CYFRAL®

INTERCOM WITH DIGITAL SELECTION

CC-2000 SYSTEM

INSTALLATION, OPERATION AND PROGRAMMING MANUAL

(applies to switchboards from v19 software version and panels from v28 version)

COMMENTS
In order to facilitate the system installation and activation, CC-200 switchboard is initially programmed *by the manufacturer:* - *All subscribers activated (255)* - *Each subscriber has 4 input codes* *(a table with codes is attached to the electronics)* - *Calling time – 20s* - *Conversation time – 2.5 min* - *Time of starting conversation after calling – 1s* - *Doorkeeper operation time – 4s* - *Calling volume level 5 (maximal)*
Starting from v19 panel, after selecting a subscriber's number, it is not required to press '' key.*
Starting from v19 software and v28 panel, a user can set time during which after finishing calling it is still possible to answer an incoming call.

1 THE ADVANTAGES OF AN INTERCOM WITH DIGITAL SELECTION

A basic advantage of systems based on digital selection is the reduction of the quantity of external panels with press buttons controlling a calling signal to an occupant from a few to one, where a function of intelligent addressing of calling is performed on a numerical keyboard supported by a microcomputer with proper controlling software. Within the solutions accepted, uniphones may be only CYFRAL apparatus with a digital decoder module marked additionally with symbol D (digital), such as SMART-D and MAC-D.
CC-2000 system ensures connection to the switchboard to 255 digital uniphones connected to the two-wire main line. The selective choice of a called uniphone is guaranteed by a digital module placed in each apparatus, which through the correct settings of jumpers assigns to it its physical address which is clearly recognised by the system.

The advantages of CC-200 digital system:

- Start-up activities are simple and nearly intuitive. Microprocessor controlling provides many new functional possibilities compared to the traditional analogue systems.
- A digital communication route is performed based on RS-485 standard aimed at increasing:
  - Transmission rate,
  - Range
  - Protection against interferences compared to RS-232 interface.
- Initial start-up activities are facilitated by a rich and simple installation programme. Therefore, the installation of a complete system is easy and fast.
- The method of fastening mechanical elements and wires facilitates the work of an installer.
- Mechanical resistance is improved thanks to the use of a thick metal sheet in the intercom station and soldering of additional elements reinforcing places particularly exposed to mechanical damage.
- High resistance to corrosion. The intercom station is protected with a powder paint resistant to atmospheric conditions.
- Illuminated keypad enables the perfect digit visibility even in complete darkness.
- Illuminated reader of Dallas keys.

The system ensures:

- Calling and a conversation with any occupant.
- Entering without a key by a few methods.
  - The entrance door may be opened without a mechanical key. It is necessary to select a flat number and an individual 4-digit access code on the keypad of the intercom station. It is also possible to use a different option;
  - Dallas tablet. In the external panel there is a Dallas reader; approximating a Dallas tablet registered in the system, which is a special touch code key, enables the activation of a doorkeeper at previously activated time. A code key has the form of a hermetic steel tablet with the diameter of 17 mm and height of 3 or 6 mm, inside which there is a specialised integrated circuit of DS19XX DALLAS series. A key code is a unique identifier ensuring 1014 combinations. Code keys are characteristic for high mechanical strength and resistance to the impact of electromagnetic fields; and what is most important, they do not need their own power supply.
- High flexibility and configurability of the system depending on the user's preferences and expectations.
- Easy access to the data introduced.
  A large digital display facilitates introducing a flat number and ensures high legibility of the information displayed. An illuminated keypad enables the efficient entering of numbers when there is no external lighting.
- Lack of eavesdropping. The system guarantees the secrecy of conversations. It is not possible to eavesdrop by a person whose uniphone was not previously selected. Selecting a number on the intercom station keypad results in connecting only with one selected uniphone.
- Lack of possibility of opening a door from other, not currently selected, uniphones.
- Possibility of creating extended multi-input configurations.

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2 INTERCOM CC-2000 INSTALLATION

2.1. PC-1000 OR PC-2000 INTERCOM PANEL INSTALLATION IN THE BUILDING

After making an opening in the building wall or a fixed door wing, mount the bottom of the intercom intercom panel by means of 4 screws with wall plugs, inserting them through 4 openings in the station bottom part (recess dimensions are provided in Fig. 1.).

A large opening is for leading wires connecting the station panel with the switchboard electronic module.

The front board, after mounting the cover (or a roof for PC-1000) and inserting it to the station bottom part installed on the wall, is screwed with two M5 screws and secured against theft by two blind rivets included in the kit.

If possible, install the panel inside the building (vestibule or anteroom) in order to avoid installation outside the building. Serious keypad staining (snow, mud) or flooding with water may interrupt its operation. The same applies to the Dallas reader and display.

2.2. CONNECTING THE PANEL WITH THE SWITCHBOARD ELECTRONICS STATION

An installation wire, at least 6-vein, is required for the connection of the panel with the electronics station. Connect the panel terminals with the electronics station terminals marked the same, e.g. GND with GND, MIK with MIK, etc. Terminals marking and intended purposes are as follows:

GND	GND mass
+ZAS	Panel power supply (constant voltage from the switchboard plate)
SERA	digital data transmission link A
SERB	digital data transmission link B
GLI	Panel speaker connected with terminal GL1(2) of the switchboard plate
MIK	Panel microphone connected with clamp MIK1(2) of the switchboard electronics
DAL	Dallas reader input (pre-attached)

Panel connections are shown in Fig. 1; switchboard connections are shown in Fig. 2.

When choosing the proper veins in the wire, follow a rule of as far as possible distance of digital signals from analogue signals, and, if possible, separated with analogue GND mass wire. Wires must be connected with power supply disconnected.

Fig. 1. Panel connection

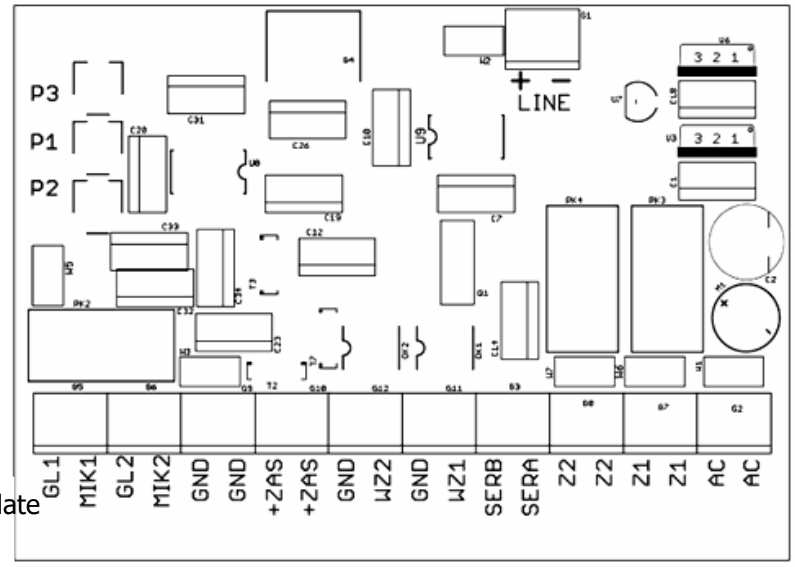


Figure 2. Switchboard plate CC-2000

2.3. CONNECTING UNIPHONES TO THE ELECTRONICS STATION

In order connect uniphones to the electronics station in the system, there are terminals marked as LINE ⏚ ⏚. All the "hot" endings of uniphones are connected to terminal ⏚ ; mass endings ⏚ are connected to terminal

⏚ ending marked as mass ⏚.

Caution:

The device, in a basic version, cannot work in parallel (two with the same number). In such a case, use uniphone SMART-D EXT.

2.4. CONNECTING THE ELECTROMAGNETIC DOORKEEPER

The electromagnetic doorkeeper is connected to the switchboard plate to the terminal pair marked Z1 (Fig. 1 and Fig. 5).

CAUTION:
Terminal pair marked Z2 (contacts NO, dry output) is used for attaching the second electromagnetic doorkeeper in the event of multi-input configuration (master panel – slave panel) and servicing the input assigned to the master panel. More information – see the chapter on multi-input systems item 6).

2.5. CONNECTING THE EXTERNAL PRESS BUTTON FOR ACTIVATING THE ELECTROMAGNETIC DOORKEEPER

In CC-2000 system it is possible to connect an external press button activating the electromagnetic doorkeeper for the time programmed in the system. The use of such a press button is sometimes desirable when it is required to open an additional door without the need for installing a panel. For this purpose, use switchboard plates marked WZ1 and GND (Fig. 4 and Fig. 5).

CAUTION:
Terminals marked WZ2 and GND are used for attaching the second electromagnetic doorkeeper in the event of multi-input configuration (master panel – slave panel) and servicing the input assigned to the master panel. More information – see the chapter on multi-input systems item 6).

2.6. CONNECTING THE INTERCOM POWER SUPPLY

After verifying the correctness of connecting the panel, electronics station and uniphones, it is possible to connect intercom power supply (terminals marked AC). Use a transformer included in a kit with the intercom, parameters: AC12, 5V, 2A (connection diagram see Fig. 4 and Fig. 5).

After connecting power supply, a horizontal line should be displayed on the right side of the display which shows that the system is ready for operation. If this is the first activation, firstly programme the switchboard module for operation.

CAUTION:
Each activation of voltage requires a delay of approx. 15 seconds for the activation of the uniphones.

