GenWatch3®
GW_System Summary
Software Version 4.26.1
Module Book

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Refer to the *Troubleshooting & Support* section of the GenWatch3 Manual Shell (Book 600-4.26.1-AA.1) for complete support and contact information.

Document History

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2.16	Revisions Before Release	JPS
2.16	Removed Draw Method menu.	REB
2.16	Standardized “Total” and “Max” statistics names.	DEW

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About this Manual

Goals

This manual describes the role and function of the GW_System Summary module in the GenWatch3 solution.

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.

How This Manual Is Organized

This manual is organized as follows:

- **Overview:** Describes the GW_System Summary module and GW_System Summary Graphical User Interface (GUI).

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.

Chapter 1 Overview

This chapter describes the GW_System Summary module and GW_System Summary GUI.

This chapter contains the following sections:

- **Terms:** Describes the terms that are needed to understand the GW_System Summary module.
- **What is GW_System Summary?**: Defines the GW_System Summary module and GW_System Summary GUI.
- **Selected Views:** Describes the selected views offered by GW_System Summary.
- **Using Up to the Minute Graphs:** Describes how to use the up-to-the-minute graphs.

Terms

You will see these terms used in the Selecting Views section below:

- **Global Busy:** Busy occurrence where the call request did not acquire even a single channel on a single site.
- **Partial Busy:** Busy occurrence where the call request could not acquire at least one channel on one of the sites targeted by the call (GW_System Summary does not gather statistics on partial busies).
- **Call Seconds:** The number of seconds a call required on a single talk path on a single site.
- **Resource Seconds:** The number of seconds a call consumes on the system. For example, if a 10-second FDMA call is made on a single two-slot TDMA channel, the call required 20 resource seconds.
- **Interconnect**: A call made from a telephone to a radio or vice versa.
- **Private**: A Push-to-Talk made from a radio to a specific radio.
- **Group**: A Push-to-Talk made on a talkgroup.

What is GW_System Summary?

The GW_System Summary module receives packets from each GenWatch3 input connection. The information in these packets is used to compile statistics for each connected system, RFSS, site and channel. The GW_System Summary GUI uses these statistics to display up-to-the-minute system usage information through a variety of graphs and charts.

Selecting Views

The **Selected View** feature allows you to toggle between the three reporting views. Each view shows the statistical data in a different way. These views include:

- **System Summary Grid**: Displays up-to-the-minute usage values in a grid format.
- **Usage Graph by System Component***: Graphical view of usage by system components including:
  - System
  - RFSS
  - Site
  - Channel
- **Usage Graph by Time***: Graphical view of usage by current:
  - Hour
  - Day
  - Month
  - Year

*These graphs will only show data received from the GW_Connect or GW_RSP25 modules.

The graphs record data only for channels that exist in the GW_Alias database.

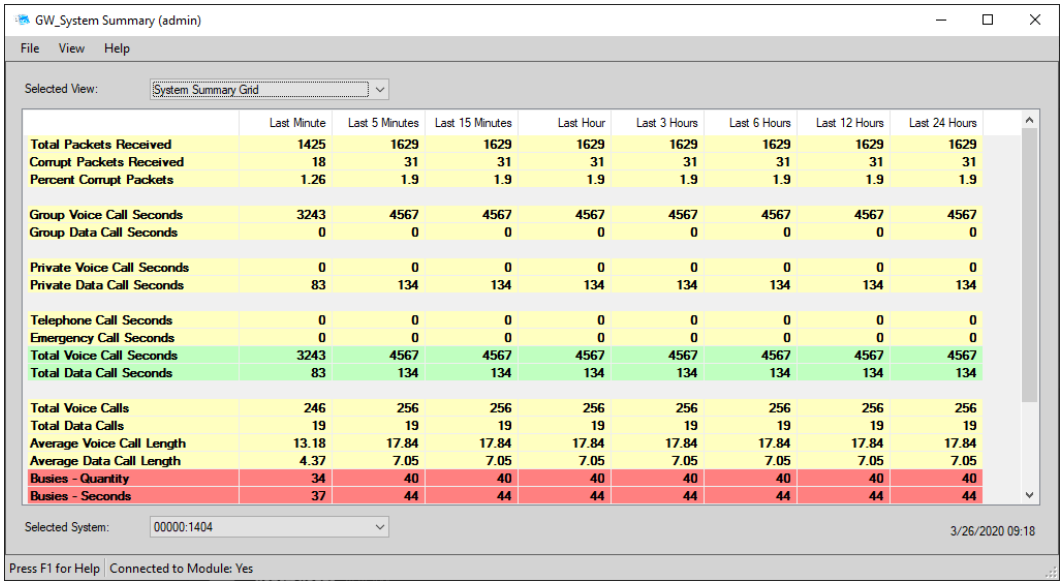
These views are described in detail in the sections below.

