Controlling the MSNSwitch

Tech Note MSNTN001

Proxicast, LLC
312 Sunnyfield Drive
Suite 200
Glenshaw, PA 15116

1-877-77PROXI
1-877-777-7694
1-412-213-2477

Fax:
1-412-492-9386

E-Mail:
support@proxicast.com

Internet:
www.proxicast.com

Document Revision History:

Date	Comments
Dec. 22, 2025	Added model UIS-801bc Updated screen images Re-ordered sections Add Useful Tips section
Aug 8, 2025	Removed Skype/Hangouts which are no longer supported
Jan 11, 2024	Added model UIS-722b. Removed references to older firmware versions.
Feb 24, 2023	Updated for changes in firmware MNT-3207 and later. Changes include new default parameter values, firmware updates via ezDevice, and a simplified API.
Oct 2, 2022	Clarified API examples
Sept 22, 2022	Updated screen images with latest software versions. Corrected error in API documentation
June 1, 2021	Added non-DHCP IP assignment feature *[removed in MNT.3207]*
Dec 9, 2020	Updated for API changes in firmware MNT.A624
Jan. 2, 2020	Updated to include model UIS-622b
Aug. 1, 2019	First release

This TechNote Applies Only to MSNSwitch Models:

UIS-722b, UIS-722T, UIS-622b
UIS-801BC, UIS-801BT

Introduction

The MSNSwitch from Mega System Technologies, Inc ("MegaTec") is designed to automatically power-cycle any AC powered device when Internet connectivity is lost. Either of its AC power outlets can also be reset manually or via scheduled actions.

There are 5 ways to access and control the functionality of the MSNSwitch:

1. ezDevice smartphone app
2. Cloud4UIS.com web service
3. The MSNSwitch's internal web server screens
4. A REST-ful API for HTTP commands
5. The Netility utility software

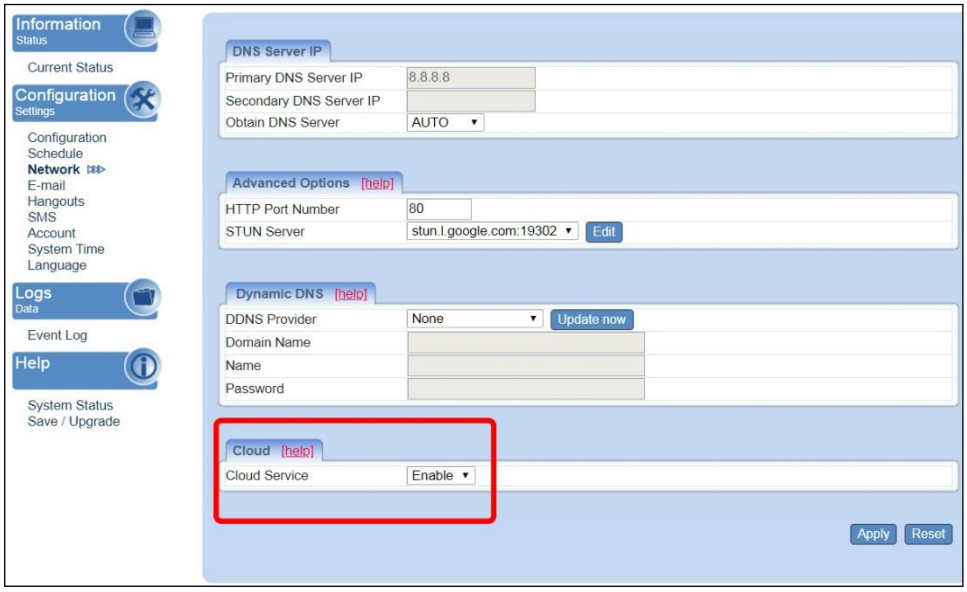
IMPORTANT NOTE

Support for the ezDevice app and Cloud4UIS.com web service was added in MSNSwitch firmware version MNT.9319 (04/24/2019). MSNSwitch's running older firmware must be updated - see U*pdating Firmware* on page 12.

In firmware versions MNT.9319 through MNT.2408, the cloud service is **Disabled** by default.

You must use the MSNSwitch's internal web server to enable this function under the Network menu.

Beginning with firmware version MNT.3207, Cloud service is **Enabled** by default and no user action is required.



