

ORTEC[®]

GammaVision[®] Report Writer
for Microsoft[®] Windows[®] 7 and XP[®] SP3

A44-BW
Software User's Manual

Software Version 3.1

Advanced Measurement Technology, Inc.

a/k/a/ ORTEC[®], a subsidiary of AMETEK[®], Inc.

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NOTE!

We assume that you are thoroughly familiar with Microsoft Windows usage and terminology.

The convention used in this manual to represent actual keys pressed is to enclose the key label within angle brackets; for example, <F1>. For key combinations, the key labels are joined by a + within the angle brackets, for example, <Alt + 2>.

1. INTRODUCTION

The GammaVision® Report Writer (A44-BW) transfers information from a GammaVision unformatted output (.UFO) analysis results file to a database, and creates custom reports and spectrum plots from the database. This program writes to a database so the analysis results can be used with off-the-shelf applications such as SAP® BusinessObjects Crystal Reports™ or Microsoft Access®. You can generate reports by selecting either a .UFO (GammaVision analysis results) file or an existing record in a Report Writer database. GammaVision Report Writer can be run either automatically from GammaVision or as a standalone program.

Report Writer uses the Crystal Reports engine to generate reports, employing Crystal Reports macro files as report templates. GammaVision sample analysis (.SDF) files can be set to report using these templates; and different sample types can use different report templates.

This release of Report Writer includes two versions of the three default reports.

- **GvComplete115.RPT** and **GvComplete11.RPT**, which have similar content to the default text report for, respectively, GammaVision v7 and GammaVision v6.x and older. These reports are divided into five sections: (1) a header section which includes the data acquisition and analysis inputs, (2) an unidentified peak summary, (3) a peak/ energy matrix containing the identified peaks, (4) a library peak/ usage table, and (5) a summary of nuclides in the sample.
- **GvActivity115.RPT** and **GvActivity11.RPT**, which present the data acquisition and analysis inputs, and a summary of nuclides in the sample.
- **GvMinimal115.RPT** and **GvMinimal11.RPT**, which report an abbreviated list of data acquisition and analysis inputs, and the total activity in the sample.

If you are a first-time user of GammaVision and GammaVision Report Writer, use the version 11.5 templates, which accommodate the new data fields introduced in GammaVision version 7. If you are upgrading from an earlier version of Report Writer or will report on data collected with GammaVision v6.x or older, we recommend using the version 11 templates.

You can edit these templates, or create your own, with Crystal Reports v11.5 or Microsoft Visual Studio® 2010 (not included in A44-BW). See also Section 2.1.1.

Regardless of the template you select for reporting, all of the data described in Chapter 5 is saved in the database.

1.1. If You Have an Older Report Writer Version

If you already have an older version of Report Writer on your computer:

- Any previous report templates will be retained during installation (i.e., they will not be overwritten). *Do not delete older report templates or you will not be able to display your older reports in the same format as they were originally generated.* (You will have to regenerate them using one of the new templates.) Older templates will be available for use in addition to the new templates.
- Your previous Report Writer database, **GvRptDB2.mdb**, and all its contents will be retained and updated to the Report Writer v3.10 database format. In addition, your previous archive database, **GvRptArchiveDB2.mdb**, and all its contents will be retained and updated to the v3.10 format.
- Other database files created with previous Report Writer versions will be automatically updated the next time you connect to them with the **Select Database...** command (Section 2.3).

NOTE *If you are upgrading from an older version of Report Writer, we strongly recommend you make a backup copy of all existing database files before installing the new application.*

2. INSTALLATION AND STARTUP

2.1. Installation

You must have Administrator access in Windows to install GammaVision Report Writer.

- 1) Insert the GammaVision Report Writer CD, navigate to the CD drive, then locate and open **Setup.exe**. One or more security dialogs will open. If security dialogs are displayed, choose the “continue” or “install anyway” option, then the installation wizard will start. Click **Next** and move through the wizard screens to completion.
- 2) The file locations are as follows:
 - In 64-bit Windows 7, the GammaVision Report Writer program files are installed in the **\Program Files (x86)** folder, and the Crystal Reports program components are stored in the **\Program Files (x86)\Business Objects** folder. In 32-bit Windows 7 and in XP, the Report Writer files are installed in **\Program Files** and the Crystal Reports components are in **\Program Files\Business Objects**.
 - The Report Writer database, **GvRptDB2.Mdb**, is in **C:\User**.
 - The default Crystal Reports templates are in **C:\User\Tpl**.
- 3) For Windows 7 users, the final step is to flag the Start menu entry’s “**Run as administrator**” option. This works around a Windows 7 security feature that requires you to connect to database files via the Windows ODBC utility. On the Start menu, locate the **GammaVision Report Writer** group, expand it, and right-click the **GammaVision Report Writer** program entry. This will open the context menu shown in Fig. 1. Select **Properties** to open the dialog shown on the left of Fig. 2. Click the **Advanced** button to open the dialog on the right of Fig. 2, click the **Run as administrator** box, then click **OK** twice.¹

When you **Run as administrator**, each time you start a Report Writer work session, a Windows user account security dialog will ask if you wish to allow the program “to make changes to this computer.” Click **Yes**. You can then change database files without having to use the Control Panel ODBC utility until the next Report Writer work session (i.e., it resets each time you exit Report Writer).

NOTE If you do not use the **Run as administrator** configuration, Appendix A explains how to change databases with the Windows ODBC utility.

¹Alternatively, you can create a desktop shortcut to Report Writer and follow the same steps to mark its **Run as administrator** checkbox.

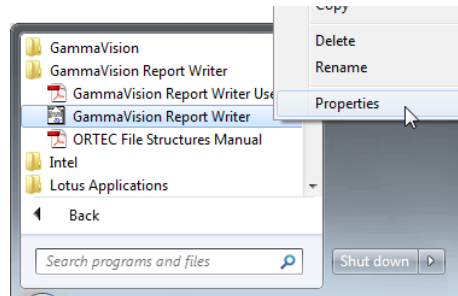


Fig. 1. Select Report Writer Program Properties.

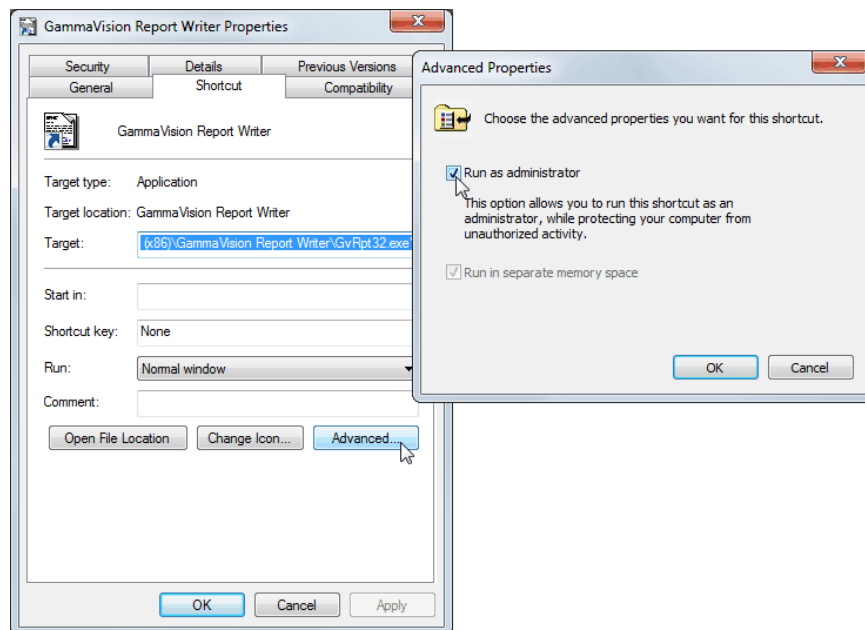


Fig. 2. Run As Administrator.

2.1.1. Creating or Modifying Report Writer Templates

As noted above, the Report Writer templates are standard Crystal Reports that are connected to the [GvRpt Database](#) ODBC data source. To modify or create a new report template you will need Crystal Reports v11.5 or Microsoft Visual Studio 2010 (not supplied with A44-BW). The [GvComplete115.RPT](#) and [GvComplete11.RPT](#) templates closely matches the content and

layout of the default text report for their respective GammaVision versions, and can be used as an example to create a custom report. Chapter 5 lists all data available for your custom reports.

NOTE When creating or modifying a template in the Crystal Reports program, *make sure that the **Save data with file** command on the **File** menu is **not** checkmarked.* (Note that this command is only displayed when a template file is being edited.)

2.2. Startup

From the Windows Start menu, enter **gam** in the “*Search programs and files*” box, then click the **GammaVision Report Writer** search result; or open the Windows Start menu and click **GammaVision Report Writer**, then **GammaVision Report Writer**. Windows 7 users running in administrator mode (see step [3] in Section 2.1) will see a Windows user account security dialog. Click **Yes** to give Report Writer permission to make changes on this computer.