3 PROGRAMMING THE INTERCOM SYSTEM

Programming CC-2000 system is the same as in CC-1000 and CC-1500 systems.
In order to navigate in the programme menu in a convenient and fast manner and in order to ensure user-friendly programming, the following rules concerning the keys are applicable:

- **'*'** - enables the confirmation of a selected option or programme;
- **'#'** - enables cancelling the digits entered, exiting the programme, exiting the programming mode;
- **'0'...'9'** - the digits entered;
- **'1'** - in the programme selection mode, it enables switching (scrolling) available programmes down;
- **'3'** - in the programme selection mode, it enables switching (scrolling) available programmes up;
- **'4'** - in selected programmes, it enables scrolling values by 10 down;
- **'6'** - in selected programmes, it enables scrolling values by 10 up;

ENTERING THE PROGRAMMING MODE:

- with the panel display out (one horizontal line should be lit), press the following key combination: '***01***', after entering, there will be a flickering horizontal line on the display.
- Now, enter a serial number of the switchboard which we want to programme (6 digits on the sticker on the switchboard) and confirm with '*'.
- Enter the administrator's code of a selected switchboard (6 digits, default **123456**) and confirm with '*'.
- The correctness of the numbers entered is confirmed with panel switching to the switchboard programming mode – it will be confirmed on the panel by a short high pitch sound and a flashing caption **'P-01',** which is the first menu programme.
- If the provided switchboard serial number is incorrect, the panel will not receive a response from a switchboard which does not exist and after waiting time, there will be **'Er01'** error displayed and there will be a short low sound. If there is an error in the administrator's code, the panel will display **'Er02'** error and generate a short low sound. In both cases, the procedure of entering the programming mode must be started from the beginning.

CAUTION:
The collective table with errors which may occur when using the system is provided at the end of this manual (table No 1).

PC-1000 and PC-2000 Panel is preliminary programmed for working in the slave mode – the only activity which must be carried out after installing the system is logging to the switchboard with which a given panel is to work and entering P-01 programme then confirming with * twice.

3. 1. PROGRAMME DESCRIPTION

3.1.1. PROGRAMME 01 (P-01). PANEL TYPE

CC-2000 Intercom system anticipates 3 panel types: master (N), slave (P) and special (S), whose defining is one of the conditions for the correct system operation. In the programming mode, these types have the following meaning:

- digit '**1**' – slave panel (**P**)
- digit '**2**' – master panel (**N**)
- digit '**3**' – special panel (**S**).

Such panel classification is caused by possible configurations in which the intercom system may be used. Below, there are possible arrangements and solutions for CC-2000.

3.1.1.1 MASTER PANEL, TYPE 1. 1-INPUT SYSTEM WITH ONE SWITCHBOARD.

The most common connection arrangement of the intercom system is a single system: 1 panel + 1 switchboard + n uniphone (see Fig. 4 or Fig. 5). In such a case a panel should be set as slave with a building number accepted by the system by default (**1**), which is the number of the switchboard to which the panel is logged.

The programming sequence is as follows:

After performing the above procedure points of entering the programming mode (item 2.1), when **'P-01'** is displayed, it is necessary to:

1. confirm with '*'. '**1**', will be displayed which indicates the slave panel by default.
2. confirm the selection again with '*****' and then, without continuation, with '**#**' exit PROGRAMME 01.

3.1.1.2 MASTER PANEL, TYPE 2 MULTI-INPUT SYSTEM WITH MANY SWITCHBOARDS

There are cases with one or a few main panels called master (**N**), from which we can connect all the uniphones in the system, and a few slave panels (**P**) with switchboard electronics stations and assigned uniphone groups, referred to as the multi-input system with hierarchical input (see Fig. 6, 7 or 8).

In such a case, programme both panel types (**N**) and (**P**) correctly. The slave panel must be assigned to one switchboard only and a number allocated during programming is at the same time a number identifying the switchboard. The slave panel and switchboard create a unique and identifiable device group assigned to a given staircase (of the building), etc.

Each slave panel (**P**) within this configuration is programmed in the following manner: After performing the above procedure points of entering the programming mode (item 2.1), when **'P-01**' is displayed, it is necessary to:

1. confirm with '*'. '**1**' will be displayed which indicates the slave panel by default.
2. confirm with '*'again. An accepted building (staircase) will be displayed ('**1**').

   For the first electronics, it is possible to accept this selection with '*'; for the remaining electronics, it is necessary to change it into a non-recurring other number, e.g. correlated with the staircase or building actual number (permissible number range 1-255). Pressing '**3**' increments the number displayed with 1 and pressing '**6**' with 10. We confirm selection with '*' and with '#' we exit PROGRAMME 01.

   The main panel must be programmed as master (**N**) acc. to the procedure provided below:

   After performing the above procedure points of entering the programming mode (item 2.1), when **'P-01'** is displayed, it is necessary to:

   1. confirm with '*****'. '**1**' will be displayed which indicates the slave panel by default.
   2. by means of key '**3**' the value is incremented to '**2**' (master panel) and the selection is confirmed with '*****'. We finish the programming of the master panel by pressing '#' and exiting PROGRAMME 01.

   CAUTION:

   When selecting an occupant number from the master panel, firstly enter the staircase (building) number, then confirm '*' and after that select an occupant number.

3.1.1.3 SPECIAL PANEL, TYPE 3

This panel type was programmed in a special manner in order to enable system configuration in various cases, facilitating the flexible and convenient implementation of many complicated systems. After performing the above procedure points of entering the programming mode (item 2.1), when '**P-01**' is displayed, it is necessary to:

1. confirm with '*'. '1' will be displayed which indicates the slave panel by default.
2. '**3**' increments the value to 3 and '*****' confirms the selection.
3. Another menu item will occur which specifies the selection of one of two available AUDIO routes (microphone and speaker) of the switchboard which will be enabled after calling the premises connected to this switchboard. The switchboard plate includes two audio routes defined as slave – GL1 and MIK1 and master GL2 and MIK2. When setting audio route as '**1**' in the menu, we declare the activity of the slave route (GL1, MIK1), '**2**' means the activity of the master route (GL2, MIK2). Route selection is permanently related to a calling sound allocated to both routes (an acoustically "faster" sound is allocated to the master route and an acoustically "slower" to the slave route). '**1**' is a default value. After confirming the selection with '*', we automatically are directed to the next menu item.
   CAUTION:
   It is advised to define the audio route as
   - „**1**" (slave GL1 and MIK1) for the slave panel,
   - „**2**" (master GL1 and MIK2) for the master panel.
4. Now, we define the active terminals, which control the electrofastner activation. The menu includes terminal pairs **Z1 & Z1** and **Z2 & Z2** on CC2000 electronics plate (proper positions in menu '**1**' and '**2**') and terminal pairs ZACZ1 to ZACZ4 placed on „Doorkeeper Commutator KZ4" plate (proper positions in the menu: '**4**' – '**7**').
   The slave doorkeeper on CC2000 electronics plate – '**1**' is set by default.
   CAUTIO
   N:
   It is advised to define the outputs as
   - „**1**" (slave) for the slave panel,
   - „**2**" (master) for the master panel.

   After the selection, confirm with '*' and go to the last menu item of the special panel '**3**'.
5. It is a manner of selecting number
   - '**1**', simple, with building number accepted by default '**1**' automatically added to the selected number. It may be used **only in the case of non-recurring flat numbers in the system**),
     COMMENTS:
     - Register only the subscribers present in given staircases.
     - Limit the selection of numbers by the panel outside the range supported (programme 25 and 26)
   - '**2**', complex, with a building number manually added to the flat number. A comment to this item is discussed in detail in chapter "6. Multi-input system, item 6. 2." The selection manner is simple with building number "**1**" allocated by default.

6. If option '**2**' is selected, then after confirming '*', programme **P-01** will be closed; if option '**1**' is selected, another menu option will be displayed, which enables entering a building number. The pre-set number is '**1**' which relates to building number 1. After pressing '*****' programme P-01 will be closed.

3.1.1.4 MASTER PANELS. MULTI-INPUT SYSTEM WITH ONE SWITCHBOARD AND ADDITIONAL MODULE "DOORKEEPER COMMUTATOR KZ-4".

The multi-input system implementation is possible, where, apart from slave inputs (near staircases), it is possible to support up to 5 additional inputs (master or special). **If there is more than one master input or a special input, it is necessary to use an additional device - Doorkeeper Commutator KZ-4.** Full information on this subject is included in the manual of KZ-4 module.

COMMENTS:

1. The master panel is not correlated with any switchboard; during its programming, it is possible to log to any switchboard operating within the system.
2. The activity of the master panel programming must be performed as the last one after previous programming of all the slave panels.

3. The slave panel must be logged to a specific switchboard supporting a given building, entrance, staircase, etc. – a place where it will be physically mounted and a panel and a switchboard; assign a number of a building, entrance or staircase for easier spatial identification.

The panel will confirm correct programming by a confirmation signal (short high pitch sound).
Possible errors:
'**Er01**' - no response from the switchboard; check cables, repeat a programming procedure.
More information on the multi-input system is provided in chapter 6. MULTI-INPUT SYSTEMS.

3.1.2 PROGRAMME 02 (P-02). ADDING NEW SUBSCRIBERS.

1. Provide a new subscriber's number. Max. 4 digits.
2. Confirm with '*'.
3. Provide a uniphone number: from 1 to 255.
4. Confirm with '*'.

The panel will confirm correct programming by a confirmation signal (short high pitch sound).
Possible errors:
'**Er01**' - no response from the switchboard. Check cables, repeat a programming procedure.
'**Er03**' - the entered subscriber's number is already in use. Remove the number from the switchboard memory (**P-05**) or use other subscriber's number; such an error may also denote an attempt to use an engaged uniphone.

