Outdoor panel

METAKOM

MK2003.2-RF(MF)

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 _
                    (day, month, year)

Signature of the owner of the product, confirming the
repair _

Repair company stamp with the city:

CONTENTS

1. PURPOSE

The ourdoor panel **METAKOM MK2003.2-RF(MF)** (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 MK2003.2-RF(MF) has a built-in scanner of contactless RFID keys with an operating frequency of 125 kHz.

Modification of the outdoor panel METAKOM MK2003.2-RF(MF) 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 MK2003.2-RF(MF) , contactless keyholders METAKOM supporting Proximity technology (hereinafter RF keys) are used. For the modification of METAKOM MK2003.2-RF(MF) , 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 MK2003.2-RF(MF) outdoor panel is available in two versions:

Full model name	Lock type	Terminal marking of terminal blocks	Description of the output node
METAKOM MK2003.2-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, it turns off.
MK2003.2-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.

Valid for filling

TEAR-OFF COUPON N1

FOR THE WARRANTY REPAIR OF THE OUTDOOR PANEL
METAKOM
MK 2003.2 RF+MF

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 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:

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.

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

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

MK2003.2 – RF E V N

------------   --- - -
    1   2 3 4 5

1. MK2003.2
2. RF(MF)   - model name;
3. E   - support for contactless remote controls METAKOM;
    M   - for electromagnetic lock,
4. V   - for electromechanical lock,
    {space}   - built-in video camera and infrared illumination,
5. N   - without a video camera,
               - intercom supports work on the network.

2. DISTINCTIVE FEATURES

- Direct addressing of subscribers;
- Built-in switch for 10 subscribers;
- 2 ringer volume levels, 3 ring tone tones;
- Presence of a mode of auto-collection of keys;
- In the modification MF, user keys are used with the encoding of the identification number (the keys are coded in the manufacturer);
- Transfer of all the doorphone settings to a personal computer (or another pre-mophone) and back through the METAKOM adapter MKA-02U and the TM-key DS1996 (L). It is possible to configure all modes of operation of the doorphone and input subscriber RF (MF) keys using a personal computer (PC) in a comfortable laboratory environment. The information thus prepared is transferred to the nonvolatile memory of the outdoor panel. A copy of this information is stored on the PC and used for subsequent servicing.;
- Possibility to expand switches up to seven (in this case 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);
- The possibility of diagnosing the system during commissioning (testing the hands-on subscriber with the output of the parameters of the audio line on the LED backlight);
- Correction of the parameters for determining the position of the handset for each subscriber separately (adjustment can be carried out for each subscriber separately);
- Vandal-proof design - special keypad design, installation on site with a special key;
- Waterproof keyboard with illumination of each key, illumination of the key reader;
- Return to the factory settings outdoor panel, while storing recorded keys;
- Self test on power up or reset.

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:

Appendix 1.

Code tables.

Table 1

Flat №	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Code	0529	7970	8740	1333	9813	4966	8801	2433	0899	2307	4628	0278	3352	6961	9538	3923	0356	9077	4727	2039
Flat №	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Code	5377	5379	0562	2085	2644	8022	2663	3426	4226	4339	7940	8469	0565	5416	3137	8786	6002	0372	2964	1029
Flat №	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Code	7943	1794	9521	6707	3396	0853	0117	6775	6288	9729	0500	3348	0308	5942	4920	9553	2673	8066	6547	1796
Flat №	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Code	4614	9495	4897	5682	2115	0837	1140	2181	2951	5376	2050	5666	0036	2628	0853	7526	0880	4978	4739	4867
Flat №	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
Code	2309	3335	4662	1841	6737	5986	8804	3686	9350	0247	9744	9249	0803	4901	4662	4950	2151	2673	8578	9971
Flat №	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
Code	8452	3861	6438	0823	7248	3922	7538	1908	4500	2565	9479	3330	1058	8499	3667	1350	7270	2664	1394	3585
Flat №	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
Code	1554	9492	3892	4165	3128	3921	2402	7810	0132	5877	2069	0294	6960	4131	0979	3939	9573	2949	2680	5120
Flat №	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
Code	5634	9491	8755	5414	5190	9318	6753	0385	8850	0003	3845	4871	6198	3377	8273	7522	0341	5478	9621	0744
Flat №	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
Code	1296	4882	1571	9027	3638	1125	3672	0369	9873	1011	1013	1798	8230	1094	7745	5473	2915	3941	5268	2294
Flat №	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
Code	9223	1312	4371	4147	8275	5717	1141	7558	2177	7154	1539	7971	6437	8005	0086	1090	2387	1892	3445	1525
Flat №	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220
Code	6677	0264	7201	1345	2883	2885	3670	0103	3222	8192	0785	4868	0789	0836	3142	4951	7521	0114	8594	3587

