



ISY Advanced Configuration Guide

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## 1. Administrative Communications with ISY

ISY comes equipped with a minimal but sophisticated shell through which administrative functions as well as configurations may be performed. The shell commands complement those of the GUI by adding security sensitive functions which are not supported by the GUI (such as hot-reboot, factory reset, etc.).

**Note:** To log into the shell, you will need to enter the initial Username and Passwords which are **admin** and **admin** respectively.

The shell can be accessed in one of the following two methods:

2. COM Port using Windows HyperTerminal
3. Telnet

**Note:** Due to security considerations, Telnet access is initially disabled. To enable telnet access, you will need to access the ISY shell through HyperTerminal and issue the telnet enablement command.

## 2.1 Accessing ISY Shell through Windows COM Port

### 2.1.1 Hardware Setup

Use the provided DB9 cable to connect one of the COM Ports on your computer to **Port B** on the ISY.

### 2.1.1 HyperTerminal Setup

- 2) Click on Start->All Programs->Accessories->Communications->HyperTerminal. In the HyperTerminal dialog (see Figure 2), enter a meaningful name for your connection and then click on “Ok”.

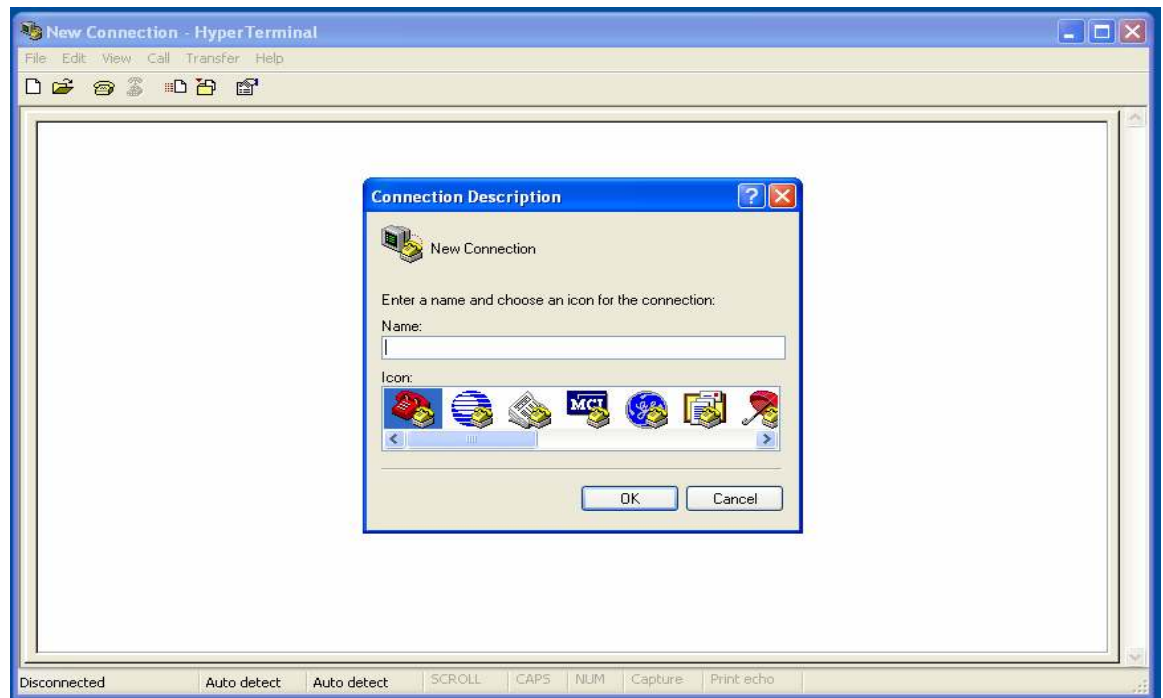
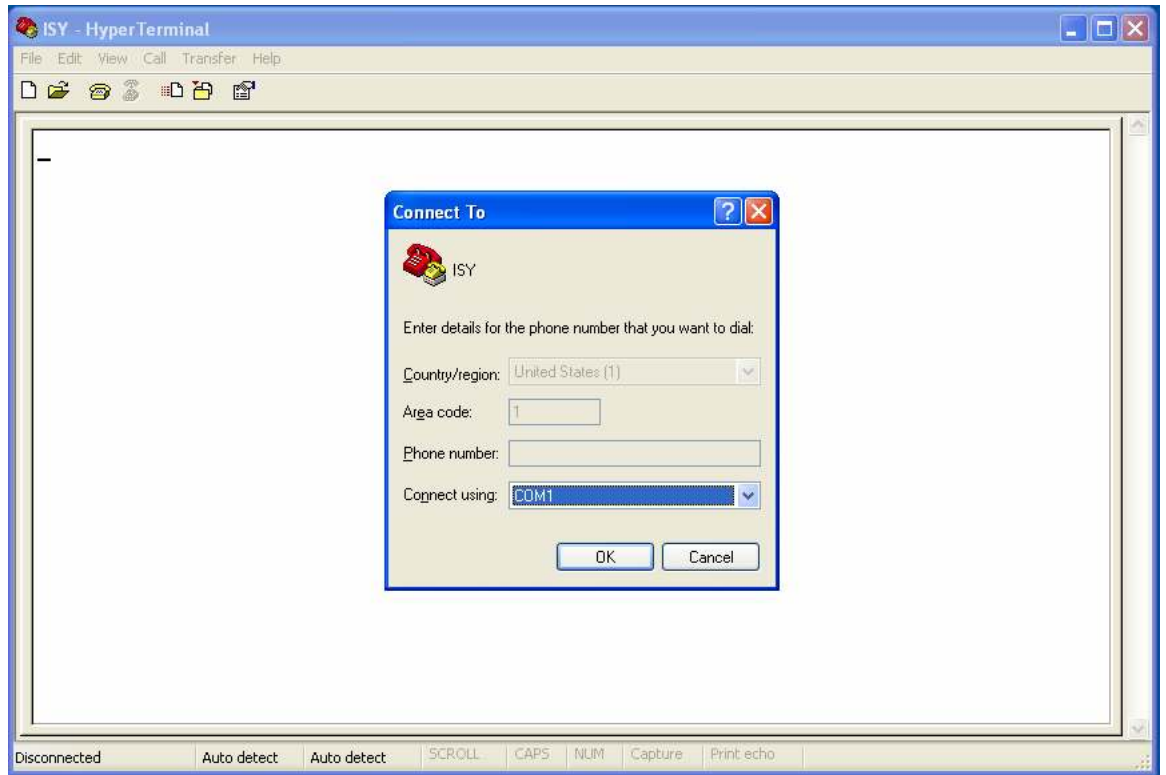