3.1.3 PROGRAMME 03 (P-03). SIMPLE INITIATION OF THE SUBSCRIBERS TABLE.

1. Enter the quantity of subscribers - max. 255.
2. Confirm with '*'.

The panel will confirm correct programming by a confirmation signal (short high pitch sound).

Subsequent subscribers' numbers will be assigned to subsequent uniphones, starting from 1 to the quantity entered. Previously entered values are deleted from the subscribers table.

Possible errors:
'**Er01**' - no response from the switchboard. Check cables, repeat a programming procedure.

3.1.4 PROGRAMME 04 (P-04). ADVANCED INITIATION OF THE SUBSCRIBERS TABLE.

1. Enter an initial subscriber's number e.g. 100.
2. Confirm with '*'.
3. Provide an incrementing step - e.g. 10.
4. Confirm with '*'.
5. Enter the quantity of subscribers - e.g. 4
6. Confirm with '*'.
7. Provide the first uniphone number, e.g. 15.
8. Confirm with '*'.
9. If we want to delete the previous table content - enter 1.
   If we want to maintain the previous table content - enter 0.
10. Confirm with '*'.

The panel will confirm correct programming by a confirmation signal (short high pitch sound).
Possible errors:
'**Er01**' - no response from the switchboard. Check cables, repeat a programming procedure.
The example of the programme operation effect:

Uniphone_numb	subscriber_number:
1. 15	100
2. 16	110
3. 17	120
4. 18	130

3.1.5 PROGRAMME 05 (P-05). SUBSCRIBER DELETION.

1. Provide a subscriber's number.
2. Confirm with '*'.

The panel will confirm correct programming by a confirmation signal (short high pitch sound).
Possible errors:
'**Er01**' - no response from the switchboard. Check cables, repeat a programming procedure.
`**Er04**' - incorrect subscriber's number. Enter a correct number.

3.1.6 PROGRAMME 06 (P-06). ADDING OPENING CODES.

1. Provide a subscriber's number.
2. Confirm with '*'.
3. Enter a new 4-digit opening code.
4. Confirm with '*'.

The panel will confirm correct programming by a confirmation signal (short high pitch sound).

A printout of predefined opening codes is added to each switchboard electronics.

Possible errors:
'Er01' - no response from the switchboard. Check cables, repeat a programming procedure.
'Er04' - incorrect subscriber's number. Enter a correct number.
'Er07' - the provided opening code is already in use.
'Er06' - no free space. The user already has 4 codes.

3.1.7 PROGRAMME 07 (P-07). CHANGING OPENING CODES.

1. Provide a subscriber's number.
2. Confirm with '*'.
3. Enter a previous opening code.
4. Confirm with '*'.
5. Enter a new opening code.
6. Confirm with '*'.

The panel will confirm correct programming by a confirmation signal (short high pitch sound).
Possible errors:
'Er01' - no response from the switchboard. Check cables, repeat a programming procedure.
'Er04' - incorrect subscriber's number. Enter a correct number.
'Er05' - incorrect opening code. Attempt to change a non-existing code.

3.1.8 PROGRAMME 08 (P-08). DELETING ALL SUBSCRIBER'S CODES.

1. Provide a subscriber's number.
2. Confirm with '*'.

The panel will confirm correct programming by a confirmation signal (short high pitch).
Possible errors:
'Er01' - no response from the switchboard. Check cables, repeat a programming procedure.
'Er04' - incorrect subscriber's number. Enter a correct number.

3.1.9 PROGRAMME 09 (P-09). JOINT OPENING CODE FOR ALL SUBSCRIBERS

1. Enter a new joint code.
2. Confirm with '*'.
3. Repeat a new joint code.
4. Confirm with '*'again.

The panel will confirm the correct entering of a new joint code and removing all previously entered ones with a confirmation sound (short high pitch).

This programme is used for the initialisation of the users' opening codes memory. Since all previous codes will be removed during the activation of this programme, it is not allowed to use it after entering individual codes by users.

Possible errors:
'Er01' - no response from the switchboard. Check cables, repeat a programming procedure.

3.1.10 PROGRAMME 10 (P-10). ADDING DALLAS TABLETS.

1. Provide a subscriber's number.
2. Confirm with '*'.
3. Approximate subsequent tablets to the reader.

The panel will confirm correct programming by a confirmation signal (short high pitch sound).

- One subscriber may be assigned max. 8 Dallas tablets.

Possible errors:
'Er01' - no response from the switchboard. Check cables, repeat a programming procedure.
'Er04' - incorrect subscriber's number. Enter a correct number.
'Er08' - an attempt to re-programme the same tablet. Approximate next tablet.
'Er09' - no free space in the memory for new tablets for a provided subscriber.

3.1.11 PROGRAMME 11 (P-11). REMOVING DALLAS TABLETS.

Approximate the tablet to the reader.
The panel will confirm correct programming by a confirmation signal (short high pitch sound).

- This programme removes the subscriber's tablets and not registered tablets.
- Quit the programme by '**#**'.

Possible errors:
'Er-01' - no response from the switchboard. Check cables, repeat a programming procedure.
'Er-10' - this tablet not found in the switchboard memory.

3.1.12 PROGRAMME 12 (P-12). DELETING ALL SUBSCRIBER'S TABLETS.

1. Provide a subscriber's number.
2. Confirm with '*'.

The panel will confirm correct programming by a confirmation signal (short high pitch sound).
Possible errors:
'Er01' - no response from the switchboard. Check cables, repeat a programming procedure.
'Er04' - incorrect subscriber's number. Enter a correct number.

3.1.13 PROGRAMME 13 (P-13). ADDING NON-REGISTERED TABLETS.

Approximate subsequent tablets to the reader.
Subsequent tablets programming is confirmed with a short high pitch sound.

- The max. quantity of non-registered tablets is 768
- Quit the programme by '**#**'.
- Deleting a single non-registered tablet is possible by means of Programme P-11.

Possible errors:
'Er01' - no response from the switchboard. Check cables, repeat a programming procedure.
'Er08' - an attempt to re-programme the same tablet. Approximate next tablet.

3.1.14 PROGRAMME 14 (P-14). DELETING ALL NON-REGISTERED TABLETS.

After selecting a programme, the panel display will show 4 vertical flickering lines. Confirm deletion with '*'.
The panel will confirm correct deletion by a confirmation signal (short high pitch sound).
Possible errors:
'Er01' - no response from the switchboard. Check cables, repeat a programming procedure.

3.1.15 PROGRAMME 15 (P-15). DELETING THE SWITCHBOARD MEMORY AND RECOVERING DEFAULT SETTINGS.

1. After selecting a programme, the panel display will show 4 vertical flickering lines.
2. Confirm deletion with '*'.

The panel will confirm the correct **recovery of pre-settings** and **deletion of**:
- all subscribers' numbers with opening codes
- all Dallas keys allocated to subscribers
- all non-registered tablets
Possible errors:
'Er01' - no response from the switchboard. Check cables, repeat a programming procedure.

3.1.16 PROGRAMME 16 (P-16). CHANGING THE ADMINISTRATOR'S CODE.

1. Enter a new 6-digit code.
2. Confirm with '*'.
3. Re-enter the new code.
4. Confirm with '*'.

The panel will confirm correct programming by a confirmation signal (short high pitch).

Possible errors:

'**Er01**' - no response from the switchboard. Check cables, repeat a programming procedure.

'**Er13**' - new administrator's code entered incorrectly. Repeat the entering of a new code.

3.1.17 PROGRAMME 17 (P-17). CHANGING CALLING TIME.

1. Select a programme.
2. The panel will read the current calling time and will display it.

- By means of key '**1**' or '**3**' we change time with the step of 5 seconds.
- Min. time: **5s** Max. time: **30s.**

3. Confirm with '*'.

The panel will confirm correct programming by a confirmation signal (short high pitch).

Possible errors:

'**Er01**' - no response from the switchboard. Check cables, repeat a programming procedure.

3.1.18 PROGRAMME 18 (P-18). CHANGING THE CONVERSATION DURATION TIME.

1. Select a programme.
2. The panel will read the current conversation time and will display it in the following format: m:ss , where: m - minutes, ss - seconds

- By means of key '**1**' or '**3**' we change time with the step of 5 seconds.
- Min. time: 2.5 min Max. time: 5min

3. Confirm with '*'.

The panel will confirm correct programming by a confirmation signal (short high pitch sound).

Possible errors:

'**Er01**' - no response from the switchboard. Check cables, repeat a programming procedure.

3.1.19 PROGRAMME 19 (P-19). CHANGING THE DOORKEEPER OPENING TIME.

1. Select a programme.
2. The panel will read the current doorkeeper opening time and will display it.
   -> By means of key '**1**' or '**3**' we change time with the step of 1 second.
   Min. time: 1 s Max. time: 15s.
3. Confirm with '*'.

The panel will confirm correct programming by a confirmation signal (short high pitch).

Possible errors:

'**Er01**' - no response from the switchboard. Check cables, repeat a programming procedure.

3.1.20 PROGRAMME 20 (P-20). ADJUSTING THE CALLING VOLUME.

1. Select a programme.

- Change a volume by means of key '**1**' or '**3**'
- Available range: 1 - 5.

2. Confirm with '*'.

The panel will confirm correct programming by a confirmation signal (short high pitch sound).

Possible errors:

'**Er01**' - no response from the switchboard. Check cables, repeat a programming procedure.

