

GH Everyware Updates – 2.4 Through 2.7.4

This guide provides new feature history beginning at version 2.4. As we update the manual, some overlap may occur with that document. When there is an installation note for a version, it assumes that you are updating from the previous release. Eg. 2.7.x installed on an existing 2.6.x. The x denotes maintenance or minor release. In practice, you “should” be able to update from any version, but we have not tested every scenario. We always suggest backing up your important data (see BACKUPS below) before any change or update just to be sure. GH Everyware should never overwrite a file by itself, but it’s always better to be safe.

BACKUPS: There are a couple of items things that should be backed up on a regular basis to avoid lengthy downtime should you have a computer failure. The “*wioProfiles*” directory and the “*DeviceManager.xml*” contain everything the Server needs to restore all of your connected devices on a new or different computer. “*Settings_Server.ini*” contains the state of the Server (# of connections, port number etc) after the last time it was running. When you install on a new computer, the COM port numbers will change, so you will need to discover the COM ports used by each GHE Base and RT-21 using Windows’ Device Manager, and then change the COM ports as needed in your GH Server Device Manager.

The Client, being the user interface, is much easier to recreate, but if you want to back-up everything, you should keep:

All the .ini files (Except “*GH Everyware ClientServer.ini*”)

All the .XML files

All the .DAT files.

The locations of these files have changed over time, as of 2.7, all backup information is stored in your user “My Documents” allowing normal windows backup programs to automatically back up your important data. Or manually saving your data is made much easier due to the common locations.

VERSION COMPATIBILITY: - Although it is recommended that Client and Server are kept consistent, it is not mandatory. 2.7 Client will run with 2.6 Server and not cause any trouble, BUT you should only count on features that are available with the lower number Version. The version scheme we use are:

X.Y.Z where

X = Major Releases are NOT compatible with each other

Y = Minor Releases are compatible, but contain significant new features

Z = Maintenance Releases are fixes, enhancements or add related features to existing versions.

How to install 2.7.X on 2.6 and earlier systems retaining existing configurations

After Installing 2.7.0 Server:

1. Find your program install directory, should be:
Program Files or Program Files (x86)\Green Heron Engineering\GH Everyware Server
2. Copy the following to your new Server User directory "My Documents\GH Everware Server"
 - a. wioProfiles directory with files
 - b. DeviceManager.xml
 - c. Settings_Server.ini

For Local Controller OR Separate Client after install:

1. Find your program install directory. If you were running the 'embedded client' by accessing through the Server's Launch Local Controller, then these files are in the Server's install directory as for the Server files above. If you are running a stand-alone Client, the install directory should be:
Program Files or Program Files (x86)\Green Heron Engineering\GH Everyware Client
2. Copy the following to your new Client User Directory "My Documents\GH Everyware Client"
 - a. All the .ini files (Except "*GH Everyware ClientServer.ini*") (15 files)
 - b. All the .XML files (3 files)
 - c. All the .DAT files. (2 files)

After you are sure everything runs fine, BACKUP files, then remove all the copied files from their old locations. This will keep your install neat and tidy.

NOTE:

You should not need to install Server AND Client on the same computer unless you are going to use the SO2R 2nd Radio, OR Custom User Directories. If you launch Local Controller when there is a separate Client installed, it **cannot** utilize these two features. Local Controller may be restricted in the future, to also not allow connection to other servers as well.

Local Controller will always access user data from "My Documents\GH Everyware Client"

The separate Client install defaults to the above, BUT can be configured for custom directories, and/or 2nd Radio SO2R directories.

NOTE:

Beginning in 2.6, GH Everyware server was not compatible with the use of MicroHAM Device Router with active Virtual Ports on the same computer. The actual compatibility issue was with one specific type of Eltima Virtual ports as used by the MicroHAM Router. **GH Server 2.7.3 restores the ability for these programs to co-exist.**

GH Everyware Client & Server 2.7.4:

- SERVER and CLIENT – New embedded device (LBS Stack) supports on/off buttons for the Low Band Systems Stack Controller. This works similarly to the Stack Match 1-4, and Stack Match 5-8, except it supports the LBS device logic.
- SERVER – Increases the number of device entries in the Device Manager from 50 to now 100.
- SERVER and CLIENT – Installer fix for Windows systems that have ONE-DRIVE enabled. Makes sure that the user files ignore the ONE-DRIVE directory re-directs in order to install in the USER-HOME directory structure.

