



GenWatch3[®]
GW_Reports
Software Version 2.3
Module Book

GenWatch3[®]

600-2.3.0-Y.1
4/8/2011

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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 GenWatch3 so that we can make it better a product for everyone.

Refer to the *Troubleshooting & Support* section of the GenWatch3 Manual Shell (Book 600-2.3.0-AA.1) for complete support and contact information.

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Goals

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

Who Should Read This Manual?



This manual is written for the intended audience of novice to mid-level Motorola trunked radio system users and novice to mid-level PC users.

How This Manual Is Organized

This manual is organized as follows:

- **Overview:** Gives a general overview of the GW_Reports GUI (graphical user interface).
- **Using GenWatch3 Database Reports:** Describes the process of running a GenWatch3 database report.
- **Excel Workbooks for GenWatch3 Database Reports:** Describes how GW_Reports uses integrated Microsoft Excel workbooks.
- **Using GenGET Reports:** Describes the processes of running GenGET reports.
- **Excel Workbooks for GenGET Reports:** Describes how GW_Reports uses integrated Microsoft Excel workbooks.

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.

Note about Daylight Saving Time Change

NOTE: If a call is in process when the time changes in the host machine's time zone for daylight saving time, and if you are running a report that includes that call, you **WILL** see unusual call lengths. The time and date stamp for all calls comes from the computer that is hosting the GenWatch3 archive database. As such, when Windows automatically changes the time, a call in process could appear to be excessively long or even could have negative time. This is isolated only to calls occurring at exactly 2:00AM on the day that the time moves forward or backward by one hour. If you have this situation and if you need help getting a report to come out correctly, contact Genesis for assistance. For more information on daylight saving time, please see:

http://aa.usno.navy.mil/faq/docs/daylight_time.php

This chapter describes the GW_Reports GUI and gives an overview of the options available in the GW_Reports GUI.

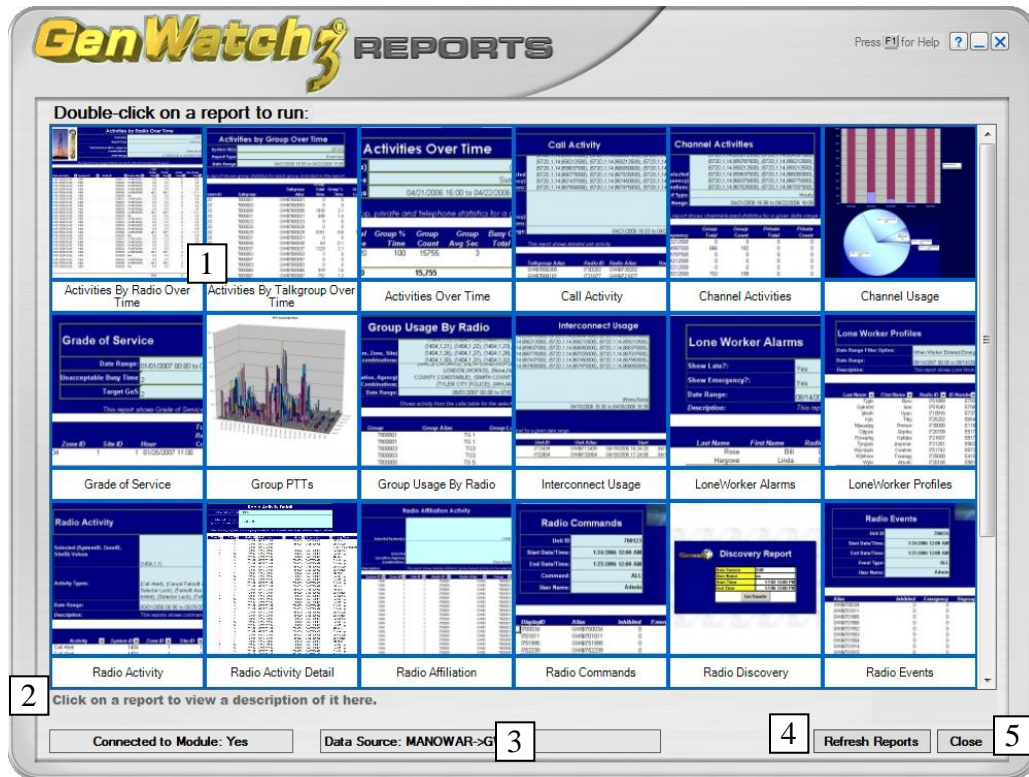


Figure 1.1 – GW_Reports GUI

- 1 – Report List:** This list shows all GenWatch3 Reports and all Excel Workbooks saved to the *Reports* directory under the GenWatch3 installation directory.
- 2 – Report Description:** Shows the description of the selected report (if available). Shows nothing if a workbook saved to the *Reports* directory under the GenWatch3 installation directory is selected.
- 3 – Data Source:** Shows the current reporting data source as [Database Server Name]→[Database Instance Name]. Double-click this label to change the GW_Reports data source. This data source only applies to GenWatch3 database reports (described in the *Report Varieties* section below).
- 4 – Refresh Reports Button:** Refreshes the reports list.
- 5 – Close Button:** Closes the GW_Reports GUI.

Report Varieties

The GW_Reports license allows for two types of reports:

- **GenWatch3 Database Reports:** These reports use data archived by GenWatch3. If your GenWatch3 installation is archiving data (includes the GW_Archiver module), please refer to *Chapter 2 Using GenWatch3 Database Reports* for instructions on using GW_Reports. There are two categories of GenWatch3 database reports:
 - **Core Reports:** These reports are included as a part of the GW_Reports option
 - **Premium Reports:** These reports are purchased individually as a supplement to the core reports.
- **GenGET Reports:** These reports report on the data archived by GenGET. If your Genesis solution includes GenGET, please refer to *Chapter 4 Using GenGET Reports* for instructions on using GW_Reports.

