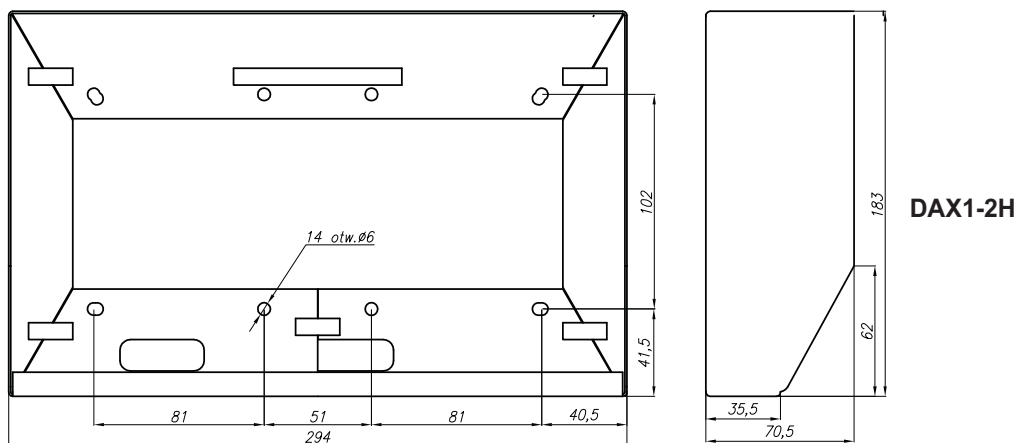
**DAX1-1****DAX1-2H**

Figure 29: Dimensions of casings mounted on plaster in horizontal arrangement, for CP-2510

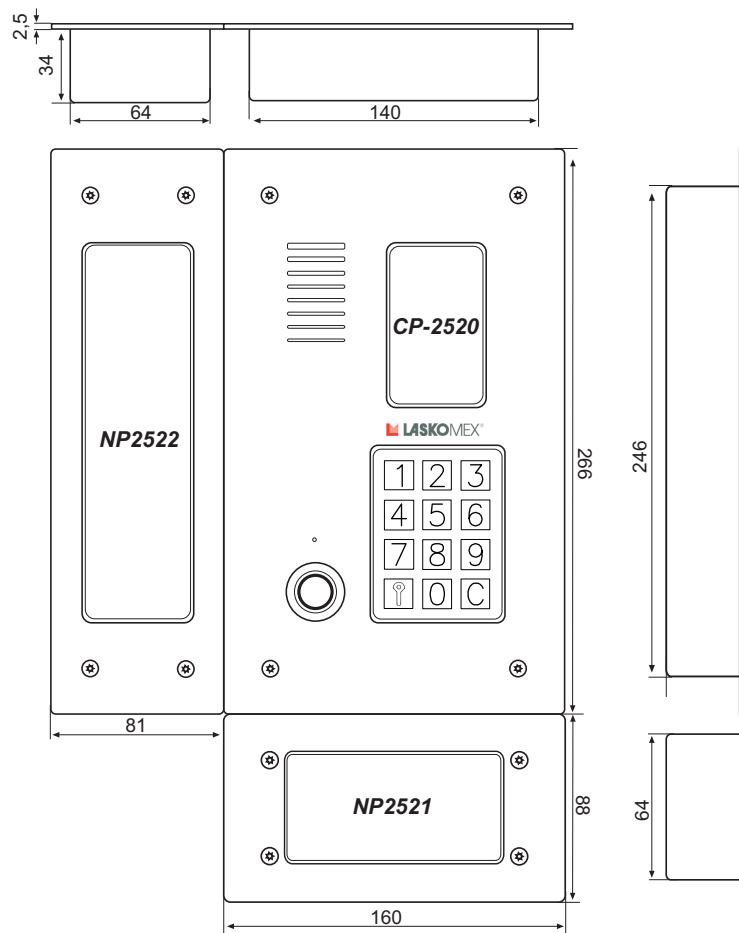
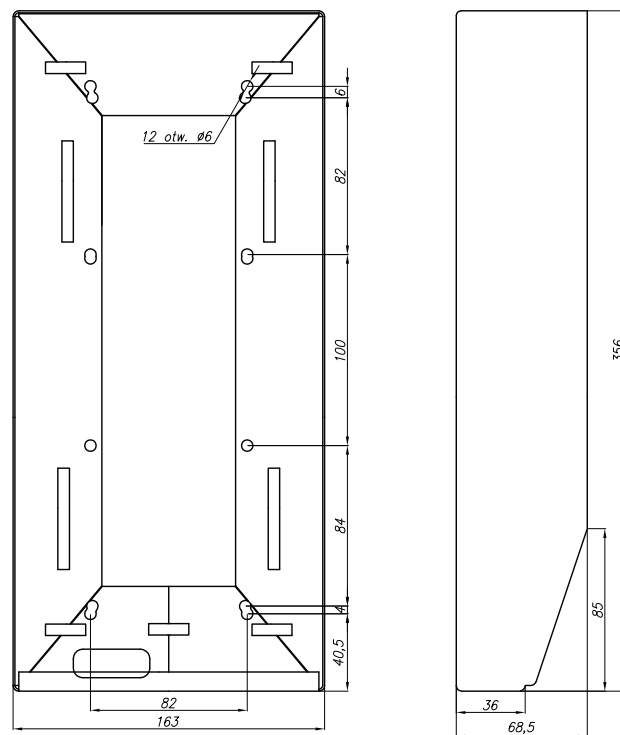


Figure 30: Dimensions of panels CP-2520 and panels NP2522, NP2521



DAX2-2V

Figure 31: Dimensions of casings mounted on plaster in vertical arrangement, for CP-2520

