MSNswitch

Auto Restart Crashed Network Device

USER MANUAL

For models:

UIS-311

UIS-315

UIS-322x

Version: 014.1516 (2.40.MNS.1214)

CONTENTS

Chapter 1: Introduction

1.1. Introduction

MSN*switch* is designed to automatically power-cycle *either* one or both of its outlets when either;

a) internet connectivity is lost (resets Router/Modem to restart it), or
b) the network device being monitored is no longer responding in LAN.

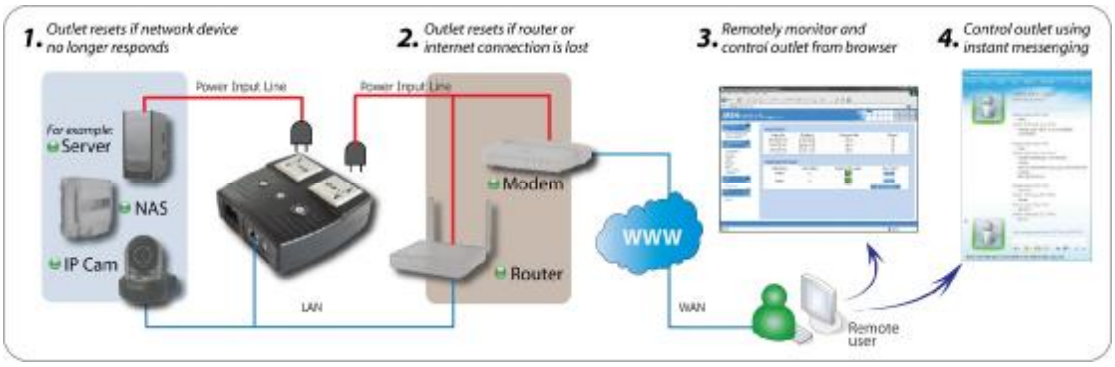
It can also be used to;

a) remotely control outlets via instant messaging tool like MSN, or a Web User Interface.
b) perform scheduled power on / off / reset

Therefore, MSN*switch* is particularly useful where the internet connection and accessibility to a remote site is critical. MSN*switch* can be setup so that if the remote broadband / cable / DSL connection drops or if the remote router freeze-up, it will auto reset the router to re-gain connectivity. MSN*switch* is also useful for;

1. Saving home users the trouble of constantly having to power-cycle their router to re-gain internet connectivity.
2. Resetting unresponsive device (for instance IP camera or NAS servers) which otherwise will be inaccessible from remote.
3. IT Professionals who need to automatically or remotely reset devices
4. Preventing your connection from timing out or going dormant
5. Having devices on an automatic power schedule [Ex: Turn on at 9am & turn off at 5pm]

Generalized description of network connection:



Hardware Specifications:

1. Built-in Web Server with 32-Bit RISC CPU.
2. 10/100Mbps Fast Ethernet Network Access.
3. Support IE or Java-Enabled Web Browser.
4. Network Protocol: HTTP, TCP/IP, UDP, SMTP, Dynamic DNS, DNS Client, SNTP, DHCP, SNMP.
5. Operating Temperature: 0°C ~ 60°C; Operating Humidity: 10% ~ 90%
6. For indoor use only.

1.2. Hardware Specification

Model No:	**UIS-311**	**UIS-315**	**UIS-322**	**UIS-323**
Socket type	3x Schuko socket *Shuttered* (Type F, CEE 7/4)	3x North American (Type B, NEMA 5-15R)	2x of either; a) Universal socket b) USA (Type B, NEMA 5-15R) c) UK ~ *w/o shutter* (Type G, BS1363, MS589, SS145) d) AUST / China (Type I, AS / NZS3112, CCC)	2x of either; a) Schuko~*shuttered* (Type F, CEE 7/4, 7/17) b) UK ~ *shuttered* (Type G, BS1363, MS589, SS145) c) French (Type E, CEE 7/5) d) Danish (Type K, Section 107-2-D1)
Certification	CE, LVD, RoHS compliant	FCC	FCC	CE, LVD, RoHS Compliant
Electrical Rating	Input: 250V~50/60Hz Output: 10A, 2500W (total for 3 sockets)	Input: 125~250V, Output: 10A, 1250W (total for 3 sockets)	Input: 125~250V~50/60Hz Output: 10A (for 2 sockets) & DC5V, 500mA (for USB port)	
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 Protect Indicator	Yes	Yes	n/a	
Surge Protection Failure	Surge & Auto Power Shut Down	Surge & Auto Power Shut Down	n/a	
Breaker	10A (reset-able)	10A (reset-able)	10A (Thermal fuse)	
Available Sockets	2x fixed, 1x swivel	1x fixed, 2x swivel	2x fixed	
Internet Control-able	2x fixed socket	2x swivel socket	2x fixed socket	
Power ON / OFF switch	n/a	Main power ON / OFF switch	Individual outlet power ON / OFF LED button (Press & hold 2 seconds)	
Power Indicator	Green LED	Green LED	Orange LED	
Reset to Factory Default	n/a	n/a	Long press all 3 LED 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, 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	White / Color Box			

1.3. Network Diagram

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

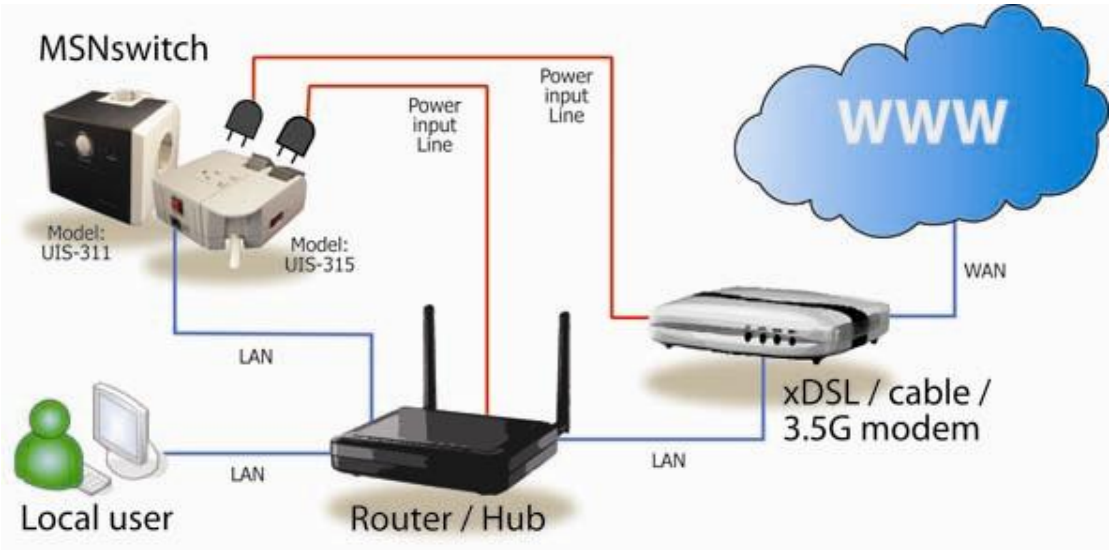


Fig.1 MSNswitch (UIS-311, UIS-315 & UIS-322x) setup to perform auto reset of router and modem

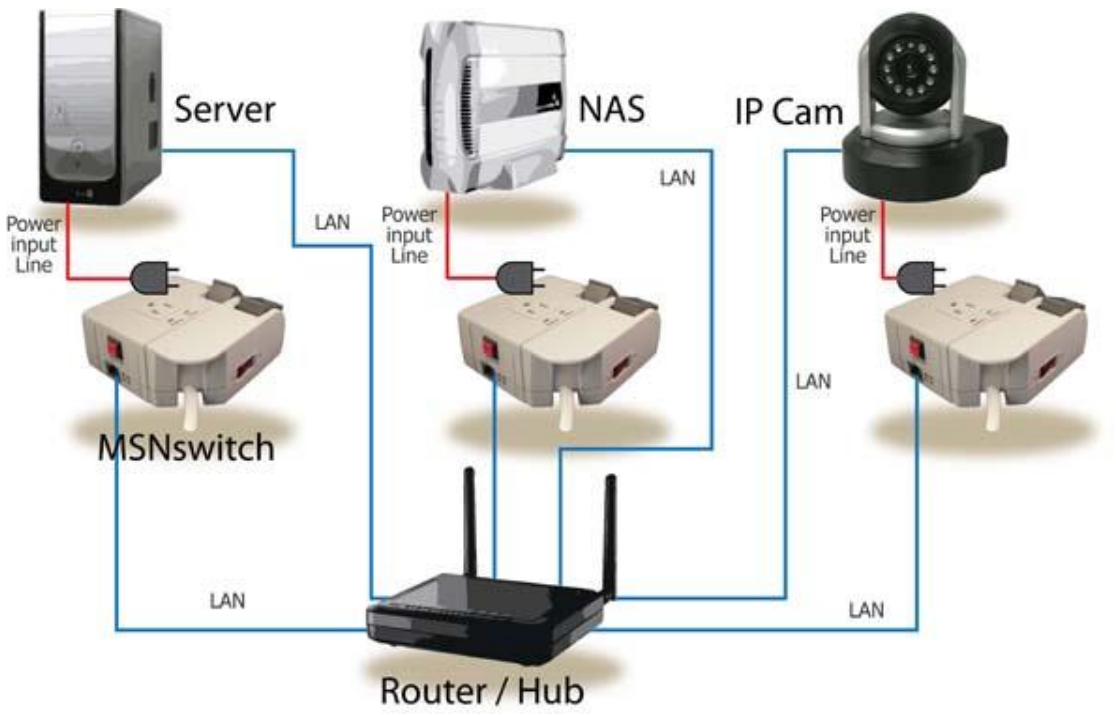


Fig.2 MSNswitch (UIS-311, UIS-315 and UIS-322x) setup to keep internet device alive.

