

SIRIDI

Operator Manual

IP Communication Module

Version: 1 Revision: 1

Contents

Introduction	3
Basic connection & operation diagram	_4
Modes of Operation	6
Preset IP – Mode 0	6
Preset IP with PSTN follow up – Mode 1	7
IP from alarm panel – Mode 2	7
PSTN only – Mode 3	8
Connection and Configuration	9
Reset to defaults	.10
Temporary defaults	11
Full factory defaults	_12
LED indications	13
Web Interface	15
Logging In	.15
PGM Control	18
PSTN State	.18
No-IP Settings	19
Wake On Lan	_21
Sirion Configuration	.22
Current Settings	.22
Configure new Settings	25
Communication Protocol	.26
Change Password	.28
Troubleshooting	.30

Introduction

The **SIRION** IP communication module offers the capability to connect any burglar alarm panel to a central monitoring station using any existing TCP/IP connection (eg ADSL).

This way, it provides frequent communication and events reporting to the monitoring station with no extra calling charges for the owner of the system. It is ideal for installations that don't have a conventional (PSTN) phone line, especially when VoIP telephony is used in the installation; only internet access is required.

Any alarm panel regardless of manufacturer and type can be connected to Sirion, as long as it uses the Contact ID or Ademco Express communication formats.

Minimal programming and very easy set up are key factors that help the installer to this task.

It offers easy and economic upgrade for existing installations (communication wise); older panels can support modern communication methods without the need to replace the equipment.

Friendly web interface or serial connection to a PC are the ways with which the installer can easily configure Sigure according to the needs of any installation.

Basic connection & operation diagram



- 1. Alarm Panel
- 2. SIRION Device
- 3. Home Router
- 4. Uninterruptible Power Supply (UPS) unit
- 5. Internet

- 6. Monitoring Station's Router
- 7. SIRION Receiver (server)
- 8. PSTN Network
- 9. Signal Receiver
- 10. Monitoring Station's Server

SIRION - IP Communication Module

- a. The Alarm Panel is connected to **SIRION** via the TIP and RING lines.
- b. SIRIDN is either powered from the AUX output of the Alarm Panel or from some other power supply. It is good practice to use an uninterruptible power supply, e.g. SIRIDN with a UPS. SIRIDN must also be connected to a router which enables it to have access to the internet. In the case that the router can not access the internet SIRIDN can reroute the alarm panel's communication through the PSTNetwork (if properly programmed).
- c. The UPS unit is a backup power supply device which supplies the devices connected to it with power in case of a mains power supply loss.
- d. The internet is the world spanning computer network, through which data can be transferred from one computer to another regardless of their physical location.
- e. The monitoring station's router is the network point on which all SIRION devices connect to transfer the alarm panel's signals.
- f. The monitoring station's PC (Receiver PC) accepts the encoded incoming events from all **SIRION** devices and sends them to the monitoring station console. It first decodes the events and then converts them into a format that the monitoring station software supports.
- g. The PSTNetwork is the network that telephone devices use to communicate between one another. Depending on the circumstances the alarm panel can use this network to send its events using DTMF tones.
- h. The PSTN Signal Receiver accepts telephone calls from alarm panels and after decoding the DTMF signals it relays them to the monitoring station's console.
- i. At the Monitoring Station the user can monitor all the events that have been sent by the alarm panels.

Modes of Operation

During the reporting of events to a monitoring station, the alarm panel "sees" a conventional PSTN line as the communication medium and so the reporting method is not in any way affected. The PSTN line is provided by SIRIDN's hardware and is monitored for activity. When the alarm panel tries to call the monitoring station, it dials a telephone number. This telephone number must be prefixed with a digit before the actual phone number. This prefix is interpreted by SIRIDN as a command that defines 4 different modes of operation. The following paragraphs describe these modes:

Preset IP – Mode 0

With prefix 0, SIRIGN ignores the rest of the telephone number and tries to connect to the IP address that has been pre-programmed in it's memory. This IP address corresponds to the monitoring station's static IP address. Once connected the events from the alarm panel are sent through TCP/IP. In case of connection failure SIRIGN will try to connect to the secondary destination IP (if used). If this fails too the alarm panel will report trouble in communication (locally).

Preset IP with PSTN follow up – Mode 1

With prefix 1, SIRIDN tries to connect to a pre-programmed IP address. This IP address corresponds to the monitoring station's static IP address. It is programmed through SIRIDN's Web Interface or serial connection. If the connection succeeds then the rest of the phone number is ignored and the events are sent via TCP/IP.