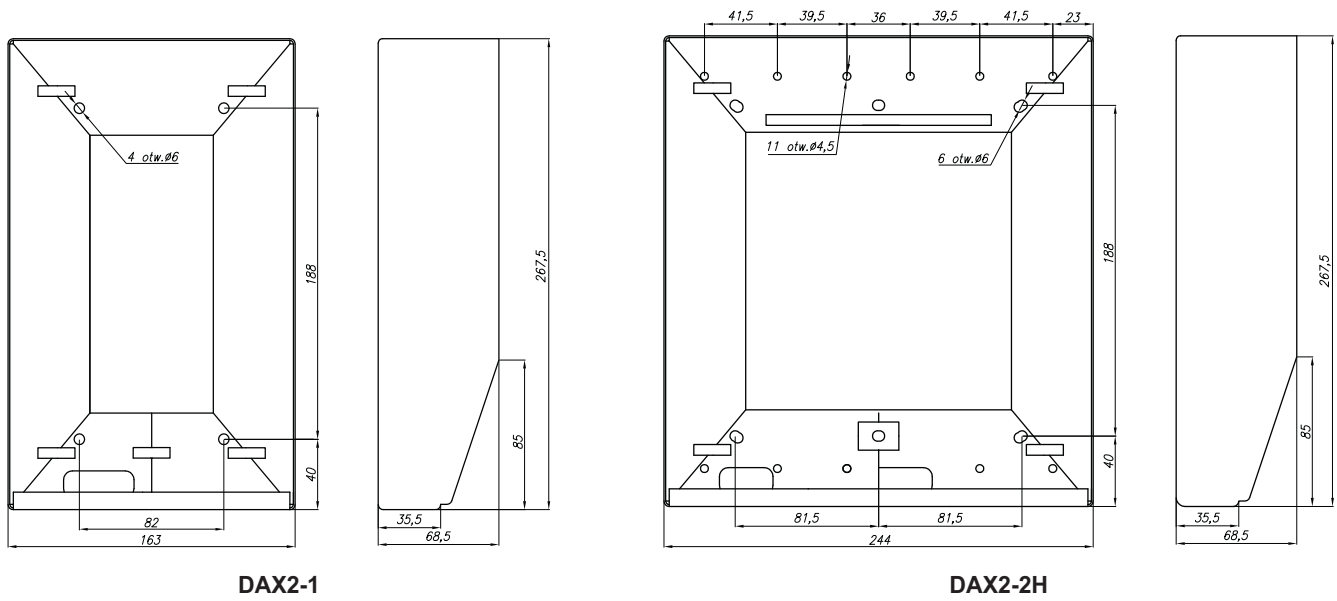


Figure 32: Dimensions of casings mounted on plaster in horizontal arrangement, for CP-2520

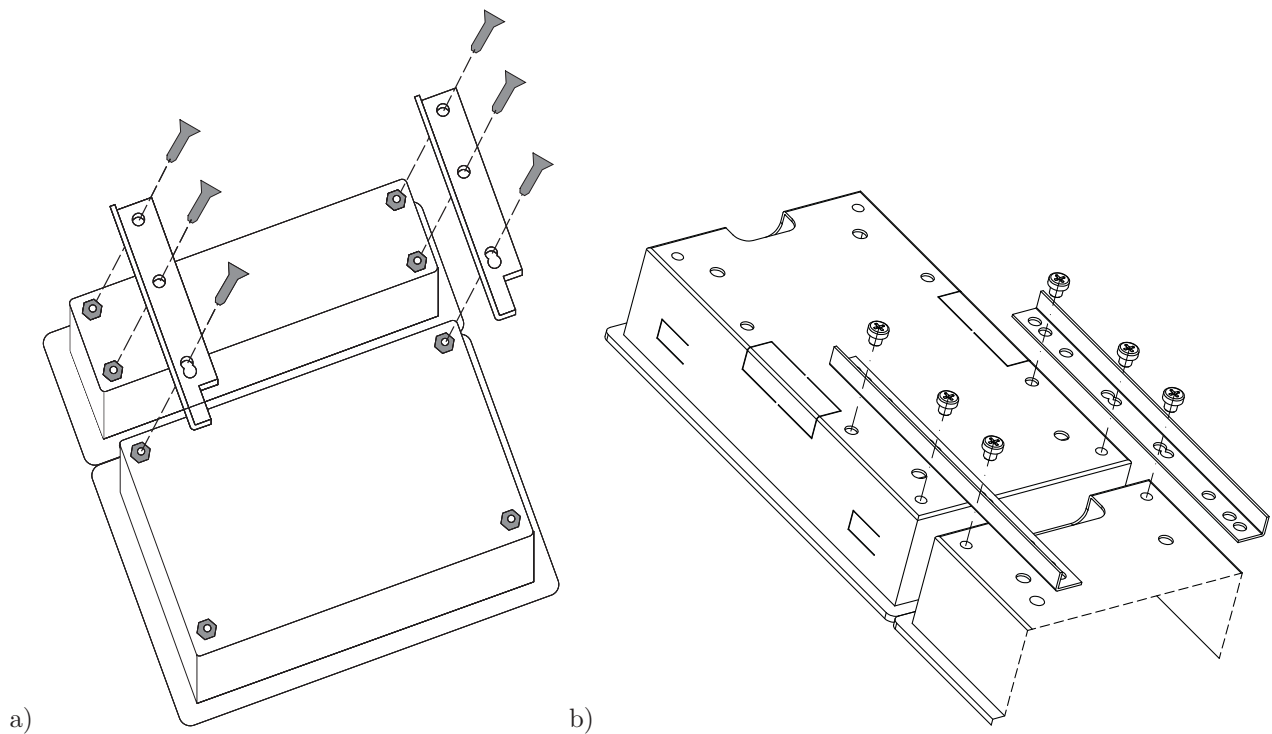


Figure 33: The way of connection CP panel with NP list of occupants using fixing elements a) CP-251x and CP-252x panels, b) CP-2530 panel