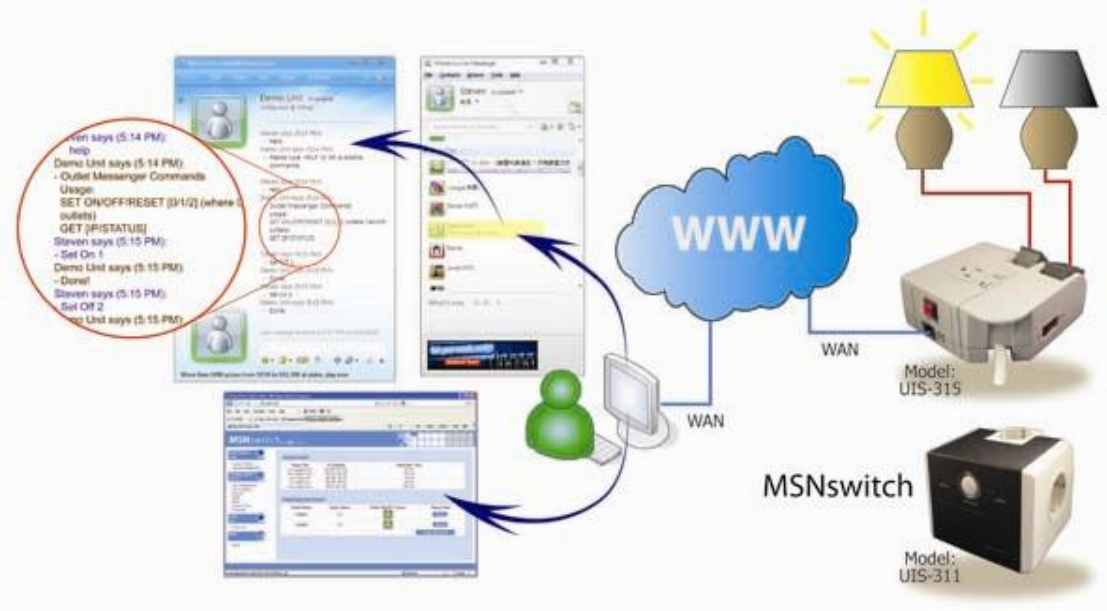


Fig.3 MSNswitch (UIS-311, UIS-315 & UIS-323x) setup for remote control via MSN messenger or thru Web User Interface.

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

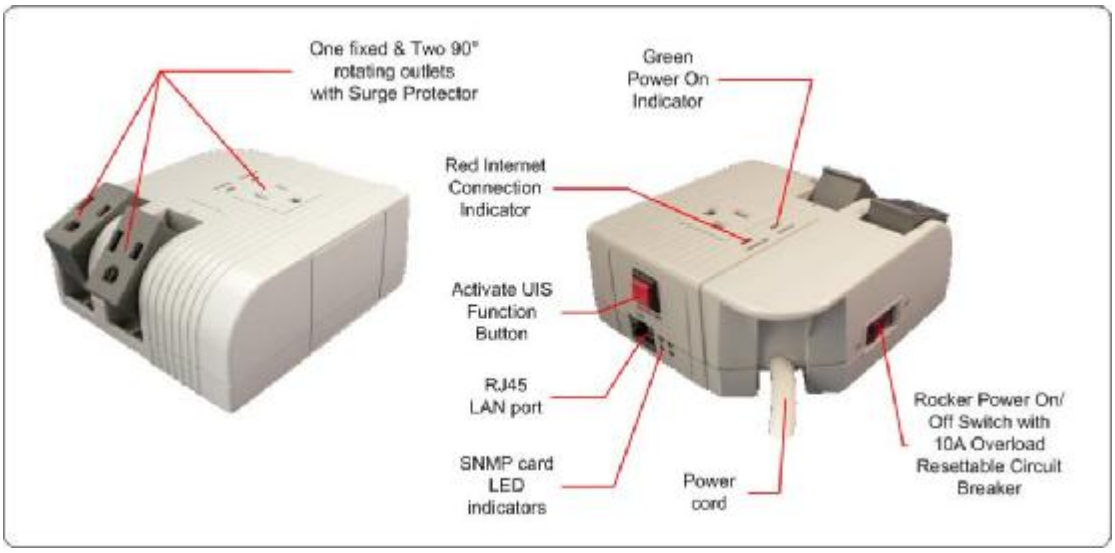


Fig.7 UIS315 description

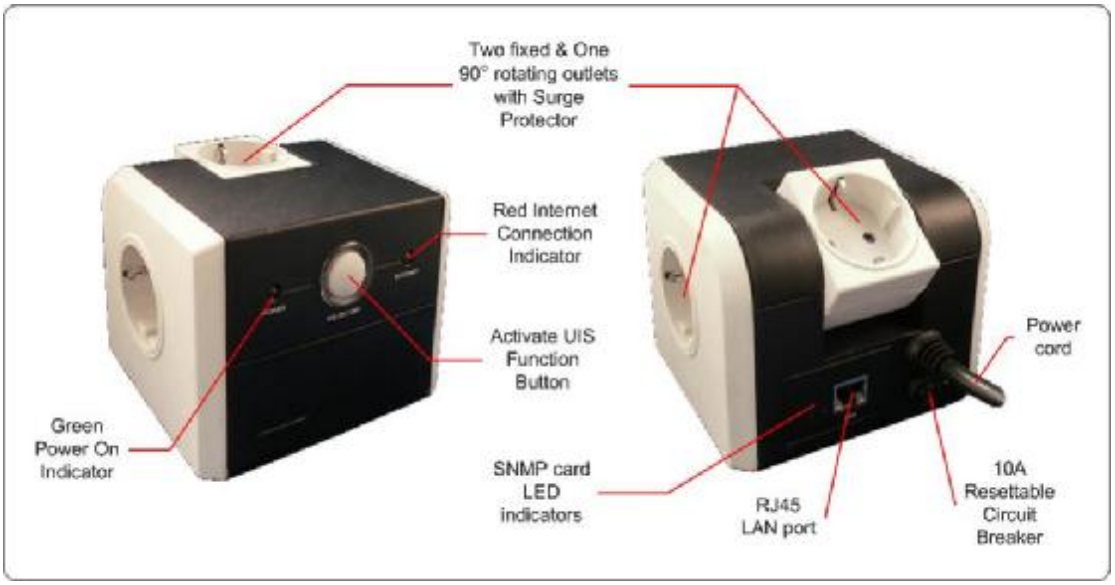


Fig.8 UIS311 description

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 MSN*switch* power output port.

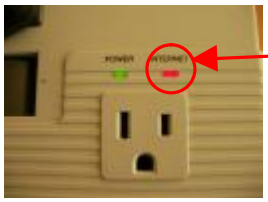
Note:
In order for MSN*switch* to maintain continuous internet connection or reset your xDSL modem / Router, the router power input must be connected here.

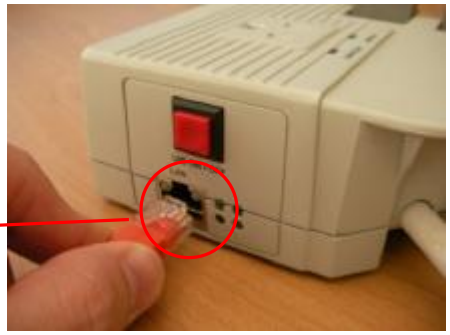
Step 3:

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

Step 4:

Connect LAN cable from the router to the MSN*switch* 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.

