OUTDOOR PANEL
METAKOM MK2003.2-TM

PASSPORT
USER`S MANUAL

Valid for filling

To be completed by the repair company

Contents of the repair. Name and number according to the scheme of the replaced part or unit. The place and nature of the defect:

Signature of the person who carried out repairs

Date of repair _____
(date, month, year)

Signature of the owner of the product, confirming the repair

Repair company stamp with the city

CONTENTS

1. PURPOSE

The outdoor panel of METAKOM MK2003.2-TM4 (hereinafter - the doorphone) represents a specialized microprocessor system for installation in multi-apartment buildings, offices, as well as for the organization of a telecommunication system with a number of subscribers up to 999 (using several switches).

The electronic keys (hereinafter TM keys) of METAKOM TM2002, METAKOM TM2003 (A, B) or Dallas iButtontm - DS1990A are used as subscriber keys.

As the terminal devices installed at the subscribers, it is recommended to have TKP-01, TKP-05M, TKP-05M, TKP-10M, TKP-10M, TKP-12M, TKP-14M or other interphone handsets designed for doorphones with coordinate The addressing system for the production of METAKOM.

The doorphone provides a call signal to the subscriber's TKP, duplex communication between the visitor and the subscriber, remote opening of the lock upon a signal from the TKP.

The lock can also be opened using a TM-key, using the code dialed on the outdoor panel, or by pressing the EXIT button, installed at the entrance door inside the entrance.

To ensure the possibility of using different types of locks, the METAKOM outdoor panel MK2003.2-TM4 is available in two versions:

Full name of the model	Lock type	Terminal marking of terminal blocks	Description of the output node
METAKOM K2003.2-TM4E	Electromagnetic lock without control board	LOCK - a line normally closed o the common lock wire GND t	Powerful key transistor. When you open the lock, it turns off.
METAKOM MK2003.2- TM4M	Electromechanic lock without control board	LOCK – a line normally open o the common lock wire GND t	Powerful key transistor. When you open the lock, it turns on.

Tear-off coupon N1

For the warranty repair of the outdoor panel

METAKOM MK2003.2-TM

To be completed by the manufacturer

Serial number of the product _____

Release date _____
<div align="center">(date, month, year)</div>

Representative of the QC of the manufacturer_____
<div align="center">(QC stamp)</div>

<div align="center">Address for return of the coupon to the manufacturer:</div>

Russia, 241024, Bryansk city, Delegate street, 68, LTD "Metakom"

To be completed by a trade or installation organization

Sale date_____
<div align="center">(date, month, year)</div>

Seller _____
<div align="center">(signature or stamp)</div>

Trade organization stamp:

Date of commissioning _____
<div align="center">(date, month, year)</div>

Seller _____
<div align="center">(signature or stamp)</div>

The stamp of the organization that conducted the installation:

The output stage with a transistor is designed for direct control of the lock winding without the use of any additional control card or demagnetization.

The power supply of the call and lock unit can be provided from the METACOM BP-2U power supply.

The full name of the calling panel consists of the following elements

MK2003.2 - TM4 E V N 1 2   3 4 5

1. MK2003.2   - model number;
2. TM4   - support for electronic keys METAKOM TM2002, METAKOM TM2003(A,B) и Dallas iButton^{tm};
3. E   - for the electromagnetic lock,
   M   - for electromechanical lock,
4. V   - built-in video camera and infrared illumination,
   { space}   - without a video camera
5. N   - doorphone supports networking

2. DISTINCTIVE FEATURES

• Auto-collection of keys;
• Disable reading of some types of keys (prohibition of reading keys using the Dallas or TM2002 protocol);
• Using special keys with individual coding;
• Transfer of all doorphone settings to a personal computer (or other doorphone) and back via the METAKOM adapter MKA-02U and the TM-key DS1996 (L). It is possible to configure all modes of operation of the doorphone and enter subscriber TM keys using a personal computer (PC) in a comfortable laboratory environment. The information prepared in this way is transferred to the non-volatile memory of the outdoor panel. A copy of this information is stored on the PC and used for subsequent servicing;
• Possibility to expand switches to seven (the number of serviced subscribers can not exceed 999);
• Possibility of the organization of interphone network type 1 Master / 16 Slave (one main input, 16 additional);
• Possibility of diagnosing the system during commissioning (test the subscriber's handsets with the output of the parameters of the audio line on the indicator);
• Adjustment of parameters for determining the position of the handset for each subscriber separately (the setting can be made for each subscriber separately);
• Vandal-proof design - special keypad design, installation on site with a special key;
• Waterproof keyboard with illumination of each key, backlighting of electronic keys;
• Return to the factory settings outdoor panel, while retaining the stored keys;
• Self-test on power-up or reset.

11. OUTDOOR PANEL COMPLETENESS

1. Outdoor panel .... 1pc.
2. Passport .... 1pc.
3. Fixing kit .... 1pc.
4. Special key .... 1pc.
5. Packing box .... 1pc.

