



GenWatch3®  
GW\_GenIIB  
Software Version 2.23.4  
Module Book

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**GenWatch<sub>3</sub>**

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Refer to the *Troubleshooting & Support* section of this manual for complete support and contact information.

## ***Document History***

<b>Revision</b>	<b>Description</b>	<b>Author</b>
2.0.6	Initial Release	JAW
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2.16	Added Legacy Client Mode property	DEW
2.17	Clarified Server/Instance fields for database features	JPS
2.17	Added SSL properties	JPS

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### Goals

This manual provides instructions on creating and managing controllers, agents, and features.

### Who Should Read This Manual?

This manual is written for the intended audience of novice to mid-level trunked radio system users and novice to mid-level PC users. If your GenWatch3 installation is licensed for GW\_GenIIB and you are responsible for setting up these controllers, you should read this manual.

### How This Manual Is Organized

This manual is organized as follows:

- **Overview:** Defines the GW\_GenIIB module and GW\_GenIIB graphical user interface (GUI) and gives instructions on creating and managing controllers, agents, and features.

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.

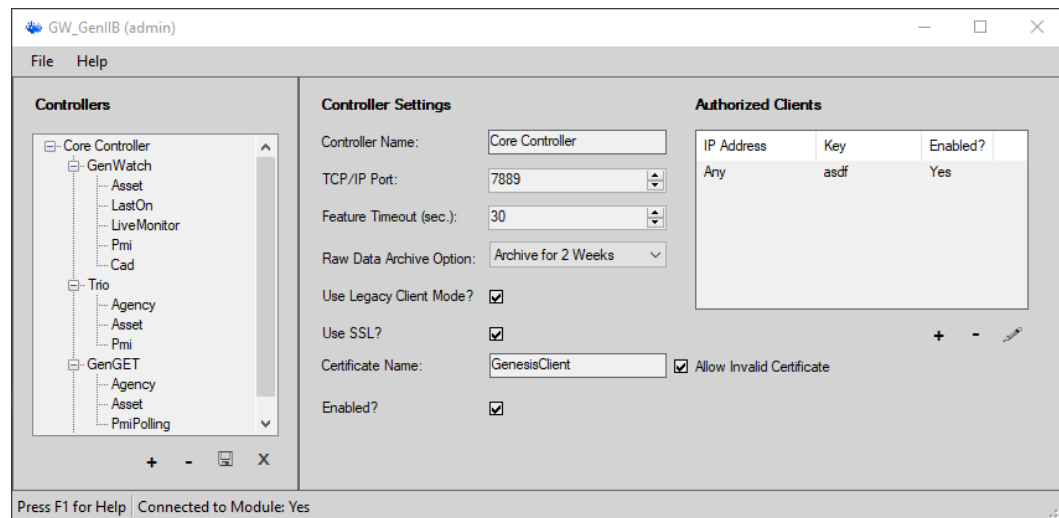




This chapter defines the GW\_GenIIB module and the GW\_GenIIB GUI and gives instructions on managing controllers, agents, and features.

This chapter contains the following sections:

- **What is GW\_GenIIB?:** Defines the GW\_GenIIB module and GW\_GenIIB GUI.
- **GW\_GenIIB Controllers:** Describes properties of the GW\_GenIIB controllers and how to manage them.
- **GW\_GenIIB Agents:** Describes properties of the GW\_GenIIB agents and how to manage them.
- **GW\_GenIIB Features:** Describes properties of the GW\_GenIIB features and how to manage them.



**Figure 1.1** – GW\_GenIIB GUI

## What is GW\_GenIIB?

The GenWatch3 GW\_GenIIB module manages controllers. Managing these controllers includes:

- Accepting and maintaining connections from GW\_GenIIB-compliant clients.
- Reporting connection and session-related errors to the event log.
- Logging messages that are sent to and received from GW\_GenIIB clients.

These are just a few of the functions of the GW\_GenIIB module. Most of its functions are transparent to GenWatch3 users.

The GW\_GenIIB GUI (Figure 1.1 above) allows you to manage controllers. Controllers reside in the GW\_GenIIB module and provide a TCP/IP connection to one or more GW\_GenIIB-compliant clients. Through this window you can:

- Add a new controller.
- Update an existing controller, agent, or feature.
- Delete an existing controller.

These options are discussed in detail within the sections below.

## **GW\_GenIIB Licensing**

The following options are limited by the GW\_GenIIB section of the GenWatch3 license.