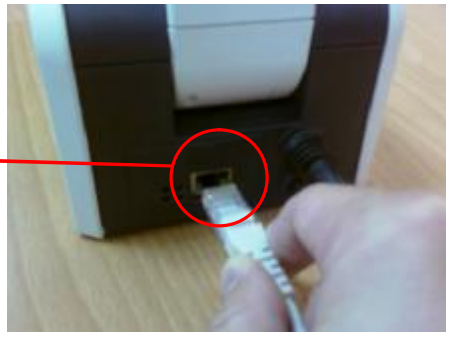
Step 2:

Connect the power plug to the MSN*switch* power output port.

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

Step 3:

Connect MSN*switch* 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 MSN*switch* outlet.

Note:
In order for MSN*switch* 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

MSN*switch* 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 (access from WAN);

a. Using DDNS and Port forwarding, see Section 3.3 or;
b. Using MSN instant messaging tool (future version will include Yahoo or ICQ), see Section 3.4.

Note: For models UIS-311 and UIS-315, only Outlets 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

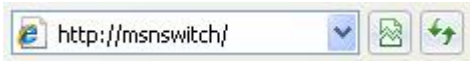
MSN*switch* comes with a built-in Web User Interface (Web UI) that allows for more advanced control over the unit. There are two ways of accessing the Web UI in LAN (i.e. both MSN*switch* and the PC is connected to the same router).

a. by hostname (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 the default hostname.

Step 1:

Open a browser and type 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 MSN*switch* 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 MSN*switch* units.

Note:

1. Netility can only discover MSN*switch* 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 MSN*switch* main menu.

3.3. How to Access MSNswitch from WAN – using DDNS

The MSN*switch* Web User Interface (Web UI) above can 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 MSN*switch* assigned a unique domain name as <serial_number>.iCV99.net.
      b. Rename this by browsing to http://MSNswitch **à** System Status **à** Network Status **à** Free Domain Name (click to rename).

   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://MSN*switch* **à** Configuration **à** Network **à** Dynamic DNS. Select the service provider, enter the registered domain name, user account, password. Click **Apply**.

MSN*switch* is now accessible from remote using the newly registered Domain Name.

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

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

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

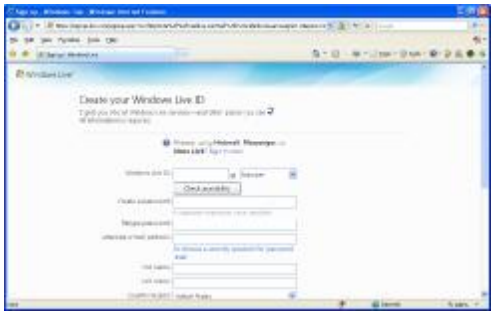
Once setup, you can get notifications and issue commands to check the status, as well as turn on/off power or power-cycle certain ports using MSN Messenger and like tools.

3.4.1. How to Setup Instant Messaging for MSN*switch*

Step 1:

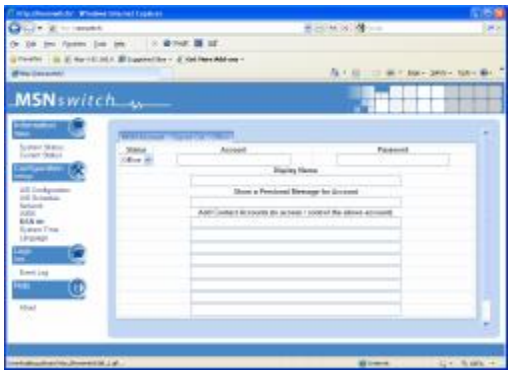
From PC, run MSN Messenger or goto http://www.MSN.com to create a new Windows Live ID or account. An ID or account will have to be created for each MSN*switch* device.

Remember the user name and password.



Step 2:

Browse to http://MSNswitch **à** Configuration **à** 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 MSN*switch.*

Step 3:

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

Step 4:

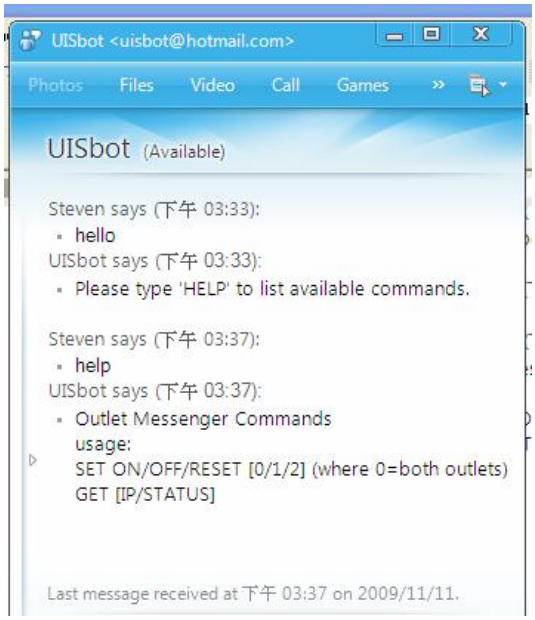
Once connected, those users listed in ***Contact Account*** will receive a notification to add MSN*switch* as 'friend'.

Once added, you can control MSN*switch* by chatting with it.

Note: Only the users listed in *Contact Account* can command MSN*switch*. If you are removed from this list, you will still be MSN*switch* '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):

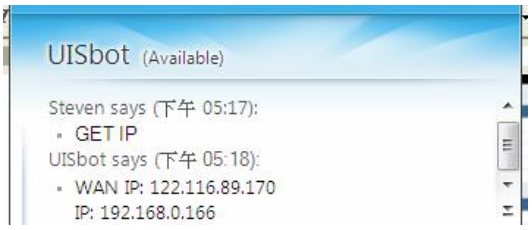
SET [ON/OFF/RESET] [0/1/2] (where 0=both outlets)

GET [IP/STATUS]

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

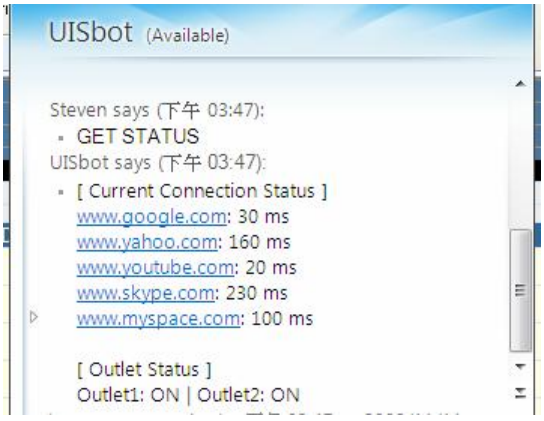
GET IP command will return the WAN IP and the unit's LAN IP address.

If port forwarding is set, but not the domain name, user can still use WAN IP to access MSN*switch* 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 **à** Configuration **à** Configuration **à** Outlet Setup.



Chapter 4: MSNswitch Web User Interface

4.1. Information

The Information tab contains the following subsections;

4.1.1 Current Status,

4.1.2 System Status;

4.1.1 Current Status

This section displays the current status of the outlets.