3. OPERATING FUNCTIONS

● Indication of operating modes on a 3-character indicator;
● Sound control of button pressing;
● Call the subscriber by dialing his number on the outdoor panel;
● Sound control of making a call to the subscriber (sending a ring signal
● Another key, if the subscriber's handset is not stacked);
● Duplex communication subscriber-visitor;
● Remote lock opening from the subscriber's TKP;
● Local lock opening by a set of general or individual code before;
● Local lock opening with an individual TM-key;
● Local lock opening of the lock from the entrance by pressing the EXIT button;
● Sound signaling the use of an individual subscriber code or a TM-key on the TKP of the corresponding subscriber (function, included on request);
● Ability to prohibit the maintenance of the subscriber's TKP while maintaining access to the individual code;
● Code lock operation in common code mode, in individual codes mode or jointly (programmable);

- Adjustment of all parameters of work for the most complete conformity to the requirements imposed on the installation site;
- Use the master TM key to quickly enter the programming mode.

4. SELF-TEST

When you turn on the power of the outdoor panel or press the "C" (RESET) button, the self-test procedure is performed. When an error is detected, an appropriate sound signal and a light indication are output.

If the chip is initialized, the message "Er2" is output to the indicator and an error signal is given. If the error is caused by the fact that a new (or previously used in the other device) chip EEPЯOM was installed, perform a full initialization with EEPЯOM (see section 7.3). If the error message continues to appear, replace the IC with the EEPЯOM.

When a keyboard malfunction occurs, the indicator "Er4" is displayed, its operation is blocked, and the function of opening the door lock from the exit button and TM keys is operable.

When the audio line is short-circuited, the message "Er5" is displayed on the indicator, if the line "Ег6" is broken.

10. WARRANTY OF THE MANUFACTURER

The manufacturer guarantees the conformity of the outdoor panel METAKOM MK2003.2-T4 to the requirements of MTCM.420570.003 TU when the consumer uses the rules of use, storage and transportation.

Service life is 5 years from the date of manufacture.

Without presentation of a coupon for warranty repair and (or) violation of the integrity of seals, mechanical, electrical or other types of damage caused by improper transportation, storage, operation or actions of third parties, no claims to quality are accepted and no warranty repair is performed.

The address of the manufacturer:

Russia, 241024, Bryansk city, Delegate street, 68,

OOO "Metakom"

Tel./fax: (4832) 68-28-26

Tel. (4832) 68-28-25

http://www.metakom.ru E-mail: os@metakom-plus.ru

9. TRANSPORTATION AND STORAGE

Packaged products can be transported by all modes of transport, except for unsealed aircraft compartments and open decks of ships and ships, in accordance with the rules for the carriage of goods operating on this mode of transport.

As a transport container used boxes wooden, group and other containers, ensuring the safety of the goods during transportation.

Products should be stored only in a packed form in the absence of acidic, alkaline and other aggressive impurities in the ambient air.

5. TECHNICAL SPECIFICATIONS

Maximum resistance of the access line	Max 30 Ohm
Maximum number of subscribers served	999*
Maximum subscriber number	999
Maximum number of TM-keys	3000
Number of TM-keys per apartment	To 3000
Subscriber number offset	1 999**
Number of ringing signals applied to the TKP	2...62**
Lock opening duration	2... 102sec.**
Restriction of the conversation duration	40.240 sec.**
Maximum number of individual codes	999
Maximum number of the code table	255
Number of the subscriber code digits	4
Number of the total code digits	4
Number of the master code digits	6
Operating temperature range	-30...+40°C***
Relative air humidity (at 35 ° C)	95%
Supply voltage (DC)	15.18V
Maximum current consumption in standby mode, max	160 мА
Peak consumption current (when a call signal is applied to a subscriber's TKP)	260 мА
Overall dimensions of the block, max (height x width x thickness)	200 x 105 x 45 mm.
Block weight without package, max	0,7 kg.

6. INSTALLATION PROCEDURE

ATTENTION! There is a dangerous voltage in the power supply - 220V. Do not perform installation and maintenance work when the power is on. In the outdoor panel and other doorphone devices, except for the power supply unit, there are no voltages exceeding 18V. The following sequence of actions is recommended:

1. Carefully study this instruction manual and block diagram.
2. Prepare a niche for installing the outdoor panel (see the markup in Figure 1).
3. Install the power supply, lock, switch and opening button from the room. Connect the outdoor panel housing to the protective earth bus.
4. If you use multiple switches to increase the number of served subscribers (switch models with the index "and"), you need to install jumpers L, 12, 13 in accordance with the address of the switch in the network.