The Report Writer window will open (Fig. 3). If Report Writer cannot connect to the most recently selected database — for example, on first startup or if the database file has been moved, renamed, or deleted — the Analysis Database Definition dialog (Fig. 4) will immediately open and you must connect to a database file as described in the next section.

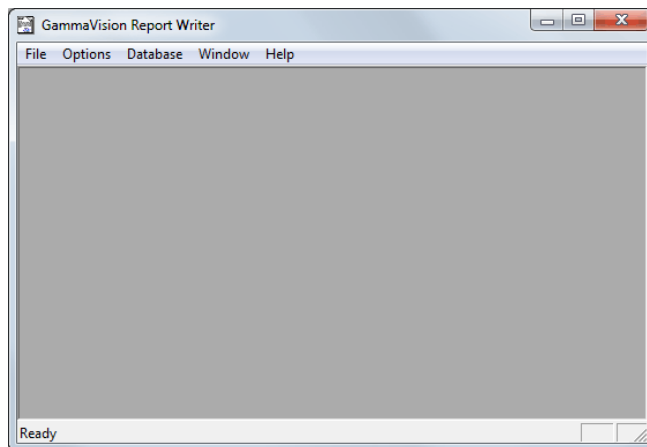



Fig. 3. Report Writer Window at Startup.

2.3. Selecting (Connecting to) the Report Database

On the **Database** menu, click **Define...** to open the Analysis Database Definition dialog, shown in Fig. 4. This dialog lets you select an existing database file or create a new database to be used for analysis reports.

Note the diagram at the top of the dialog depicting a cable connection between the “Report” and the “Database.” Under normal conditions, the “plug” on the cable is shown as being connected, indicating the database is connected to the Report Writer program ().

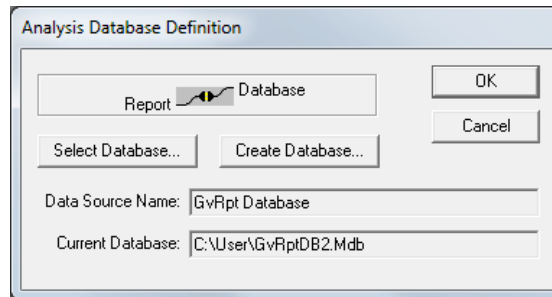


Fig. 4. The Database/Report Connection.

If Report Writer cannot connect to the **Current Database** for any reason, the “plug” is shown as disconnected (🔌) and you must connect to a valid database file as follows.

NOTE *The Report Writer can only connect to a database file created with the **Create Database** command in this dialog (see the instructions in Section 3.3.1.2). The default database is GvRptDB2.mdb. However, you may create as many databases as you wish.*

2.3.1. Windows 7 (“Run as administrator” marked) and Windows XP

Click the **Select Database** button to open the Select Database dialog (Fig. 5). To complete the connection, double-click the desired file or click to highlight it then click **Open**. You are ready to begin generating reports.

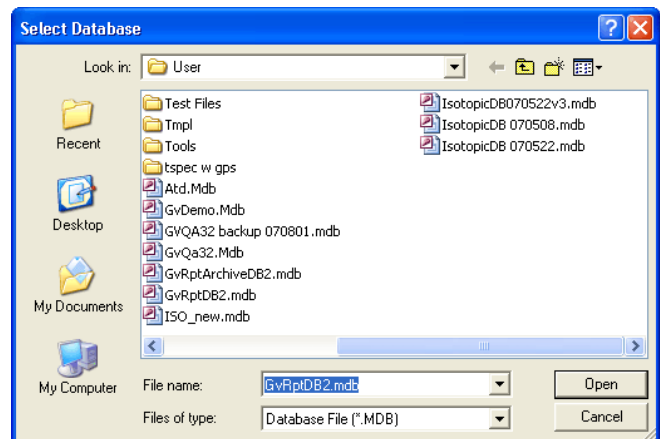


Fig. 5. The Select Database Dialog.

2.3.2. Windows 7 (“Run as administrator” NOT marked)

If you do not run Report Writer in the **Run as administrator** configuration described in Section 2.1, clicking the **Select Database** button will display a permission error instructing you to connect to the database via the Windows ODBC utility. You can do this without exiting the Report Writer program, as described in Appendix A.

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3. MENU COMMANDS

This chapter describes the menu commands and accelerators for the GammaVision Report Writer.

3.1. File Menu

The **File** menu (see Fig. 6) contains commands for opening .UFO files, printing, and plotting; as well as exiting the program.

3.1.1. Recall UFO...

This menu command lets you select a .UFO file and creates a report for it using the previously selected template. Figure 7 shows the file-selection dialog and Fig. 8 shows the resulting report/plot window.

When you click the **Open** button, the .UFO record is stored in the database, and the report and/ or plot is generated according to the current report options (see Section 3.2). *Note that duplicate .UFO filenames replace the old database entry with the new one.*

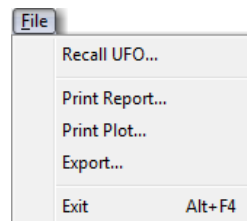


Fig. 6. File Menu.

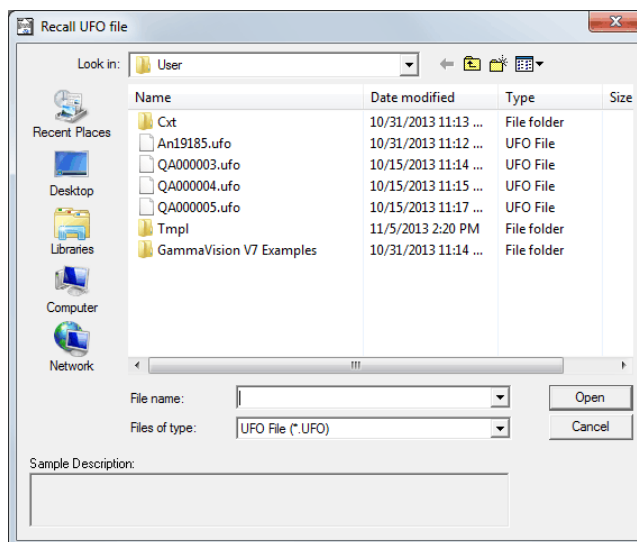


Fig. 7. The Recall UFO File Dialog.

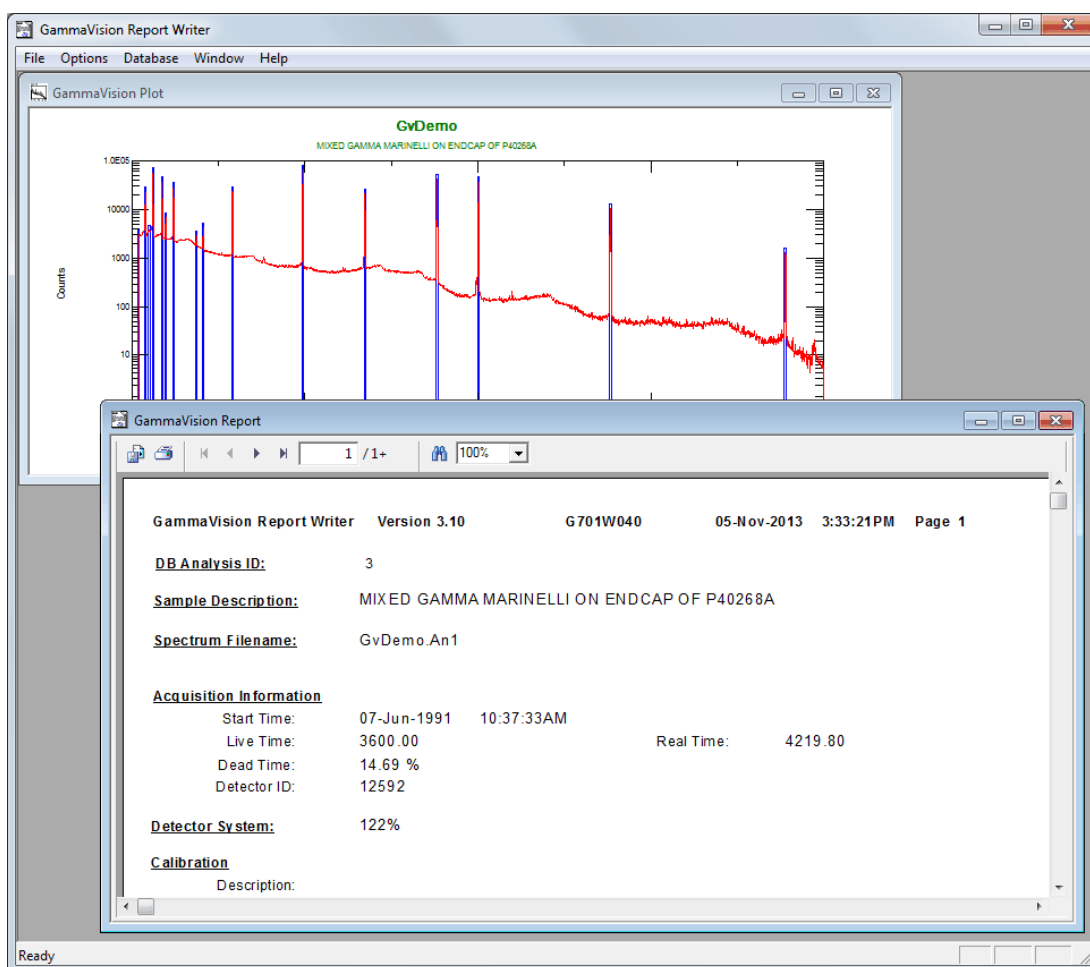


Fig. 8. Report and Plot for the .UFO File.