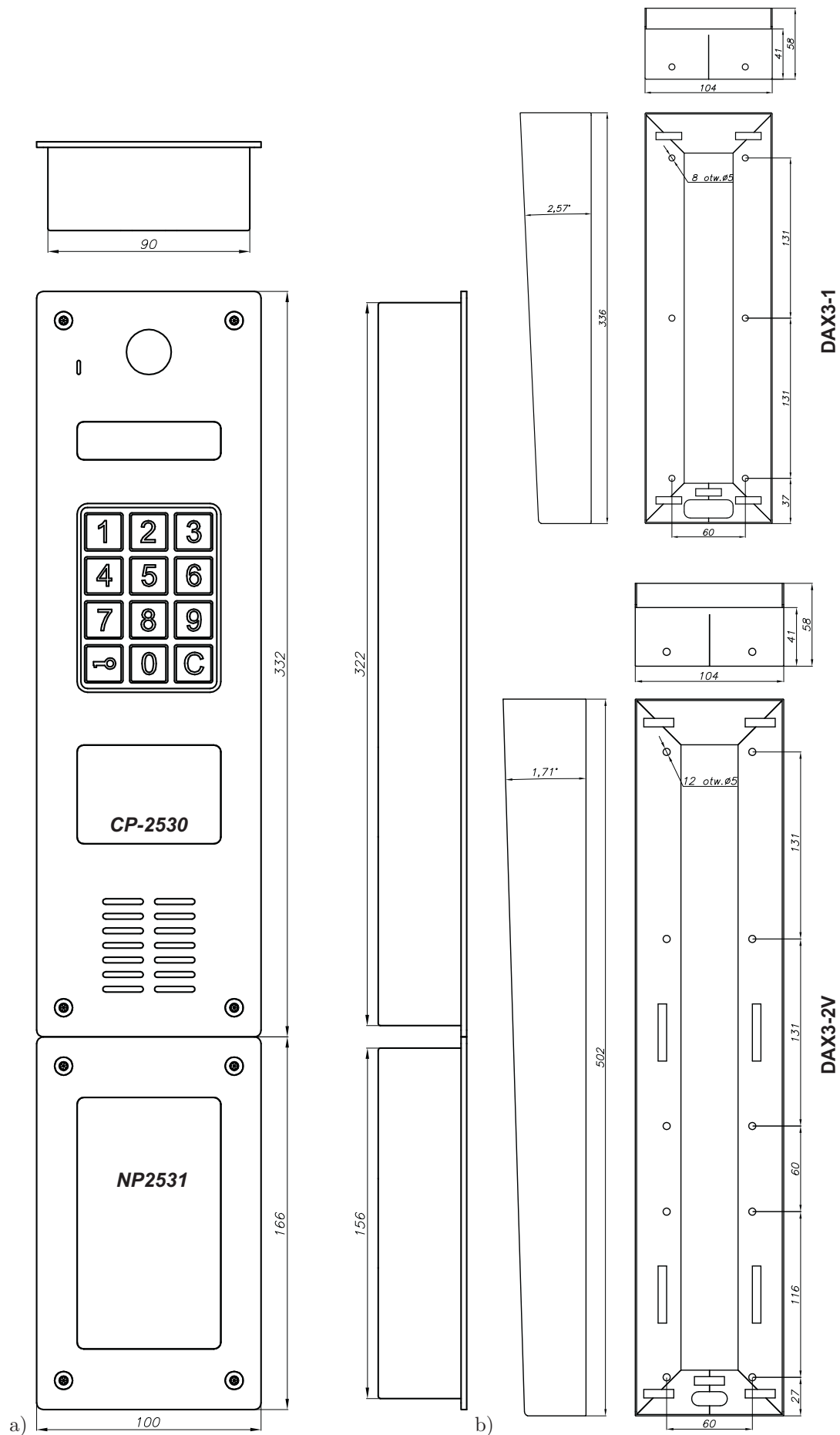


Figure 34: a) Dimensions of panels CP-2530 and NP2531; b) Dimensions of casings mounted on plaster in vertical arrangement, for CP-2530

16 Selection of wires and connection diagrams

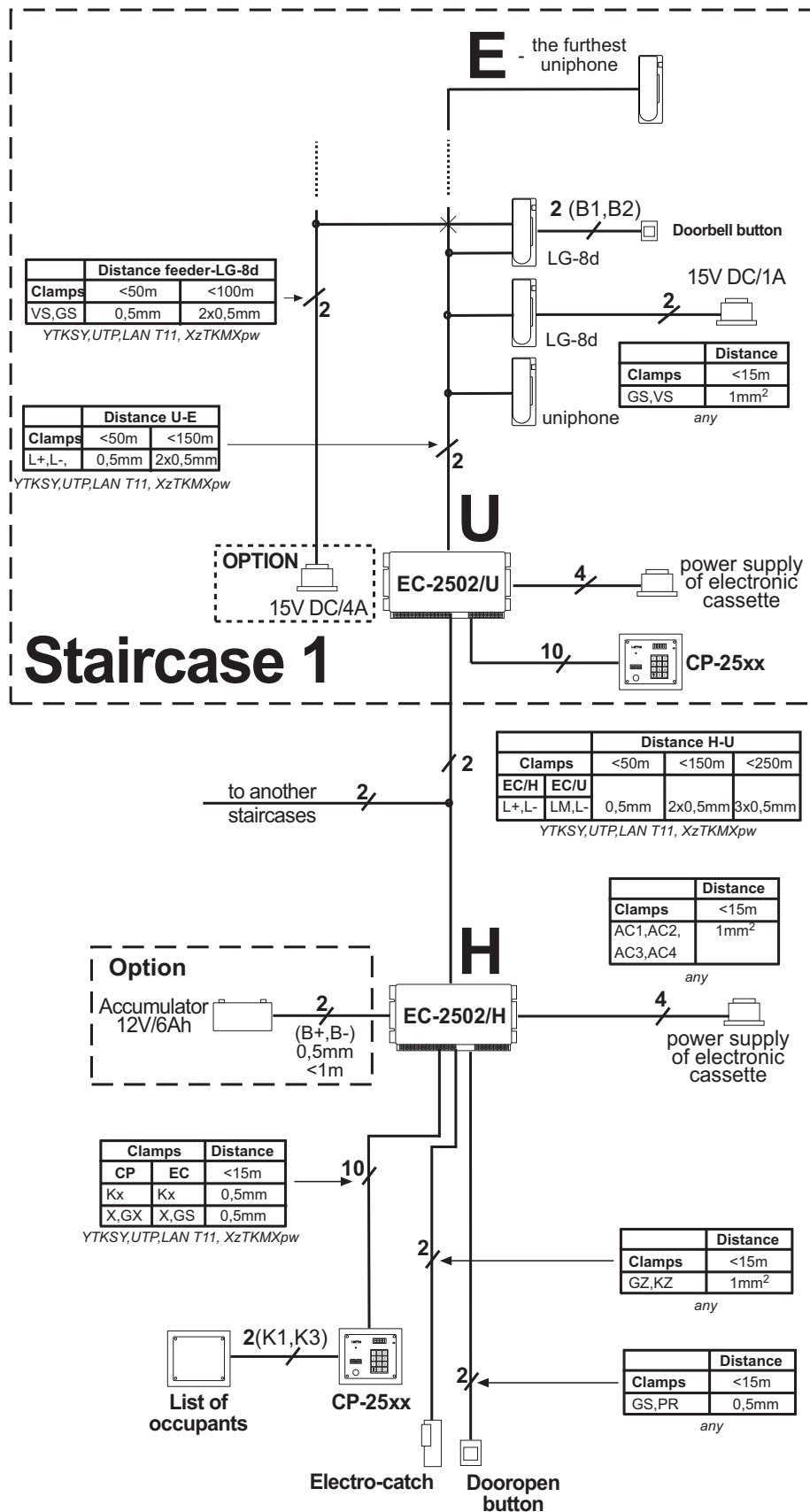


Figure 35: Selection of wires for entry phone CD-2502 in audio version.

