



IPM-103

USER MANUAL



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Chapter 1: Introduction

1.1. Introduction

MSNswitch is an intelligent power outlet designed to automatically power-cycle its outlet when internet connectivity is lost. This is useful to if your broadband / cable / DSL connection drops or even if your router freeze-up, and all you need to do is reset the router to re-gain connectivity. MSNswitch does this automatically, without anyone having to visit the location just to flick the switch!

Use MSNswitch to:

1. Auto reset router to maintain internet connectivity.
2. Keep internet device alive! If the device is no longer responding in LAN, MSNswitch can reset the Outlet.
3. Remotely control outlets via instant messaging tools like MSN.
4. Units with built-in RF transceiver / receiver can be used to remotely control RF devices via internet / MSN.

MSNswitch is an important addition for;

5. Home users who have to manually power-cycle their router to re-gain internet connectivity.
6. Resetting unresponsive device (for instance IP camera or NAS servers) which otherwise will be inaccessible from remote.
7. IT Professionals who need to automatically or remotely reset devices
8. Preventing your connection from timing out or going dormant
9. Having devices on an automatic power schedule [Ex: Turn on at 9am & turn off at 5pm]

Hardware Specifications:

10. Built-in Web Server with 32-Bit RISC CPU.
11. 10/100Mbps Fast Ethernet Network Access.
12. Support IE or Java-Enabled Web Browser.
13. Network Protocol: HTTP, TCP/IP, UDP, SMTP, PPPoE, Dynamic DNS, DNS Client, SNTP, BOOTP, DHCP, FTP, SNMP.5.3VDC 1A Maximum
14. Operating Temperature: 0°C ~ 60°C; Operating Humidity: 10% ~ 90%
15. For indoor use only.

1.2. Hardware Specification

Model No:	UIS-311	UIS-315	UIS-322	UIS-322(RF)
RF Module	n/a	n/a	n/a	Built-in RF transceiver & Receiver (315/433Mhz)
Socket type	3x Schuko socket (Type F, CEE 7/4)	3x North American (Type B, NEMA 5-15R)	2x of either; a) Universal socket b) British (Type G, BS1363, MS589, SS145) c) French (Type E, CEE 7/5) d) Australian / China (Type I, AS / NZS3112, CCC) e) North American (Type B, NEMA 5-15R)	
Electrical Rating	10A, 250VAC, 2300W	10A, 125VAC, 1875W	10A, 100~250VAC (50/60Hz)	
Surge Energy Joule Rating	918J	540J	n/a	
Clamping Voltage	775V	400V	n/a	
Max Peak Spike Current	12,000Amps	12,000Amps	n/a	
Surge Protected Indicator	Yes	Yes	n/a	
Surge Protection Failure	Surge Circuit Shut Down & Auto Power Shut Down	Surge Circuit Shut Down & Auto Power Shut Down	n/a	
Fuse Type	Resettable Fuse	Resettable Fuse	10A Thermal Fuse	
Available Outlets	2x fixed, 1x swivel	1x fixed, 2x swivel	2x fixed	
Internet Controllable socket	2x fixed	2x swivel	2x fixed	
Power ON / OFF switch	n/a	Main power ON / OFF switch	Individual outlet power ON / OFF LED button	
Power Indicator	Green LED	Green LED	Orange LED	
Reset to Factory Default	n/a	n/a	Long press all 3 buttons	
Internet Indicator	Red LED	Red LED	Green LED	
Web Server CPU	32-Bit RISC CPU			
Supported browser	IE and Java			
Supported Network Protocols	HTTP, TCP/IP, UDP, SMTP, PPPoE, Dynamic DNS, DNS Client, SNTP, BOOTP, DHCP, FTP, SNMP.			
Network Access	10/100 Base-T , RJ45 (Cat. 5)			
Operating Environment	0°C ~ 60°C at 10% ~ 90% relative humidity. For indoor use only.			
Package	Color / White Box			

1.3. Network Diagram

The following Network diagrams applies to all 3 models of UIS-311, UIS-315 and UIS-322x.

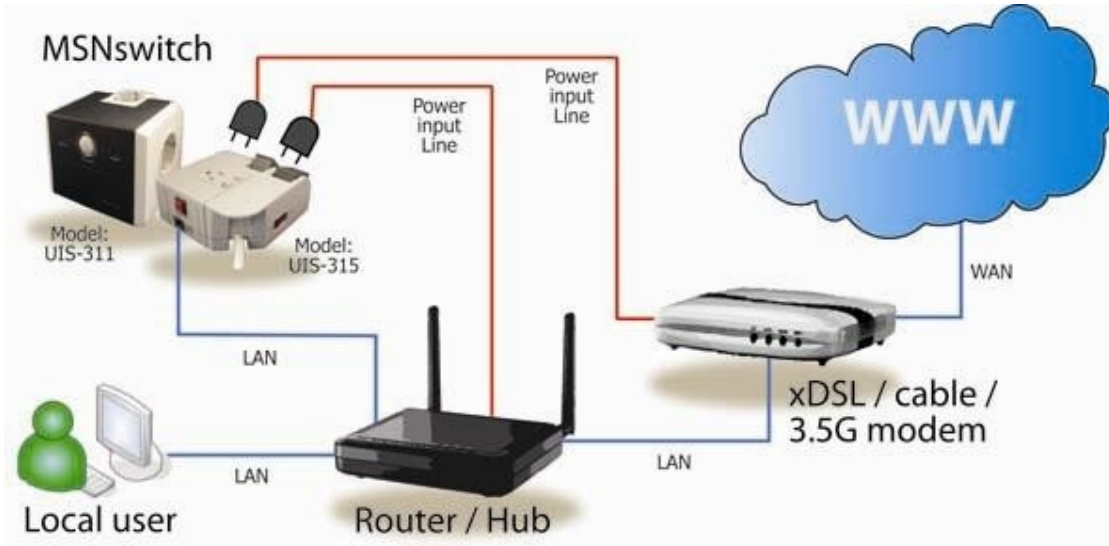


Fig.1 MSNswitch (UIS-311, UIS-315 & UIS-322x) setup to perform auto reset of router and modem

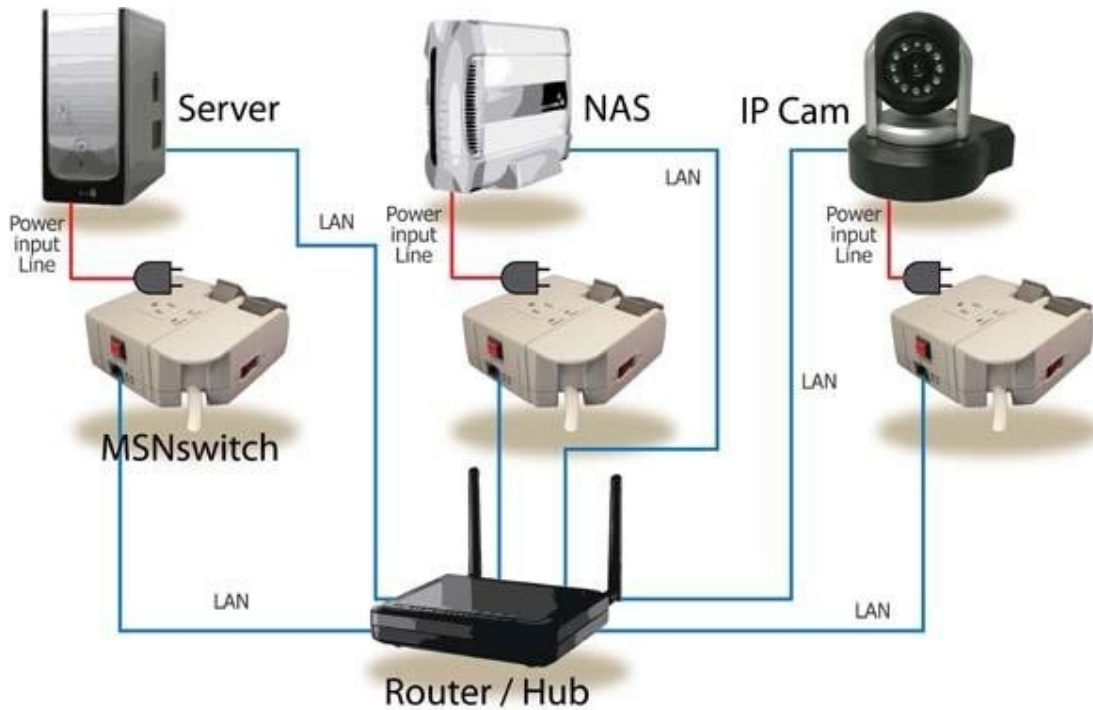


Fig.2 MSNswitch (UIS-311, UIS-315 and UIS-322x) setup to keep internet device alive.



Fig.3 MSNswitch (UIS-311, UIS-315 & UIS-323x) setup for remote control via MSN messenger or thru Web User Interface.

1.4. LED Indicators Explained

LED Status Indicators for Model: UIS-311 & UIS-315		
LED	LED status	Condition description
Green	ON	Both internet control-able power outlets are On.
Green	OFF	Both internet control-able power outlets are Off.
Green	Blink slowly	Outlet 1 On, Outlet 2 Off
Green	Blink rapidly	Outlet 1 Off, Outlet 2 On
Red	ON	System is currently in Protect Mode (only after pressing the UIS button). If there is a disconnection, the unit will reset. Do make sure internet is accessible before activating this feature.
Red	OFF	No internet connection
Red	Blinking	Internet is online

Fig.4 UIS-311 & UIS315 LED Indicator

LED Status Indicators for Model: UIS-322x		
LED	LED status	Condition description
Green	ON	Internet connection available and UIS mode has been activated.
Green	Blinking	There is internet connection. UIS mode button has not been activated.
Green	OFF	There is no internet connection.