Switch address	1	2	3	4	5	6	7
Jumper value	J1 = 1 J2=0 J3=0	J1=0 J2=1 J3=0	J1=1 J2=1 J3=0	J1=0 J2=0 J3=1	J1=1 J2=0 J3=1	J1=0 J2=1 J3=1	J1=1 J2=1 J3=1

The values of the jumpers can be taken from the table:
JN = 1 - the jumper is closed and JN = 0 - is open.
If you use one switch, then jumpers must be removed.
5. Set the apartment's lodging in the apartment's lodging rooms (TKP).
6. Install the wiring. Make taps from the loops and connect the TKP of all the subscribers. (Fig. 2, 3)
7. Check that the connections are correct.
8. Turn the power on, the "_" symbol should flash on the indicator, enter the programming mode (see section 7.2) and perform the following actions:
A) Change the access code to the programming mode and, if required, program the master TM key. Be careful when entering the code. WRITE MASTER CODE!
B) If necessary, set the shift of the range of subscriber numbers (see section 7.3). This parameter should always be set first, since all further operations with subscriber numbers will depend on the set offset.
C) Set the type of switch used.
D) When using multiple switches, program a new number of switches.
E) Program the subscriber's TM keys.
F) If the doorphone is to be used on the network, you must enter:
- for the Slave doorphones the network number (from 1 to 16);
- for the Master doorphone, specify the range of the serviced numbers of each Slave doorphone (see chapter 7.3).
G) If a common code is used in the code lock mode, then change the general code and switch the outdoor panel to the common code mode. Write down the generic code

8. USER`S USE OF THE OUTDOOR PANEL

After power on, the doorphone is in standby mode. The indicator "_" flashes on the indicator. After subscriber dialing the subscriber number and pressing "B", the connection with the subscriber's TKP is established and the set number of ringtones is applied. If the subscriber does not pick up the handset, after the set number of ring signals has been exhausted, the outdoor

panel returns to standby mode. When the receiver is off, the call signals are given in a different key. In this case, for the conversation of the subscriber with the visitor, it is necessary to put the pipes, wait for the call signal of another key and lift the handset.

When the subscriber picks up the handset, the message "SAY" is displayed, meaning that the connection with the subscriber is established and the visitor can talk.

The lock is opened by pressing the button on the TKP of the subscriber. In this case, the message "OPn" is displayed and the corresponding sound signal sounds.

If the subscriber has hung up, the conversation is interrupted and the outdoor panel returns to standby mode. You can also interrupt the conversation by pressing the "C" button on the outdoor panel.

After the set time limit has expired, the conversation will be interrupted automatically (see section 7.).

If the function of "general" or "individual" codes is turned on, when the button "B" is pressed from standby mode, the flashing message "1" will appear on the indicator. After this, it is necessary to enter the code (factory common code 1234, individual code from the table). If the code is entered correctly, the lock opens.

If the network protocol is activated, at the time of a call and a conversation on the Slave doorphone, "nEt" lights up. In this case, dialing the number on the keyboard is blocked. The door is opened by the exit button or the TM-key.

The network number is "1", the lower number is "1", the upper number is "36";
The network number is "2", the lower number is "37", the upper number is "72";
The network number is "3", the lower number is "73", the upper number is "108";
The network number is "4", the lower number is "109", the upper number is "144";
The network number is "5", the lower number is "145", the upper number is "180";

H) If individual codes are used, create a code table (see chapter 7.3). Record the code table number.

I) If required, change the duration of the ringing signal, the duration of the lock opening, the time for limiting the call, etc. The factory settings are in most cases optimal.

NOTE: a ... i items can be pre-made using a personal computer. In this case, the prepared information is transferred to the outdoor panel memory via the METAKOM MKA-02U adapter and the DS 1996 (L) TM key.

9. Check the operation of the outdoor panel in the doorphone mode and in the code lock mode.

10. In versions of the outdoor panel with index V, the built-in video camera can be powered from external or internal voltage of 12V. For power supply from the internal source, the terminals "+ UV" and "+ 12V" must be closed

11. Secure the outdoor panel to a previously prepared niche using the supplied hardware kit.

12. Make a note in the tear-off coupons about the date of commissioning the unit.

If the volume of the call is insufficient, adjust the required parameters (microphone sensitivity and speaker volume) with trim resistors on the back of the outdoor panel.

Install power supply and switch, if possible, in boxes, recesses, at the ceiling. The power supply unit must be installed not more than 15 meters, and the switch should not be more than 30 meters from the outdoor panel. The "EXIT" button provides opening of the lock when leaving the entrance and is installed near the entrance door inside the entrance.

To reduce the influence of climatic factors (low temperature, high humidity, frost, dew), the outdoor panel and the lock should be installed on the second door of the entrance located in the vestibule.

The cross-sections of the wires connecting the power supply unit to the outdoor panel and the lock must be at least 0.35 mm2 (KSPV 2x0.64 or ШВВП 2x0.5), the rest - not less than 0.12 mm2. As a connecting wire, it is recommended to use a wire with colored insulation of cores. To reduce the influence of external influences, connect the outdoor panel and the switch to a

shielded cable (KSPEVG 4x0.2 or KSPEV 4x0.5). For installation of video equipment, use a coaxial cable of the type RK-75.

For doorphones MK2003.2 with a network function when installing a digital line (AV), use a twisted pair. On long communication lines on the "Master" and the last "Slave" doorphone, install 120 ohm resistors between the terminals AB.

The "+" terminal of the TKP is connected to the bus of tens, and the "-" TKP is connected to the bus of the switch units. Before connecting the TKP, the line must be checked for a short circuit. Line resistance should not exceed 30 ohms.

In the doorphone there is protection against short circuit of the line. At this time, communication with the TKP will be impossible. All other functions are available.

