

**User's Guide**

**RxViewX R6**

**for Windows**

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# Chapter 1 Introduction

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## Welcome to RxViewX

RxViewX is a powerful ActiveX control allowing you to enable an application with all the viewing capabilities of RxView R6. In addition, markup can be added that has all the markup and linking capabilities of RxHighlight markup.

RxViewX gives you access to powerful functions such as: view, print, zoom, pan, rotate, print to raster file, markup, file conversion, pen table, vector layer support (switch layers on and off), clipboard support (clip from screen to metafile and bitmap), hyperlinks, file information, and more.

## Sample applications

The installation of RxViewX includes 4 powerful samples all with full source code. You can use the samples “as is” or modify them freely or use the code in your own applications.

## Development environments

In minutes you can implement RxViewX in any RAD development environment that accepts ActiveX controls. In this package you will find projects for:

Visual Basic, Delphi, MFC (MSVC), HTML (Internet Explorer).

## Distribution and Licensing

An installation of RxViewX includes ONE single user license key. If you want to distribute RxViewX and any application which uses RxViewX then you must obtain a license for each installed copy.

Either, ONE unique license key for each installation.

Or, a floating NETWORK license key that enables multiple users on a network. The Rasterex License Server manages both single user and network keys for commuting requirements.

RxViewX has a favorable and flexible licensing system. OEMs and developers can now view-enable and markup-enable an application with professional viewing and markups functions, and maintain full control of their customers using Rasterex licensing system. All license keys are unique.

## **RxViewX key features**

### **Viewing Functionality**

Files can be loaded and viewed from local or network drives, and intranet and Internet addresses. Interpretation of files is fast and precise. Multiple files can be loaded and viewed simultaneously, and viewing is enhanced with functions including fast zoom, pan, page, file overlay, file compare and pen table support.

### **Printing and Plotting**

A powerful printing and plotting engine allows RxViewX to be used as a printing station in technical offices. All Windows based printers and plotters are supported.

### **Markup**

RxViewX with markup enables annotating of file contents by adding graphics and text into markup layers. Markups are stored in separate vector files. Files can have multiple markup layers created by separate commentators.

### **Linking**

RxViewX allows link-related files. The link function creates buttons on top of the viewed file, which link that file to other files. Clicking a link button loads the linked file.

### **View any file**

RxViewX supports vector, hybrid, office, raster and picture file formats. This version of RxViewX includes support for the following file formats:

- Document formats - including Word 6.0/95/97/2000/XP, Adobe PDF, PowerPoint, text files (ASCII format).
- Spreadsheet formats - including Excel 5.0/95/97/2000/XP.
- Picture formats - including Adobe Photoshop, JPEG, GIF, TGA and Windows Metafile.
- Vector formats including the leading CAD packages - AutoCAD, MicroStation, CadKey and ME 10/30. Plot formats for HPGL, HPGL/2 and CalComp. Gerber and Drawing Web Format.
- Raster file formats - including multiple TIFF variants (with and without LZW compression), RLC, TG4, BMP, RLE, Intergraph Group 4, Tiled Image Format TG4, Intel fax, PNG, etc.

- Hybrid formats including GTX, CADOverlay and Rasterex native hybrid formats.
- Binary -filter is included to show the binary content of unsupported file types.

This manual can be viewed and printed using Acrobat reader or RxViewX.

### **File filter development**

New and improved filters are continually under development, so check filter availability with your dealer or in the Rasterex web pages.

## Conventions

In this document, the following text conventions apply:

<b>Bold text</b>	<ol style="list-style-type: none"><li>1. Important notes.</li><li>2. Keys to be typed on the keyboard.</li></ol>
<i>Italic text</i>	<ol style="list-style-type: none"><li>1. Menu names.</li><li>2. Software button texts.</li><li>3. Dialog texts.</li><li>4. Variables.</li></ol>
UPPER CASE	<ol style="list-style-type: none"><li>1. Commands.</li><li>2. Keyboard legends.</li><li>3. File and folder names unless case-sensitive.</li><li>4. Profile parameters.</li></ol>
Courier 8pt	<ol style="list-style-type: none"><li>1. Application code to be typed in by the user.</li></ol>

*Menu > Submenu > Parameter* is used to denote the route or chain of menu commands used to arrive at a particular dialog box, parameter or result.

