



REPROGRAMMING GUIDE

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MDS WiYZ Product Line

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INTRODUCTION

This guide explains the use of the WiYZ Device Manager to reprogram the firmware in Gateway and Remote units. If needed, refer to the *WiYZ System Technical Manual*, 05-4954A01 for instructions on connecting to the Device Manager and logging into the menu screens.

Gateway Reprogramming

Reprogramming from of the WiYZ Gateway is accomplished using the **Firmware Utilities** screen in the WiYZ Gateway.

The screenshot displays the 'WiYZ Device Manager' interface. The left-hand navigation pane includes sections for Overview, Setup Wizards, Configuration, Maintenance & Status (with sub-items: Events and Alarms, Performance, Diagnostics, Configuration Files, and Firmware Utilities), and Mesh Network. The main content area is titled 'Maintenance & Status - Firmware Utilities' and features a 'Help' and 'Logout' button in the top right. The 'Version Information' section shows 'Current Firmware' and two images: 'Image 1: 1.5.3' and 'Image 2: 1.5.5 (active)', with a 'Refresh' button. The 'Firmware Reprogramming' section includes a 'File Media' dropdown set to 'TFTP', a 'File Server Address' field containing '10.2.100.142', and a 'Firmware Filename' field containing 'firmware.mpk', accompanied by a 'Program' button. The 'Copy Image' section has a radio button selected for 'Copy Image 2(1.5.5) to Image 1(1.5.3)' (noting 'Image 2 currently active') and a 'Copy' button. The 'Verify Image' section has radio buttons for 'Verify Image 1 - 1.5.3' and 'Verify Image 2 - 1.5.5 (active)', with a 'Verify' button. The 'Device Reboot' section has radio buttons for 'Reboot to other image: Image 1(1.5.3)' and 'Reboot to same image: Image 2(1.5.5)', with a 'Reboot' button.

Available selections on this screen vary, depending on the **File Media** selection. Listed below are descriptions for all possible fields.

- **File Media**—TFTP, USB, FTP, SFTP, HTTP.
- **File Server Address**—IPv4 Address of TFTP/FTP/SFTP server.
- **FTP/SFTP Server Port**—Filled by default to port 21 (FTP) or 22 (SFTP). For security purposes, you can modify this to another value.
- **Firmware Filename**—Name assigned to the firmware package to be used with the utility. Has a suffix of **.mpk**, as in example above.

NOTE: If a USB drive (jump/flash drive) is used to load firmware files, it must be an unencrypted type. Encrypted drives are not supported for reprogramming the Gateway.

Gateway Example: HTTP – Step-by-step

1. Download and unzip WiYZ Software 1.5.5 from the software resources folder located in <http://www.gedigitalenergy.com/Communications/catalog/MDSWiYZ.htm>.
2. Copy **tgmm-bkrc-1_5_5.mpk** to somewhere on the host computer (i.e., desktop).
3. Browse to the **Firmware Utilities** screen on the target WiYZ Gateway.
4. Select **File Media – HTTP**.
5. Click **Browse** and locate the file **tgmm-bkrc-1_5_5.mpk** on the host computer. NOTE: This display may vary slightly from browser to browser.