This chapter contains the following sections:

- **Terms:** Describes terms that are used in GenWatch3 database reports.
- **What are GenWatch3 Database Reports?:** Describes the GenWatch3 database reports.
- **Data Source:** Describes the GW_Reports data source and how to change it.
- **Report Files:** Describes the location and function of the files used within GW_Reports.
- **Core Reports:** Lists and describes the core reports included with GW_Reports.
- **Premium Reports:** Lists and describes the premium reports offered for GW_Reports.
- **Reporting Overview:** Provides a walkthrough of running a GenWatch3 database report.
- **Using the Report Wizard:** Describes the *Report Wizard* and how to define report parameters and generate a report.
- **Advanced Reporting Options:** Discusses options available for advanced reporting.

Terms

- **Parameters:** Reporting options chosen within the GW_Reports *Report Wizard*. These include date/time, locations, agencies, radio IDs, talkgroups, etc.
- **SQL Database Connection:** Allows you to view data in the SQL database. Requiring a connection ensures that only valid users are allowed to view your data.
- **SQL Query:** A question asked of the database, such as, “Which radio IDs issued activity between 1/1/2007 and 1/31/2007?” The GW_Reports *Report Wizard* builds an SQL Query behind the scenes as you select parameters.
- **Data Source:** Database used when executing a SQL query.
- **Drop-down List:** Fixed list of options from which you must choose exactly one option.
- **Parameter Grid:** List of options where you must select (click the checkbox in the Enable column of) one or more entries.

What are GenWatch3 Database Reports?

GenWatch3 database reports provide information stored by the GW_Archiver module to the GenWatch3 database (**GW**). Each GenWatch3 database report includes a *Report Wizard* to guide you through parameter selection. GW_Reports uses your GenWatch3 user name and password to build an SQL database connection. This connection is used to execute the SQL query defined within a report. This SQL query includes the parameters you choose in the *Report Wizard*.

Data Source

GW_Reports allows you to specify a reporting data source (see Figure 1.1 section 3). The data source is comprised of two parts:

- **Database Server Name:** This is the name of the machine that is hosting the SQL Server database.
- **Database Instance Name:** This is the name of the GenWatch3 database within the SQL Server database.

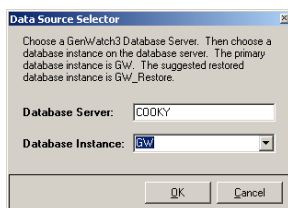
GenWatch3 archives data to the **GW** database instance on the database server name specified within the GenWatch3 database settings. For more information on your GenWatch3 database server, see the *Changing Your GenWatch3 Server Settings* section in chapter 6 of the *GenWatch3 Core Manual.pdf* file.

To change your GW_Reports data source, follow the steps below:

1. Double-click on the data source label. (See Figure 1.1 section 3): This will show the *Reports Login* window.



2. Click the **...** button: This will show the *Data Source Selector* window.



3. Enter a **Database Server** value.

4. Choose/Enter a **Database Instance** value. This list contains the common GenWatch3 database instance names. You can also type in an instance name.
5. Click **OK**: This will close the *Data Source Selector* window and return you to the *Reports Login* window.
6. Enter the **Password** for the specified user name.
7. Press **Enter** or click the **OK** button: This will validate the specified **User Name** and **Password** against the specified data source.

Report Files

The Reports List is dynamically loaded on start up based on the existence of certain files in predefined locations. The sections below describe these files in detail.

Report Files

Upon startup, GW_Reports fills its report list based on three things:

1. The DLL files (files with a .dll extension) within the GenWatch3 install directory.



DLL File: Each GW_Reports report has a corresponding DLL (dynamic linked library) file. The GW_Reports DLL file includes the interfaces (windows) of the report's wizard and the Excel Spreadsheet template for the report.

2. The Excel workbook files (XLS) that have been saved to the *Reports* directory under your GenWatch3 install directory.
3. The Excel files (XLS, XLSX, XLSM, XLTX, XLTM) that have been saved in the current user's *\My Documents\Genesis\GenWatch3\Reports* folder.



This allows you to launch non-GW_Reports Excel files from the GW_Reports GUI. Simply choose File, Save As to save an Excel Spreadsheet to the current user's *\Documents\Genesis\GenWatch3\Reports* folder.

Image Files

The images shown in the Reports List are pulled from the *Reports* directory under your GenWatch3 data directory. If an image (BMP, JPG, GIF or PNG) has the same name as a DLL file in the *Reports\Binaries* directory, then this image will be used for that report in the Reports List. If an image (BMP, JPG, GIF or PNG) has the same name as an Excel file (XLS, XLSX, XLSM, XLTX, or XLTM file) in the \Reports directory (either under the GW3_TRBO install directory or *user\Documents\Genesis\GenWatch3*), then this image will be used for that Excel file. This allows you to create and show images for any Excel files you add to the *Reports* directory. If an image is not found for a DLL or an Excel file, then the default “No Picture” image is shown for that item in the reports list.

Core Reports

The following reports are included in the GenWatch3 GW_Reports list:

- **Activities By Agency Over Time:** Shows usage statistics by agency for each radio ID included in the report.
- **Activities By Radio Over Time:** Shows usage statistics for each radio ID included in the report.
- **Activities By Talkgroup Over Time:** Shows group statistics for each group included in the report.
- **Activities Over Time:** Shows group, private and telephone statistics for a given date range.
- **Busy Detail:** Shows activity from the busies table for the selected types of calls in the selected date range.
- **Call Activity:** Shows activity from the calls table for the selected types of calls in the selected date range.
- **Channel Activities:** Shows channel-based statistics for a given date range divided into the selected intervals.
- **Channel Usage:** Shows channel-based usage statistics.
- **Group PTTs:** Provides time and call count information about group PTTs.
- **Group Usage By Radio:** Shows group usage summary for each radio ID. For private and interconnect calls, the usage is shown by the radio ID's default group.
- **Interconnect Usage:** Shows interconnect usage detail for a given date range.
- **Radio Activity:** Shows commands sent to radios and events received from radios as stored in the GW_Archiver database.
- **Radio Activity Detail:** Shows all activity originated from or targeting the selected radio ID(s) determine site registration and talkgroup affiliation
- **Radio Affiliation:** This report shows detailed activity originated by the selected radio ID(s). Use this information to determine a radio ID's site registration and talkgroup affiliation.
- **Radio Commands:** Shows event types for the specified radio ID(s) originated by the specific user(s) on the specified talkgroups for the specified time period. (Included with GW_Halcyon)
- **Radio Events:** Shows radio commands issued to the specified radio ID(s) from GW_RCM and GW_Halcyon CAD.
- **Radio PTTs:** Shows PTT counts for each selected radio ID(s) summarized by hour.
- **Radio State:** Shows the current state of the radio ID(s) selected.
- **Reject Reasons:** Shows reject reasons with details for a given date range.
- **System Diagnostics:** Shows system diagnostics for the given date range.
- **System Usage:** Shows four different reports and graphs summarizing usage on your system.