Table 7

Flat №	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Code	2065	4627	3605	0053	9542	0102	5488	6273	5266	8436	6149	4118	0039	2338	0819	2643	4723	0358	6549	6135
Flat №	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Code	6913	3361	2851	0805	5445	0598	3446	2929	8337	2788	2052	4614	7989	4663	9537	4419	8035	1381	1684	7173
Flat №	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Code	3335	2306	1811	5442	0068	5732	8294	1670	0129	3570	0515	4628	2597	8517	9031	8785	3426	0371	4484	2293
Flat №	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Code	3093	3366	6448	0065	5292	0581	8820	2181	9366	8192	3857	8211	2852	9796	2118	0614	9313	7794	9648	1539
Flat №	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
Code	3845	4871	0536	9280	1602	0098	8804	4228	1911	7159	1040	8466	4131	2883	9541	1351	3943	5474	4497	0228
Flat №	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
Code	4853	8725	0023	6711	1074	6241	4180	7540	2934	2294	7687	5408	7714	3138	0821	6229	5237	9847	2433	3058
Flat №	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
Code	6930	8227	3124	3623	2104	3921	9058	8834	7300	7684	4885	6950	1298	5185	7762	8020	9829	0630	2695	1280
Flat №	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
Code	0273	3603	6436	4646	7238	3174	6753	4993	0146	8436	0788	7446	9255	0049	5171	3667	6771	4213	2950	2566
Flat №	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
Code	5904	3075	2580	6211	0837	6501	9063	2432	3955	4083	3332	4614	8230	1576	1872	9574	7194	9347	2896	3318
Flat №	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
Code	1814	0514	0787	3876	4435	8036	0102	0646	2960	2561	4626	8980	3621	0566	4679	2641	1619	8066	5764	2293
Flat №	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220
Code	3334	0279	4385	5411	1076	9827	4694	7030	5014	2048	2050	5907	5924	1062	2630	6758	6000	4737	0116	81

3. OPERATING FUNCTIONS

- Indication of operating modes on a 3-character display;
- Sound control of button pressing;
- Call the subscriber by pressing a button on the outdoor panel;
- 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 a 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.

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.

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.

10. MANUFACTURER'S WARRANTY

The manufacturer guarantees the compliance of the METAKOM MK2003.2-RF (METAKOM MK2003.2-MF) 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	10
Maximum subscriber number (for network version)	999
Maximum number of RF (MF) keys	975
Number of RF (MF) keys per apartment	up to 975
Offset of subscriber numbers (for network version)	1...999**
Number of ringing signals applied to the TCH	6...14**
Duration of the lock opening	3...11 sec**
Restriction of the duration of the conversation	40...120 sec**
Maximum number of individual codes	10
Maximum number of the code table	255
Number of digits of subscriber code	4
Number of digits of the total code	4
Number of digits of the master code	6
Operating temperature range	-30...+40°C***
Relative humidity (at 35 ° C)	95%
Supply voltage (DC)	15...18V
Maximum current consumption in standby mode (without a video camera), not more	180 mA
Peak consumption current (when a call signal is applied to a subscriber's TCH)	290 mA
Overall dimensions of the block, not more (height x width x thickness)	200 x 105 x 45 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. Carefully study this instruction manual and block diagram.

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

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

4. If you use more than one switch to increase the number of serviceable subscribers (switch models with index "U"), you need to install jumper J1, J2, J3 in accordance with the address of the switch in the network. The values of the jumpers can be taken from the table:

Switch address	1	2	3	4	5	6	7
Jumpers	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

JN=1 - jumper is closed and JN = 0 - open.

If you use one switch, the jumpers must be removed.

5. Set the apartment's lodging apartment intercom (TCH).

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

7. Check that 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 code to enter the programming mode and, if necessary, program the master RF (MF) 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) Program subscriber RF (MF) -keys.

d) If the intercom will be used on the network, it is necessary to enter, the number of the first subscriber, the network number (from 1 to 16), the number of subscribed subscribers (see 7.3). Attention! If the number of the first subscriber is entered is different from "1", then the offset of the subscriber numbers must be taken into account when setting the following parameters. As the Master intercom, outdoor panel MK2003.2-RFE (V) N can be used.

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).

