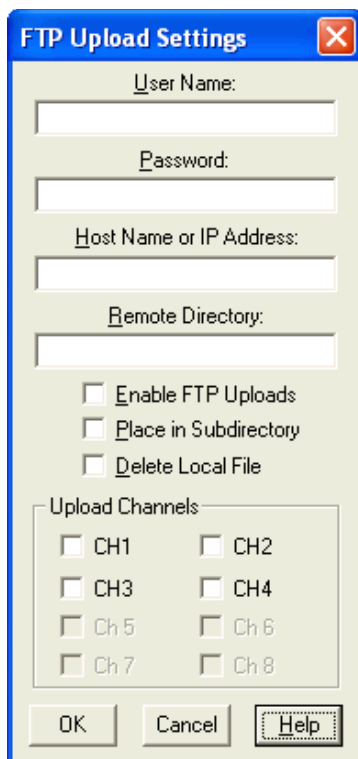


3.1.3.5 FTP Upload Settings

The **FTP Upload Settings** dialog box is used to control the uploading of new Event files to an FTP server after WinSDR has saved them to the local disk drive. This will happen when WinSDR detects an event using the Alarm detection process or if the user forces WinSDR to produce Event files by using the **File | Force Event Files** menu item. By forcing WinSDR to produce and transfer Event files, the user can check that everything is working correctly. Currently, if you save Event file(s) using the Replay or Real-time windows, the Event files will not be transferred to the FTP server. If the **Log FTP Upload Information** check box in the **Log File Settings** dialog box is checked, WinSDR will save FTP upload status information in the Log file and Log File Viewer. This information can be used to debug any problems you may be having uploading files to the FTP server. To control the uploading of GIF image files using the FTP protocol see the GIF Image Upload Settings dialog box (section 3.2.3.7).



User Name Edit Box:

Enter the user name in this edit box. You must have a user name and password for Event file transfers to an FTP server located on the Internet or local LAN.

FTP Password Edit Box:

Enter the FTP server password in this edit box.

Host Name or IP Address Edit Box:

Enter the host name (Example: ftp.somedomain.com) or IP address (Example: 196.100.1.1) of the FTP server.

FTP Remote Directory Edit Box:

Enter the directory where WinSDR should place the new Event file(s). WinSDR will create this directory if needed.

Enable FTP Uploads Check Box:

This is the master On / Off switch. If checked, WinSDR will upload new Event file(s).

Place in Subdirectory Check Box:

If checked, WinSDR will save the Event files in a subdirectory under the directory specified in the *FTP Remote Directory* edit box. The subdirectory name is based on the year and month of the event file. The format is YYMM (YY = year MM = Month). Example: If the remote directory is set to **quakes** and the event happened March 2002, WinSDR will save the Event file(s) in **/quakes/0203/**.

Delete Local File:

If checked, WinSDR will delete the file on the local drive after the file has been transferred to the remote system.

Upload Channels Check Boxes:

Used to select the channel(s) that will be uploaded to the FTP server.

Ok Button:

Closes the dialog box. New information entered will be used by WinSDR.

Cancel Button:

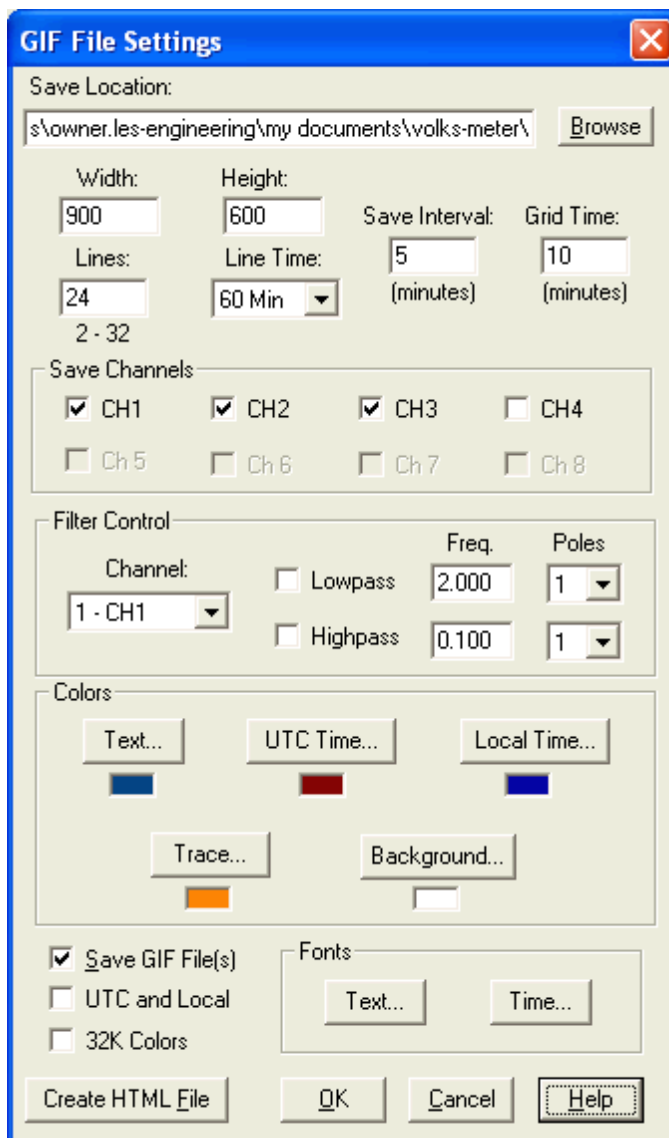
Closes the dialog box without making any changes.

