GenWatch3®
GW_APM
Software Version 4.26.1
Module Book

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Document History

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Goals

This manual describes the function and role of the GW_APM module in the GenWatch3 solution and provides instructions on using the GW_APM graphical user interface (GUI).

Who Should Read This Manual?

This manual is written with an expected 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_APM module, the GW_APM GUI and the organization of the APM information within the GW_APM 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_APM module, the GW_APM GUI and the organization of the APM information within the GW_APM GUI.

This chapter contains the following sections:

- **What is GW_APM?**: Defines the function and role of the GW_APM module in the GenWatch3 solution.
- **Using the Sites Tree**: Describes how to use the GW_APM Sites Tree.
- **Resource Windows**: Describes how to use the GW_APM resource windows.

What is GW_APM?

Terms

APM: Device that reports channel performance information.

Function

The GW_APM GUI shows the real-time state of channels monitored by an APM device. This information is shown in a window for each site or subsite. Subsites are a collection of simulcast sites.

When the APM reports the status of a channel, the GW_APM module adds the channel to the list of its site. This list entry contains the channel's information as reported by the APM. This can include power level and current alarm states. When the APM reports subsequent information about the channel, the channel's information is updated. This keeps the site's channel information current with the last reported APM state of the channel.

If the GW_APM GUI is open when the APM reports the state of a channel, the GW_APM module passes this activity on to the GW_APM GUI. If the channel's site or subsite window is open, the GW_APM GUI adds the channel to the window.

Each time a user opens a site or subsite window in the GW_APM GUI, it queries the GW_APM module for a list of currently known APM channel states for the site or subsite. The GW_APM GUI uses this list to populate the window. This means that you can keep the GW_APM GUI closed and its module will continue to gather APM channel information.

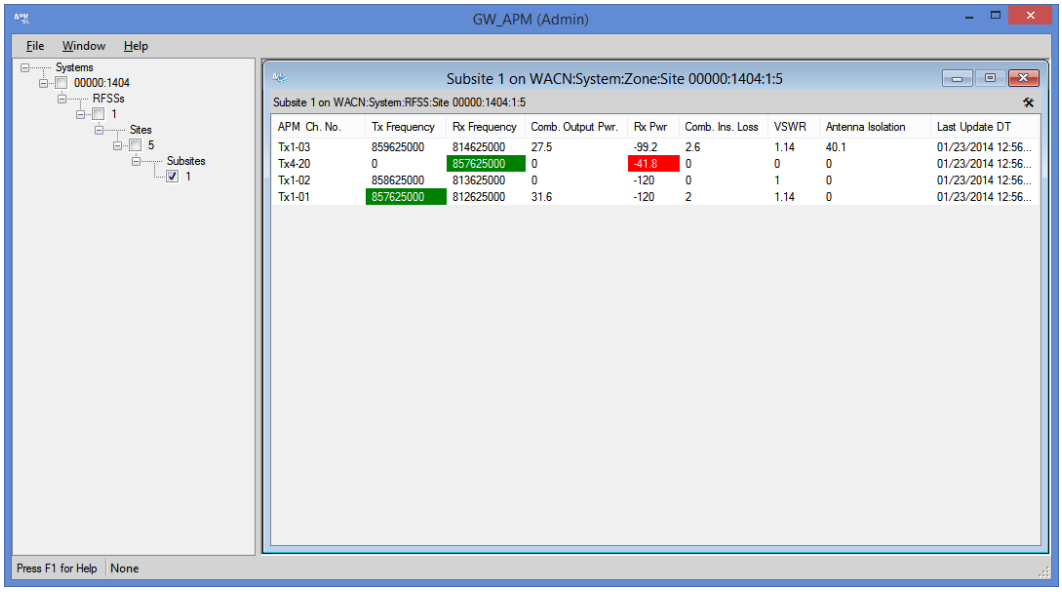

Figure 1.1 – GW_APM GUI

Using the Sites Tree

Terms

Node: An entry or item in a tree.

Function

The Sites Tree contains a node for each known resource added to the GW_APM Sites Tree by a user. These resources are organized under systems. Each system also contains a node for RFSSs, sites, and subsites.

The GW_APM GUI will update the Site Tree to reflect changes made in the GW_Alias GUI, like changing the alias of a resource or deleting a resource.

If a new system is added or deleted in the Alias GUI, you must click the **Refresh** button to have the Sites Tree reflect the change.

APM channel statuses can be viewed at two levels.

Site

Site resource windows allow you to view a site's APM channel statuses with one convenient window. Check a **Site** node to open a site resource window and view APM channel statuses for all channels on the site.