GH Everyware Client & Server 2.7.3:

- SERVER and CLIENT – New embedded device (FOUR STACK (GHE) supports on/off buttons for the new Green Heron 4 high stack controller with built-in wireless. This works similarly to the Stack Match 1-4, and Stack Match 5-8, except it supports 4 antennas. We will update the Stack Match page as soon as possible to document this.
- Add new Client feature “Configuration->RSSI Test Window”. Shows a list of all the currently connected (at the server) devices for signal strength testing and verification. Option to turn on direct connect devices too (0dBm devices).
- SERVER – Restores ability to co-exist with MicroHAM router and the Eltima Virtual port driver (See above)

GH Everyware Client 2.7.2:

- OOPS – the N1MM external broadcast change in 2.7.1 broke the PST Rotator emulation of N1MM commands. 2.7.2 fixes this!
- Add N3FJP to the Software Support for Frequency Data. Note that N3FJP programs do NOT support rotator commands.
- Turning off “Show Selection boxes on switches” now also removes the HOTKEY labels on button displays. Client restart is required for this to take effect. HOTKEY labels are temporarily shown while you are actively setting new KEYS, and they disappear again upon Client restart.

GH Everyware 2.7.1:

- One additional fix for User/Authentication.
 - Note: if your system won't save users/passwords, try starting Server using the right click->“run as Administrator”. Create the users and passwords, then close server.
- External Radio Broadcast from N1MM now reads the TX Frequency of each radio. This allows frequency selected switching and Tornado Tuning based on the correct TX frequency when operating in split mode.
- Cloned Rotators now support an OFFSET from their connected real Rotator. The OFFSET is input at connect time when the dialog appears. Once connected, restarts will automatically pickup the desired OFFSET. If you manually disconnect and re-connect, you will be asked again for the OFFSET. This allows for beams with different OFFSETS to be used on the same mast with separate representations in the Client GUI based on Band.

GH Everywhere 2.7.0:

- User files are moved to user “My Documents\GH Everywhere Server” and “My Documents\GH Everywhere Client” directories to keep with Windows conventions and provide easy backup needs.
- The installers now contain the embedded Java Runtime needed to run Server or Client on any windows machine. Currently, we support XP through Windows 10. You no longer need to install Java on your computer separately.
- Fixed the User Authentication that was broken in an earlier release. Allows User/Password authentication controls if desired.
- Fixed a recurring “Error, Subtype not Selected” message that would not allow you to clear an invalid line in the Server’s Device Manager without deleting the Device Manager and re-creating.
- Improved the robustness of auto-recovery of Server devices:
 - Rotator flashing red displays on restart if RT-21 was not working before server restart
 - Removed the warning about disconnecting cloned rotators, and now, once clones are CONNECTED, they stay connected unless manually disconnecting in Device Manager. If the cloned source rotator goes away, the clones will still show connected in call clients.
- Removed the obsolete WIO6 device and we now call the GHE device “GHE Base” (instead of WIO6 or WIO8) in the Device Manager.
- Expanded the WIO profile editor capability to 20 lines from 15 lines. As before, if you need more than 20, you can use an XML editor if needed. But if you try to edit a profile later using the built-in editor, the xml will be truncated to 20 lines. (We can’t imagine having more than 20, but ?????)
- Improved the visibility of the Profile Editor’s to larger font and the “on” bit setting is a better red color, used to be green.
- Added timestamps and more data in the Server’s log window. Checking File->Server Logging will enable this log to be saved to file as “ServerLog.txt” in the Server User directory. This takes effect at the next Server restart. Note: this log file will continue to grow if it is left enabled. It shouldn’t get huge, but overtime, it will get large. You can just delete it anytime and start over. It is disabled by default.
- The Client Closing warning popup may be turned off forever
- Changed the colors in Client for FIXED rotators and CLONED rotators. Useless Preset popups for these devices have been removed.
- Expanded the number of devices in Client’s **SwitchBands** selection from 26 to 52.
- **New Device Type VIRTUAL SWITCH**

This is a new Sub-Type that creates a set of selections (band switch, map switch, or button switch) that may be set to operate multiple real switch operations at one time. You can use it to control multiple different devices and GHE remote positions with a single button.

Eg. - Two A/B switches at opposite ends of a shared coax. You can have one button to select both switches together even if they are 1000’ apart on two different remotes, or even two different bases.....as long as they are on the same server.

Use this to chain together multiple coax switches to create single on-screen device to select the right antenna routing through multiple switches on different GHE Remotes.

You create a Virtual Switch with WIO Profile Editor by checking the Virtual Switch box, then making your set of buttons or directions. Open the virtual panel for each position (...) at the left of the position, and enter up to 4 different actions for this selection. The actions are in the form of a Switch Name, and a Switch Position. These must match the names and positions of real switches EXACTLY. (if you need than 4 actions for any single button, you would need to create the wio Profile using an XML editor.)

