

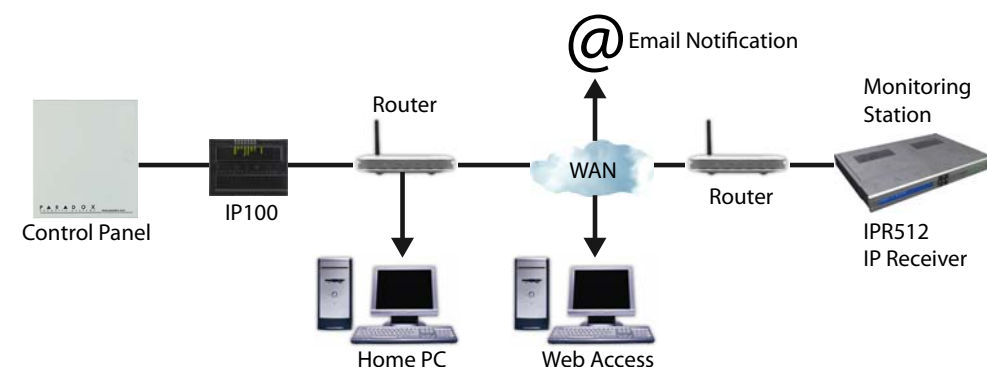
# Internet Module (IP100)



## Introduction

The IP100 is an IP-based Web solution that provides the ability to report system events to monitoring station over an IP network as well as an Internet communication link to control and monitor a security system.

Figure 1: Overview



## Installation Requirements

- To install and configure the IP100, the following hardware/software will be needed:
- Ethernet-compatible computer with internet access (for Remote Access only, see reverse)
  - Router
  - 4-pin serial cable (included)
  - CAT-5 Ethernet cable: max 90m (295 ft.) (not included)
  - Paradox IP Exploring Tools software (for Remote Access only, see reverse) - found at paradox.com > GSM/IP/Voice > IP100

## Overview

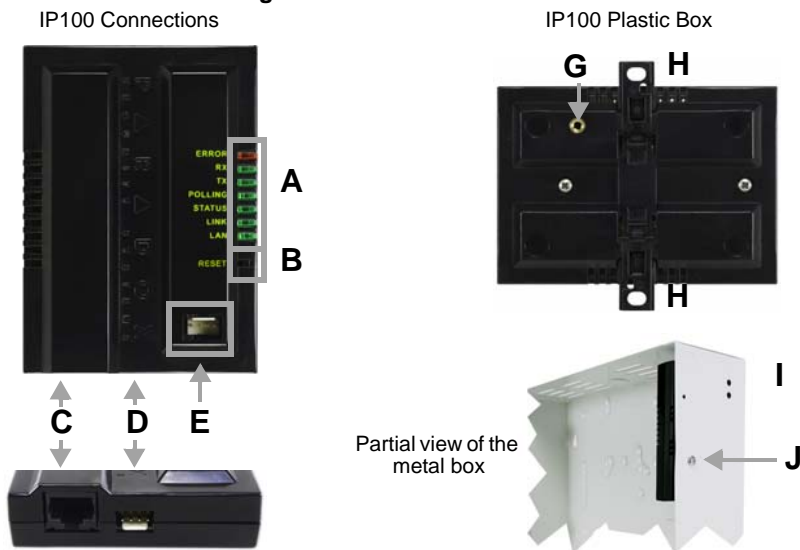
<b>Connecting the Hardware</b>
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## Connecting the Hardware

The module must be connected to the control panel and a network. The IP100's error LED will light up until both the control panel and network are detected.

- Connect the 4-pin serial cable between the panel's serial connector and the IP100's serial connector, shown as D in Figure 2.
- Connect the Ethernet cable between the router and the IP100's network connector, shown as C in Figure 2. The router must be installed in the same room as the receiver.
- The onboard LEDs will illuminate to indicate the IP100's status.