Fig.5 UIS-322x LED Indicator

Light indicators on LAN Port	
Light color	Condition description
Green	When On: Internet speed is at 100M When flashing: Data transmitting / receiving
Yellow	On: Internet correspond speed is 10M Flash: Data transmitting / receiving

Fig.6 LAN LED Indicators

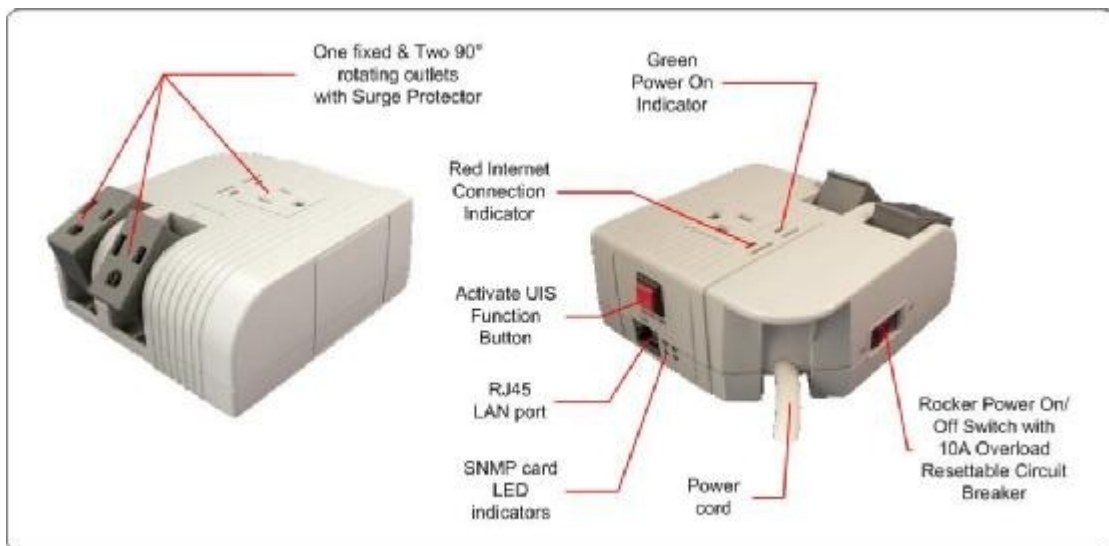


Fig.7 UIS315 description

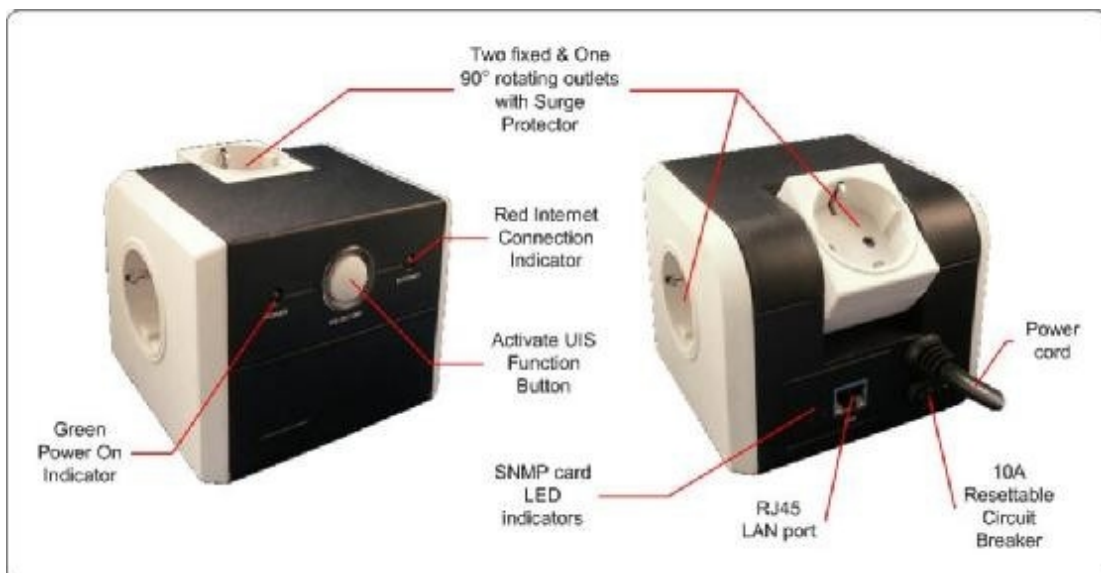


Fig.8 UIS311 description



Fig.9 UIS322x description

Chapter 2: Hardware Setup

The following details the hardware installation procedure for **UIS-315**.

Step 1:

Connect the plug to the main power outlet.

Step 2:

Connect the power plug to the MSNswitch power output port.



Note:

In order for MSNswitch to maintain continuous internet connection or reset your xDSL modem / Router, the router power input must be connected here.



Step 3:

Switch on the power. The Power LED light will turn on.



Step 4:

Connect LAN cable from the router to the MSNswitch LAN port. The Internet LED light will *blink* to show that the internet connection is ready.



Step 5:

Press the **UIS on/off** button to activate Internet Protection. The Internet LED will now stop blinking and stay on. (See LED indicator for reference)



Note:

Press UIS on/off button only when Internet LED is blinking. Pressing the button when Internet LED is OFF, results in continuous resetting.



The following details the hardware installation procedure for **UIS-311**.

Step 1:

Connect the plug to the main power outlet. The Green LED will light up.



Step 2:

Connect the power plug to the MSNswitch power output port.



Note:

In order for MSNswitch to maintain continuous internet connection or reset your xDSL modem / Router, the router power input must be connected here.

Step 3:

Connect MSNswitch LAN port to your router. The Internet LED light will *blink* to show that the internet connection is ready.



Step 4:

Press the **UIS on/off** button to activate Internet Protection. The Internet LED will now stop blinking and stay on. (See LED indicator for reference)



Note:

Press UIS on/off button only when Internet LED is blinking. Pressing the button when Internet LED is OFF, results in continuous resetting.

The following details the hardware installation procedure for **UIS-322x**.

Step 1:

Connect the power cord to device and wall outlet. The two orange LED will light up, indicating that the Outlet is ON.

Press the Orange LED for 2 seconds to turn the Outlet On / Off.



Step 2:

Connect the power plug to MSNswitch outlet.



Note:

In order for MSNswitch to maintain continuous internet connection or reset your xDSL modem / Router, the router power input must be connected here.



Step 3:

Connect LAN cable from your router.



Step 4:

Make sure the Internet LED light will *blink* to show that the internet connection is ready.

Press and hold (2 seconds) UIS On/Off button to activate internet protection.



Chapter 3: Software & Web Setup

3.1. Introduction

MSNswitch is designed to work without having to install any software (see hardware setup above). However, for advanced user the unit can be customized and configured for remote access. This gives the user further control over the power ports.

There are two ways to remotely control the outlets;

- a. Directly from the internet (setup domain name and port forwarding), see Section 3.3 or;
- b. Using instant messaging tool like MSN (future version will include Yahoo or ICQ), see Section 3.4.



Note:

Only Outlet 1 and 2 can be remotely controlled. The third outlet is fixed for local use only.

3.2. How to Locate & Access MSNswitch in LAN

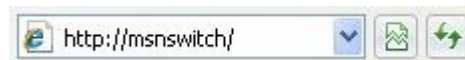
MSNswitch comes with a built-in Web User Interface (Web UI) that allows for more advanced control over the unit. There are two ways of accessing the Web UI in LAN (i.e. both MSNswitch and the PC is connected to the same router).

- a. by entering <http://MSNswitch> in the browser on the local PC; or,
- b. by using the Netility program.

3.2.1 Locate MSNswitch in LAN using Web link.

Step 1:

Open a browser and enter <http://MSNswitch>



Step 2:

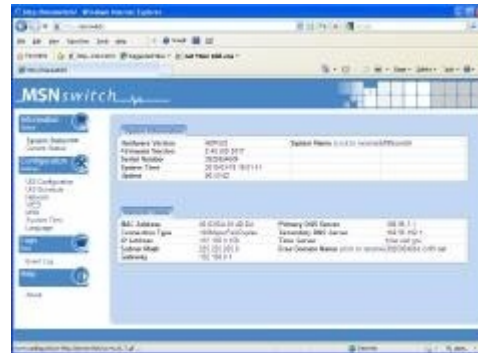
A password dialog box appears.

By default; User name is: **admin**
(Password field is left blank).

Press "OK".



Step 3:
Enter *MSNswitch* main menu.



3.2.2 Locate MSNswitch in LAN using Netility program.

Step 1:
Download the Netility program from <http://www.MSNswitch.com> or <http://www.Megatec.com.tw> and install.



Once installed Netility will locate and list the *MSNswitch* units.



- Note:**
1. Netility can only discover *MSNswitch* units that are located within the same LAN or network.
 2. Netility will show LAN IP if units are connected to a Router. Else, user will have to manually assign an IP address.

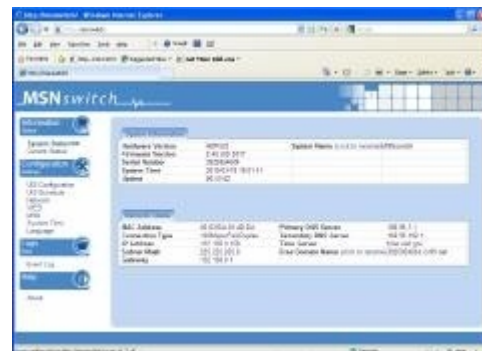
Step 2:
Click “Launch Device” to run Internet Explorer (or your default browser) and access the IP address of the unit.



A password dialog box will appear.

By default; User name: **admin** (Password field is left blank). Press “OK”.

Step 3:
Enter *MSNswitch* main menu.



