



GW3-TRBO®
Location
Software Version 2.16.4
Module Book

GW3-TRBO™

600-2.16.4-KK.1
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Refer to the GW3-TRBO Manual Overview for your full license. All license information contained on pages 4-7 (Book 600-2.16.4-AA.1) are to be considered as contained herein.

Support

Customer satisfaction is our number one priority at Genesis. We are here to provide you with the best software possible, and we want to know when you have any questions, concerns or problems with GW3-TRBO so that we can make it a better product for everyone.

Refer to the *Troubleshooting & Support* section of the GW3-TRBO Manual Shell (Book 600-2.16.4-AA.1) for complete support and contact information.

Document History

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Goals

This manual provides instructions on creating and managing Location connections.

Who Should Read This Manual?



This manual is written for the intended audience of novice to mid-level MOTOTRBO radio system users and novice to mid-level PC users. If your GW3-TRBO installation is licensed for Location connections and you are responsible for setting up these connections, you should read this manual.

How This Manual Is Organized

This manual is organized as follows:

- **Overview:** Defines the Location module and Location GUI and gives instructions on creating and managing location connections.
- **TRBO Location Connections:** Describes how to create and manage TRBO location connections.

This manual contains the following images, used to indicate that a segment of text requires special attention:

-  **Additional Information:** Additional information is used to indicate shortcuts or tips.
-  **Warning:** Warnings are used to indicate possible problem areas, such as a risk of data loss, or incorrect/unexpected functionality.

Important Note

The MOTOTRBO “backbone” that GW3-TRBO uses is a powerful stream of data that, as time goes by, will be revealing much more of its power. You may notice GW3-TRBO terms, setup options or real-time activity properties that may not make sense in the current MOTOTRBO world. If you see terms, options or properties that are not adequately explained in your GW3-TRBO documentation, please contact support, look in the Glossary section of the GW3-TRBO Manual Shell, or on our GW3-TRBO Web site. If you see terms, options or properties that you understand, but do not pertain to MOTOTRBO, please disregard them for the time being. As new MOTOTRBO features are added over time, you will begin to understand that your GW3-TRBO is ready for those MOTOTRBO enhancements!

This chapter defines the Location module and the Location GUI (Graphical User Interface) and gives instructions on managing Location connections.

This chapter contains the following sections:

- **Terms:** Describes the terms that are needed to understand the Location module.
- **What is Location?:** Defines the Location module and Location GUI.
- **Location Information in GW3-TRBO:** Describes how GW3-TRBO uses location information provided by Location connections.
- **TRBO Location Connections:** Describes properties of the Location connections and how to manage them.

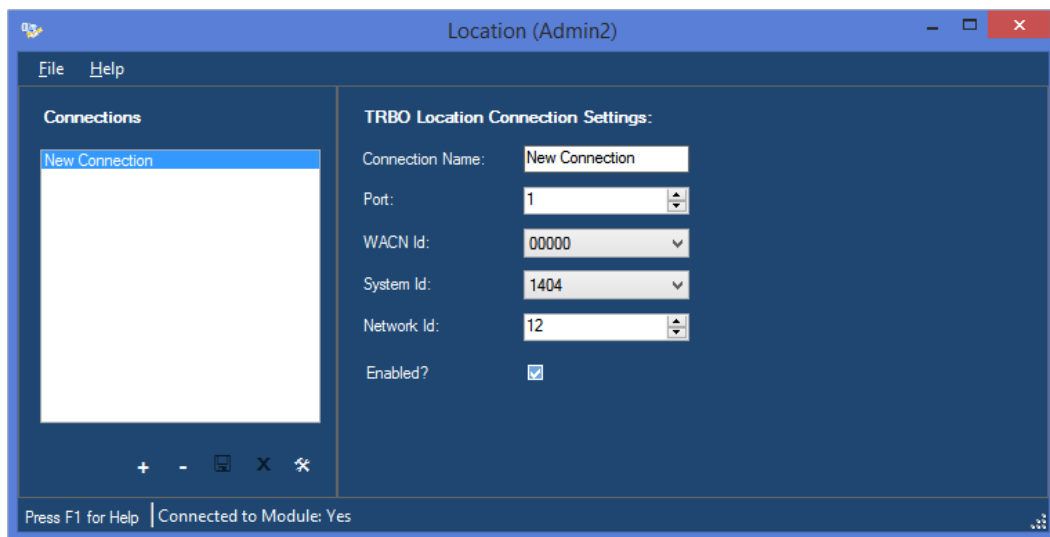


Figure 1.1 – Location GUI

Terms

- **Location Connection:** Connection that listens for GPS data through one or more connected control station radios.
- **ARS:** Automatic Registration Service.