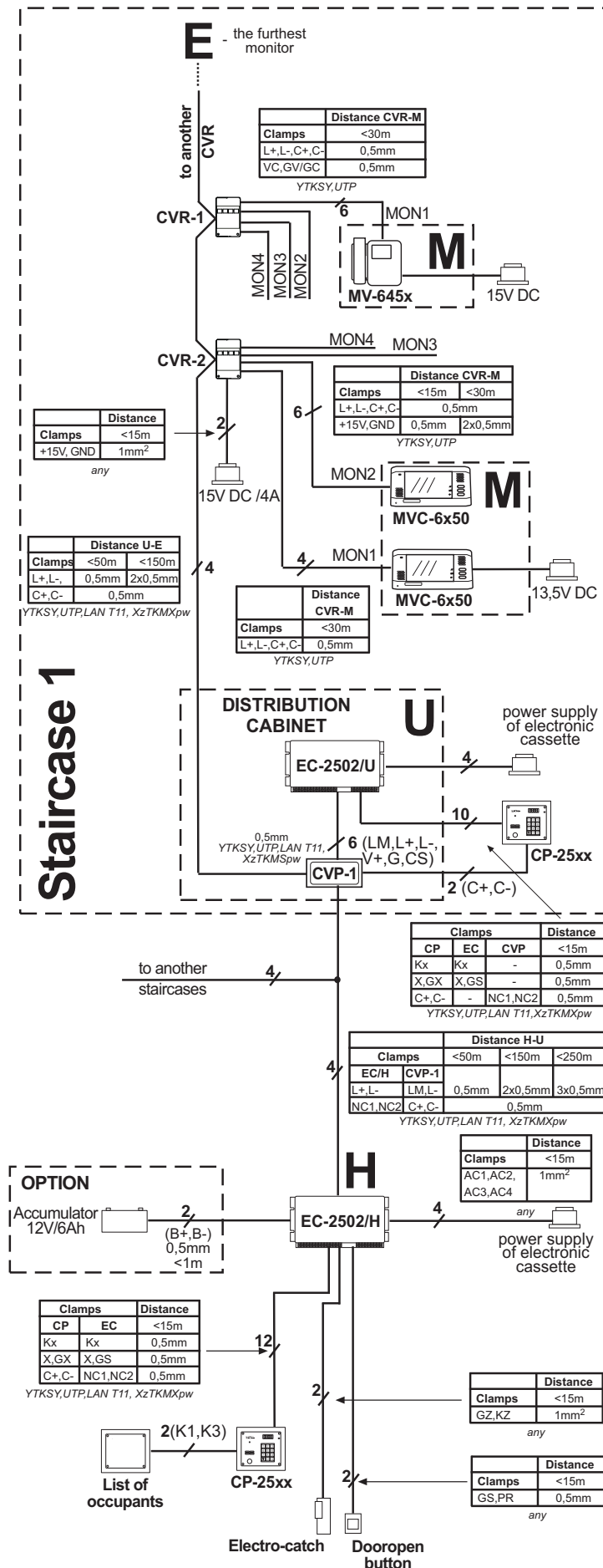


Figure 36: Selection of wires for entry phone CD-2502 in video version.

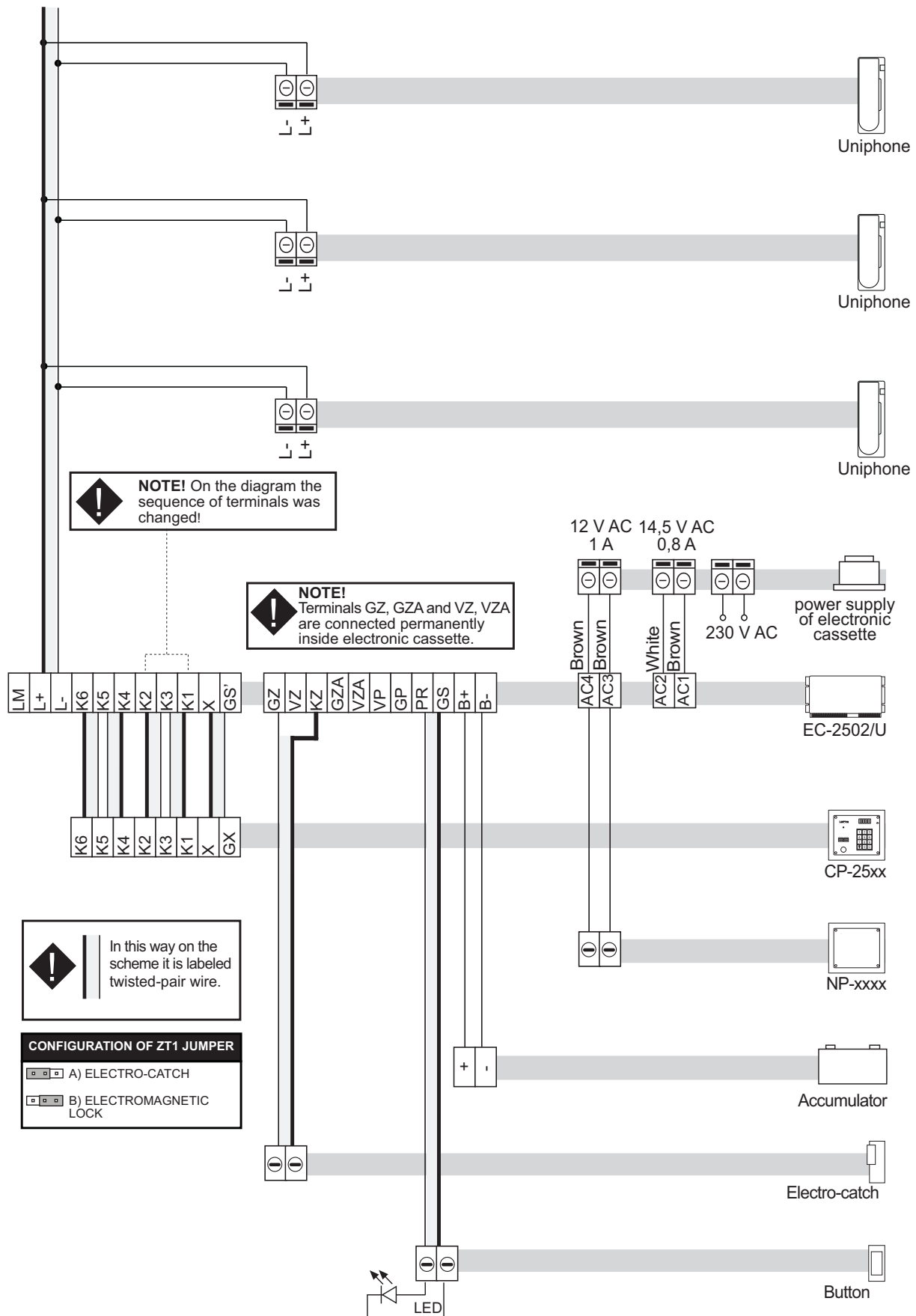


Figure 37: Entry phone CD-2502 audio – basic system. **NOTE!** For electromagnetic lock set parameter [Fry] to value '0'. For ensuring clarity of the diagram terminals are not shown in sequence!

