



IP RECEIVER RL10

User Manual

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The purpose of the document

This document describes the features, operation and configuration of IP receiver RL10.

Contents

Description	3
Composition and Operation	3
Technical Parameters	4
Light Indication and Connections	4
Equipment	5
Configuration	6
Connection	6
Configuration	7
Computer Network Configuration	13
Operation	14
Receiving Messages	14
Remote Programming of Transmission Modules	15
Remote Control of Transmission Devices	17
Receiver's Internal Event Messages	18
Annex 1. Operation of Concentrator Filter	21
Annex 2. Data Output message format	23

Description

IP receiver RL10 is an alarm message receiver for monitoring stations. RL10 receives burglary and fire alarm messages sent by UAB Trikdis communicators via GSM/GPRS/Internet networks. It transmits received messages to the monitoring software. Receiver automatically tracks connection with every registered message transmitter (communicator¹). Receiver features:

- integrated industrial Linux OS computer;
- 2 network interface controllers;
- integrated GSM modem for receiving messages in SMS format;
- connection to SMPP server of the network service provider;
- 2 serial ports for receiving messages from other devices;
- automatic registration of communicators;
- automatic connection control of every registered communicator using individual schedules;
- message transmission to the monitoring software using either serial port or LAN;
- configuration and operation monitoring of the receiver using a Windows OS computer via LAN;
- multi-site connectivity to the receiver via LAN. Every user is granted individual access to receiver functions;
- message filtering and conversion;
- export of registered objects' list to CSV file;
- search function for a registered object;
- remote configuration of communicators, and remote firmware update;
- remote control of communicators.

Composition and Operation

IP receiver RL10 – is a Linux OS industrial computer with 2 network interface controllers and a software IPcom mounted into a 19" 2U enclosure with a power supply unit. GSM modem is also mounted into the enclosure of the receiver.

IP receiver RL10 can be connected to two computer networks: LAN1 ir LAN2.

Software IPcom receives messages from objects' alarm systems via WAN1 and WAN2 ports and GSM modem of the receiver. It transmits received messages to the monitoring software via serial Output and WAN ports.

Messages received via serial ports In1 and In2 are retransmitted to the monitoring software unprocessed via serial Output and WAN ports.

Configuration, control and operation monitoring of IP receiver RL10 is performed using software IPcomControl 3 which is installed into a Windows OS computer in the same network.

¹ Communicator – is a part of a protected object burglary or fire alarm system that supports a continuous connection with the control panel and continually communicates with the monitoring station receiver. After an event, receiver transmits an encrypted event message.

UAB Trikdis manufactures communicators for receiving signals (messages) from various manufacturers control panels and communicating with monitoring station receiver RL10 via GPRS, SMS or other internet connection channels. It also manufactures control panels whose communicators communicate with receiver RL10 via GPRS or SMS connection channels.

Technical Parameters

- 1. Two parallel LAN inputs (RJ45) that receive messages sent using TCP/IP and UDP/IP protocols. Messages will be received encrypted in TRK protocols.
- 2. Integrated GSM modem GM5 for receiving messages encrypted in TRK protocols sent via CSD connection and SMS messages.
- 3. Two serial ports RS232 (DB9) for receiving messages from other receiving devices. Receiving protocol Surgard MLR2-DG.
- 4. IP receiver RL10 receives messages sent by UAB Trikdis products:
 - GSM modules G5, G7, G10, G10T v1, G10T v2, G10C, G10D;
 - GSM control panels CG2, CG3, SP131, SP133;
 - Ethernet modules E2, E7, E10, E10T, E10C;
 - Repeaters RR-GSM, RR-IP, R-IP12
- 5. Messages to the monitoring software are transmitted using one serial port RS232 or Etherner connection via computer network. Transmission protocols Surgard MLR2-DG or Monas3.
- 6. Operational parameters are set using software IPcomControl 3 on a Windows OS computer operating in the same network as the receiver.
- 7. Power supply from 50±1 Hz frequency 230 V current AC network. Power consumption under 60 W. Permissible power supply voltage variation limits from 100 to 240 V.
- 8. Optimal operation is ensured when air temperature is between 0 and +55 °C, relative humidity is under 90%, and temperature +20 °C.
- 9. Measurements 450 x 100 x 320 mm (width x height x depth). Mass not exceeding 4,5 kg.

Light Indication and Connections

Front panel of IP receiver RL10.

RLIO	Power	
	Status 🛛	
Proceivar	Event	

Table 1. Front Panel Light Indication

Indicator	Description
Power	green ON - power supply is on
Status	green ON – output to monitoring software is connected red ON – no connection to the monitoring software yellow ON – one fo the outputs is disconnected OFF – output is down
Event	blue ON – message is being transmitted to the output



Table 2. Rear Panel Connectors

Connection	Description
WAN1	1st Ethernet port
WAN2	2nd Ethernet port
ln1	Serial port RS232 for connecting other receiving devices
In2	Serial port RS232 for connecting other receiving devices
Output	Serial port RS232 for output to the monitoring software
Reset	Reset button to restore to factory settings
Antenna	Connector for GSM receiver antenna
AC input	Power supply connection and ON/OFF button
	Grounding terminal
CF	Cap covered memory drive with OS connected to the socket
PS/2	Keyboard connector
VGA	VGA connector for monitor
USB	For manufacturer needs

Equipment

- IP receiver RL10 1 pc.;
- Power supply cable (1.5 m) 1 pc.;
- RS232 cable (1.8 m) 1 pc.;
- LAN cable
 1 pc.;
- GSM antenna
 1 pc.;
- CD containing this User Manual and software IPcomControl 3 for setting parameters 1 pc.