System Summary Grid

The GenWatch3 **System Summary Grid** displays up-to-the-minute system usage values. These values include:

- **Total Packets Received**: Total number of all packets received from the GenWatch3 input connection(s) for the selected system.
- **Corrupt Packets Received**: Total number of corrupt packets received, as reported by the GenWatch3 input connection(s) for the selected system. Corruption is only reported on control channel inputs (e.g. GW_RSP25).
- **Percent Corrupt Packets**: Ratio of Corrupt Packets Received to Total Packets Received for the selected system. Try to maintain a corruption level of 0 percent, while less than 1-2 percent is acceptable. A weak control channel signal or interference on the control channel frequency may cause corruption.
- **Group Voice Call Seconds**: Approximate total of group voice call ***resource seconds*** for the selected system.
- **Group Data Call Seconds**: Approximate total of group data call ***resource seconds*** for the selected system.
- **Private Voice Call Seconds**: Approximate total of private voice call ***resource seconds*** for the selected system.
- **Private Data Call Seconds**: Approximate total of private data call ***resource seconds*** for the selected system.
- **Telephone Call Seconds**: Approximate total of telephone call ***resource seconds*** for the selected system.
- **Emergency Call Seconds**: Approximate total of emergency call ***resource seconds*** for the selected system. Emergency calls are group calls as well as emergency.
- **Total Voice Call Seconds**: Approximate total of group, private and telephone voice call ***resource seconds*** for the selected system.
- **Total Data Call Seconds**: Approximate total of group and private data call ***resource seconds*** for the selected system.
- **Total Voice Calls**: Total number of voice calls for the selected system.
- **Total Data Calls**: Total number of data calls for the selected system.
- **Average Voice Call Length**: Approximate average voice call length for the selected system, based on **Total Voice Calls** and the total voice call seconds. This average is based on call seconds, not resource seconds. For multisite input, the call seconds value used for this average will, most likely, differ from the **Total Voice Call Seconds** value shown in the grid.
- **Average Data Call Length**: Approximate average data call length for the selected system, based on **Total Data Calls** and the total data call seconds. This average is based on call seconds, not resource seconds. For multisite input, the call seconds value used for this average will, most likely, differ from the **Total Data Call Seconds** value shown in the grid.
- **Busies – Quantity**: Total number of global busy occurrences received for the selected system.

- **Busies – Seconds**: Approximate number of globally busy seconds for the selected system.
- **Total Affiliations**: Total number of affiliations, registrations and associations for the selected system.
- **Total Deaffiliations**: Total number of deaffiliations, deregistrations and disassociations for the selected system.
- **Total Talk Paths Used**: Number of distinct talk paths used for the selected systems.
- **Total Groups Used**: Number of distinct talkgroups used for the selected system.
- **Total IDs Used**: Number of distinct radio IDs used for the selected system.



	Last Minute	Last 5 Minutes	Last 15 Minutes	Last Hour	Last 3 Hours	Last 6 Hours	Last 12 Hours	Last 24 Hours
Total Packets Received	1425	1629	1629	1629	1629	1629	1629	1629
Corrupt Packets Received	18	31	31	31	31	31	31	31
Percent Corrupt Packets	1.26	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Group Voice Call Seconds	3243	4567	4567	4567	4567	4567	4567	4567
Group Data Call Seconds	0	0	0	0	0	0	0	0
Private Voice Call Seconds	0	0	0	0	0	0	0	0
Private Data Call Seconds	83	134	134	134	134	134	134	134
Telephone Call Seconds	0	0	0	0	0	0	0	0
Emergency Call Seconds	0	0	0	0	0	0	0	0
Total Voice Call Seconds	3243	4567	4567	4567	4567	4567	4567	4567
Total Data Call Seconds	83	134	134	134	134	134	134	134
Total Voice Calls	246	256	256	256	256	256	256	256
Total Data Calls	19	19	19	19	19	19	19	19
Average Voice Call Length	13.18	17.84	17.84	17.84	17.84	17.84	17.84	17.84
Average Data Call Length	4.37	7.05	7.05	7.05	7.05	7.05	7.05	7.05
Busies - Quantity	34	40	40	40	40	40	40	40
Busies - Seconds	37	44	44	44	44	44	44	44

Figure 1.1 – System Summary Grid

The **System Summary Grid** shows each of the above values within multiple durations. The **Last Minute** duration represents the current minute. This current minute goes by the time on your computer. When your computer's current minute changes, then the current minute shifts over into the **Last 5 Minutes** category and the **Current Minute** is reset. The **Last Hour** duration includes all minutes within the last hour (most recent 60 minutes), including the current minute. The same is true for the **Last 3 Hours**, **Last 12 Hours**, etc.

