OUTDOOR PANEL

METAKOM

MK2012-RFE(M)N, MK2012-MFE(M)N

PASSPORT

USER'S MANUAL

www.metakom-plus.ru

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 _
(day, month, year)

Signature of the owner of the product, confirming the repair_

Repair company stamp with the city:

1.

CONTENTS

1. PURPOSE

The ourdoor panel **METAKOM MK2012-RFE(M)N,** MK2012-MFE(M)N (hereinafter referred to as the intercom) represents a specialized microprocessor system intended for installation in multi-apartment buildings, offices, as well as for organizing a selective communication system with up to 10 subscribers.

Modification of the outdoor panel METAKOM MK2012-RFE(M)N has a built-in scanner of contactless RFID keys with an operating frequency of 125 kHz.

Modification of the outdoor panel METAKOM MK2012-RFE(M)N) has a built-in scanner of Mifare contactless keys with a working frequency of 13.6 MHz.

As the subscriber keys in the modification of METAKOM MK2012-RFE(M)N , contactless keyholders METAKOM supporting Proximity technology (hereinafter RF keys) are used. For the modification of METAKOM MK2012-RFE(M)N , contactless METAKOM fobs supporting Mifare technology (hereinafter MF-keys) are used. MF-keys have a special identification number coding system. The built-in MF reader supports the work with the keyfobs encoded in the factory.

As terminal devices installed at subscribers, it is recommended to use TKP-01, TKP-05M, TKP-06M, TKP-10M, TKP-10M, TKP-12M, TKP-14M or other interphone handsets designed for intercoms with coordinate The addressing system for the production of METACOM.

The door phone provides a call signal to the subscriber's TCH, a duplex connection of the visitor to the subscriber, remote opening of the lock upon a signal from the TCH.

The lock can also be opened by means of the RF (MF) -key, using the code dialed on the outdoor panel, or by pressing the EXIT button installed at the entrance door inside the entrance.

To enable the use of different types of locks, the METAKOM MK2012-RFE(M)N outdoor panel is available in two versions:

Full model name	Lock type	Terminal marking of terminal blocks	Description of the output node
MK2012-RF(MF)E	Electromagnetic lock without control board	LOCK -line normally closed to the common wire of the lock GND.	Powerful key transistor. When you open the lock, itturns off.
MK2012-RF(MF)M	Electromechanical lock without control board	LOCK - line normally open with the common GND lock wire.	Powerful key transistor. When you open the lock, it turns on.

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

Cut-off line Counterfoil coupon N1 for warranty repair of the METACOM outdoor panel MK10.2

Valid for filling

TEAR-OFF COUPON N1

FOR THE WARRANTY REPAIR OF THE OUTDOOR PANEL

METAKOM

MK10.2

To be completed by the manufacturer

Serial number of the product _

Release date _

(day, month, year)

Representative of the QC of the manufacturer

_____

(QC stamp)

Address for return of the coupon to the manufacturer:

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

To be completed by a trade or installation organization

Date of sale _

(day, month, year)

Seller _

(signature or stamp)

Stamp of the trade organization:

Date of commissioning _

(day, month, year)

Installer_____

(signature or stamp)

The stamp of the organization that conducted the installation:

Valid forfilling

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 _
(day, month, year)

Signature of the owner of the product, confirming the repair_

Repair company stamp with the city:

The power supply of the outdoor panel and lock can be provided from the METACOM BP-2U powersupply.
The full name of the calling panel consists of the following elements:

MK2012 –	**RF**	**E**	**V**	**N**
1	2	3	4	5

1. MK2012 - model name;
2. RF(MF) - support for contactless remote controls METAKOM;
3. E - for electromagnetic lock,
   M - for electromechanical lock,
4. V - built-in video camera and infrared illumination,
   { space } - without a video camera,
5. **N** - **intercom supports work on the network.**

2. DISTINCTIVE FEATURES

- Possibility of the organization of intercom network type 4 Master / 31 Slave (when using the network switch COM-Net4);
- The ability to enter the house number, when arranging the intercom network with the same number of subscribers in different houses.
- Presence of a mode of auto-collection of keys;
- In the modification MF, user keys are used with the identification number (the keys are encoded in the manufacturer);
- Transfer of all the doorphone settings to a personal computer (or other intercom) and back via the METAKOM adapter MKA-02U and the TM-key DS1996 (L). It is possible to configure all modes of home-background operation and enter user RF (MF) keys with the help of a personal computer (PC) in a comfortable laboratory environment. The information thus prepared 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;
- The possibility of increasing switches up to 15 (with the number of subscribers served can not exceed 999);
- The 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);
- Correction of parameters for determining the position of the handset 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 the electronic keys;
- Copying the subscriber key database from the memory chip of other door phone models;
- Return to the factory settings of the outdoor panel, while retaining the recorded keys;
- Self test on power up or reset.

Cut-off line Counterfoil coupon N1 for warranty repair of the METACOM outdoor panel MK10.2

Valid for filling

TEAR-OFF COUPON N1

FOR THE WARRANTY REPAIR OF THE OUTDOOR PANEL

METAKOM

MK10.2

To be completed by the manufacturer

Serial number of the product _

Release date _
(day, month,year)

Representative of the QC of the manufacturer

_____
(QC stamp)

Address for return of the coupon to the manufacturer:
Russia, 241024, Bryansk city, Delegate street, 68, LTD "Metakom"

To be completed by a trade or Installation organization

Date of sale _
(day, month,year)

Seller _
(signature or stamp)

Stamp of the trade organization:

Date of commissioning _
(day, month,year)

Installer _____
(signature or stamp)

The stamp of the organization that conducted the installation:

3. OPERATING FUNCTIONS

- Indication of operating modes on the 4-character indicator;
- Sound control of button pressing;
- Call the subscriber by dialing his number on the call block;
- Sound control of making a call to the subscriber (sending a ringing tone of another key, if the subscriber's handset is not packed);
- Full-duplex subscriber-visitor;
- Remote opening of the lock from the subscriber's TCH;
- Local opening of the lock by a set of general or individual access code;
- Local opening of the lock by an individual RF (MF) key;
- Local opening of the lock from the entrance by pressing the EXIT button;
- Sound signaling the use of an individual subscriber code or RF (MF) -key on the TCH of the corresponding subscriber (function included on request);
- Ability to prohibit the maintenance of the subscriber's TCH 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 shown on a place of installation;
- Use the master RF (MF) key to quickly enter the programming mode.