Premium Reports

- **Grade of Service:** Provides actual and statistic grade of service achieved within a specified time range.
- **LoneWorker Alarms:** (Included with GW_LoneWorker)
- **LoneWorker Profiles:** (Included with GW_LoneWorker)
- **Radio Discovery:** Shows usage summaries for all units and talkgroups on a system along with a report of what services/features each radio has ever used.




If one or more of the above reports are missing, you may not be licensed for the missing report(s). Please contact GenWatch3 support for more information regarding your license or check your list of licensed reports under the GW_Reports module in the License Manager (see Chapter 7 of the *GenWatch3 Core Manual*)

Reporting Overview

The Report List contains each GenWatch3 report located in your GenWatch3 installation directory. It also includes each Microsoft Excel workbook that you have saved to the *Reports* directory under the GenWatch3 install directory. This chapter's instructions only pertain to the GenWatch3 reports shown in the Reports List, not the Microsoft Excel workbooks that you may have added to the list.

To load a report, follow the steps below:

1. Load GW_Reports.
2. In the Report List, double-click on the report that you wish to load: This will show the *Reports Login* window.
3. Enter the **Password** for your GenWatch3 login and click the **OK** button: This will load the *Report Wizard* for the selected report. (Some wizards may take several seconds to load, due to the number of radio IDs, talkgroups, etc. in the GW_Alias database.)
4. Choose the parameters for each page in the *Report Wizard*. Click the **Next >** button to move to each next *Report Wizard* page. On the last *Report Wizard* page, the **Next >** button will read **Go to Summary...**
5. Click the **Go to Summary...** button: This will load the *Report Summary* window. This window summarizes the parameters that you have selected.
6. Click the **Run Report...** button on the *Report Summary* window: This will load the Excel workbook for this report and run the report query, including the parameters that you selected in the *Report Wizard*.
7. While the query is running you will see the following spinning globe toward the bottom-right (bottom-left in Excel 2007) of the Excel workbook: 
8. Once the query completes, the globe will disappear and the Excel workbook will contain your query results.
9. You may save this Excel workbook in an alternate location, print the workbook or simply close the workbook and discard the changes. You can also minimize the workbook, return to the *Report Wizard*, change the parameters and run the report again.

Report Parameters

The Excel workbook shows the parameters selected in the *Report Wizard*. If your parameters included radio ID selection, the report will contain a Radio IDs tab. This tab will list each radio ID included in the query. If your parameters included talkgroup selection, the report will contain a **Talkgroups** tab. This tab's sheet will list each group included in the query. All other parameters are shown in the header section of each sheet in the report. These parameter tabs are shown with a light-blue background.

Historical Alias Reporting

Over time a radio ID's alias may change as ownership of the physical radio changes. GW_Alias keeps track of the ending date and time of a radio alias, excluding the default GW\$ aliases.

Reports that show detailed information at the radio level (such as the **Call Activity** report) may transition between radio aliases to reflect the radio's alias at the time of the activity. Reports that summarize activity on the radio level (such as the **Radio PTTs** report) may split a radio ID's summary to multiple lines to reflect changes in radio ID's alias somewhere in the date range of the report.

Using the Report Wizard

Each report includes a Wizard to help you choose report parameters. The goal of the *Report Wizard* (Figure 2.1) is to eliminate the need to type in report parameters. Each parameter is selected from a drop-down list or a parameter grid.