3.1.21 PROGRAMME 21 (P-21). SWITCHING THE DOOR OPENING SIGNALISATION ON/OFF BY MEANS OF A CODE OR TABLET.

By default, when opening the door with an occupant's code or Dallas tablet, in the occupant's uniphone, there is a series of sounds informing on opening the door without previous calling to the occupant.

1. Select a programme.
2. Set '**1**' in order to switch this function on or '**0**' to switch it off
3. Confirm with '*'.

The panel will confirm correct programming by a confirmation signal (short high pitch).

- We change settings by means of press button '**1**' or '**3**'
- This option is enabled by default (set at '**1**')

Possible errors:
'**Er01**' - no response from the switchboard. Check cables, repeat a programming procedure.

3.1.22 PROGRAMME 22 (P-22). DOORKEEPERS TEST.

This programme enables activating the doorkeepers for their programmed activation in order to check their operation quickly. After selecting a programme and confirming the selection by '*' at the slave output (terminal pair **Z1**) there will be alternating voltage, terminals **Z2** will be short-circuited by the relay contacts

3.1.23 PROGRAMME 23 (P-23). PREVIEW OF THE SWITCHBOARD PROGRAMME VERSION.

After selecting and confirming PROGRAMME 23, a number of the current software version of CC2000 switchboard will be displayed.

3.1.24 PROGRAMME 24 (P-24). PREVIEW OF THE PANEL PROGRAMME VERSION.

As in programme P-23, in this programme, the panel software version will be displayed.

3.1.25 PROGRAMME 25 (P-25) AND P-26. RANGE OF ALLOWED FLAT NUMBERS FOR THE PANEL.

By default, the panel accepts the values of flat numbers in the range 1-9999. Sometimes it is advantageous to limit or deactivate some groups of occupants from the scope of flats "supported" by the panel. In these two programmes, you can operate flat numbers, eliminating those which should not be operated from a given panel.

- Values entered in both programmes **in total** (logic sum) determine the range of supported uniphones

Examples:

	SET RANGES			
	example 1	example 2	example 3	example 4
P25	1 – 10	1 – 10	1 – 10	1 – 10
P26	1 – 9999 (default value)	12 – 20	1 – 15	5 – 15
EFFECT	1 – 9999	1 – 10 and 12 –	1 – 15	1 – 15

3.1.26 PROGRAMME P27 (P-27). CHANGING THE TIME ENABLING ANSWERING A CALL AFTER FINISHING CALLING.

1. Select a programme.
2. The panel will read the current time during which, after finishing calling, a conversation may be started.

- We change settings by means of press button '**1**' or '**3**'
- Min. time: **1 s** Max. time: **15s**.

3. Confirm with '*'.

The panel will confirm correct programming by a confirmation signal (short high pitch sound).

Possible errors:
'**Er01**' - no response from the switchboard. Check cables, repeat a programming procedure.

4 ADJUSTING AN INTERCOM ROUTE

After starting the system, correct the settings of microphone and panel speaker volume; they are pre-set but they should be adjusted in specific configuration.
In the switchboard electronics station, there is access to the following three adjusting points:
1. Amplifying the signal of the intercom station microphone (potentiometer **P2**),
2. Amplifying the signal of the intercom station loudspeaker (potentiometer **P3**),
3. Line balance (potentiometer **P1**).
In order to set the balance correctly, connect with the uniphone which is connected, more or less, in the half of the line length. Then, while adjusting the balance potentiometer, find a point of the least susceptibility to induction.

Suggested sequence of the final routes adjustment:

1. Set the route volume potentiometers in positions ensuring conversation audibility (P2 and P3), by adjusting P1 balance potentiometer in one direction, find a point where there is station induction – then, find the other such point with opposite adjustment,
2. Set the balance potentiometer in a central position, between the found induction points,
3. Increase the volume of P2 and P3 route slightly,
4. Repeat adjustment from point 2, 3, 4 until such optimal positioning of the balance regulator is found, where with volume max. settings in both intercom routes, a balance potentiometer cannot be moved due to station induction. After this procedure, intercom routes volume may be set to the required values.

   Do not set excessive amplification in respective acoustic routes because due to microphone amplification dispersion in uniphones, there may be an induction effect for some uniphones.

   In such a case, by using the balance regulator in the uniphone, its setting may be corrected to a proper value in order to eliminate its induction.

   The recommended practical settings of route volume are as follows:

   - route amplification towards the top of the uniphone (station microphone) - P2 must be set at a min. value ensuring satisfactory audibility in the uniphone receiver,
   - route amplification towards the bottom (station loudspeaker) - P3 must be set at max. value (to the induction threshold), and then retract the potentiometer towards the direction of signal decrementing with a value ensuring the lack of possibility of route induction.

5 CC-2000 INTERCOM USE

5.1 CONNECTING THE PREMISES

In order to connect with given premises, select its number by pressing a digit which is the premises number and wait. After about 3 min. of delay from the last pressing, which will indicate the end of the flat number selection cycle, the system will interpret it as a demand for connection with a selected number.
Each correct digit selection is confirmed with digit display and a sound signal from the station speaker. After each pressing of a digit, the system clock counts about 3 sec. If, within this time, we select another digit, the programme will create premises number from subsequent digits. An attempt to select a number longer than 4 digits will not result in the change on the display and a selected number will be treated as correct until the system clock counts the time of 3 s. If, during entering digits, there is an error, the content may be deleted from the display through pressing '#' and a correct number may be entered.

In the event of cooperation with panels in the software version below v19, after selecting a flat number,

it is necessary to confirm it by pressing '*'.

After connecting the premises, the intercom generates a calling signal lasting for the pre-programmed time, for 20s by default. The emitted sound signal consists of 2 acoustic signals, frequency modulated, with an interval of 1 s, during which the system checks the condition of a receiver. Lifting a receiver in premises initiates the acoustic connection between the uniphone and the intercom panel, limited to approx. 2 min (standard value).
Calling, as well waiting, may be interrupted at any time by pressing key '#'. A selected number will be deleted from the display, and the intercom system will be prepared for accepting a different number.
During a conversation, an electro-magnetic doorkeeper may be activated at any time by pressing the doorkeeper activation press button located on the uniphone.

- Regardless of the time of pressing this press button, a bolt is opened for a specific time (5 s. standard).
- All the times provided above may be changed through proper installation procedures described in this manual.
- When the uniphone is put away or the set time is exceeded there is disconnection.

5.2 USING OPENING CODES

When using a function opening code embedded in the digital intercom, an occupant may enter the staircase without a key to the entrance door. An opening code may be set by an installer during the system programming (programmes P-06, P-07, P-09) as well as after the start-up of the system by the occupant in the manner described below. In order to use the function of opening code, it is necessary to:

1. select premises number on the keypad - this number will be displayed,
2. confirm selection by pressing '*'. Four horizontal lines will be displayed - after that, it is necessary to:
3. select four digits of an opening code and wait.

CAUTION:

1. Digit '0' in a code is not significant if it is at the beginning of a number and it may be skipped.
2. If a code is entered correctly, the electromagnetic doorkeeper will be activated for a programmed time.

5.3 CHANGING AN OPENING CODE

The intercom system enables changing a door opening code directly by an occupant without the help of the system installer. For safety reasons, two people are needed for such a change - one in a flat near the uniphone, and the other near the intercom station.

In order to change an opening code for given premises, it is necessary to:

1. select the number of given premises on the keypad.
2. wait for connection with selected premises,
3. during conversation (after lifting the uniphone receiver), a person standing near the intercom station should enter:
4. subprogramme 03, enabling code change, by using a keypad and press consecutively: '*','0','3','*'.
5. provide an old opening code.
6. confirm with '*'.
7. provide a new opening code.
8. confirm with '*'.
9. a person near the uniphone should press the doorkeeper press button three times.

The panel will confirm programming with a high pitch sound generated by a speaker.
When an opening code is provided which is already in use, the panel will display 'Er07' error signal.
Other possible error codes:
'**Er01**' - no response from the switchboard. Check cables, repeat a programming procedure.
'Er05' incorrect opening code (an attempt to change a code which does not exist).

5.4 ADDING A NEW OPENING CODE

The user may also add a new opening code to the already existing ones, not exceeding the max. allowed quantity of codes, which is 4, in the following manner (when performed the above points 1-3):

4. a person near the intercom station should enter subprogramme 02, which enables adding a new code, using the keypad and pressing consecutively the following keys: '*','0','2','*'.
5. provide a new opening code.
6. confirm with '*'.
7. a person near the uniphone should press the doorkeeper press button three times.

The panel will confirm programming with a high pitch sound generated by a speaker.
When an opening code is provided which is already in use, the panel will display 'Er07' error signal. Other error codes:
'**Er01**' - no response from the switchboard. Check cables, repeat a programming procedure.
'Er06' informing on the lack of free space (the user already has 4 opening codes).

5.5 DELETING A SPECIFIC OPENING CODE

The user may delete selectively a given opening code or delete all opening codes. In order to delete a given code, after performing the above 3 points, go to the next point:

4. a person near the intercom station should enter subprogramme 04, which enables the selective deletion of a specific code, using the keypad and pressing consecutively the following keys: '*','0', '4','*'.
5. provide a former opening code.
6. confirm with '*'.
7. a person near the uniphone should press the doorkeeper press button three times.

The panel will confirm programming with a high pitch sound generated by a speaker.
Possible errors:
'**Er01**' - no response from the switchboard. Check cables, repeat a programming procedure.
'Er05' incorrect opening code (an attempt to delete a code which does not exist).