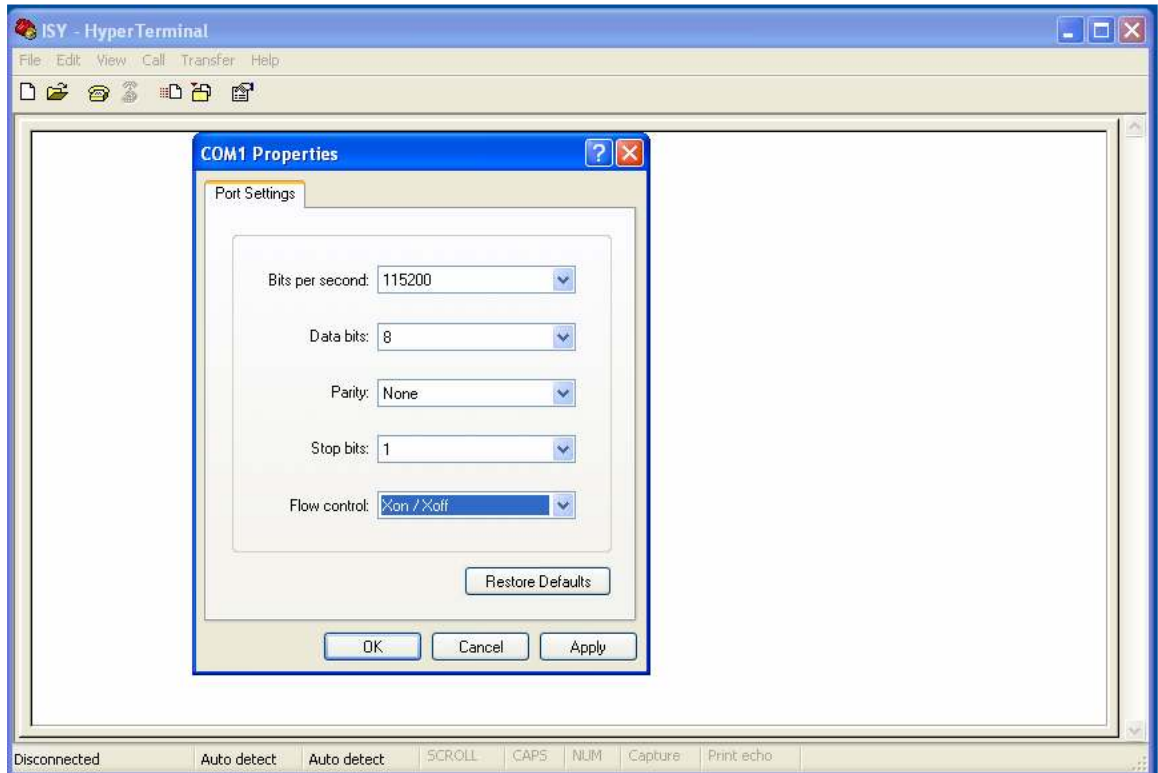
Figure 1 – HyperTerminal Dialog

- 3) In the HyperTerminal's "Connect To" dialog (see Figure 3), choose the COM port which is connected to the ISY and then click on "Ok".



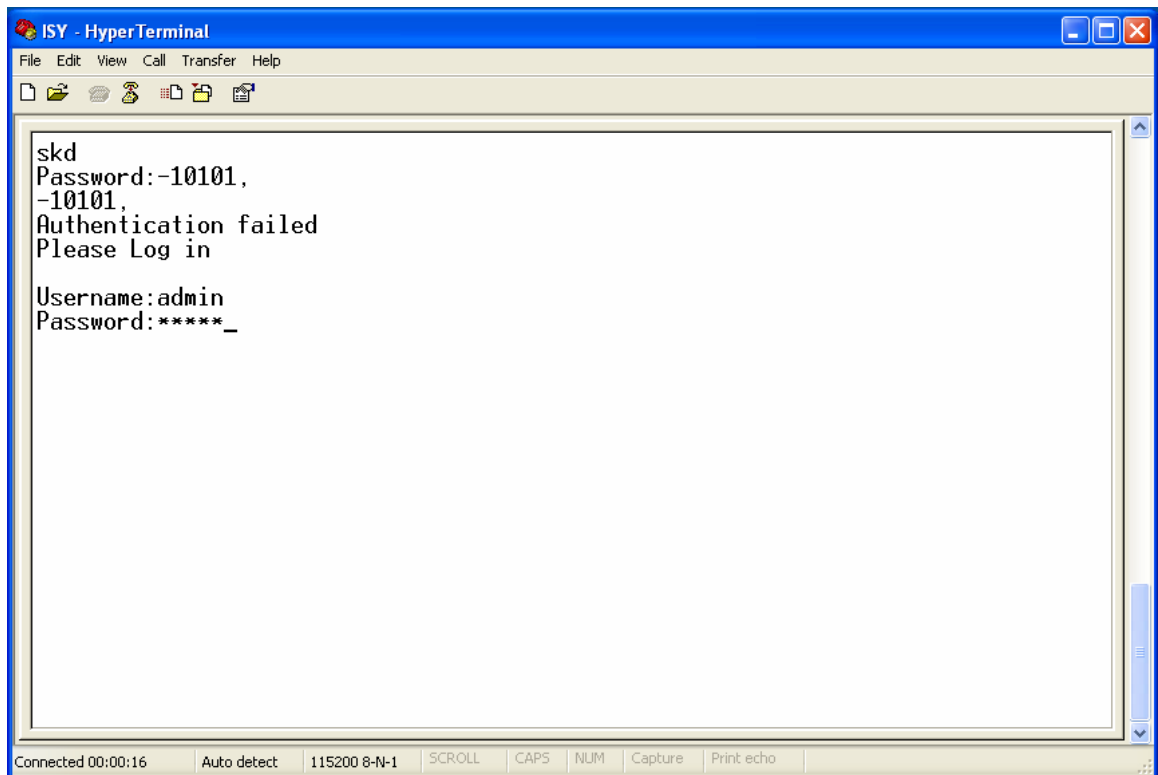
**Figure 2 – HyperTerminal Connect To Dialog**