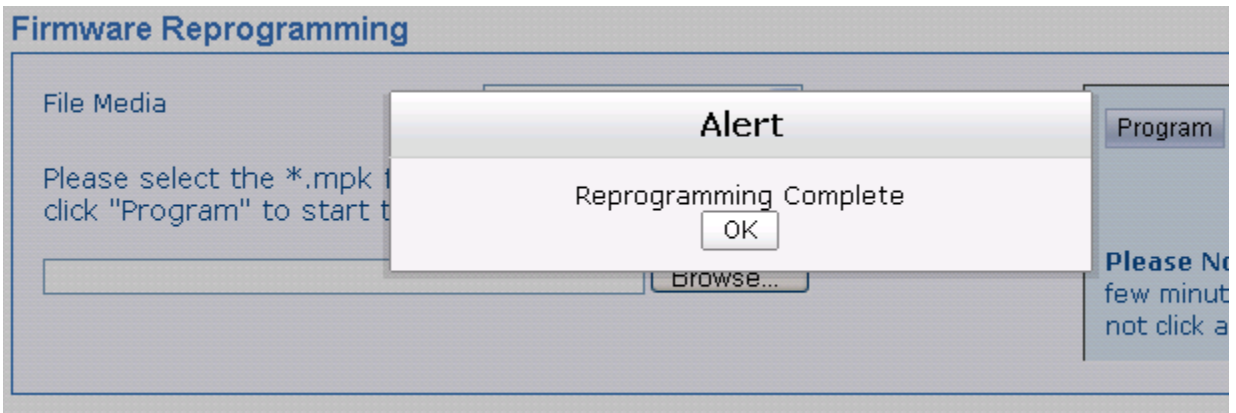
Firmware Reprogramming

The screenshot shows the 'Firmware Reprogramming' interface. At the top, 'File Media' is set to 'HTTP'. Below this, a text box contains the file path 'nd Settings\KRobson\Desktop\tgmm-bkrc-1_5_5.mpk' and a 'Browse...' button. To the right is a 'Program' button. A 'Please Note' box on the right states: 'Please Note: File upload and processing will take a few minutes to complete. Please be patient and do not click away from this page.'

6. Click **Program**:

Firmware Reprogramming

The screenshot shows the 'Firmware Reprogramming' interface during the process. It displays the text 'Please wait for Reprogramming to complete...' and a progress bar labeled 'Progress: 34%'.



7. The software is now programmed into the "inactive" location of the Gateway. To run the new software scroll down to the **Device Reboot** section.
8. Select the **other image** and click **Reboot**.

Device Reboot



9. The Gateway reboots with the new image. Log in again.

Remote Reprogramming

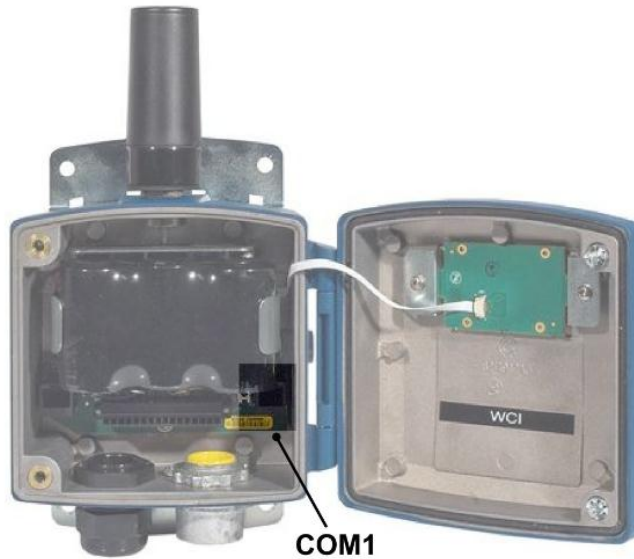
Reprogramming of the WiYZ Remote can be accomplished from the Gateway over-the-air from the **Device Firmware** screen in the WiYZ Gateway. Select the devices by clicking on the device (ctrl-click) to select additional devices – then click **Upgrade Selected Devices**.

The screenshot shows the 'WiYZ Device Manager' interface. The main content area is titled 'Mesh Network - Device Firmware' and 'Device Firmware Upgrade'. It contains a table with the following data:

| Name | Device EUI-64 | Active F/W | Inactive F/W | Actions |
|----------|---------------------|------------|--------------|------------------|
| CO1 Demo | 0006:3DFF:FF04:B389 | 1.5.5 | 1.5.2 | [Edit] [Refresh] |
| VH1 Demo | 00C0:6903:0196:1771 | 1.5.5 | 1.1.6 | [Edit] [Refresh] |

Below the table, there are buttons for 'Reboot Selected Devices' and 'Upgrade Selected Devices'. There is also a section for 'Upgrade Progress Status List' which currently shows 'No records found.' and a 'Remove Selected Progress Entries' button.

Over-the-air reprogramming has the convenience of not having to personally visit Remote sites, but it can take several hours to complete. Alternatively the WiYZ Remote may be reprogrammed via the Remote's serial port. This requires opening the Remote and attaching an RJ11 connector to COM1 – the console port. Below is a picture of an open Remote indicating the location of the COM1 port.