Installation of other doorphone units is carried out in accordance with the passports for these units.
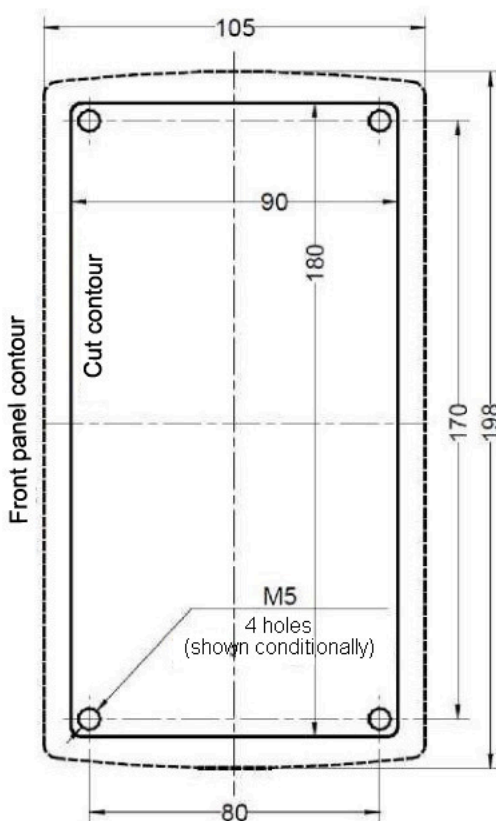
Fig. 1 Markup for installation of the outdoor panel

A key supporting the Dallas protocol (TM2003, DS1990, DS1996). After entering the section, you need to press: "1" - to record the master key, "0" - to delete the master key. After entering the recording mode, you must attach the key to the reader, if the key is red correctly, the master key will be recorded.

Chapter 25 Returning to factory settings.

Used to set the factory settings. After entering the section, you need to press "1" to confirm the installation, then the parameters will be changed automatically, and the key database will not change.

Chapter 26 Enabling the Network Protocol

Used to disable the network protocol or set the functional parameters of doorphones (Master or Slave) working in the network. After entering the section, you need to press:
"0" - to disable the network protocol;
"1"- the doorphone works in the "Slave" mode;
"2" - the doorphone works in the "Master" mode.

Chapter 27 Setting up the network protocol

Used to set parameters and configure the network protocol. If the doorphone works in "Slave" mode, then after entering the section it is necessary to set the network number of the doorphone. It can be from 1 to 16. The network number is set according to the subscriber numbers being serviced, i.e. the doorphone with the network number "1" will serve the initial numbers of the subscribers, and with the network number "16" - the last numbers of the subscribers.
If the doorphone works in the "Master" mode, then it is necessary to establish the correspondence of the range of serviced subscribers with the network number of the doorphone "Slave". After entering the section, it is necessary to enter the network number of the doorphone "Slave", press "B", then enter the lower number of the range of numbers to be served, press "B", then enter the upper number of the range of serviced numbers, press "B". After, if necessary, enter a new network number and continue entering the range of serviced numbers.
These settings affect the performance of the entire system. It is necessary to correctly configure these parameters, otherwise failures during system operation are possible.
Example.
It is necessary to configure the interphone network with the following parameters:
1 "Master" doorphone, 5 "Slave" doorphones. Total number of serviced rooms
- 180. Each doorphone "Slave" serves 36 numbers.
Setting of "Slave" doorphones:
Doorphone serving 1 ... 36 subscriber - network number "1";
Doorphone serving 37 ... 72 subscribers - network number "2";
Doorphone serving 73 ... 108 subscriber - network number "3";
Doorphone serving 109 ... 144 subscribers - network number "4";
Doorphone serving 145 ... 180 subscriber - network number "5";
Setting the doorphone "Master":

DS1996 (L) to the reader, data transmission will start. If an error occurs, an error signal will sound. A sign of the end of the information transfer is the audio signal of the end of recording and the output to the recording selection mode (the message "- DS" will be displayed).
To record the subscriber base in DS1996 (L), press "3". At the same time, a message on the number of DS1996 (L) keys required for writing TM-keys (a figure in front of the DS) will be

displayed briefly on the indicator. Then a flashing "1DS" message will appear, indicating that the first key will be recorded. Then attach the key DS1996 (L) to the reader, the data transfer will begin. If an error occurs, an error signal will sound. A sign of the end of the information transfer is the audio signal of the end of the recording and a message about recording the second key "2DS" will be displayed, if the information is written in full, then the recording selection mode will be output ("-DS" will be displayed).

Warning: be sure to wait for the correct end of the record, otherwise later when reading incorrect information in the work of the outdoor panel there may be failures.

Section No. 22 Reading the electronic media DS1996 (L)

Used to transfer information from the TM-key DS1996 (L) to the memory of the outdoor panel. To read the system settings from the DS1996 (L), press "1", wait for the flashing message "DS -" to appear. Then attach the key DS1996 (L) to the reader, the data transfer will begin. If an error occurs, an error signal will sound. A sign of the end of the information transfer is the audio signal of the end of the recording and the output to the reading selection mode (the message "DS-" will be displayed).