Configuration

Connection

Receiver RL10 is configured with software IPcomControl 3 running on Windows OS computer installed.

- 1. Install IPcomControl 3 on the computer that will be used for IP receiver RL10 configuration.
- Set the IP address of the computer that will be used for IP receiver RL10 configuration so that computer and receiver would work in the same subnetwork. Factory settings of receiver RL10 are specified in the Table 3.

Internet Protocol Version 4 (TCP/I	Pv4) Properties ? 🗙
General	
You can get IP settings assigned auto this capability. Otherwise, you need t for the appropriate IP settings.	omatically if your network supports to ask your network administrator
C Obtain an IP address automatic	ally
Use the following IP address:	
IP address:	192 . 168 . 100 . 100
Subnet mask:	255.255.255.0
Default gateway:	192 . 168 . 100 . 254
C Obtain DN5 server address auto	omatically
🕞 Use the following DNS server ad	ldresses:
Preferred DNS server:	
Alternate DNS server:	
Validate settings upon exit	Ad <u>v</u> anced
	OK Cancel

Table 3. Factory Settings of Receiver RL10				
	WAN1 WAN2			
IP address	192.168.0.2	192.168.100.3		
Port	55000	55000		
Subnet Mask	255.255.255.0	255.255.255.0		

19168.100.254

192.168.0.254

Note:

Press and hold RESET button for 5 seconds (until a sound signal) in order to restore to factory settings.

Gateway

- 3. Use LAN cable to connect WAN2 connector of the receiver to the network connector of the computer that will be used to configure the IP receiver.
- 4. Turn on the power supply of the IP receiver and wait until computer OS loads. Second receiver sound signal will indicate that the receiver has turned on.
- 5. Run *IPcomControl 3* on Windows OS computer. A box will open. Put in the address of your receiver's interface controller (port WAN2).



6. Click **OK**. A box will open. Type in your User Name and the password. Click **Login**.

Login		×
User name		
administrator		
Password		

	1	
	Login	

Note:

Default User Name – *administrator*, password – *admin*.

7. When software *IPcomControl 3* opens, select tab *Configure* and click *Get*. Set the internet addresses of receiver's interface controllers *Primary* (port WAN1) and, if planned to use, *Secondary* (port WAN2) in order to allow the receiver to work in designated networks.

IPComControl [3.1.0.127]	
Ele Options Help	
TCP	GPRS objects 4
	Lost objects 0
GSM modem status System	Events per second 2
Modem Offline GSM Offline Reboot system on failure Reboot	Software version 3.04
General Events Connections Output Configure Time Sounds Data Object Concentrator Users	
Network cards	
CCEC Set	
Primary Secondary	
MAC 00-E0-48-1D-D1-F1 MAC 00-E0-48-1D-D7-13	
IP 192.168. 1 .160 IP 192.168.100. 3	
Subnet 255.255.255.0 Subnet 255.255.0	
Gateway 192.168. 1 . 254 Gateway 192.168.100.254	

8. Click *Set*. Receiver will reboot automatically.

Note. Log in to the receiver via LAN using new addresses if addresses of network interface controller *Secondary* were edited.

- 9. Use network cable to connect WAN1 connector to the network that will be used by the receiver to receive messages that communicators will address using the set *Primary* address. Use network cable to connect WAN2 connector to the network that the receiver will use to receive messages that communicators will address using the set *Backup* address.
- 10. Run IPcomControl 3 on a Windows OS computer in the same network as the receiver in order to connect to the receiver using LAN network. Type in the address of the receiver's network interface controller, the User Name and the password into the prompt boxes to log in.

Configuration

11. A window will open. Click *Read* to read the current configuration of the receiver.

Tab **General**.

IPcomControl program version	code R 313.
IPComControl [3.1.0.127] Fle Options Help TCP GSM modem status GSM Offine GSM Offine GSM Offine General Events - N - N - N - N - P - N - P - N - M - P - M - P - M - P - M - P - M - P - M - M - P - M - M - P - M	GPRS objects (GPRS objects (Lost objects 0) Events per second 2 Software version 3.04 Aumber of registered GPRS objects; Aumber of registered SMS objects; Aumber of objects with lost connection; Aessage reception speed; Program version of IPcom.