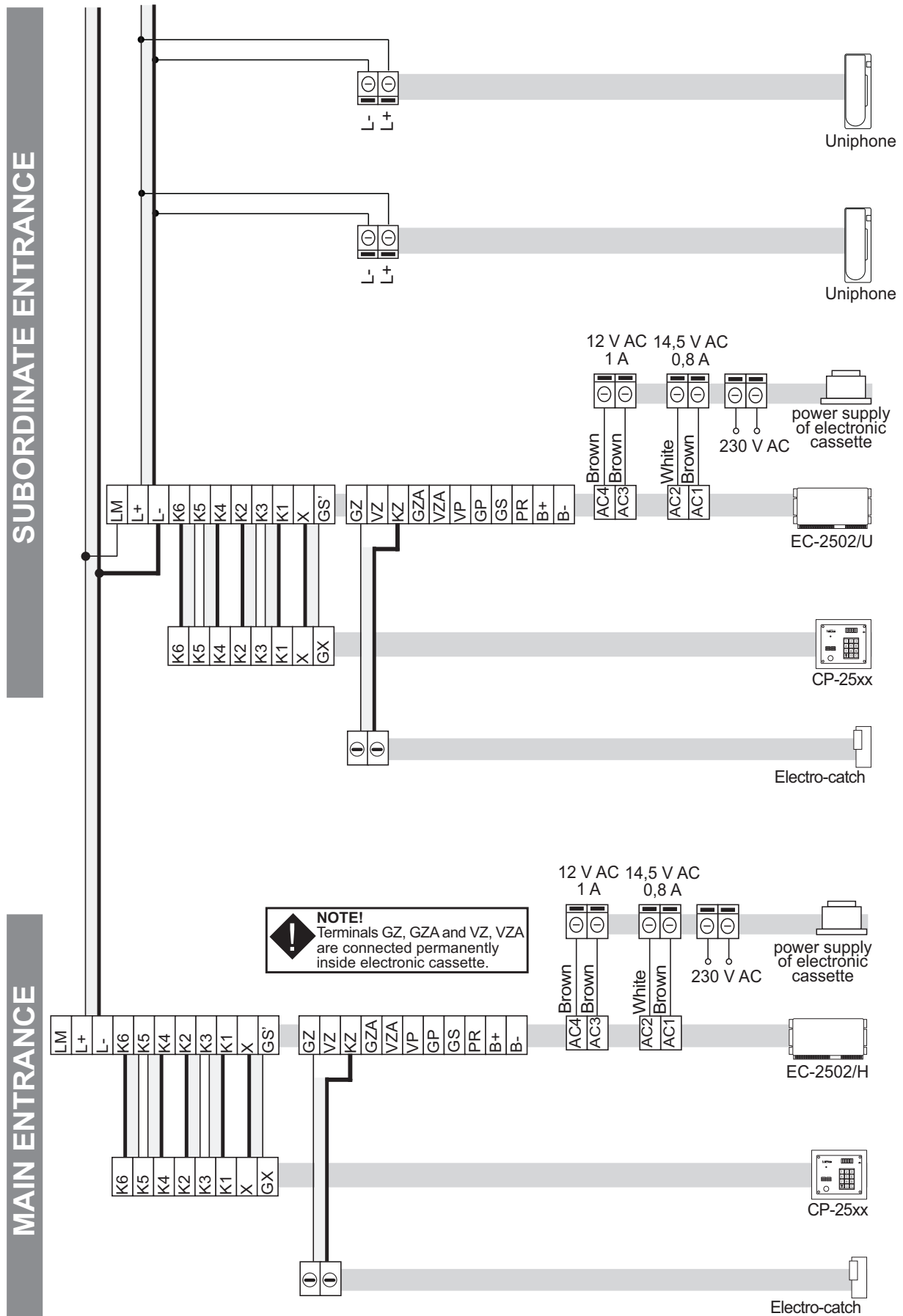


Figure 38: Entry phone CD-2502 audio – multi-entrance system. Connection of other elements such as accumulator, list of occupants etc. according to dwg. 37

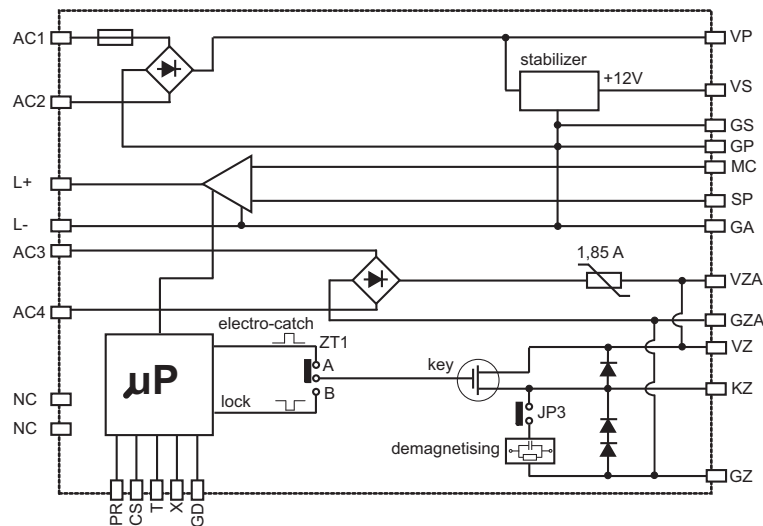


Figure 39: Electronic cassette block diagram

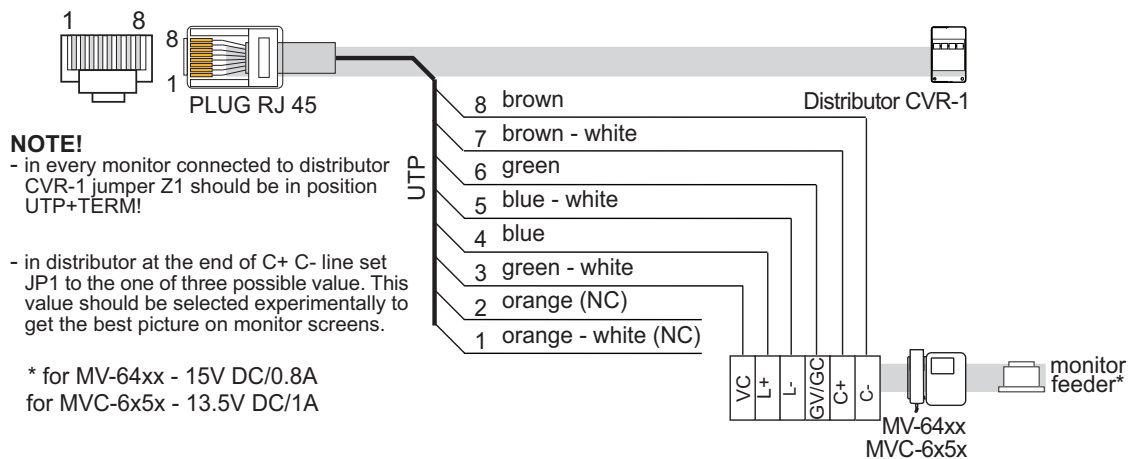


Figure 40: System CD-2502 video. Connection of monitor – description of plug and socket RJ-45 used for connecting the monitor in use with CVR-1 distributor.