What is Location?

The GW3-TRBO Location module manages communication to and from GPS servers via Location connections. Managing these connections includes:

- Listening for GPS data from one or more control station radios connected to the GW3-TRBO PC via USB.
- Reporting connection and session-related errors to the event log.
- Converting proprietary GPS information packets to GW3-TRBO GPS Location packets.

These are just a few of the functions of the Location module. Most of its functions are transparent to GW3-TRBO users.

The Location GUI (Figure 1.1 above) allows you to manage location connections. These connections reside in the Location module and provide connections to one or more control station radios. Through this GUI you can:

- Add a new connection.
- Update an existing connection.
- Delete an existing connection.

These options are discussed in detail within the specific connection type sections below.

Location Information in GW3-TRBO

GW3-TRBO uses location information to:

- **Provide *last known location* information to radio-originated activity:** Radio-based activities such as push-to-talks and emergency alarms include the last reported location information of the radio.
- **Report radios that move improbable distances in a short time:** SAM uses time and distance formulas to determine if a radio ID is moving in mysterious ways.
- **Provide GPS information to other third-party applications:** GenSPOut allows you to create custom outputs and forward GPS location information to a serial, TCP/IP or UDP port.

TRBO Location Connections

To set up a Location connection, you must set up the following hardware and software requirements:

1. The Motorola Multi-Channel Device Driver must be installed on the GW3-TRBO host machine. This driver is responsible for correctly routing data between the PC, the control station radios and GPS-enabled radios in the field.
2. Radios in the field must have GPS and ARS enabled to send and receive GPS data.
3. One or more radios must be connected to the GW3-TRBO host machine using USB programming cables. These radios will receive GPS data over the air from remote radios and forward the data to the connected PC. The control stations also will be used to send GPS requests from GW3-TRBO. *(Note: It is not necessary to create an RF Control Station connection in the Trbo module.)*

Connection settings

Each Location connection includes the following settings:

- **Connection Name:** Alias of the connection, used to distinguish the connection from other connections.
- **Port:** UDP port used for Location data. MOTOTRBO radios use port 4001.
- **WACN ID:** WACN ID of the system being monitored.
- **System ID:** System ID of the system being monitored.
- **Network ID:** ID number of the CAI network used by the radio system. MOTOTRBO radios have a default CAI network ID of 12 but can be reconfigured in the Customer Programming Software.
- **Enabled:** Indicates if the connection should be started.

Adding a New Connection

To add a new Location connection, follow the steps below:

1. Click the **Add** button: Location shows a new connection in the **TRBO Location Connection Settings** panel.
2. Update the connection properties.
3. Click the **Update** button to add the new connection. To cancel adding the new connection, click the **Cancel** button.

Updating an Existing Connection

After you create a Location connection, the properties of that connection are static (do not change). If, for any reason, you need to change the properties of a connection (network ID needs to be changed, the **Connection Name** has a typo, etc.) take the following steps:

1. Select the connection that you wish to update from the **Connections** list: This will show the properties of this connection in the **TRBO Location Connection Settings** panel.
2. Change the settings that you wish to change.
3. Click the **Update** button: This will save your changes and inform the Location module of the changes. If you wish to cancel this update, click the **Cancel** button.

Deleting an Existing Connection

If you ever need to delete an existing connection (in case a connection is no longer valid, etc.), take the following steps:

1. Select the connection that you wish to delete from the **Connections** list: This will show the properties of this connection in the **TRBO Location Connection Settings** panel.
2. Click the **Delete** button: This will show the dialog shown in Figure 1.2.

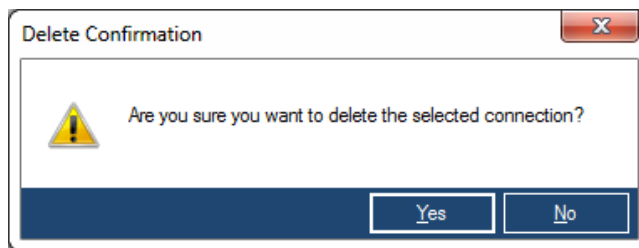


Figure 1.2 – Delete Confirmation

3. Click **Yes** to delete the connection. Click **No** to cancel the delete.

Loading the Advanced Options Screen

To load the *Advanced Options* window, take the following steps:

1. Load the Location GUI.
2. Click on a connection in the **Connections** list: This will show the connection's properties and enable the **Options** button (bottom left of the screen).
3. Click the **Options** button: The *Advanced Options* window will appear.