To read the subscription database in DS1996 (L), press "3". A flashing "DS1" message appears indicating that the first key will be read. Then attach the key DS1996 (L) to the reader, the data transfer will begin. If an error occurs, an error signal will sound. A sign of the end of the information transfer is the audio signal of the end of the recording and the message about reading the second key "DS2" will be displayed, if the information is read in full, the reader will enter the mode of reading selection (the message "DS-" will be displayed).

Warning: be sure to wait for the correct end of the reading, otherwise there may be malfunctions in the outdoor panel operation.

Section # 23 Changing the system code

Used to change the access code to programming mode. After entering the section, you must type the new system code. After dialing the 6th digit, the new code will be automatically saved.

Section # 24 Master key recording

Used to record a master key for quick access to the programming mode. As a master key can use-
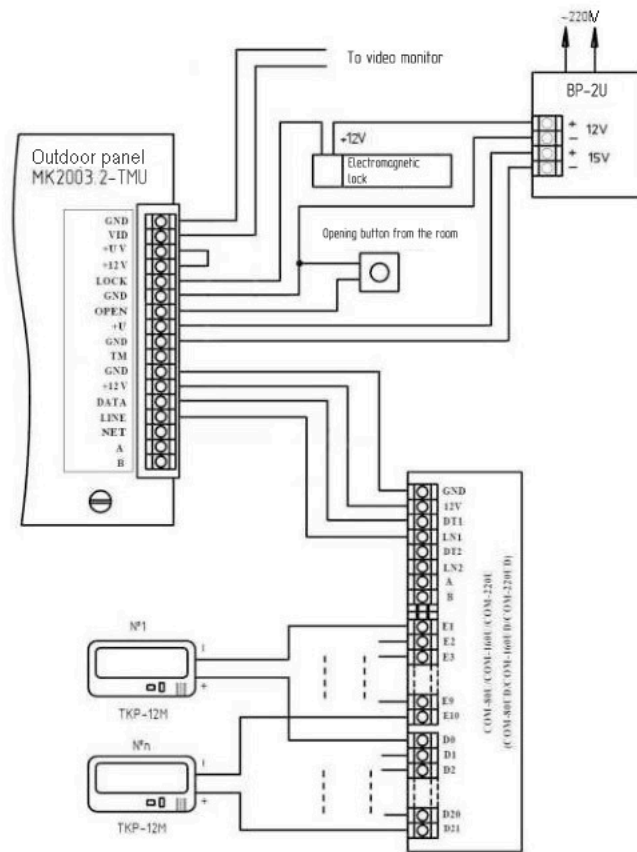
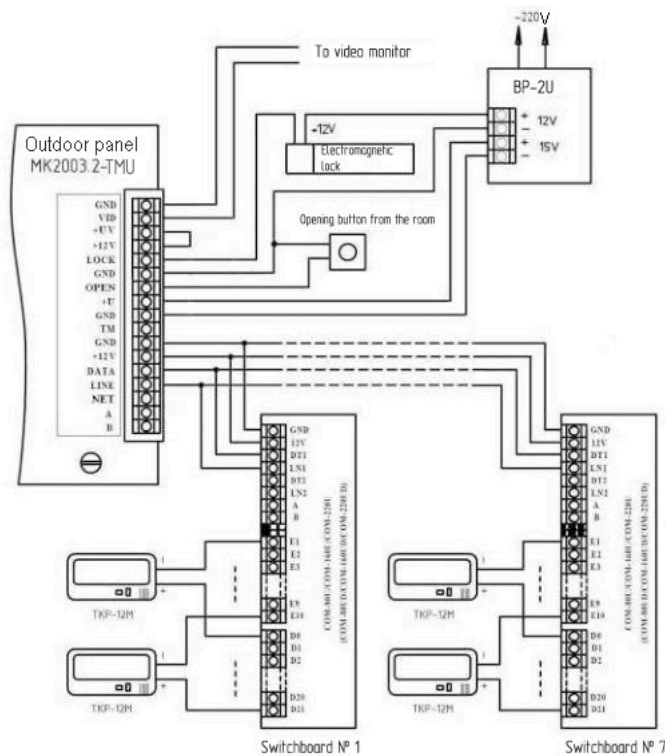Fig. 2 Example of installation of the outdoor panel MK2003.2-TMU

Fig. 3 An example of mounting a outdoor panel MK2003.2-TMU when using multiple switches.

Chapter 19 Setting the threshold for determining the position of the tube

Used to adjust the threshold for determining the position of the tube. If there is an incorrect positioning of the tube (long line, use of some video monitors with adapters, etc.), then the threshold for determining the position of the tube can be adjusted in a certain range.

The threshold value is between 461 ... 560, the factory value is 460 + 50, where 50 is the threshold offset. The outdoor panel determines that the handset is in the "stacked" state if the level falls within the range 181 ... 510. If the level of the handset is above the value of 510, the outdoor panel will determine that the handset is in the off state. To correct the position of the tube, it is necessary to increase the offset to a value above the detection threshold of the tube. The threshold shift is in the range 1 ... 100. If, after removing the handset, the ringing signal continues to flow to the subscriber's handset, then it is necessary to reduce the offset to a value below the detection threshold of the removed handset.