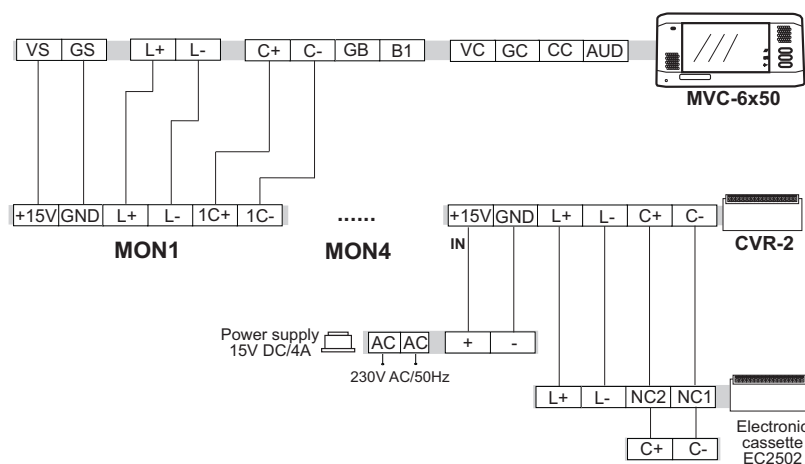


Figure 41: System CD-2502 video. Connection of monitors using CVR-2 distributor - central power supply of monitors

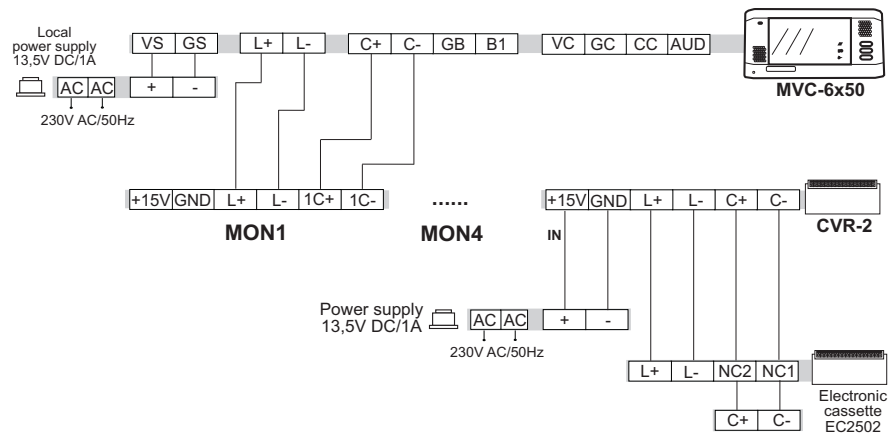


Figure 42: System CD-2502 video. Connection of monitors using CVR-2 distributor - local power supply of monitors

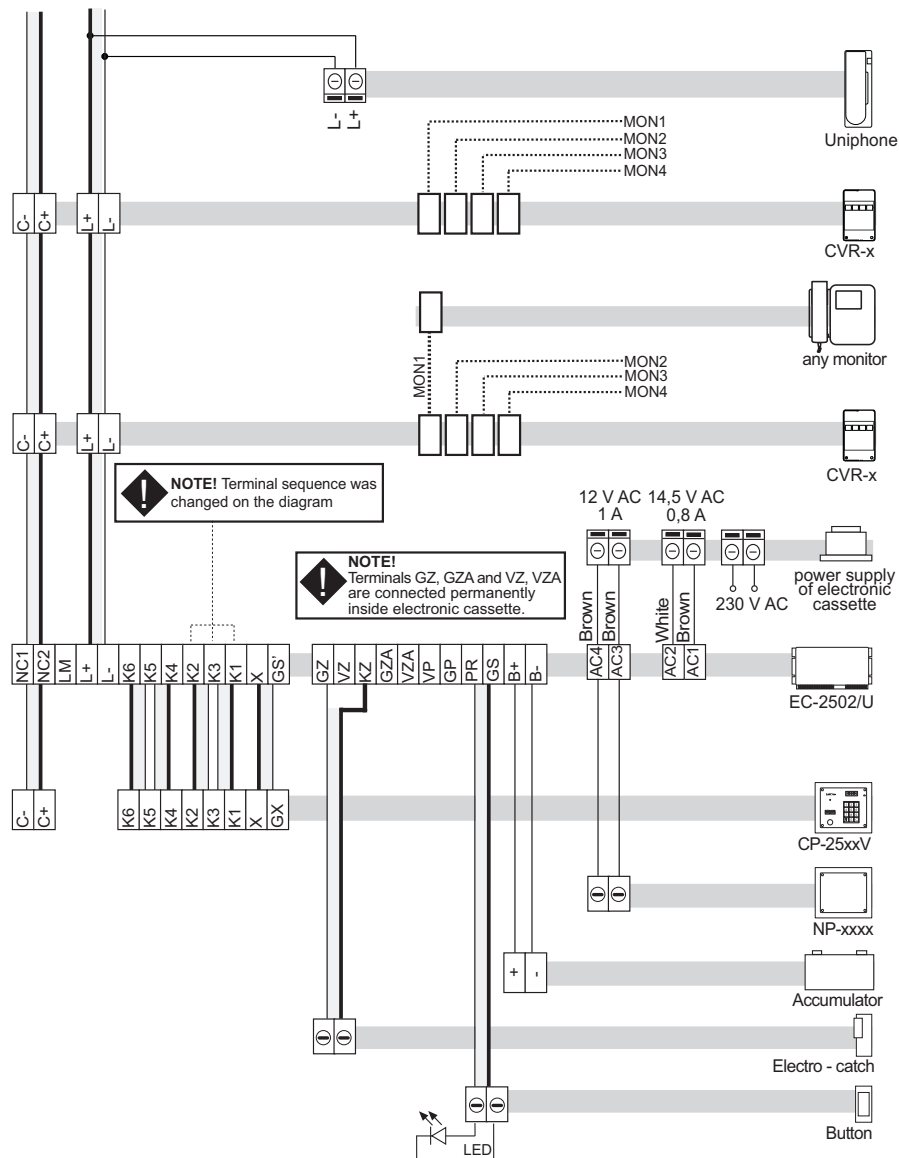


Figure 43: Entry phone CD-2502 video – basic system for one staircase.