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

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

h) If necessary, change the duration of the ringing signal, the duration of the lock opening, the duration of the call restriction, etc. The factory settings are in most cases optimal

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 vessels, in accordance with the rules for the carriage of goods operating on this type 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 when there are no acidic, alkaline or other aggressive impurities in the surrounding air.

8. USING OUTDOOR PANEL BY SIBSCRIBERS

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.

g) 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).

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

i) 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: clauses a ... i 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. Make a note in the tear-off coupons about the commissioning date of 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, 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 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 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 intercom there is protection against short circuit of the line. At this time, communication with the TCH will be impossible. All other functions are available.

Installation of other doorphone units is carried out in accordance with the passports on these units.
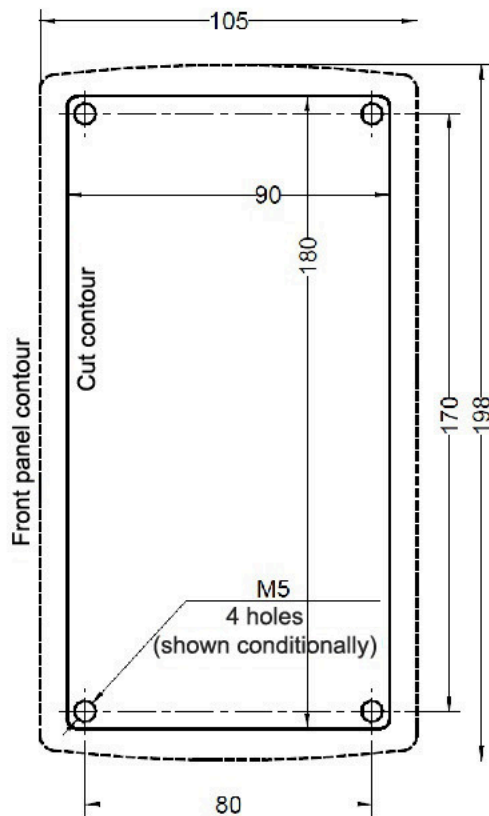

Fig. 1 Markup for installation of the outdoor panel

If the intercom works in the "Master" mode, it is necessary to establish the correspondence of the range of the serviced subscribers with the network number of the doorphone "Slave". After entering the section, you need to enter the network number of the doorphone "Slave", press "B", then enter the lower number of the range of numbers to be serviced, 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 there may be system failures.

Example.
It is necessary to configure the interphone network with the following parameters: 1 master house, 5 slave doorphones. The total number of serviced rooms is 180. Each "Slave" intercom serves 36 numbers.
Setting of "Slave" intercomes:
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";

Intercom serving 145 ... 180 subscriber - network number "5";
Setting the intercom «Master»:
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";

Section No. 29 Select the melody of the sound signal.
Used to set one of the 2 options for the audio signal of the call. After entering the section to select the first melody, you need to dial "1" "B", the second - "2" "B".

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 the recording and the exit 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 until the read is finished 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 for quick access to the programming mode. As a master key, you can use the RF (MF) key. After entering the section, you need to press: "1" - to write the master key, "0" to delete the master key. After entering the recording mode, it is necessary to attach a 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 parameters will be automatically changed, and the key database will not change.

Section No. 26 Enabling the Network Protocol
Used to disable the network protocol or set the functional parameters of intercoms (Master or Slave) working in the network. After entering the section, you need to press: "0" - to disable the network protocol; "1" - the intercom works in the "Slave" mode; "2" - the intercom works in the "Master" mode.

Section No. 27 Setting 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 16. The network number is set according to 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 "16" - the last numbers of the subscribers.
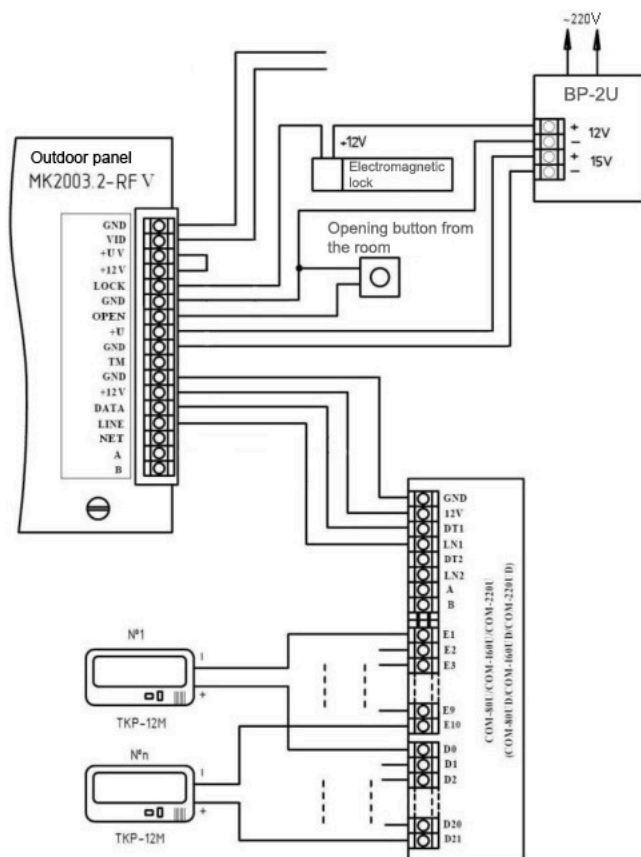