- 4) In the HyperTerminal's "Communication Properties" dialog (see Figure 4), select the following values and then click on "Ok":
  - a. Bits per second = 115200
  - b. Data bits = 8
  - c. Parity = None
  - d. Stop bits = 1
  - e. Flow control = Xon / Xoff



**Figure 3 – HyperTerminal Communication Properties Dialog**

- 5) Type in a few characters till you are prompted for Username (see Figure 5). Enter your user name (**initially admin**) and when prompted for password, enter your password (**initially admin**)



**Figure 4 – HyperTerminal Session**

## 2.2 Accessing ISY through Telnet

If enabled, Telnet provides an easier method of accessing the ISY shell. To access the ISY through Telnet you need to know the current IP address of the ISY. There are two methods of finding the ISY's current IP address:

### 2.1.1 Finding the ISY's current IP address in My Network Places

- 2) Open My Network Places dialog. **Note:** On the left navigation bar, if there's an icon labeled **Show icons for networked UPnP devices**, click on it. This enables UPnP.
- 3) Find the ISY
- 4) Right mouse click on the ISY and choose Properties menu item (see Figure 6)
- 5) In the Properties dialog, the **Device Address** signifies the full path to the ISY in the format <http://a.b.c.d:n/p.html>. The IP address is **a.b.c.d**.