5.6 DELETING ALL OPENING CODES

In order to delete all opening codes, after performing the above 3 points, go to the next point:
4. a person near the intercom station should enter the subprogramme 05, enabling deleting all the opening codes by pressing the following keys: '*','0', '5','*'.
5. a person near the uniphone should press the doorkeeper press button three times.
The panel will confirm programming with a high pitch sound generated by a speaker.
Possible errors:
'**Er01**' - no response from the switchboard. Check cables, repeat a programming procedure.

6 MULTI-INPUT SYSTEM

Apart from the standard intercom system connection arrangement, which is 1 panel + 1 switchboard + uniphones, there might be options with 1 (or more) main panel (master) which we can use to connect all the uniphones, and a specific quantity of slave panels with allocated uniphones (see Fig. 6, 7, 8).
CC-2000 digital system ensures the system operation, the single one and the switchboard type with the master panel. Within each system, the panel must be programmed correctly.
The panel may be programmed as the master one in the menu of **Programme 01 Panel type** by selecting a given panel as the master one N (p.2.1.1.2) or special S (p. 2.1.1.3). A basic difference is that for a special panel, it is possible to set an audio route individually and in some cases a selection mode is simple (without a building number). There is a detailed description of procedures and cases of using both panel types.

6.1 MASTER TYPE PANEL ACC. TO THE PROCEDURE DESCRIBED IN ITEM 2.1.1.2.

It refers to a case when the number of master panels does not exceed 1 (in the event of "Doorkeepers Commutator KZ4", the number of master panels may be increased with subsequent 4) and flat numbering is recurring. The master panel is programmed acc. to the description in item 2.1.1.2 (for one panel) or acc. to the manual contained in the "Doorkeepers Commutator KZ4" description if it is included in the system. In the event of a multi-switchboard system, there is a change in the performance of some services due to the presence of a higher number of panels in the system, their hierarchy in the system (master panel, slave panels), required connection of uniphone between panels. The performance of the respective system functions is as follows:

6.1.1 CALLING FROM THE PANEL

6.1.1.1 SLAVE PANEL

It is performed in the same manner as in the single system - enter a subscriber's number on the keypad and wait. After a while, the device will call the chosen subscriber. Quit calling by pressing '#' when the subscriber has not lifted the receiver yet. If the receiver is lifted, the conversation may be interrupted after putting the receiver away or counting the max. conversation time.
Possible errors:
'**Er01**' - no response from the switchboard. Check cables, repeat a programming procedure.
Such an error may also occur when the panel building number is different from the switchboard building number. In such a case, execute Programme No 01 of the installer in order to synchronise the panel with the switchboard.
`Er04' - incorrect subscriber's number.

6.1.1.2 MASTER PANEL

A calling procedure is more complex due to the quantity of slave panels. A subscriber's number must be preceded with a pre-allocated switchboard building number (see chapter 2.1.1. panel type). The procedure is as follows:
1. Enter the switchboard building number on the keypad (use 1, 2 or 3 digits).
2. Confirm with '*'.

3. Enter a subscriber's number on the keypad.
After a while, the device will call the chosen subscriber.
Possible errors:
'**Er01**' - no response from the switchboard. Check cables, repeat a programming procedure.
`Er04' - incorrect subscriber's number.

6.1.2 OPENING WITH A CODE FROM THE PANEL

6.1.2.1 SLAVE PANEL

1. Enter a subscriber's number on the keypad.
2. Confirm the number with '*' which will switch to the mode of entering an opening code.
3. Enter an opening code. Each digit is represented on the display with 'c'. A correct code is signalled by a short high pitch sound and doorkeeper opening. Quit opening by pressing '#'.

Possible errors:
'**Er01**' - no response from the switchboard. Check cables, repeat a programming procedure.
'Er12' - incorrect opening code.
`Er04' - incorrect subscriber's number.

6.1.2.2 MASTER PANEL

1. Enter the switchboard building number on the keypad (use 1, 2 or 3 digits).
2. Confirm with '*'.
3. Enter a subscriber's number on the keypad.
4. Confirm the number with '*' which will switch to the mode of entering an opening code.
5. Enter an opening code. Each digit is represented on the display with 'c'. A correct code is signalled by a short high pitch sound and doorkeeper opening. Quit opening by pressing '#'.

Possible errors:
'**Er01**' - no response from the switchboard. Check cables, repeat a programming procedure.
'Er12' - incorrect opening code.
`Er04' - incorrect subscriber's number.

6.2 MASTER TYPE PANEL ACC. TO THE PROCEDURE DESCRIBED IN ITEM 2.1.1.3.

As already stated in item 3.1.1.3. programming a panel as the special one allows for more flexible and comprehensive using of CC2000 system. Apart from increasing the quantity of panels, it enables individual allocation of audio routes and doorkeepers (including "Doorkeepers Commutator KZ4") in some cases to simple number selection (without a building or staircase number) if flat numbers do not recur.

6.2.1 NON-RECURRING FLAT NUMBERS

In Fig. 9 there is a situation when inside a closed area with one or a few master entrances there is/are building(s) in which flat numbers do not recur. In such a situation, each master panel may be programmed as a special one with simple selection, see chapter 3.1.1.3 item 5 selecting digit '1'.

6.2.2 RECURRING FLAT NUMBERS

In Fig. 10 there is a situation when inside a closed area with one or a few master entrances there are buildings in which flat numbers do not recur (each building is assigned a non-recurring flat numbering) but it is the same in each building). In such a situation, programme each master panel as a special one with master selection (with a building number) - see chapter 3.1.1.3 item 5, selecting digit '2'.

6.2.3 USER'S FUNCTIONS IN THE MULTI-SWITCHBOARD SYSTEMS

As in the systems with a single master panel, in multi-switchboard systems with a few various panels, it is possible to change some intercom functions by a user, such as: code change, adding a new opening code, deleting a specific opening code. All the changes related to the user's functions are available from the slave panel only.

TABLE 1. TABLE WITH ERROR CODES AND THEIR INTERPRETATION

ITEM	ERROR CODE	MEANING	COMMENTS:
1	Er1	no response from the switchboard	See caution: 1
2	Er2	incorrect administrator's code	
3	Er3	this subscriber's number is already used	in the programming mode
4	Er4	this subscriber's number does not exist	in the programming mode
5	Er5	an opening code not found	in the programming mode
6	Er6	no free space for a new opening code	in the programming mode
7	Er7	this opening code is already used	in the programming mode
8	Er8	this tablet is already saved in the switchboard memory	in the programming mode
9	Er9	no free space in the memory for a new subscriber's tablet	in the programming mode
10	Er10	this tablet not found in the switchboard memory	in the programming mode
11	Er11	engaged line	
12	Er12	incorrect opening code	
13	Er13	new administrator's code entered incorrectly	
14	Er14	uniphone line short-circuiting	
15	Er15	joint opening code incorrectly entered - verification error	
16	Er16	Incorrect manufacturer's code	
17	Er17	Occupant's number beyond permitted panel range	
18	Er18	Function requested from the panel is not supported by the	in the programming mode

CAUTION:
This code is also present when a panel building number does not correspond to the switchboard building number. Enter programme 1 to synchronise the panel with the switchboard. This case does not apply to the master panel mode where a building number is entered by the user during entering a subscriber's number. When this error reoccurs, check the cable connection.