Figure 2: IP100 Connection



	<b>LED</b>	
	ERROR:	On until both the control panel and network are detected - On when DHCP server is not responding - On during a reset Flashes during firmware upgrade
A	RX:	Flashes when receiving data from the panel
	TX:	Flashes when sending data to the panel
	POLLING:	On when connected with paradoxmyhome.com
	STATUS:	On when a user is connected
	LINK:	On when connected to a network
	LAN:	Flashes when transferring data through the LAN
B		To reset the module to its default settings, press and hold the RESET button for 5 seconds, release it, and then press it again while the Error LED is flashing. The Error LED will remain lit during the reset.
C		Connect to the router (CAT-5 Ethernet cable)
D		Connect to the SERIAL connector of the panel (4-pin serial cable)
E		Connect to a 307USB and use WinLoad to update the firmware (punch out a hole when using the plastic enclosure)
<b>Mounting</b>		
G		Use a screw with this hole to mount the IP100 in the metal box
H		Retractable flat-mount brackets (for optional wall mounting)
I		Mount the IP100 on the top right corner of the metal box
J		Mounting screw

## IP Reporting

Control panels with an IP100 can report system events to a monitoring station over an IP network. To use IP reporting, the monitoring station must employ the Paradox IP Receiver (IPR512). When using IP reporting, the IP module has the ability to poll the monitoring station. This supervision feature greatly increases the site's security.

In order for the IP100 to report to the monitoring station via IP connection, the IP100 must first be registered to the monitoring station's IP Receiver (IPR512). Telephone reporting can be used in conjunction with, or as a backup to IP reporting.

Before registering the IP100, the following information must be obtained from the monitoring station:

- Account number(s) - One account number for each partition used. IP/GPRS reporting uses a different set of account numbers than those used for dialer reporting. The specific section numbers for the IP/GPRS Account Numbers are listed in this document.
- IP address(es)(12-digit number e.g. for 195.4.8.250 you must enter 195.004.008.250)  
The IP address(es) indicates which of the monitoring station's IP Receivers will be used for IP reporting.
- IP port(s) (5-digit number. For 4-digit numbers, enter 0 before the first digit.)  
The IP port refers to the port used by the monitoring station's IP Receiver.
- Receiver password(s) (up to 32-digits)  
The receiver password is used to encrypt the IP100 registration process.
- Security profile(s) (2-digit number)  
The security profile indicates how frequently the monitoring station is polled by the IP100. Security profile numbers and polling frequency are defined by the monitoring station.

## Setting up IP Reporting

- Ensure that the panel's report code format is set to either Ademco Contact ID (default) or SIA:  
MG/SP/E: section [810]  
EVO: section [3070]
- Enter the IP reporting account numbers (one for each partition):  
MG/SP/E: section [918] / [919]  
EVO: section [2976] to [2983]
- In the General IP Options section, set up IP line monitoring options and dialer options, and ensure IP reporting is enabled:  
MG/SP/E: section [806]

IP Line Monitoring Options			
[5]	[6]		
OFF	OFF	Disabled	
OFF	ON	<b>When disarmed: Trouble only</b> <b>When armed: Trouble only</b>	
ON	OFF	When disarmed: Trouble only When armed: Audible alarm	
ON	ON	Silent alarm becomes audible alarm	
		<b>OFF</b>	<b>ON</b>
[7]	Use dialer reporting (telephone)	<input type="checkbox"/> As backup for IP/GPRS reporting	<input type="checkbox"/> In addition to IP reporting
[8]	IP/GPRS reporting	<input type="checkbox"/> Disabled	<input type="checkbox"/> Enabled

EVO: section [2975]

IP Line Monitoring Options			
[5]	[6]		
OFF	OFF	Disabled	
OFF	ON	<b>When disarmed: Trouble only</b> <b>When armed: Audible alarm</b>	
ON	OFF	When disarmed: Trouble only (default) When armed: Trouble only	
ON	ON	Silent alarm becomes audible alarm	
		<b>OFF</b>	<b>ON</b>
[7]	Use dialer reporting (telephone)	<input type="checkbox"/> As backup for IP/GPRS reporting	<input type="checkbox"/> In addition to IP reporting
[8]	IP/GPRS reporting	<input type="checkbox"/> Disabled	<input type="checkbox"/> Enabled

- Enter the monitoring station's IP address(es), IP port(s), receiver password(s), and security profile(s) (information must be obtained from the monitoring station).