If the connection fails the secondary Destination IP will be tried. If it either fails or is not programmed, SIRIDN switches the line to PSTN and the panel dials the rest of the number in the conventional way. When the alarm panel finishes sending its events through PSTN and hangs up, SIRIDN resumes control of the line.

When using this mode the installer must add a pause after the first digit and before the real telephone number to give **SIRION** the time to try the connection and in case of a failure to switch over to the PSTN line. If both destination IPs are used (primary and secondary) this pause must be even longer (the insertion of two "pauses" in the phone number of the alarm panel is recommended).

IP from alarm panel – Mode 2

With a prefix of 2, SIRIDA will treat the following telephone number programmed in the alarm panel as an IP address. The telephone number's digits are in fact the IP address of the monitoring station we want to connect to. Every octet must be stored with

whole 3 digits adding zeros where appropriate. e.g. Programming the alarm panel to call number 2192168000032 would result in **Siriun** trying to connect to the IP address 192.168.0.32. Note the initial "2" that defines the current operation mode.

PSTN only – Mode 3

If the prefix is 3 then SIRION will not use TCP/IP connection and will switch to the PSTN line so that the alarm panel can call the rest of phone number digits in the conventional way.

The installer must add a pause after the first digit to give Sinin time to switch over to PSTN.

If the first digit dialed is any other than the above four, the operation will be ignored (unknown command). Eventually the Alarm Panel will produce a local communication failure indication.

Connection and Configuration

SIRION is very easy to connect and set up. It connects to the TIP/RING input of the alarm panel and provides it with a simulated telephone line.

It requires 12V DC to function so it can be powered either by the alarm panel or a separate power pack.

It connects to the Local Area Network (LAN) with a standard RJ45 Ethernet connector. A normal PSTN line can be connected to SIRIDN to provide backup in case the TCP/ IP connection fails.

SIRION has 2 PGM outputs which can be used as desired and activated / deactivated from it's web interface.

There are two ways to assign an IP address to **SIRION**. By using DHCP it will acquire its IP address, subnet mask and internet gateway from a LAN DHCP server (usually the ADSL modem) without any actions from the installer. If a DHCP server is not present then its IP address can be configured either from its web interface or via the RS232 (serial) interface.

SIRIDN can be configured in the following ways:

- through serial connection (with an adapter board provided as an option) and the use of any serial terminal software (e.g. Hyper Terminal) or

- through HTTP and any web browser (e.g. Internet Explorer) using Siriun's web interface.
- with the use of SIRION Network Utility (a win32 program).

Using the web interface the installer directs the browser to the IP address and port of the module (10002)(e.g. If the IP address of the module is 192.168.0.232 then the web interface can be found at http://192.168.0.232:10002). Once connected to SIRIDA a password is required to continue.

The factory default IP address is "192.168.0.232" and the default password is "1234". No DHCP server must be present on the LAN or else the DHCP overrides the factory default.

SIRUDN can also act as a No-IP client. No-IP (www.no-ip.com) is a free dynamic DNS service. By creating a free account at No-IP and activating the No-IP client (from the web interface), **SIRUDN** can be accessed from any Internet enabled browser. This is ideal when an internet connection with a dynamic IP is used.

Reset to defaults

In the case that the IP address of the module is not known the following procedures may be used to temporary or permanently restore default and known values:

Temporary defaults

In this state SIRION boots to the predefined IP address 192.168.0.232 with subnet mask 255.255.255.0 gateway 192.168.0.1, DHCP off, http password 1234 and simple unencrypted transmission protocol.

This mode is used only for initial setup and/or tests and the above values are not saved after a reboot.

Any modifications in the Web interface may be permanently saved and will become active immediately after the "Apply" button is pressed.



Picture 1. "DEF" pins

To activate the temporary default values, remove power from SIRIDN, place the jumper bridging the pins marked as "DEF" and reapply power. There is a 10 seconds delay before SIRIDN is active in this mode. During this delay 6 of the 8 LEDs are operated in a "search" fashion, being lit one at the time.

Make sure that the jumper is placed on the correct pins as shown in picture 1. Failing to do so, may cause hardware damage to the device.

Full factory defaults

This procedure will permanently restore the factory default values to the following:

IP address 192.168.0.232, subnet mask 255.255.255.0, gateway/DNS server 192.168.0.1, DHCP on, http password 1234, simple unencrypted transmission protocol, destination IP 192.168.0.214 and destination port 7700.