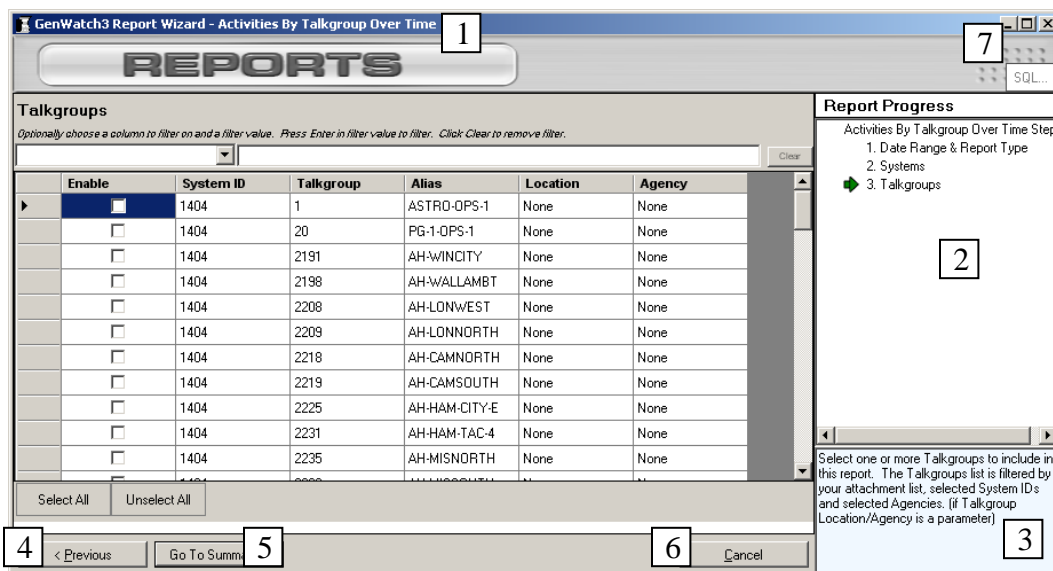


Figure 2.1 – GenWatch3 Report Wizard Window

Common Report Wizard Elements

Each *Report Wizard* contains some common elements found in all of the Wizards

1. **Report Title:** This title shows in the title bar of the form (blue section at the top of the form)
2. **Report Progress:** Where you are in the *Report Wizard* parameter selection process.
3. **Page Help:** Shown in the bottom right of the *Report Wizard*. This box describes the current page.
4. **< Previous Button:** Allows you to move to the previous page.
5. **Next > / Go To Summary... button:** This button reads “Next >” on every page but the last page. On this page it reads **Go to Summary...** This indicates that clicking the **Go to Summary...** button will show the *Report Summary* window.
6. **Cancel:** Cancels the *Report Wizard*.
7. **SQL... button:** When you navigate to the last page this button appears on the *Report Wizard* just above the Report Progress label. Clicking this button will show the SQL query used to execute the report.
8. **Report Summary:** Shows a summary of parameters you selected in the *Report Wizard* (See Figure 2.2).

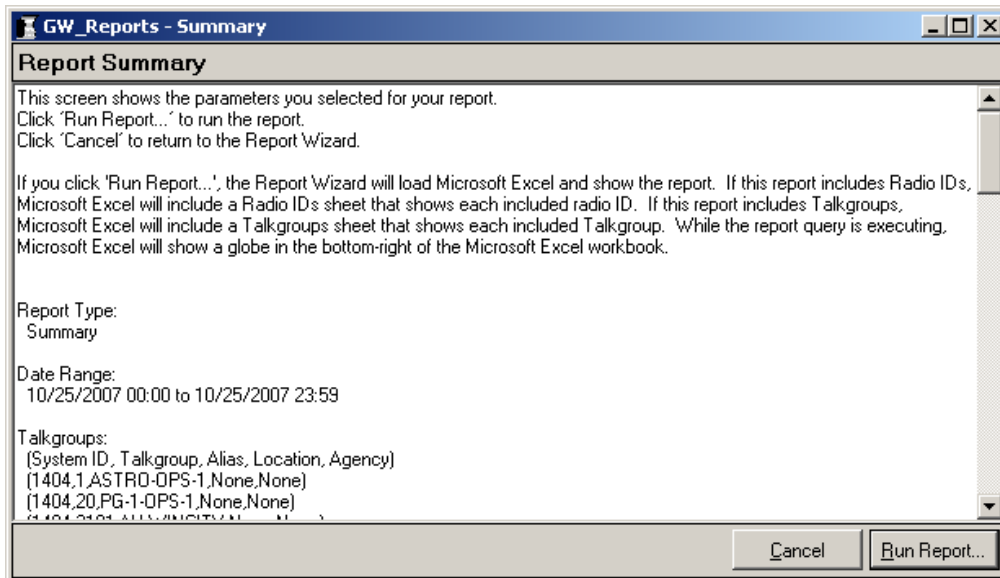


Figure 2.2 – Report Summary Window

Report Wizard Attachments and Group Filters

The *Report Wizard* filters the selection choices for radio IDs and talkgroups by the **Group Filter** set up for your GenWatch3 user in the GW_Security GUI. The **Talkgroups** grid will only contain talkgroups in the user's **Group Filter**. The **Radio IDs** list will only contain talkgroups that have a **Default Group** of one of the talkgroups in the user's **Group Filter**.

For example, if your user has access only to talkgroup 1, you will not see talkgroup 5 listed as a selection choice in the **Talkgroups** grid.

If a user's role is granted the *ViewAllGroups* privilege for the GW_Reports module in the GW_Security GUI, he or she will be able to see all talkgroups and radio IDs, regardless of his or her attachment list.

Report Wizard Grids and Filtering

Most of the *Report Wizard* parameters contain at least one grid similar to Figure 2.3. These grids contain selection choices for a particular parameter, such as System, Zone, Site, Talkgroup, Radio ID, etc. In some cases, selecting an item on a grid will add more items to another grid. In the case of Location and Agency selection, the Agency grid will initially have no entries. As you select (click the box in the Enable column) Locations, the *Report Wizard* will add Agencies under the selected Locations to the Agency grid. If you come to a window that contains a grid and the grid does not hold all of the values you expect to see, make sure that a selection on a grid on a previous page is not required to provide the “missing” values.

Radio IDs								
Optionally choose a column to filter on and a filter value. Press Enter in filter value to filter. Click Clear to remove filter.								
								Clear
	Enable	System ID	Radio ID	Alias	Location	Agency	Default	
▶	<input checked="" type="checkbox"/>	1404	1	James	City of Tyler	POLICE	1	
	<input type="checkbox"/>	1404	10110	710110V-583266	None	None		
	<input type="checkbox"/>	1404	1012	701012V-595435	None	None		
	<input type="checkbox"/>	1404	10381	710381V-587939	None	None		
	<input type="checkbox"/>	1404	10722	710722-CON-055	None	None		
	<input type="checkbox"/>	1404	1077	MFS-ELIZ331M	None	None		
	<input type="checkbox"/>	1404	10788	710788-CON-054	None	None		
	<input type="checkbox"/>	1404	10971	710971-CON-051	None	None		
	<input type="checkbox"/>	1404	11036	711036-CON-050	None	None		
	<input type="checkbox"/>	1404	11090	711090-CON-049	None	None		
	<input type="checkbox"/>	1404	11162	711162-CON-048	None	None		
	<input type="checkbox"/>	1404	11165	711165-CON-048	None	None		
	<input type="checkbox"/>	1404	11295	711295-CON-046	None	None		
	<input type="checkbox"/>	1404	1142	BIRDWD-CP-P-	None	None		

Select All Unselect All

Figure 2.3 – Radio ID Selection Grid

If a grid only contains one item, this item will automatically be selected. This feature keeps you from having to click on a grid item when there is no actual decision to make.

Each *Report Wizard* grid provides a **Select All** and an **Unselect All** button. The **Select All** button selects each item in the grid, while the **Unselect All** button unselects each item in the grid.