3.1.2. Print Report...

This menu command uses the default printer to print the report currently displayed in the report window. This command is available only when a report window (Fig. 9) is open.

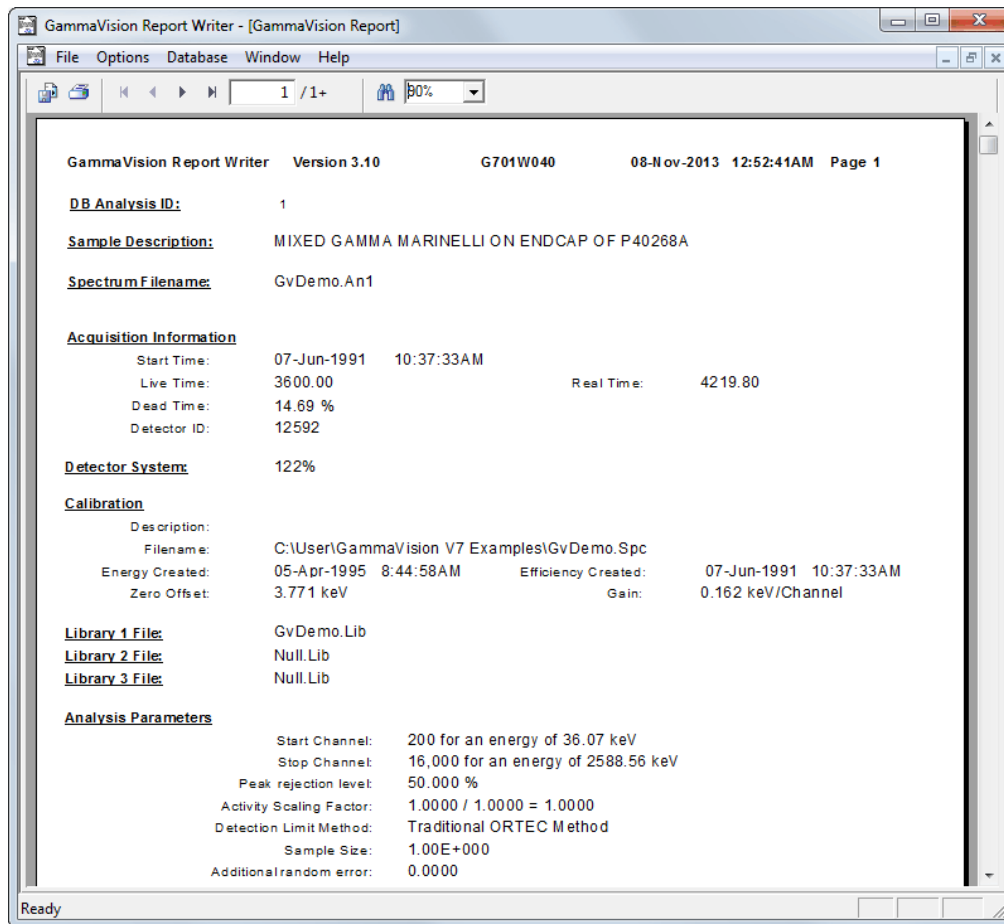


Fig. 9. Report Window.

3.1.3. Print Plot...

This command prints the plot currently displayed in the plot window. A standard print dialog box is displayed so you can set the printer options. This command is available only when a plot window (Fig. 10) is open.

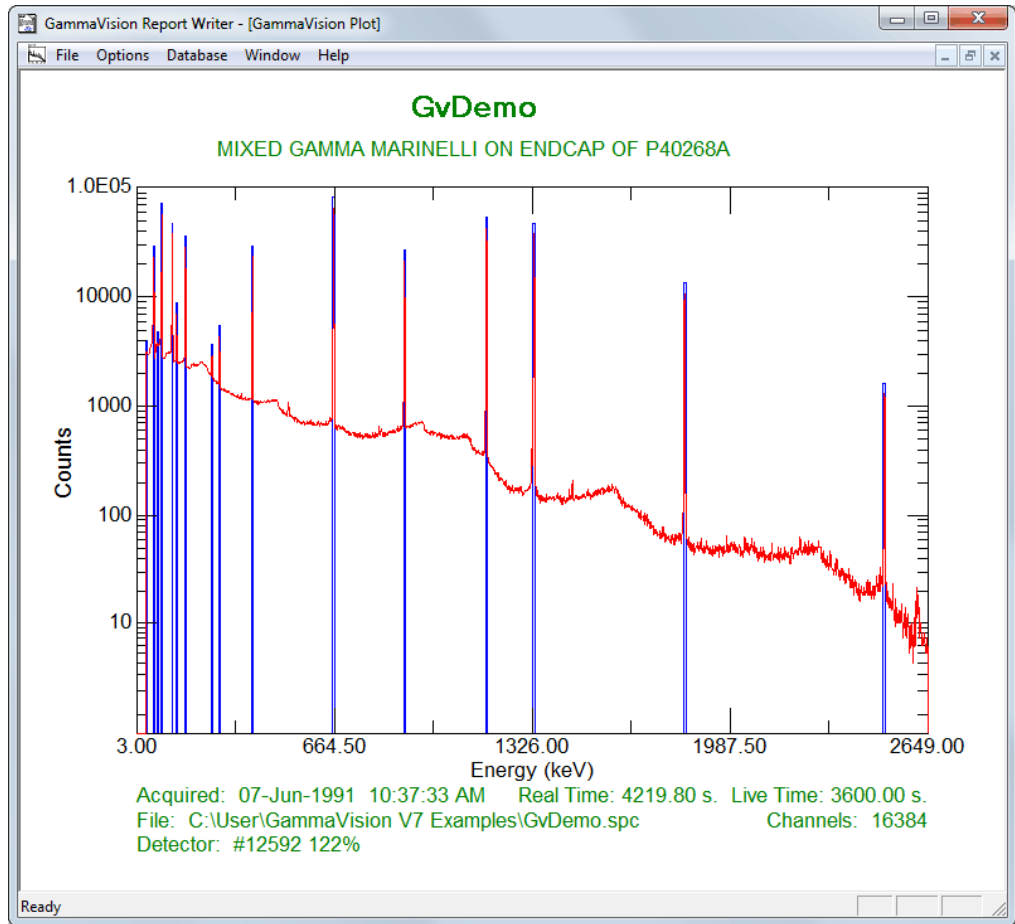


Fig. 10. Plot Window.

3.1.4. Export...

This command exports a report based on the current **Export Report As** format on the Options tab under **Settings/Report** (Section 3.2.1.1).

3.1.5. Exit

This menu command closes the Report Writer program.

3.2. Options Menu

The **Options** menu (Fig. 11) contains commands for setting plot, report, and program options.

3.2.1. Settings

This menu command displays a dialog box (see Fig. 12) that contains options for the report, plot, and database sections.

3.2.1.1. Report

Clicking the **Report** tab in the upper left of the dialog displays a property page with the following options.

Template

This is the template used to create the report. Enter the complete name or use **Browse** to find the template. This is the default name, if no name is given on the command line.

The Report Writer program interacts with the GammaVision **Sample Type** and **Report Generator** functions. The report template

selected here is used in Gamma-Vision when the **Report Generator** command is issued. It also then becomes the default **Report Writer** template on the Report tab under **Sample Type**.

If a different template is selected in GammaVision, using the Report Generator command's **Setup** option, that template is communicated back to the **Template** field on the Report Writer's Report tab.

Note, however, that GammaVision's **Sample Type** Report tab *does not* communicate with the Report Writer or the **Report Generator** command. If you choose a different template on the **Sample Type** Report tab, it will be used only for the GammaVision analysis report.

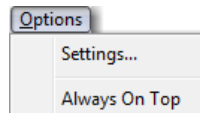


Fig. 11. Options Menu.

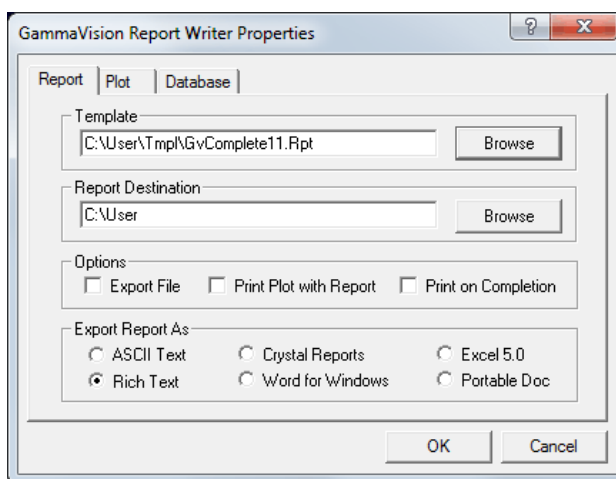


Fig. 12. The Report Tab.