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1. ezDevice Smartphone App

ezDevice Mega System Technologies Inc.	Download and install the free ezDevice app for iOS from the Apple AppStore or for Android from Google Play.

If possible, connect your smartphone via WiFi to the same LAN as the MSNSwitch. This is the fastest and easiest way to add the MSNSwitch to ezDevice.

Launch the ezDevice app and create a new account. This same account information will be used for the Cloud4UIS.com web service (see page 4).

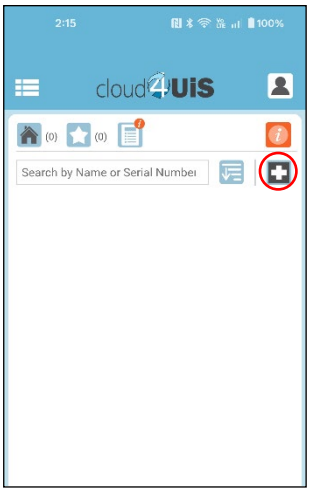
Power on the MSNSwitch and wait for it to boot up and the Cloud Link LED to flash.

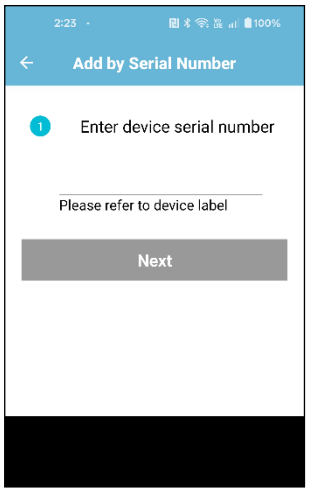
You will not be able to add the MSNSwitch to your account unless the Cloud Link LED is flashing. If the LED is not flashing, power cycle the MSNSwitch.

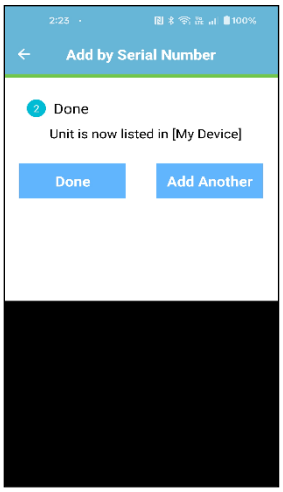
Using the ezDevice app, tap the plus sign (**+**) on the top right of the screen to add a new device.

You can tap the Scan Device Label option to use your phone's camera to scan the QR code on the MSNSwitch's bottom label to add the MSNSwitch to your account in one step.

Or you can select the device model you have – UIS-722b or UIS-801b. ezDevice will then prompt for the MSNSwitch's serial number – enter the number from the label on the bottom of the MSNSwitch.







NOTE: It may take several seconds for the MSNSwitch to complete its initial communications with the Cloud and become active on your screen.

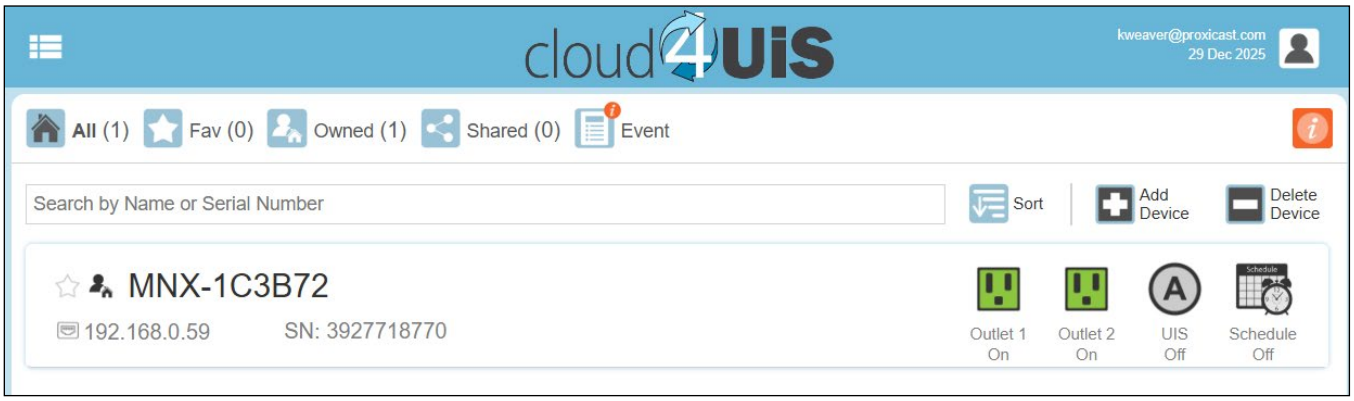
2. Cloud4UIS.com Web Service

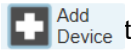
Open the Cloud4UIS.com web site using any web browser:

http://Cloud4UIS.com

If you do not yet have an account, create one on the site. If you previously created an account using ezDevice, use the same login credentials for Cloud4UIS.com. The basic Cloud4UIS service is free.

If you used ezDevice to add devices, they will appear in your Cloud4UIS account automatically.



If you are adding a device for the first time, click the Add Device icon 

to open the Add Device screen.

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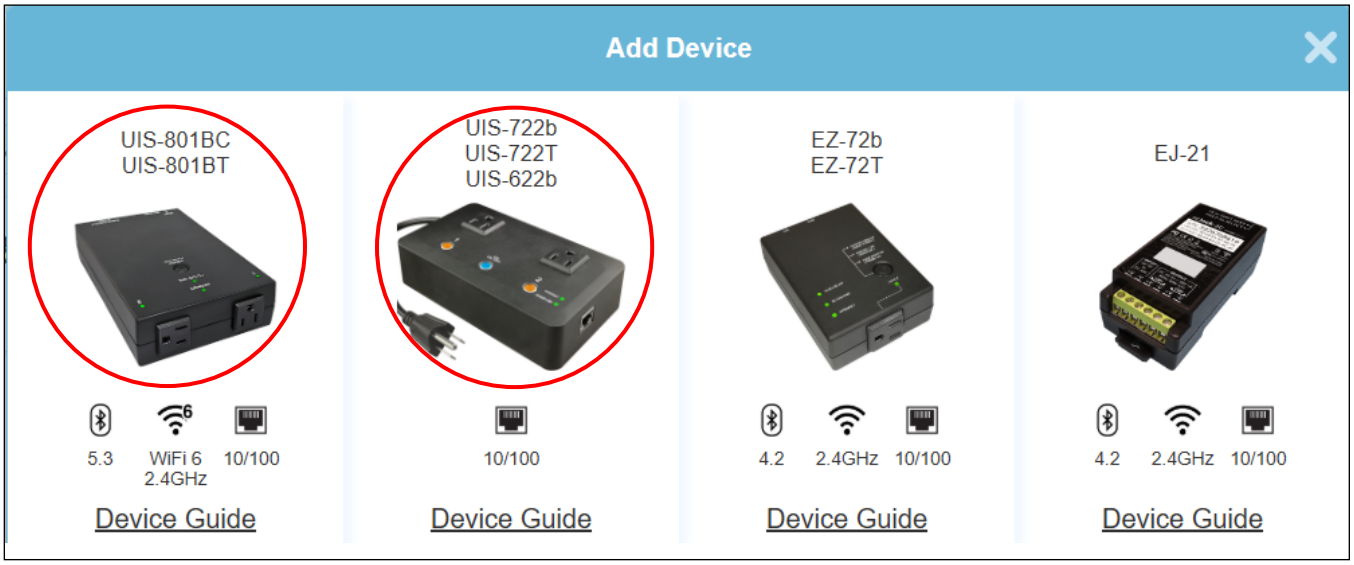
The Add Device screen works the same as it does in the ezDevice smartphone app. Select your MSNSwitch model and enter the serial number when prompted.



See the ezDevice section on page 3 for instructions on completing the device add procedure. Devices added through Cloud4UIS.com will also be automatically synchronized with the ezDevice app.