Remote Example: COM1 Serial – Step-by-step

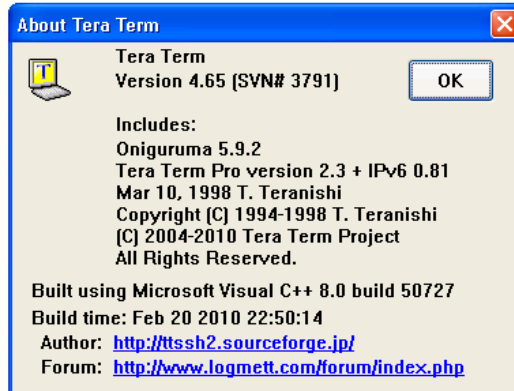
1. Download and unzip WiYZ Software 1.5.5 from the software resources folder located in <http://www.gedigitalenergy.com/Communications/catalog/MDSWiYZ.htm> .
2. Copy `wiyrm-hm_1_5_5.mpk` to somewhere on the host computer (i.e., desktop or other desired location).
3. Connect a serial cable to COM1 (115200 baud, 8N1).

COM1 (J602) RS-232 DTE Diagnostic Pinouts (RJ11 Connector)

| RJ11 Pin | Signal | Direction |
|----------|--------------------------|-----------|
| 1 | Reserved-do not connect. | — |
| 2 | Reserved-do not connect. | — |
| 3 | Reserved-do not connect. | — |
| 4 | Transmit Data (TXD) | Output |
| 5 | Receive Data (RXD) | Input |
| 6 | Ground (GND) | — |

4. Start a terminal program such as TeraTerm and connect a serial cable to the proper host COM port.

NOTE: The old program “HyperTerminal” does not work properly for this application.



5. Log into the Remote using the command line interface. Press the Enter key to receive the Login Prompt.

Default Login: **admin**

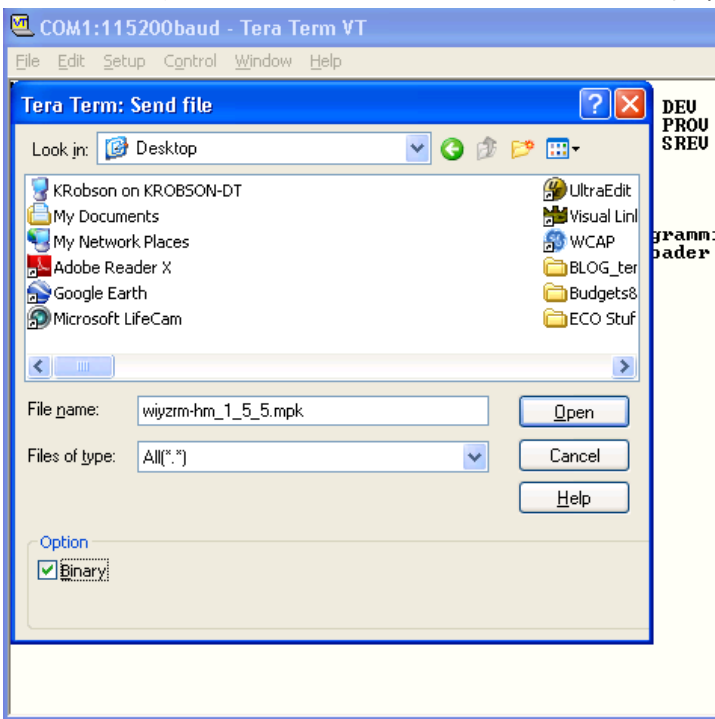
Default Password: **admin**

Using the command line interface, type **reprog start**

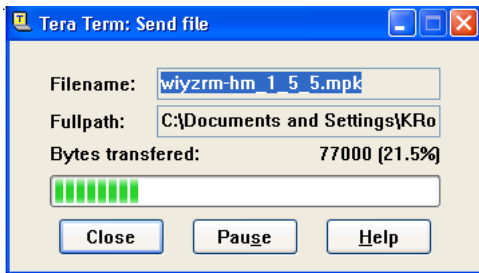
6. Confirm erasure of the inactive image

```
WiyZ> reprog start
Confirm to erase inactive image #1 <Y/N> █
```

7. Send the file (use **File->Send File** menu and ensure **Binary** option is checked).



8. Allow the operation to complete:



9. Confirm completion and reboot device (mandatory reboot)

```
WiYZ> reprog start
Confirm to erase inactive image #1 <Y!N>? y
Send firmware file now
Reprogram Complete
Select image to reboot <1!2> 1
Booting to image 1
Verifying...
"Rebooting to image 1...
Booting Image 1
```

This completes the WiYZ reprogramming instructions.