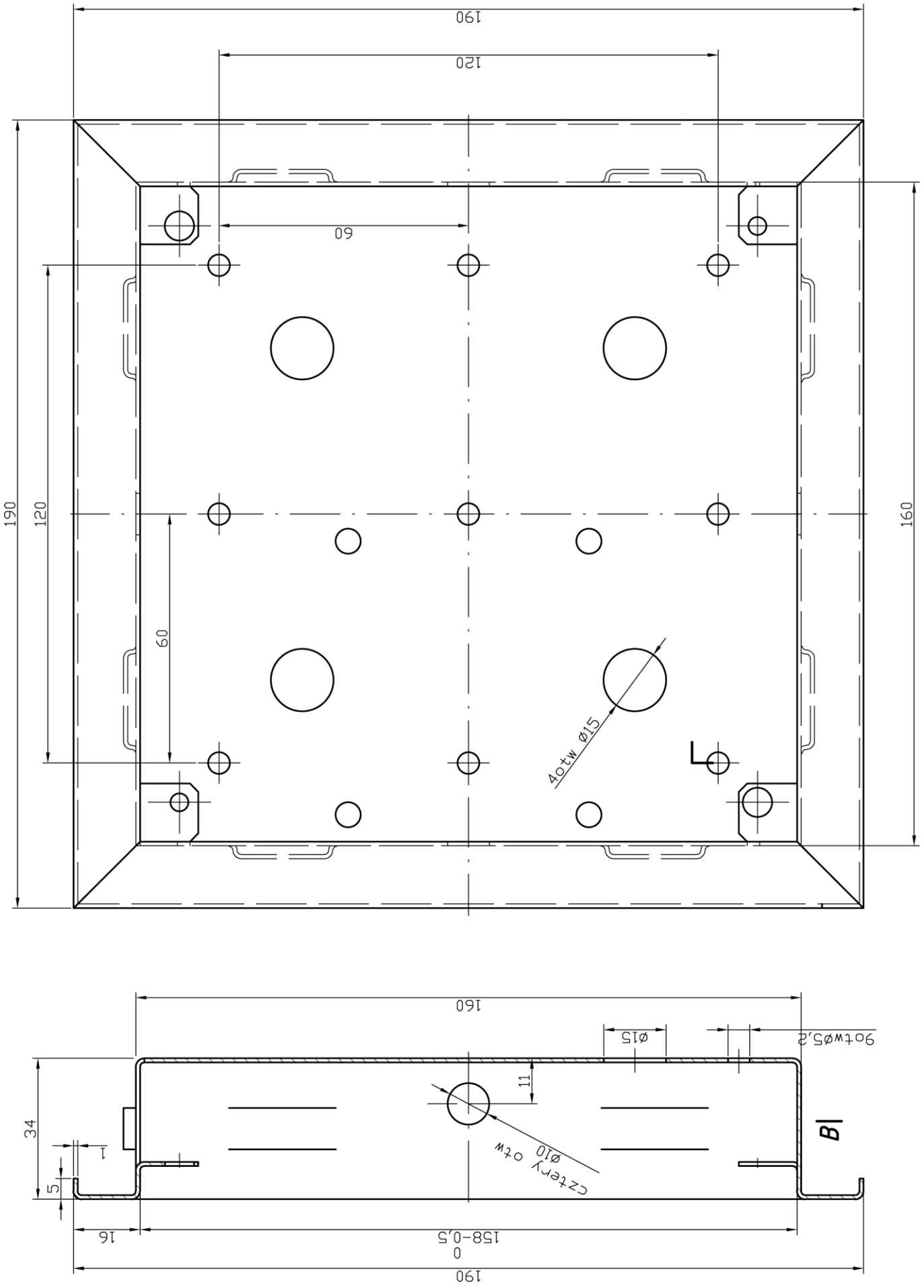


Fig. 3a. PC-2000 panel – flush-mounted frame dimensions

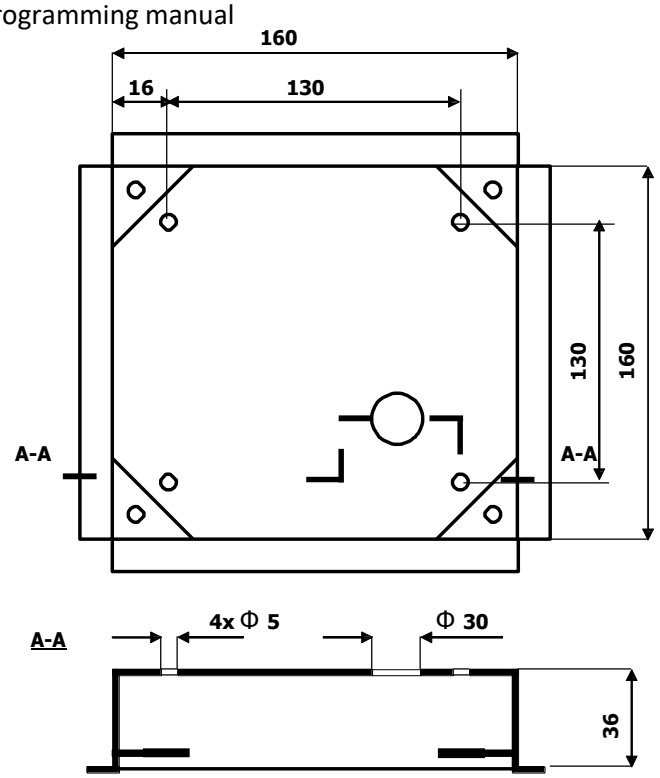


Fig. 3b. PC-1000 panel – flush-mounted frame dimensions

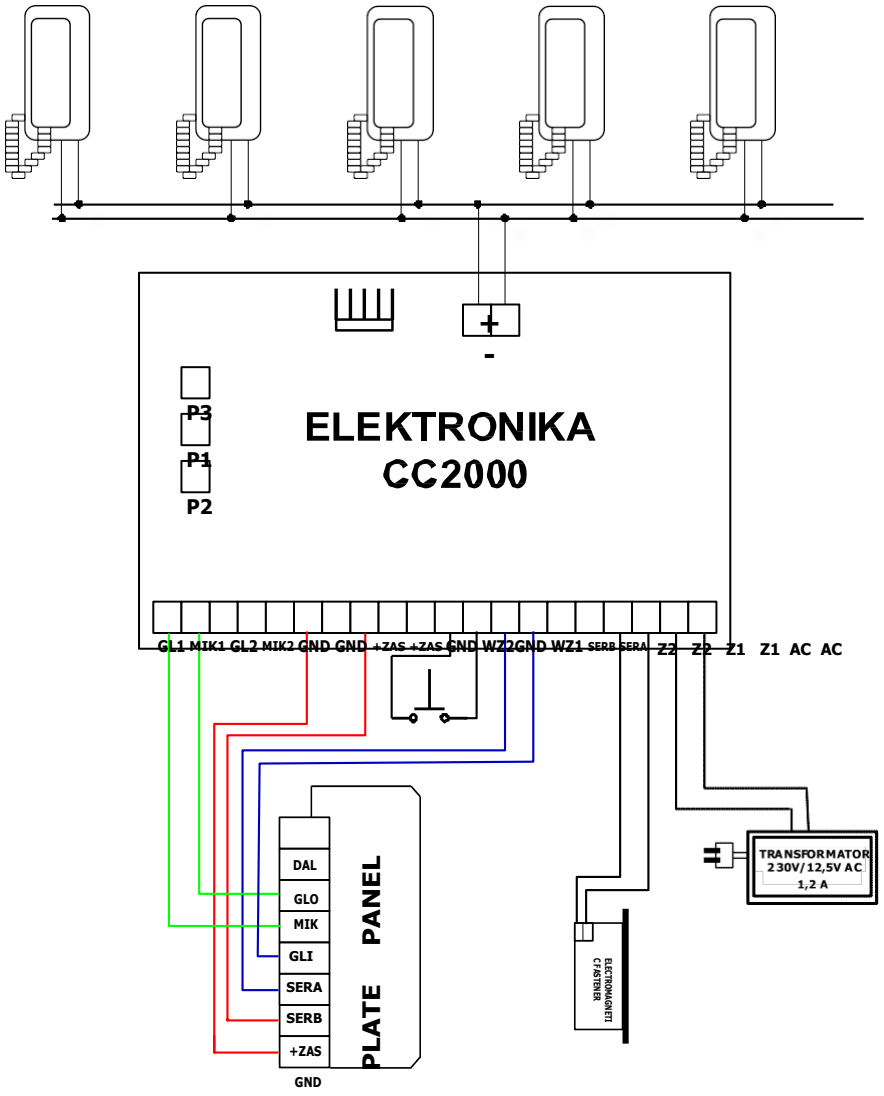


Fig. 4. Schematic diagram of connecting PC-1000 or PC-2000 panel, x CC-2000 Intercom system, uniphones, power adapter and electric doorkeeper (basic version)

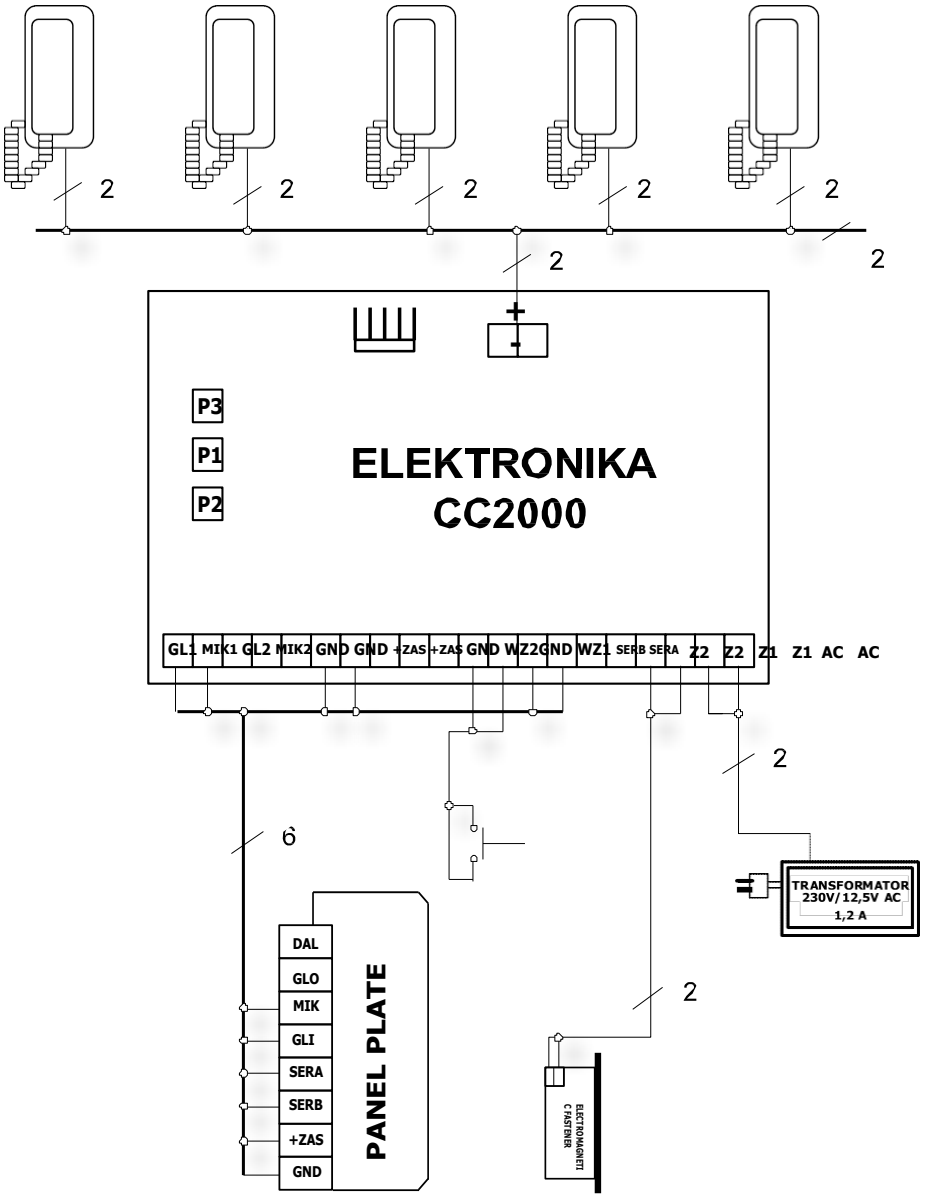


Fig. 5. 1-line diagram of the connections of CC-2000 system (basic version).