MG/SP/E Sections				EVO Sections				
IP Receiver	#1	#2	Backup	IP Receiver	#1	#2	#3	#4
IP Address1	[929]	[936]	[943]	IP Address1	[2984]	[2986]	[2988]	[2990]
IP Port1	[930]	[937]	[944]	IP Port1	↓	↓	↓	↓
IP Address2	[931]	[938]	[945]	IP Address2	↓	↓	↓	↓
IP Port2	[932]	[939]	[946]	IP Port2	↓	↓	↓	↓
IP Password	[933]	[940]	[947]	IP Password	↓	↓	↓	↓
IP Profile	[934]	[941]	[948]	IP Profile	↓	↓	↓	↓

- Register the IP100 module with the monitoring station. To register, enter the sections below and press [ARM]. The registration status is displayed as well as any registration errors.

MG/SP/E Registration				EVO Registration				
IP Receiver #	#1	#2	Backup	IP Receiver #	#1	#2	#3	#4
Register/Status	[935]	[942]	[949]	Register/Status	[2985]	[2987]	[2989]	[2991]

NOTE: An IP100 used with an MG/SP/E system will always poll using the partition 1 IP account number. When using an EVO system, the partition 1 IP account is used by default, but can be defined in section [3020]. All reported system events will originate from the partition selected in this section.

## Remote Access

The IP100 is an IP-based Web solution that provides an Internet communication link to control and monitor a security system with Web browsers or NEware. This provides the user with the freedom to access the system from anywhere in the world.

### Step 1: Setting up the Router

This step allows you to set up the router so that the IP100 module can function properly.

1. Ensure that the router is connected properly as indicated in the router's instructions.
2. Access your router's configuration page. Refer to your router's manual for the exact procedure. In most cases, this is done by entering the router's static IP address in the address bar of your Web browser, see Figure 3. For this manual, we will use 192.168.1.1 as an example, since it is a commonly used default router IP address. Your router's IP address may be indicated in the router's instructions or on a sticker on the router.
3. In the router's configuration page, check the DHCP settings.

**If DHCP is enabled**, verify that the IP address range leaves at least one IP address available outside of the range. The range shown in Figure 4, would leave addresses 2 to 4 and 101 to 254 available (all the numbers in an IP address are between 1 and 254.) Record one of the addresses outside the DHCP range as the one you will use for the IP100.

**If DHCP is disabled**, the IP100 will use the default address of 192.168.1.250. It is possible to change that address if needed using the Paradox IP Exploring Tools software.

4. In the router's configuration page, go to the Port Range Forwarding section (also known as "port mapping" or "port redirection.") Add a service/item, set the Port to 80 and enter the static IP address selected in the previous step for the IP module (see Figure 4.) If port 80 is already used, you can use another one, such as 81 or 82 but you will have to modify the IP100's settings in step 2. Some Internet Service Providers block port 80, therefore the IP100 may function locally using port 80 but not over the Internet. If this is the case, change the port to another number. Repeat this step for port 10 000.