Appendix 1. Code table

Code table №1

flat №	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	6	17	18	19	20
code	010529	017970	018740	011362	019813	014966	018801	012433	010899	022307	024628	020278	023352	026961	029538	023923	020356	029077	024737	032039
flat №	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
code	035377	035379	030562	032085	032644	038022	032663	033426	034226	044339	047940	048469	040565	045416	043137	048786	046002	040372	042964	051029
flat №	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
code	057943	051794	059521	056707	053396	050953	050117	056775	056288	069729	060500	063348	060308	065942	064920	069553	062673	068066	066547	071796
flat №	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
code	074614	079495	074897	075682	072115	070837	071140	072181	072951	085376	082050	085666	080036	082628	090853	087526	080880	084978	084739	094867
flat №	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
code	092309	093335	094662	091841	096737	095986	098804	093686	099350	100247	109744	109249	100803	104901	104662	104950	102151	102673	108578	119971
flat №	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
code	118452	113861	116438	110823	117248	113922	117538	111908	114500	122565	120479	123330	121058	128499	123667	121350	127270	122664	121394	133585
flat №	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
code	131554	139492	133892	134165	133128	133921	132402	137810	130132	145877	142069	140294	140960	144131	140979	143939	149573	142949	142680	155120
flat №	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
code	155634	159491	158755	155414	155191	159318	156753	150385	158850	160003	163845	164871	166198	163377	168273	167522	160341	165478	169621	170744
flat №	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
code	171296	174882	171571	179027	173638	171125	173672	170369	179873	181011	181013	181798	188230	181094	187745	185473	218915	183941	185268	192294
flat №	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
code	199223	191312	194371	194147	198275	195717	191141	197558	192177	207154	201539	207971	206437	208005	200086	201090	202387	201892	203445	211525
flat №	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220
code	216677	210264	217201	211345	212883	212885	213670	210103	213222	228192	220785	224868	220789	220836	223142	224951	227521	220114	228594	223587

4. SELF-TEST

When you turn on the power of the outdoor panel or press the C button (RESET), the self-test procedure is performed. When an error is detected, an appropriate sound signal and a light indication are output.
If the EEPROM chip is initialized, the message "Er2" is displayed and an error signal is output. If the error is caused by the fact that a new (or previously used in the other device) EEPROM was installed, perform a full initialization of the EEPROM (see section 7.3). If the error message continues to appear, replace the EEPROM chip.
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 RF keys is working.
If the audio line is short-circuited, the message "Er5" appears on the indicator when the line "Er6" is interrupted.

11. COMPLETE SET OF OUTDOOR PANEL

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

EAC

The product is certified

9. TRANSPORTATION AND STORAGE

Packaged products can be transported by all modes of transport, except unpressurized aircraft compartments and open decks of ships and vessels, 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.

10. MANUFACTURER'S WARRANTY

The manufacturer guarantees the compliance of the METAKOM MK2012-RFE(M)N (METAKOM MK2012-MFE(M)N) with the requirements of MTCM.420570.004 TU when the user uses, stores and transport rules.
Warranty period - 12 months from the date of sale, but not more than 18 months from the date of manufacture.
Service life is 5 years from the date of manufacture.
Without presentation of a voucher for warranty repair and (or) in violation of the safety of seals, mechanical, electrical or other types of damage caused by improper transportation, storage, operation or actions of third parties, no claims for quality are accepted Repair is not carried out.

The address of the manufacturer:
Russia, 241024, city of Bryansk, ul. Delegate, 68,
LLC "Metacom"
phone / fax: (4832) 68-28-26
Tel. (4832) 68-37-95
http: // www.metakom.ru
E-mail: os@metakom.ru

5. SPECIFICATIONS

Maximum resistance of the access line	Not more than 30 Ohm
Maximum number of subscribers served	1500*
Maximum subscriber number	1500
Maximum number of RF (MF) keys	5000
Number of RF (MF) keys per apartment	up to 5000
Offset of subscriber numbers	1...1500**
Number of ringing signals applied to the TCH	2…62**
Duration of the lock opening	2…102 sec.**
Restriction of the duration of the conversation	40…240 sec.**
Maximum number of individual codes	1500
Maximum number of the code table	255
Number of digits of subscriber code	6
Number of digits of the total code	6
Number of digits of the master code	6
Operating temperature range	-30…+40°C***
Relative humidity (at 35 ° C)	95%
Supply voltage (DC)	15…18 V
Maximum current consumption in standby mode (without a video camera), not more	160 mA
Peak consumption current (when a call signal is applied to a subscriber's TCH)	270 mA
Overall dimensions of the block, not more (height x width xthickness)	205 x 105 x 40 mm.
Unladen weight, not more than	0,7 kg.

* - when using multiple switches
** - programmable parameter
*** - for modifications with index "V" operating temperature range -10 ... + 40 ° C.

6. INSTALLATION PROCEDURE

ATTENTION! There is a dangerous voltage in the power supply - 220V. Do not perform installation and maintenance work with the power turned 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. The following sequence of actions is recommended::

Carefully study this instruction manual and block diagram.

Prepare a niche for installing the outdoor panel (see the layout in Figure 1).

Install the power supply, lock, switch and opening button from the room. Connect the outdoor panel housing to the protective earth bus.

Set the apartment's lodging in a telephone conversation room (TCH).

Install the wiring. Make taps from the loops and connect the TCH of all the subscribers. (Fig. 2, 3).

Program the subscriber handsets (See section 7.2).

Check that the connections are correct.

Turn on the power, the test line will automatically start and the initial preparation for operation, then the "_" symbol should flash on the indicator. Enter the programming mode (see section 7.2) and do the following:

a) change the program entry code into the programming mode and, if required, program the master RF (MF) key. Be careful when entering the code. **WRITE MASTER CODE!**

b) If required, set the number of switches, the range of subscriber numbers to be serviced (see section 7.3). This parameter should always be set first, since all further operations with subscriber numbers will depend on the set value.

c) Program subscriber RF (MF) -keys.

d) If the intercom will be used on the network, then you need to enter:

- - for the slave (doorphone) doorphone network number (from 1 to 31);
- - for the Master (master) intercom, specify the range of the serviced numbers of each Slave (slave) doorphone (see section 7.3).
- - when using network switches for network organization, it is necessary to configure the network switches according to the network switch passport and point 7.3 of this passport.

e) If a common code is used in the code lock mode, then change the common code and switch the outdoor panel to the common code mode. Write down the general code (see section 7.3).

After power on, the intercom 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 TCH is established and the set number of ringing tones 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 the standby mode. When the receiver is off, the call signals are given in a different key. In this case, for the call of the subscriber with the visitor, it is necessary to put the pipe-ku, 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 speak.

The lock is opened by pressing the button on the TCH 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. 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 the standby mode, a flashing message "1" will appear on the indicator. After this it is necessary to enter the code (the factory common code is 1234, the individual code is taken from the table). If the code is entered correctly, the lock is opened.

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

If the network protocol is activated, "nEt" lights up at the time of the call and the conversation on the "Slave" outdoor panel. The dialing of the number on the keyboard is blocked. The door is opened by the exit button or the RF (MF) key.

If the outdoor panel operates in the "Master" mode and the function of entering the number of the house is activated, then after entering the subscriber number, it is necessary to enter the house number where this subscriber is located.

When the outdoor panel is operating with the network switch, when the subscriber line is busy, the "BUSY" message will be displayed on the outdoor panel operating in the master mode.