Help Button:

Opens the Help file.

3.1.3.6 GIF Image File Settings

The **GIF File Settings** dialog box is used to control GIF image file creation. This box is displayed by clicking on the menu bar **Settings | GIF Files... | Settings...** GIF images are helicord style graphs that are used to visually document data recorded by WinSDR. The actual GIF image files are created automatically at the rate specified by the **Save Interval** value described below or by clicking **Create GIF Files** in the **GIF Files...** submenu.



The images will be saved in the directory specified in the **Save Location** edit box. The file name of each image is the Sensor_ID.gif (Sensor_ID is specified in the **Sensor ID** field of the **Save File** tab of the **Settings | Channel x Settings** box.)

Save Location Edit Box:

Used to enter the directory of the GIF file(s). You can also use the **Browse** button to select a directory.

Browse Button:

Used to select the directory that will be used to save the GIF image file(s).

Width Edit Box:

Controls the pixel width of the image.

Height Edit Box:

Controls the pixel height of the image.

Lines Edit Box:

Controls the number of lines to display. The input range is 2 to 32.

Line Time Select Box:

Controls how many minutes each line will be.

Save Interval Edit Box:

Controls how often WinSDR saves image file(s). **Note that each time a new GIF image file is saved, the prior file is overwritten, so that these files do NOT accumulate. For example, if Lines = 24 and Line time= 60 minutes, the saved GIF image will show 24 hours of data. Even if the file is saved every 5 minutes, it includes the 24 hours prior to the last save point.**

Grid Time Edit Box:

Controls how many grid lines WinSDR will display. 0 = No grid lines.

Save Channels Check Boxes:

This is the On / Off switch for each channel. If enabled WinSDR will create a GIF file for that channel.

Filter Group:

This group controls digital filtering of the data used to create the GIF images. A lowpass and / or a highpass filter can be enabled for each channel.

Channel Select Box:

Used to select the channel to enable or disable digital filter.

Lowpass Check Box:

Enables lowpass filtering of the selected channel.

Lowpass Frequency Edit Box:

Sets the lowpass filter cutoff frequency.

Lowpass Poles:

Sets the number of poles, or the steepness of the filter.

Highpass Check Box:

Enables highpass filtering of the selected channel.

Highpass Frequency Edit Box:

Sets the highpass filter cutoff frequency.

Highpass Poles:

Sets the number of poles, or the steepness of the filter, used to attenuate the incoming data.

Colors Group:**Text Button:**

Sets the text information color.

GMT Time Button:

Sets the GMT or UTC time information color.

Local Time Button:

Sets the Local time information color if the *GMT and Local* check box is checked..

Trace Button:

Sets the data trace color.

Background Button:

Sets the window background color.

Save GIF File Check Box:

This is the master on/off switch for creating GIF images. If checked, WinSDR will save GIF image file(s).

GMT and Local Check Box:

If checked, WinSDR will display GMT and local time on the left hand side of the GIF image. Your local time zone strings (Example: PST or PDT) should be entered in the Display Control dialog box before enabling this option.

32K Colors Check Box:

Check this box if you have your video display set to 32 K colors.

Fonts Group:**Text Button:**

Opens the *Font* dialog box. This dialog box is used to change the font of the information text.

Time Button:

Opens the *Font* dialog box. This dialog box is used to change the font of the time information on the left hand side of the image.

Create HTML Button:

Used to create a HTML file called CURRENT.HTML. This HTML file will display all of the selected channels in a web page. After creating this file, you can use the **View | View GIF**

Images menu items to open the PSNExplorer Web browser and display the images in a browser window. The file will be created in the root directory of WinSDR. Any Web Browser, such as Internet Explorer or Firefox, may be used to view HTML files. **The creation of HTML images is strictly manual and occurs only when you click the button.**

OK Button:

Closes the dialog box. New information entered will be used by WinSDR.

Cancel Button:

Closes the dialog box without making any changes.