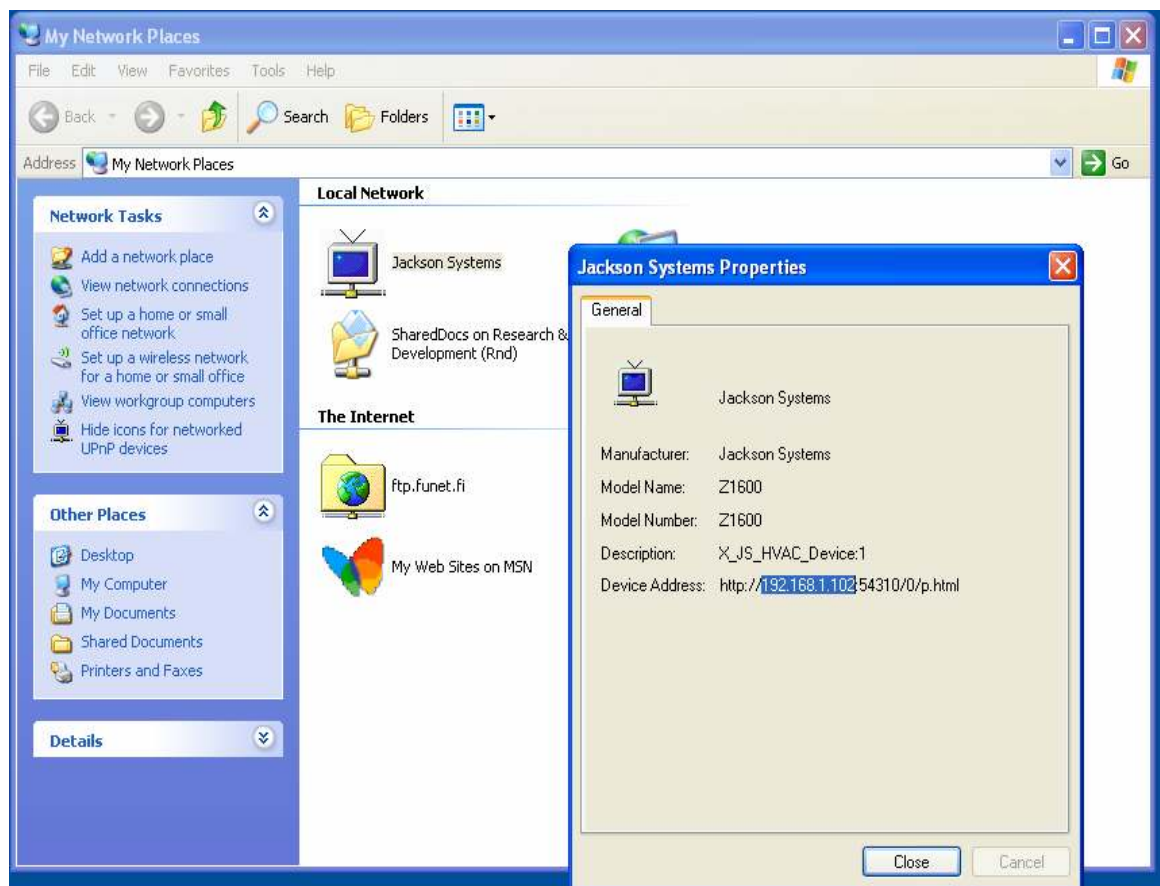
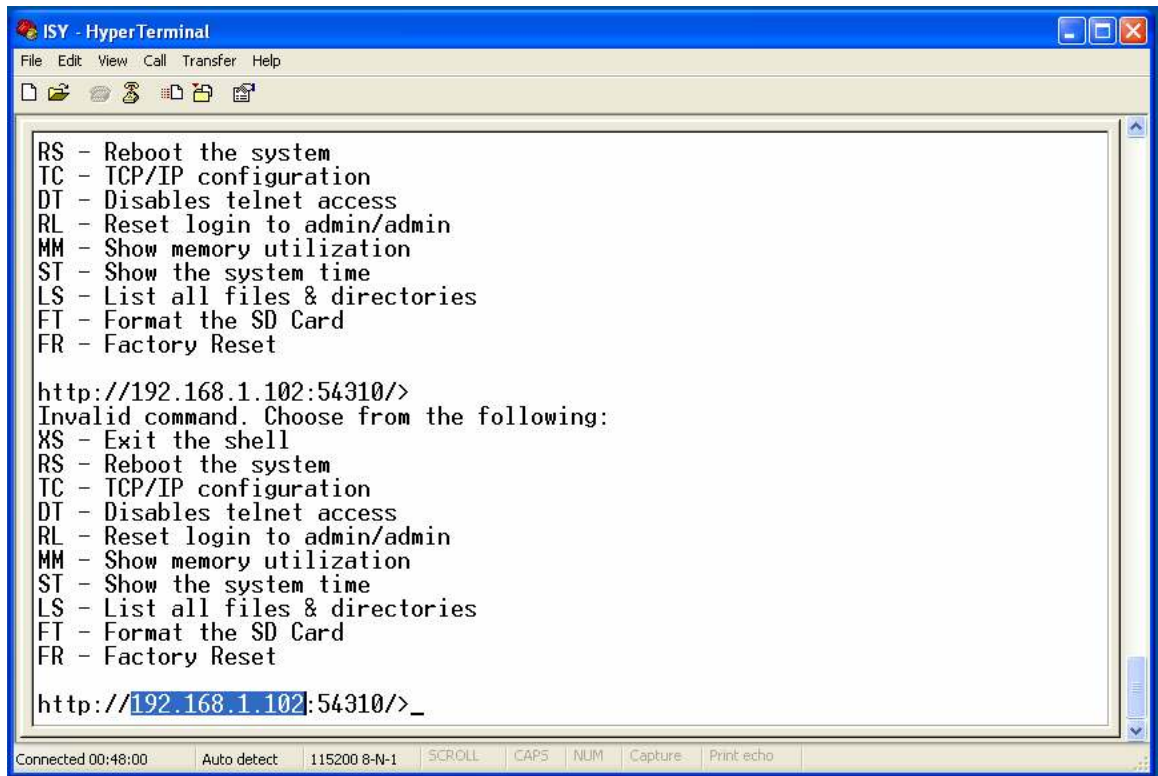