16. Setting the threshold for determining the position of the user's handset for the network switch.
17. Setting the threshold for the opening of the lock on the subscriber's handset for the network switch.
18. Time of conversation of the visitor with the subscriber.
19. Duration of the caller's signal.

After entering the function, enter the value of the function and press "B". In case of incorrect input or error when transmitting data to the network switch, an error message will be issued, in this case it is necessary to repeat the data entry. For more details on working with the network switch, see the network switch.

f) If individual codes are used, create a code table (see section 7.3). Record the code table number.
g) If necessary, change the duration of the ringing signal, the duration of the lock opening, the duration of the call restriction, etc. Factory settings in most cases are optimal.
NOTE: Items a) ... f) 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 DS1996 (L) TM key.

9. Check the operation of the outdoor panel in the intercom 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 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. If the volume Make a note in the tearoff coupons about the date of commissioning the unit. 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, nishes, at the ceiling. The power supply should be installed not more than 15 meters, and the commutator should be no 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, hoarfrost, 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 IIIBBII 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 the installation of video equipment, use a coaxial cable of the type RK-75.

For intercoms MK2003.2 with a network function when installing a digital line (AV), use a twisted pair. On long lines of communication on

"Master" and the last "Slave" intercom to install 120 ohm resistors between the terminals AB.

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

In the outdoor panel there is a short-circuit protection of the line. At this time, communication with the TCH will be impossible. All other functions are available. Installation of additional equipment is made in accordance with the passports for this equipment.

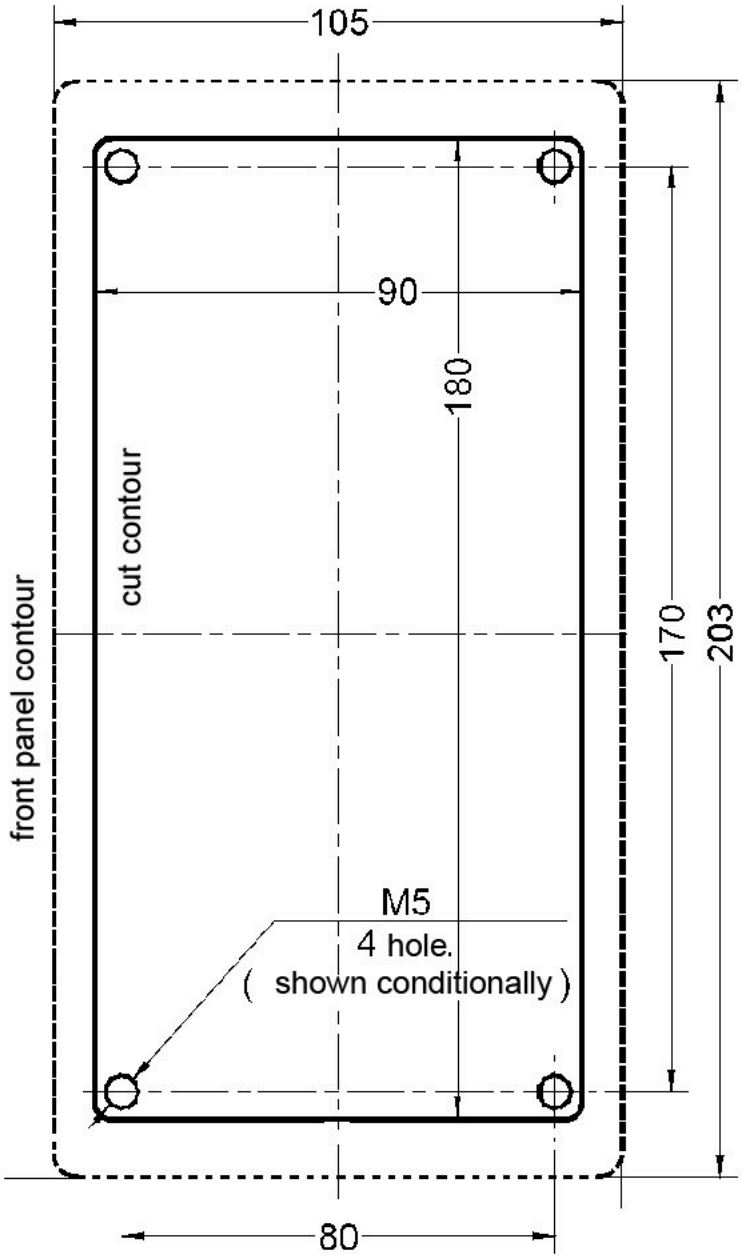

Fig. 1 Markup for installation of the outdoor panel

intercom serving 145 ... 180 subscribers - network number "5";
Setting of "Slave" intercomes::
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";
Setting the intercom "Master" with the function of entering the number of the house:

The network number is "1", the house number is "10", the lower number is "1", the upper number is "36"; Network number - "2", house number - "10", lower number - "37", upper number - "72";

Network number - "3", house number - "10", lower number - "73", upper number - "108";

The network number is "4", the house number is "15", the lower number is "1", the upper number is "36"; The network number is "5", the house number is "15", the lower number is "37", the upper number is "72";

Network number - "6", house number - "15", lower number - "73", upper number - "108";

Section 34 Configuring the Network Switch

Used to configure network switch settings. Before you start using the network switch, you need to configure the network switch settings. On the network switch it is necessary to provide input to the parameter setting mode (for switches COM-Net2, COM-Net4, the jumper M1 must be closed before power supply is applied, the network switch must have a network number on the jumpers, for more details, see the network switch's certificate).

After entering the section, you must enter the network switch number that you want to configure ("nC_ _"). Next, enter the number of the setting function. For network switches COM-Net2, COM-Net4, the sequence of configurable functions is as follows:

1. The starting number for 1 switch.
2. The final number for 1 switch.
3. The starting number for the 2 switches.
4. The final number for the 2 switch.
5. The starting number for the 3 switches.
6. The end number for the 3 switch.
7. The starting number for the 4 switches.
8. The final number for the 4 switch.
9. The starting number for the 5 switch.
10. The final number for the 5 switch.
11. The starting number for the 6 switch.
12. The end number for the 6 switch.
13. The starting number for the 7 switch.
14. The final number for the 7 switch.
15. Number of switches connected to the network switch.

section must be pressed: "0" - to disable the network protocol; "1" - the house-background works in the "Slave" mode (entrance); "2" - the intercom operates in the "Master" mode (wicket).

Section No. 32 Activating the home number entry mode

Used to activate the dialing of the house after dialing the subscriber number. It is used in the case when there are several houses in the fenced area with the same number of subscribers. This function is only activated if the network function is enabled on the outdoor panel and it is in the "Master" mode.

After entering the section to activate the dialing of the house, you need to dial "1" "B", to turn off the sound - "0" "B".