Image: Section 10 Image: Section 10 Set Message with event code E 762 (GPRS conncetion to communicator is lost) formation parameters: Multiplier – number of PING messages not received by the communicator in IP protocols in a row, NPING Tolerance General Levent: Signal line Signal line Signal line Otherance – time correction, Tolerance Message count for signal lestore Message count for signal lestore Signal line Otherance Signal line Message count for signal lestore Message count for signal lestore Message count for signal lestore Multiplier – number of PING messages not transmitted by the communicator in SMS format in a row, NPING Tolerance Number of received PING or other messages after which a restoration of connection to communicator message will be formed, NPING (R 762 – GPRS, o R 752 – GSM). Number of the receiver and its line		
File getons: bit Communicator is lost) formation parameters: Multiplier – number of PING messages not received by the communicator in IP protocols in a row, N _{PING} Tolerance – time correction, T _{Tolerance} System Rebox Software version 3.04 Signal line GFRS Oterance – time correction, T _{Tolerance} Multiplier – number of PING messages not received by the communicator is lost) formation parameters: Multiplier – oterance Multiplier Oterance Software version 3.04 Message count for signal relator Multiplier Oterance Software version 3.04 Message count for signal relator Multiplier Oterance Software version 3.04 Message count for signal relator Multiplier Oterance Software version 3.04 Message count for signal relator Multiplier Oterance Software version 3.04 Message count for signal relator Software version 3.04 Multiplier Number of PING messages not transmitted by the communicator in SMS formation a row, N _{PING} Versite relation Software version Multiplier Number of received PING or other messages after which a restoration of connection to communicator message will be formed, N _{PING} (R 762 – GPRS, o R 752 – GSM). Number of the receiver and its line Multiplier TOP: 0 Multi	IPComControl	
Image Image Image Image Events identifies Number of received PING or other messages after which a restoration of connection to communicator message will be formed, N _{PING} (R 762 – GPRS, o R 752 – GSM). Number of the receiver and its line TCP: Connected CCM: 0 TCP: 0	Ele Options Message with event code E 762 (GPRS conncetion to communicator is lost) formation parameters: Multiplier – number of PING messages not received by the communicator in IP protocols in a row, N _{PING} GSM modem atau Modem Office GSM modem atau GSM office GSM modem atau GSM modem atau GSM office General Events Value Signal time GPRS Multiplier Color atau Color atau GSM modem GSM modem GSM modem GSM modem	System System Automatically reboot system on failure Reboot Message with event code E 752 (GSM connection to communicator is lost) formation parameters: Multiplier – number of PING messages not transmitted by the communicator in SMS format in a row, N _{PING} Tolerance – time correction, T _{Tolerance}
Everts identifies Receiver nr. Line nr. 1 Communicator message will be formed, N _{PING} (R 762 – GPRS, o R 752 – GSM). Number of the receiver and its line TCP: Connected COM: 0 TCP: 0		
TCP: Connected COM: 0 TCP: 0	Events identifiers Receiver nr. 2 = Number of received PING or othe communicator message will be fo Number of the receiver and its line	r messages after which a restoration of connection to rmed, N _{PING} (R 762 – GPRS, o R 752 – GSM).
	TCP: Connected COM: 0 TCP: 0	li.

Formation time of the message about lost connection with GPRS/Ethernet communicator:

$$\label{eq:T_message} \begin{split} T_{\text{message}} &= T_{\text{PING}} \; x \; N_{\text{PING}} + T_{\text{Tolerance}} \\ T_{\text{PING}} &- \text{PING} \; \text{message sending period in seconds.} \\ N_{\text{PING}} &- \text{number of not received PING messages in a row.} \\ T_{\text{Tolerance}} &- \text{time correction coefficient in seconds.} \end{split}$$

Receiver will form message with event code E 762 (connection to communicator is lost) and will send it to the monitoring software if no message is received during the set control time $T_{message}$.

Receiver will form message with event code R 762 (connection to communicator is restored) and will send it to the monitoring software if the number of PING or other messages received from the communicator during the control time $T_{message}$ is equal to the number in the box *GPRS*.

Message formation times (when connection to SMS communicators is lost/restored) are calculated in the same way. However, PING message sending periods *via SMS* by the communicator are put into the formulas, and values of *N* and *Tolerance* are taken from the boxes *GSM*.

Tab *Events*. The list of possible events is displayed under this tab. In case of an event, receiver will form a message with the list code *Event code* and will send it to the monitoring software.

IPComControl [3.1.0.127]			
Eile Options Help			
			GPRS objects 4 SMS objects 0 Lost objects 0 Events per second 2
GSM modem status Modem Offline GSM Offline		System Automatically reboot system on failure Reboot	Software version 3.04
General Events Connections Output Configure Time	Sounds Data Object Concentrator Users		
Event name	Event code		
Lost GPRS connection	E 762 99 000		
Restored GPRS connection	R 762 99 000		
Lost GSM connection	E 752 99 000		
Restored GSM connection	R 752 99 000		
Massive connection lost	E 704 99 000		
Massive GPRS connection restore	R 764 99 000		
Massive GSM connection restore	R 754 99 000		
WAN ping timeout	E 732 99 001		
WAN ping restored	R 732 99 001		
GSM modem no response	E 753 99 000		
GSM modem responded	R 753 99 000		
GSM connection is offline	E 751 99 000		
GSM connection is online	R 751 99 000		
WAN cable disconnected	E 733 99 001		
WAN cable connected	R 733 99 001		
Receiver no heart beat	E 713 99 001		
Receiver heart beat restored	R 713 99 001		
System rebooted	R 313 99 000		
System started	R 305 99 000		
GSM device mode	R 755 99 000		
Connection trouble	E 350 99 000		
Connection restore	R 350 99 000		
TCP: Connected COM: 0 TCP: 1	0		

Tab Connections.