Report Destination

The report is created by default in the same folder as the .UFO file. Alternatively, you can specify a different target folder. This option lets you store the reports on remote machines (i.e., network directories).

Options

- **Export File** — The output report can be exported to one of several different formats discussed in the following paragraph.
- **Print Plot with Report** — Mark this checkbox to include the plot with the report when the report is printed.
- **Print on Completion** — Mark this checkbox to automatically print the report after it is created.

Export Report As

If the **Export File** box is checked, the report is saved in the file format specified in this section. The default is **Rich Text** format (.RTF). Other formats include Microsoft **Word** and **Excel**, and **Portable Document** format (.PDF).

3.2.1.2. Plot

Clicking the **Plot** tab displays the property page shown in Fig. 13. It contains the following options.

Plot Title — An optional title can be entered for the plot. This replaces the default title if left blank. The default plot title is composed of the spectrum filename and the .ROI file name.

Colors... — Clicking this button displays the **Color Options** dialog (see Fig. 14). It allows you to select specific colors for grid and tic marks, spectrum data, ROI boxes or fill, axis labels, and descriptive text.

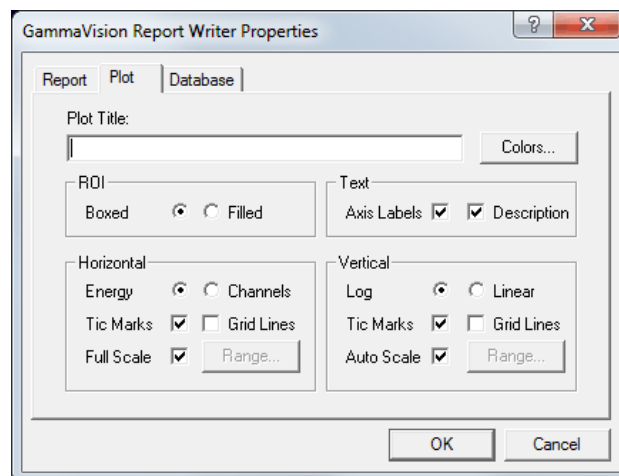


Fig. 13. The Plot Tab.

ROI — This section governs the fill mode for areas marked as ROIs. In **Boxed** mode, each ROI is marked with a box. The box is as wide as the ROI and about 75% of the plot height. In **Filled** mode, each ROI is drawn as a striped area extending from the spectrum to the baseline.

Text — The **Axis Labels** and/or **Description** text can either be printed or suppressed.

Horizontal — This section contains two radio buttons that allow you to specify the horizontal axis in **Channels** or **Energy**. **Energy** is not available if the spectrum is not calibrated. **Tic Marks** and/or **Grid Lines** can be displayed for this axis by marking one or both of the checkboxes. The grid lines change as the horizontal axis is expanded or contracted.

To select a horizontal range, mark **Full Scale** or click **Range...** to choose a specific range (in channels or energy). Clicking **Range...** displays the **Horizontal Range Options** dialog shown in Fig. 15. The range options need not be the same as the plot options; that is, the range can be in channels with the plot in energy.

Vertical — This section contains two radio buttons that allow you to specify the vertical axis as **Logarithmic** or **Linear**. **Tic Marks** and/or **Grid Lines** can be displayed for this axis by marking one or both of the checkboxes. The grid lines change as the vertical axis is expanded or contracted; the baseline is always zero.

Mark **Auto Scale** for automatic scaling, or click **Range...** to choose a specific range on the **Vertical Range Options** dialog, shown in Fig. 16.

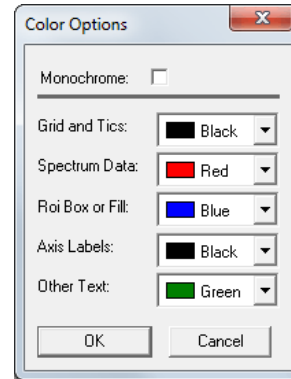


Fig. 14. The Color Options Dialog.

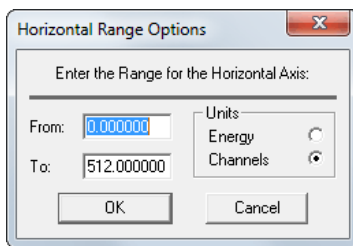


Fig. 15. Horizontal Range.

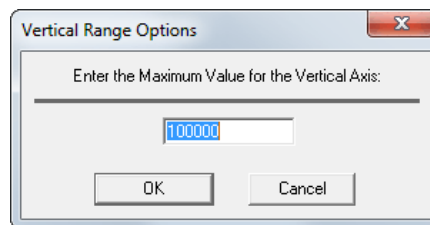


Fig. 16. Choose the Vertical Range.

3.2.1.3. Database

Clicking the **Database** tab displays the property page shown in Fig. 17. It allows you to include the identified and/or unidentified peaks in the database. (Note that this could add a large number of fields to the database.) The peak lists are useful for making reports on specific peaks.

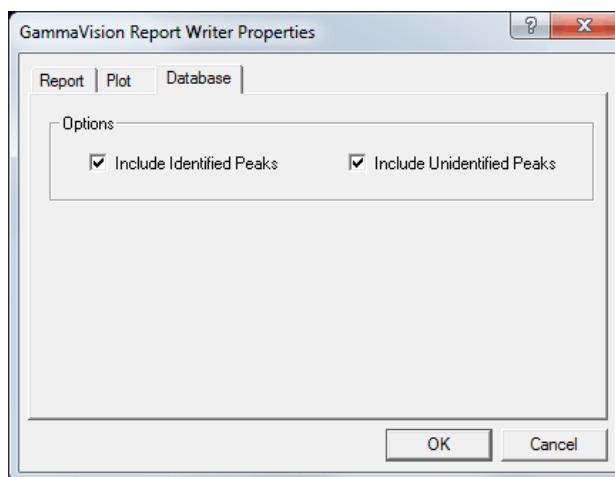


Fig. 17. The Database Tab.

3.2.2. Always On Top

When this option is enabled (click to checkmark it on the menu), the Report Writer is always displayed on top of other windows.

3.3. Database Menu

The **Database** menu, shown in Fig. 18, contains commands for database configuration and maintenance.

3.3.1. Define...

The **Define...** menu command displays the Analysis Database Definition dialog, shown in Fig. 19. This lets you select or create a database file to be used for analysis results.

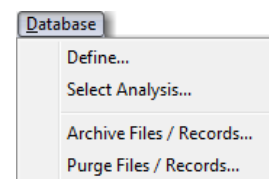


Fig. 18. Database Menu.

Note the diagram at the top of the dialog depicting a cable connection between the “Report” and the “Database.” Under normal conditions, the “plug” on the cable is shown as being connected, indicating the database is connected to the Report Writer program (🔌). If Report Writer cannot connect to the **Current Database** for any reason, the plug is shown as disconnected (🔌) and you must connect to a valid database file.

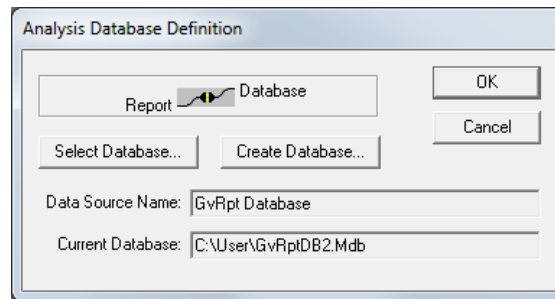


Fig. 19. The Database/Report Connection.

NOTE *The Report Writer can only connect to a database file created with the **Create Database** command in this dialog.*

3.3.1.1. Select Database...

Selecting (connecting to) a database is discussed in Section 2.3. As noted there, the steps for selecting a database in Windows 7 depend on whether or not you are running Report Writer in the “**Run as administrator**” mode, as configured in step (3) of Section 2.1. *Note that Report Writer can only connect to database files created with the **Create Database** command described in the next section.*

3.3.1.2. Create Database...

This button opens a dialog (see Fig. 20) that lets you create a new database formatted according to the current **Data Source Name**. This means that if the current data source is **GvRpt Database**, the **Create Database** command will generate a new, empty analysis report database. Similarly, if the data source is **GvRpt Archive Database**, **Create Database** will generate a new, empty records archival database. Be sure to first select the correct data source type with the **Select Database** command. You may create as many databases as you wish.

Select the desired location, enter the name you wish to assign the new database in the **File name** field, and click **Save** to return to the Analysis Database Definition dialog.

The final step is to connect it to the report using the **Select Database** command as described in Section 2.3.