- Controller types, including:
  - Core
    - Number of simultaneous clients
  - MCM
    - Number of simultaneous clients
- Agent types, including:
  - GenWatch
  - Trio
  - iVista
  - GenGET
- Feature types, including:
  - Agency
  - Asset
  - LastOn
  - LiveMonitor
    - Number of simultaneous LiveMonitor radios
    - Maximum LiveMonitor duration
  - PMI
  - CAD

## ***Managing GW\_GenIIB Controllers, Agents and Features***

GW\_GenIIB controllers provide the following functions:

- Accepting and validating GW\_GenIIB compliant clients.
- Archiving messages sent to and from GW\_GenIIB compliant clients via raw data files.
- Dispatching GW\_GenIIB client requests to each enabled and licensed feature targeted in a request.

## Controller Settings

Each GW\_GenIIB controller offers the following settings:

- **Controller Name:** Alias of the controller, used to identify the controller among other controllers.
- **TCP/IP Port:** TCP/IP port on which this controller accepts client connection.
- **Feature Timeout (sec.):** Each request sent by a client may target more than one GW\_GenIIB feature. GW\_GenIIB will await a response from each feature before sending a response back to the client. If a request spends more than this amount of time waiting for a response, a timed-out response is sent back to the client. See the *GW\_GenIIB Technical Requirement Specification* document for more information. If you are licensed for the CAD feature, we suggest 45+ seconds on this option to allow for the long timeouts some systems allow for radios to answer the Request Radio Affiliation request.
- **Raw Data Archive Option:** Determines how long raw data files are kept for this controller. See the *More on Raw Data Files* section below.
- **Legacy Client Mode:** Indicates if the controller should use a two-byte header to indicate the length of the packet data. GW\_GenIIB uses a four-byte header by default.



**Warning:** Clients developed for versions of GenWatch3 prior to 2.16.17 must have their corresponding controller configured to use Legacy Client Mode.



If GW\_GenIIB detects a possible mismatch of the client mode, then an error will be sent to the GenWatch application event log and the connection will be closed.

- **Use SSL?:** Indicates if the controller should encrypt all communication with authorized clients.
- **Certificate Name:** The Subject or Issued By name of the certificate to be used by the controller. The certificate must be imported into the certificate manager of the Windows user the GenWatch service is running as. Authorized clients connecting to GW\_GenIIB will need to have an appropriate Certificate Authority installed so they can decrypt the traffic.
- **Allow Invalid Certificate:** Indicates if the controller should use the certificate even if it can't be validated. It is strongly recommended that this be set only if absolutely required. A valid certificate ensures that the traffic is encrypted and that the certificate can be trusted. An invalid certificate will still encrypt traffic but may not be able to be verified as coming from a trustworthy source.
- **Enabled:** Indicates if the controller should be started. If a controller is not started, its agents and features do not accept GW\_GenIIB requests or process GenWatch3 packets.

- **Authorized Clients:** List of IP addresses and corresponding keys (passwords) used to validate clients that connect to GW\_GenIIB. See the *Managing Authorized Clients* section below.

## Adding a New Controller

To add a new GW\_GenIIB controller, follow the steps below:

1. Click the **Add** button: If you are licensed for more than one controller type, this will result in the *Controller Type selection* window. In this case, choose the type of controller you would like to add and click the **OK** button: This will create the controller structure in the tree above the Add button.
2. Update the controller, agent, and feature properties. Make sure to enable the controller and each desired agent and feature.
3. Click the **Update** button to add the new controller. To cancel adding the new controller, click the **Cancel** button.

## Updating an Existing Controller

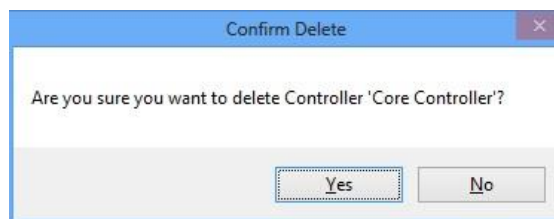
After you setup a GW\_GenIIB controller, the properties of that controller are usually static (do not change). If for any reason you need to change the properties of a controller (TCP/IP port needs to be changed, the **Controller Name** has a typo, etc.) take the following steps:

1. Select the controller that you wish to update from the **Controllers** list: This will show the properties of this controller in the **Controller Settings** panel.
2. Update the settings that you wish to change.
3. Click the **Update** button: This will save your changes and inform the GW\_GenIIB module of the changes. If you wish to cancel this update, click the **Cancel** button.

## Deleting an Existing Controller

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

1. Select the controller that you wish to delete from the **Controllers** list: This will show the properties of this connection in the **Controller 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.

## Managing Authorized Clients

GW\_GenIIB acts as a TCP/IP host, accepting connections from one or more TCP/IP clients. When a client connects to GW\_GenIIB it is validated using the list of authorized clients. Each authorized client entry contains the following settings:

- **IP Address:** IP address of the client. If you would like to accept connections from any IP address, use the value *Any*.
- **Key:** Key that must be presented by the client. This key is case sensitive.
- **Enabled?:** Checked if this authorized client is enabled.