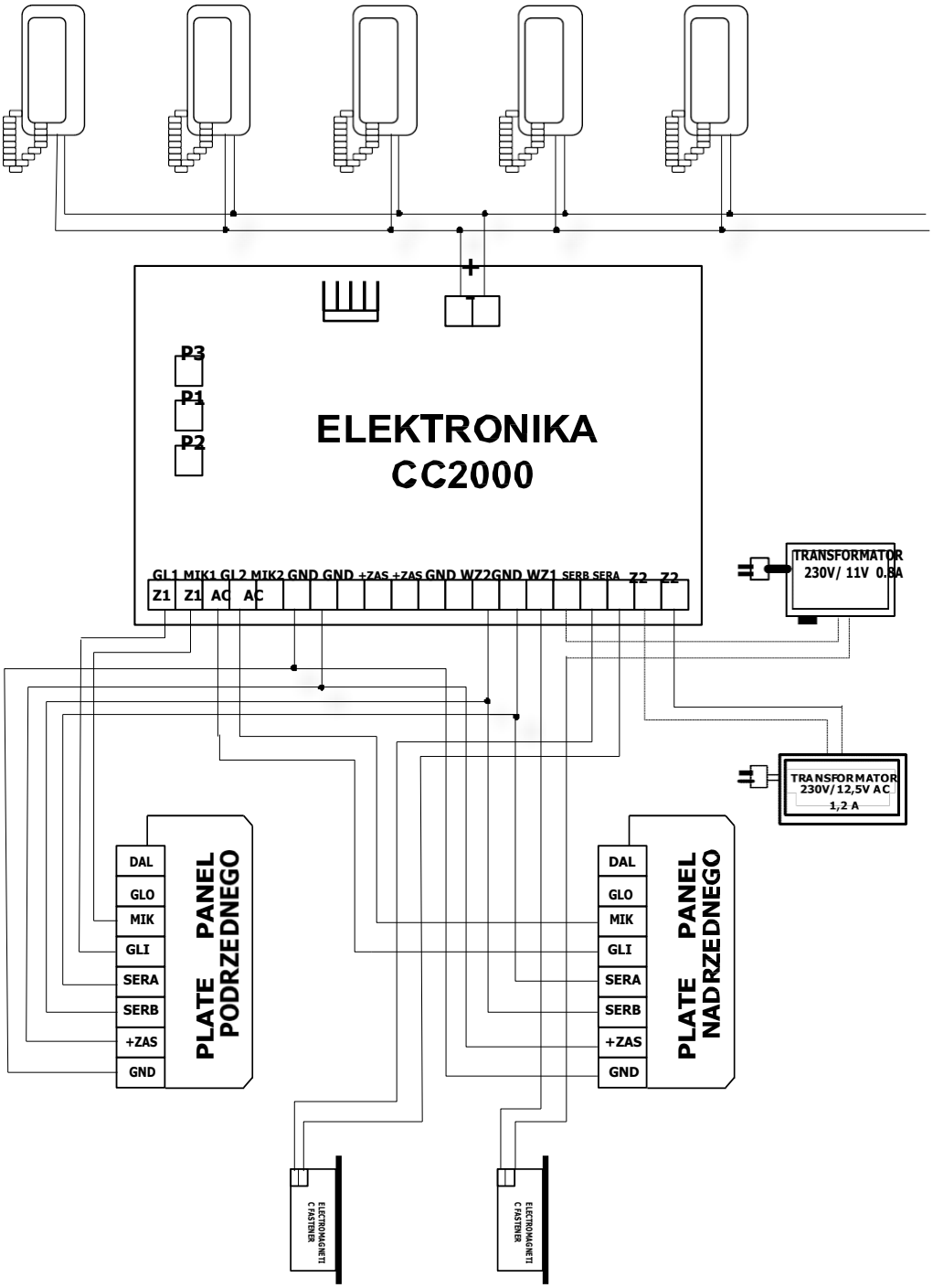


Fig. 6. Schematic diagram of the connections of the master panel and slave panel in CC-2000 system

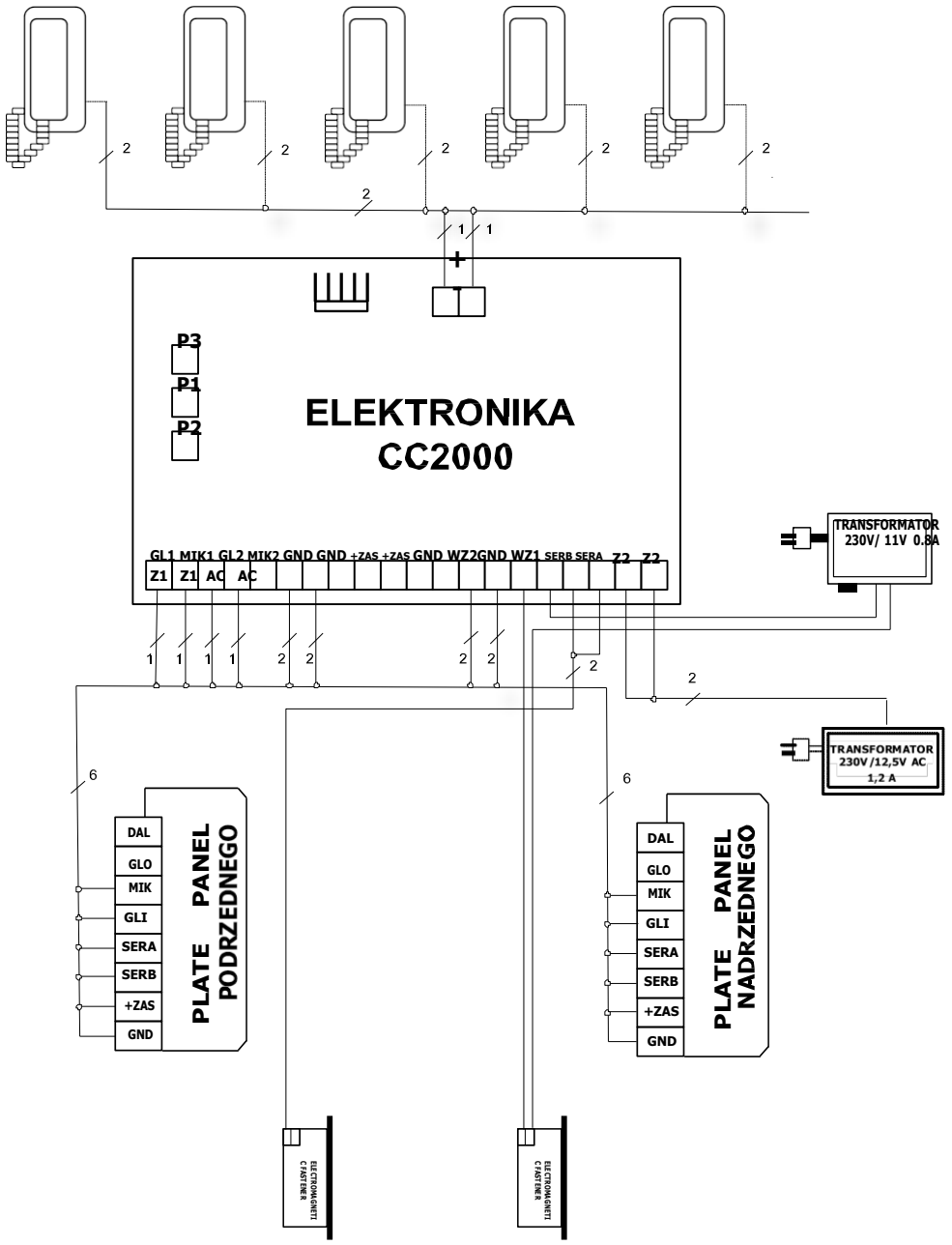
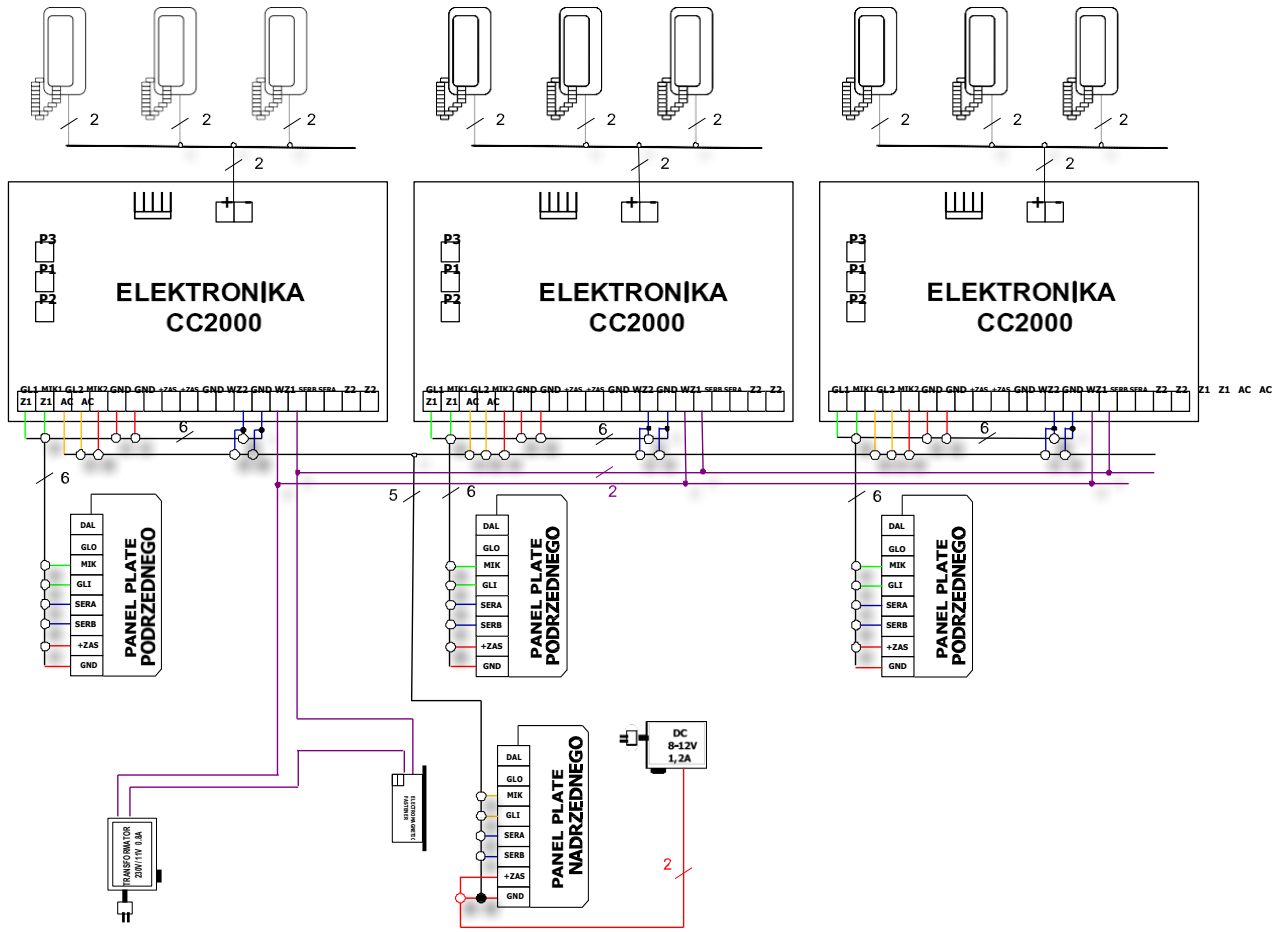