## Support

If you experience difficulties using this product, or if you have questions concerning this or other Rasterex products, contact your local supplier. Your local supplier's name and contact information should be printed on the box in which this product was supplied. A list of the various national distributors is also available on the *Distributors* tab of Rasterex' Home page, located at:

<http://www.rasterex.com>

## Chapter 2 Installation

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**Note** This program runs on Microsoft Windows-based platforms, Windows 98, Windows 2000, Windows NT and Windows XP.

### 2.1 Requirements

RxViewX requires the following:

Windows 98, 2000, NT and XP.

486 or higher processor.

Minimum 32 MB RAM.

25 MB disk space for file interpreters.

RxViewX

RxViewX runs in trial mode for 30 days. There are no limitations in trial mode. A valid license key can be bought and added at any time.

### 2.2 Installation

1. Insert the Rasterex CD into the CD drive on your computer.

Or:

Click and run the download link for RxViewX.

2. Follow the instructions
3. When the appropriate dialog appears, type the folder in which RxViewX is to be installed.

The default folder is \Program Files\Rasterex\RxViewX.

4. Click *Continue*.

The installation program is straightforward and registers the program in the Windows registry. Use the *Add/Remove Program* dialog if you need to remove RxViewX.

### 2.3 License Key

Install the software license key using the dialog presented on installation or program start-up when using a trial license. If you are on a network then see next paragraph 2.4

## **2.4 Network License Keys**

If you are installing RxViewX as a multi-user program on a network, you must also install the Rasterex License Server on a server in the network. RxViewX needs to locate the license key on the License server in order to run. See the Rasterex License Server manual.

## **2.5 Translation**

The file RXVIEWX.TXT contains the text strings used in the dialogs in the program. If you wish to translate the dialogs to a local language, use a standard text editor to change the text then save the file under the same name. RxViewX only reads the contents of the first double quotes in each line of RXVIEWX.TXT, so place your translation within the first double quotes! You may leave the original text next to your translation but outside the quotes for future reference.

## **2.6 Documentation**

This user's guide is included in your installation as a PDF file.

## Chapter 3 Getting Started

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### 3.1 Overview

This chapter describes the various parts of the RxViewX window and the most important features of RxViewX. You will find detailed descriptions of dialog boxes, toolbars and procedures in later chapters. Use any of the supplied samples to show the features, all of which are accessed through buttons and dropdown buttons.

### 3.2 Main Window

Start the VB RxViewX sample and the following screen or one similar appears:

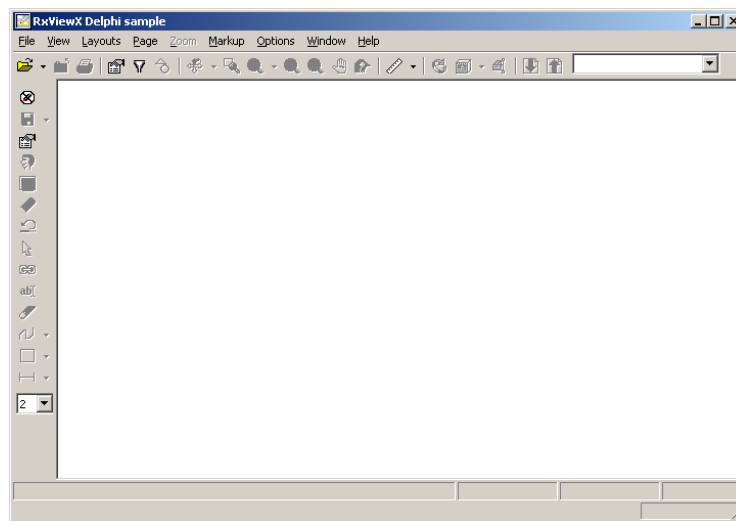


Figure 1 The RxViewX window

As illustrated, the RxViewX window includes a work area, a menu bar and a control toolbar above the work area, a markup toolbar down the left side, and a status bar across the bottom.