3.3. How to Access MSNswitch from WAN – using DDNS

The MSNswitch Web User Interface (Web UI) above can also be access remotely from Wide Area Network (WAN). To do so;

- i. Setup port forwarding at your router.
 - a. Login to your router setup / configuration page.
 - b. Goto **Port Forwarding / Virtual server** section and **open (allow)**: WAN Port 80; Type/Protocol: TCP.

and,
- ii. Setup a Domain Name for your Dynamic WAN IP. User can choose to either;
 - a. Use the free pre-assigned domain name.
 - a. Each MSNswitch assigned a unique domain name as <serial_number>.iCV99.net.
 - b. Rename this by browsing to <http://MSNswitch> **System Status** **Network Status** **free domain name**.

OR;

- b. Use 3rd Party free DDNS providers. To do so;
 - a. Browse to these 3rd party free DDNS provider website;
 - 3322.org
 - dhs.org
 - DynDNS (Dynamic)
 - DynDNS (Custom)
 - myDDNS
 - Zive.org
 - b. Create a new user account and password.
 - c. Register a Domain Name for your current Dynamic WAN IP.
 - d. Browse to <http://MSNswitch> **Configuration** **Network** **Dynamic DNS**. Select the service provider, enter the registered domain name, user account, password. Click **Apply**.

MSNswitch is now accessible from remote using the newly registered Domain Name.

For a description of Network **Dynamic DNS** functions see section 4.2.3. part (v) below.

3.4. How to Access MSNswitch from WAN - using Instant Messanging Tool

MSNswitch supports Instant Messaging Tools like MSN Messenger (Yahoo, ICQ, etc will be available in future firmware).

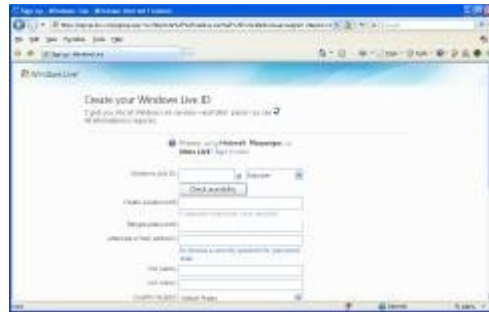
Once setup, you can get notifications and issue commands to check the status, as well as turn on/off power or power-cycle certain ports using MSN Messenger and like tools.

3.4.1. How to Setup Instant Messaging for MSNswitch

Step 1:

From PC, run MSN Messenger or goto <http://www.MSN.com> to create a new Windows Live ID or account. An ID or account will have to be created for each MSNswitch device.

Remember the user name and password.

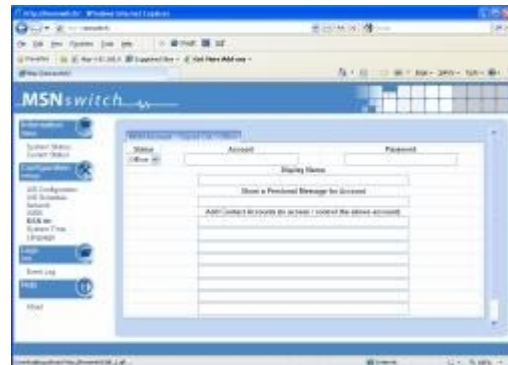


Step 2:

Browse to <http://MSNswitch> € MSN Configuration € MSN

Select **Online** and enter the new MSN account (User Name), password, **Contact Account** and click **Apply**.

Contact Account refers to your own MSN account / whoever wants to control MSNswitch.



Step 3:

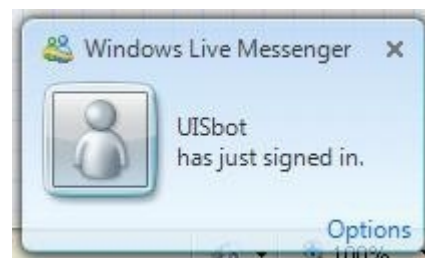
Allow a few moments for MSNswitch to connect and Sign in. The connection status will be shown on the heading.



Step 4:

Once connected, those users listed in **Contact Account** will receive a notification to add MSNswitch as 'friend'.

Once added, you can control MSNswitch by chatting with it.



Note: Only the users listed in *Contact Account* can command MSNswitch. If you are removed from this list, you will still be MSNswitch 'friend' but will not be able to command it!

3.4.2. How to Control MSNswitch using Instant Messaging

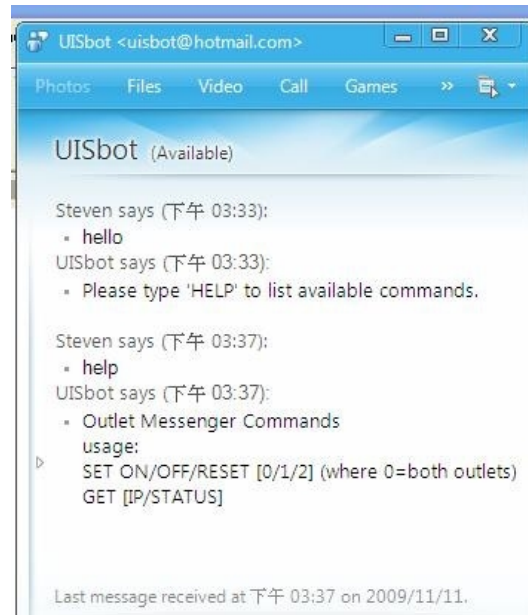
After setting up and getting connected as above. Bring up the MSNswitch MSN dialog box.

Type anything other than Keywords will invoke MSNswitch to respond with "Please type HELP to list available commands."

Available commands are (non case sensitive):

SET [ON/OFF/RESET] [0/1/2] (where 0=both outlets)

GET [IP/STATUS]



SET ON / OFF / RESET command will return a "Done!" once MSNswitch has completed the action.



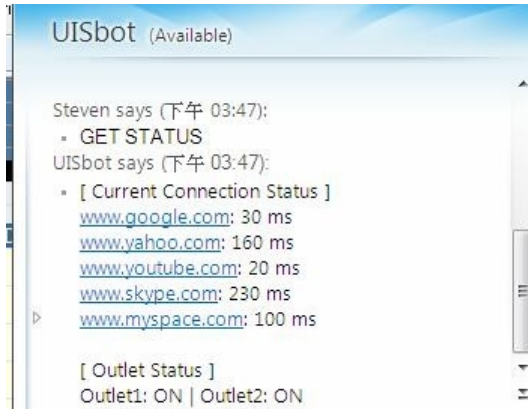
GET IP command will return the WAN IP and the unit's LAN IP address.

If port forwarding is set, but not the domain name, user can still use WAN IP to access MSNswitch Web User Interface from internet.



GET STATUS command will return the following information.

For [Outlet Status] the Outlet1 and Outlet2 name can be assigned. This is done at <http://MSNswitch> Configuration ➤ UIS Configuration ➤ Outlet Setup.



Chapter 4: MSNswitch Web User Interface

4.1. Information

The Information tab contains the following subsections;

4.1.1 System Status,

4.1.2 Current Status;

4.1.1 System Status

This webpage displays System Status Information.

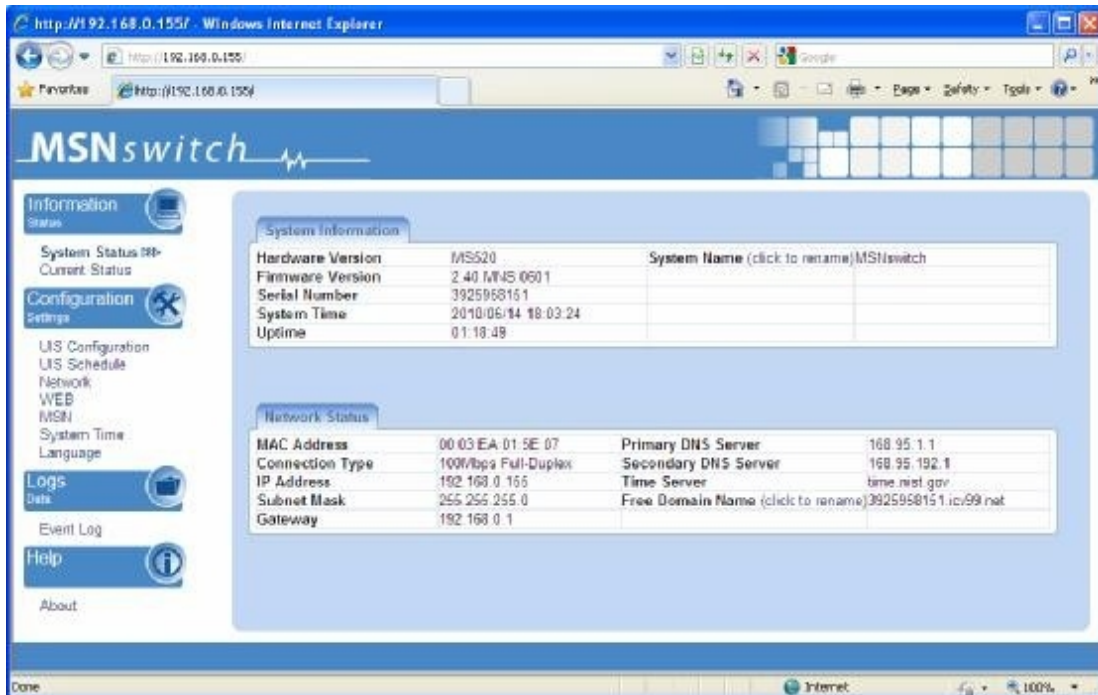


Fig.10 System Status page

i. System Information

This section shows general hardware information such as the Hardware and Firmware Version, the serial number, current / local System Time, uptime and; System Name

System Name

By default the System Name (LAN Domain Name) is set to **MSNswitch**. This allows the unit to be easily located in LAN without needing to know the LAN IP address. Just type //MSNswitch in a browser while in the same LAN as the device and you will be able to find this Web UI.



Note: If you have multiple MSNswitch unit, you should assign different System Name to each unit. Do this by renaming the System Name individually.

ii. Network Status

This section shows all information relating to Network environment.