Grid Filtering

Some grids can potentially contain thousands of items. The following grids provide a filter option to narrow the list of items and make item selection easier:

- Channels
- Radio IDs
- Talkgroups

Enable	System ID	Radio ID	Alias	Location	Agency	Default
<input checked="" type="checkbox"/>	1404	1	James	City of Tyler	POLICE	1

Figure 2.4 – Radio ID Selection Grid Filter

The filter option contains the following options, shown in Figure 2.4:

1. **Column List:** This control contains a selectable list of grid columns. This is where you select the column you wish to filter on.
2. **Parameter Text:** This control contains the text used to filter the results. Press Enter on this control to apply the filter to the grid. Any item containing the **Parameter Text** will be shown in the filtered list. This means that if you select **Radio ID** from the **Column List** and enter a **Parameter Text** of '1' only radio IDs containing the number one will be shown. i.e. 1, 10, 210, etc. If you select **Alias** from the **Column List** and enter a **Parameter Text** of 'am' only Aliases containing the letters 'am' will be shown. i.e. James, Amber, 8030AM, etc.
3. **Clear Button:** This button removes the filter from the grid. Press this button to show all items in the grid.

To filter a grid, follow the steps below:

1. Choose a column from the **Column List**.
2. Type your filter into the **Parameter Text**.
3. Press Enter while the cursor is in the **Parameter Text** box: This will apply your filter to the grid.



Report Wizard grid selections are exclusive. This means that if you select talkgroups 1, 3 and 5 in the Talkgroups grid and 1, 2, 3 in the Radio IDs grid, then the report will only include activity that occurred for radios 1, 2 or 3 on groups 1, 3 or 5.

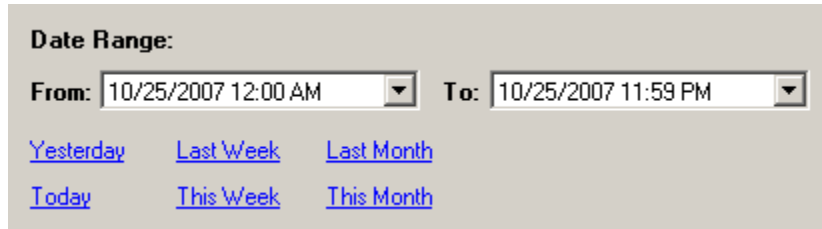


If you wish to report on activity for a range of groups, select the talkgroups in the Talkgroups grid and select all radio IDs in the Radio ID grid. If you wish to report on all activity for a range of radio IDs, select the radio IDs in the Radio IDs grid and select all groups in the Talkgroups grid. This same approach can be taken for all *Report Wizard* grids.

Other Report Parameter Types

In addition to grids, the *Report Wizard* uses the following methods of parameter selection, shown in Figure 2.5:

- **Date Range:** This control consists of two date and time selector controls. The **From** date and time is the start of the date/time range, while the **To** date and time is the end of the date/time range. This control also contains date range shortcuts such as **Yesterday** and **This Week**. Click on a link to auto-fill the selected range.



Date Range:
From: 10/25/2007 12:00 AM **To:** 10/25/2007 11:59 PM
[Yesterday](#) [Last Week](#) [Last Month](#)
[Today](#) [This Week](#) [This Month](#)

Figure 2.5 – Date Range Parameter



Although it is not shown in the **From** date range, the **From** date range second value is always 0. Although it is not shown in the **To** date range, the **To** date range second value is always 59. These implied values ensure that your report includes all seconds within the selected minutes.

- **Report Type:** This control (Figure 2.6) allows you to select the detail of the report. The selections include:
 - **Summary:** Each row in the report shows the usage of the frequency, group, radio ID, etc., summarized for the entire date/time range.
 - **Daily:** Each row in the report shows the usage of the frequency, group, radio ID, etc., for each day in the date/time range.
 - **Hourly:** Each row in the report shows the usage of the frequency, group, radio ID, etc., for each hour in the date/time range.
 - **Quarter-Hourly:** Each row in the report shows the usage of the frequency, group, radio ID, etc., for four 15-minute increments in the date/time range. These increments are 0, 15, 30 and 45.



Report Type:
Summary

Figure 2.6 – Report Type Parameter

- **Check Boxes:** These controls allow you to indicate a yes/no selection. Some reports will use these for inclusive decisions (i.e. “include this option in the report as well”) or for exclusive decisions (i.e. “only include what I have selected in the report”). The *Help* window of the report will tell whether the check boxes are inclusive or exclusive.



Figure 2.7 – Check Box Parameter

Advanced Reporting Options

Because GenWatch3 uses Microsoft Excel workbooks, you can go beyond the reporting offered in the GW_Reports GUI. There are many third party programs and applications (purchased from vendors other than Genesis) that can be used to write reports on the GenWatch3 database. The data in the GenWatch3 database is YOURS and you should be able to report on it as you wish.

Contact GenWatch3 support to receive the structure of the GenWatch3 database. This will define the tables in the GenWatch3 database and all fields in these tables.

This chapter describes how GW_Reports uses integrated Microsoft Excel workbooks. This chapter also describes how to alter these workbooks and how to revert back to the original workbook.

This chapter contains the following sections:

- **Overview:** Describes how GW_Reports uses Microsoft Excel to run and display report queries.
- **Customizing a Workbook:** Describes how to customize a Microsoft Excel workbook template.
- **Reverting Back to an Original Template:** Describes how to revert back to an original GW_Reports Excel workbook template.

Overview

The GW_Reports module uses Microsoft Excel to run and display report queries. Each report binary (DLL) contains its Excel report template. When you run a report for the 1st time, GW_Reports creates a copy of this Excel workbook in the *Reports* directory under the GenWatch3 installation directory. This copy of the Excel workbook is the template used to generate the Excel workbook for the report.



These Excel files are used as templates, but they have the normal .xls extension. They do not have the .xlt extension experienced Excel users may expect.

Customizing a Workbook

You may wish to customize the GW_Reports report workbooks. Customization may include your company's logo, different color schemes, etc. To customize a report template, simply make changes to the report template saved in the \Reports directory under the GenWatch3 installation directory.