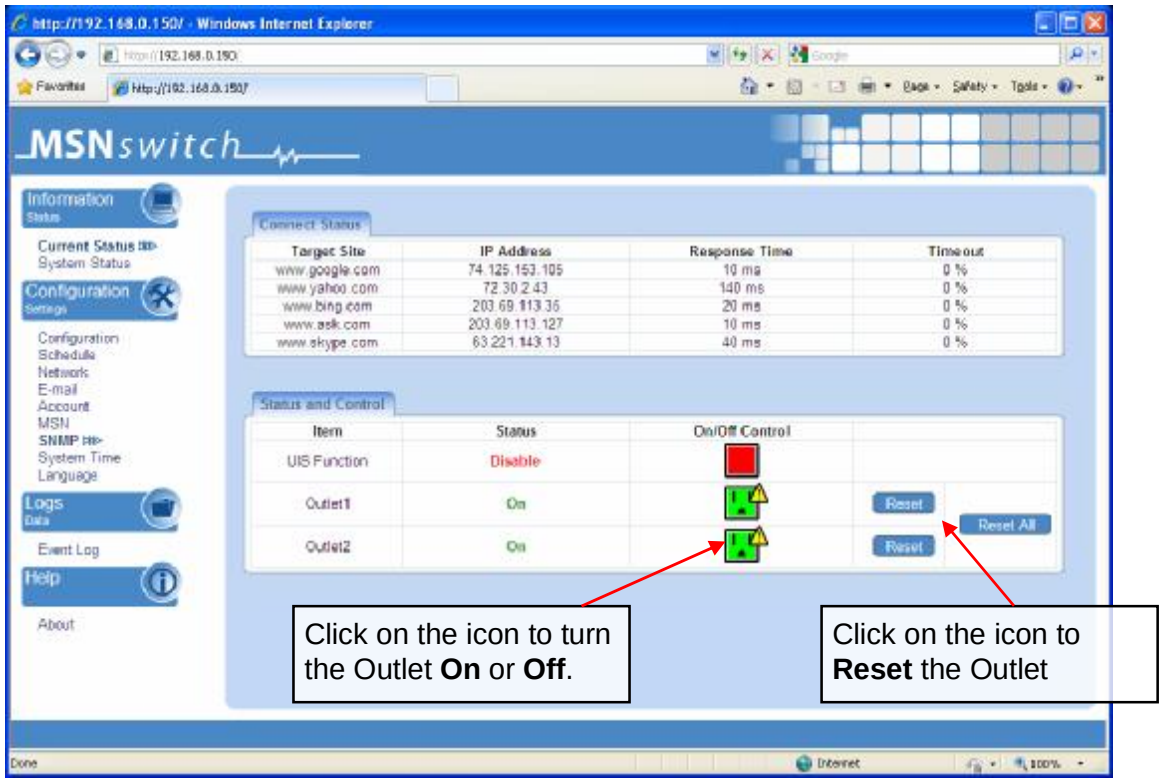


Fig.10 Current Status page

i. Connect Status

Target Site: This is the default target site as listed under Configuration

IP Address: The IP address of the Target Site

Response Time: based on UDP / TCP protocol sets in Configuration page

Timeout: number of timeouts as a percentage of total tries since reset.

Note: This page will auto refresh every 5 seconds

ii. Status and Control

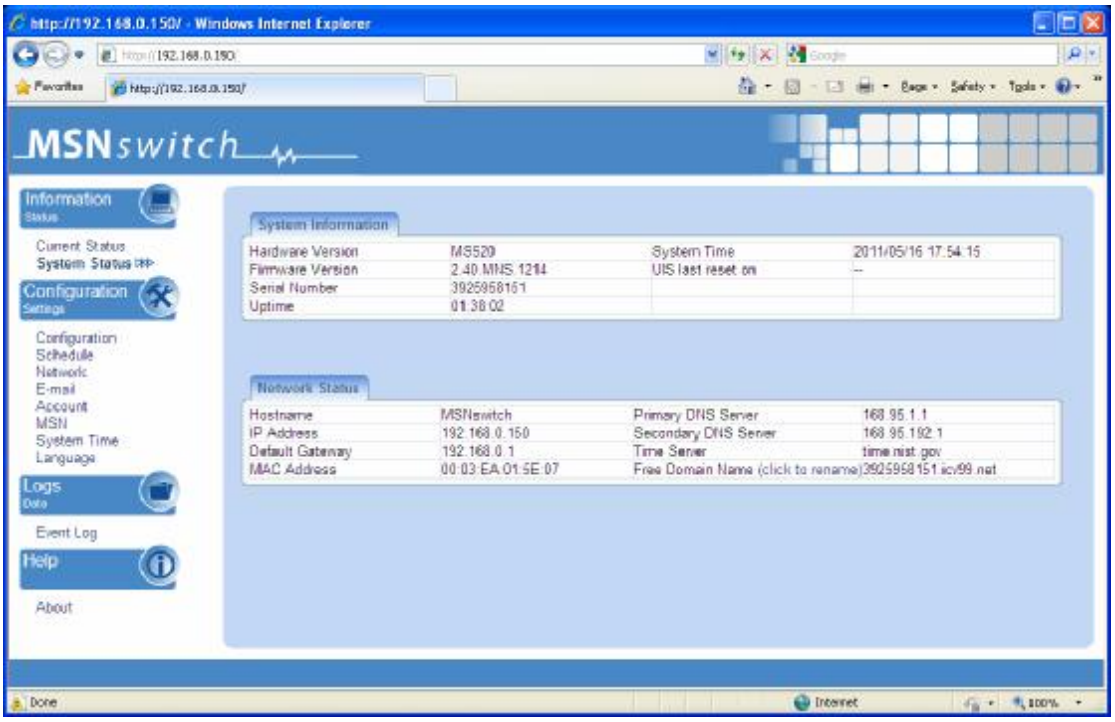
This section shows the current status of the UIS Function and Outlet. User can click to control the Outlets or UIS function from here.

Note: For models UIS-315 and UIS-311, the *UIS Function* can not be controlled via the web user interface.

Icon	Description
	The *UIS Function* is Off. MSN*switch* will not perform outlet reset when connection loss is detected.
	The *UIS Function* is On. MSN*switch* will perform outlet reset when connection loss is detected.
	The Outlet is Off
	The Outlet is On
	The Outlet is On and *UIS Function* is Off.

4.1.2 System Status

This webpage displays System Status Information.



i. System Information

This section shows general hardware information such as the Hardware and Firmware Version, the serial number, Uptime, System Time and when the system last reset.

ii. Network Status

This section shows all information relating to Network environment.

Hostname

This is the default hostname. User can rename this by browsing to *Configuration* ***à*** *Network page.*

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. Select "Click to Rename" will redirect user to http://ddns.iCV99.net where user can register an alternate name.

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.

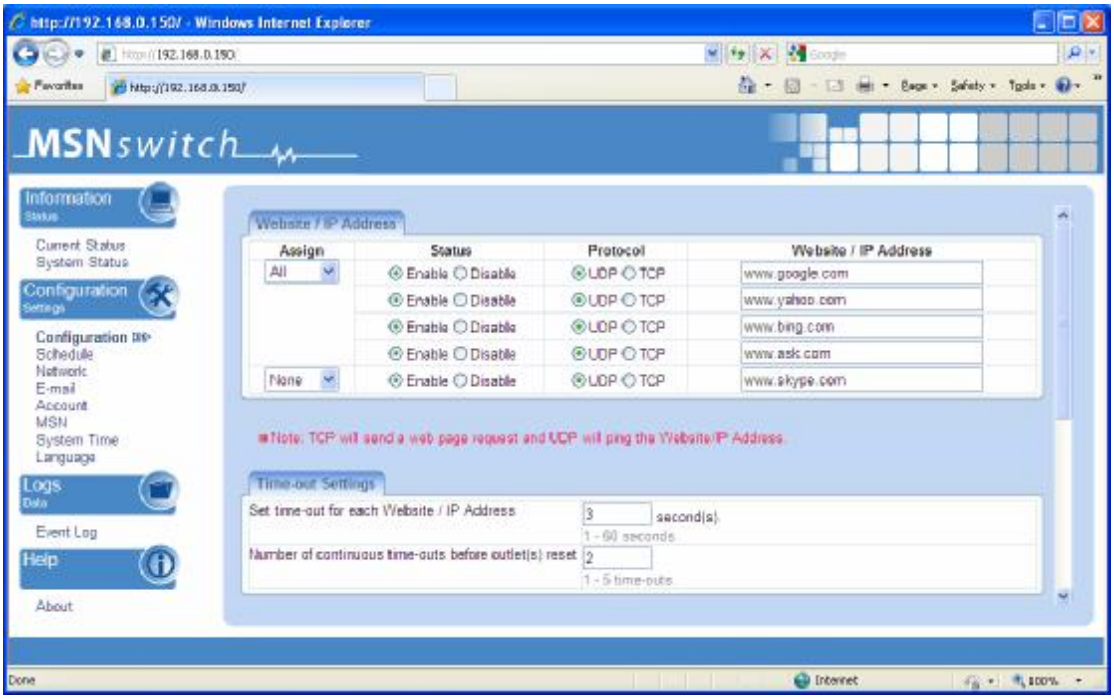
4.2 Configuration

The following option allows the user to configure the MSN*switch*.

4.2.1 Configuration
4.2.2 Schedule
4.2.3 Network
4.2.4 E-mail
4.2.5 Account
4.2.6 MSN
4.2.7 System Time
4.2.8 Language

4.2.1 Configuration

Use this section to configure how MSN*switch* checks websites. Advance users can use this to customize MSN*switch* to check network devices.



i. Website / IP Address

Assign

User can select to assign both outlets to check the 1st four sites or only one outlet or have both outlets checking different sites.

Status

User can include (Enable) or exclude (Disable) a particular website from the check-list.

Protocol

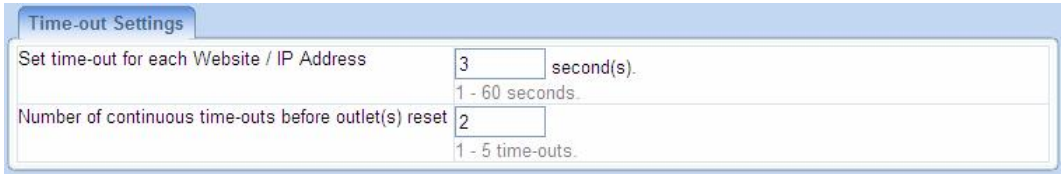
MSN*switch* can use either a ping (UDP protocol) or a web request (TCP protocol) format to check if a particular site is responding.