📫 IPComControl [3.1	1.0.127]	
<u>File</u> Options <u>H</u> elp		
TCP TCP GSM modem status Modem Offline GGM Offline General Events Cor GPRS TCP server settin Server port TID00 GPRS UDP server settin Server port TID00 COPEN	Program IPcom message receiving port numbers. Object alarm communicator messages in TCP/IP or UDP/IP protocols from external networks (that get into LAN network) must be forwarded to these ports. Started – port is open.	PRS objects 4 45 objects 0 vents per second 2 oftware version 3.04
Server port	Message decryption password (default 123456). Message encryption password set in communicator has to be the same as message decryption password set in the receiver.	
C SMPP C None	If the option <i>Trikdis</i> is selected, integrated GSM modem will be enable receiver will be able to receive SMS messages from communicators. <i>SMPP</i> option must be selected for receiving SMS messages via <i>SMPP</i> so Connection to SMPP parameters must be set in the tab <i>SMPP receiver</i>	ed and the service. rs.
TCP: Connected	COM: 0 TCP: 0	

Tab **Output**.

Ele Options Help TCP	
TCP	
	GPPS objects 4 SMS objects 0 Lost objects 0 Events per second 3
GSM modem status Modem Offline GSM Offline	System V Automatically reboot system on failure Reboot Software version 3.04
General Events Connections Output Configure	Monitoring program IP addresses. Put in the values and select <i>Started</i> when data exchange between the receiver and the monitoring program is carried out via LAN.
Comport Bitrate 9600 V V Started	Set data exchange speed and select <i>Started</i> when data exchange between the receiver and the monitoring program is carrid out via port RS232.
General lost/restore settings 10 gr objects per Hearbit Hearbit Output mode © Surgard	Message E 704 (connection to multiple communicators is lost) formation parameters. Message will be formed when connection to the set number of communicators is lost in a specified amount of time, for example, connection with 10 communicators is lost in 1 second.
C Monas3	erval of conection control message sent to monitoring program. essages E/R 713

Tab *Configure* (Network settings).

* IPComControl [3.1.0.127]		
Eile Options Help		
TCP		GPRS objects 4 SMS objects 0 Lost objects 0
GSM modem status	System	Events per second 2
Modem Offine GSM Offine	Automaticaly reboot system on failure Reboot	Software version 3.04
General Events Connections Output Configure Time Sounds Data Object Concentrator Users		1
Network cards		
Primary Secondary		
MAC 00-E0-48-1D-D1-F1 MAC 00-E0-48-1D-D7-13		
IP 192.168. 1 .160 IP 192.168.100. 3 LAN1 and LAN2 ne	etwork settings.	
Subnet 255.255.255.0 Subnet 255.255.255.0		
Gateway 192.168. 1 .254 Gateway 192.168.100.254		
Ping Ping Ping Ping Ping Ping Ping Ping		
IP 0.0.0.0 IP 0.0.0.0 IP address of remote s	erver to which control signal PING	will be sent
Every 2 4 . Every 3 4 . with set periodicity. In th	nis case the receiver will be able to e	examine the
quality of message trans	mission via LAN1 and LAN2. Event of	codes E/R 732.
TCP: Connected COM: 0 TCP: 0		

Notes:

- 1. Receiver will reboot automatically when internet addresses are edited and Set is clicked on. Event code R 313.
- 2. Prepare the local network (LAN) in a way that information in TCP or UDP protocols from open internet would reach ports WAN1 and WAN2 of the receiver RL10 (forward the ports).

Tab *Sounds*. Set the events upon which the receiver will sound a signal.

# IPComControl [3.1.0.127]			_ 🗆 🗙
File Options Help			
TCP			GPRS objects 4
			SMS objects U Lost objects 0
- GSM modern status	System		Events per second 2
Modem Offline		Behoot	
GSM Offline	Automatically reboot system on railure		Software version 3.04
General Events Connections Output Configure Time Sounds Data Object Concentrator Users			
Events			
Sound on new event			
Sound on TCP buffer not empty			
Sound on COM buffer not empty			

Tab **Concentrator**. Set addresses to which all received messages are additionally transmitted. Message filtering and conversion parameter settings.

IPComControl [3.1.0.127]	
Eile Options Help	
TCP □	Server IP address and port number of the monitoring program to which all received messages are transmitted without processing. Receiver transmits messages when [Started] is checked. Messages are sent according Contact ID code table when [Standard messages] is checked.
Edit Active 2 9500 8N1 2 9500 8N1 None Active 2 Activate/Deactivate Filer settings Net Time 08 0 True False 08 2	ration of serial ports In1 and In2. – edit port parameters. /ate/Deactivate – change port status to active/inactive. ▲ to save. Not filered Turneling V Receiver no. 2 Line no. 2
Add filter Remove filter	
TCP: Connected COM: 0 TCP: 0	