Section No. 33 Configuring the Network Protocol

Used to set parameters and configure the network protocol. If the intercom works in "Slave" mode, then after entering the section it is necessary to set the network number of the intercom. It can be from 1 to 31. The network number is set in accordance with the subscriber numbers being serviced, i.e., the intercom with the network number "1" will serve the initial numbers of the subscribers, and with the network number "31" - the last numbers of the subscribers.

If the intercom works in the "Master" mode, then it is necessary to establish the correspondence of the range of serviced subscribers with the network number to the network number of the doorphone "Slave". After entering the section, it is necessary to enter the network number of the "Slave" intercom (nS_ _), press "B", then enter the lower number of the service number range (LO_ _), press "B", then enter the upper range number of the serviced Numbers (HI_ _), press "B". After, if necessary, enter a new network number and continue entering the range of serviced numbers.

When the home number input function is active, after entering the network number of the "Slave" pre-mophone, it is necessary to enter the number of the house that will service this intercom, then enter the lower and upper number of the range of serviced numbers for this doorphone. Thus, the system can have duplicate numbers of subscribers, but with different house numbers. The house number can not exceed 999.

If network switches are used instead of call blocks, the setting is similar.

These settings affect the performance of the entire system. It is necessary to correctly configure these parameters, otherwise there may be system failures.

Example.

It is necessary to configure the interphone network with the following parameters: 1 "Master" intercom, 5 "Slave" intercoms. The total number of serviced rooms is 180. Each "Slave" intercom serves 36 numbers.

Setting of "Slave" doorphones:

Intercom serving 1 ... 36 subscriber - network number "1";

Intercom serving 37 ... 72 subscribers - network number "2";

Intercom serving 73 ... 108 subscriber - network number "3";

Intercom serving 109 ... 144 subscribers - network number "4";