Website / IP Address

Enter reliable / trusted websites to target. MSN*switch* 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.

ii. Time-out Settings



Set time-out for each Website / IP Address

The target site must respond within this time. Else it is considered a time out.

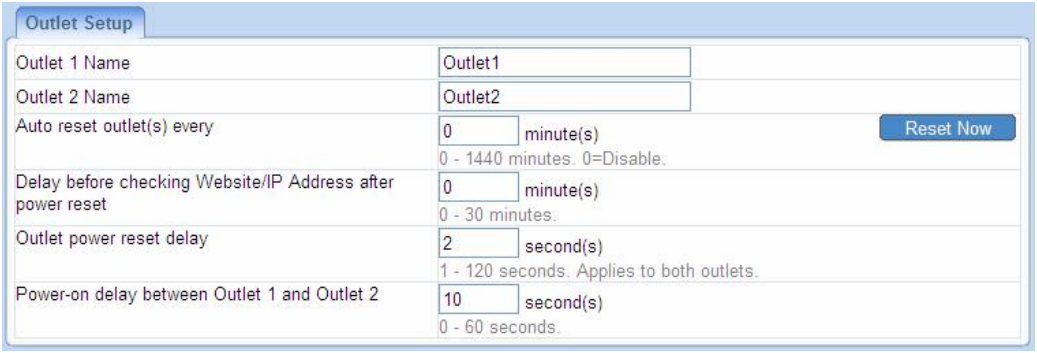
Default is set to 3 seconds.

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

Number of continuous time-outs before outlet(s) reset

Refers to the number of times all target site time-out before MSN*switch* resets. Default is set to 2 sets.

iii. Outlet Setup



Outlet 1 Name, Outlet 2 Name

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

Auto reset outlet(s) every

MSN*switch* 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 **à** Current Status.
2. Power to both Outlets #1 & #2, will turn Off and then On, subject to any "Power-on delay between Outlet 1 and Outlet 2" settings.

Delay before checking Website / IP Address after power reset

This section determines if the outlet will reset *once* or *twice* WHEN target Website / IP Address is no longer responding.

If this is set to 0 (default), upon Website / IP Address failing, MSN*switch* will reset its outlets *once*. It will now wait until the target Website / IP address responds, before restarting the check.

If this is set between 1 and 30 minutes (eg. 5min), then upon Website / IP Address failing, MSN*switch* will reset its outlets (1st time). It will then wait 5min, and checks if the target Website / IP address is responding. If not, it will reset its outlets (2nd time). It will now wait until the target Website / IP address responds, before restarting the check.

Outlet power reset delay

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

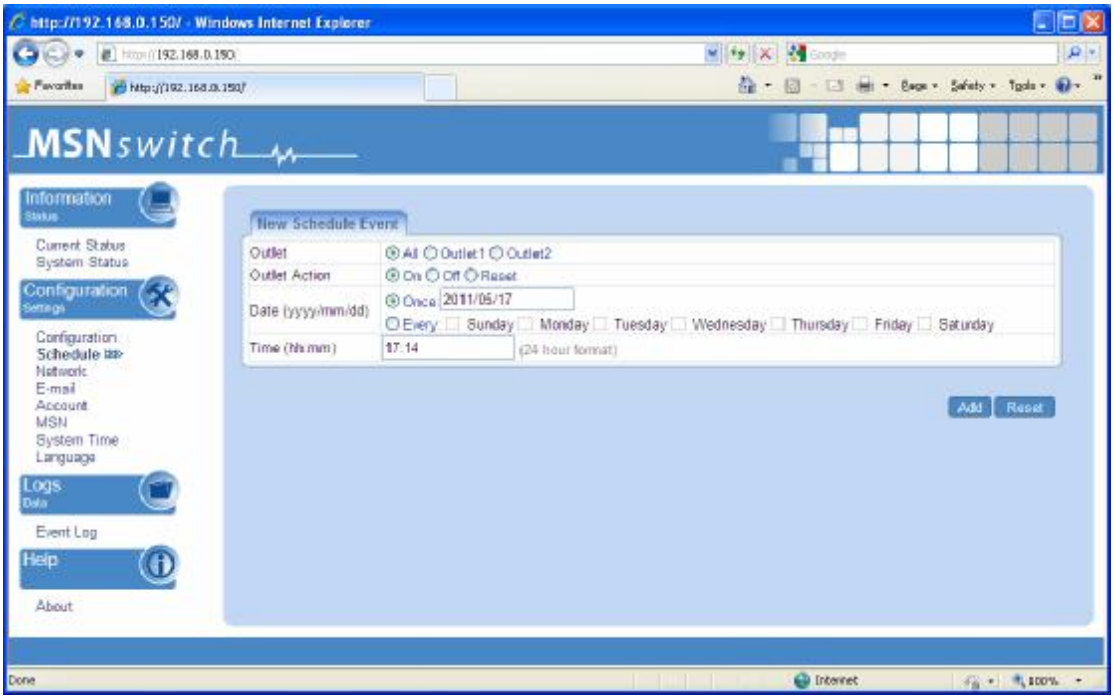
Power-on delay between Outlet 1 and Outlet 2

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".

4.2.2 Schedule

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



i. New Schedule Event

Outlet

Select to schedule an event for either both, 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 the current date is automatically entered) or;

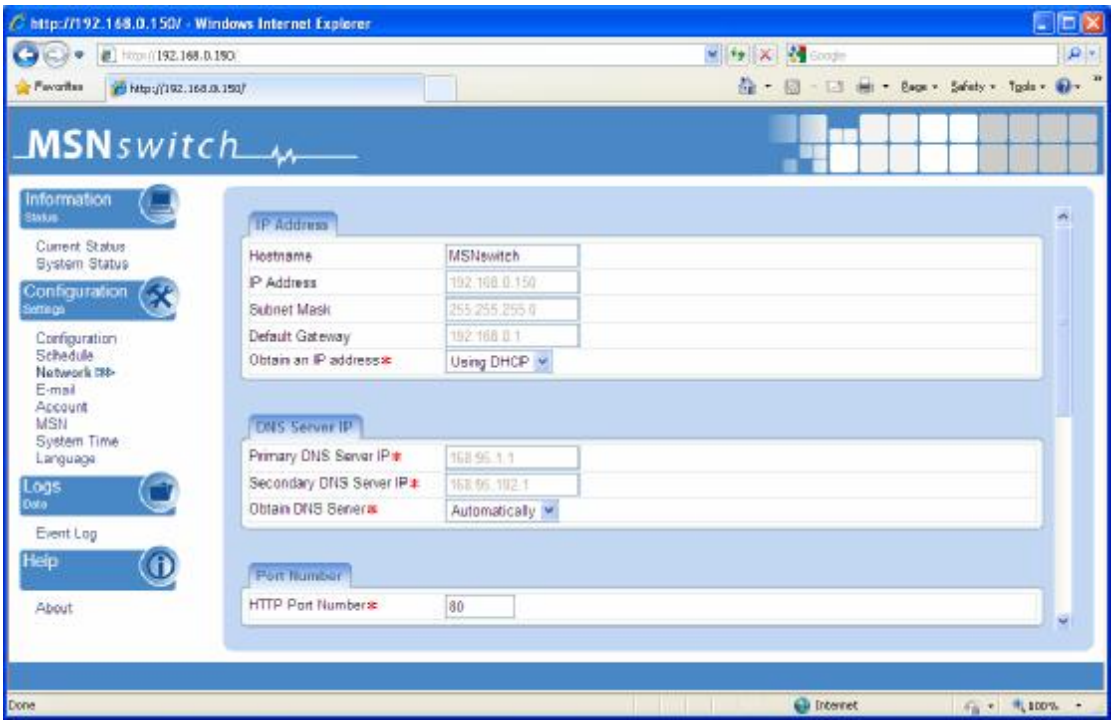
b. Reoccurring on a particular day, or a daily event.

Time (hh:mm)

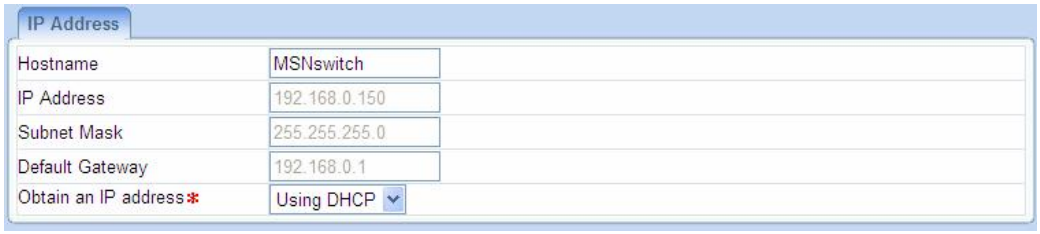
If it is either a reoccurring on a particular day or a daily event, then enter the time it occurs in 24hr format.