### Step 2: Configuring the IP100

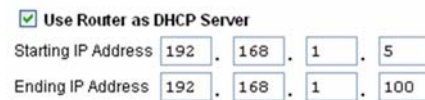
1. Using a computer connected to the same network as the IP100, open the Paradox IP Exploring Tools.
2. Click **Find It**. Your IP100 appears in the list.
3. Right-click your IP100 and select **Module setup**, see Figure 6.
4. Enter the static IP address you recorded in Step 1.3 or modify the address so that it corresponds to the one you have selected for the IP100. Enter the IP100's password (default: paradox) and click **OK**. If it indicates that the IP address is already used, change it to another and modify it in the Port Forwarding of the router (step 1.4) and go back to step 2.1.

Figure 3: Router Configuration Page\*



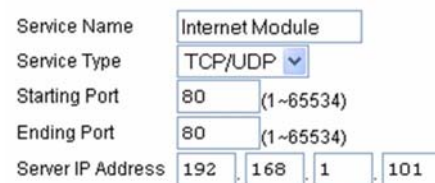
\* Screenshot may differ depending on type of router used

Figure 4: DHCP Settings\*



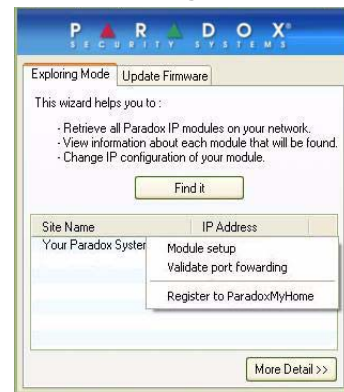
\* Screenshot may differ depending on type of router used

Figure 5: Port Forwarding\*



\* Screenshot may differ depending on type of router used

Figure 6: IP100 Configuration Access



5. Set any additional information such as port, subnet mask, etc. To find this information, click Start > Programs > Accessories > Command Prompt. Enter command: IPCONFIG /ALL (with space after IPCONFIG).

NOTE: For increased communication security, please change the default PC password and Panel ID in the control panel.

NOTE: The IP100 supports SMTP and ESMTP protocols (TLS/SSL not supported).

### Step 3: Setting up ParadoxMyHome (optional)

**This step is not needed if the IP address provided by the Internet Service Provider is static.**

Using the ParadoxMyHome service will allow you to access your system over the Internet with a dynamic IP address. The IP100 will then poll the ParadoxMyHome server to keep the information updated. By default, the ParadoxMyHome service is disabled.

**To set up the ParadoxMyHome service:**

1. Go to [www.paradoxmyhome.com](http://www.paradoxmyhome.com), click **Request Login** and provide the requested information.
2. Start the Paradox IP Exploring Tools software and right-click the IP100.
3. Select **Register to ParadoxMyHome**.
4. Enter the requested information. Enter a unique **SiteID** for the module.
5. When registration is complete, you can access the IP100 page by going to: [www.paradoxmyhome.com/\[SiteID\]](http://www.paradoxmyhome.com/[SiteID])

If there are issues with connecting to the IP100, try making the polling delay shorter (configured on the IP100's webpage interface), so that the IP information available for the ParadoxMyHome connection is up to date. However, a shorter delay for the polls will increase the traffic on the internet (WAN).

### Step 4: Using a Web Browser to Access the System

Once the module is configured, it can be accessed either from the local network or through the internet using the user code or user IP100 password.

**On-Site Access:**

1. Enter the IP address assigned to the IP100 in the address bar of your Web browser. If you have used a port other than port 80, you must add [: port number] at the end. (For example, if the port used is 81, the IP address entered should look like this: <http://192.168.1.250:81>).
- or  
Use the Paradox IP Exploring Tools software, click **Refresh** and double-click on your **IP100** in the list.
2. Enter your alarm system's User Code and IP100 password (default: paradox).

**Off-Site Access:**

1. Go to [www.paradoxmyhome.com/siteID](http://www.paradoxmyhome.com/siteID) (replace 'siteID' by the 'siteID' you used to register with the ParadoxMyHome service)
2. Enter your alarm system's **User Code** and **IP100 password** (default: paradox).