NOTE: On/OFF banks are not supported with Virtual Switches.

NOTE: At this time.....Virtual Switches cannot activate another Virtual Switch, only real switches

- **Automatic Tornado Tuner using RT-21dc**

Building on the Virtual Switch....we can use the Virtual Switch to implement a rotator direction selection based on a button (kind of like a preset) that may use a "Band Switch". In this way, the frequency selection in 1KHz resolution, will send heading data to a rotator.

Setup a Virtual Band Switch with the frequency ranges matching the resolution of the RT-21's control of the Tornado Tuner's desired presets. Then for each named freq range, enter the "Rotor Name" in the first field, and "#nnn.y" in the position field. The first character must be '#' followed by the heading with no spaces. The heading may be integer, or single decimal format.

Now, you may either click on the desired preset, or let Software Control automatically tune via radio frequency data.

You MUST associate the Virtual Switch for Tornado Tuner with a real connected GHE Base unit that is connected in Device Manager. The GHE base doesn't need to be used for anything, but The Device Manager must see one in order to connect the Virtual Device

- **Band Switch support for more than one antenna for a band**

When using automatic Band Switch selection where there is more than one position that meets the frequency criteria, the first position is automatically selected. In 2.7, you are allowed to select different antennas that are within the frequency range defined without the Client reverting automatically to that first default position. Previously, you were not able to use automatic Band Switch in this scenario.

- **Automatic DEFAULT Switch Selection**

A switch can force a "Default" position change to occur upon the switch becoming active (visible) because SwitchBands makes it so. In order for this to occur, the Default switch position name (in the wio profile in the Server) must contain the word "Default" as part of the name.

Example: - You have a selector switch that can select from one of 3 80 meter antennas, but rather than have the position stay in the last position selected by any user, you want to force it to select a "Dipole" when you change bands to that band from any Client.

In the wio profile for the switch, make the name for the Dipole to be something like "80 Dipole Default"

In Switch Bands, select the 80 meter box only so that the device is only visible when you are on 80.

- **Enhanced SO2R Support**

Client now supports running multiple instances using separate user data. This allows 2 Radio operation with separate clients each tracking a radio and displaying only the desired widgets for each. The 2nd instance for the 2nd radio has its own shortcut that adds a “use2ndRadio” as a command line argument to the Client. The client then will create an SO2R directory under the first Client User directory and maintain a separate set of configuration files.

For N1MM, configure the UDP Broadcast for Radio and Rotor ports to include a 2nd port:

Radio 127.0.0.1:12060 127.0.0.1:12061

Rotor 127.0.0.1:12045 127.0.1:12046

In GH Client for radio 1, configure one set and use the Radio1/VFO1 check only

In GH Client for radio 2, configure for the other set and use the Radio2/VFO2 check only

When running from the 2nd Radio shortcut, the title bar of the Server Menu will say “RADIO 2” and under config menu, there’s a grayed out, but checked “2nd Radio SO2R”.

- **Custom User Directories**

If you want to force Client to use a different user directory(s), you may create a shortcut (or command line) that provides the desired directory at program startup. Run GH Client with: “GH_Everyware_Client.exe userdir c:\mydirectory”

Include additional argument of “use2ndRadio” adding additional SO2R directory under mydirectory.

Client will create all directories in the path upon startup should the path not already exist. (full absolute path must be used)

GH Everywhere 2.6.0:

NEW FEATURES:

- Matrix Switch lockouts can be setup to prevent a multi-transmitter antenna relay, that does not have its own “first one wins” logic, to operate within a GH Everywhere system without the chance for one station to take away the antenna from another. “BUTTONS” and “BAND SWITCH” Display types can be set for Matrix Lockout within the WIO Profile. Any and all switches that have this selection, then match the names of the switch positions for the purpose of implementing a lockout.
 - This feature is designed for multi-radio antenna switches including The GHE/Hamplus line of transmit matrix switches. When using other vendor’s switches with GH Everywhere, you do NOT use the optional controllers that these companies offer.
 - Eg: if a Matrix Lockout switch with a position name of “20 Meters” is selected by one client, no other client switch may select that same position named “20 Meters” in any other switch that has Matrix Lockout checked.
 - For any switch with multiple transmitter ports, ensure that the switch position names for all controls that use that use the exact same name. The Client will display all selected positions of Matrix Lockout switches in a light red color, and the switch position will not be selectable, either manually, or automatically from your logging program.
- GH Server will no longer invalidate a COM port device (switch or rotator) that was connected when the Server was shut down for any reason. Server will continue to try to recover that COM port and will assume that the same device was connected, after the power event, that was connected before. This is intended to improve unattended operation of GH Server. If the Server encounters a power failure, each COM port connection should retry continuously while waiting for the device connected to that port to recover.
- New Serial Port libraries are now being used that make availability of Server and Client operation on Mac, and even Raspberry PI. Due to platform differences, the robustness of such Servers may not be as good as Windows, at least for now. If we have a choice, we will make sure the Windows version is as robust as we can make it.
- Somewhat related to #3 above, WIO Profile Editor, and the Server’s Device Manager now include screen resizing elements to improve visibility on all platforms.