4.2.3 Network

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



i. IP Address



Hostname

By default the hostname (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 MSN*switch* unit, you should assign different System Name to each unit. Do this by renaming the Hostname one unit at a time.

IP Address

This determines / displays MSN*switch* IP address. By default, the LAN IP address assignment method is set to DHCP (IP address assigned by router).

We suggest changing this to a Fixed IP, for ease of management.

Subnet Mask

Display MSN*switch* Subnet Mask.

Gateway

This item set MSN*switch* Gateway.

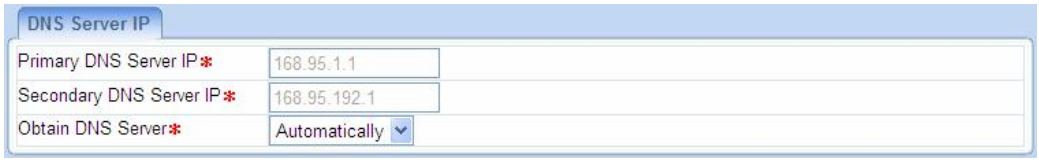
To learn more about the above, see **Appendix A: IP address, Subnet and Gateway**

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. MSN*switch* 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



Primary DNS Server IP

This item sets MSN*switch* 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 MSN*switch* **Secondary DNS Server IP** address. MSN*switch* 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

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 MSN*switch* LAN IP address as shown in Netility) must be used in order to access MSN*switch* web interface in LAN.

Note: Changes here will result in a system reboot.

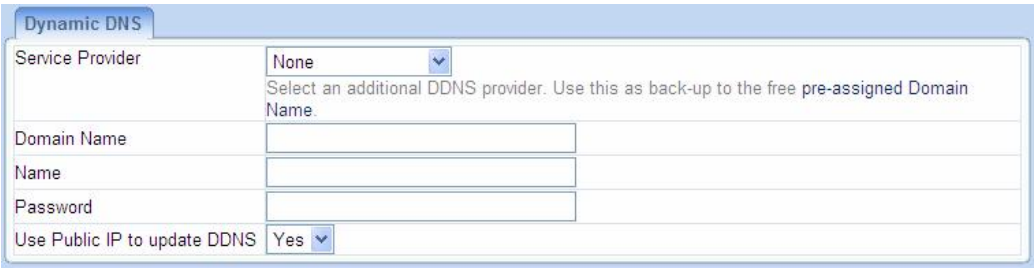
iv. Ethernet

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 ("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 MSN*switch* 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;

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

Domain Name

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

Name

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

Password

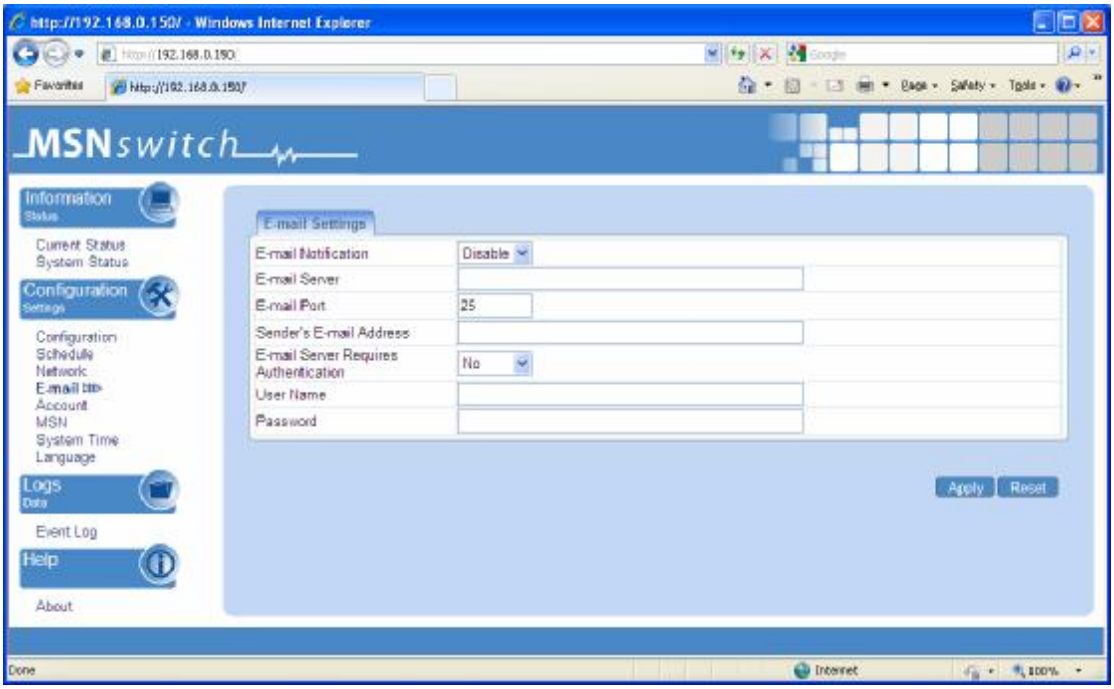
Enter the Password you have assigned to your DDNS Account.

Use Public IP to update DDNS

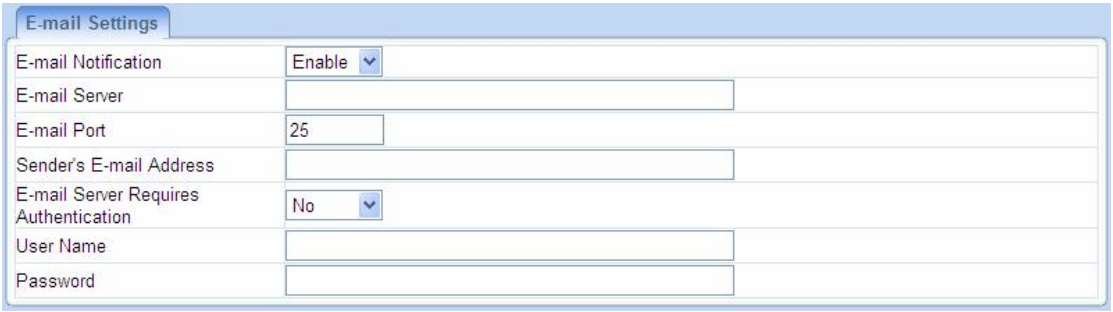
Choose **Yes** to ensure that MSN*switch* uses the WAN / Public IP to update the selected DDNS server.

4.2.4 E-mail

This webpage allows user to have MSN*switch* send all notification appearing in Event Logs to email accounts listed in the 'E-mail Address Book'.



i. E-mail Settings



E-mail Notification

Select Enable or Disable (default). When '*enabled*', two additional section will appear. The 'Test E-mail' section and 'E-mail Address Book' section.

E-mail Server

Only POP3 servers are supported. IMAP & HTTP mail servers are *not* supported.

E-mail Port

Default to port 25. User can specify a different port if necessary.

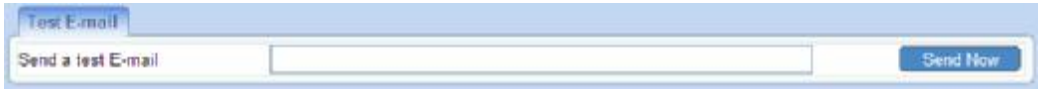
Sender's E-mail Address

Enter the E-mail address assigned by your e-mail server.

E-mail Server Requires Authentication

Please check with your e-mail server admin if this is required.

ii. Test E-mail



Send a test E-mail

Enter a valid e-mail address to send the test email to.