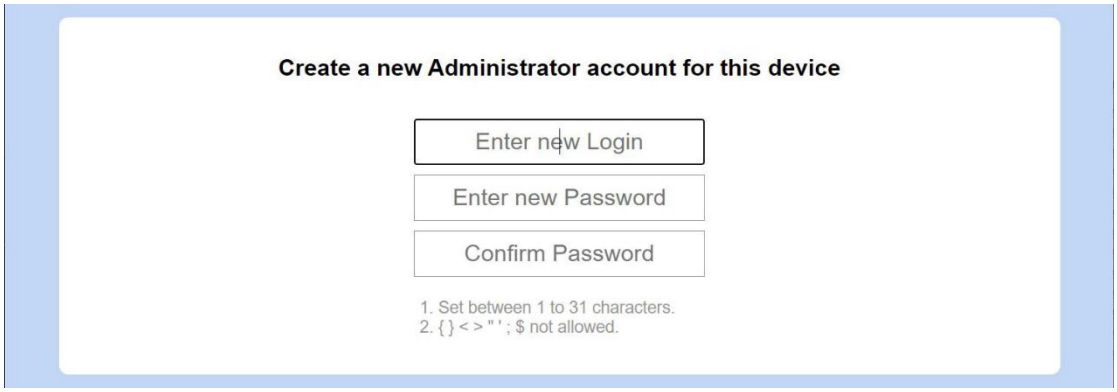
NOTE: It may take several seconds for the MSNSwitch to complete its initial communications with the Cloud and become active on your screen.

3. Internal Web Sever

Full access to all of the MSNSwitch's functionality is available via its internal web server pages. To access the web server, enter the MSNSwitch's IP address into any web browser on your local network.

http://<ip-address-of-MSNSwitch> e.g. http://192.168.1.33

When logging into the MSNSwitch for the first time (or after a factory reset), you must create an administrator account and password.



NOTE: For older firmware versions, the default user name is "admin" and the default password is the last 6 characters of the MSNSwitch's MAC address (upper case). See the bottom label for the MAC address.

If you do not know the IP address of your MSNSwitch, check your DHCP server log or use the Netility utility software to scan for the MSNSwitch (see page 11).

If the MSNSwitch has been previously added to your Cloud4UIS account, the IP address is shown below the device name.

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4. REST API

Basic functions of the MSNSwitch can be controlled through a series of HTTP Requests. You must first add the IP address of the computer making the requests to the MSNSwitch's API Whitelist on the System menu. If you wish to use HTTPS, you must first import your browser's SSL certificate into the MSNSwitch.

Get the Status of the MSNSwitch

HTTP Request:

URL: “http://<IP>/api/status”

Where
IP = the IP address of the MSNSwitch

Response Data:

JSON format:

```
{
    “connections”: [
    {
        “assign”: {ASSIGN}
        “label”: {LABEL}
        “host”: {HOST}
        “ip”: {IP}
        “resp”: {RESP_TIME}
        “timeout”: {TIMEOUT}
        “lost”: {LOST}
    },
    …
    ],
    “status”: {
        “outlet”: [
            {
                “name”: {OUTLET1_NAME},
                “status”: {OUTLET1_STATUS},
                ”reset_only”: {OUTLET1_RESET_ONLY}
            },
            {
                “name”: {OUTLET2_NAME},
                “status”: {OUTLET2_STATUS},
                ”reset_only”: {OUTLET2_RESET_ONLY}
            }
        ],
        uis”: {UIS_STATUS}
    }
}
```

Where:

ASSIGN:
string: “NONE”, ”OUTLET1”, ”OUTLET2”, ”BOTH”
LABEL:
string: Site Label.
HOST:
string: Website / IP Address.
IP:
string: IP Address.
RESP_TIME:
digit: Site response time. (unit: millisecond)
TIMEOUT:
digit: Count of timeout.
LOST:
digit: Percent of ping lost.
OUTLET_NAME:
string: Outlet Name.
OUTLET_STATUS:
boolean: false means Off, true means On.
OUTLET_RESET_ONLY:
boolean: false means Off, true means On.
UIS_STATUS:
boolean: false means Off, true means On.

Examples in this section are shown using cURL for Windows. Any software capable of sending and processing HTTP packets can be used. The API’s required “--header” parameters match cURL’s defaults and are shown for completeness. They can be omitted if your software defaults to these values as well.