GH Everyware Client 2.5.004

This version of GH Everyware Client contains new features and enhancements to the previous released version, 2.4.0.

FEATURES:

- Additional colors are available for button selectors. These are accessed on the Client Menu: Configuration->Switches->Button Color. A Client restart is required for the new color selections to take effect.
- Eliminated the redundant 'ALL/all' in the Band menu when using the Manual Mode for band selection.
- Rotator Map displays now works properly for 2nd Radio's band.
- Enhanced SO2R support now works using two instances of Client on the same computer, but installed in different directories. This allows 1 client following Radio 1, while a 2nd client follows radio 2. This process was suggested by K1TTT.
 - a. Make copy of client installation directory to a different name, make shortcut for 2nd client exe
 - b. Change radio client port number on second instance and add that port to n1mm+ radio broadcast addresses (now available from the gui instead of having to edit the ini and restart)
 - c. Change first client to left radio only
 - d. Change second client to right radio only
 - e. Move all the windows for the first client to the left side of the screen
 - f. Move all the windows for the second client to the right side of the screen.
- Increased total number of rotators supported in the Rotor Bands dialog up to 24.
- Fixed intermittent loss of Rotor Bands and Switch Bands data caused by changing Server configurations and other network changes. We have removed the Server IP from the criteria upon which to judge different devices. IF YOU RUN MORE THAN ONE SERVER AT ANYTIME, YOU MUST ENSURE THAT EACH SERVER HAS A UNIQUE PORT NUMBER.
- Automatic return to N1MM+ current focus when selecting switch positions, rotor presets, rotor map positions etc. This feature makes use of the current window broadcast information from N1MM+. It should return focus to the same spot in the current entry window prior to doing the click on a GH Everyware control. It will not return if you move or resize, but anything that changes a switch or rotator position should return without intervention.

GH Everywhere 2.4.0:

- Fixes disappearing Device Manager entries and undesired COM port changes when COM ports change or are no longer valid.
- COM ports that are in current XML (are used in device manager) but are no longer valid when Server starts are denoted with an '*' in the drop down COM menu.
- Adds CTS flow control support for GHE Base units. This prevents possible highly intermittent hang-ups on Base units when using PTT hot-switch protection. Must also have Base PCB version 3.4 or later for this to be effective. Option in Device Manager to support the new "Base PTT" or "8-bit". Base PTT requires one of the 8 IO bits for Flow Control.
- Robustness fixes for device manager regarding multiple rotator connects, spaces and other non alpha-numeric characters in device names from causing unexpected connect results.
- Default install directory changed to go under ProgramFiles(x86) with user images under Documents complying with newer Windows conventions. Prevents multiple instances of Client from being launched.
- Adds a number of example WIO profiles for known devices including the two examples that are used in the chapter 2 GH Everywhere tutorial from the manual.
- Integration of MAP rotator devices similar to existing Switch devices, allowing multiple rotators to be displayed with user control of displays, beamwidths, colors and touchscreen drag support. Added Rotor Map configuration menu to go along with the digital (tray) configurations allowing separate "rotor bands" for each display type.
- Default install directory changed to go under ProgramFiles(x86) with user images under Documents complying with newer Windows conventions. Prevents multiple instances of Client from being launched.
- Lock window positions settable via File-> Lock All Windows, prevents accidental movement on touchscreen, or by mouse.
- Recover window positions available via File -> Reset Window Positions places all open device windows at upper left of main monitor.
- All map devices (switches and rotators) maintain square aspect ratio while resizing
- Rotator spinners step size settable in Configuration->Rotors->Set Rotor Step Size allows much faster setting of rotator positions with spinner, hotkeys or E-Knob.
- Add row and column 'All' boxes to Switch Bands and Rotor Bands tables greatly reduces tedium in creating and changing these settings.
- Robustness improvements to Rotor and Switch configurations to prevent clearing of settings when Server changes are made.