Free Domain Name

By default, each unit is assigned a Free Domain Name. The domain name is assigned as <serial_number>.iCV99.net. The DDNS server site is located at DDNS.iCV99.net. User can change this by clicking “Click to Rename” link to ddns.iCV99.net.



Note: Other than Domain Name, user will also need to do Port Forwarding in order to view the Web UI from remote. See how to do Port Forwarding in Appendix A.

4.1.2 Current Status

This section displays the current status of the outlets. It also display the ‘PING’ response time from each of the 5 preset sites.

This page will auto refresh every 5 seconds.

The screenshot shows the MSNswitch web interface in Internet Explorer. The main content area is titled 'Current Status' and contains two tables. The first table, 'Connect Status', shows the response times for five target sites. The second table, 'Outlet Status and Control', shows the status of two outlets, 'Outlet1' and 'Outlet2', both of which are 'ON'. Each outlet has a status icon (a yellow square with a black exclamation mark) and a 'Reset' button. Red arrows point from text boxes to these icons and buttons.

Target Site	IP Address	Response Time
www.google.com	74.125.163.104	90 ms
www.yahoo.com	72.30.2.43	160 ms
www.bing.com	203.69.113.35	10 ms
www.ask.com	203.69.139.41	10 ms
www.skype.com	204.9.163.162	230 ms

Outlet Name	Outlet Status	Outlet ON/OFF Control	Reset Outlet
Outlet1	ON		Reset
Outlet2	ON		Reset

Click on the icon to turn the Outlet On or Off.

Click on the icon to Reset the Outlet

Fig.11 Current Status page

4.2 Configuration

The following option allows the user to configure the MSNswitch.

4.2.1 UIS Configuration

4.2.2 UIS Schedule

4.2.3 Network

4.2.4 WEB

4.2.5 MSN

4.2.6 System Time

4.2.7 Language

4.2.1 UIS Configuration

Use this section to configure *MSNswitch*. Advance users can use this to customize *MSNswitch* for specific purposes.

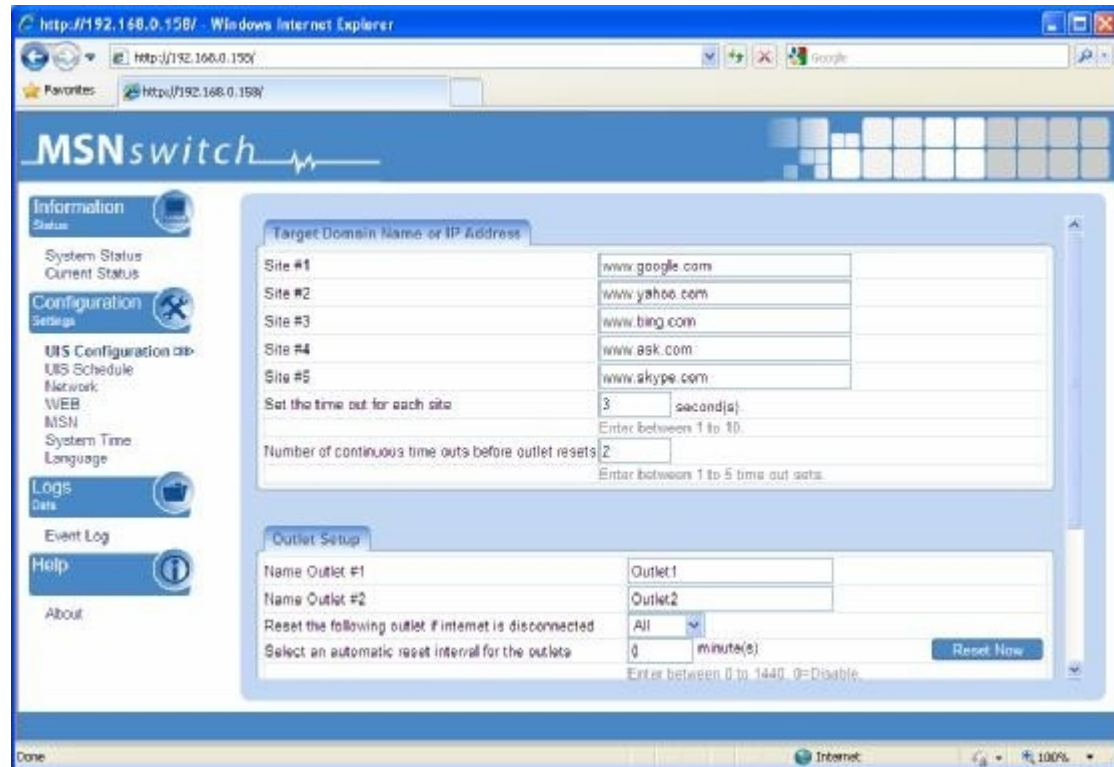


Fig.12 Configuration page

i. Target Domain Name or IP Address

Target Domain Name or IP Address	
Site #1	www.google.com
Site #2	www.yahoo.com
Site #3	www.bing.com
Site #4	www.ask.com
Site #5	www.skype.com
Set the time out for each site	3 second(s) Enter between 1 to 10.
Number of continuous time outs before outlet resets	2 Enter between 1 to 5 time out sets.

Enter reliable sites to target.

Fig.13 Target domain names

Site #1 to #5

Enter reliable / trusted sites to Target. *MSNswitch* will check how long it takes the site to respond.

Note: The target site can be a Domain Name, IP address or even LAN IP address. For instance the Router's IP.

Set the time out for each site

The target site must respond within this time. Else it is considered a time out. Default is set to 3 seconds.

**Note:**

A larger time-out will allow for instances of delay or lag from target sites.

Number of continuous time outs before outlet resets

Refers to the number of times all target site time out before it resets. Default is set to 2 sets.

ii. Outlet Setup

Outlet Setup	
Name Outlet #1	Outlet1
Name Outlet #2	Outlet2
Reset the following outlet if internet is disconnected	All <input type="button" value="v"/>
Select an automatic reset interval for the outlets	0 minute(s) <input type="button" value="Reset Now"/>
	Enter between 0 to 1440. 0=Disable.
Set the power-on delay between Outlet #1 and Outlet #2	10 second(s)
	Enter between 0 to 60 seconds.
Set the individual outlet power reset interval	2 second(s)
	Enter between 1 to 120 seconds. Applies to both outlet.
Set delay before checking the internet after power resets	0 minute(s)
	Enter between 0 to 30 minutes.

Name Outlet #1, Name Outlet #2

Name the outlet in order to identify the connected device. This also allows ease of reference when using MSN or setting schedules.

Reset the following outlet if internet is disconnected

Select either all outlets, Outlet #1 or Outlet#2 resets.

Note (applicable to model UIS-322 only): The outlet will remember its last power status. If an outlet is initially *Off*, it will not perform a reset! Reset command only applies to outlets that are *On*.

Select an automatic reset interval for the outlets

MSNswitch will reset the outlets every xx minutes. Choose a figure between 1 to 1440 minutes. Default is 0, disabled.

**Note:**

1. Only the Outlet that is originally ON will be reset. If the outlet is OFF, it will not reset. Turn it ON / OFF at Information \in Current Status.
2. Power to both Outlets #1 & #2, will turn Off and then On, subject to any "Set the power-on delay between Outlet #1 and Outlet #2" settings.

Set the power-on delay between Outlet #1 and Outlet #2

Set the power on interval between Outlet #1 and Outlet #2. Set to 0 to disable this feature. Default is set to 10 seconds.

Note: This feature only works if BOTH Outlets are in the ON state, when power resets. If the Outlet is OFF, it will not "Reset".

Set the individual outlet power reset interval

Set the Off --> On interval for the Outlet. This applies to both outlets.

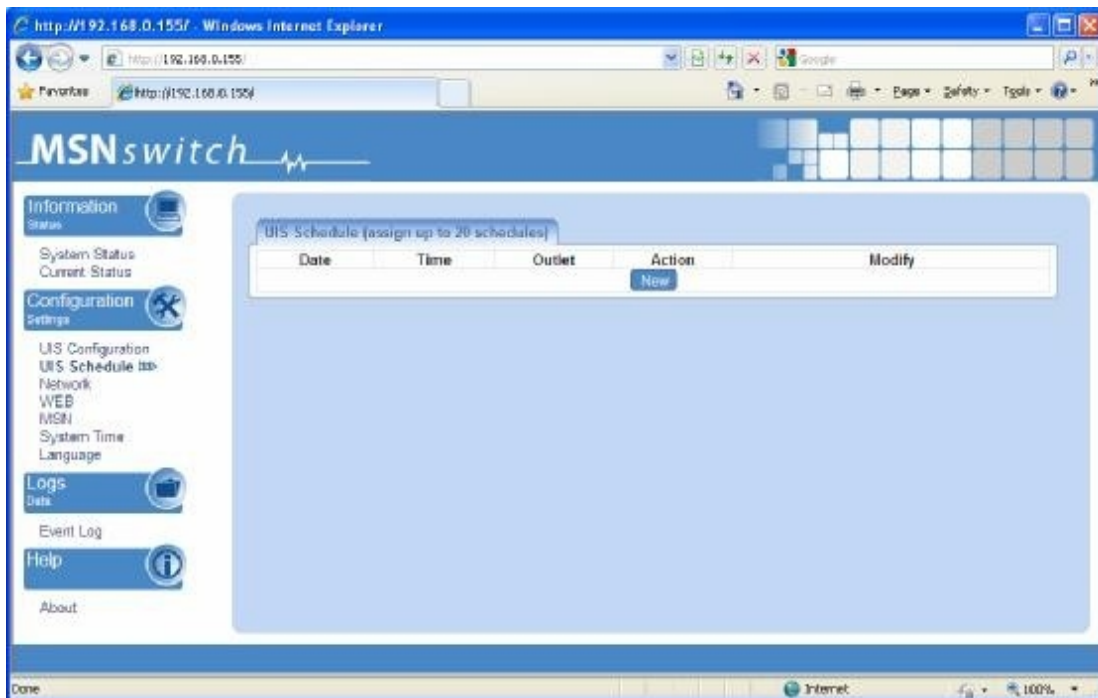
Set delay before checking the internet after power resets

If this is set to 0, MSNswitch will only check the internet ONCE and immediately upon power being reset to both outlets.