- Use box *Filter settings* to set message filtering parameters. Filter operation is displayed in Annex 1. Click *Add filter* to open tab *Filter settings*. Set the rules for transmission of messages sent via IP connection channels to the monitoring software:
 - Type in the number of the network in the field *Network*. Network number is set according to the number of the receiver in the message;
 - Type in the inactivity time for the same signal (or recurrent messages) in the box *Time*;
 - Type in the receiver number indicated in the processed message in the box *Receiver no*;
 - Type in the number of the receiver line indicated in the processed message in the box *Line no*;
 - Check *Convert* if the structure of filtered messages needs to be edited;
 - Check *Tunneling* if structure of filtered messages does not need to be edited;

Note: Tunneling – let through without edits; Convert – write in set receiver and line numbers, and edit the order of displayed information in the radio message;

Filter setting	s		×
Network	8	÷	
Time	0	▲ S.	
Receiver no.	8	Line no.	2
Convert	◄		
Tunneling			
Events one p	er line		
			<u> </u>
			~
ОК	1	C	Cancel

- Type in special event codes that are used in RAS-2M system to turn off repeated messages in the system in the field *Events one per line*.
- Click **OK** to save new values. Several new filters can be formed and used.
- Check *Tunneling* in the field *Not filtered* to transmit message to the monitoring software using receiver and line numbers indicated in the tab *General*.
- > Messages are transmitted using set receiver and line numbers if *Tunneling* is unchecked.

User login name	User login password		Access to sum information a with <u>commun</u>	marised bout connection icators						
IPComControl [3	.2.3.144]								_	
File Options Help								F		
									SMS objects Lost objects	200
GSM modern status Modern Offline GSM Offline						System	omaticaly reboot system on failu	re Reboot	Software version	3.05
General Events Cor	nnections Output Configure Ti	ime Sounds	Data Object Concer	ntrator SMPP receivers User	18			L		
Delete user					Use	permissions				
User name	Password	Settings	Device info	Remote configuration	View events and object	ts Set zone bypass	Set PGM status	Arm/Disarm system	Perform Fire reset	
				Click to ad	d new user					_
administrator	admin	Enabled	 Enabled 	 Enabled 	 Enabled 	▼ Enabled	Enabled	Enabled	Enabled	-
1	adm	Enabled Disabled	 Enabled Enabled 	 Enabled 	 Enabled Enabled 	 Enabled Enabled 	Enabled Enabled	Enabled	Enabled Enabled	
User is forbidd to the function User is p <i>Read-on</i> function	den to access n provided with <i>by</i> access to the	Disabled Read-only Enabled	User is provide access to the f	d with full unction						
Ter Connected	j jeon. o	Jicr. v								
A p E C C	cccess to setting up of arameters (to tabs Go vents, Connections, O configure Time, Sound concentrator, Users)	receiver eneral, utput, s,		Access to remote setting up of parameters for control panels and communicators	Access to tabs Data and Objects	Access to remote changing of PGM status control pane and communicat	Access to remote ls bypassing of control ors panels' zones	Access to remote ARMing/ DISARMing of control panel	Access to remote resetting of fire detecto	ors

Tab *Users*. Create program users and set access rights.

12. Click **Write** to save the edits into the receiver memory.

Computer Network Configuration

IP receiver is connected to the local network in the same way as any other computer. Recommended local network scheme is shown in the picture below.



Preparing the receiver for operation

- Connect Output. Use RS232 cable to connect receiver's Output to the computer with installed monitoring software.
- 2. Connect LAN networks to WAN connectors.
- Connect GSM antenna and insert SIM card if GSM modem GM5 is used. SIM card PIN code must be disabled. Take off side and top covers of the receiver and insert SIM card into the modem as shown in the picture below. Put side and top covers back on.



4. Turn on the power supply.

Turn on the power supply by pressing the button **Power** after all wiring is done. Indicator **Power** should light up. Receiver computer software will start loading. It may take several minutes. Equipment will start working after a sound signal.

- 5. Run IPcomControl 3. Click **Connect** 2, then **Read** and set current receiver parameters.
- Set the current time of the receiver.
 Set the receiver clock in the tab *Time*. Click *Set to PC time* to save.

IPComControl [3.1.0.127]		
Ele Options Help TCP ☐ 万 ① ◆ ◆ ① GSM modem status	∵ Sviten	GPRS objects 4 SMS objects 0 Lost objects 0 Events per second 2
Modem Offline GSM Offline	Value Automatical	ly reboot system on failure Reboot Software version 3.04
General Events Connections Output Configure Configuration IPCom time 21:31:07 Get time Set time 00:00:00 Set to PC time PC time 21:42:37	Time Sounds Data Object Concentrator Users	
TCP: Connected COM: 0	TCP: 0	li l

Operation

Receiving Messages

Received messages can be seen in the tab *Data*. Click *Clear* to delete all entries.