Not all menu items are described in this guide as some menu items are added to demonstrate development issues.

All features can be accessed through buttons and dropdown buttons.

## **3.3 Toolbars**

### **3.3.1 Control Toolbar**

The control toolbar buttons and dropdown buttons give access to all the features in RxViewX. See Chapter 4.

### **3.3.2 Markup Toolbar**

The markup toolbar buttons and dropdown buttons give access to the markup features available in RxViewX with Markup. See Chapter 8.

## **3.4 Status Bar**

The Status Bar across the bottom of the program window displays the following information:

The Progress Pane – indicates the progress of an operation being performed by the system.

Snap – Indicates the current snap type selected.

The current cursor position in x-y coordinates.

The current units of measurement.

Length, angle and area measurements.

The current commentator name.

When Push is active, the selected URL link path.

The owner of a markup when a markup is activated using the edit cursor.

## **3.5 RxViewX Markups**

RxViewX allows markup directly on top of a file. Unlimited different colors and 10 different layers are available. By turning markup layers on and off, markups written by different commentators can easily be isolated and viewed separately. Markups are stored in vector files separate from the original file. The markup files can be either one single file (extension .XCM as default) or multiple files - one for each commentator.



### 3.5.1 Markups in Multiple Files

The first markup file has the same name as the viewed file but with the extension .000 or .X00. The next markup file has the extension .001 or X01 and so on. The maximum number of commentators, each with different stored markups, is 1000 or 360 depending on the selected extension type.

### 3.5.2 Markups in a Single File

The markup file has the same name as the viewed file but with the default extension .XCM. The number of commentators allowed, each with different stored markups, is unlimited.

### 3.5.3 Markup Policy

To avoid internal conflicts, an organization should define either a single or multiple markup file policy, as single and multiple markup files cannot be read and maintained simultaneously. Advanced markup control can be implemented by administrators and programmers.

### 3.5.4 Compatibility with Earlier Markup Files

The following rules apply for creating and viewing existing markups created in RxViewX.

**Important Markup compatibility rules for backwards compatibility:**

1. RxViewX and RxView R6 with markup can read markup files created by earlier versions of RxHighlight 97/R4 and RxHighX.
2. Markup files created in RxViewX R6 and RxView R6 with markup cannot be read by RxHighlight 97 or RxHighX. All users should therefore upgrade to the same version of the markup software.
3. To read markup files, both 32-bit and 16-bit RxHighlight must have the correct markup file extension type. These are set in the *Options > Preferences* dialog for 16-bit RxHighlight, and in the *Comment > Preferences* dialog for 32-bit version.
4. 32-bit RxHighlight can only read markups created in 16-bit RxHighlight.
5. 16-bit RxHighlight cannot read markups created or modified in 32-bit RxHighlight.
6. XCM markup files can only be created and viewed in 32-bit RxHighlight.

7. XLK files, i.e. 16-bit RxHighlight link files, will always be read by 32-bit RxHighlight.
8. Do not rename 16-bit markup files as XCM files. 32-bit RxHighlight will not be able to read them.

### **3.6 Document Linking**

In RxViewX, links are stored together with markups in the same file(s).

In RxViewX you may link files to each other. In other applications this feature is often called “Hyper-linking”. Linking in RxViewX creates buttons in the viewed file, which are connected with other files. When you click a link button on the viewed file, the corresponding file is loaded.

## Chapter 4 Viewing Features and Samples

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The samples demonstrate powerful features that are available using this application. The samples may vary depending on your installation.

### 4.1 Samples folder

The samples in this folder can be loaded by the application either singly or as a selection using the Open dialog. The samples demonstrate screen display and printing for a range of the file formats supported by Rasterex viewing applications.

Samples include:

- Documents including Word, text and Acrobat reader PDF.