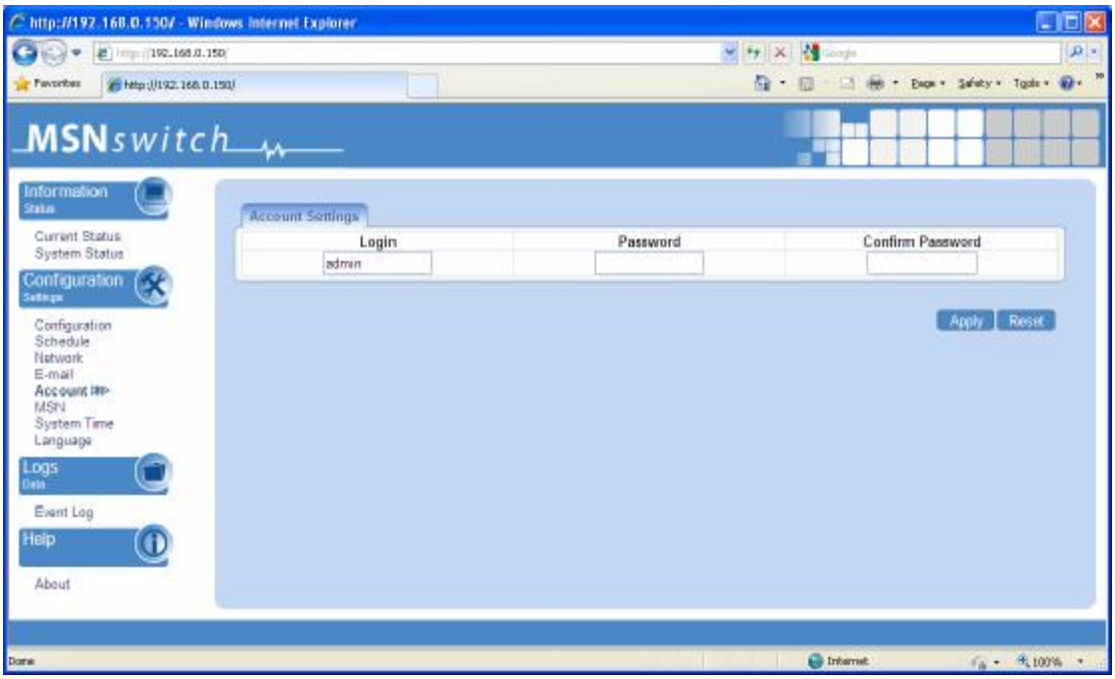
iii. E-mail Settings

E-mail Address Book

List the users who shall receive an e-mail notification as they appear in the Event Log section.

4.2.5 Account

This webpage allows you to set an administrator password.



i. Account Settings

Login

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.

4.2.6 MSN

Setup in this page allows MSN*switch* to be controlled via Instant Messaging tools like MSN.

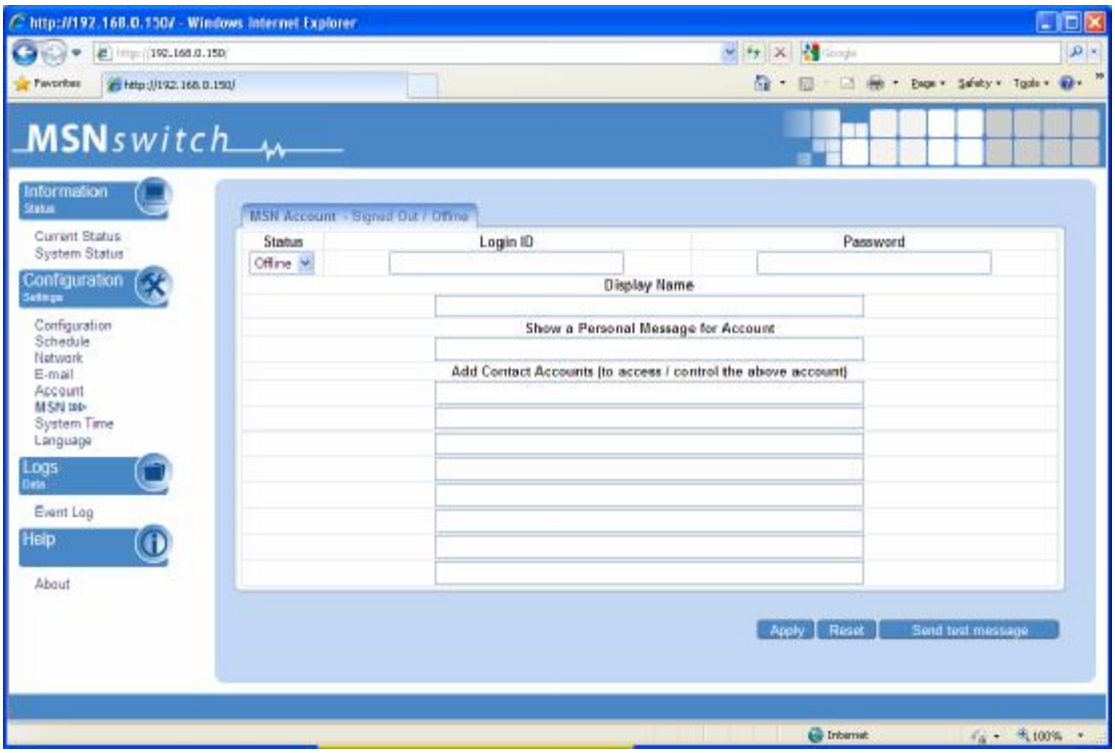


Fig.11 MSN Settings page

i. MSN Account

For current MSN account status, check the tab.

Status

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

Login ID

Enter the Login ID that you have created from Windows Live website for this MSN*switch*.

Password

Enter the corresponding password.

Display Name

This is the MSN*switch* name as shown on MSN.

Show a Personal Message for Account

Enter a message here. This message will be visible to anyone that is in the MSN*switch*'s MSN friends list.

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

The administrator can assign up to 8 MSN user who can receive notification, control AND receive MSN*switch* feedback from their MSN account.

Once assigned, the respective user must then 'add' MSN*switch* to their Contract list. Failing to do so, will result in user not being able to control MSN*switch*.

Once added, just type a random character and MSN*switch* will respond with instructions. Refer to section 3.4.2 above on how to use MSN.

Note: If a MSN user has been removed from the 'Contact Account' list. The user will no longer be able to *control* MSN*switch* via MSN. However, the user will still receive notification from MSN*switch.*

4.2.7 System Time

This page allows the user to set the system time. User can also set an All-systems Auto-Restart interval. This reduce the possibility of 'hang' or non-responsive system.

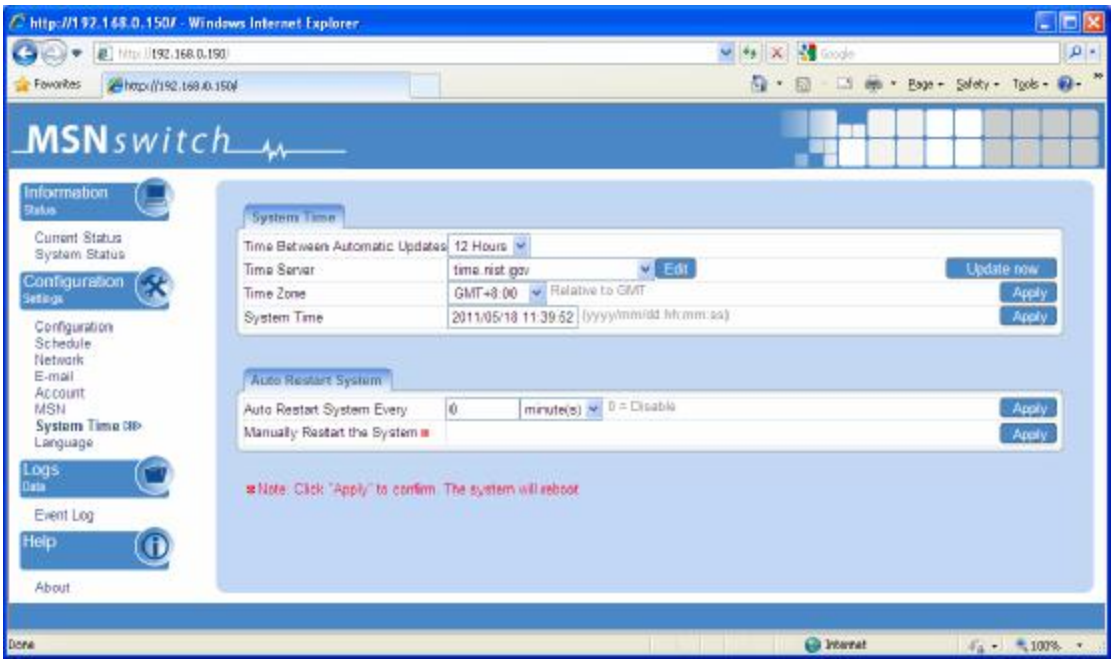


Fig.12 System Time Settings page

i. 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 MSN*switch* **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.13 System Restart

Auto Restart System every … (0: Disabled)