* IPComControl [3.1.0.127]		
Elle Options Help		
		GPRS objects 3 SMS objects 0 Lost objects 0 Events per second 3
GSM modern status	System	L vents per second 5
Modem Offine	E Automotively set and an test and failure Behaot	
GSM Offline	Automaticaly reboot system on failure	Software version 3.04
General Events Connections Output Configure Time Sounds Data Object Concentrator Users		··
Show incoming events Show incoming pings		
1014 02 17 12:56 25 0201 11840006 780FF00 2014 02 17 12:55 85 2021 11840006 780FF00 2014 02 17 12:55 85 2021 11840006 780FF00 2014 02 17 12:55 85 2021 1840006 780FF00 2014 02 17 12:56 85 2021 184000 780FF00 2014 02 17 12:56 85 5021 184000 780FF00 2014 02 17 12:27:05 15:021 181010 780FF00 2014 02 17 12:27:25 5021 184000 780FF00 2014 02 17 12:27:25 5021 184000 780FF00 2014 02 17 12:27:85 5021 184000 780FF00 2014 02 17 12:28:42 5021 184000 780FF00 2014 02 17 12:28:45 5021 184000 780FF00 2014 02 17 12:28:23 5021 184000 780FF00		
TCP: Connected COM: 0 TCP: 0		1.

Registered object list is displayed in tab *Object*. It contains:

- ID object's number;
- Status connection status;
- Level GSM connection strength;
- IP transmission module address;
- GPRS last ping date ant time of the last IP message;
- ▶ GPRS ping interval connection control period of IP channel messages;
- Phone subscription number of transmission module (communicator) SIM card;
- GSM last ping date and time of the last message received via GSM;
- SSM ping interval connection control period of GSM connection messages;
- Type transmission module type;

- Device version transmission module program version;
- ▶ IMEI/MAC transmission module IMEI or MAC number.

IPComControl [3.1.0.127]					
Eile Options Help					
TCP					GPRS objects
					Lost objects
GSM modem status			System		Events per second
Modem Offline			Automaticalu reboot sustem	on failure Reboot	
GSM Offline			I natomotody roboti tytici		Software version 3.04
General Events Connections Output Configure	Time Sounds Data Object Conce	entrator Users			
		- I .			5 U 004/0 1
Refreshillst Search U Remove	object All Merresh list every: 10	seconds			Export to USV rile
ID Status Level IP	GPRS last ping GPRS ping	g int Phone GSM last	ping GSM ping inte	Type Device version	IMEI/MAC
0001 Waiting for GPRS message 7 188.	1.69.199.234 2014.02.17 12:22:52 120	N/A N/A	No Pings	CG3 N/A	N/A
1111 Waiting for GPRS message 7 84.1	15.178.239 2014.02.17 12:22:24 90	N/A N/A	No Pings	G10 G10Tv2_0137	862170012746671
4000 Waiting for GPRS message 9 188.	1.69.213.215 2014.02.17 12:22:55 30	N/A N/A	No Pings	SP133 SP133_131219	012896004275829
TCP: Connected COM: 0	TCP: 0				

Use function **Search** to quickly find the data row for required object burglary or fire alarm communicator; function **Remove object** – to delete a selected line from the list; function **Refresh list** *every: seconds* – to set list update period; click *Export to CSV file* – to create a list of registered objects (communicators) in a CSV file that can be opened using, for example, MS Office program Excel.

Remote Programming of Transmission Modules

Settings of the object transmission module can be set remotely.

a) setting up parameters for one transmission module

Right-click on the selected transmission module to open the menu and open the program to set the parameters. Log in, read current parameters and set them the according to the transmission module user manual. Save into the module memory.

IPComControl [3.1.0.127] Sin Onlines Hale			
			GPRS objects 4 SMS objects 0 Lost objects 0
GSM modem status Modem Offline GSM Offline		System Automatically reboot system on failure	Reboot Software version 3.04
General Events Connections Output Configure T	ime Sounds Data Object Concentrator Users		
Refresh list Search 0 Remove of	bject All 🔽 Refresh list every: 10 🜩 seconds		Export to CSV file
ID Status Level IP	GPRS last ping GPRS ping int Phone GSM last	ping GSM ping inte Type De	vice version IMEI/MAC
0001 Waiting for GPRS message 7 188.69.	199.234 2014.02.17 13:18:52 120 N/A N/A	No Pings CG3 N/A	A N/A
2002 Waiting for GPR5 message 7 84.15.1 2002 Waiting for GPR5 message 9 100.09	202 C0 2014 02 17 13 19:27 20 N/A N/A 202 C0 2014 02 17 13 19:27 20 N/A N/A	No Pings G10 G1 No Pings G10 G1	JTV2_0137 862170012746671 0.0155 962170010214142
4000 Waitry Configure multiple modules Remote control	213215 2014.02.17.13.19.26 30 N/A N/A	NoPings SP133 SP	33 <u>,</u> 131219 012896004275829
TCP: Connected COM: 0	TCP: 0		li.

Note:

Logging in, reading and saving might take several minutes. Program will indicate when the next action is available.

Log off when finished. Module will reboot and will automatically resume reporting to the receiver after a certain time period.

b) setting up parameters of multiple modules at once

Right-click on any security module to open the menu and select *Configure multiple modules*.