Figure 5 – ISY in My Network Places

## 2.1.2 Finding the ISY's current IP address in HypterTerminal

- 2) Start the configured HyperTerminal Session (see [section 2.1.2](#) ) if one is not already started.
- 3) Enter your Username and Password.
- 4) Upon authentication, you will see the ISY shell (see Figure 7)
- 5) The IP address is shown as the ISY shell prompt in the format [http://a.b.c.d:n/](#) where the IP is **a.b.c.d**.



```
ISY - HyperTerminal
File Edit View Call Transfer Help
[Icons]
RS - Reboot the system
TC - TCP/IP configuration
DT - Disables telnet access
RL - Reset login to admin/admin
MM - Show memory utilization
ST - Show the system time
LS - List all files & directories
FT - Format the SD Card
FR - Factory Reset

http://192.168.1.102:54310/>
Invalid command. Choose from the following:
XS - Exit the shell
RS - Reboot the system
TC - TCP/IP configuration
DT - Disables telnet access
RL - Reset login to admin/admin
MM - Show memory utilization
ST - Show the system time
LS - List all files & directories
FT - Format the SD Card
FR - Factory Reset

http://192.168.1.102:54310/>_
Connected 00:48:00 Auto detect 115200 8-N-1 SCROLL CAPS NUM Capture Print echo
```

Figure 6 – ISY HyperTerminal Shell

### 2.1.3 Starting an ISY Telnet Session

2. Click on Start->Run
3. In the Run dialog, enter **cmd**
4. In the cmd dialog, enter the following command  
**telnet [ISY's current IP address] 126** (see Figure 8)
5. When prompted, enter the Username and Password