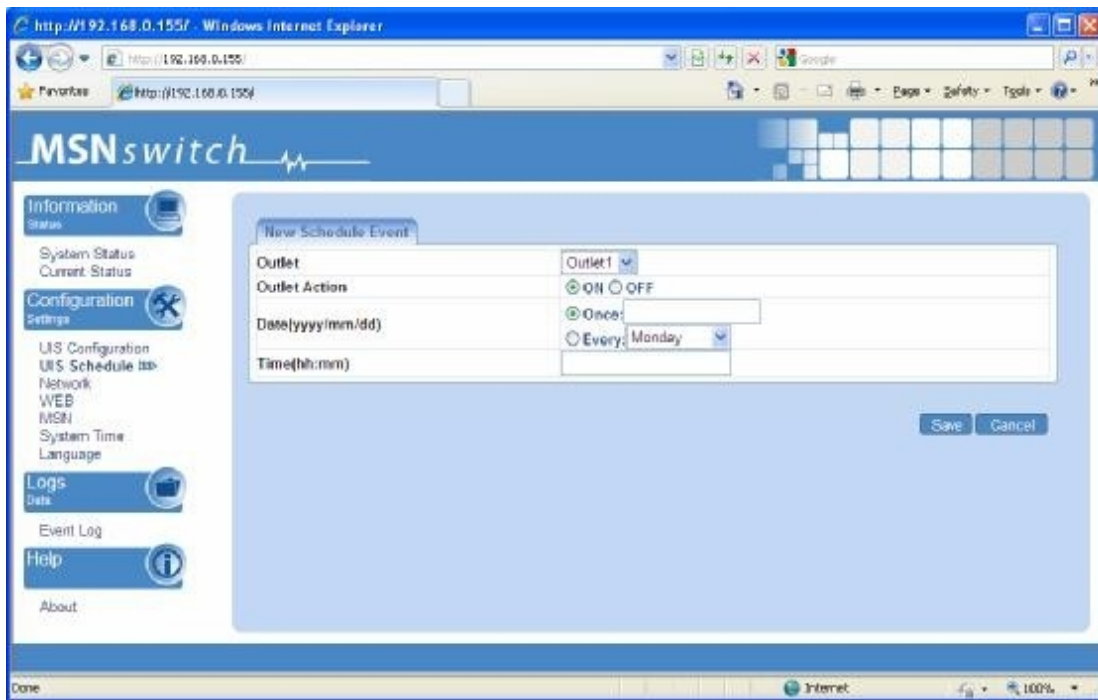
If this is set to any other times, then MSNswitch will recheck the internet connection every xx minutes. If the target sites are not reachable, it will reset.

4.2.2 UIS Schedule

This option allows the user to schedule the power on / off / reset for each of the two outlets. Outlet #3 cannot be scheduled.



Click new to open up the 'New Schedule Event' page.



i. **New Schedule Event**

Outlet

Select to schedule an event for either Outlet #1 or Outlet #2.

Outlet Action

Select to either turn Outlet #1 or #2, On or Off.

Date (yyyy/mm/dd)

Select to frequency of the event to be either;

- a. Once (in which case enter the date as 2009/04/07) or;
- b. Reoccurring on a particular day, or
- c. A daily event.

Time (hh:mm)

If it is either a reoccurring on a particular day or a daily event, then enter the time it occurs in 24hr format.

4.2.3 Network

This option allows the user to configure the IP address, port number and DDNS functions.

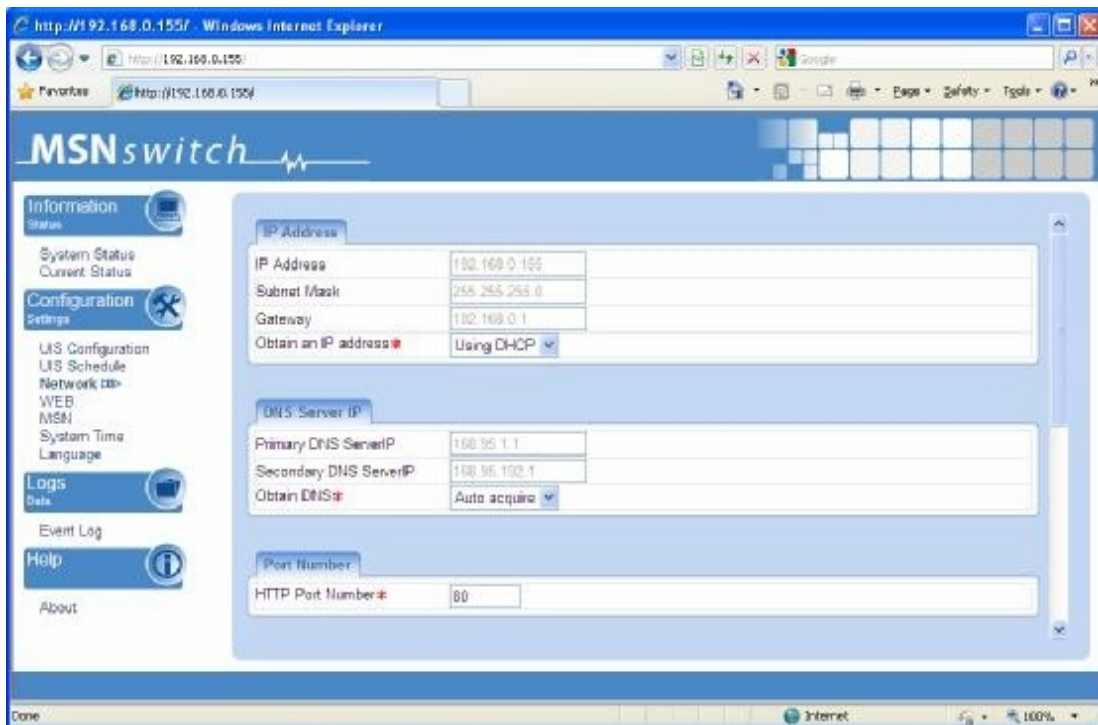


Fig.14 Network Settings

i. IP Address

IP Address	
IP Address	192.168.0.158
Subnet Mask	255.255.255.0
Gateway	192.168.0.1
Obtain an IP address*	Using DHCP

Fig.15 IP Address

IP Address

This determines / displays MSNswitch IP address. By default, the LAN IP address assignment method is set to DHCP. That is it will use the IP address that the router assign to it.

Subnet Mask

Display MSNswitch Subnet Mask.

Gateway

This item set MSNswitch Gateway.



To learn more about the above, see **Appendix A: IP address, Subnet and Gateway**

Obtain an IP address

This allows the user to either manually set or use DHCP (default) function to obtain the IP address from the router.



Note: Click **Apply** to confirm. *MSNswitch* will reboot. If, **Manually** selected, user must now enter the new IP address in the browser in order to open the web UI.

ii. DNS Server IP

Fig.16 DNS Server IP

Primary DNS Server IP

This item sets *MSNswitch* primary DNS Server IP address. By default this is set to 168.95.1.1. User can set their own preferred DNS server / one that is assigned by ISP.

Secondary DNS Server IP

Use this to set *MSNswitch* **Secondary DNS Server IP** address. *MSNswitch* will use the **Secondary DNS Server IP** address if the **Primary DNS Server IP** address is not working. The default IP is 168.95.192.1

iii. Port Number

Fig.17 Port Number Settings

HTTP Port Number

This determines the LAN port from which the webpage (using HTTP protocol) is accessible thru your Router. By default the LAN port number is **80**.

If this port is changed, say to 82, then <http://x.x.x.x:82> (where x.x.x.x is *MSNswitch* LAN IP address as shown in Netility) must be used in order to access *MSNswitch* web interface in LAN.

Note: Changes here will result in a system reboot.

iv. Ethernet

Fig.18 UIS Ethernet Settings

Connection Type

User can choose between 10M or 100Mbps or Full or Half duplex connection type. This is generally left to Auto Sense for ease of management.

Note: Changes here will result in a system reboot.

v. Dynamic DNS

Dynamic DNS	
Services Provider	None
	Select an additional DDNS provider. Use this as back-up to the free pre-assigned Domain Name
Domain Name	
Login Name	
Login Password	
Use Public IP to update DDNS	Yes

Dynamic DNS (“DDNS”) allows the user to alias a dynamic IP address to a static hostname. So no matter how many times your ISP changes the IP address you will be able to locate your unit over WAN.

Each MSNswitch is pre-assigned with a free Domain Name at <serial_number>.iCV99.net. Browse to ddns.iCV99.net for information.

Apart from this, user can opt to choose other 3rd party free DDNS providers like;

- 3322.org
- dhs.org
- DynDNS (Dynamic)
- DynDNS (Custom)
- myDDNS
- Zive.org

In general, to register a Domain Name with one of these sites;

- c. Go to the DDNS provider website listed above.
- d. Register a new user account and password with the DDNS provider.
- e. Choose a Domain Name to point to your current Dynamic IP
- f. Enter information obtained in (b) and (c) into the corresponding DDNS fields in MSNswitch.

Domain Name

This is the Domain Name you have created from the above selected DDNS provider.

Login Name

This is the Login / Account name that you have created with the selected DDNS provider.

Login Password

Enter the Password you have assigned to your DDNS Account.

Use Public IP to update DDNS

Choose **Yes** to ensure that MSNswitch uses the WAN / Public IP to update the selected DDNS server.

4.2.4 WEB (User Account)

This webpage allows you to set an administrator password.