• IPComControl [3.1.0.127]	_ _ X
File Options Help	
	GPRS objects 4 SMS objects 0 Lost objects 0
GSM modem statu: System System GSM Diffine GSM Diffine	Reboot Software version 3.04
General Events Connections Output Configure Time Sounds Data Object Concentrator Users	
Refresh list Search 0 Remove object All 🔽 Refresh list every: 10 🚖 seconds	Export to CSV file
ID Status Level IP GPRS last ping GPRS ping int Phone GSM last ping GSM ping inte Type De	evice version IMEI/MAC
0001 Waiting for GPRS message 7 188:63:199.234 2014 02:17 16:04:50 120 N/A N/A No Pings CG3 N/A	/A N/A
11111 Waiting for GPRS message 8 84,15,185,252 2014,02,17,16,0521 90 N/A N/A N/A No Pings G10 G1	101v2_0137 862170012746671
4000 Walk Configure modules Remote control	P133_131219 012896004275829
TCP: Connected COM: 0 TCP: 0	

A new window will open. Specify the sequence of transmission modules to be reprogrammed and put in the new parameters in the tab *Data fields*.

Specify the sequence (from...to) of transmission modules undergoing the edit of parameters in the section *Select objects*.

Click **Get object list** to open the list of all modules within the specified limits on the right side. Serial module numbers, IP addresses, module types and their program versions will be indicated in the list. If transmission modules of different types are displayed, deselect to eliminate from the list.



Indicate only those parameters that will be edited in sections *Primary reporting* and *Backup reporting*. Specify APN, User, Password and DNS data if parameters of connection to the network operator will be edited. Select *Repeat operation for failed module* and specify the period value if connection control period is to be edited. Click *Start programming* to start a process of parameters edit. It may take several minutes. Program will inform once the process is finished. Click *Stop* to terminate the process.

c) upgrading firmware for multiple modules

Right-click and select *Configure multiple modules* to program multiple modules.

A new window opens. Specify the sequence of modules to be repgrogrammed and program versions in the tab *Data fields*.



Check **Program modules with firmwares** and type in the sequence of program versions. Click **Select firmware file** and locate the file with extension *.prg.

Click *Start programming* to start the process of parameters edit. It may take several minutes. Click *Stop* to terminate the process.

Program versions of the modules are displayed in the tab *Objects* once process is finished.

Remote Control of Transmission Devices

Transmission module in the object can be controlled remotely. It is important for the transmission module to support this function (not all manufactured transmission modules supports it).

PIConControl[3.2.1.139]	_ 🗆 🗙				
File Options Help					
	GPRS objects 3 SMS objects 0				
GSM modem status System	Events per second 2				
Modem Offline					
GSM Offline	Software version 3.05				
General Events Connections Dutput Configure Time Sounds Data Object Concentrator SMPP receivers Users					
Refresh list Search 0 Remove object AI 🔽 Refresh list every. 10 🚖 seconds	Export to CSV file				
ID Status Level IP GPRS last ping GPRS ping int Phone GSM last ping GSM ping inte Type Device version IMEI/MAC					
4000 Waiting for GPRS message 2 198 69 194 93 2014 03.16 11:09:46 30 N/A N/A No Pings SP133 SP133_140225 012896004275	829				
5000 Connection last 5P133 14.156 2014.03.05 15:09:13 30 N/A N/A N/A No Pings G10 N/A N/A N/A					
5000 Waiting for GPRS message Remote control 14.154 2014.03.16 11:09:32 30 N/A N/A N/A No Pings G10 G10_0156 862170010314	142				
7777 Connection lost F 188.69.196.172 2014.03.05 16.36.22 30 N/A N/A N/A N/A SP133 SP133_140225 012896004275	1829				
9999 Waiting for GPRS message 9 188.69.192.199.2014.03.16.11:08:54 90 N/A N/A No Pings G10 G10_0155 862170010273	/330				
TCP: Connected COM: 0 TCP: 0	1.				

Right-click on the selected transmission module to open the menu and select *Remote control.*

A new window will open. Indicate the actions you would like to take and click *Write zone* and *Write output* at the bottom of the window. Click *Refresh* to refresh the window and check the edits.

Hardware name: : Object id: 4000 Object UId: 01289 Online	5P133 96004275829 			Outouts				
	Name Zone1 Zone2 Zone3 Zone4 Zone5	Status Ready Ready Ready Ready Bypassed	Bypassed	Name Output Output Output	Types 1 Bell 2 State 3 Ready	Status Off On On	On V V	
	Zone6 Zone7 Zone8	Ready Ready Ready						
		Write zon	e		Wri	te output		
System status: Ar	med						Refresh	

Click **X** (Close) to close the window once finished.

Receiver's Internal Event Messages

There is receiver RL10'th internal event code list in the table below.

Please find conditions for generating of Internal Event Messages and sending them to the monitoring software in the same table below.

	Name		Interna	Event Messa				
Event Code C ID					Editing Allowed			Event message will be generated if:
		Receiver No	Line No	Account No (Object ID)	Event Code	Partition No	Zone No	
E762	GPRS connection lost	Pre-set Receiver No	Pre-set Receiver's Line No	Object ID transferred by Tx Module				Object's Tx Module operates in GPRS mode; No any signal out of Tx Module within pre-set check time; Type of Tx Module is known; Switched on receiving via GSM modem/SMPP; At least one SMS message has been received from Tx Module; Massive GPRS connection loss has not been detected;
R762	GPRS connection restored	Pre-set Receiver No	Pre-set Receiver's Line No	Object ID transferred by Tx Module				Object's Tx Module operates in GSM mode; Pre-set number of messages has been received to define GPRS connection restoration; Massive GPRS connection restoration has not been detected;
E752	GSM connection lost	-	-	-	V	V		N/A
R752	GSM connection restored	-	-	-	V			N/A