To perform a full reset, remove power from SIRIDN, place the jumper bridging the pins marked as "DEF" and reapply power. There is a 10 seconds period during which 6 of the 8 LEDs are operated in a "search" fashion being lit one at the time. During this period remove and replace the jumper. All LEDs will turn on and after a while off indicating a successful reset.

LED indications

There are 8 LEDs in two groups of 4. These LEDs have the following functions:

LED	Description	Function
1	POWER	Lit when SIRION has power
2	ETHERLINK	Ethernet link: ON when SIRION is connected to an ethernet hub or switch.
3	HEART BEAT	 When blinking at 1 sec interval operation is normal. When blinking at 0.5 sec SIRION is acquiring IP address through DHCP. When not blinking (permanently ON or OFF) SIRION is not functioning properly.
4	IN USE	 When ON SIRION's PSTN line is off-hook. When Blinking at 0.5 sec SIRION is routing an active call to the external PSTN.
5	PGM 2	When ON PGM 2 is active
6	PGM 1	When ON PGM 1 is active
7	DYN IP	 When ON, the No-IP service is turned on and IP is updated successfully. When OFF the No-IP is turned off. If blinking in 0.5 sec intervals there are problems with the No-IP.
8	ERROR	- OFF no error - Single blink DHCP error - Double blink Communication Failure

 Table 1. LEDs functions



Picture 2. SIRION LEDS

When the "IN USE" led is active and the Alarm panel is communicating LEDs 5-8 change function and show the DTMF digits that the alarm panel dials (in binary format).

Whenever Siris sends a handshake or kiss off to the alarm panel then LEDs 5-8 all light up.

Web Interface

The following section provides a description of אםואוצ's Web Interface and it's operation.

Logging In

To enter the SIRIDN'S HTML interface you have to run your web browser (i.e. Internet Explorer) and type in the address box the network address of the SIRIDN. For example if the network address is 192.168.0.232, in the address box you type: http://192.168.0.232:10002 and press "Enter" key. Note that 10002 is the SIRIDN'S http port.



Picture 3. Entering SIRION'S HTLM interface example

After a successful connection between your computer and Sinois http server the following page appears.



Picture 4. SIRION's login page

In this window the user has to login by typing his password. Pressing "Enter" or the "Login" button completes the process. If the password is not valid then Siriu will notify with an error message and re-display the login screen.

Main page

After a successful login the following page will appear:

	-A-SIR			
	Texa	1.01		
PCM Cartel	Cettacetor		Persies Balas	30.2
	POL 1 Mainteen Parl Mainteen Parl PSTN 3 Mainteen Mainteen Parl Mainteen Pa			
best Area (1)	Renal New	1 Street Terr	The second second	
	Wild sam N Parat N Planat N Planat N Planat Walke Or	n LAN		
1000000000			1 1044	

Picture 5. SIRION's main page

This page contains four control groups; the PGMs control, PSTN control, No-IP settings and Wake On Lan.

PGM Control

In PGM control the user can remotely monitor and if required change the PGMs state from the web interface. The first column displays the current PGM state and the second column contains the buttons that change the PGMs status. To toggle the state the user presses the corresponding button. In case that a pulse is required the pulse duration (in seconds) is entered in the appropriate field.

The background color of the button's cell also indicates the current state of the PGM; dark green indicates that the PGM is OFF and light green that it is ON.

PSTN State

In some installations a PSTN line may be also connected to **SIRION**. This line is used as a backup and is not connected to the Alarm Panel under normal circumstances. This control is used if this line needs to be connected to the Alarm Panel (eg for downloading with a modem device). A time-out is entered in the text box (expressed in seconds) during which the PSTN line is routed to the A.P. If no communication is underway after the expiration of this time, the locally simulated line is reconnected.

The Current State of the PSTN line is shown in the corresponding table cell. If the

PSTN line is not connected at all the "Force PSTN" cell is colored red, in any other case green.



Picture 6. PSTN state

No-IP Settings

No-IP is a company that provides dynamic DNS and web-redirection free of charge. The need for such a system comes from the fact that most ADSL internet connections use dynamic IPs; everytime a client connects with his modem to the Internet Service Provider he gets a different IP address. If the user wants to connect to his modem or LAN from anywhere on the Internet, he needs this IP address. This is where No-IP comes into play; it keeps track of the latest IP addresses of it's clients.

This is done with SIRION informing the No-IP service every 15 minutes about its ip address. Therefore the user can always remotely access its home network by using his No-IP client name. For more information regarding No-IP and how to create a free account refer to www.no-ip.com.