Subsite

Subsite resource windows allow you to view a subsite's APM channel statuses with one convenient window. Check a **Subsite** node to open a subsite resource window and view APM channel statuses for all channels on the subsite.

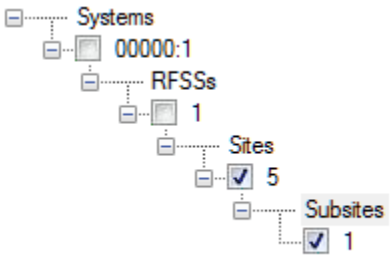

Figure 1.2 – GW_APM Sites Tree

The GW_APM GUI reflects most changes made to resources in the GW_Alias GUI, such as changing the alias of a resource or delete a resource. If a new system is added or deleted in GW_Alias, you must click the **Refresh** button to have the Sites Tree reflect the change.

Adding and Removing Resources

If you wish to view APM activity for a specific site or subsite, you must add the site or subsite to the Sites Tree.

The search results will not contain resources that are already in your Sites Tree.

Resources have some common items on their menus.

- Right clicking a node will show a menu with options to add a resource of that type and to remove all items of that type.

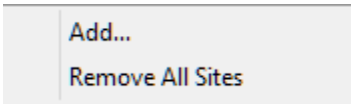

Figure 1.3 – RFSSs Options menu

- Right clicking on a resource will show a menu with options to delete that resource and display statistics for that resource.

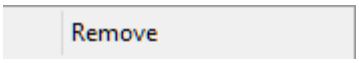

Figure 1.4 – Single Resource Options menu

Removing a resource from the Sites Tree does not delete this resource from your GW_Alias database. It only affects the GW_APM Sites Tree, and only for your user. The next time you load the GW_APM window, it will load the resources that were in your Sites Tree at the time it was last closed.

Sites

To add one or more sites, take the following steps:

1. Right click on the **Sites** node under the RFSS you wish to add sites under. This will show the Sites options menu.
2. Click the **Add…** option. This will load the *Select Sites* window.

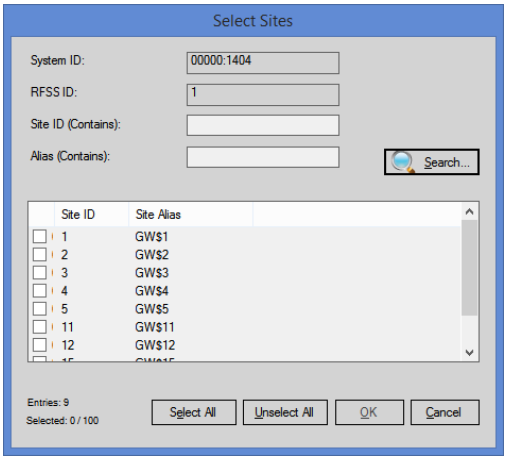

Figure 1.5 – Select Sites Window

3. Enter search criteria and click the **Search** button. This will show each site that meets your search criteria in the site list.
4. Check each site that you wish to add to your Sites Tree by double-clicking the site in the list or checking the checkbox in the **Site ID** column.
5. When finished selecting sites, Click the **OK** button. This will close the *Select Sites* window and add the selected sites under the **Sites** node.

To remove all sites under a RFSS, take the following steps:

1. Right click on the **Sites** node. This will show the Sites Options menu.
2. Click the **Remove All Sites** option. This will show a confirmation dialog.
3. Click **Yes**. This will remove all sites from the **Sites** node.

To remove a single site from a **Sites** node, take the following steps:

1. Right click on the site that you wish to remove. This will show the Single Selection Options menu.
2. Click the **Remove** option. This will show a confirmation dialog.
3. Click **Yes**. This will remove the site from the Sites Tree.

Subsites

To add one or more subsites, take the following steps:

1. Right click on the **Subsites** node under the site you wish to add subsites under. This will show the Subsites options menu.
2. Click the **Add…** option. This will load the *Select Subsites* window.

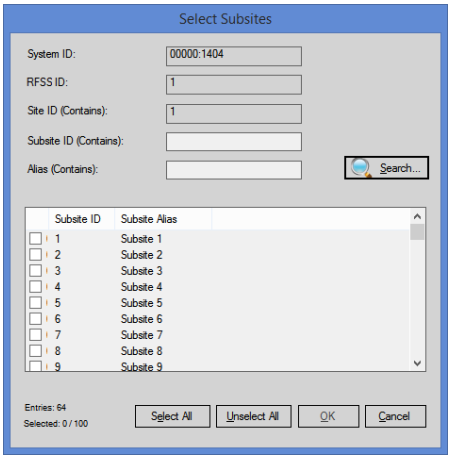

Figure 1.6 – Select Subsites Window

3. Enter search criteria and click the **Search** button. This will show each subsite that meets your search criteria in the site list.
4. Check each subsite that you wish to add to your Sites Tree by double-clicking the subsite in the list or checking the checkbox in the **Subsite ID** column.
5. When finished selecting sites, Click the **OK** button. This will close the *Select Subsites* window and add the selected sites under the **Subsites** node.