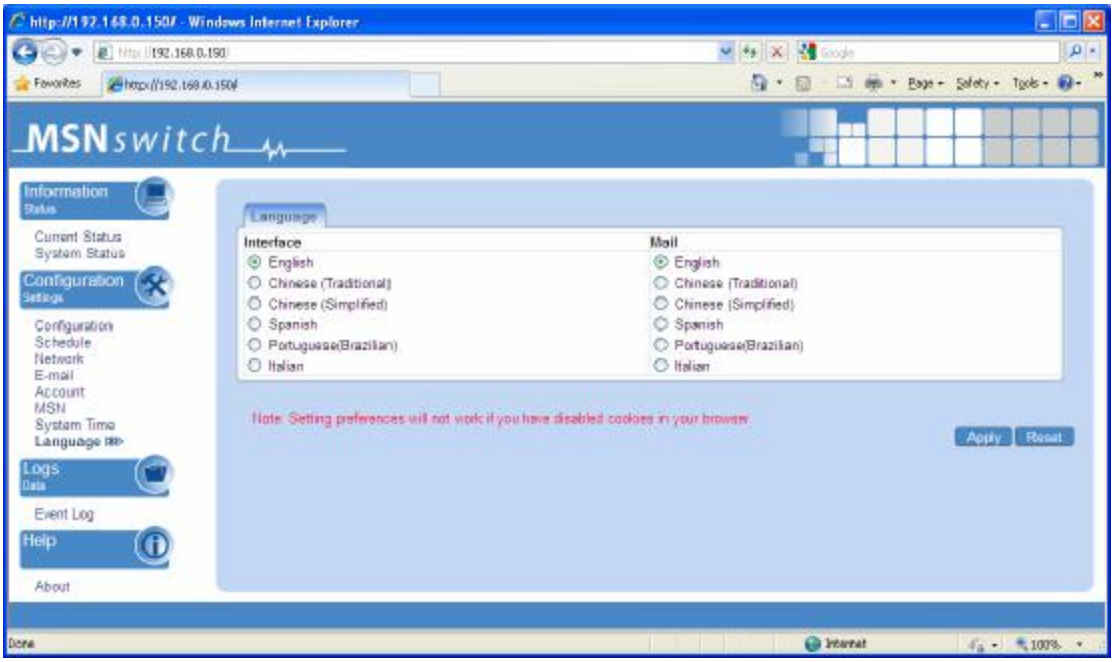
Set the MSN*switch* server to automatically restart after a preset interval. This will reset the server. The power supply to individual outlet is not disrupted during the server restart process. Use this to guard against system freeze.

Manually restart the system

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

4.2.8 Language

Use this section is to set the language interface.



i. Language

Choose the language for the Web UI and e-mails.

4.3 Log Information

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

a. All – if there is a time-out or target site IP address is not resolvable.

b. Status – refers to events such as Outlets turning On or Off. "Manual Off" refers to when the outlet is turned off manually. "Auto Off" refers to when outlets are turned off on schedule or by the system.

c. Notification – when the system restarts or fails to connect to time servers.

4.3.1 Event Log

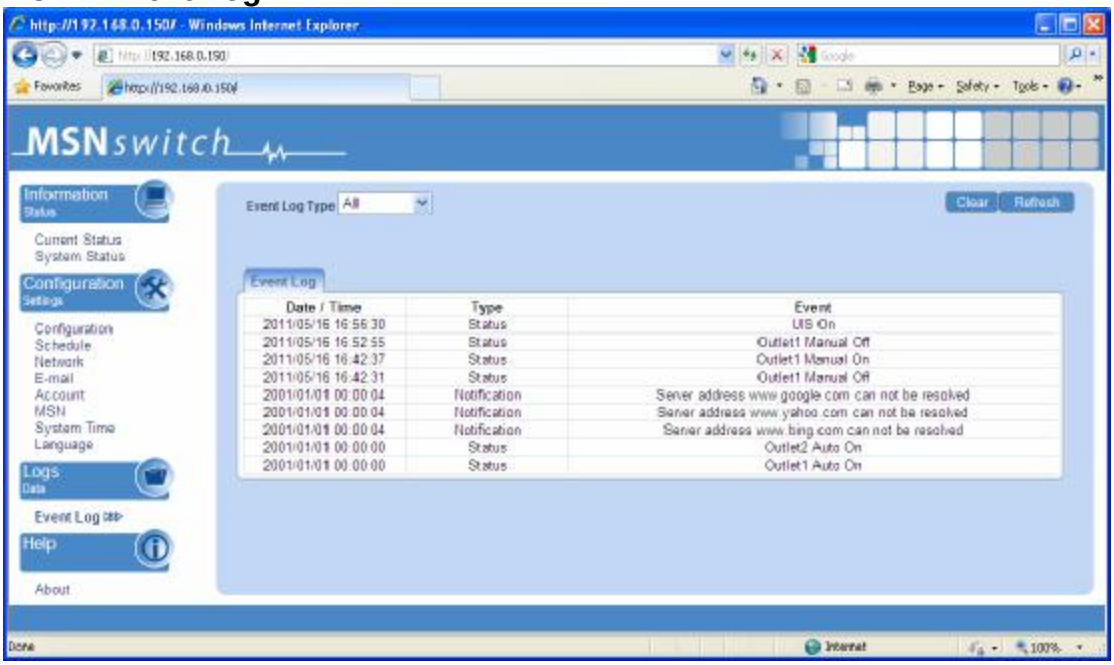


Fig.14 Individual Camera Configuration

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.

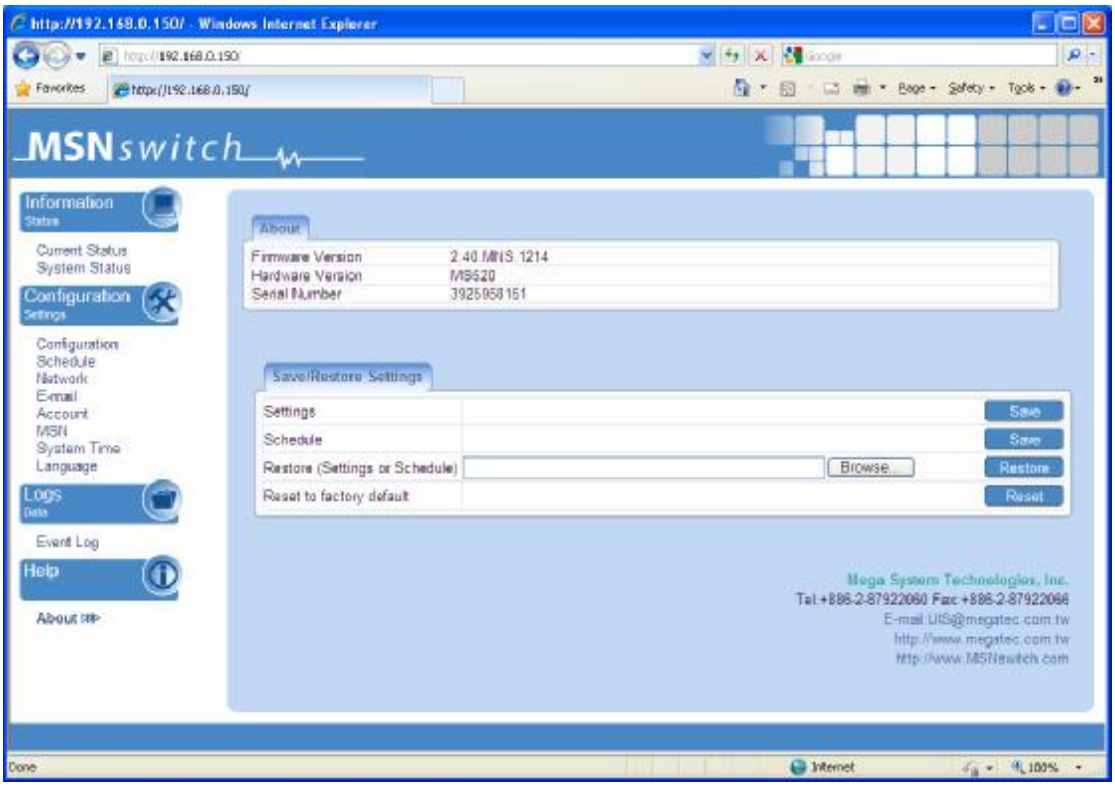


Fig.15 About page

i. About

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

ii. Save / Restore Settings

Settings

Click **Save** to save the configuration to your PC. The text file will have a default format of **SettingsYYYYMMDD.cfg**.

Schedule

Click **Save** to save your schedule information to your PC. The text file will have a default format of **ScheduleYYYYMMDD.cfg**.

Restore (Settings or Schedule)

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 MSN*switch*.

Port Forwarding for MSN*switch*

MSN*switch* 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 MSN*switch* 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. MSN*switch* require that TCP Port 80 (default settings) be opened to the Internet. TCP Port 80 is used for accessing the MSN*switch* 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:	MSN*switch* - 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. MSN*switch* 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 **MSN*switch* IP address**, for example: 192.168.0.5
Enabled/Disabled: Enabled

4. Save your settings. MSN*switch* 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 **MSN*switch* Web**.

6. In the **Incoming Ports** field, specify port **80** in both boxes.

7. In the **Destination IP Address** field, enter MSN*switch* LAN IP address.

8. In the **Destination MAC Address** field, enter MSN*switch* 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: **MSN*switch* 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 MSN*switch* 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. MSN*switch* 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.