The settings and indications on **Sirin**'s side are shown and explained below.

NO-IP Current State	NO-IP Off	
NO-IP Service	ON 💌	
NO-IP Account Name		
NO-IP Password		
NO-IP Domain Name		

Picture 7. No-IP Settings

No-IP Current State: shows state of the service and may be one of the following:

NO-IP Off, if the service is disabled

Login Fail, if for some reason the device was not able to login to the service (wrong account name, password or domain name)

IP Updated, if the ip was changed and SIRIDN updated the address to the No-IP service No update required, if between the last two update requests the ip address hasn't changed Communication Failure, if SIRIDN was unable to connect to the No-IP server

- **NO-IP Service:** Here the user can enable or disable the service by selecting ON or OFF and pressing the "Apply" button.
- **NO-IP Account Name:** when the user subscribes to the No-IP service then he is provided with an account name (usually the user's e-mail address) that he has to type in this textbox.

- NO-IP Password: when the user subscribes to the No-IP service he sets a password for his account. This password must be entered in this textbox. The account name and password are used to authenticate the user domain and must be valid otherwise the No-IP service ignores **SIRION**'s attempts to refresh its domain name.
- **NO-IP Domain Name:** when the user subscribes to the No-IP service, he creates a domain name that is used to have access to his home network without using its ip address. This domain is in the form "example.no-ip.org".

Wake On Lan

The "Wake On Lan" feature is used as a supplementary service for starting up Computers that are connected to the same LAN with SIRIN. The MAC address of the device is entered in the text boxes. The computer must be configured to accept the "Wake on lan" request.



Picture 8. Wake On Lan

Sirion Configuration

To enter the configuration menu use the link at the top as shown in the following image.



Picture 9. SIRION Configuration link

By selecting the above link the configuration page will be shown. It consists of 4 groups that are explained below.

Current Settings

The current settings table shows the network settings that are currently used by the SIRIDN device. The settings are the following:

Current MAC Address: The MAC address is a unique hardware address that distinguishes the **SIRIDN** device in the local network and although it's user programmable it must be unique. The MAC address can only be changed from the serial port of the **SIRIDN** device (not recommended in most cases).

Every SIRION comes with a unique MAC address from the factory. The addresses are allocated to Paradox Hellas by the IEEE organization which controls their worldwide allocation.

Curren	nt Settings
Current MAC Address:	00-30-6C-00-00-02
DHCP Enabled:	ON
Current IP Address:	192.168.000.232
Subnet Mask:	255.255.255.000
Gateway:	192.168.000.017
Destination IP:	192.168.000.214
Destination Port:	7700

Picture 10. Current settings

DHCP Enabled, DHCP stands for Dynamic Host Configuration Protocol which is used by most routers in the market. DHCP is a protocol that automatically assigns a local network IP address to any DHCP enabled network device connected to the router. If DHCP is OFF then the user has to assign an IP address manually.

Current IP Address, this is the current ip address of the Siriun device.

In the screenshot the ip has been assigned by the DHCP server and it is 192.168.0.74

Subnet Mask, the subnet mask is used in conjunction with the Current IP Address to determine which part of the address is the network address and which part is the host address. For most small networks it is set to 255.255.255.0

In this example the subnet mask is: 255.255.255.0

Gateway, in simple words is the exit door of the local network devices to the internet. In most cases the gateway is the IP address of the ADSL modem/router.

In this example the gateway is: 192.168.0.17

Destination IP, Secondary Destination IP, is the IP address that the SIRIDN device connects to send the alarm's events. This setting depends on the SIRIDN's function mode and is explained in the "Modes" section. If no secondary IP is needed this field is shown as '000.000.000.000'.

Destination Port, this is the TCP/IP port of the Destination IP that the server is listening on.

Configure new Settings

The user is able to modify the settings of the **Siri** device by using an easy interface that is shown below.

DECP Class	ÓN 💌		
New Local IP		1	
New Subset Mark:		1	
New Garmay Address			
New DOD Server		1	
New Destaution IP Address		1	-
New Destination Port:			100
New Decodary Destantion IP.			
New Secondary Destantion Part:			

Picture 11. Configure new settings

DCHP Client, enables or disables the DHCP support in the **SIRION** device. If DCHP is ON then all the local network parameters are set automatically.

New Local IP, defines the local IP of the **SIRION** device. Setting this value is not needed if DHCP is set to on.

New Subnet Mask, is the subnet mask as explained earlier. Not needed if DHCP is ON.