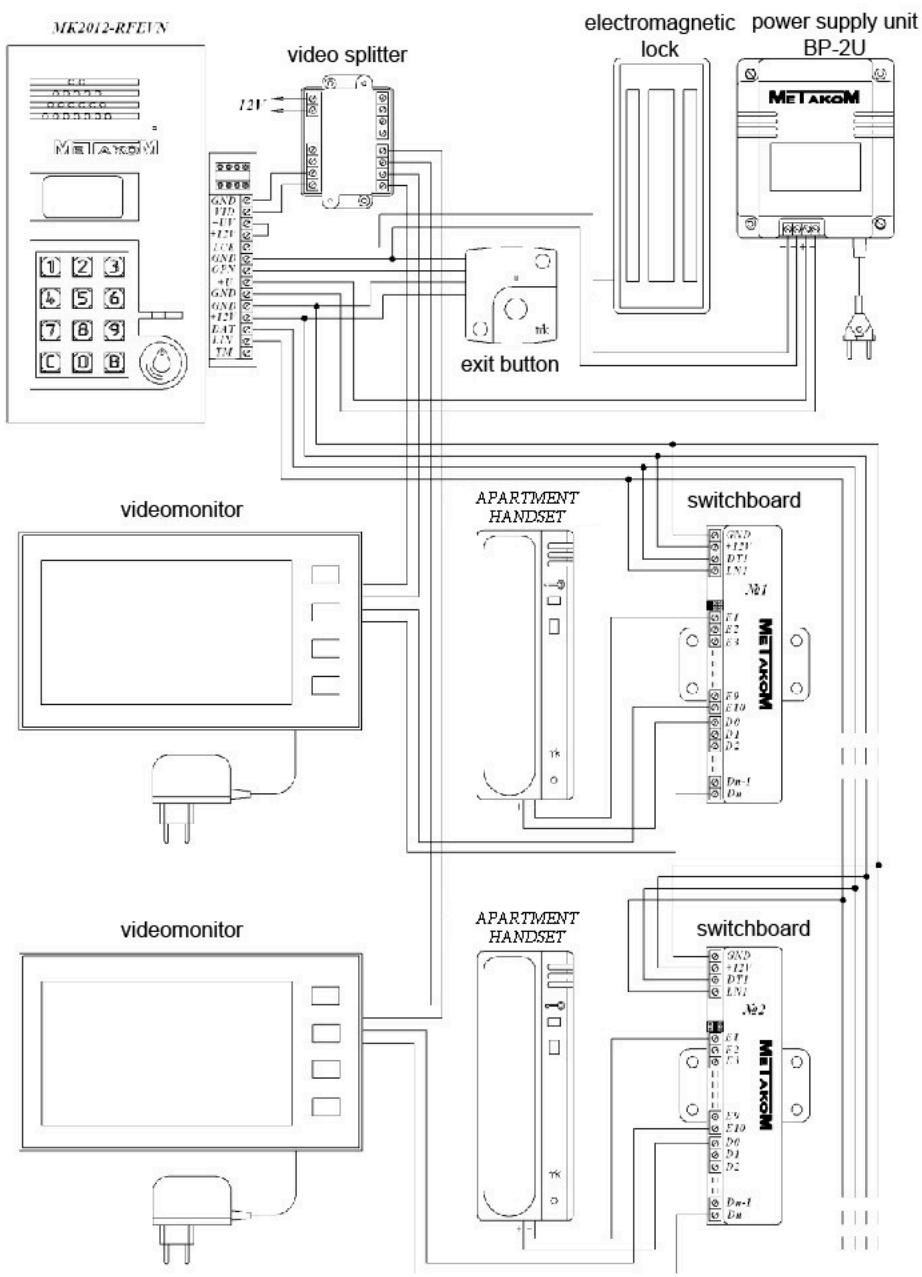

Fig. 2 Example of mounting the outdoor panel MK2012-RFEVN

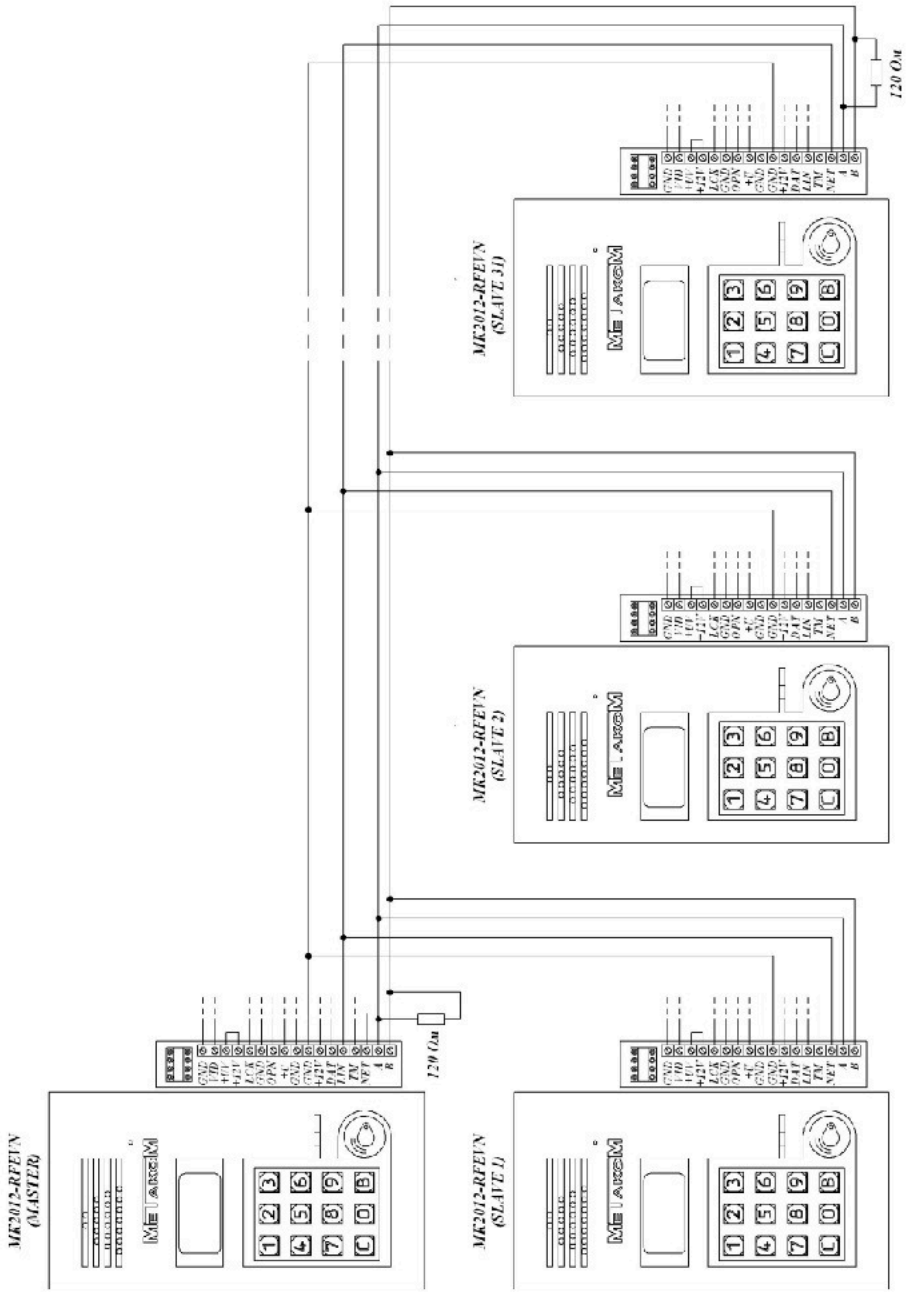

Fig. 3 Example of installation of the outdoor panel MK2012-RFEVN for fenced areas with one entrance to the territory.

(Before the installation of the chip, the cover must be removed). The first leg of the chip is mounted to the center of the case.

To record the subscriber base database, two modes are used - the re-write mode and the key addition mode. In the overwrite mode, the keys stored in the memory of the outdoor panel are deleted and keys from the external memory are written to their place. In the mode of adding keys, keys from external memory are appended to the keys stored in the internal memory.

After entering the section, the message "FLH" will be displayed.

To record subscriber keys in the internal memory of the outdoor panel in the overwrite mode, you must press:

"1" - to overwrite the RF (MF) keys from the call blocks MK2003.2 and MK2012.

"2" - to overwrite the RF (MF) keys from the outdoor panel MK2003.1 (MK2003).

To record subscriber keys in the internal memory of the outdoor panel in the add mode, you must press

"4" - to add RF (MF) -keys from the call blocks MK2003.2 and MK2012.

"5" - to add RF (MF) keys from the outdoor panel MK2003.1 (MK2003).

When adding keys, you must first make a copy of the key database located in the internal memory for recovery in case of incorrect actions.

Section No. 28 Deactivating the sound signal on the outdoor panel

Used to mute the audio signal in the caller's dynamics in the call mode. When this function is enabled, the ringing tone is only given to the subscriber. All other sounds of the outdoor panel are not disabled. After entering the section to mute the sound, you need to dial "1" "B", to turn on the sound - "0" "B".

Section No.29 Ringing volume in the subscriber unit

Used to set the audio level in the subscriber handset. There are two variants of loudness - "quietly", "loudly". After entering the section, you need to dial the number of the subscriber for which you want to change the volume of the call, press "B", then press: "1" "B" - to set the minimum volume level, "2" "B" - to install The maximum volume level. If it is necessary to conduct actions for all subscribers, then instead of the subscriber number, you must press "0" next "B".

Section No. 30 Select the melody of the sound signal.

Used to set one of the 2 options for the melody of the call signal. After entering the section, you need to dial the number of the subscriber for which you need to change the call melody, press "B", then press "1" "B" - to set the first melody, "2" "B" to set the second melody. If it is necessary to carry out the action for all subscribers, then instead of the subscriber number, press "0" next "B".

Section No. 31 Enabling the Network Protocol

It is used to turn on the network protocol and set the functional parameters of the doorphones (Master or Slave) working in the network. After entering the

and exit to the recording selection mode ("dSO _" will be displayed on the indicator)

To record subscriber keys in the outdoor panel memory in the key addition mode, you must press:
"13B" - for recording the first thousand keys,
"14B" - for recording the second thousand keys,
"15B" - for recording the third thousand keys,
«16B» - for recording the fourth thousand keys,
"17B" - for recording the fifth thousand keys.
A flashing "dSON" message appears, where N is the number of the key to be read. The keys DS1996 (L) containing the subscriber keys will have numbers from 3 to 7. Then attach the key DS1996 (L) to the reader, the data transfer will begin. If an error occurs, an error signal will sound. Acknowledgment of the end of the information transfer is the audio signal of the end of the recording, and the output to the recording selection mode (the message "dSO _)

If the number of the read out subscriber keys exceeds 1000, then the subsequent reading of the DS1996 (L) keys is necessary. In this mode, there may be a situation where the key memory is full, in this case, before the start of the key recording, the message "Err 9" will be issued and the keys will be written until the memory is full.

Warning: be sure to wait until the reading is completed correctly, otherwise the outdoor panel may fail.

Section No. 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 No. 24 Master key recording

Used to record a master key intended for fast entry into the programming mode. A RF (MF) key can be used as the master key. 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 read correctly, the master key will be recorded.

Section No. 25 Return to factory settings.

Used to set the factory settings. After entering the section, you must press "1" to confirm the installation, then the automatic change of parameters will start, and the key database will not change.