Figure 7: IP Address Assignment

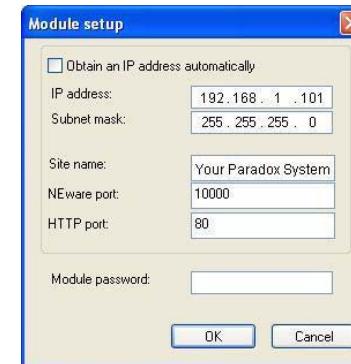


Figure 8: Module Registration



## Firmware and Language Update

To update an IP100 using IP Exploring:

1. Open IP Exploring Tools.
2. Click the **Language / Update** tab (see Figure 9).
3. Select your preferred language in the Language drop-down list.
4. Select the correct Connection Mode from the following three types:
  - Locally** - Select your IP100 from the Site Name list
  - Remotely** - Enter your module's IP Address (as shown in the Exploring Mode tab) and NEware Port (default = 10000). Click the Exploring Mode tab, right-click the IP100 and select More Details.
  - ParadoxMyHome** - Enter your IP module site ID.
5. Enter the module password.
6. Click **Update Module**. A Web update progress box appears (see Figure 10). If a new firmware version is found, you are informed of the old version number and you will have to confirm the installation of the new version. The update process begins. If it is interrupted, the IP100 will not be functional until the firmware is properly installed.

## Glossary

### IP Reporting

Using IP reporting, system events are transmitted to the monitoring station via the Internet. This method provides increased security due to frequent polling by the monitoring station.

### IP Addresses (Static/Fixed or Dynamic)

(Internet Protocol address) The address of a device connected to an IP network. This is equivalent to a phone number in the sense that they are all unique and are used to establish communication to a particular network. In an IP network, addresses can either be fixed or dynamic. Fixed addresses are established by the network administrator while dynamic addresses are decided through DHCP protocols and change over time.

### DHCP

(Dynamic Host Configuration Protocol) This protocol automatically assigns temporary IP addresses to devices connected to an IP network. It eliminates the need to set static IP addresses every time a device is added to a network. This is done automatically in servers and routers.

### Port Forwarding

Port Forwarding allows a router in a private network to let a party outside the network to connect a device in the network. Once port forwarding is set, requests from the internet (outside users) will be forwarded to the proper device. If you were to set the port number 80 (HTTP) to be forwarded to IP address 192.168.1.101, then all HTTP requests from outside users to this port would be forwarded to the device with that address.

Table 1: Technical Specifications

Panel Compatibility	Any Digiplex EVO panel (V2.02 for IP reporting) Any Spectra SP series panel (V3.42 for IP reporting) Any MG5000 / MG5050 panel (V4.0 for IP reporting) Any Esprit E55 (does not support IP reporting) Esprit E65 V2.10 or higher
Browser Requirements	Optimized for Internet Explorer 6 or higher and Mozilla 1.5 or higher 1024 x 768 resolution minimum
Encryption	AES 256-bit, MD5 and RC4
Current Consumption	110 mA
Input Voltage	Powered by the serial port
Enclosure Dimensions	9.9cm x 7.2cm x 1.8cm (3.9in x 2.8in x 0.7in)

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Figure 9: Firmware and Language Update

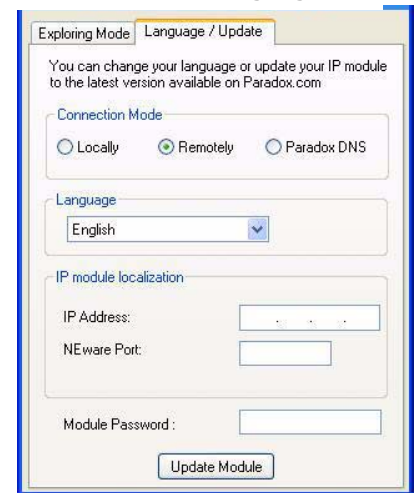


Figure 10: Web update progress