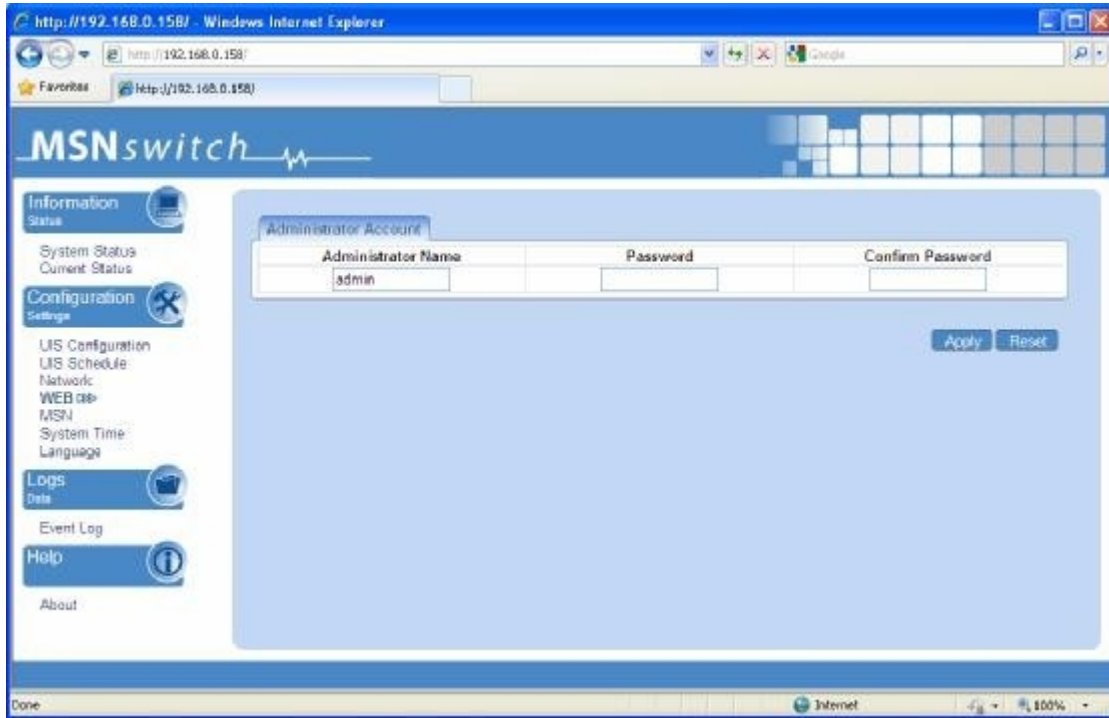


Fig.19 WEB (User account) Settings

i. Administrator Account

Administrator Account		
Administrator Name	Password	Confirm Password
admin		

Fig.20 Administrator Settings

Administrator Name

The administrator can set a name consisting up to 32 case sensitive characters. By default the Administrator Name is set to **admin** (no password set, just hit enter to login)

Password

Assign a password to the account. The administrator can set up to 32 case sensitive passwords.

Confirm Password

Retype the password.

4.2.5 MSN

This feature allows *MSNswitch* to be controlled via Instant Messaging tools like MSN, etc.

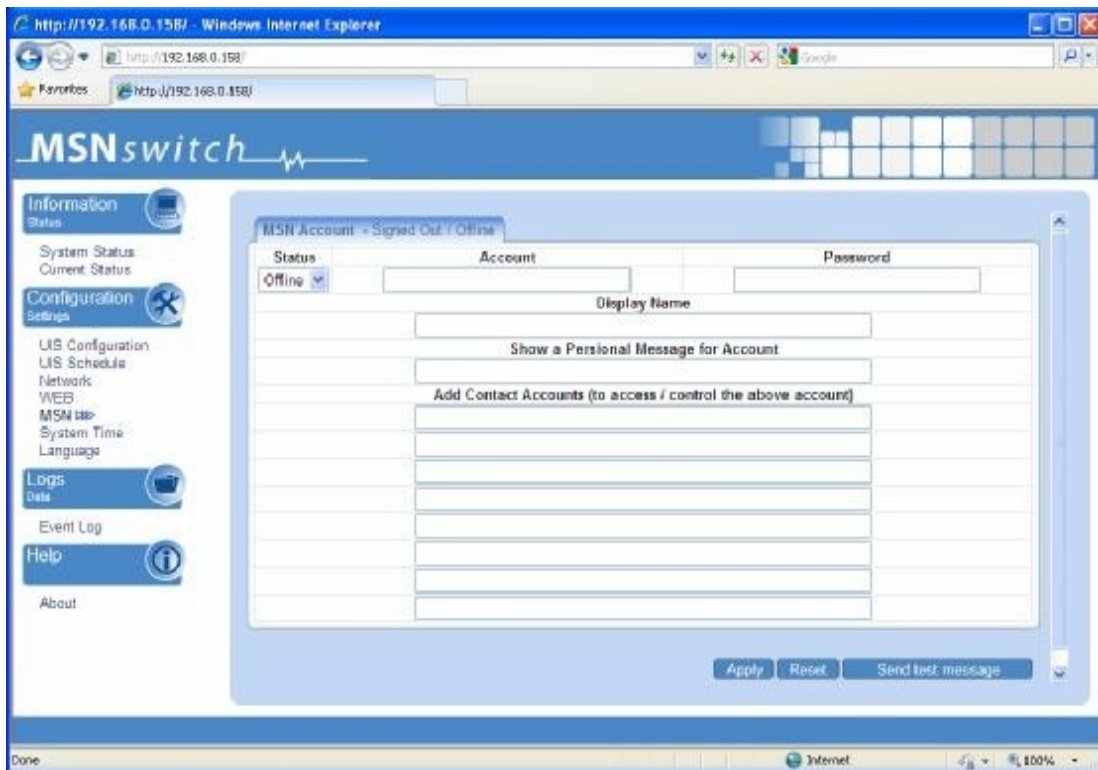
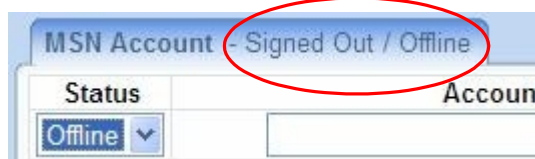


Fig.21 MSN Settings page

i. MSN Account



For current MSN account status, check the tab.

Status

This determines the status of the *MSNswitch* (MSN) account. Select either 'Offline' or 'Online'

Account

Enter the *MSNswitch* (MSN) ID number that you have created from Windows Live website.

Password

Enter the assigned password.

Display Name

This is the name that others will see this *MSNswitch* as.

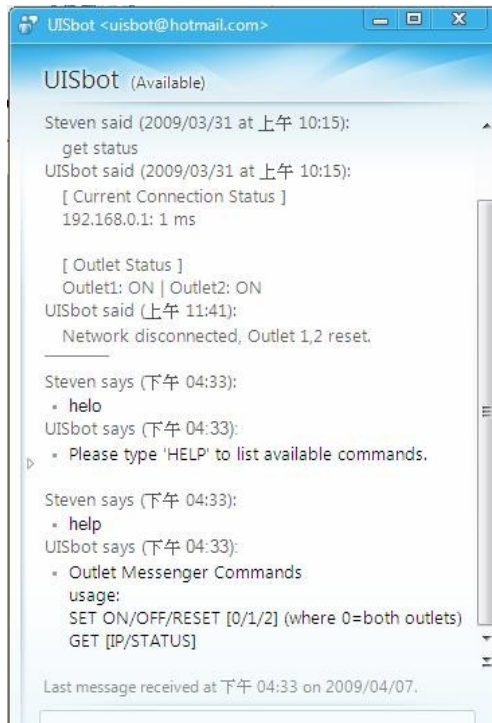
Show a Personal Message for Account

Enter a message here. This message will be visible to anyone that is the MSNswitch (MSN) contact list.

Add Contact Accounts (to access / control the above account)

The administrator can assign up to 8 MSN user accounts that can receive information or control the MSNswitch (MSN) account.

Once assigned, you will then be able to command the MSNswitch from your MSN account. Just type a random character and will respond with instructions.



4.2.6 System Time

This page allows the Administrator to set SNMP settings so it can be used by a NMS (Network Management System).

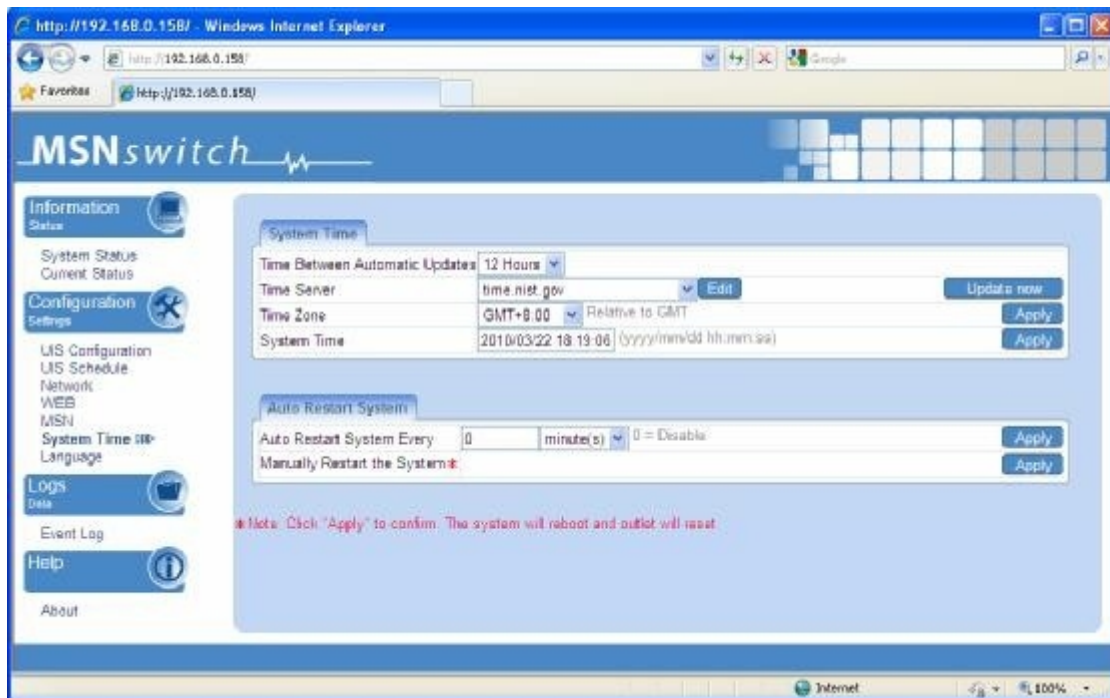


Fig.22 System Time Settings page

i. System Time

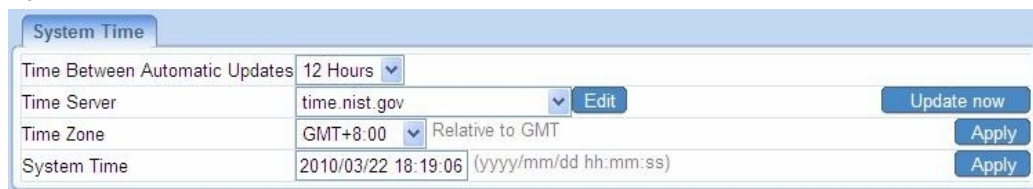


Fig.23 System Time

Time Between Automatic Updates

The user can set an interval for time synchronization. Select from either; none, 1, 3, 12 hours or 1, 10 & 30 days.