New Gateway Address, is the gateway address as explained earlier. Not needed is DHCP is ON.

New Destination IP, is the destination address as explained earlier. This is only used in certain Modes of operation.

New Destination Port, the new destination port as explained above. Always needed. It must match the server's receiving port (monitoring station dependent).

New Secondary Destination IP, New Secondary Destination Port, are the same as above. Must be filled only if needed. In certain modes, SIRION will try to connect to the first server and in case of failure will try the secondary.

After edit/change the user must press the "Apply" button for the changes to take effect.

Communication Protocol

When SIRIEN is connected to a Monitoring station's server to send the alarm's events, it uses a communication protocol. Paradox Hellas S.A. developed communication protocols to meet the needs of modern era communications, combining simplicity and security. Two protocols are supported and must match the settings of the monitoring central station. The communication protocol settings are shown below.

Communication Protocol:	PHCP Secure
Encryption Selection (simple)	ON 💌
Password Index (secure):	A1
Encryption Password	

Picture 12. Communication protocol

Communication Protocol, is a drop down selection box. The user can choose between the two currently supported communication protocols (PHCP Simple & PCHP Secure):

Encryption Selection (simple), the simple protocol supports unencrypted and encrypted communication. If this selection is ON then the communication will be encrypted with the key given in the "Encryption Password" field.

Password Index (secure), the secure protocol is a more complex protocol with advanced encryption and authentication procedures. The password index is the index of the password key in the list of keys in the server. This field must be filled with alphanumeric characters (0-9, A-Z). This value along with the key is provided by the monitoring station's administrator.

Encryption Password, is the password that will be used by **SIRIUN** to encrypt the data that sends to the Monitoring Station Server. This password can be any alphanumeric character (0-9, A-Z, a-z). It must be up to 16 characters long.

After changing the above parameters the user presses the "Set Protocol" button for the changes to take effect.

Change Password

SIRION's device default login password is 1234. It is highly recommended that the user changes the default password after installation or after a "reset to default" operation (explained in another section). The change password settings are displayed below.

Ch	ange Password
Carrent password	
New Panewood,	
Retype Pausword	

Picture 13. Change password

Current password, is needed to change the password. The user first has to authenticate as a valid user by typing the current **Sir**in's password in this textbox.

New Password, is where the user types the new password that will be set in **SIRION** device. The password can be any alphanumeric character (0-9, A-Z, a-z) and the maximum length is 20 characters.

Retype Password, is where the user must retype the new password. This is an additional security so that the user didn't mistype the password in the "New Password" textbox.

After editing the password the user presses the "Change" button for the changes to take effect.

Troubleshooting

POWER LED does not turn on

- Check the power supply connection.
- If everything is connected properly then check the voltage at the connection. SIRION needs at least 7V to operate.
- If the POWER LED still does not turn on, please contact the distributor.

ETHERLINK LED does not turn on

- Check the Ethernet connection cable and the router on which it is connected.
- Make sure you are not using a cross-cable on a non auto-sensing router.
- If ETHERNET LINK LED still does not turn on, please contact the distributor.

HEARTBEAT LED stays stationary without blinking

- Turn power-supply off and then on. Wait for initialization to complete.
- If the HEARTBEAT LED still does not blink periodically contact the distributor.

Alarm panel is trying to communicate and the IN-USE LED does not light up

Check the connection cables between the alarm panel and SIRIDN's TIP and RING.

ERROR light is blinking

- Single blink : DHCP error.
- Double blink: communication failure.

For any additional information, clarification or suggestion that concerns this manual or the SIRINN product, please contact our technical support department. at tel. No.+30-210-2855000 or e-mail us at support@paradox.gr.





RoHS directive compliance

The EC RoHS guideline has been released in order to reduce the heavy metal load in electrical and electronic products caused by e.g. lead and mercury. All manufacturers are obligated to provide only RoHS-compliant products to the European market, effective from July 1st, 2006.

Paradox Hellas S.A. hereby states that Sirion product is fully compliant with RoHS 2002/95/EC directive.



Disposal of your old appliance

When this crossed-out wheeled bin symbol is attached to a product it means the product is covered by the European Directive 2002/96/EC.

All electrical and electronic products should be disposed of separately from the municipal waste stream via designated collection facilities appointed by the government or the local authorities.

The correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health.

For more detailed information about disposal of your old appliance, please contact your city office, waste disposal service or the shop where you purchased the product.



PARADOX HELLAS S.A.

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