E704	Massive Communication loss	Pre-set Receiver No	Pre-set Receiver's Line No	0000 hard- coded	V		⊠ (000)	Pre-set number of either GPRS or GSM connection losses per second has been detected
R764	Massive GPRS communication restore	Pre-set Receiver No	Pre-set Receiver's Line No	0000 hard- coded			⊠ (000)	Pre-set number of GPRS connection restorations per second has been detected;
R754	Massive GSM restore	Pre-set Receiver No	Pre-set Receiver's Line No	0000 hard- coded	V		⊠ (000)	Pre-set number of GSM connection restorations per second has been detected;
E732	WAN ping timeout	Pre-set Receiver No	Pre-set Receiver's Line No	0000 hard- coded	V	Ø	🗵 (ETH No)	3 times in turn there is no answer signal from "PING" addressee (Object's Tx Module);
R732	WAN ping restored	Pre-set Receiver No	Pre-set Receiver's Line No	0000 hard- coded	V	V	⊠ (ETH No)	Connection loss with particular Ethernet controller has been detected; There is at least one answer signal received from "PING" addressee (Object's Tx Module);
E753	GSM modem no response	Pre-set Receiver No	Pre-set Receiver's Line No	0000 hard- coded	V	Ø	区 (000)	GSM modem answer signal has not been received within 10 seconds;
R753	GSM modem responded	Pre-set Receiver No	Pre-set Receiver's Line No	0000 hard- coded			⊠ (000)	Connection loss with GSM modem has been detected; At least one message has been received from GSM modem;
E751	GSM connection is offline	Pre-set Receiver No	Pre-set Receiver's Line No	0000 hard- coded		V	⊠ (000)	GSM modem notifies with service message that it's lost GSM connection; At least 1 minute has gone past from system start;
R751	GSM connection is online	Pre-set Receiver No	Pre-set Receiver's Line No	0000 hard- coded			⊠ (000)	GSM connection loss has been detected; GSM modem notifies with service message that it has restored GSM connection;
E733	WAN cable disconnected	Pre-set Receiver No	Pre-set Receiver's Line No	0000 hard- coded			🗵 (ETH No)	NET cable has been plugged out of particular Ethernet controller;
R733	WAN cable connected	Pre-set Receiver No	Pre-set Receiver's Line No	0000 hard- coded			🗵 (ETH No)	NET cable plugging out has been detected; NET cable has been plugged into particular Ethernet controller;
E713	(COM) Receiver no heart beat	Pre-set Receiver No	Pre-set Receiver's Line No	0000 hard- coded			⊠ (COM No)	No signal has been received per minute via COM input;
R713	(COM) Receiver heart beat restored	Pre-set Receiver No	Pre-set Receiver's Line No	0000 hard- coded	V		⊠ (COM No)	COM input loss has been detected; At least one signal or message has been received via COM input;
R313	System rebooted	Pre-set Receiver No	Pre-set Receiver's Line No	0000 hard- coded			⊠ (000)	Reboot command created by IPcomControl has been received; H/W fail occurred while signals via COM input were received;
R305	System started	Pre-set Receiver No	Pre-set Receiver's Line No	0000 hard- coded			⊠ (000)	IPCom has started;
								Object's Tx Module operates in GPRS mode; A Message has been received via GSM;
R755	GSM device mode	Pre-set Receiver No	Pre-set Receiver's Line No	Object ID transferred by Tx			V	Object's Tx Module operates in GSM mode; The FIRST message has been received via GSM;
				Module				Connection loss with Tx Module has been detected; Pre-set number of messages has been received via GSM to define GSM connection restoration;

E350	Connection trouble	Pre-set Receiver No	Pre-set Receiver's Line No	Object ID transferred by Tx Module	Ø	V	Object's Tx Module operates in GPRS mode; Massive GPRS connection loss has not been detected; Either Tx Module is unable to transfer messages via GSM or no messages has been received out of Tx Module via GSM; No messages out of Tx Module within pre-set check time;
							Object's Tx Module operates in GSM mode; No messages out of Tx Module within pre-set check time; Massive GSM connection loss has not been detected;
R350	Connection restore	Pre-set Receiver No	Pre-set Receiver's Line No	Object ID transferred by Tx Module	Ø		Connection loss with Object's Tx Module has been detected; Massive GPRS connection restoration has not been detected; Pre-set number of messages has been received via GPRS to define GPRS connection restoration;
							Connection loss with Object's Tx Module has been detected; Massive GSM connection restoration has not been detected; Pre-set number of messages has been received via GSM to define GSM connection restoration;



Algorithm of concentrator filtering



Example of radio message (encrypted in RAS-2M) filtering

Annex 2. Data Output message format

Output message format: 50RLs18AAAAEEEEPPZZZT

- 50 =Basic protocol
- R =Receiver Number
- L =Line Number
- s =space
- 18 =the token used to identify the message as Contact ID
- AAAA =Account Number (Object ID)
- EEEE =Event code
- PP =Partition Number
- ZZZ =Zone Number
- T =Terminator (DC4)

True message example: 5021 180000E71399001<DC4>