GH Everyware Wireless Base/Remote Test and Configuration Utility – ver 1.1

Install and Connect

Install the program by browsing to the directory containing the install files for GHE Wireless Test and Config, then run the SETUP program. (If you get an install error complaining about "installing from a different location" you should try un-installing any previous version using Add/Delete Programs.) If you plug in the Unit's USB cable <u>before</u> starting the program, it will find the port in the dropdown list. The Disconnect/Re-scan button on the CONNECT tab will re-evaluate devices connected on ports without having to restart the program. Select the COM port and press CONNECT. A Status message and the connect speed will be shown in the Status Line, the program will advance to the Standard Settings Tab and read the standard settings into the form.

Standard Settings

The Test and Configuration program allows you to make configuration changes to the Base or Remote radio module that is contained inside each GH Everyware Unit. This will allow you to quickly change the Network Settings including the Channel Letter and Address number. You can also change the device type assigned to the module. This program communicates through the device USB or RS-232 port as needed.

Network Channel, Address and Baud. – You may change the Channel and Address, and Write the settings back to the module. Also, the baud rate assigned to the serial port can be changed to match a serial device that you may wish to connect. For GH Rotor Controllers, this is typically 4800 baud. Remember that each Remote Unit must have a unique Address AND the Channel Letter must match that of the Base. The Address field may be grayed out or filled in according the Module Device Type. Eg. If you are programming a GHE Base, the Address MUST be set to "0". The GH Everyware Server must connect to a GHE Module at 9600 baud, so this is the default setting for all modules.

Module Types

GHE Base (8 bit) – Used as the master radio in a GHE network with one or more Remotes. The GHE Base MUST be used with GH Everyware software for control. Unit Address is "0". This module type supports 8 I/O bits on the base itself.

GHE Base (PTT) – Same as above except only 7 bits of I/O are supported on the base unit itself. The PTT switching lockout is enhanced with this mode by including CTS flow control (using the 8th IO bit) to the GHE Server software. (Base PTT mode must also be enabled in GHE Server Device Manager for this base unit, AND the Base jumper must be set for CTS too.)

[NOTE: Base (PTT) is only supported in Base rev 3.4 and later]

GHE Remote – Used as a remote radio in a GHE network communicating with a single Base with the same Network Channel Letter. Each remote on a network must have a unique Address between "1" and "249".

PTP Base – Used as the computer end of a Point-to-Point serial link. GH Everyware is NOT used as the controlling software. The Address of a PTP Base must be "0".

PTP Remote – Used as the remote end of a Point-to-Point serial link. The Address of a PTP Remote MUST be "250"

Sleep Mode

GH Everyware Remote units may optionally be enabled for battery operation where current consumption must be managed. Use the Standard Settings Tab -> Sleep Time value to configure the amount of time that the module will stay asleep in the absence of any network activity. Since GH Everyware communicates with each Remote Unit about every second, we wake up each module that is in Sleep Mode and stay awake for two seconds to see if the Base Unit is communicating. If it is, the Remote will stay awake for another two seconds. If nothing is heard in two seconds, the Remote will sleep for "Sleep Time" seconds. When asleep, the module will draw just a few ma vs ~ 100ma when awake. By measuring the normal current (exact value will be dependent on how many relays and external relays are picked) you can estimate the average current by:

(2 / SleepTime) x Normal Current = Average Current

Note: Any relays that were picked when the module goes to sleep will remain energized. If you don't need the relays picked when using Sleep Modes (GHE Server disconnected) then you should create an OFF position in your device profile.

Note: _You can reduce the consumption further by removing the Link and/or POWER LED from the Remote unit, or changing the series resistors (R7, R18) to higher values._

I/O Settings Tab

The functions available on this tab are mainly in support of additional features of the WIO base and remote that are not yet available to GH Everyware. Specifically, this is the reading of Inputs either digital or analog. This will allow remote monitoring of supply voltages or other things that you may wish to add. Currently, the WIO module can read these, but the GH Everyware support isn't yet installed. You can change the IO type for bit 1-4 to DI (Digital Input), ADC (analog VDC Input), or DO (Digital Out). The DO is the default setting and that setting is used for output relay control signals. You may check a Relay # box to manually set a relay on WIO address selected. Get WIO button will read the current IO types for each bit. Read Data button will read any analog inputs selected. Bit 5 can select DO, or one ot two temperature sensor values. The Temp Sensor will be installed in future units and we can provide parts for this on request for any WIO-8 Remote.

Special Tab

This tab allows manual AT command entering for the WIO module. This is reserved for non-standard usage that isn't available any other way. It should not be needed for normal configurations and settings.

Test Tab

This tab allows RF path and relay output testing for the connected Base, to and from a single WIO Remote at a time. The RF Path test will continuously read and write data to the remote, while displaying the signal strengths in –dBm for both ends of the path. The RSSI indicators on each module will also indicate so you can start the test, then do surveys with any WIO device. The Output Toggle Test will alternately set and release all relays on the selected remote on a 1 second interval.