EXAMPLE: Get Status

curl --url "http://192.168.0.62/api/status" --data "user=admin&password=WEB_PASSWORD" --http1.1 --header "Accept-Encoding: gzip, deflate" --header "Accept: */*"

OUTPUT

{"connections":
[{"assign":"BOTH","label":"Google","host":"www.google.com","ip":"142.251.40.132","resp":21,"timeout":4,"lost":0}{"assign":"BOTH","label":"Yahoo","host":"www.yahoo.com","ip":"74.6.143.26","resp":45,"timeout":35,"lost":0}{"assign":"BOTH","label":"Pingler","host":"www.pingler.com","ip":"69.64.32.114","resp":41,"timeout":5,"lost":0}{"assign":"BOTH","label":"Ask.com","host":"www.ask.com","ip":"146.75.38.114","resp":29,"timeout":6,"lost":0}{"assign":"NONE","label":"Router","host":"192.168.0.1","ip":"192.168.0.1","resp":1,"timeout":2,"lost":0}{"assign":"NONE","label":"","host":"","ip":"null","resp":0,"timeout":0,"lost":0}{"assign":"NONE","label":"","host":"","ip":"null","resp":0,"timeout":0,"lost":0}],"status": {"outlet":[{"name":"Outlet 1","status":true,"reset_only":false},{"name":"Outlet 2","status":true,"reset_only":false}],"uis":false}

Control an Outlet

HTTP Request:

HTTP URL: http://<IP>/api/control?target=<TAR>&action=<ACT>
Where:

IP: The IP address of the MSNSwitch
TAR: “outlet1”, “outlet2”, “outlet_all”, “uis”
ACT: “on”, “off”, “reset”

Response Data:
JSON format:

```
{
    “outlet”: [{OUTLET1_STATUS}, {OUTLET2_STATUS}],
    “uis”: {UIS_STATUS}
}
```

OUTLET_STATUS / UIS_STATUS:
boolean: false means Off, true means On

EXAMPLE: Turn off outlet #2

curl --url "http://192.168.0.62/api/control?target=outlet2&action=off" --data "user=admin&password=WEB_PASSWORD" --http1.1 --header "Accept-Encoding: gzip, deflate" --header "Accept: */*"

OUTPUT
{"outlet":[true,false],"uis":false}

Send Heartbeat Trigger

This function must first be configured in the MSNSwitch's web interface. The heartbeat function starts after the first heartbeat trigger command is received.

HTTP Request:

HTTP URL: “http://<IP>/api/heartbeat”

Where
IP = the IP address of the MSNSwitch

Response Data:
JSON format:

```
{
    “heartbeat”: “YYYY/MM/DD HH:MM:SS”
}
```

Example: Send Hearbeat Packet

curl --url "http://192.168.0.62/api/heartbeat" --data "user=admin&password=WEB_PASSWORD" --http1.1 --header "Accept-Encoding: gzip, deflate" --header "Accept: */*"

OUTPUT
{"heartbeat":"2023/02/21 08:42:48"}

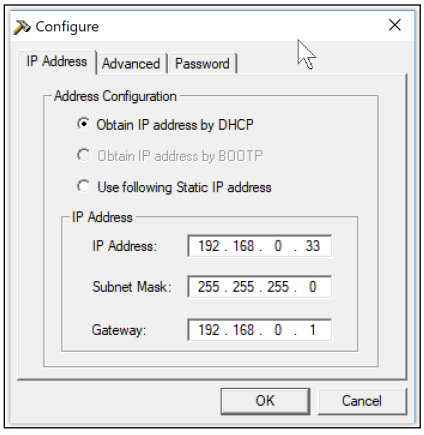
5. Netility Utility

MegaTec provides a software utility for Windows and MAC called Netility that scans your LAN for compatible devices and allows you to change some configuration settings and upgrade firmware without accessing the internal web server pages.

Download and install the Netility utility (Windows or MAC) from the www.MSNSwitch.com web site's Download page.

Connect the MSNSwitch to the same Ethernet LAN as your PC. Open Netility and it will scan the LAN for any MSNSwitches and list them in its main window.

The **Network Settings** button allows you to configure the IP address and related network parameters of the MSNSwitch as well as set the password. The **Launch Web User Interface** button will open the MSNSwitch's internal web server in your default browser.