The GW_System Summary module gathers system information even when the GW_System Summary GUI is closed. You can keep the GW_System Summary window open or just open it when you want to see the grid or graphs.

The System Summary grid is volatile; if the service is restarted all values in the grid will be reset.

The System Summary grid only maintains activity that occurs in the last 24 hours. Changing the system clock can result in a loss of data.

Airtime from calls on Vortex console sites will not be counted towards call seconds. Vortex consoles are defined as Sites 1000-1999. This only applies to the ATIA data stream.

Changing the Selected System

If the GW_Alias database contains more than one system, then the **Selected System** drop-down list will contain multiple System IDs.

To display the statistics of a non-selected system, choose the system ID within the **Selected System** combo box. Statistics for systems are gathered, even when the system is not selected.

Printing the System Summary Grid

To print the System Summary Grid, right-click on the grid and select **Print…** from the context menu. This opens the print dialog, which allows you to choose your printer settings and print the grid.

Usage Graph by System Component

The **Usage Graph by System Component** shows up-to-the-minute usage statistics for the selected component(s). Components include:

- **All Systems**: This includes all systems, RFSSs, sites and channels.
- **All RFSSs**: This includes all RFSSs, sites and channels under a specific System.
- **All Sites**: This includes all sites and channels under a specific RFSS.
- **All Channels**: This includes all channels under a specific site.
- **Channel Key XXXXXXXXX**: This includes only the selected channel.

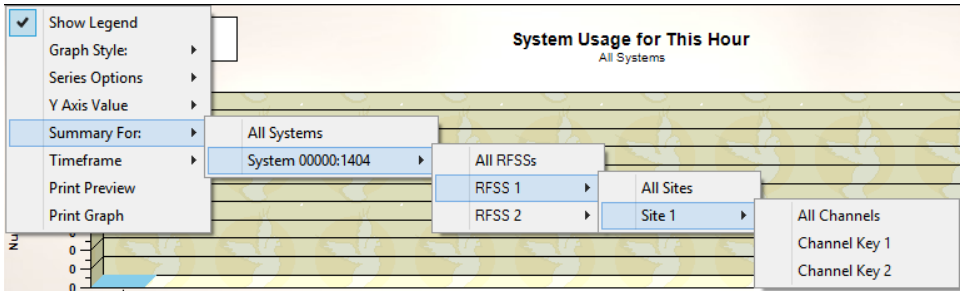


Figure 1.2 – System Component Selection (Summary For:)

The *Using Up-to-the-Minute Graphs* section below describes how to customize the graph to your liking.

Usage Graph by System Component includes information only for channels that have been added to GW_Alias. Missing channels result in incorrect graph values.

The colors shown in the legend and used in the graph series are the same as the color option in GW_Channel. For example, if you update the background color option for *Group Voice* in channel, the color for the *Group Voice* series in the *System Summary* graph will change to reflect your selection.

Usage Graph by Time

The **Usage Graph by Time** shows up-to-the-minute usage for all components based on the selected time interval. Time intervals include:

- **Hour**: Shows statistics by hour.
- **Day**: Shows statistics by day.
- **Month**: Shows statistics by month.
- **Year**: Shows statistics by year.

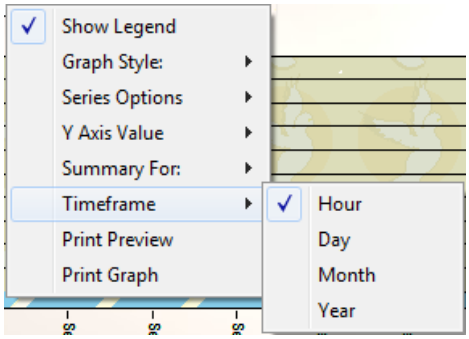


Figure 1.3 – Time Interval Selection (Timeframe)

The *Using Up-to-the-Minute Graphs* section below describes how to customize the graph to your liking.

Using Up-to-the-Minute Graphs

The GW_System Summary GUI offers two up-to-the-minute graphs in its **Selected View** list box. Each graph shows system usage-related statistics, but each one organizes the statistics in a different way. The **Usage Graph by System Component** graph organizes the statistics by component, including system, RFSS, site and channel. The **Usage Graph by Time** graph organizes the statistics by time interval. These intervals include:

- **Hour:** When your system time hour changes, a new interval will be added.
- **Day:** When your system day changes, a new interval will be added.
- **Month:** When your system month changes, a new interval will be added.
- **Year:** When your system year changes, a new interval will be added.