Section No. 26 Transferring the key database

Used to quickly transfer the key database from the memory chip of compatible call blocks. The memory chips of call blocks MK2012, MK2003.2, MK2003.1 (MK2003) are supported. The memory chip is installed in the DIP-8 holder located near the terminals on the back side of the panel under the protection

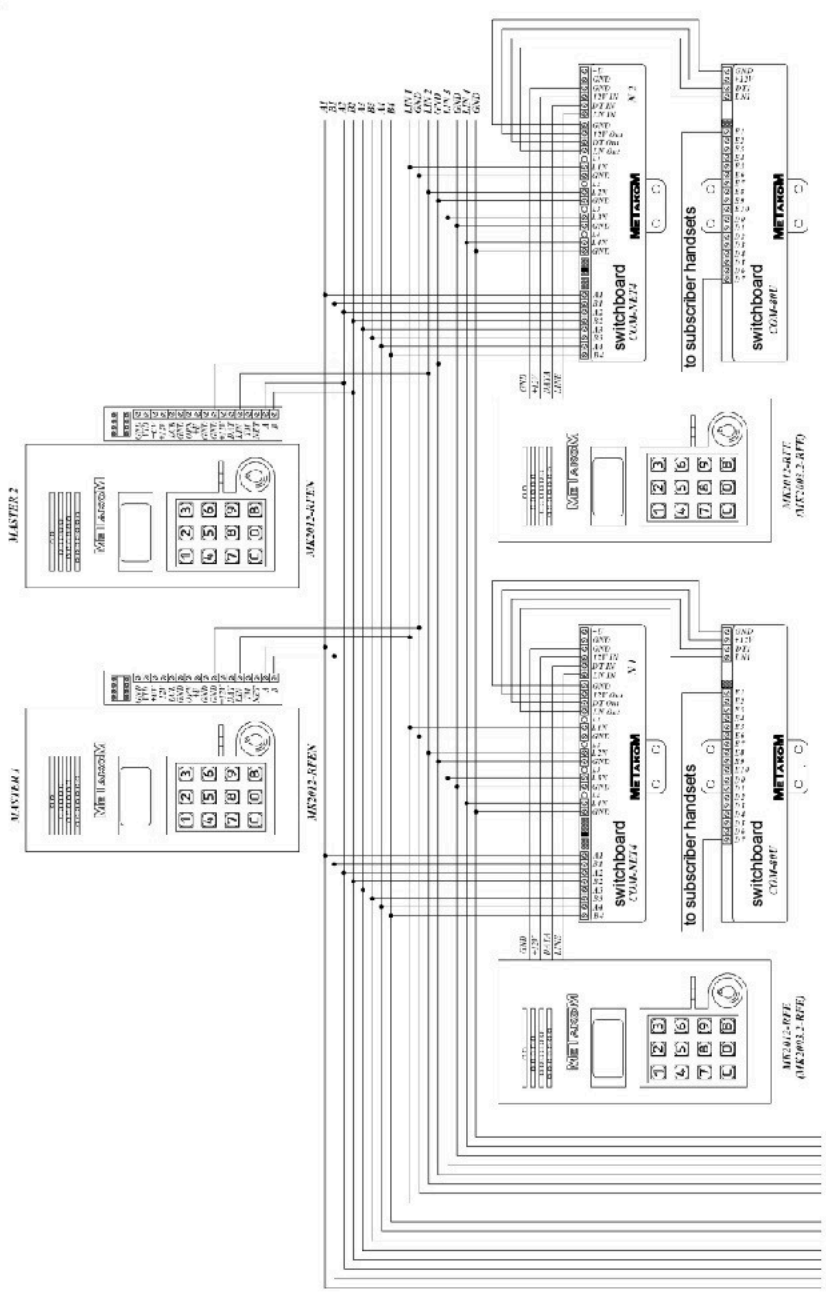

Fig. 4.1 Example of the installation of the outdoor panel MK2012-RFEN for fenced areas with several entrances to the territory using network switches.

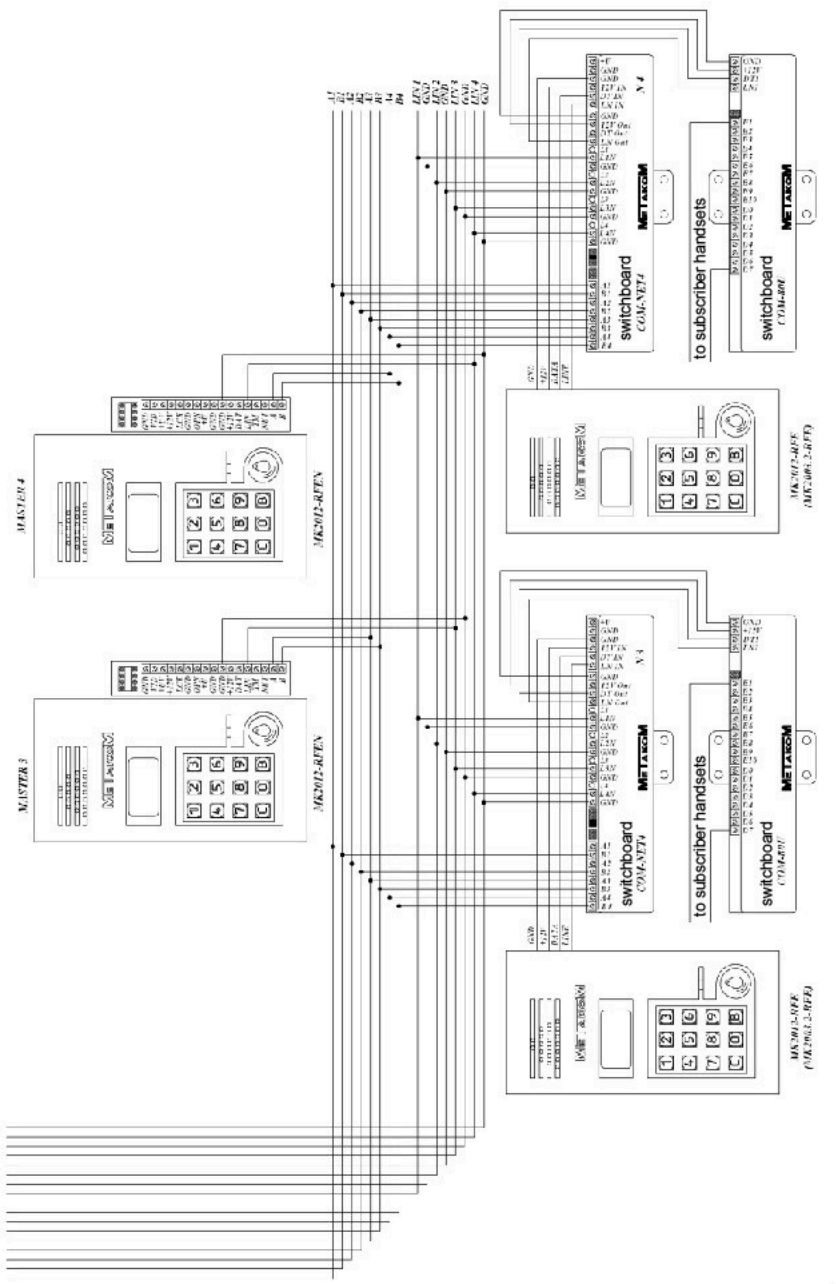

Fig. 4.2 Example of installation of the outdoor panel MK2012-RFEN for fenced areas with several entrances to the territory using network switches.

transfer of information is the audio signal of the end of recording and the indicator "dSI_" will be displayed. If you pressed the record button that does not exist thousands of keys, an error message will be displayed.