Each report contains two things that are altered by GW_Reports every time you run the report.

- **Report parameters:** Report parameters are shown in cells with light blue backgrounds (Figure 3.1). These cells show the parameters selected while using the *Report Wizard*.

Selected (System, Zone, Site, Frequency) combinations:	(1404,1,1,859237500), (1404,1,1,860237500)
--	--

Figure 3.1 – Workbook Report Parameters

- **Query Tables:** Query tables are the tables that show the actual report results. Query tables are shown below the parameters section and have dark blue background and white text (Figure 3.2).

System ID	Talkgroup	Talkgroup Alias	Radio ID	Radio Alias
1404	5	GW\$T800005	1	James
1404	3	GW\$T800003	1	James
1404	1	mine1	1	James

Figure 3.2 – Workbook Query table

The location of each of the items mentioned above are stored within each Excel workbook, on a hidden sheet named "Parameters." If your customization moves the cell positions of parameters or query tables, then you must update the Parameters sheet with the new cell positions. To do this, you must unhide the hidden parameters sheet. To unhide this sheet:

1. In Microsoft Excel, choose Format->Sheet->Unhide: This will show a dialog containing the Parameters sheet.
2. Click **OK**: This will show the Parameters sheet in the tabs along the bottom of the Microsoft Excel workbook.

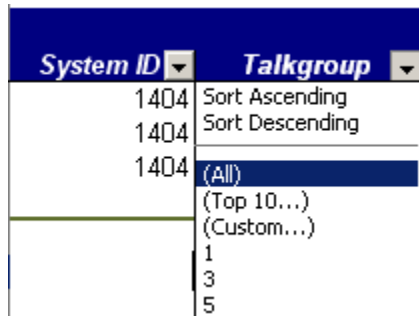
Once you are satisfied with your report changes, you may hide the parameters sheet by clicking Format->Sheet->Hide while the Parameters sheet is selected.



The \Reports folder under GenWatch3 installation directory should only contain GenWatch reports that have the .xls extension. If saving in any other supported excel format the files should be placed in the Current User's \Documents\Genesis\GenWatch3\Reports directory.

Filtering Report Results

You will notice that each column in the Microsoft Excel query table contains a drop-down list (Figure 3.3). This list contains column-based filtering options. You can add one or more conditions to each column. Only the rows whose values satisfy these conditions will be shown on the report. Each time the report is refreshed (each time you run the report) these filters are reset.



System ID	Talkgroup
1404	Sort Ascending
1404	Sort Descending
1404	(All)
	(Top 10...)
	(Custom...)
	1
	3
	5

Figure 3.3 – Workbook Filter Options



If you apply report filters, the column totals (shown in the last row of the report results) may or may not be indicative of the filtered report results. In some cases, filtering will filter out the total row.

Reverting Back to an Original Template

If you have customized a GW_Reports template and wish to revert back to the original report template, delete the report template from the *Reports* directory under the GenWatch3 installation directory. The next time you run this report, GW_Reports will recreate the template.



When deleting the template, be careful not to delete any files with a .dll extension. Only delete files with a .xls extension



You can also rename the report template, if you want to preserve the template you are replacing.

Terms

- **Parameters:** Reporting options chosen within Parameters tab of the Excel file. These include date/time, site, zones, radio IDs, talkgroups, etc.
- **Sql Database Connection:** Allows you to view data in the SQL database. Requiring a connection ensures that only valid users are allowed to view your data.
- **SQL Query:** A question asked of the database. Such as, “Which radio IDs issued activity between 1/1/2009 and 1/31/2009?” Excel builds an SQL query behind the scenes when you select parameters.

What is GW_Reports?

GW_Reports is a reporting application used to execute GenGET reports. Each report includes a parameters tab to guide you through parameter selection. Parameters are the filters or choices you make when building the report. GW_Reports uses an ODBC connection from your PC to build an SQL database connection. This connection is used to execute the SQL query defined within a report. This SQL query includes the parameters you choose in the Parameters Tab of the Excel file.



If you do not have an ODBC connection setup named “GenGET_DB”, please see the document titled *GET QRG Master.pdf* on your GenGET documentation CD.

Report Files

The Reports List is dynamically loaded on start-up based on the existence of certain files in predefined locations. The sections below describe these files in detail.

Excel Workbook

Upon startup, GW_Reports fills its report list based upon Excel files in the *Reports* directory under your GenWatch3 install directory as well as reports in your *\Documents\Genesis\GenWatch3\Reports* folder.



This allows you to launch Excel files from the GW_Reports GUI. Simply choose **File -> Save As** to save an Excel Spreadsheet to the *current user\Documents\Genesis\GenWatch3\Reports* folder (reports are “Read Only” to avoid accidental overwrites).

Image Files

The images shown in the *Reports List* are pulled from the *Reports* directory under your GenWatch3 data directory. If an image (BMP, JPG, GIF or PNG) has the same name as an Excel file (XLS, XLSX, XLSM, XLTX, or XLTM file) in the *Reports* directory (either under the GW3_TRBO install directory or *user\Documents\Genesis\GenWatch3*), then this image will be used for that Excel file. This allows you to create and show images for any Excel files you add to the *Reports* directory. If an image is not found for a DLL or an Excel file, then the default “No Picture” image is shown for that item in the reports list.