Graph Display Options

The GW_System Summary graph offers many customization options.

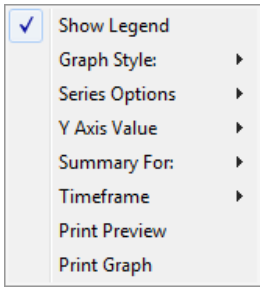


Figure 1.4 – Graph Customization Options

To access the graph options, right-click on the graph. This will show a menu with the following menu options:

- **Show Legend**: Toggle the legend in the upper-left corner of the graph.
- **Graph Style**: Graph style options:
  - **Antenna**: Bar graph shown with narrow lines.
  - **Area 2D**: Each point is connected to the previous point with a line and the area under the line is filled in.
  - **Area 3D**: Same as Area 2D but includes shading.
  - **Bar 2D**: Each value is shown using rectangles.
  - **Bar 3D**: Same as Bar 2D but includes shading.
  - **Line 2D**: Lines connect each point on the graph.
  - **Line 3D**: Same as Line 2D but includes shading.

  For Area 2D, Area 3D, Line 2D, and Line 3D, if only one point of data is available, then nothing will be displayed (e.g., only one Channel selected when viewing the *Usage Graph by System Component*).
- **Series Options**:
  - **Stacked**: Each graph shows values for group voice, group data, private voice, private data and interconnect categories. If stacked, the categories share the same horizontal space. This option is not available for Line 2D and Line 3D graph styles.

    - **Show Side by Side**: Each graph shows values for group, private and interconnect categories. **Show Side by Side** reserves a horizontal space for each category's value.
    - **Point Options**: Options regarding the points shown along the bottom (x-axis) of the graph:
        - **Resource Alias**: Show the alias of the resource.
        - **Resource ID**: Show the ID of the resource.
- **Y Axis Value**:
    - **Number of Seconds**: Values in the graph reflect a sum of resource seconds.
    - **Number of Calls**: Values in the graph reflect a call count.
    - **Percent Usage**: Values in the graph reflect percent usage, i.e., number of seconds used on all channels divided by the number of channels that are not marked as Control Channels in Alias.
- **Summary For**: Allows you to choose a component such as a system, RFSS, site or channel. This allows you to drill down and view the statistics for a specific component (see Figure 1.2).
- **Time Frame**: Organizes the statistics into the selected time interval: (See Figure 1.3)
    - **Hour**: In the **Usage Graph by Time** graph, this will show the last 48 hours.
    - **Day**: In the **Usage Graph by Time** graph, this will show the last 60 days.
    - **Month**: In the **Usage Graph by Time** graph, this will show the last 12 months.
    - **Year**: In the **Usage Graph by Time** graph, this will show the last year.
- **Print Preview**: Allows you to see what the printed graph will look like before you print.
- **Print Graph**: Opens the print dialog. This allows you to choose your printer settings and print the graph.

Navigation

The following buttons allow you to navigate the graph results:

: Navigate to the beginning.

: Navigate 1 page toward the beginning.

: Navigate 1 position toward the beginning.

: Navigate 1 position toward the end.

: Navigate 1 page toward the end.

: Navigate to the end.

System Summary Options

The GW_System Summary options menu can be accessed by clicking the **View** Menu and selecting **Options**. From the *Options* window (see figure 1.5), a user may select to ignore Console activity or Conventional activity.

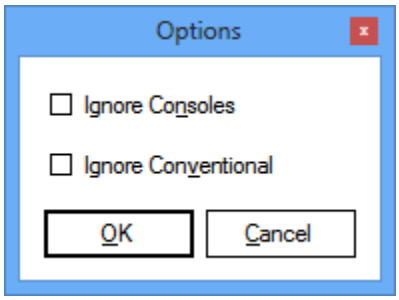


Figure 1.5 – *Options* Window

When activity types are selected to be ignored from the *Options* window, the System Summary grid will show statistics that exclude the selected activity types.

The GW_System Summary options to ignore certain activity types only affect the System Summary grid. The graphs will reflect all data.

The "Ignore Conventional" option supersedes "Ignore Consoles". If ignore Conventional is selected and ignore Consoles is not, then a Conventional Console will be ignored.

The Max Channels Used statistic on the System Summary grid ALWAYS ignores console sites.

The System Summary option for "Ignore Consoles" only applies to ATIA data streams. "Ignore Conventional" applies to ATIA and RSP25 data streams.