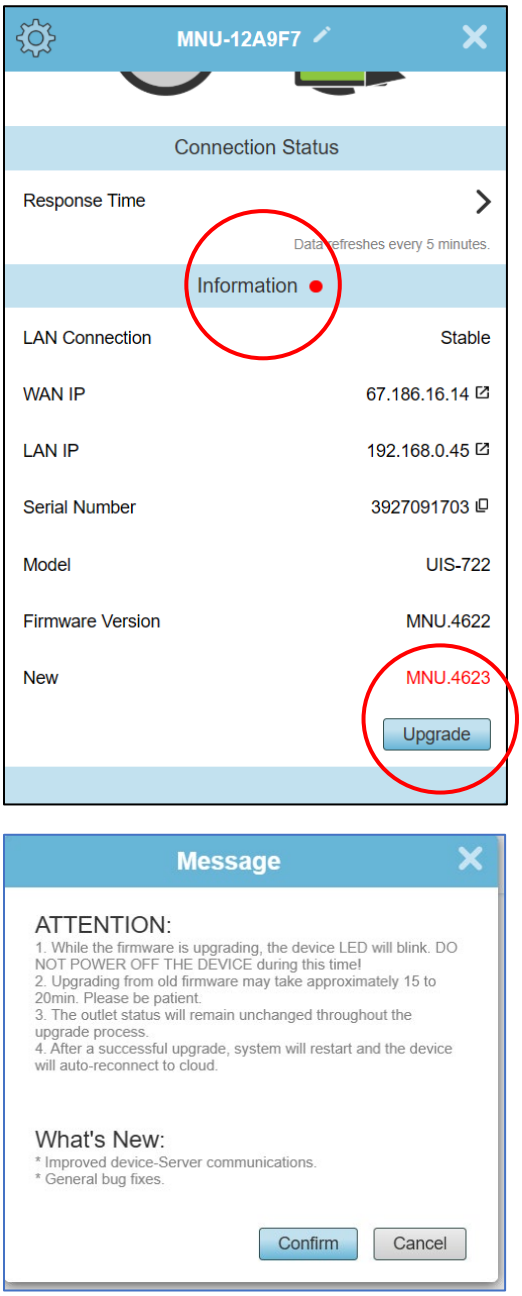


6. Updating Firmware

Using ezDevice or Cloud4UIS.com

After you have added the MSNSwitch to your ezDevice/Cloud4UIS account, you can update the firmware.

Tap any device in your Cloud4UIS account and a firmware update indicator (red dot) will be displayed on the Control page popup if a newer version is available. Click the **Upgrade** button to begin the firmware upgrade.



Tap **Confirm** to begin the firmware upgrade process. You will see the MSNSwitch LEDs flash and the Control popup will indicate the progress.

Do not turn off the MSNSwitch until the update process is complete.

Using the MSNSwitch Web Interface

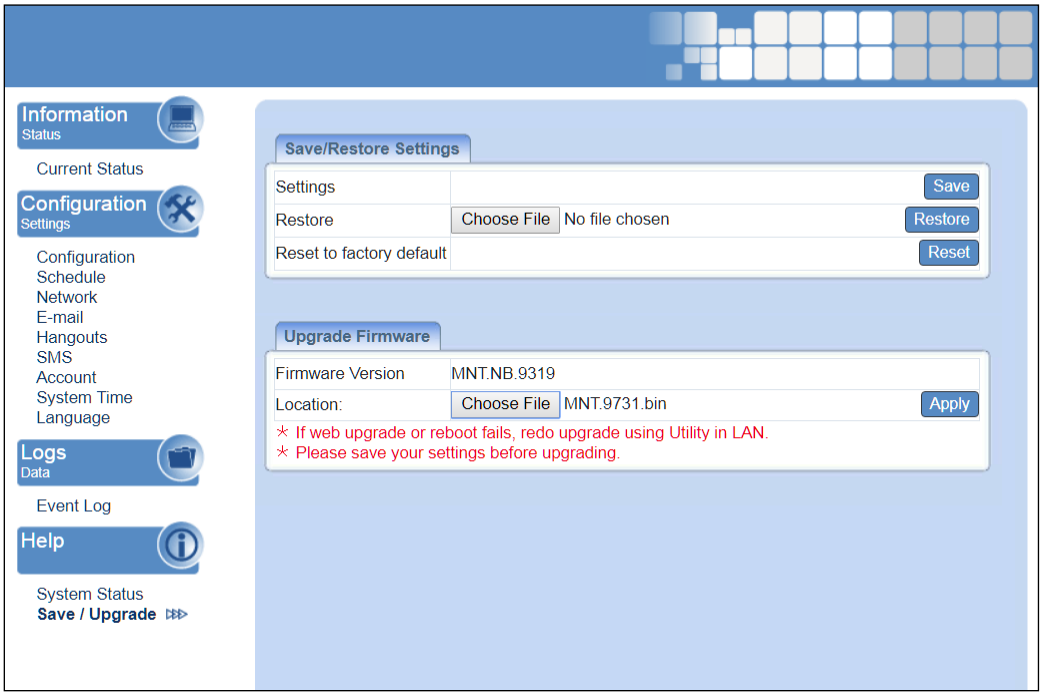
Download the latest MSNSwitch firmware from the Support / Download page at: http://www.MSNSwitch.com

Be sure to download the correct file for your MSNSwitch model. Also download and review the firmware *Release Notes* for important information on the changes and new features.