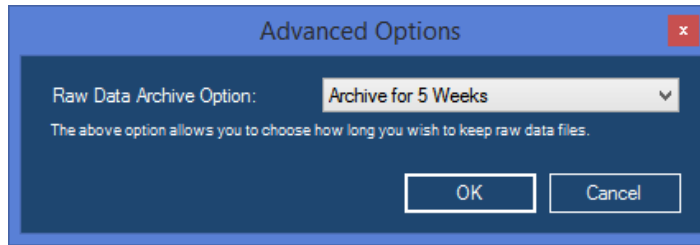


Figure 1.3 – Advanced Options Window

Connection Advanced Options

Each Location connection has advanced options. The list below describes the advanced options:

- **Raw Data Archive Option:** This option allows you to choose how long the GenWatch3 raw data files remain on your GenWatch3 computer.
 - **Do Not Archive:** GenWatch3 should not archive raw data files.
 - **Archive for 1 Week:** GenWatch3 should archive one week's worth of raw data files.
 - **Archive for 2 Weeks:** GenWatch3 should archive two weeks' worth of raw data files.
 - **Archive for 5 Weeks:** GenWatch3 should archive five weeks' worth of raw data files. (default)

Raw Data Files

GW3-TRBO stores raw data files on your GW3-TRBO computer. Genesis and Motorola support personnel use these files to help diagnose GPS data decode issues you may have with GW3-TRBO.

By default, GW3-TRBO will keep five weeks (2-20 GB depending on GPS activity) worth of raw data files per Location connection. You may wish to conserve hard drive space by choosing to only keep one week's worth of raw data files. We suggest you keep the full five weeks, just in case it takes you awhile to notice a GPS server data decode issue.

GW3-TRBO stores the Location raw data files in the following directory:
ProgramData\Genesis\GenWatch3\RawData\Location\<WACNId>\<SystemId>

In the default GW3-TRBO installation directory, if the WACN ID is 500 and the system Id is 1404, the GW3-TRBO raw data directory is:

C:\ProgramData\Genesis\GenWatch3\RawData\Location\500\1404

The files in this directory are in the following format:

GW3_<year><month><day>_<hour>.RAW

The raw data file for the 3:00pm hour on 10/12/2010 would be:

GW3_20101012_15.RAW

Changing the Raw Data File Directory

Changing the GW3-TRBO raw data directory is usually a bad idea. Support personnel will find it convenient if these files are always in the same place. However, if you have a small partition (small disk space) on drive C, you may wish to move this archive operation to another drive. To change the raw data file directory, take the following steps:

1. Browse to the GW3-TRBO installation directory. By default this folder is *C:\ProgramData\Genesis\GenWatch3*.
2. Double-click on the following file: *GenWatch3.config*: This may result in a dialog asking you to choose an application to use to open this file. In this case, choose Microsoft Notepad.



```
GenWatch3.config - Notepad
File Edit Format View Help
<Settings>
  <ServerName>WILBUR</ServerName>
  <GW3ServerName>WILBUR</GW3ServerName>
  <RawDataFilePath>C:\ProgramData\Genesis\GenWatch3\RawData</RawDataFilePath>
  <ThrottleRate>200</ThrottleRate>
  <LicensePath>C:\Genesis\GenWatch3</LicensePath>
  <MaxDatabaseSize>9000</MaxDatabaseSize>
</Settings>
```

Figure 1.4 – GenWatch3.config File

3. Change the value in the `<RawDataFilePath></RawDataFilePath>` tag (shown in Figure 1.4) to the desired raw data file path. (i.e. *E:\RawData* or *D:\RawData*). Make sure the path you choose is a valid hard drive, not a CD-ROM® or DVD drive®)
4. Click **File**→**Save** to save your changes.
5. GW3-TRBO may take up to one hour to recognize this change.
6. If you wish to expedite this change, you can do so by updating an existing Location connection in the Location GUI.
 - a. Select a connection in the Location GUI's **Location Connections List**.
 - b. Make a minor change then undo it (i.e. Toggle the **Enabled** checkbox twice).
 - c. Click the **Update** button.



Warning: Make sure you only change the RawDataFilePath tag. Changing GenWatch3.config tags in other areas can cause your computer to become unstable or even unusable. When in doubt, ask for assistance from your IT department or Genesis support.