To remove all subsites under a site, take the following steps:

1. Right click on the **Subsites** node. This will show the Subsites Options menu.
2. Click the **Remove All Subsites** option. This will show a confirmation dialog.
3. Click **Yes**. This will remove all subsites from the **Subsites** node.

To remove a single site from a **Subsites** node, take the following steps:

1. Right click on the subsite that you wish to remove. This will show the Single Selection Options menu.
2. Click the **Remove** option. This will show a confirmation dialog.
3. Click **Yes**. This will remove the subsite from the Sites Tree.

Resource Windows

Notice that each node in the Sites Tree contains a check box. For sites and subsites, the check box indicates if the window for this resource is loaded. Resource windows reside in the space to the right of the Sites Tree. You may have up to 10 resource windows open at one time. Having all windows open is not necessary as the APM activity is gathered in the GW_APM module, even if the GW_APM window is not open.

Checking the check box of a resource node will show the resource's window. Unchecking the check box of a resource node will hide the resource's window.

Using Resource Windows

Each resource in the Sites Tree has its own window. These windows show the status for each APM channel reported on that resource since the GW_APM module was started. Each window contains the following information:

- **Ch. No.:** The Alias channel number corresponding to the Tx or Rx frequency of this APM channel.
- **Alias:** The Channel Alias corresponding to the Tx or Rx frequency of this APM channel.
- **APM Ch. No.**: The channel number reported by the APM.
- **Tx Frequency:** Transmit frequency in MHz. This value is shown with a green background when Tx Signal Present is reported for this channel.
- **Rx Frequency**: Receive frequency in MHz. This value is shown with a green background when Rx Signal Present is reported for this channel.
- **Comb. Output Pwr**: Transmit Forward power level in Watts. This value is shown with a red background when Tx Power Level Failure is reported for this channel.
- **Rx Pwr:** Receive power level in dBm. This value is shown with a red background when Rx Power Level Failure is reported for this channel.
- **Comb. Ins. Loss.**: Transmit combiner insertion loss in dB. This value is shown with a red background when Tx Combiner Insertion Loss Failure is reported for this channel.
- **VSWR**: Transmitter voltage standing wave ratio. This value is shown with a red background when Tx VSWR Failure is reported for this channel.
- **Antenna Isolation**: Antenna isolation level in dB. This value is shown with a red background when Rx Antenna Isolation Failure is reported for this channel.

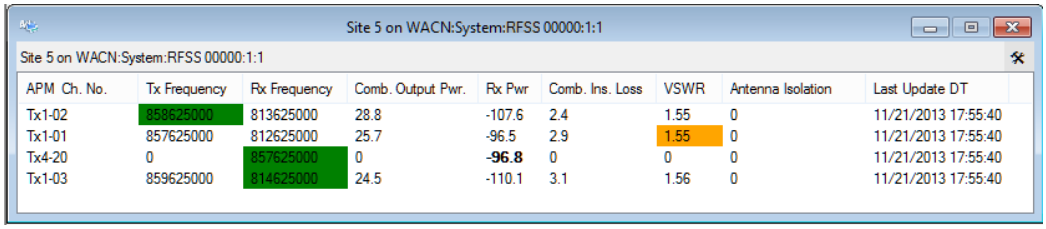

Figure 1.7 – GW_APM Resource Window

When a value (such as VSWR or Comb. Ins. Loss) is updated from its last known value, the value is shown in bold. If you choose a font that is always bold, you will not be able to tell when a value is updated from its last known value.

Customizing Resource Windows

Resource windows allow you to customize their appearance. You can modify the following properties of each resource window:

- **Window Size**:
    1. Move your mouse pointer over the edge of the window.
    2. When the mouse pointer changes to one of the resize pointers, hold down the left mouse button to resize the window.
- **Column Size**:
    1. In the column header section of the activity list, move your mouse pointer to the right side of the column to resize.
    2. When the mouse pointer changes to the resize pointers, hold down the left mouse button to resize the window.

List Options

This menu provides options to customize resource windows and view information related to the resource window.

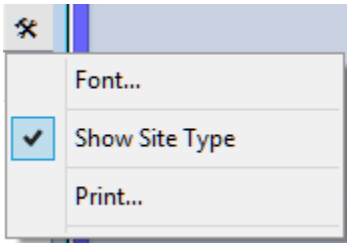

Figure 1.8 – List Options

The list below describes the options present in List Options.