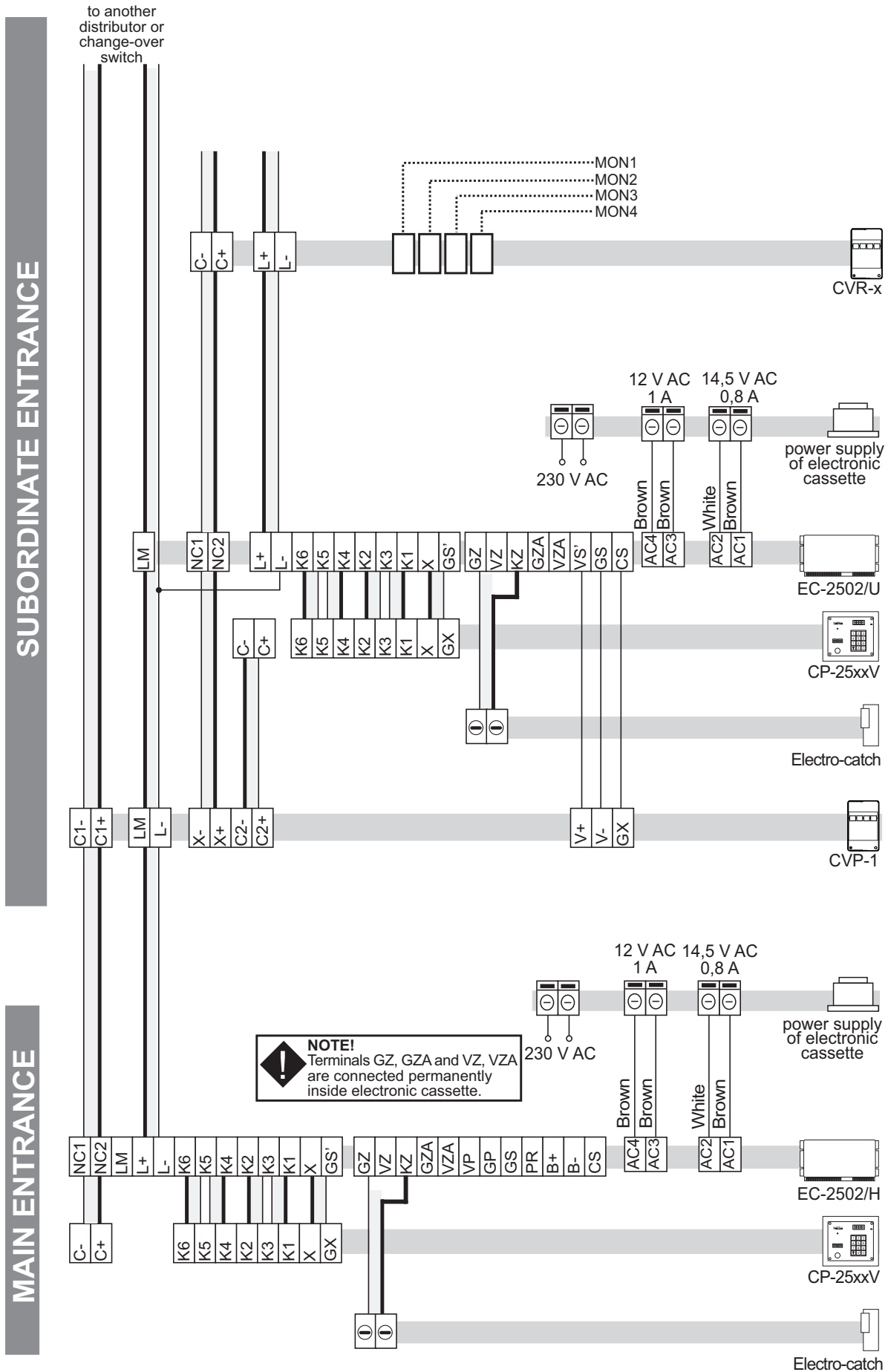


Figure 44: Entry phone CD-2502 video – multi entrance system.

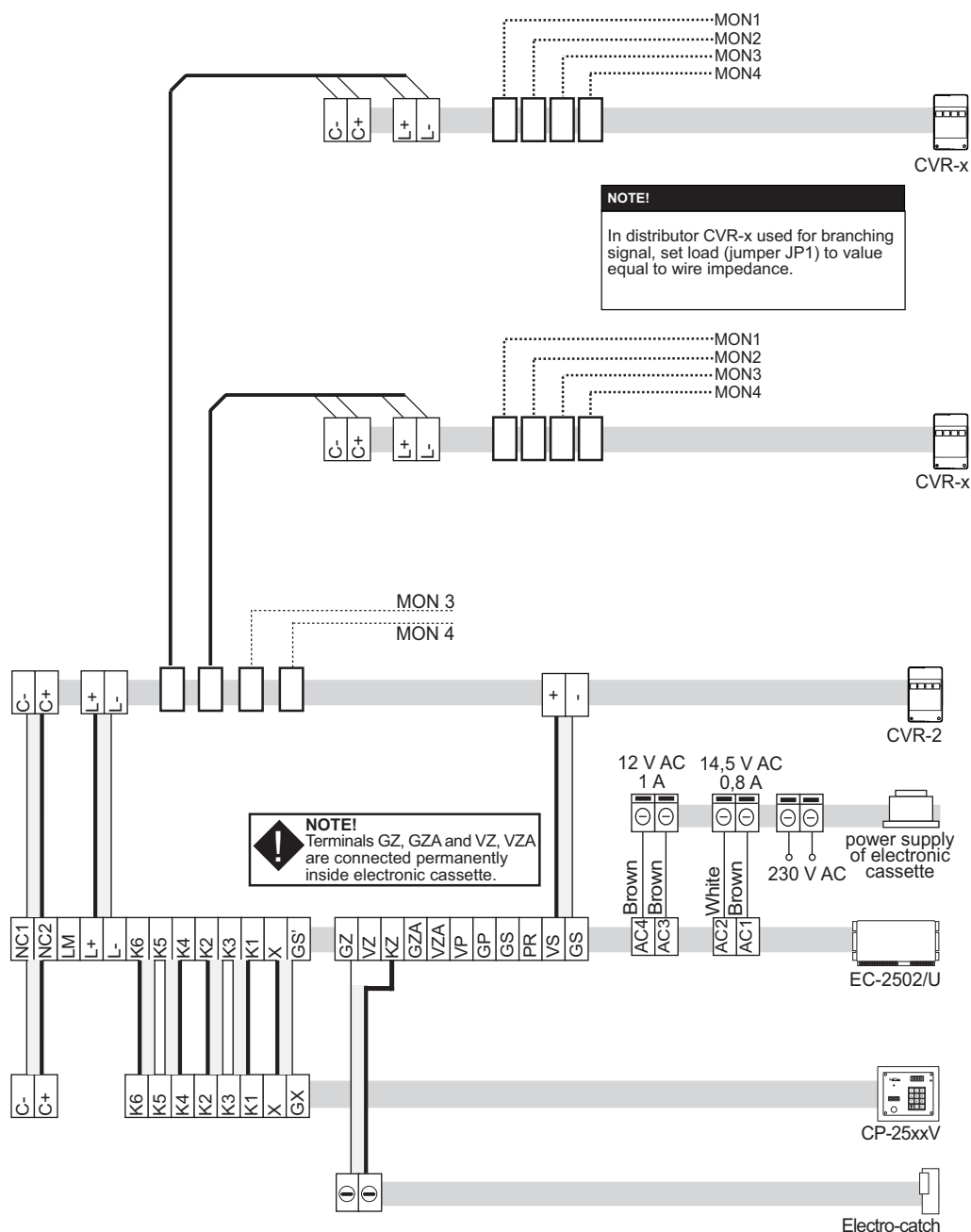


Figure 45: Entry phone CD-2502 video – branching of the signal by means of distributor CVR-2