Fig. 7. 1-line diagram of the connections of the master panel and slave panel in CC-2000 system



COMMENTS:

1. All audibility master outputs (2) of CC2000 electronics must be connected by pairs in parallel and with the audibility inputs of the master panel
2. All master inputs (2) of the CC-2000 electronics electromagnetic doorkeeper must be connected by pair in parallel and with the electromagnetic doorkeeper located near the master panel as shown in the diagram
3. The master panel must be supplied with power from a separate power adapter, stabilised, DC 8-12 V, 1,2 A.
4. Electronics and additional stabilised power adapter masses must be connected together.

Fig. 8. 1-line diagram of the connections of the master panel and 3 slave panels in CC-2000 system

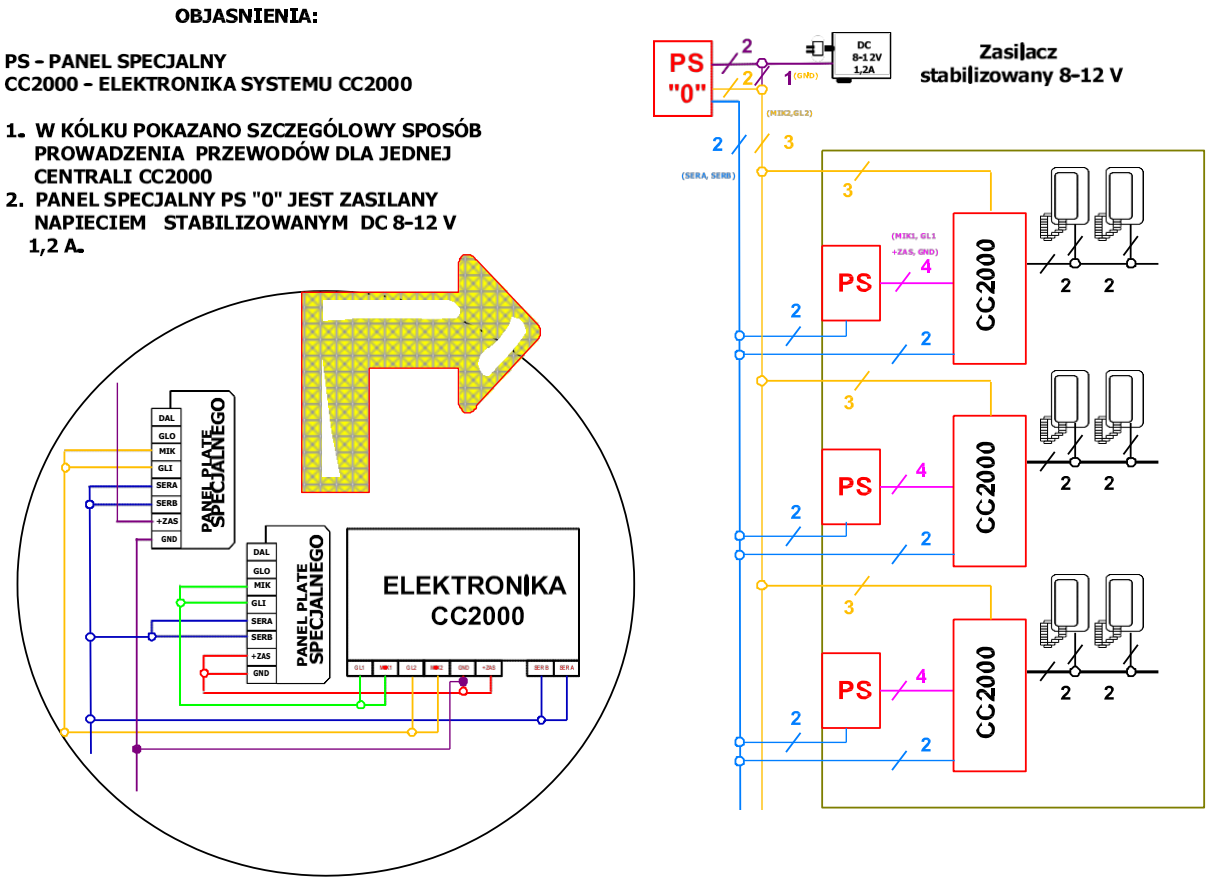


Fig. 9. A diagram of connecting the special panel for non-recurring numbers.

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DEKLARACJA ZGODNOŚCI
Nr 13/2011

Nazwa Producenta: **CYFRAL Chabelska i Wspólnicy Sp.J.**

Adres Producenta: **ul. Konstantynowska 62/70 ; 95-100 Zgierz**

deklaruje, że wyrób o nazwie:

Centrala cyfrowa typu CC-2000
w skład której wchodzą:
panel rozmówny PC-1000,
moduł elektroniki centrali cyfrowej CC-2000

spełnia następujące wymagania przepisów polskich oraz dyrektyw UE:

1. Wymagania ochrony w zakresie kompatybilności elektromagnetycznej (Ustawa o kompatybilności elektromagnetycznej z 13.04.2007r, Dz. U. nr 82, poz. 556) zawarte w **Dyrektywie 2004/108/WE**

   oraz zastosowano następujące normy zharmonizowane:

   PN-EN 61000-6-1:2008
   PN-EN 61000-6-3:2008

1. Wymagania ochrony w zakresie sprzętu elektrycznego (Rozp. Ministra Gospodarki z 21.08.2007, Dz. U. Nr 155, poz. 1089) zawarte w **Dyrektywie 2006/95/WE**

   oraz zastosowano następujące normy zharmonizowane:

   PN-EN 60065:2004
   PN-EN 60065:2004/A1:2006

i w następstwie nosi oznakowanie CE.

Zgierz, dnia 1.02.2011
Miejsce i data

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DEKLARACJA ZGODNOŚCI
Nr 05/2011

Nazwa Producenta: **CYFRAL Chabelska i Wspólnicy Sp.J.**

Adres Producenta: **ul. Konstantynowska 62/70 ; 95-100 Zgierz**

deklaruje, że wyrób o nazwie:

Unifon analogowy typu MAC-cyfrowy

spełnia następujące wymagania przepisów polskich oraz dyrektyw UE:

1. Wymagania ochrony w zakresie kompatybilności elektromagnetycznej (Ustawa o kompatybilności elektromagnetycznej z 13.04.2007r, Dz. U. nr 82, poz. 556) zawarte w **Dyrektywie 2004/108/WE**

   oraz zastosowano następujące normy zharmonizowane:

   PN-EN 61000-6-1:2008
   PN-EN 61000-6-3:2008

1. Wymagania ochrony w zakresie sprzętu elektrycznego (Rozp. Ministra Gospodarki z 21.08.2007, Dz. U. Nr 155, poz. 1089) zawarte w **Dyrektywie 2006/95/WE**

   oraz zastosowano następujące normy zharmonizowane:

   PN-EN 60065:2004
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