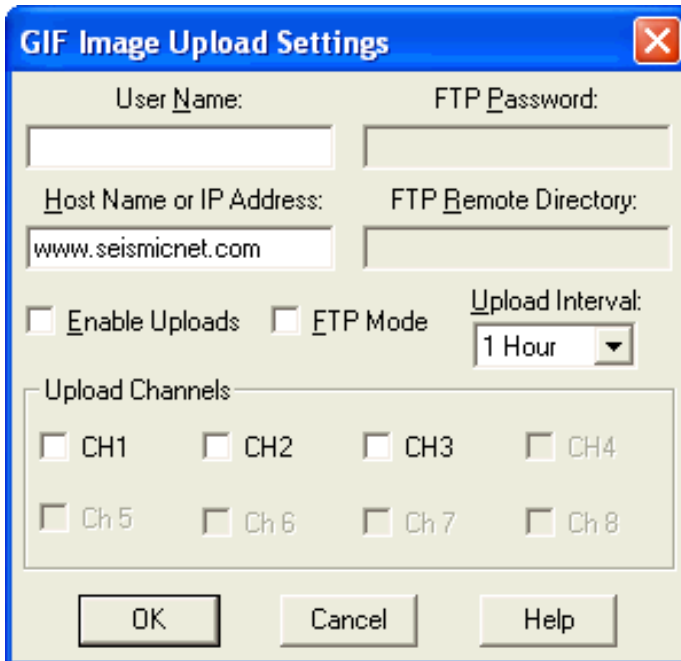
Help Button:

Opens the Help file.

The vertical compression factor for traces displayed in the GIF images is specified in the Channel x Settings | Trace Display box.

3.2.3.7 GIF Image Upload Settings

The **GIF Image Upload Settings** dialog box controls the uploading of GIF image files to an FTP server or the PSN web site. This box is activated by clicking menu bar **Settings | GIF Files | Upload Settings...**

**User Name Edit Box:**

Enter the user name in this edit box. This field is used for both FTP transfers and uploading to the PSN Web site. **[Uploading to the PSN website is not currently supported. (Mar-07)]**

You must have a user name, and password for FTP transfers, to upload image files to the PSN Image Server or an FTP server located on the Internet or local LAN. Please contact Larry Cochrane, lcochrane@rllinstruments.com, if you would like to upload your image files to the PSN Web site.

FTP Password Edit Box:

Enter the FTP server password in this edit box. This field is only enabled if the *FTP Mode* check box is checked.

Host Name or IP Address Edit Box:

Enter the host name or IP address of the PSN web site or FTP server that will receive the image file(s). This field should be set to www.seismicnet.com or psn.seismicnet.com for **non** FTP transfers.

FTP Remote Directory Edit Box:

Enter the directory where WinSDR should place the GIF image file(s). This field is only enabled if the *FTP Mode* check box is checked. WinSDR will create this directory if needed.

Enable Uploads Check Box:

This is the master On / Off switch. If checked, WinSDR will upload GIF image file(s).

FTP Mode Check Box:

If checked, WinSDR will use the FTP protocol to transfer GIF image files. **This box should be checked. The alternative PSN protocol is not currently implemented (Mar-07).**

Upload Interval Select Box:

Controls the upload interval. Possible settings are 10, 15, 30, and 60 minutes.

Upload Channels Check Boxes:

Used to select the channel(s) that will be uploaded to the FTP server or PSN web site.

Ok Button:

Closes the dialog box. New information entered will be used by WinSDR.

Cancel Button:

Closes the dialog box without making any changes.

Help Button:

Opens the Help file.

3.2 Selecting Sample Rate and Resolution

The VolksMeter II / WinSDR system provides several choices of data sample rate and sensor resolution. There is a tradeoff between these two parameters. High sample rates do not work well with high bit resolutions. Basically, at high sample rates, the internal signals in the Capacitance to Digital Converters do not have time to settle completely and the noise in the data under these conditions swamps the additional bits of resolution. This noise is internal to the CDC and in the raw data before any signal processing or lowpass filtering done by WinSDR.

A sample VolksMeter II was tested with the Moving Plate mechanically locked to the Fixed Plates with a rubber band so that the capacitance of the sensor array was constant during the tests. Here are the results:

Sample Rate (Samples/sec)	ADC Bits	Range	Data Variation (Counts)
10	16	±32768	2-3
25			14-16
50			22-23
10	22	±2,097,152	224
25			947
80			1419

The Data Variation is the difference between the minimum number of counts and the maximum number of counts recorded over a 60 second period as displayed on the Real-Time window with a single channel being displayed, a 60 second X-scale and the min/max display at the bottom of the window cleared (press the [F7] key) at the beginning of the time period. These numbers represent the minimum intrinsic noise of the VolksMeter sensor before any filtering.

The signal noise can be reduced, at the cost of maximum frequency detectable, by signal averaging (lowpass filtering) of the raw data in WinSDR or WinQuake.

In general, you probably want to set the system for the highest resolution consistent with the highest frequency you want to monitor. For resolutions of 22-24 bits, the highest sample rate should probably not exceed 10 samples per second (SPS). At 10 SPS, you can reliably detect signals up to 5Hz. On the other extreme, if you run at sample rate of 80 SPS (40Hz maximum frequency), your practical resolution will be limited to 16 bits.

Depending on the kind of signals you are interested in, higher resolutions and sample rates, combined with lowpass and highpass filtering and other signal processing, may work for you. For very low frequencies of seismic data, the real forte of the VolksMeter II, 10 SPS, 24 CDC Bits and Lowpass filtering at .5Hz, 2 poles, yields good results in a low-noise environment. High resolution, low sample rate settings with lowpass filtering are also appropriate for measuring tilt.