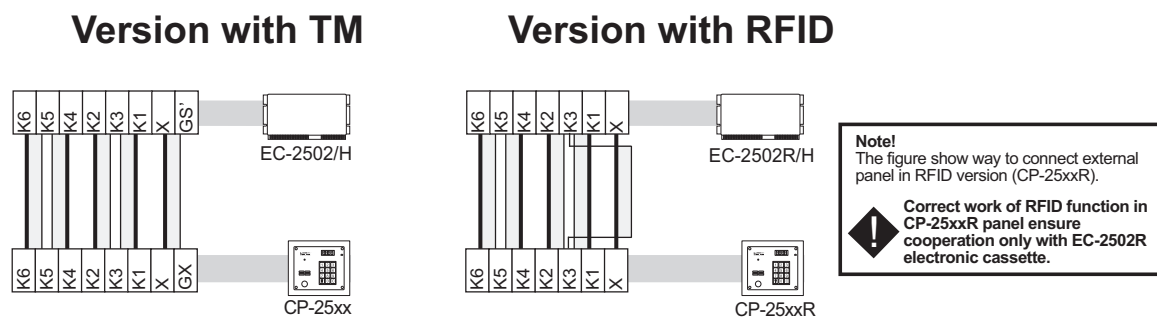
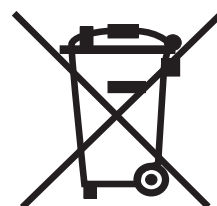


Figure 46: The way of connection EC electronic cassette with CP-2502 panel depending on the type of electronic key reader mounted

P-1 Operation parameters of entry phone					
	EtyP	0,1	0	U,H	Operation mode of electronic cassette
	tOc	10...255	30	U,H	Waiting time for picking up the receiver in seconds
	tro	10...255	120	U,H	Time of conversation
	t1d	10...255	100	U,H	Time of signal generation
	tPA	20...255	150	U,H	Pause time
	trY	1...31	5	U,H	Time of electro-catch operation in seconds
	FrY	0...200	50	U,H	Frequency of electro-catch supply voltage in Hz
	CAin	0...1234	0	U	Supported video inputs
	CAtP	1...10	3	U	Time interval [s] of switching video signal
	nbL	0...9998	0	U	Block number
	Pnu	0...9998	0	U	Range shift
	LPi	0...100	0	U	Amount of rooms on the floor
	LLo	1...240	1	U	Range of serviced numbers – low value
	LHi	1...240	240	U	Range of serviced numbers – high value
	LdP	0...9998	0	U,H	Directing of not serviced numbers
	NbP	0...9998	0	H	Block number for directing of not serviced numbers
	Un	0...9998	0	U	Additional number not included in the serviced range
P-2 Functions realized by entry phone					
	EAu	0,1	1	U,H	Sound signal of sign selected from the keyboard
	ton	0,1	1	U,H	Multitone signalling of sign selected from the keyboard
	dJ	0,1	0	U,H	Sound signal of sign selected from the keyboard
	APo	0,1	0	U,H	Acoustic confirming opening the electro-catch
	CEn	0,1	1	U,H	Switching on coded lock service
	CEd	0,1	1	U	Permission to edition of coded lock codes by occupants
	CPo	0,1	1	U	Permission to confirm the use of lock code
	CEr	0,1	0	U	Confirming the use of a wrong code of coded lock
	CHA	0,1	0	U	Request to enter code of coded lock during entering user's menu
	idE	0,1	1	U,H	Switching on/off of electronic keys
	idA	0,1	1	U,H	Registration of electronic keys by users
	CAon	0,1	0	U,H	Supply of camera and illumination
	3C	0,1	0	U,H	Switching on three-position display
	Ent	0,1	1	U	Fast entrance
	NbL	0,1	1	H	Mode with building numbering
P-3 Installation procedure					
P-3-0	ON/OFF				Switching on/switching off of installation procedure
P-3-1	FLo				low range of searched numbers
P-3-2	FHi				high range of searched numbers
P-3-3					Searching for the picked up (incorrectly placed) receiver
P-3-4	LOC/OFF				Blocking the possibility of using an entry phone
P-3-5	L-F				Calculator converting uniphone logical number to its physical number
P-3-6	F-L				Calculator converting uniphone physical number to its logical number
P-3-7	SYS				Restoring the default parameters of the exchange operation (defined by procedures P-1 and P-2)
P-3-8	CoL				Restoring the default parameters of the values of the coded lock
P-3-9	OPL				Restoring the default values of individual settings in electronic cassette
P-4 Electronic keys					
P-4-0	C 0				Resetting electronic key memory
P-4-1	Add				Addition of key without attributing to apartment
P-4-2	AdL				Addition of key with attributing to apartment
P-4-3	AdP				Programming of key on the selected item in memory
P-4-4	dEL				Key deleting
P-4-5	LdEL				Resetting the key attributed to the apartment
P-4-6	PdEL				Resetting key recorded in the defined item
P-4-7	Id				Key identification
P-4-9	SEr				Programming of service key (administrator)
P-5 Individual settings					
P-6 Change of installing specialist's code					
P-7 MLX module support - backup/upload of EC parameters					
P-8 Release of electro-catch in service mode					
P-9 Change of coded lock code					

INSTRUCTION ON ENVIRONMENT PROTECTION

This product was marked with a symbol of crossed dustbin according to European Directive 2002/96/WE on used electric and electronic equipment. Used equipment cannot be placed with other wastes from households. Product user is obliged to give it to the firm which collects used electronic or electric equipment such as local collection points, shops, places appointed by the producer or commune waste collection units.



List of collecting units of used Laskomex equipment is available on **www.laskomex.com.pl** website or telephone No. **42 671 88 68**.

Product packing should be removed according to environment protection regulations.

Remember!

Selective collection and recycling of used electronic and electric equipment considerably contributes to the protection of human health and life as well as protection of natural environment.

Return of packaging materials for the material recycling saves raw materials and reduces generating of wastes.



ul. Dąbrowskiego 249, 93-231 Łódź, tel. (42) 671 88 00, fax 671 88 88
e-mail: laskomex@laskomex.com.pl, <http://www.laskomex.com.pl>