Core Reports

The following GenGET reports are typically included in the GenWatch3 GW_Reports list:

- **Abnormal End of Calls:** Shows call activity for all calls that have an ATIA end reason outside of the following “normal” list (*18, 88, 89, 162, 163, and 196*). Consult your ATIA documentation or your GenGET manual for a complete list of end call reasons.
- **Airtime and PTTs per Hour:** Shows subtotals of airtime and PTTs for each hour in the selected range.
- **Airtime by Minute:** Shows subtotals of airtime and PTTs for each minute selected (*1, 5, 10, 15, 30 or 60 minute segments – user selected*).
- **Airtime by Radio ID:** Shows total of airtime and PTTs for each radio ID. You can see all IDs or a range of IDs.
- **Alias Information (Site, Group, Radio):** Shows a listing of all sites, talkgroups and radios that have been used on the system. Includes aliases and additional information on radios and groups.
- **Average PTT Length and PTTs per Minute:** Shows average PTT length and number of PTTs for each hour in the specified time range.
- **Busy Seconds by Hour:** Shows busy seconds (*all types*) by hour for the specified time range.
- **Busy Seconds by Type:** Shows busy seconds for each “busy type” during the specified time range.
- **Call Activity:** Shows a detailed call list of each call for the specified time range. Details include: date/time, call type, source site, target, duration, status, DIU, DBL, etc. (*Each line represents a call if using Message Trunking, or PTTs would be shown if using Transmission Trunking*)
- **Call Activity Under 1 Second:** Shows same information as Call Activity, but limits results to calls with a duration of 1 second or less.
- **Detailed Busies:** Shows details for each “busy” that occurred during the specified time range. Details include the busy and source site of the call(s).
- **Detailed DIU Use:** Shows detailed usage data for all DIUs and DBLs during the specified time range. (*not applicable to Dimetra or P25 installations*)
- **Detailed Site Use:** Shows individual PTT use for each site during the specified time range. Similar to Call Activity, but PTT-based and includes the channel used. Particularly useful for diagnosing issues within a specific site.
- **Emergencies by Talkgroup:** Shows quantity of emergency calls by talkgroup for the specified time range.
- **Events by Type:** Shows selected event types for the specified time range. This report has two tabs of Parameters.

- **Group PTTs and Airtime by Hour:** Shows average PTT length and number of PTTs only for group calls during the specified time range.
- **Private PTTs and PTT Airtime by Hour:** Shows average PTT length and number of PTTs only for private calls (*Radio to Radio*) during the specified time range.
- **Radio Activity by ID:** Shows a detailed list of calls, affiliations, events and other items of a selected radio ID during the specified time range.
- **Radio Rejects:** Shows a detailed list of radio rejects and reject reasons for the specified time range.
- **Site Affiliation Summary:** Shows quantity of radios **last known** to have been affiliated with each site for the specified time range (*summary by site and detail tabs*). This report does not account for de-registrations/de-affiliations. It is **last known** registration/affiliation.
- **Site Channel Summary:** Shows summary information about Site/Channel use for the specified time period. (*includes PTTs, airtime used, busies, etc.*)
- **Site Utilization - GoS with Auto Busy Hour:** Grade of Service report showing summarized activity for each site's busiest hour of the specified time range (*one line per site*).
- **Site Utilization - GoS:** Grade of Service report showing summarized activity for the hour chosen by the report user (*one line per site*).
- **System Activity:** Shows a detailed, time-ordered look at system activity including calls, individual PTTs, failed calls (*rejects*), busies, affiliations, and much more. This will emulate the GW3 Activity window for a historical segment of time (*intended for small time segments*).
- **Talkgroup Affiliation Summary:** Shows quantity of radios last known to have been affiliated with each talkgroup for the specified time range (*summary by TG and detail tabs*). This report does not account for de-registrations/de-affiliations. It is **last known** registration/affiliation only.
- **Talkgroup Usage Top 20 by Hour:** Shows "group" usage for the 20 highest usage talkgroups for the specified time range.
- **Total Airtime for 24 Hours:** View system usage for a 24-hour period on the face of a clock. Also shows "day" view and "night" view for the specified time range.
- **Total Airtime Top XX Talkgroups:** Shows "ALL" usage for the quantity of highest usage talkgroups you select during the specified time range. This allows the user to select the total number of talkgroups to be considered.
- **Unit PTTs by Talkgroup:** Shows quantity of PTTs for the specified talkgroup during the selected time range.

Running GenGET Reports

In a Nutshell

Reports are part of the “human” interface to GenGET. They make practical use of all the statistics collected and stored by GenGET.

GenGET Reports are Excel files. Therefore, you need Excel 2003 or better (2000 is acceptable, but you may have issues with “look and feel”). You also need an ODBC connection to the GenGET database (see appendices “Creating an ODBC Connection”). If installed with GW3-NV, this connection should have been created automatically.

All images and references in this document were created using Excel 2003.

Running a Report

At this point, you should have your GenGET system up and fully operational.

You may access the reports via either of the following methods:

- If you are in GenWatch3-NetVista, you can select **Reports** from the module icons on LaunchPad—just launch Reports and then double click which report you'd like to run.
- By browsing directly to a folder which stores the Excel files and then double clicking the file.



Date/Time Formats: When Excel opens the report, it will automatically change the date/time format to match that of your computer's "Regional and Language" settings found in Control Panel.



Macros: Macros are required for the reports to work properly. If you run reports from within the GW3-NV reports menu, this will automatically allow the macros to run. If you decide to run reports manually, you will need to ensure your Excel macro settings are adjusted accordingly.

Brief Overview of Excel Report Workbooks

The Excel reports have multiple "Tabs" located in the bottom left of your Microsoft Excel Window. The following explanations reference the tabs in Figure 5.1.

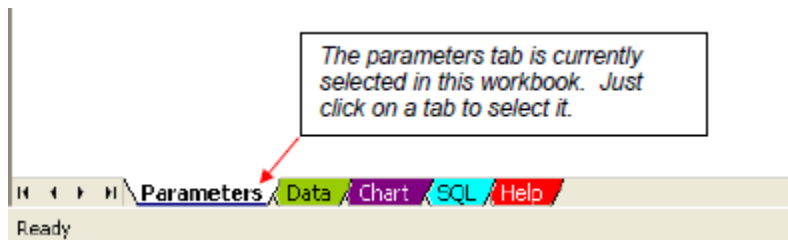


Figure 5.1 – GenGET Report Tabs

Parameter Tab

Call Activity

www.GenesisWorld.com
Genesis

System Zone Site
ALL 2 ALL ALL

Parameters:

Start Date: 10/27/2008 12:39:55 PM 2 Today Now +1 Day -1 Day +1 Hour -1 Hour

End Date: 10/27/2008 02:39:55 PM 3 Today Now +1 Day -1 Day +1 Hour -1 Hour

Description:

This report shows a detailed list of calls. You can filter by call type on the Data sheet. Please see the Help sheet for more information about filtering and sorting data. 1

Data Source: CenSZAI_DB 4 Generate Report

Figure 5.2 – Parameter Tab

1. The **Parameters** tab, shown in Figure 5.2, will have a brief description of the report.
2. User Parameters – The user can change any of the fields highlighted in the light blue color. Changes made to any fields not highlighted in light blue will be ignored during report generation.
3. The buttons to the right of the Start Date and End Date have the following functions (in order from left to right):
 - Today (insert today’s date at midnight)
 - Now (inserts the current date and time from your computer)
 - +1 Day (adds one day to the value in the field)
 - -1 Day (subtracts one day to the value in the field)
 - +1 Hour (adds one hour to the value in the field)
 - -1 Hour (subtracts one hour to the value in the field)
 - The button immediately after the words “End Date” will copy the “Start Date” into the “End Date” field, which can then be easily manipulated with the other buttons.
Note: You can always type directly in the date entry fields as well.
4. Excel reports created by Genesis will have a “Generate Report” button which, when clicked, will place the data into the report from the GenGET database. This process will take varying amounts of time depending on the report complexity and date range. A status indicator shows that the query is still processing in Excel. *Please see “Note 1” at the end of this section for an example.*

The **Data** tab will always contain the raw data matching your request. It can be sorted and filtered as any other Excel data.

Data Tab(s)

Many of the reports include a graphical representation of the data. One important note about the “density” of some of the charts: Some reports will need to have the data parameters closely contained in order for the charted data to be “readable.”

If you cannot make out the data on your chart, we suggest changing the parameters to include less time or fewer zones/sites/talkgroups/etc.

Chart Tab(s)

Many reports have a chart tab. The presence of these varies from report to report based on the logical display of data. You may add custom charts to your copies of reports and/or modify the charts included in ours.

SQL Tab

This tab contains the raw SQL query that was sent to SQL Server to pull your report. You can learn from these to build your own custom queries if you wish.

Help Tab

Each **Help** tab contains a complete description of the fields included in your report that may not be perfectly clear (*for example, we do not usually define “Radio Alias”*). In some cases, they may contain a small helpful “note” about a specific detail. We recommend looking at the **Help** tab in every report at least once to ensure you have all pertinent information.

Notes on Reports...

Note 1 – While your query is running, you will see a small Globe in the bottom status bar area (Figure 5.3). This globe will “spin” while waiting on the query to return data from SQL.



Be aware that execution of the “Generate Report” button on the **Parameters** tab will automatically change your active tab to the **Data** tab. The time it takes will depend on your database size and the data range of your query. In any case, the amount of time required should be no more than a few minutes.

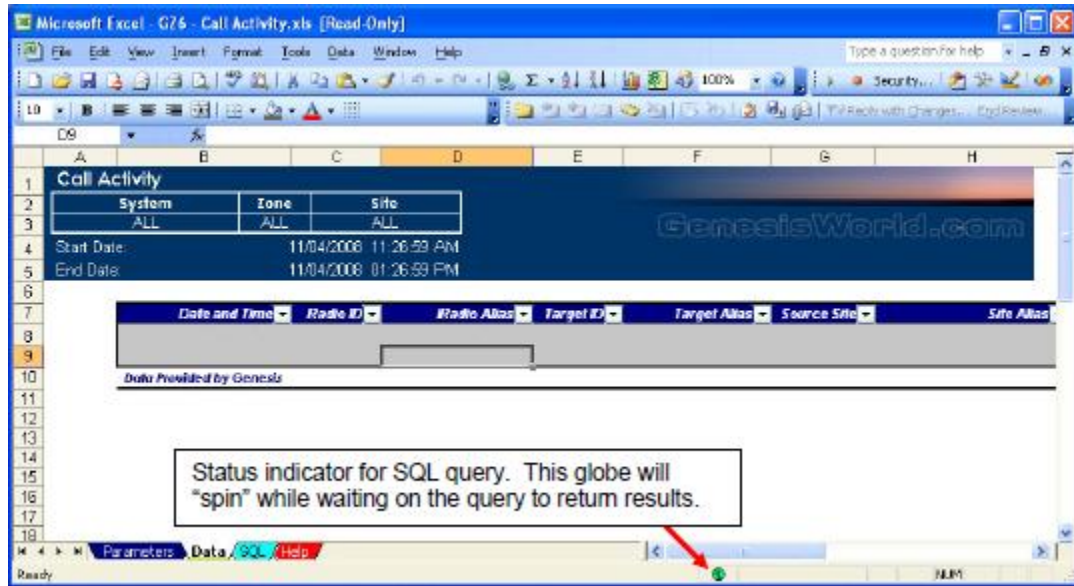


Figure 5.3 – Query Loading

Note 2 – You may get the error in Figure 5.4 if your query is “too big” for Excel. Excel 2003 can only display slightly over 65,000 rows of information. If your query causes this error, try it again with a smaller date/time range.

*(Excel 2007 changes this limitation to 1 Million rows, but you must first save the report in an Excel 2007 document format **before** you can achieve this ability.)*

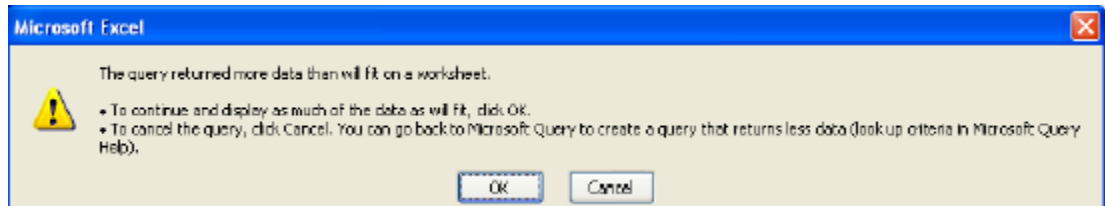


Figure 5.3 – Excel Error