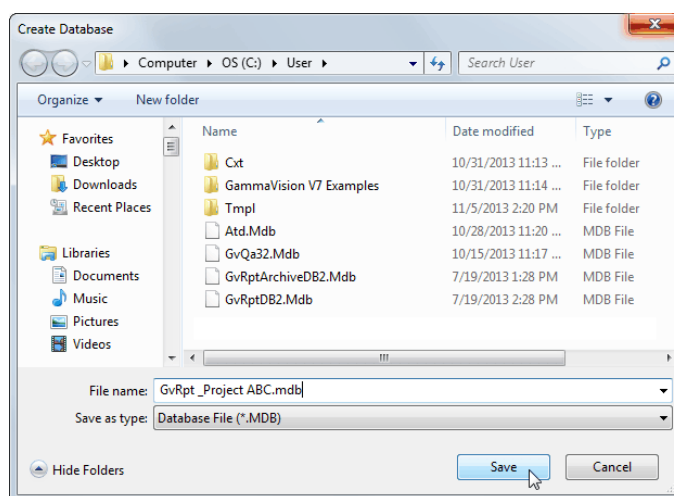


Fig. 20. The Create Database Dialog.

3.3.2. Select Analysis

This menu command displays the dialog shown in Fig. 21, which contains several search and display options as well as a listing of the analysis records in the current database.

Because the number of records in the database can become very large, selection criteria such as date, date range, or spectrum name are provided. When you select a database record and click **OK**, a new report and plot are created based on the selected record.

To search for a subset of records, enter the desired **Query Options** then click the **Query Now** button to search on the set of criteria entered. Any or all of the query options can be specified at the same time. Options left blank are ignored in the search.

NOTE The displayed list of database entries is not updated until you click the **Query Now** button.

3.3.2.1. Spectrum Name

Enter the **Spectrum Name** (no extension). The asterisk wildcard (*) can be used. For example: **QA*** finds all names starting with “QA”, and ***QA*** finds all names with “QA” anywhere in the name.

3.3.2.2. Date Range

This selects only spectra where the acquired date is between the **From** and **To** dates.

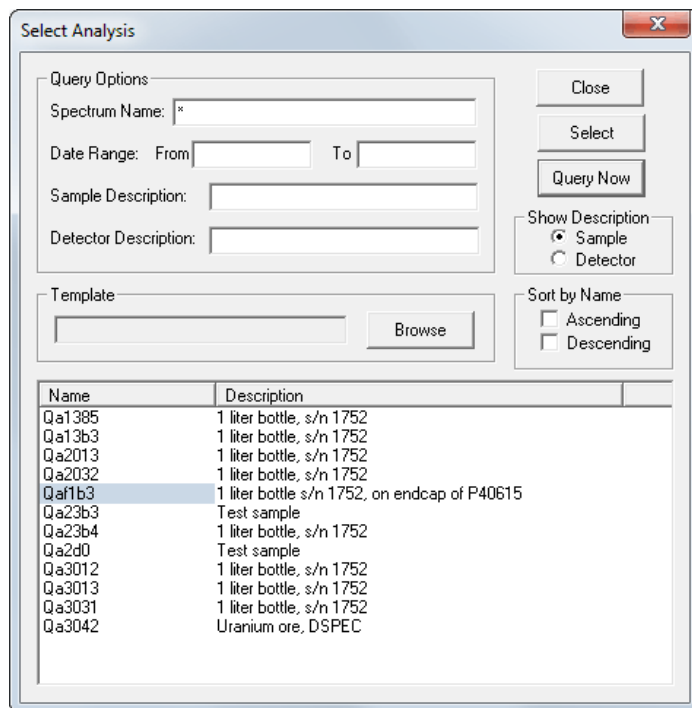


Fig. 21. Select an Analysis.

3.3.2.3. Sample Description

Enter the entire sample description to be selected. To search for a specific word or phrase anywhere in the description, put the asterisk wildcard character (*) both before and after the word or phrase. Do not put a space between the asterisk and the word or phrase unless there is a space in the description. For example, *DSPEC* will find "DSPEC-75" but *DSPEC * will not.

3.3.2.4. Detector Description

Enter the entire detector description to be selected. To search for a specific word or phrase anywhere in the description, use the asterisk wildcard character as described in Section 3.3.2.3.

3.3.2.5. Template

When a selection is highlighted in the list box, the report template name that was used to produce the original report is shown here. To make a report with a different template, choose a new report template using the **Browse** button, then select a template file to be used. The template specified will be replaced by the template name stored with the selection when a new selection is made.

3.3.2.6. Show Description

Choose between showing the **Sample** description or the **Detector** description in the list of files.

3.3.2.7. Sort by Name

The list of spectra is normally shown in the order the spectra were stored in the database. The list can also be displayed in alphanumeric or reverse alphanumeric order. Select **Ascending** for alphanumeric order and **Descending** for reverse alphanumeric order. Select neither for chronological order. The redisplay is done by clicking **Query Now**, discussed in the next paragraph.

3.3.2.8. Query Now

This button performs a query based on options from the **Query Options** box. This must be done to update the list of spectra shown.

3.3.2.9. List

The lower section of the dialog shows a list of database entries that have been selected from the database according to the query settings. The list is only updated when you click **Query Now**. The list shows the spectrum file name and the selected description. To select a file from this list, double-click the name or single-click to highlight it and click **Select**.

3.3.3. Archive Files

This opens the Archive Files dialog (see Fig. 22), which allows you to archive the database and, optionally, a range of supporting files to an archive folder and database. The database is stored by default. The options include storing the **.UFO**, **.SPC**, **.ROI**, and **.RPT** files in the same sub-folder that holds the archive database. The displayed description can be selected from either the sample or detector description. When you click the **Copy Files** or **Move Files** button, the selected database records and files are copied or moved to the archive database immediately. *Note that there is no “undo” for this operation.*

You can create as many archive databases as you wish, and can copy and/or move records as desired to tailor these databases to your needs. Before using **Archive Files**, you must create the archive database(s) and folder(s) you wish to use with the **Create Database** command (Section 3.3.1.2), then connect to the archive database as described in Section 2.3.

3.3.3.1. Associated Files to Archive

These check boxes indicate whether or not the associated file(s) will be archived. For example, if **GvDemo** is selected from the list box and the **SPC Files** box is checked, the **GvDemo.spc** file

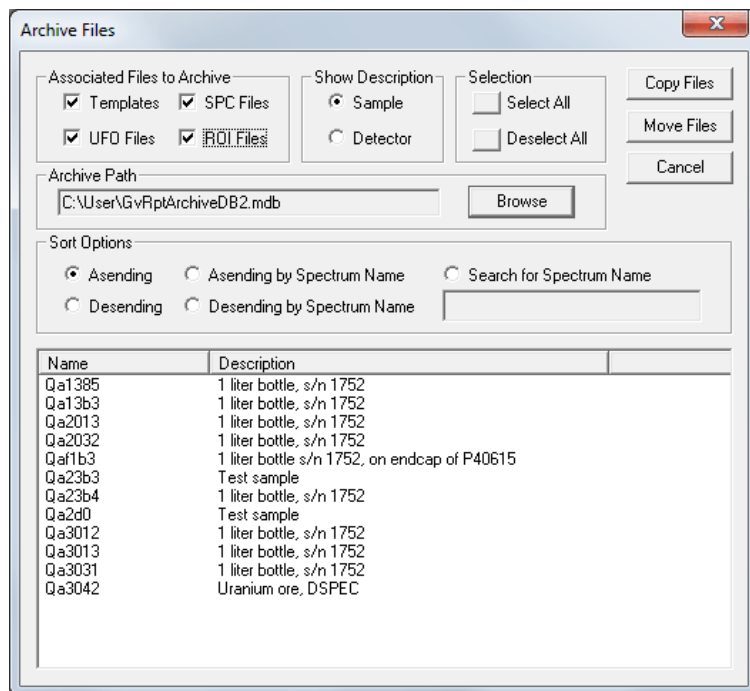


Fig. 22. The Archive Files Dialog.

will also be moved to the archive folder along with a database containing the **GvDemo** record. Note the files are erased from the current folder. The template files are only archived if they have the same name as the analysis files. Common templates are not moved.

3.3.3.2. Show Description

The **Sample** option displays the sample description in the selection list box. The **Detector** option displays the detector description in the selection list box.

3.3.3.3. Selection

The **Select All** button highlights all records in the list box. **Deselect All** removes the highlight from all records. Use the mouse plus the <Ctrl> and <Shift> keys to select particular records (as you would in, for example, Windows Explorer). To choose a contiguous block of records, click the first record in the block, then hold down the <Shift> key and click the last record. Release <Shift>. To choose a discontinuous set of records, click the first record, then hold down <Ctrl> and click each remaining record you want to select. Release <Ctrl>.

3.3.3.4. Archive Path

All selected files and records will be moved to the archive database (local or network) listed in this field. If the archive database already contains records, the current records will be merged in; the existing records will *not* be overwritten.