Determine the amount of displacement can be from section No. 18, by measuring the value of the state of the tube in the laid and released position.

After entering the section, you need to dial the number of the subscriber for which you want to change the lower threshold and press "B", then dial the threshold offset value and press "B". If it is necessary to conduct actions for all subscribers, then instead of the subscriber number, press "0" next "B".

Chapter 20 Setting the threshold for the opening of the lock button on the subscriber's handset

Used to adjust the threshold for the opening of the lock button on the subscriber tube. If there is an incorrect detection of the lock opening signal (long line, use of some video monitors with adapters, etc.), then it is possible to adjust the threshold of operation of the lock opening button on the subscriber tube in a certain range.

The threshold value can be in the range of 781 ... 830, the factory setting is 780 + 50/2, where 50 is the threshold offset. When you press the lock release button, the signal level should be above the threshold value (at factory settings - above 810). If the level is lower (measured in Chapter 18 by pressing the lock release button), you can correct the threshold value by reducing the offset. If in a conversation mode there is a spontaneous opening of the lock without pressing the opening button (for example, during a loud conversation), it is necessary to increase the threshold by increasing the offset.

After entering the section, you need to dial the number of the subscriber for which you need to change the threshold and press "B", then type the threshold offset value and press "B". If it is necessary to conduct actions for all subscribers, then instead of the subscriber number, press "0" next "B".

Chapter 21 Recording of electronic media 081996 (b)

Used to transfer information from the memory of the outdoor panel to the TM-key DS1996 (L). To record the system settings in the DS1996 (L), press "1", wait for the flashing "- DS" message to appear. Next, attach
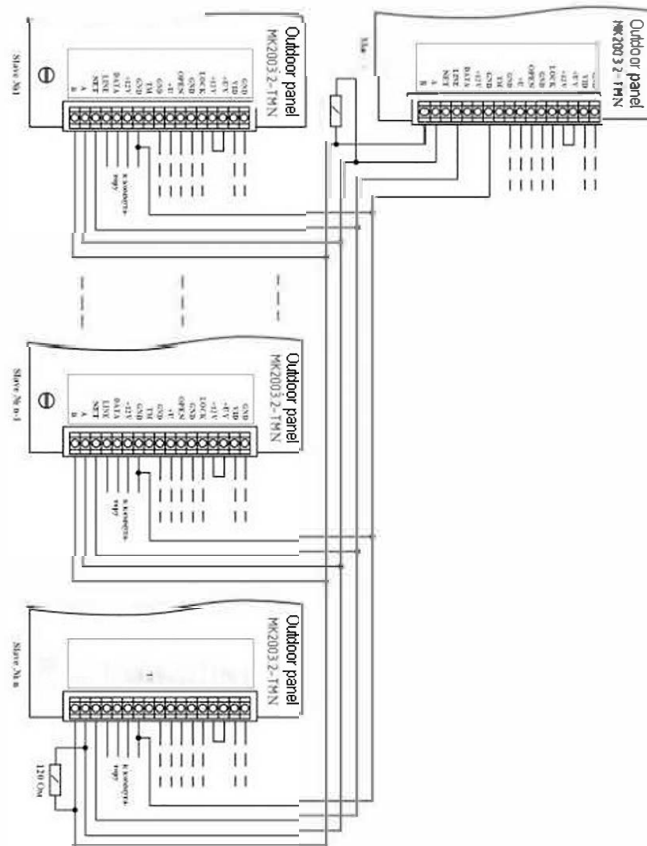
Fig. 4 Example of installation when combining doorphones in a network

7. PREPARATION FOR WORK

Preparing the doorphone for work consists in programming the parameters for the system's compliance with the requirements set at the installation site, and entering subscriber TM keys. Programming is carried out directly from the outdoor panel keypad or on a personal computer using a special program, the METAKOM MKA-02U adapter and the Dallas iButtontm DS1996 (L) TM key. All parameters are stored in the non-volatile memory of the device (hereinafter EEPROM), which ensures the safety of data in the absence of supply voltage.

When the outdoor panel is delivered, the EEPROM contains the initial settings shown in the table.

N	Parameter	Value
1	Offset of subscribers	No
2	Switch Type	COM220
3	Number of switches	1
4	Ban of subscribers	All are resolved
5	Types of keys	All are resolved
6	Reading copies of TM2002 key	Forbidden
7	On an autoset mode	Disconnected
8	Opening time of the lock	4 sec
9	Talk duration	90 sec
10	Number of ringtones	12

11	Using generic or individual code	codes are disconnected
12	Number of code table	1
13	Enable subscriber notification by key or code	Disconnected
14	Tube position detection threshold level	50
15	The threshold level of the activation of the button for opening the lock on the subscriber tube	50
16	System code	123456
17	Master key	It isn't programmed
18	Network Protocol	Disconnected

In programming mode, it is possible to repeatedly change any of these parameters, as well as return all settings to their original state.

In the outdoor panel, you can view the serial number. The serial number is set at the factory and is not subject to change in the future. To view, press and hold the "C" button, after the sound signal, the numbers of the serial number will be displayed, the first number is the highest digit of the serial number and then the remaining 6 values of the eight-digit serial number are displayed in order.