Example: the number of subscriber keys 1500. To write this database, you need two keys DS1996 (L). To record the first thousand, you need to press "3B", to record the remaining 500 keys, you must press "4B".

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

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

Used to transfer information from the DS1996 (L) key to the memory of the outdoor panel. To transfer information, it is necessary to connect the readers (key reader KTM-1P) to the terminal blocks "TM" and "GND". The information can only be transferred from the keys of the call MK2012-N recorded on the blocks.

After entering the section, the message "dSO_" will be displayed.

To read the first system settings key from the DS1996 (L), you must press "1V", wait for the flashing message "dSO1" 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 transfer of information is the audio signal of the end of recording and the output to the standby mode, the message "dSO_" will be displayed. To read the second key of the system settings from the DS1996 (L), press "2B", wait for the flashing message "dSO2" 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 standby mode, the message "dSO_" will be displayed.

To record the subscriber base database, two modes are used in the outdoor panel memory: the overwrite mode and the key addition mode. In the overwrite mode, the keys stored in the outdoor panel memory are erased and the keys from DS1996 (L) are written to their place. In the key addition mode, the keys from DS1996 (L) are appended to the stored keys.

To record subscriber keys in the memory of the outdoor panel in the overwrite mode, you must press:

«3B» - To record the first thousand keys,
«4B» - To record the second thousand keys,
«5B» - To record the third thousand keys,
«6B» - To record the fourth thousand keys,
«7B» - To record the fifth thousand keys.

A flashing "dSON" message appears, where N is the number of the key to be read. The keys DS1996 (L) containing the subscriber keys will have numbers from 3 to 7. Then attach the key DS1996 (L) to the reader, the data transfer will begin. If an error occurs, an error signal will sound. Acknowledgment of the end of the transfer of information is the audio signal of the end of the recording,

etc.), then it is possible to adjust the threshold for the opening of the lock on the subscriber handset in a certain range.
The threshold value can be in the range 780 ... 840, the factory value is 780 + 30, where 30 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 section No. 18 by pressing the lock release button), you can correct the threshold value by decreasing 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 subscriber's number, for which you need to change the threshold and press "B", then type the offset value of the threshold and press "B". If it is necessary to conduct actions for all subscribers, then you should press "0" next "B" instead of the subscriber number.

Section No. 21 Recording of electronic media DS1996 (L)

Used to transfer information from the outdoor panel memory to the DS1996 (L) key. To transfer information, it is necessary to connect the reader (KTM-1P key reader) to the terminal blocks "TM" and "GND".

After entering the section, the message "dSI_" will be displayed. Recording system settings is carried out on two keys DS1996 (L).

To record the first system setup key in the DS1996 (L), you must press "1V", wait for the flashing message "dSI1" 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 recording selection mode, the indicator "dSI_" will be displayed.

To record the second system setting key in the DS1996 (L), you must press "2B", wait for the flashing message "dSI2" 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 recording selection mode, the indicator "dSI_" will be displayed.

To record the subscriber base database in DS1996 (L), you must press:
«3B» - To record the first thousand keys,
«4B» - To record the second thousand keys,
«5B» - To record the third thousand keys,
«6B» - To record the fourth thousand keys,
«7B» - To record the fifth thousand keys.

To record the maximum number of subscriber keys (5000), you need 5 keys DS1996 (L). After pressing the corresponding button, the message on the number of necessary keys DS1996 (L) for recording the full database (the figure after dSI) will be displayed briefly on the indicator. Next, a message "dSIN" will appear, where N is the number of the key to be written. The DS1996 (L) key numbers will be numbered from 3 to 7. Next, you must attach the DS1996 (L) key to the reader, the data transfer will start. If an error occurs, an error signal will sound. Sign of the end

7. PREPARATION FOR WORK

Preparing the intercom for work consists in programming the parameters to match the system to the requirements of the installation site and the input of the RF (MF) subscriber key. 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 device's non-volatile memory (hereinafter EEPROM), ensuring 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	Number of switches	1
2	Service number range	1...220
3	Prohibition of subscribers	All are allowed
4	Autoset mode	Disconnected
5	Lock opening time	4 sec
6	Talk time	90 sec
7	Number of ringing tones	12
8	Ringing volume in the subscriber unit	Max
9	Using common or individual code	Codes disabled
10	Number of code table	1
11	Enable subscriber notification by key or code	Disconnected
12	The threshold level for determining the position of the subscriber handset	50
13	Threshold level of the button for opening the lock on the unit	30
14	System code	123456
15	Master-key	Not programmed
16	Network Protocol	Disconnected

In the 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 will not be changed later on. For viewing, it is necessary to press and hold any button, turn on the power supply, hold the button until the sound signal appears, then the number of the serial number will be displayed, the first number is the highest digit of the serial number number, then seven remaining values are displayed in order eight-digit serial number.

7.1 OUTDOOR PANEL PROGRAMMING MODE

In programming mode, access to partitions 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 made by pressing the corresponding buttons. Exiting the sections and the programming mode is done by pressing the "C" button. After entering certain sections, the indicator of the previous saved parameter is displayed. If no changes have been made or the buttons are pressed, then after a while the unit will automatically exit the section or the programming mode. If you enter incorrect data, the message "Err" is output and an error beep sounds. The table shows the names of the sections and a combination of buttons for accessing them.

N menu	Menu name	Enter menu	Submenu	Enter submenu
1	First subscriber number	«1» «B»	---	---
2	Switch Type	«2» «B»	---	---
3	Number of switches	«3» «B»	---	---
4	Disconnecting subscribers	«4» «B»	---	---
5	Record RF (MF) keys	«5» «B»	Common keys	«1» «B»
			Individual keys	«2» «B»
6	Erasing RF (MF) key	«6» «B»	Common keys	«4» «B»
			Individual keys	«5» «B»
			All keys	«6» «B»
9	On autoset key mode	«9» «B»	---	---
10	Lock opening time	«10» «B»	---	---
11	Talk time	«11» «B»	---	---
12	Ringing time	«12» «B»	---	---
13	Enable common or individual code	«13» «B»	Enable common code	«1»
			Disable common code	«3»
			Enabling in. code	«4»
			Disable the in. 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 Handset Test	«18» «B»	---	---
19	Setting the threshold for determining the position of the handset	«19» «B»	---	---
20	Setting the threshold for the opening of the lock button on the subscriber handset	«20» «B»	---	---
21	Record in DS1996	«21» «B»	Recording System Settings	«1»
			Writing keys	«3»
22	Reading in DS1996	«22» «B»	Reading system settings	«1»

Section No. 18 Test of subscriber handsets

Used to determine the position of the handset at the subscriber during installation or the failure of the outdoor panel. After entering the section, it is necessary to dial the number of the subscriber for which you need to check the handset, press "B", the connection will be established and the indicator will show the value of the tube's position in conventional units. "0 ... 180" - short circuit, "180 ... 510" - the handset lies, "511 ... 780" - the handset is removed, "806 ... 999" - the line is broken (or the lock opening signal). These handset position values are given for the factory settings of the thresholds.