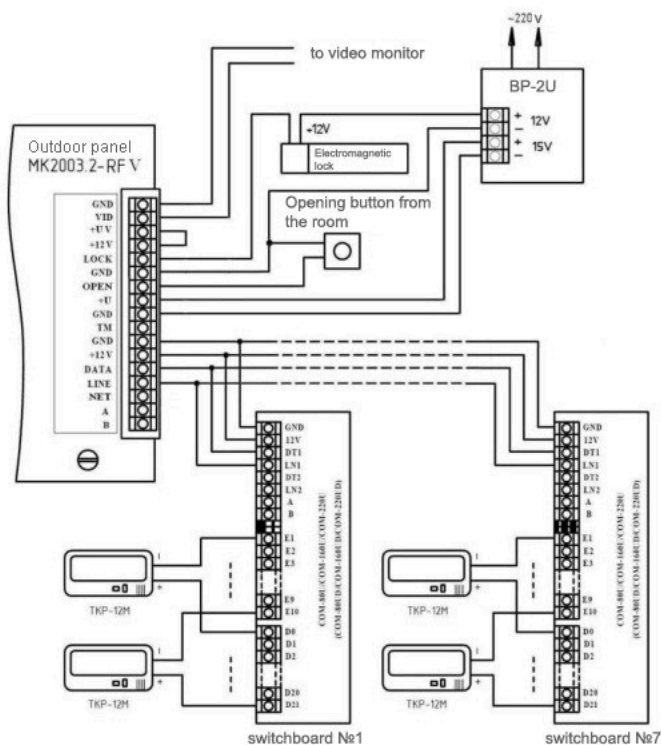Fig. 2 Example of mounting the outdoor panel MK2003.2-RFV

Fig. 3 Example of installing a outdoor panel MK2003.2-RFV when using several switches.

unlocking the lock (long line, use of some video monitors with adapters, etc.), it is possible to adjust the threshold for the opening of the lock release button on the subscriber handset 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 (with factory settings above 810). If the level is lower (measured in section 18 by pressing the lock release button), you can correct the threshold value by reducing the offset. If in a conversation mode the lock is opened spontaneously without pressing the opening button (for example, during a loud conversation), then 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 offset value of the horn 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. 21 Recording of electronic media DS1996 (L)

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

To record the system settings in 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 recording and the output to the mode of recording selection (the message "- DS" will be displayed on the indicator).

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 recorded in full, then the recording selection mode will be output ("- DS" will be displayed).

Warning: be sure to wait for the correct ending of the record, otherwise in the future when reading incorrect information in the operation 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 transfer information, it is necessary to connect the readers (KTM-1P key contactor) to the terminal blocks "TM" and "GND".

To read system settings from the DS1996 (L), press "1", wait for the flashing message "DS -" to appear. Then attach the key

"B", then press: "0" "B" - to turn off the mode, "1" "B" - to activate the mode.