If the same code is recorded in the doorphone, the doorphone will only react to keys with such a code, so it becomes possible to exclude the use of non-original TM keys.
After entering the section, enter the code (number from 1 to 255) and press "B". If the input is correct, a beep will sound. To disable this function, after entering the section, enter "0" and "B".

Chapter 8 Disabling readout of certain types of electronic keys

Used to block the operation of the electronic keys reading protocols.
After entering the section, you need to press: "1" - to enable reading of TM2002 keys, "3" - to disable TM2002 keys reading, "4" - read permission for TM2003 and Dallas, "6" for reading TM2003 and Dallas.

Chapter 9 Activation of electronic key collection mode

Used to automatically record subscriber keys when the key is applied to the reader. This opens the door. After entering the section, you must press "1" "B" to allow autoscore or "0" "B" to disable autoscore.

Chapter 10 Time of opening the lock

Used to set the required duration of the lock opening. After entering the section, you need to dial the opening time in seconds and press "B", the maximum time for input is 100 seconds. If you enter a value greater than 100, the type of the sound melody (short beep) will be changed when the lock is opened (for example, if 110 is entered, the lock opening time will be 110-100 = 10 seconds)

Chapter №11 Talk duration

Used to set the required duration of the call of the visitor to the subscriber. After entering the section, dial the talk time in seconds and press "B", the maximum value is 240.

Chapter 12 Number of ringtones

Used to set the number of ringtones applied to the TKP. The call signal to the subscriber's TKP consists of an alternation of a musical fragment and a pause. This function determines the number of music fragments to be sent to the TKP. After entering the section, you need to dial the number of signals on the keyboard and press "B", the maximum value is 60.

Chapter 13 Incorporation of a common or individual code

Used to allow the work of a common or individual code. After entering the section, you need to press: "1" - to allow the work of the general code, "3" - to prohibit the work of the common code, "4" - permission for the work of the individual

Enter the section you need to dial the number of the subscriber to be switched off, press "B", then press:
"0" "B" - if it is necessary to turn off the service
"1" "B" - if it is necessary to turn on the service If the input is correct, a beep will sound. If it is necessary to conduct actions for all subscribers, then instead of the subscriber number, press "0" next "B".
This setting affects all subsequent changes in the parameters of the outdoor panel, so it must be performed at the beginning of the change of the subordinate parameters of the outdoor panel.

Chapter 5 Recording of electronic keys
Used to enter TM keys in the memory of the outdoor panel. Record TM keys is carried out in 2 modes:
- The mode of "common" keys,
- The mode of "individual" keys.
In the mode of "common" keys, TM keys are written to the common database without pointing to a specific subscriber, and the function of giving the subscriber's alert signal is not available. In the mode of "individual" keys TM key is written to the number of a particular subscriber.
If a key overflow occurs during the recording of TM keys, an error signal will be issued and further key recording will not be possible.
After entering the section, you need to press: "1" "B" - to write the public keys, "2" "B" - to record individual keys. In the common key registration mode, attach the key to the reader, the key will be recorded, if the key is already written, an error signal will sound. In the mode of recording individual keys, it is necessary to dial the number of the subscriber to which the keys will be recorded, presses "B" and attaches the key to the reader, the key will be recorded, if the key is already recorded, then an erroneous signal will sound. If the key is correctly written, an audible signal will sound and a "running line" will appear on the indicator.

Section number 6 Erasing of electronic keys

Used to delete TM keys from the memory of the outdoor panel.
Removal is carried out in 3 modes: deleting "shared" keys, deleting "individual" keys and deleting all keys. After entering the section, you need to press: "4" "B" - to delete "common" keys, "5" "B" - delete "individual" keys, "6" "B" - delete all keys. After entering the subsection of deleting "individual" keys of the subscriber, it is necessary to enter the subscriber's number and press "B". When you delete the keys, you will hear a beep and a "running line" will appear on the indicator.

Chapter 7 Encryption of keys

Used to specify an individual key number. Using the adapter MKA-02U, you can write the individual code into the TM-key MK2004.

7.1 OUTDOOR PANEL PROGRAMMING MODE

In the programming mode, access to the sections is made by typing the corresponding section number on the keyboard and pressing the "B" button, if there is a subsection, access to it is done by pressing the corresponding buttons. Exit the sections and the programming mode by pressing the "C" button. After entering certain sections, a flashing value of the previous saved parameter is displayed on the indicator. If no changes have been made or the buttons are pressed, the partition or programming mode will automatically exit after a while. When you enter incorrect data, the message "Err" is output and an audible alarm sounds. The table shows the names of the sections and a combination of buttons for accessing them.