The number of authorized clients is limited by your license. To purchase additional authorized clients, please contact your GenWatch3 sales representative.



The communication interface used from and to accepted clients can be found in the *GW\_GenIIB Technical Requirement Specification* document.

## Authorized Client Validation

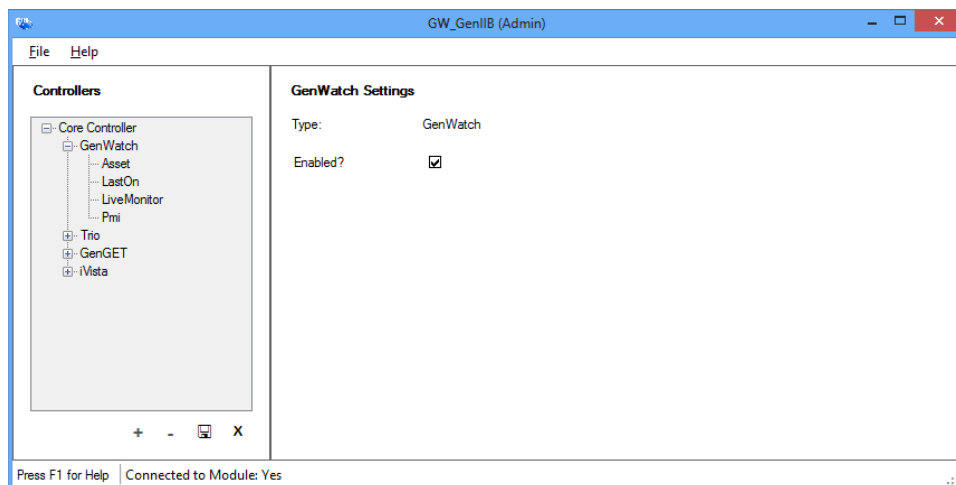
To send requests to GW\_GenIIB, an authorized client must perform the following steps:

1. From an IP address on an enabled entry in the Authorized Clients list, connect to the GW\_GenIIB **TCP/IP Port** on the machine that is hosting the GenWatch3 service.
2. Send a Registration packet, including the Key from the Authorized Client entry corresponding to the client's IP address.

## Agent Settings

Each GW\_GenIIB agent offers the following settings:

- **Enabled:** Indicates if the agent should be started. If an agent is not started, its features do not accept GW\_GenIIB requests or process GenWatch3 packets.



**Figure 1.3** – Agent Settings

## Updating an Existing Agent

To change the properties of an agent, take the following steps:

1. Select the agent that you wish to update from the **Controllers** list: This will show the properties of this agent in the **Agent Settings** panel.
2. Update the settings that you wish to change.
3. Click the **Update** button: This will save your changes and inform the GW\_GenIIB module of the changes. If you wish to cancel this update, click the **Cancel** button.

## Feature Settings

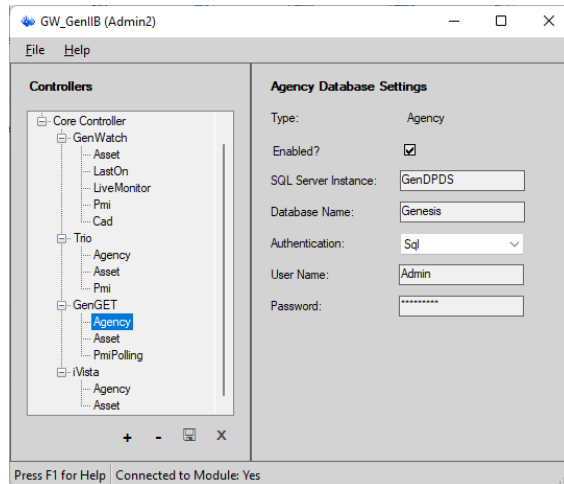
Features may include the following options:

- **Enabled:** Indicates if the feature should be started. If a feature is not started, it does not accept GW\_GenIIB requests or process GenWatch3 packets.
- **SQL Server Instance:** Name of the SQL Server instance the feature will be connecting to. Will be either the name of the machine hosting the SQL Server service or the named instance of SQL Server as appropriate.
- **Database Name:** Name of the SQL Server database.
- **Authentication:** Type of authentication to use to connect to the SQL database. These include:
  - **Windows:** Use the Windows account that the GenWatch3 service is running under to perform SQL commands.
  - **SQL:** Use the User Name and Password provided below to perform SQL commands.