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 an incorrect signal definition occurs
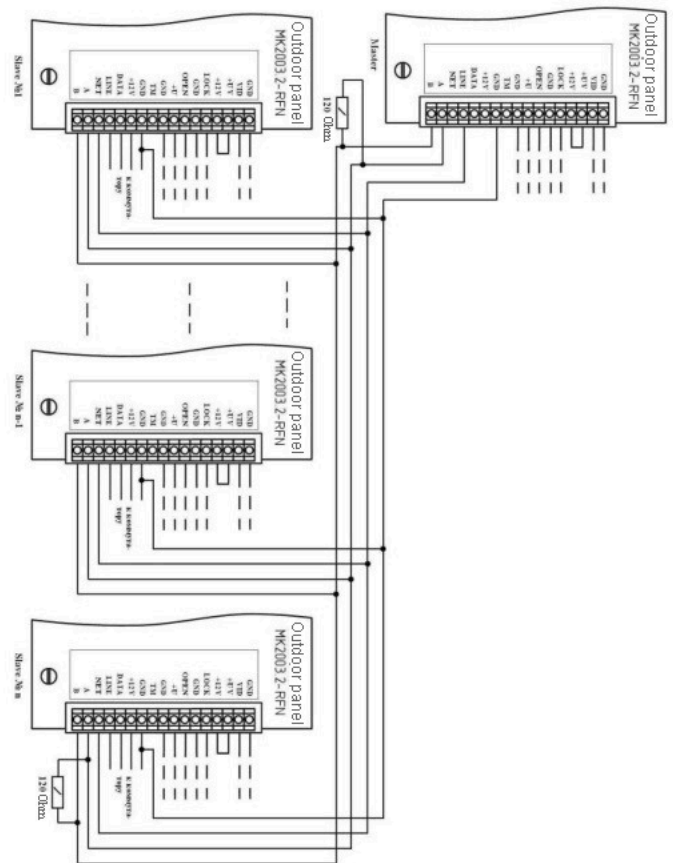
Fig. 4 Example of installation when combining intercoms in a network.

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	Offset of subscribers	No
2	Switch Type	COM220
3	Number of switches	1
4	Prohibition of subscribers	All are allowed
5	Keys type	All are allowed
6	Reading copies of TM2002 key	Forbidden
7	Autoset mode	Disconnected
8	Lock opening time	4 sec
9	Talk time	90 sec
10	Number of ringing tones	12
11	Using common or individual code	Codes disabled
12	Number of code table	1
13	Enable subscriber notification by key or code	Disconnected
14	Handset position detection threshold level	50
15	Threshold level of the activation of the button for opening the lock on the subscriber handset	50
16	System code	123456
17	Master key	Not programmed
18	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.

more than 100, then the type of sound melody (short beep) will be changed when the lock is opened (for example, if the value 110 is entered, then the lock opening time will be 110-100 = 10 sec)

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 4th digit, the new code will be automatically saved.

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 activate the alert mode, press

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.

Section No.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 No. 6 Erasing of electronic keys

Used to remove RF (MF) keys from the memory of the outdoor panel. 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 "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.

Section No. 9 Activating the RF (MF) key selection mode

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

Section No.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

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»
			Reading keys	«3»
23	Changing the system code	«23» «B»	---	---
24	Changing the system code	«24» «B»	erase the master key	«0»
			recording master-key	«1»

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. 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 No. 1 Set the offset of subscribers.
Used to set the offset of subscriber numbers if the number range exceeds the maximum value of the served subscribers (the number of serviced subscribers is determined by the type and number of used commutators). After entering the section, dial the first subscriber number and press "B". A sign 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.

Section No. 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 dial:
"1" - if a COM-80U (D) switch is used;
"2" - if a COM-160U switch (D) is used;
"3" - if a switch of the COM-220U type (D) is used;
"4" - if a switch of the COM-25U type (D) is used;
"5" - if a switch of the COM-100U type (D) is used.

Then press "B". If the input is correct, a beep will sound.
Depending on the installed switch type, the maximum number of the subscriber served is calculated. If you are using the COM-220U switch, you do not need to change this parameter.
This setting affects all subsequent changes in the parameters of the outdoor panel, so it must be carried out at the beginning of the change of the lower-standing parameters of the outdoor panel.

Section No. 3 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 is 7. The number of switches used is determined by the number of subscribers served. The number of switches can be calculated as follows:
$KK = KA / T$, where KK - the number of switches;

KA - the number of subscribers served;
T - the type of the switch (for COM 80U T = 80, COM 160U T = 160, etc.) If it turns out that the KK is not an integer, then it is necessary to add 1 to the result. Example: the number of subscribers of the spacecraft is 500.
When using COM-80U:
$KK = 500/80 = 6.25$, since the KK is not an integer, then $KK = 7$.
When using COM-160U:
$KK = 500/160 = 3,125$, since KK is not an integer, then $KK = 4$.
When using COM-220U:
$KK = 500/220 = 2.27$, 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 (D), COM160 (D), COM220 (D), this parameter should not be set.
This setting affects all subsequent changes in the parameters of the call block, so it must be carried out at the beginning of the change of the lower-standing parameters of the outdoor panel.

Section No.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, dial the number of the subscriber to be switched off, press "B", then press:

"0" "B" - if it is necessary to disable maintenance "1"
"B" - if it is necessary to activate 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".