N menu	Menu name	Enter the menu	Submenu	Enter the submenu
1	First subscriber number	«1» «B»		
2	Switch Type	«2» «B»		
3	Number of switches	«3» «B»		
4	Disconnecting subscribers	«4» «B»		
5	Recording keys	«5» «B»	Shared keys	«1» «B»
			Individual keys	«2» «B»
6	Deleting keys	«6» «B»	Shared keys	«4» «B»
			Individual keys	«5» «B»
			All keys	«6» «B»
7	Enabling Key Encoding	«7» «B»		
	Disable key types	«8» «B»	Read permission for TM2002	«1»
			Prevent reading of TM2002	«3»
			Read permission of TM2003	«4»
			Prevent reading of TM2003	«6»
9	On autoset key mode	«9» «B»		
10	Opening time of the lock	«10» «B»		
11	Talk duration	«11» «B»		
12	Ringing time	«12» «B»		
13	Include a single or shared code	«13» «B»	Enable shared code	«1»
			Disable shared code	«3»
			Enabling the in-line code	«4»
			Disable the in-line code	«6»
14	Changing the General Code	«14» «B»		
15	Changing the code table	«15» «B»		
16	Changing individual code	«16» «B»		
17	Notification by code or key	«17» «B»		
18	Subscriber Tube Test	«18» «B»		

19	Setting the threshold for determining the position of the tube	«19» «B»		
20	Setting the threshold for opening the lock button on the subscriber's handset	«20» «B»		
21	Recording to DS1996	«21» «B»	Recording System Settings	«1»
			Recoring keys	«3»

22	Reading from DS1996	«22» «B»	Reading system settings	«1»
			Recording keys	«3»
23	Changing the system code	«23» «B»		
24	Master key recording	«24» «B»	Deleting master key	«0»
			Recording master key	«1»
25	Factory settings	«25» «B»		
26	Enable Network Protocol	«26» «B»		
27	Configuring the Network	«27» «B»		
28	Enabling the mode for reading copies of the TM2002 key	«22» «B»		
29	Select the melody of the sound signal.	«29» «B»		

7.2 ENTER TO PROGRAMMING MODE

To enter the programming mode, you need to know a special master code or a programmed master key.

A) Enter the programming mode using the master code.

When the outdoor panel is in standby mode, it is necessary to press and hold the button "B" for 5 seconds before the flashing of the "Soyo" indicator on the indicator, then dial the master code ("123456" - the master code) on the keyboard, at the same time Each press is accompanied by an audible signal and the corresponding symbol on the indicator. After that, if the code is entered correctly, the outdoor panel goes into the programming mode, and the sign of "E" appears in the programming mode.

B) Enter the programming mode using the master key.

When the outdoor panel is in standby mode, it is necessary to press and hold the button "B" for 5 seconds before the flashing "Soyo" on the indicator, then enter the code "0", "0", "0", "0" on the keyboard , "0", "0". A blinking "-b-" message appears on the display, and then the master key is attached to the reader. After the master key is identified, it will enter the programming mode.

7.3 DESCRIPTION OF THE SECTIONS OF THE PROGRAMMING MODE

Chapter 1 Set the offset of subscribers.

Used to set the offset of subscriber numbers if the number range exceeds the maximum value of served subscribers (the number of subscribers served is determined by the type and number of switches used). After entering the section, dial the first subscriber number and press "B". An indication of the parameter is the sound signal.
This setting affects all subsequent changes in the parameters of the outdoor panel, so it must be performed at the beginning of the change of the subordinate parameters of the outdoor panel.

Chapter 2 Setting the Switch Type.

Used to install the switch model. After entering the section, to set the type of switch used, you need to type:
"1" - if a COM-80I (B) switch is used;
"2" - if a switch of the COM-160CHO type is used);
"3" - if a switch of the COM-220CHO type is used);
"4" - if a switch of the COM-25CHO type is used);
"5" - if a switch of the COM-100CHO type is used).
Then press "B". If the input is correct, a beep will sound.
Depending on the type of switch installed, the maximum number of the subscriber being serviced is calculated. If the COM-220I switch is used, this parameter is not required to be changed.
This setting affects all subsequent changes in the parameters of the outdoor panel, so it must be performed at the beginning of the change of the subordinate parameters of the outdoor panel.

Chapter 3 Setting the number of switches (only for switches with the index "and")

Used to set the number of switches. The maximum number of switches used is 7. The number of switches used is determined by the number of subscribers served. The number of switches can be calculated as follows:
КК = КА / Т, where КК - the number of switches;
SC - the number of subscribers served;
T is the type of the switch (for COM 80, T = 80, COM 160, T = 160, etc.) If it turns out that the CC is not an integer, then it is necessary to add 1 to the result.
Example: the number of subscribers is 500.
When using COM-80I:
KK = 500/80 = 6.25, since the KK is not an integer, then KK = 7.
When using COM-160I:
KK = 500/160 = 3,125, since KK is not an integer, then KK = 4.
When using COM-220I:
KK = 500/220 = 2.27, because KK is not an integer, then KK = 3.
After entering the section, you need to dial the number of switches (1 ... 7) and press "B". If the input is correct, a beep will sound. Depending on the number of the switch, the maximum number of the subscriber being serviced is calculated.

For switches COM80 (B), COM160 (B), COM220 (B), this parameter should not be set. This setting affects all subsequent changes in the parameters of the outdoor panel, so it must be performed at the beginning of the change of the subordinate parameters of the outdoor panel.

Chapter 4 Disconnecting subscribers

Used to disconnect the subscriber's service. When you turn off an unauthorized person, an erroneous beep will sound. After