MSNSwitch firmware is delivered as a compressed .ZIP file – extract the .BIN file from the zip archive. The .BIN file is the actual firmware image file you need to use.

Log into the MSNSwitch's web interface and select the **Save/Upgrade** menu. Click the **Choose File** button to locate the .BIN file you downloaded above. Then click the **Apply** button to begin the update process. Do not power off the MSNSwitch or remove its network connection until the process is complete – it will take several minutes to complete.

Once the upgrade is complete and the web page refreshes to show the new firmware version number, we strongly recommend performing a factory reset from this screen to ensure that all new firmware parameters are properly initialized. You should also clear your web browser cache, then reconfigure your MSNSwitch as needed.



Using Netility

Launch the Netility software (see page 11).

Select the device you wish to upgrade and click the **Firmware Update** button. Select the .BIN file downloaded earlier and begin the firmware update process.

Do not power off the MSNSwitch or remove its network connection until the process is complete.

Once the upgrade is complete, log into the MSNSwitch's internal web page to check that the new firmware version was installed. We strongly recommend performing a factory reset from this screen to ensure that all new firmware parameters are properly initialized. You should also clear your web browser cache, then reconfigure your MSNSwitch as needed.

7. Useful Tips

- The Quick Start Guide for each model can be accessed using the QR code on the card included with the MSNSwitch or via these links: **UIS-722 Quick Start**, **UIS-801 Quick Start**.

- If the Internet LED is flashing it means that at least 1 of the IP target sites is failing to respond as expected. This is just a warning and is usually a temporary condition. If the Internet LED is off, then Internet connectivity has been lost and the UIS Auto Reset function will be initiated if it is enabled.

- The MSNSwitch relies on multiple parameters when executing its patented Auto Reset (UIS) algorithm. Read about how each of these parameters affect the timing and actions of the UIS function in our tech note: *MSNSwitch UIS Auto Reset Algorithm,* especially if you want to successfully "test" the UIS under various scenarios. The default settings are suitable for the vast majority of situations.

- If you want to use Gmail to have the MSNSwitch send email alerts, please review the necessary setup steps on your Gmail account described in this tech note: *Using Gmail with the MSNSwitch*.

- Although multiple Cloud4UIS users can access the same MSNSwitch (via sharing), a Cloud4UIS user can only be logged into 1 instance of Cloud4UIS.com or ezDevice at a time. Likewise, the same internal web user can only be logged into the MSNSwitch from 1 web browser at a time. A single Cloud4UIS account can manage an unlimited number of MSNSwitches and other MegaTec products.

- The usernames and passwords used to access the MSNSwitch's internal web interface are totally independent of the Cloud4UIS/ezDevice login names and passwords.

- To perform a factory reset, either select the Reset to Factory Defaults option on the Save/Upgrade page of the MSNSwitch's web interface or follow these hardware procedures:

  UIS-722: Simultaneously press and hold buttons #1 and #2 on the top of the MSNSwitch for 10 seconds until all of the LEDs begin to flash, then release.

  UIS-801: Press and hold the Reset button on the side of the unit to the left of the LAN port for 20 seconds, then release. A 10 second press will reboot the UIS-801 but will not erase any settings. In both cases, the LEDs will not begin to flash until about 20 seconds after you release the Reset button.

  The MSNSwitch will reboot and have the factory default settings applied. If you previously added the MSNSwitch to your Cloud4UIS (ezDevice) account, you must delete it and add it again. Please wait at least 10 minutes before re-adding the MSNSwitch to your Cloud4UIS account.

- Issues pertaining to Cloud4UIS access and functionality must be directed to service@megatec.com.tw

- Proxicast's web site (https://www.proxicast.com) has additional tech notes and other support resources to assist you with setup and troubleshooting.

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