The default archive database is **GvRptArchiveDB2.mdb**. As noted in the introduction for this command, *the Report Writer can only archive to a database file created with the **Create Database** command for the **GvRpt Archive Database** data source* (Section 3.3.1.2). If you wish to create new archive databases, you must create them before configuring the **Archive Files** command.

To select (connect to) a different archive database:

- **Windows 7 (in “Run administrator” mode) / Windows XP** — Click **Browse**, then locate and select the desired archive database.
- **Windows 7 (“Run as administrator” disabled)** — As detailed in Section 2.3, users of 64-bit Windows 7 must issue the **C:\Windows\SYSWOW64\Odbcad32.exe** to access the correct ODBC utility; and 32-bit Windows 7 users must make this connection via the Windows Control Panel **ODBC** utility.

*For both versions of Windows 7, on the System DSN tab (Fig. 27 on page 38) be sure to highlight the **GvRpt Archive Database** entry (not **GvRpt Database**) before clicking the **Configure** button and selecting the desired archive database. **Otherwise you will connect to the wrong type of database!***

3.3.3.5. Sort Options

The list of records can be displayed by order of date transferred to database (sequential, forward or reverse), by spectrum name (alphanumeric, ascending or descending), or by specific spectrum name (the asterisk wildcard [*] can be used).

3.3.3.6. Performing the Archive

To transfer the selected records and/or files to the archive database and folder, click **Move Files**. To copy the selected records and/or files to the archive database/folder (leaving the original files records in the current database/folder), click **Copy Files**. To exit the dialog without archiving, click **Cancel**.

3.3.4. Purge Files

This menu command displays a dialog, shown in Fig. 23, that allows you to remove analyses from the existing database. Purge options include removing the database records, **.UFO**, **.SPC**, **.ROI**, and report template files. When you click the **Purge Files** button, the selected records are removed from the database and the associated files are sent to the Windows Recycle Bin or *permanently* deleted.

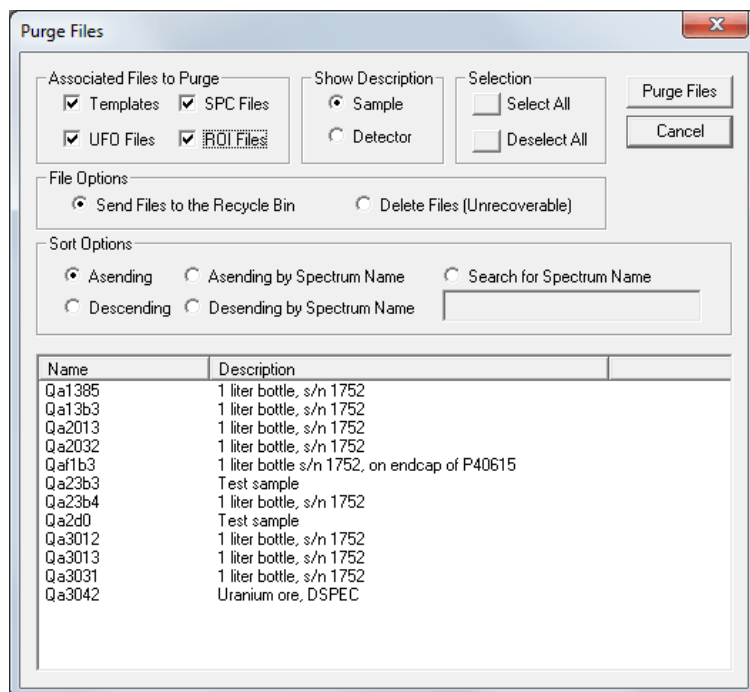


Fig. 23. Choose Records and Associated Files to be Purged.

3.3.4.1. Associated Files to Purge

These check boxes indicate whether or not to purge the associated **.UFO**, **.SPC**, **.ROI**, and/or **.RPT** files from the current folder. For example, if **GvDemo** is selected from the list box and the **SPC Files** box is marked, the **GvDemo.spc** file will be purged along with the **GvDemo** database record. Note that the files are purged from the current folder. The template files are only purged if they have the same name as the analysis files. Common templates are not purged.

3.3.4.2. Show Description

The **Sample** option displays the sample description in the selection list box. The **Detector** option displays the detector description in the selection list box.

3.3.4.3. Selection

The **Select All** button highlights all records in the list box. **Deselect All** removes the highlight from all records.

3.3.4.4. File Options

Choose **Send to the Recycle Bin** to move the associated files to the Recycle Bin (database records are deleted). Choose **Delete Files** to remove files permanently.

3.3.4.5. Sort Options

The list of records can be displayed by order of date transferred to database (sequential, forward or reverse), by spectrum name (alphanumeric, ascending or descending), or by specific spectrum name (the asterisk wildcard [*] can be used).

3.3.4.6. Purge Files

Click this button to remove the selected database records and either move the associated files to the recycle bin or delete them.

3.3.4.7. Cancel

Click this button to exit the dialog without archiving.

3.3.4.8. List

The lower section of the dialog shows a list of database entries that have been selected from the database according to the query settings. The list is only updated when you click **Query Now**. The list shows the spectrum file name and the selected description. To select a file from this list, double-click the name, or single-click to highlight it and click **Select**.

3.4. Window Menu

The **Window** menu (Fig. 24) contains the standard Windows commands for the open windows within the application; and shows the windows currently open, if any.

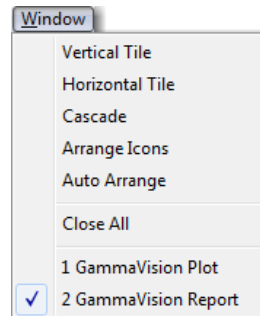


Fig. 24. The Window Menu.

3.5. Help Menu

The **Help** menu's **About** command (Fig. 25) provides version information that may be needed should you require technical assistance.

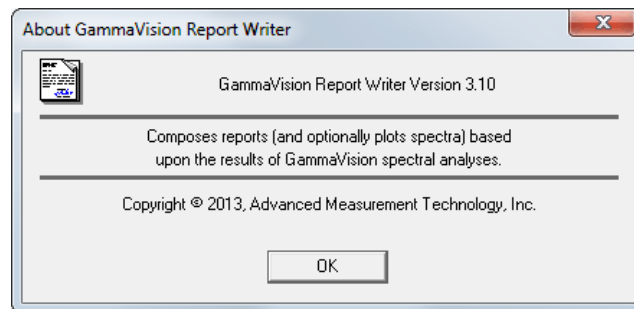


Fig. 25. The Help Menu.

[Intentionally blank]

4. AUTOMATIC (COMMAND LINE) MODE

This section describes the command line options for the GammaVision Report Writer. It is run in this mode from GammaVision or any other program:

```
GVRPT32.EXE <UFO_File> -C -P -E -T <Template Name>
```

where:

- | | |
|--------------------|---|
| <UFO_File> | The full path name of the .UFO file. There is no default. |
| -C | Specifies “Configure Mode,” where it displays only the property pages. The default is normal mode. |
| -P | Specifies “Process and Exit” mode. This switch causes the Report Writer to store the results in the database and silently apply the settings defined on the Report page of the Properties dialog. This includes the printing and exporting options, as well as the report destination folder. Once the options are complete, the Report Writer exits. The default is normal mode. |
| -E | Sends any errors to the Error.Log file. The default is to not create the file. |
| -T <Template Name> | Is the full path of the template to be used. The default is the report template setting on the Settings dialog (Section 3.2.1.1). |

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5. DATABASE TABLE DEFINITIONS

This section contains the database table definitions for the GammaVision Report Writer. This database *does not* replace the .UFO file. Its primary purpose is to provide a specifically chosen data set(s) to custom report generators such as Crystal Reports. Data stored in the .UFO file but not used in the reports is not stored in the database.

There are four tables in the database, as shown in Table 1. Three tables contain analysis results and the fourth contains application-specific data.

Table 1. Report Writer Database Table.

Table	Name	Contents
Application	GvRptApplication	Version information
Analysis	GvRptAnalysis	One record per analysis
Unknown Peaks	GvRptUnPeak	Peak records only
Identified Peaks	GvRptPeak	Peak and nuclide records

The following sections describe these tables in more detail.

5.1. Application Table, GvRptApplication

This table contains system-wide information.

Field Name	Data Type	Description
AppID	AutoNumber	Internal sequence number
AppName	TEXT(64)	The name of the application (GammaVision Report Writer) that defined the database.
AppVers	TEXT(64)	The version of the application that defined the database.
Laboratory	TEXT(80)	The laboratory name that appears on the reports.
RptTemplate	TEXT(255)	The template name and full path that was used when the report was generated.

5.2. Analysis Table, GvRptAnalysis

This table contains fields common to the analysis.