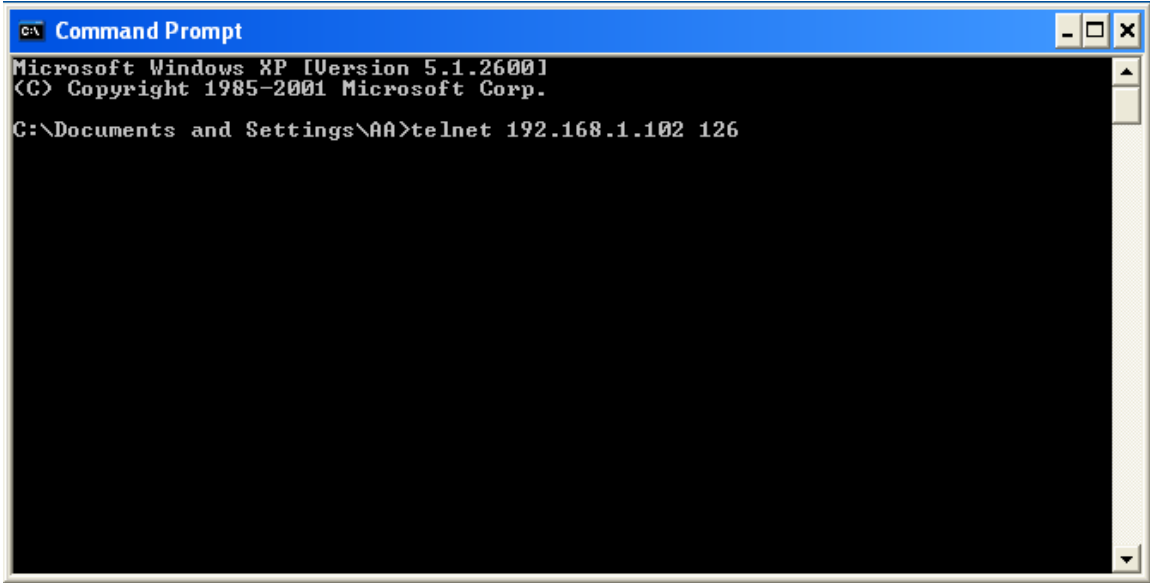
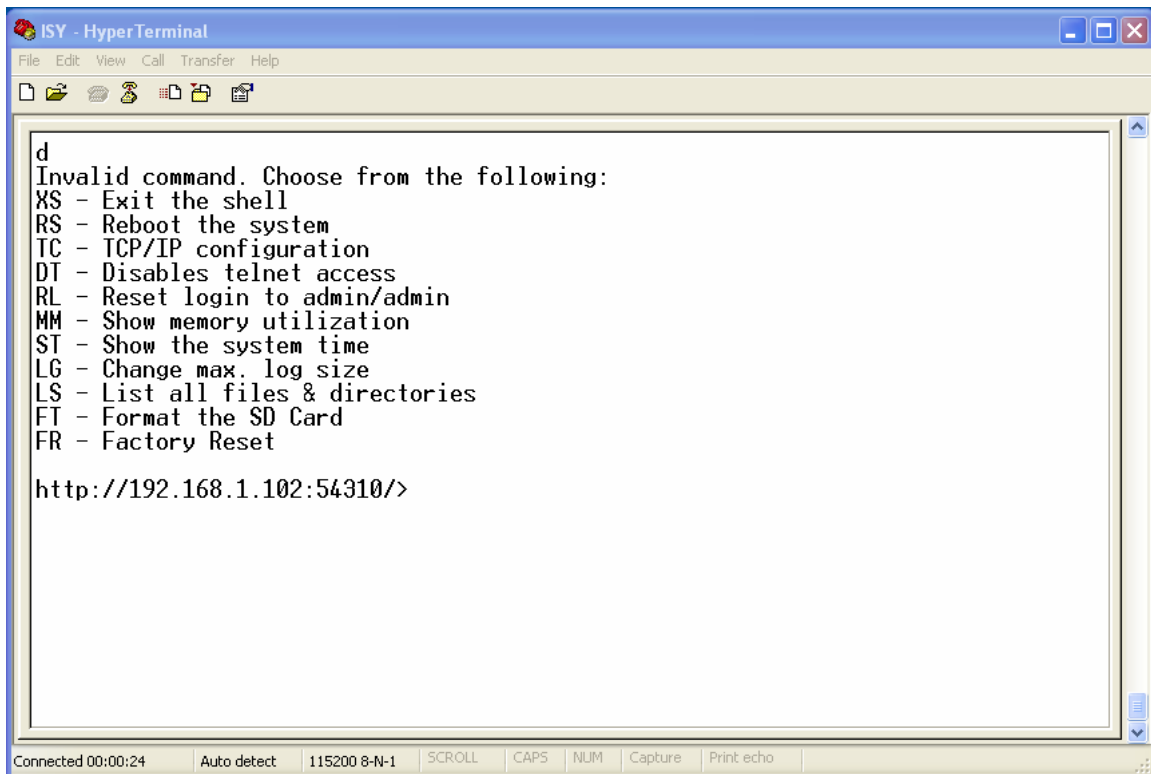


Figure 7 – Starting an ISY Telnet Session

## 2. ISY Shell (Command Interpreter)

ISY's shell enables you to perform administrative and configuration functions which – due to security concerns – are not supported through the GUI. The shell functions are available in their entirety to both HyperTerminal as well as Telnet sessions. Care should be taken when issuing commands that perform factory reset or that format the memory card as they might render the controller inoperable.

Figure 9 depicts the shell which is presented to the user upon successful authentication.



```
d
Invalid command. Choose from the following:
XS - Exit the shell
RS - Reboot the system
TC - TCP/IP configuration
DT - Disables telnet access
RL - Reset login to admin/admin
MM - Show memory utilization
ST - Show the system time
LG - Change max. log size
LS - List all files & directories
FT - Format the SD Card
FR - Factory Reset

http://192.168.1.102:54310/>
```

Figure 8 – ISY Shell

### **3.1 CT – Configure TCP/IP**

TCP/IP configuration command enables you to either assign static IP address information or instruct the ISY to use DHCP. The default is DHCP. To perform TCP/IP configuration, type TC at the shell prompt.

#### **3.1.1 Assigning Static IP Address**

- When prompted for **IP Address**, enter the desired static IP address
- When prompted for **NetMask**, enter the desired subnet mask
- When prompted for **Gateway**, enter the IP address for the gateway
- When prompted for **DNS Server**, enter the IP address for the DNS server

When prompted with **Save Changes**, enter **Y**. The system will reboot using the provided information for TCP/IP configuration.