The Windows or SQL user account must have the following privileges on the SQL database:

- Access
- Read
- Write
- Execute stored procedures

- **User Name:** User name to use to connect to the SQL database when using SQL authentication.
- **Password:** Password to use to connect to the SQL database when using SQL authentication.



**Figure 1.4** – Feature Settings

## Updating an Existing Feature

To change the properties of a feature, take the following steps:

1. Select the feature that you wish to update from the **Controllers** list: This will show the properties of this feature in the **Feature Settings** panel.
2. Update the settings that you wish to change.
3. Click the **Update** button: This will save your changes and inform the GW\_GenIIB module of the changes. If you wish to cancel this update, click the **Cancel** button.

## Additional Setup

### GenGET – Agency

If your GW\_GenIIB license includes GenGET Agency, the GenGET database specific in the GenGET Agency Database settings requires the following setup:

- In SQL security, the account under which the GenWatch3 service is running must be granted execute privileges on the following stored procedures:
  - GenIIB\_MCM\_AgencyRemove
  - GenIIB\_MCM\_AgencyUpsert
  - GenIIB\_MCM\_GetAgencyUniq
  - UpsertAgency

### **GenGET – Asset**

If your GW\_GenIIB license includes GenGET Asset, the GenGET database specific in the GenGET Asset Database settings requires the following setup:

- In SQL security, the account under which the GenWatch3 service is running must be granted execute privileges on the following stored procedures:
  - GenIIB\_MCM\_AssetRemove
  - GenIIB\_MCM\_AssetUpsert
- The Omni table in the GenGET database must contain an entry for each system used in GW\_GenIIB requests. The SystemID column of this table stores the four-digit hexadecimal value of the system ID.

### **GenGET – PMIPolling**

If your GW\_GenIIB license includes GenGET PmiPolling, the GenGET database specified in the GenGET PMI Polling Database settings requires the following setup:

- In SQL security, the account under which the GenWatch3 service is running must be granted execute privileges on the following stored procedure:
  - Resources.Dags.MergeByIDs
- The Omni table in the GenGET database must contain an entry for each system used in GW\_GenIIB requests.
  - The SystemID column of this table stores the four-digit hexadecimal value of the system ID (not padded by zeroes). This is the System ID selected in the PMI connection in the Connect module.
  - The LACN column of this table stores the numeric value of the WACN. This is the WACN ID selected in the PMI connection in the Connect module.

### **iVista – Agency**

If your GW\_GenIIB license includes iVista Agency, the iVista database specified in the iVista Agency Database settings requires the following setup:

- In SQL security, the account under which the GenWatch3 service is running must be granted execute privileges on the following stored procedures:
  - SP\_Agency\_GenIIB\_MCM\_CreateOrUpdate
  - SP\_Agency\_GenIIB\_MCM\_DeleteUpsertAgency

### **iVista – Asset**

If your GW\_GenIIB license includes iVista Asset, the iVista database specified in the iVista Asset Database settings requires the following setup:

- In SQL security, the account under which the GenWatch3 service is running must be granted execute privileges on the following stored procedures:
  - SP\_Agency\_GenIIB\_MCM\_AddOrUpdateRadio
  - SP\_Agency\_GenIIB\_MCM\_DeleteRadio



## PMI

If you are upgrading your license to include the PMI feature, any controllers existing before the upgrade will not have the feature available. Only controllers created after the license contains the feature will have the option available. When upgrading to include the PMI feature it is best to delete the existing controller(s) and re-create the controller(s) after the new license is in place.

## More on Raw Data Files

GW\_GenIIB stores raw data files on your GenWatch3 computer. Support personnel use these files to help diagnose client/controller communication issues.

By default, GenWatch3 will keep two weeks' worth of raw data files. The size of these files will differ greatly, based on how many messages are sent between GW\_GenIIB and its client(s). 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 maximum five weeks in case it takes you awhile to notice a client/controller communication issue.

Raw data files are stored in the following directory:

*ProgramData\Genesis\GenWatch3\RawData\GenIIB\<Controller Name>\<Controller Port>*

In the default GenWatch3 installation directory, if the controller name is **Core**, and the port is 9898, the GW\_GenIIB raw data directory is:

*C:\ProgramData\Genesis\GenWatch3\RawData\GenIIB\Core\9898*

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 3/24/2023 would be:

*GW3\_20230324\_15.RAW*

## Changing the Raw Data File Directory

Changing the GenWatch3 raw data directory is usually not recommended. However, if the default location might not have enough disk space to store the raw data, you may wish to move this archive operation to another drive. For instructions on how to change the raw data file directory, see the *GenWatch3 Config Files* section of *Chapter 3: GenWatch3 Service* in the *GenWatch3 Core Manual*.



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