- **Font**:
    1. Click the **List Options** menu toward the top of the window.
    2. Click the **Font…** option. This will result in a font window. (see Figure 1.9)
    3. Choose the desired font options (excluding bold).
    4. Click the **OK** button.

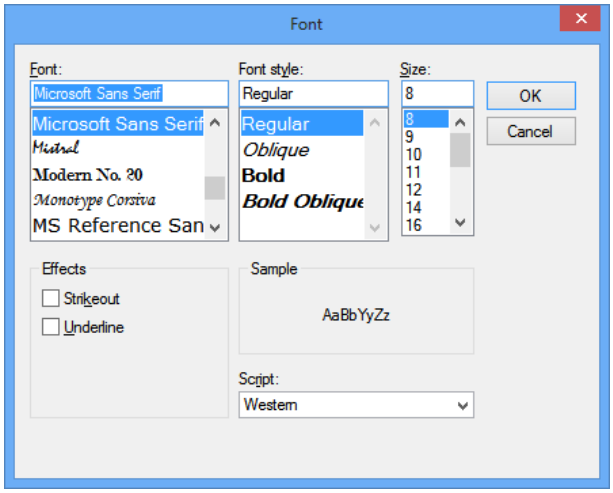

Figure 1.9 – Font Window

- **Show Site Type:**
    1. Click on the **List Options** menu toward the top of the window.
    2. Click the **Show Site Type** option. This will show/hide the Resource Type header at the top of the window.

- **Print:**
    1. Select the activity in the activity list that you wish to print. Select a range by clicking on the first activity and holding **Shift** while clicking on the last activity in the desired range. If you wish to print all the activity in the activity list, skip this step.
    2. Click on the **List Options** menu toward the top of the window.
    3. Click on the **Print …** option. This will show the printer options window specific to your default printer.
    4. Select the options for your printer. It is usually best to choose to print in landscape mode (not portrait).
    5. Click **OK** once you are satisfied with your printer options. This will result in a dialog, asking if you want to print the selected items or all items.

Window Menu

The Window menu contains the following options:

- **Cascade:** Cascade arranges all windows that are not minimized.
- **Tile Horizontal:** Horizontally tiles all windows that are not minimized.
- **Tile Vertical:** Vertically tiles all windows that are not minimized.
- **Minimize All:** Minimizes all windows.
- **Restore All:** Restores all minimized windows.
- **Resource Window Options…:** Loads the *Resource Window Options* window.
- **Sites Tree:** Shows/hides the Sites Tree.

Resource Window Options

The *Resource Window Options* window allows you to customize multiple resource windows at once as a well as define the defaults for any resource windows you may open later. The options selected in this window will affect all open resource windows. If you had a resource window open and closed it (unchecked it) before making changes in the *Resource Window Options* window, the closed resource window will retain its previous settings and be unchanged by the *Resource Window Options* changes.

The *Resource Window Options* window allows you to select the following:

- **Resource Window Columns**: Uncheck the column(s) that you do not wish to display in the resource windows.
- **Resource Window Size**: Select the width and height that you wish to set for each resource window.
- **Resource Window Font**: Select the font that you wish to set for the resource window's activity list.
- **Show Resource Type header:** Shows the resource type (site or subsite).

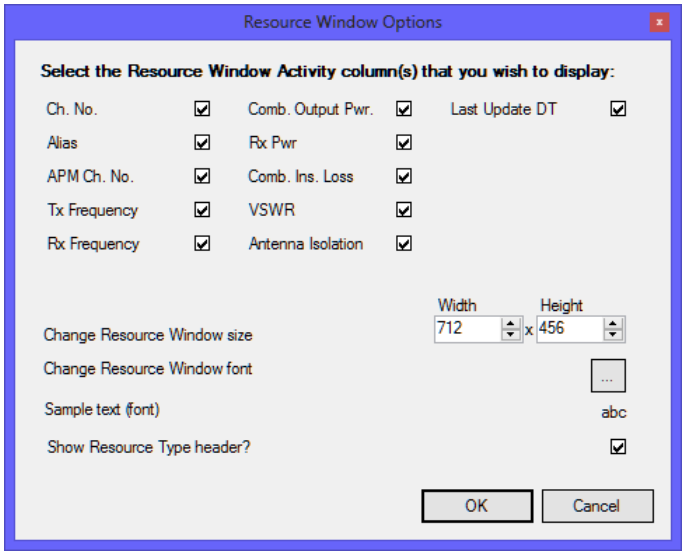

Figure 1.10 – Resource Window Options