Field Name	Data Type	Description
AppID	INTEGER	Link to application table
AnalysisID	AutoNumber	Internal sequence number.
AcquiredDate	DATE	The acquisition date.
AcquiredTime	TIME	The acquisition time.
LiveTime	FLOATING	The live time in floating point seconds.
RealTime	FLOATING	The real time in floating point seconds.
SampleDesc	TEXT(130)	The sample description.
DetDesc	TEXT(130)	The Detector description.
StartChn	INTEGER	The starting channel for the analysis.
EndChn	INTEGER	The ending channel for the analysis.
Sigma	INTEGER	The standard deviation (or confidence level) for uncertainty (1, 2, or 3).
RndSumFactor	FLOATING	The random summing factor for the analysis.
CorrDate	DATE	The decay correction date.
CorrTime	TIME	The decay correction time.
AbsorpFactor	FLOATING	The absorption factor for the analysis.
PeakAccWidth	FLOATING	The acceptance width for peaks.
PeakError	FLOATING	The peak error cutoff value for the peak search. It is recorded in percent.
MDAType	INTEGER	The MDA type for the analysis.
BkgCalc	INTEGER	The background calculation type for the analysis.
DetID	INTEGER	The Detector ID used to acquire the data.
GeoID	INTEGER	The Geometry ID used for the analysis.
Weight	FLOATING	The sample weight.
Units	TEXT(16)	The textual description for the unit
UnitsNM	FLOATING	The units factor numerator.
UnitsDN	FLOATING	The units factor denominator.
RndErr	FLOATING	Random error value used for the analysis.
SysErr	FLOATING	Systemic error value used for the analysis.
TotalAct	FLOATING	The total activity of the sample.
AnalysisType	INTEGER	The analysis type flags.
AnalysisVer	TEXT(16)	The analysis version string.
SpcName	TEXT(255)	The file name of the spectrum file.
Lib1Name	TEXT(255)	The name of the first library file.

Field Name	Data Type	Description
Lib2Name	TEXT(255)	The name of the second library file.
Lib3Name	TEXT(255)	The name of the third library file.
PbcName	TEXT(255)	The file name of the PBC table file.
CalName	TEXT(255)	The name of the original calibration file.
CalDesc	TEXT(130)	The calibration description text.
CalEnergyCreD	DATE	The energy calibration creation date.
CalEnergyCreT	DATE	The energy calibration creation time.
CalEfficiencyCreD	DATE	The efficiency calibration creation date.
CalEfficiencyCreT	DATE	The efficiency calibration creation time.
CalAfit	INTEGER	The above-knee efficiency calibration fit type. Note that the interpolative fit type is not supported in the database.
CalBfit	INTEGER	The below-knee efficiency calibration fit type. Note that the interpolative fit type is not supported in the database.
CalKnee	FLOATING	The Detector knee in keV.
CalAsig	FLOATING	The 2-sigma uncertainty (in percent) for the above-knee calibration efficiency fit.
CalBsig	FLOATING	The 2-sigma uncertainty (in percent) for the below-knee calibration efficiency fit.
CalEInt	FLOATING	The energy calibration intercept value.
CalESlope	FLOATING	The energy calibration slope value.
CalEShape	FLOATING	The energy calibration quadratic value.
CalFInt	FLOATING	The FWHM intercept value.
CalFSlope	FLOATING	The FWHM slope value.
CalFShape	FLOATING	The FWHM quadratic value.
CalAInt	FLOATING	The above-knee efficiency vs. energy intercept value.
CalASlope	FLOATING	The above-knee efficiency vs. energy slope value.
CalAShape	FLOATING	The above-knee efficiency vs. energy quadratic value.
CalBInt	FLOATING	The below-knee efficiency vs. energy intercept value.
CalBSlope	FLOATING	The below-knee efficiency vs. energy slope value.
CalBShape	FLOATING	The below-knee efficiency vs. energy quadratic value.
CalUnc	FLOATING	The calibration source uncertainty value.
CalDiff	FLOATING	The energy calibration difference value.
Operator	TEXT(64)	The operator name that appears on the reports.
DecAcqFlag	INTEGER	Decay during acquisition enabled.
PBFlag	INTEGER	Peaked background correction enabled.
RndSumFlag	INTEGER	Random summing enabled.
DecCorFlag	INTEGER	Decay correction enabled.

Field Name	Data Type	Description
GeoFlag	INTEGER	Geometry correction enabled.
AbsorFlag	INTEGER	Absorption-curies.
UnitMcFlag	INTEGER	Units in microcuries.
Gamma3Flag	INTEGER	Library-based peak stripping.
TempCalEInt	FLOATING	Temporary energy calibration value.
TempCalESlope	FLOATING	Temporary energy calibration value.
TempCalEShape	FLOATING	Temporary energy calibration value.
AbsorIntExtFlag	INTEGER	Flag is "2" if internal absorption, "4" if external absorption.
AbsorLength	INTEGER	Absorber length.
AbsorName	TEXT(255)	Absorber name.
GeoRefName	TEXT(255)	Geometry correction reference .UFO file.
EffCalFlag	INTEGER	Flag to indicate the spectrum has been efficiency calibrated.
IodineECTime	FLOATING	Iodine equivalence at current time.
IodineEDTime	FLOATING	Iodine equivalence at decay time.
AveECTime	FLOATING	Average energy calculation at current time.
AveEDTime	FLOATING	Average energy calculation at decay time.
Lib1Path	TEXT(255)	Full path name of the first library file.
Lib2Path	TEXT(255)	Full path name of the second library file.
Lib3Path	TEXT(255)	Full path name of the third library file.
PbcPath	TEXT(255)	Full path to the PBC table file.
CalPath	TEXT(255)	Full path to the original calibration file.
AbsorPath	TEXT(255)	Full path to the absorber file.
GeoRefPath	TEXT(255)	Full path to the reference .UFO file
FractionLimit	FLOATING	Percent of gamma rays that must be found to identify an isotope.
UFOName	TEXT(255)	Name of this .UFO file.
MPCFlag	INTEGER	Flag indicating state of the MPC/DAC table.
AnalysisPgm	TEXT(32)	AN3REC: Analysis program name
SearchSens	Integer	CALREC: Peak Search Sensitivity
ColStartDate	Date/Time	ACQINF: Collection Start date
ColStartTime	Date/Time	ACQINF: Collection Start time
ColEndDate	Date/Time	ACQINF: Collection End date
ColEndTime	Date/Time	ACQINF: Collection End time
PeakUncAbove	Double	DATREC: Peak uncertainty above the knee
PeakUncBelow	Double	DATREC: Peak uncertainty below the knee
HalfLives	Double	ANEXT1: Half-lives decay limit
ActRange	Double	ANEXT1: Activity range factor

Field Name	Data Type	Description
StepEnergy	Double	ANEXT1: Minimum step background energy
MDA2	Integer	ANEXT1: Second MDA
WeightUnc	Double	ANEXT1: Sample weight uncertainty in percent
PBCWidth	Double	ANEXT1: PBC Match Width
EdfBkgName	Text(255)	EDFREC: Background spectrum name
EdfCsName	Text(255)	EDFREC: Cesium spectrum name
EdfGeomName	Text(255)	EDFREC: Geometry file name
EdfBkgPath	Text(255)	EDFREC: Background spectrum path
EdfCsPath	Text(255)	EDFREC: Cesium spectrum path
EdfGeomPath	Text(255)	EDFREC: Geometry file path
EdfLow	Double	EDFREC: Low integration limit (keV)
EdfHigh	Double	EDFREC: High integration limit (keV)
EdfFlags	Integer	EDFREC: Report and calculation flags
EdfGeSeq	Integer	EDFREC: Germanium sequence number
EdfGtSeq	Integer	EDFREC: Gamma Total sequence number
ActConv	Double	EDFDAT: Activity conversion factor
Cs137Eff	Double	EDFDAT: Cesium Efficiency at 662 keV
EdfGrossCnts	Long	EDFDAT: EDF sample gross counts
GammaTotalBq	Double	EDFDAT: Gamma Total in Bq
EdfBkgCPS	Double	EDFDAT: Background CPS from background spectrum
EdfBkgCnts	Long	EDFDAT: EDF sample background counts
KFactor	Double	EDFDAT: K calculation from Cs spectrum
CsGrossCnts	Long	EDFDAT: EDF gross counts from Cs spectrum
CsBkgCnts	Long	EDFDAT: EDF background counts from Cs spectrum
CsActBq	Double	EDFDAT: 662 keV activity in Bq from Cs spectrum
CsPeakArea	Double	EDFDAT: 662 keV area from Cs spectrum
UncName1	TEXT(38)	UNCREC: User defined uncertainty name 1
UncName2	TEXT(38)	UNCREC: User defined uncertainty name 2
UncName3	TEXT(38)	UNCREC: User defined uncertainty name 3
UncName4	TEXT(38)	UNCREC: User defined uncertainty name 4
UncName5	TEXT(38)	UNCREC: User defined uncertainty name 5
UncName6	TEXT(38)	UNCREC: User defined uncertainty name 6
UncName7	TEXT(38)	UNCREC: User defined uncertainty name 7
UncName8	TEXT(38)	UNCREC: User defined uncertainty name 8
UncName9	TEXT(38)	UNCREC: User defined uncertainty name 9
UncVal1	Double	UNCREC: User defined uncertainty value 1

Field Name	Data Type	Description
UncVal2	Double	UNCREC: User defined uncertainty value 2
UncVal3	Double	UNCREC: User defined uncertainty value 3
UncVal4	Double	UNCREC: User defined uncertainty value 4
UncVal5	Double	UNCREC: User defined uncertainty value 5
UncVal6	Double	UNCREC: User defined uncertainty value 6
UncVal7	Double	UNCREC: User defined uncertainty value 7
UncVal8	Double	UNCREC: User defined uncertainty value 8
UncVal9	Double	UNCREC: User defined uncertainty value 9

5.3. Identified Peaks Table, GvRptPeak

This table contains the list of identified peaks.