Time Server

Choose the nearest **Time Server** to your location. The user can choose from the list of a maximum of 30 Time Servers.

To add a new **Time Server**, click **Edit**, delete an existing **Time Servers** from the list, then, the **Add** dialog box will appear. Click **Back** to return to the System Time Settings webpage.

Time Zone (Relative to GMT)

Select the appropriate time zone. Click **Apply** to save changes.

System Time (yyyy/mm/dd hh:mm:ss)

This section is to manually set MSNswitch **System Time**. The format is pre-determined to: yyyy/mm/dd hh:mm:ss (in 24hr format). Click **Apply** to save the changes.

ii. Auto Restart

Fig.24 System Restart

Auto Restart System every ... (0: Disabled)

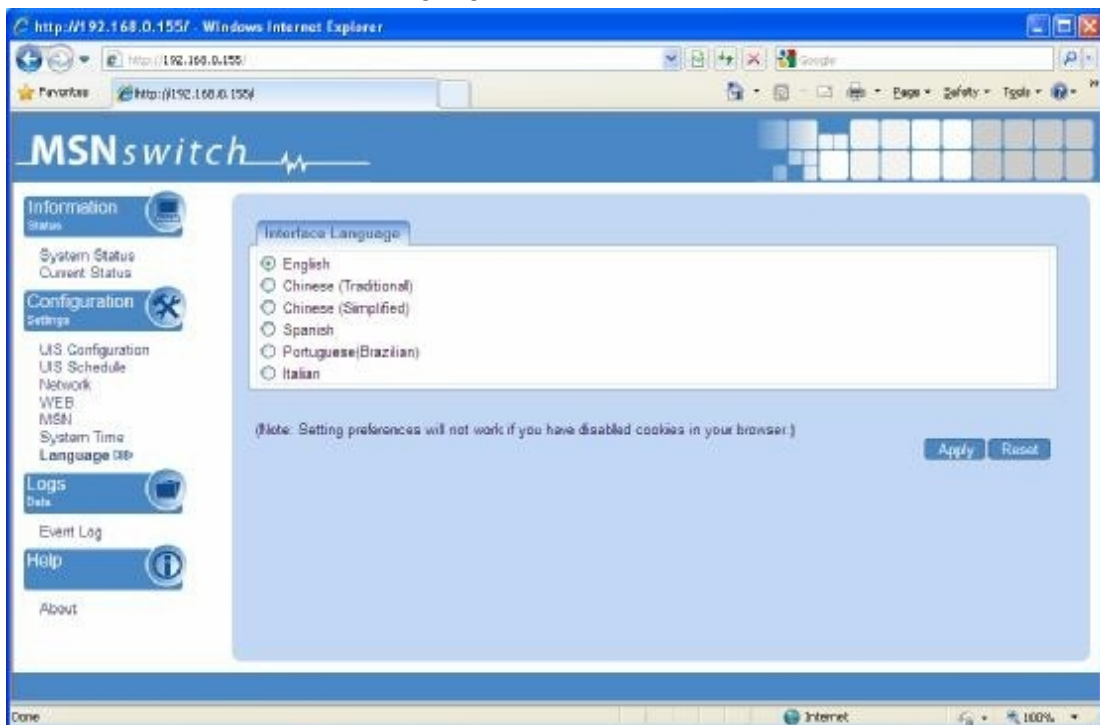
Set the MSNswitch server to automatically restart after a preset interval. This will reset the server. The power supply to individual outlet is not disrupted during the server restart process. Use this to guard against system freeze.

Manually restart the system

Click **Apply** to manually restart the system immediately.

4.2.7 Language

Use this section is to set the language interface.



i. Language

Choose the language for the Web UI.

4.3 Log Information

This section will log events and categorize it into three types;

- Warning – if there is a time-out or target site IP address is not resolvable.
- Status – refers to events such as Outlets turning On or Off,
- Notification – when the system restarts or fails to connect to time servers.

4.3.1 Event Log

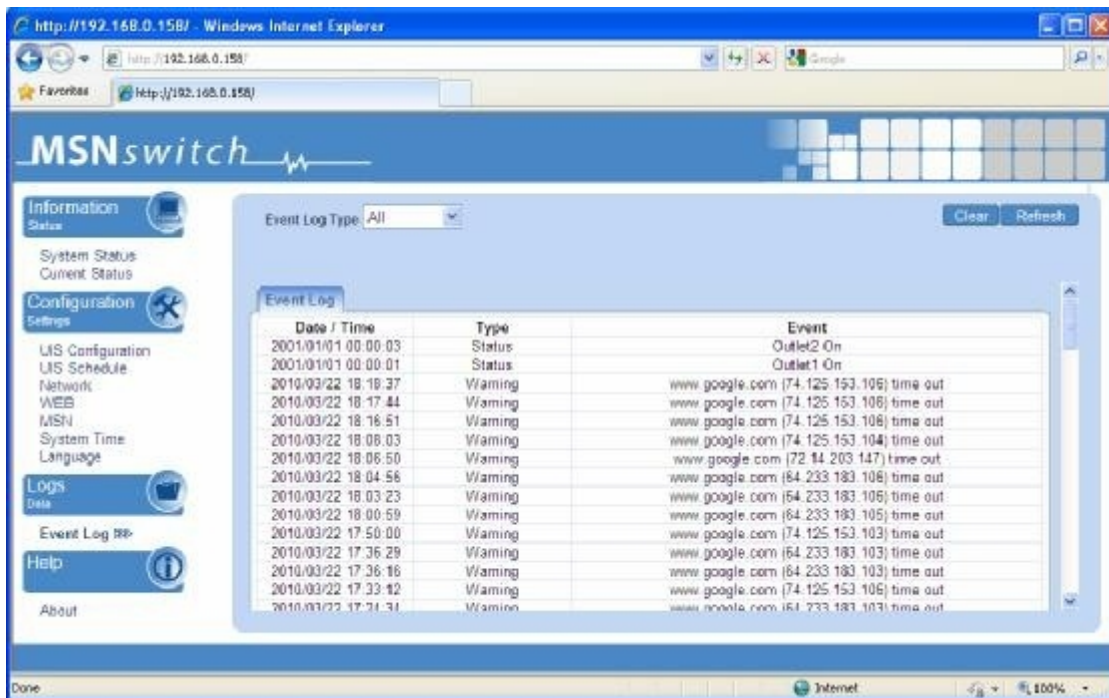


Fig.25 Individual Camera Configuration

4.4 Help

4.4.1 About

The administrator can use this section to check firmware information, save/restore settings, and see manufacturer's details.

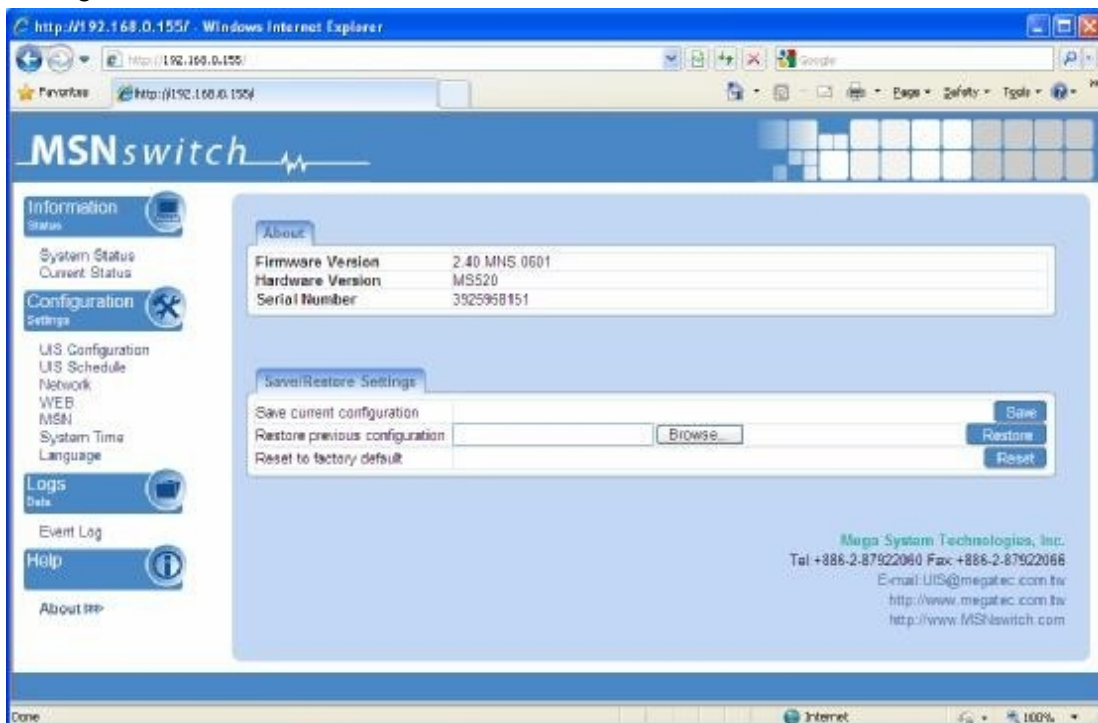


Fig.26 About page

i. About

This shows the Firmware Version, Hardware Version and Serial Number.

ii. Save / Restore Settings

Save Current Configuration

Click **Save** to save the configuration to your PC. The text file will have a default format of YYYY_MMDD_####.cfg. Administrator permission required.