**Note:** If you enter the wrong Gateway and/or DNS server, some of the notifications and time functions will become inoperable.

#### **3.1.2 Requesting for DHCP Assigned IP Address**

- When prompted for **IP Address**, enter the **0.0.0.0**
- When prompted for **NetMask**, ignore
- When prompted for **Gateway**, ignore
- When prompted for **DNS Server**, ignore

When prompted with **Save Changes**, enter **Y**. The system will reboot and attempts to get DHCP assigned TCP/IP information upon system start.

### **3.2 CB – Configure Baud Rate**

To configure the baud rate for communicating with thermostats, type CB at the shell prompt. Please note that system will reboot after configuring the baud rate. The default baud rate is 9600.

### **3.3 CP – Configure Protocol Timeout**

To configure the timeout within which the system considers there's no response forthcoming, type CP at the shell prompt and enter the desired timeout. This setting is quite important when the number of thermostats on the network increases.

### **3.4 CD – Configure Delay between Requests**

To configure the delay between each request issued to the thermostats, type CD on the shell prompt. This setting is quite important when the number of thermostats on the network increases.

### **3.5 CI – Set Device’s Polling Interval**

Some devices need to be continuously polled in order to provide their current state. On Aprilaire thermostats, the thermostats have to be polled to notify them of the state of the network. Using the CI command, you can change the polling interval. Default is **30** seconds.

**Note:** Use caution when changing the polling interval as, depending on the number of thermostats on the network, a small value might cause the controller to be always in poll mode (the roundtrip time for each thermostat x the number of thermostats might exceed the polling interval)

### **3.6 CL – Configure Maximum Log Size**

To change the amount of log space allowed, type LG at the shell prompt. The default is 3 MB and maximum is 16 MB.

### **3.7 LS – List All Files & Directories**

To view the listing of files and directories on the memory card, type LS at the shell prompt.

### **3.7 SU – Show External URL**

If this device has been configured for internet access, you may use the SU command – at the shell prompt – to view the external URL through which this device is accessible on the internet.

### **3.8 SM – Show Memory Utilization**

To view the ISY’s memory utilization, type SM at the shell prompt.

### **3.9 ST – Show System Time**

To view the ISY’s system time, type ST at the shell prompt.

### **3.10 ET – Enable Telnet Access**

To enable telnet access, type ET at the shell prompt. **By default, Telnet Access is enabled.**

**Note:** If there’s already a telnet session open, the session will continue to function until the user exits the shell or if the session times out.

### **3.11 DT – Disable Telnet Access**

To disable telnet access, type ET at the shell prompt.

### **3.12 EI – Enable Internet Access**

To enable access to this device from the internet, type EI at the shell prompt. By default internet access is disabled.

### **3.13 DI – Disable Internet Access**

To disable access to this device from the internet, type DI at the shell prompt.

### **3.14 XS – Exit the Shell**

To exit the shell, type XS on the shell prompt.

### **3.15 RS – Reboot the System**

To reboot the system, type RS on the shell prompt.

### **3.16 RL – Reset Login Credentials**

To reset the login credentials back to the initial state of **admin/admin**, type RL at the shell prompt.

**Note:** If you have forgotten your Username and Password and thus unable to login to the shell, please contact Universal Devices for the administrative Username and Password for your specific controller

### **3.17 FS – Format the [SD] Memory Card**

To format the Secure Digital Flash card, type FS at the shell prompt.

**Note:** Formatting the memory card shall render your device inoperable as all the program, log, and configuration files are stored in the memory card. Please use extreme caution when issuing this command

### **3.18 FR – Factory Reset**

To reset the ISY to factory settings, type FR at the shell prompt.

**Note:** By performing a factory reset, the following information shall be lost (irrecoverable) and the Username and Password shall revert back to **admin/admin**:

- All the schedules

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- All the notifications settings
- All the alarm settings
- Time zone
- All the discovered thermostats, their names, their groups
- The network name

### **3.19 MN – Menu**

To show the menu, type MN on the shell prompt. You may also enter any unrecognized command to get the menu to be shown.