Field Name	Data Type	Description
AnalysisID	INTEGER	Link to analysis table.
PeakID	AutoNumber	Internal sequence number.
PeakNum	INTEGER	Contains the one-based peak number.
Channel	FLOATING	The peak centroid in channels.
Energy	FLOATING	The peak energy in channels.
BkgCnt	FLOATING	The corrected background for the peak.
NetCnt	FLOATING	The corrected net area of the peak.
Uncertainty	FLOATING	The peak counting uncertainty.
FWHM	FLOATING	The full width at half maximum in keV.
FW10M	FLOATING	The full width at 0.10 maximum in keV.
FW04M	FLOATING	The full width at 0.04 maximum in keV.
Flag1	INTEGER	The first set of peak flags.
Flag2	INTEGER	The second set of peak flags.
Flag3	INTEGER	The third set of peak flags.
RoiLow	INTEGER	The peak low limit of integration.
RoiHigh	INTEGER	The peak high limit of integration.
LibNum	INTEGER	The library index number from which the nuclide information was obtained. For example, a 1 indicates that the library information came from the first library file (field Lib1Path in the Analysis Table).
Gammas	FLOATING	The gammas per 100 disintegration.
MDA	FLOATING	The MDA based on this peak.
Abundance	FLOATING	The isotopic abundance based on this peak.

Field Name	Data Type	Description
Nuclide	TEXT(10)	The nuclide name.
LibEnergy	FLOATING	The library energy for this peak.
HalfLife	FLOATING	The nuclide half life in days.
PBCFactor	FLOATING	The PBC correction factor.
Nflag	INTEGER	The nuclide analysis flags.
NucAbun	FLOATING	The calculated abundance of the nuclide in becquerels.
Hfactor	FLOATING	The decay time correction factor.
IsoError	FLOATING	The isotope counting error for this nuclide.
TotalError	FLOATING	The total error for this nuclide.
IsoMDA	FLOATING	The isotope MDA for this nuclide.
PKFlag	INTEGER	Information about the library peak record.
PKPrevious	INTEGER	The number of the previous peak record. This is used for formatting the report.
MPCVAL	FLOATING	MPC or DAC value for this isotope.
NuclideCode	INTEGER	Nuclide code flags.
PeakCode	INTEGER	Peak type code flags.
LibraryUsed	INTEGER	Which library was used 1, 2, or 3.
MDA2	FLOATING	The second MDA based on this peak.
Pkunact	FLOATING	Counting uncertainty in Bq.
ErrorBq	FLOATING	Isotope counting error in Bq.
TotalErrorBq	FLOATING	Total error in Bq.
Flag4	Integer	Fourth set of peak flags
IsoMDA2	Double	Second MDA value
IsoNormMDA	Double	ISO NORM MDA for this isotope
Brunct	Double	Branching ratio uncertainty
Acl	Double	ISO NORM: critical level
Amda	Double	ISO NORM: MDA
Ahat	Double	ISO NORM: Best estimated activity
Alow	Double	ISO NORM: Lower confidence interval
Ahigh	Double	ISO NORM: Upper confidence interval
Uhat	Double	ISO NORM: Uncertainty of Ahat
ConvUnc	Double	ISO NORM: Uncertainty of conversion factor
BetaError	Double	ISO NORM: Beta error (Type II)

5.4. Unknown Peaks Table, GvRptUnPeak

This table contains the list of unknown peaks.

Field Name	Data Type	Description
AnalysisID	INTEGER	Link to analysis table.
UnPeakID	AutoNumber	Internal sequence number.
PeakNum	INTEGER	Contains the one-based peak.
Channel	FLOATING	The peak centroid in channels.
Energy	FLOATING	The peak energy in channels.
BkgCnt	FLOATING	The corrected background for the peak.
NetCnt	FLOATING	The corrected net area of the peak.
Uncertainty	FLOATING	The peak counting uncertainty.
FWHM	FLOATING	The full width at half maximum in keV.
FW10M	FLOATING	The full width at 0.10 maximum in keV.
FW04M	FLOATING	The full width at 0.04 maximum in keV.
Flag1	INTEGER	The first set of peak flags.
Flag2	INTEGER	The second set of peak flags.
Flag3	INTEGER	The third set of peak flags.
RoiLow	INTEGER	The peak low limit of integration.
RoiHigh	INTEGER	The peak high limit of integration.
SuspectPeak	TEXT(10)	The suspected nuclide name for current energy.
Flag4	INTEGER	Fourth set of peak flags.

APPENDIX A. CHANGING DATABASES WITH THE WINDOWS ODBC UTILITY

If for some reason you cannot run GammaVision Report Writer in administrator mode, clicking the **Select Database** button will display a permission error instructing you to connect to the database via the Windows ODBC utility. *You can do this without exiting the Report Writer program.*

- 1) Close the message and the Select Database dialog.
- 2) Accessing the proper ODBC utility is different for 64-bit Windows 7 vs. 32-bit Windows 7:
 - **64-bit Windows 7:** Enter the following executable filename in the “search programs and files” box (Fig. 26) and press <Enter> to open the ODBC Data Source Administrator dialog used by Report Writer:

C:\Windows\SYSWOW64\Odbcad32.exe

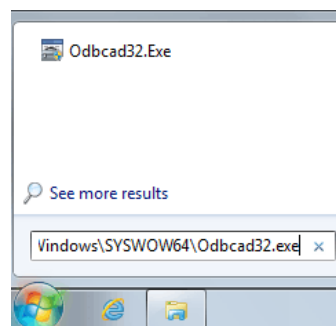


Fig. 26. Run Odbcad32.exe in 64-Bit Windows 7.

- **32-bit Windows 7:** From the Windows Control Panel, select **ODBC** to open the ODBC Data Source Administrator dialog.
- 3) Click the System DSN tab (Fig. 27).
 - 4) Click to highlight the **GvRpt Database** entry, then click the **Configure** button. This will open the dialog shown in Fig. 28.
 - 5) Click the **Select** button to open the file-open dialog shown in Fig. 29. Select the desired database file and click **OK**, then click **OK** as needed to return to the Control Panel.

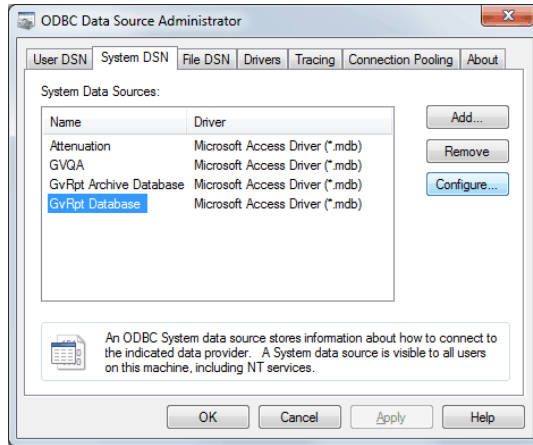


Fig. 27. System DSN Tab.

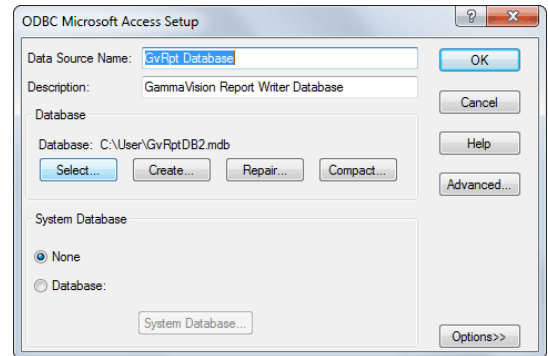


Fig. 28. Click Select to Choose a Database File.

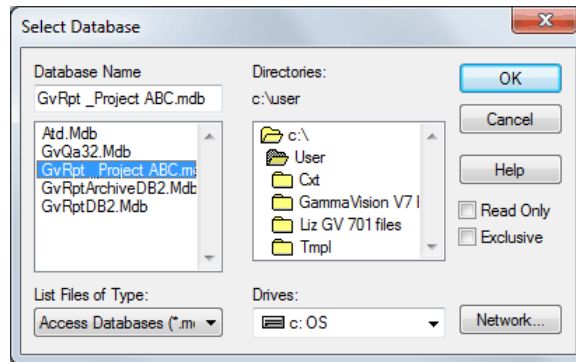


Fig. 29. Select the Target Database File.

- 6) At this point, return to the Report Writer window and begin generating reports.

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