Restore Previous Configuration

Use this function to restore a *.cfg configuration that has been saved earlier. Click **Browse...** to the location of the file and click **Restore**.

Reset to factory default

This function will reset all settings to its default value.

Appendix A: Router Configuration

The following section describes the initial configuration of the router and port forwarding for your router. If your router is not listed here, please refer to the manufacturer's website for assistance with configuring your router to work with *MSNswitch*.

Port Forwarding for *MSNswitch*

MSNswitch requires certain ports to be open on your router to allow other computers on the Internet to view it on your internal network. Normally, your router will have the less common ports disabled or blocked by the router's built-in firewall. In order for *MSNswitch* applications to work properly and not be blocked, the firewall settings need to be configured. In each instance there will be a trigger port and incoming port(s), where traffic on the trigger port tells the Firewall to open the incoming ports. *MSNswitch* require that TCP Port 80 (default settings) be opened to the Internet. TCP Port 80 is used for accessing the *MSNswitch* homepage.

If your Internet service Provider blocks port 80/9001, you'll need to reconfigure your camera and router to other ports such as 81/9002, 82/9003, etc. To change the port settings on the camera, you'll need to use Utility.

Below are some examples of setups, you should refer to your Router's User manual or contact your router manufacturer for assistance in configuring the router.

D-Link (<http://www.dlink.com>)

DI-604/DI – 614+/DI-624

1. Log into your router using your router IP.
2. On the main page, click on **Advanced** at the top of the page.
3. On the left side of the page, click on **Virtual Server**. Note: Make sure DMZ host is disabled. If DMZ is enabled, it will disable all Virtual Server entries.

4. Enter the following information on the page:

Enable/Disable:	Enabled
Name:	<i>MSNswitch</i> - Webpage
Private IP:	Type in the UIS LAN IP address , for example: 192.168.0.5
Protocol Type:	TCP
Private Port:	80
Public Port:	80
Schedule:	Always

5. Click **Apply** to save the settings. *MSNswitch* should now be configured to work with your router and be accessible from the internet.

DI-704/704P

1. Log into your router using your router IP.
2. On the main page, click on **Advanced** at the top of the page.
3. On the **Virtual Server** page, enter the following information;
For ID#1:
Service Port: 80
Service IP: Type in the **MSNswitch IP address**, for example: 192.168.0.5
Enabled/Disabled: Enabled
4. Save your settings. MSNswitch should now be configured to work with your router and be accessible from the internet.

Dell (<http://www.dell.com>)

TrueMobile 2300 Wireless Broadband Router

1. Log into your router using your router IP.
2. On the main page, click on **Advanced Settings** at the top of the page.
3. Go to the Port Forwarding section and select Custom Port Forwarding Settings.
4. Check the **Enable** box.
5. Enter the desired name or description in the **Service Name** field such as **MSNswitch Web**.
6. In the **Incoming Ports** field, specify port **80** in both boxes.
7. In the **Destination IP Address** field, enter MSNswitch LAN IP address.
8. In the **Destination MAC Address** field, enter MSNswitch MAC address. You can find the camera's MAC address by either looking at the MAC address sticker on the bottom of the camera or by utilizing setup utility to display the MAC address.

Microsoft (<http://www.microsoft.com/hardware/broadbandnetworking>)

MN-100 – Wired Base Station

MN-500 – Wireless Base Station

1. Log into your router using your router IP.

2. Open the Bass Station Management Tool, and then click **Security**.
3. On the Security menu, click **Port Forwarding**, and then click **Set up persistent port forwarding**.
4. In the Enable checkbox, check in the checkbox.
5. In the Description box, type a description of the server field such as: **MSNswitch Web**.
6. In the Inbound port boxes, type in: **80 – 80**. (i.e. from Port 80 to Port 80)
7. In the Type box, select the protocol as **TCP**.
8. In the Private IP address box, type in the **IP Address** of MSNswitch network. For example, type in: 192.168.0.5.
9. In the Private port boxes, these values are automatically filled in from Step 6 and should already show **80 – 80**.
11. Click **Apply** to save the changes you have made. MSNswitch should now be configured to work with your router and be accessible from the internet.

Appendix B: IP Address, Subnet and Gateway

This section discusses Communities, Gateways, IP Addresses and Subnet masking

Communities

A community is a string of printable ASCII characters that identifies a user group with the same access privileges. For example, a common community name is “public”. For security purposes, the SNMP agent validates requests before responding. The agent can be configured so that only trap managers that are members of a community can send requests and receive responses from a particular community. This prevents unauthorized managers from viewing or changing the configuration of a device.

Gateways

Gateway, also referred to as a router, is any computer with two or more network adapters connecting to different physical networks. Gateways allow for transmission of IP packets among networks on an Internet.

IP Addresses

Every device on an Internet must be assigned a unique IP (Internet Protocol) address. An IP address is a 32-bit value comprised of a network ID and a host ID. The network ID identifies the logical network to which a particular device belongs. The host ID identifies the particular device within the logical network. IP addresses distinguish devices on an Internet from one another so that IP packets are properly transmitted.

IP addresses appear in dotted decimal (rather than in binary) notation. Dotted decimal notation divides the 32-bit value into four 8-bit groups, or octets, and separates each octet with a period. For example, 199.217.132.1 is an IP address in dotted decimal notation.

To accommodate networks of different sizes, the IP address has three divisions – Classes A for large, B for medium and C for small. The difference among the network classes is the number of octets reserved for the network ID and the number of octets reserved for the host ID.

Class	Value of First Octet	Network ID	Host ID	Number of Hosts
A	1-126	First octet	Last three octets	16,387,064
B	128-191	First two octets	Last two octets	64,516
C	192-223	First tree octets	Last octet	254

Any value between 0 and 255 is valid as a host ID octet except for those values the InterNIC reserves for other purposes

Value	Purpose
0, 255	Subnet masking
127	Loopback testing and interprocess communication on local devices
224-254	IGMP multicast and other special protocols.

Subnetting and Subnet Masks

Subnetting divides a network address into sub-network addresses to accommodate more than one physical network on a logical network.

For example:

A Class B company has 100 LANs (Local Area Networks) with 100 to 200 nodes on each LAN. To classify the nodes by its LANs on one main network, this company segments the network address into 100 sub-network addresses. If the Class B network address is 150.1.x.x, the address can be segmented further from 150.1.1.x through 150.1.100.x

A subnet mask is a 32-bit value that distinguishes the network ID from the host ID for different sub-networks on the same logical network. Like IP addresses, subnet masks consist of four octets in dotted decimal notation. You can use subnet masks to route and filter the transmission of IP packets among your sub-networks. The value "255" is assigned to octets that belong to the network ID, and the value "0" is assigned to octets that belong to the host ID.

For the example above, if you want all the devices on the sub-networks to receive each other's IP packets, set the subnet mask to 255.255.0.0. If you want the devices on a single sub-network only to receive IP packets from other devices on its own sub-network, set the subnet mask to 255.255.255.0 for the devices on the sub-network.

Subnet Mask	Routing and Filtering
0.0.0.0	IP packets are transmitted to all devices.
255.0.0.0	IP packets are only transmitted to devices that are IP that's first octet matches the sender's IP address's first octet.
255.255.0.0	IP packets are only transmitted to devices that are IP that's first two octets match the sender's IP address's first two octets.
255.255.255.0	IP packets are only transmitted to devices that are IP that's first three octets match the sender's IP address's first three octets.

Appendix C: Glossary

The Glossary section defines the terms used in this User Manual

Term	Definition
Ethernet	Local Area Network technology, originally developed by Xerox Corporation, can link up to 1,024 nodes in a bus network. Ethernet provides raw data transfer in a rate of 10 megabits/sec. with actual throughputs in 2 to 3 megabits/sec. using a baseband (single-channel) communication technique. Ethernet uses carrier sense multiple access collision detection (CSMA/CD) that prevents network failures when two devices attempt to access the network at the same time. LAN hardware manufacturers use Ethernet protocol; their products may not be compatible.
Gateway	A computer that attaches to a number of networks and routes packets between them. The packets can be different protocols at the higher levels.
IP	Internet Protocol – The TCP/IP standard protocol defines the IP datagram as the unit of information passed across a network.
IP Address	Internet Protocol Address – A 32-bit address assigned to hosts participating in a TCP/IP network. The IP address consists of network and host portions. It is assigned to an interconnection of a host to a physical network.
MAC	Medium Access Control - The network layer between the physical and the data link layers. Specifically, the physical (hardware) address exists in this layer.
MIB	Management Information Base – The database, i.e. set of variables maintained by a gateway running SNMP
NMS	Network Management Station
OID	Object Identifier – The variables defined in a MIB
Router	A computer that manages traffic between different network segments or different network topologies. It directs the destination IP address. The network media can be different, but the higher-level protocols must be the same.
SNMP	Simple Network Management Protocol – A standard protocol used to monitor IP hosts, networks, and gateways. SNMP defines a set of simple operations that can be performed on the OIDs of the MIBs managed by the monitored Agents. It employs the UDP/IP transport layer to move its object between the Agents and the NMS
TCP/IP	Transmission Control Protocol/ Internet Protocol – A protocol suite used by more than 15 million users with a UNIX association and widely used to link computers of different kinds.