If the values of the thresholds are different, then it is necessary to carry out the correction (the correction can be carried out within the range 1 ... 100). To automatically correct the threshold for determining the position of the subscriber handset, it is necessary to lay the handset on the stand, then press "1". To automatically correct the threshold for the opening of the lock on the subscriber handset, it is necessary to remove the handset from the stand, press the lock release button and hold it in the pressed state, then press "1". Manual correction is described in Section 19, 20.

Section No. 19 Setting the threshold for determining the position of the handset

Used to adjust the threshold for determining the position of the handset. If there is an incorrect positioning of the handset (long line, use of some video monitors with adapters, etc.), then the threshold for determining the position of the handset 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 handset, it is necessary to increase the offset to a value above the detection threshold of the handset. 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, 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 # 18, measuring the value of the state of the handset in the laid down and removed 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".

Section No. 20 Setting the threshold of operation of the button for opening the lock on the subscriber's handset

Used to adjust the threshold for the opening of the lock button on the subscriber handset. If there is an incorrect detection of the lock opening signal (long line, use of some video monitors with adapters

when the lock is opened (for example, if a value of 110 is entered, then the opening time of the lock will be 110-100 = 10 seconds)

Section No. 11 Talk time

Used to set the necessary duration of the conversation between the visitor and the subscriber. After entering the section, you need to dial the talk time in seconds and press "B", the maximum value is 240.

Section No. 12 Number of ringing tones

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

Section No. 13 Enabling f 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" - to allow the work of the individual code, "6" - to prohibit the work of the individual code. For simultaneous work of the general and individual code it is necessary to allow the work of the general, then individual code.

Section No. 14 Changing common code

Used to enter a new common code. After entering the section, you need to type a new common code. After dialing the 6th digit, the new code will be automatically saved. The factory code is 123456.

Section No. 15 Changing the code table number

Used to generate a new table of individual codes. After entering the section, you need to dial the table number and press "B", the maximum value is 250. Some code tables are in Appendix 1.

Section No. 16 Changing the individual code

Used to enter a new individual code in the set individual codes table. After entering the section, you need to dial the number of the subscriber, for which you need to change the code, press "B". Next, you need to dial a new individual code. After dialing the 4th digit, the new code will be automatically saved.

Section No. 17 Activation of subscriber notification by code or key.

Used to activate the subscriber alert mode when using the individual code or key. After entering the section, you need to dial the number of the subscriber for which you want to turn on the notification mode, press "B", then press "0" "B" - to turn off the mode, "1" "B" - to turn on the mode. If it is necessary to conduct actions for all subscribers, then instead of the subscriber number, press "0" next "B".

23	Changing the system code	«23» «B»	---	---
24	Master key recording	«24» «B»	Erasing master-key	«0»
			Master key recording	«1»
25	Factory setting	«25» «B»	---	---
26	Moving the key database	«26» «B»	Overwriting the database fro call blocks MK2003.2, MK2012	«1»
			Overwriting the database from the outdoor panel MK2003.1	«2»
			Adding a base from call blocks MK2003.2, MK2012	«4»
			Adding a base from the outdoor panel MK2003.1	«5»
28	Deactivating an audio signal on the outdoor panel	«28» «B»	---	---
29	Ringing volume in the subscriber unit	«29» «B»	---	---
30	Select the melody of the sound signal.	«30» «B»	---	---
31	Enable Network Protocol	«31» «B»	---	---
32	Enable Home Number Entry Mode	«32» «B»	---	---
33	Configuring the Network Protocol	«33» «B»	---	---
34	Configuring the Network Switch	«34» «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, you must press and hold any button, wait for 2 beeps to sound, continue to hold the button until 3 beeps sound, the green keypad will flash, then dial the master Code ("123456" - factory master code), with each press accompanied by an audible signal and the inclusion of the keyboard backlight. After that, if the code is entered correctly, the outdoor panel goes into the programming mode, the sign of finding in the programming mode is the green light of the keyboard.

B) Enter the programming mode using the master key. When the outdoor panel is in standby mode, you must press and hold any button, wait for 2 beeps, continue to hold the button until 3 beeps sound, the green keypad will flash, then type "0" 0, 0, 0, 0, 0. Then attach the master key 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

Section № 1 Opening the lock for the set time.

It is used to check the operation of the lock opening circuit. If you enter this point, the lock will open for the specified time.

Section № 2 Setting the number of switches (only for switches with the index "U")

Used to set the number of switches. The maximum number of switches used can not exceed 15 and depends on the chosen switch model.

After entering the section, you need to dial the number of switches (1 ... 16) and press "B". If the input is correct, a beep will sound.

For switches COM80 (D), COM160 (D), COM220 (D), this parameter should not be set. Factory setting: the number of switches 1.

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 lower parameters of the outdoor panel.

Section №3 Range of serviced subscribers

Used to set the number of subscribers serviced by the switch (or switches).

After entering the section, you need to dial the switch number (nC _), it can be from 1 to 15. Press "B". Next, you need to dial the number of the first ("Lo") subscriber served by this switch, press "B", then dial the last number ("Hi") of the served subscriber, press "B". If you use more than one commutator, then the action is carried out for all the switches used. Factory setting: number of the first subscriber 1, number of the last subscriber 220.

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 lower parameters of the outdoor panel.

Section № 4 Disconnecting subscribers

Used to disconnect the subscriber's service. When a disconnected subscriber is called up, an erroneous beep will sound. After entering 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 you want to enable maintenance

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 call block, so it must be performed at the beginning of the change of the lower parameters of the outdoor panel.

Section №5 Recording of electronic keys

Used to enter RF (MF) keys into the memory of the outdoor panel. Recording of RF (MF) - keys is carried out in 2 modes:

- the mode of "common" keys,
- mode of "individual" keys.

In the mode of "common" keys, RF (MF) keys are recorded in a common database without pointing to a particular subscriber, and the function of notifying the subscriber is unavailable. In the mode of "individual" keys RF (MF) - the key is written to the number of a particular subscriber. If an overflow of the number of keys occurs during the recording of RF (MF) 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, press "B" and attach 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 № 6 Erasing of electronic keys

Used to remove RF (MF) keys from the outdoor panel memory. Removal is carried out in 3 modes: deleting "shared" keys, deleting "Individual" keys and the removal of all keys. After entering the section, you need to press: "4" "B" - to delete "common" keys, "5" "B" - delete "indivial" 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 deleting the keys, a beep will sound and a "running line" will appear on the indicator.

Section № 9 Activation of electronic key collection mode

Used to automatically record subscriber keys when applying a key 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.

Section №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) of the feed changes