- Spreadsheets including Excel

- Pictures and raster files including TIF, GIF, JPG, BMP

- Drawings including AutoCAD DWG, MicroStation DGN, other CAD formats and HPGL plot files.

### 4.2 Compare folder

The samples in this folder demonstrate a feature for comparing revisions of drawing files. Load the file with extension XWS to view the displayed differences between the two revisions. The differences are in the window marked (Overlay). To examine the compare dialog, click the dropdown button on the Open icon and select *Overlay*. The compare function is described in detail later in this manual.

### 4.3 Overlay folder


The samples in this folder demonstrate a feature for overlaying files to create a montage of drawing and picture files. Load the file with extension XWS to view an overlay of the loaded files. The overlay is in the window marked (Overlay). To examine the overlay dialog, click the dropdown button on the Open icon and select *Overlay*. The overlay function is described in detail later in this manual.

## 4.4 Markup folder

The samples in this folder are a project demonstrating markup features including links to other files, text items and drawing objects.

Load the file TRACER.TGA.

Select the *Push* button .

Click any link button  to view an associated link file.

Click the link button in the loaded file to return to your original file.

Linking and Markup are described in detail later in this manual.

## Chapter 5 Control Toolbar Buttons

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### 5.1 The Control Toolbar

The control toolbar buttons often lead to extensive new dialogs and options. The dialogs are described in detail in the next chapter.



#### 5.1.1 Open Button

Opens a Windows *File Open* dialog. Browse, select and open any file. Click the drop-down arrow beside the button to open a list box of previously opened files and options including:

##### 5.1.1.1 Open

Open a file via the standard Windows dialog.

##### 5.1.1.2 Close

Close the active file

##### 5.1.1.3 Print

Print a file. See Chapter “RxViewX Dialogs”.

##### 5.1.1.4 Save to Raster File

Convert and save a file to a supported raster format. See Chapter “Overlay, Compare, Convert, Save”.

##### 5.1.1.5 Save to Vector File

Convert and save a file to a supported vector format. See Chapter “Overlay, Compare, Convert, Save”.

##### 5.1.1.6 File Properties

Show properties of a displayed file or image.

##### 5.1.1.7 Overlay

Overlay or compare multiple files. See Chapter “Overlay, Compare, Convert, Save”.

### 5.1.2 Close Button



Closes the active file.

### 5.1.3 Print Button



Opens the *Print* dialog with multiple options.

### 5.1.4 Preferences Button



Opens the *Preferences* dialog.

### 5.1.5 Filter Setup Button



Opens the *Filter Settings* dialogs where you can view information about the filters available.

### 5.1.6 Vector Control Button



Opens the *Vector Control* dialog. Use this dialog to specify which layers and blocks in a vector file are visible and to open the Pen Table.

### 5.1.7 Rotate Button



*Rotate button* rotates the image anticlockwise through steps of  $90^\circ$  by clicking the button. Click the drop-down arrow beside the button to display a list of preset rotation angles. Select  $0^\circ$ ,  $90^\circ$ ,  $180^\circ$  or  $270^\circ$ .

### 5.1.8 Zoom Window Button



Zooms in to a particular area of the file and fits it to the view window. Click on the top-left of the area to be viewed and hold down the left mouse button. Drag to the selected area and release the button.

## 5.1.9 Zoom All Button



*Zoom All* zooms the image to fit either the display area width or height depending on which is reached first. Click the drop-down arrow beside the button to display a list of zoom options:

### 5.1.9.1 Zoom 1:1



*Zoom 1:1* zooms the image (up or down as appropriate) to its actual size. The function maintains the image's aspect ratio. Pan sliders will be displayed if required to enable you to view parts of the image that lie outside the boundaries of the window. In the event the file is smaller than the window, excess area will be displayed either to the sides or above and below the file. The excess area will be given the background color selected using the *Toggle Background Color* menu or button.

### 5.1.9.2 Zoom All



*Zoom All* zooms the image to the extents of the window. The function maintains the image's aspect ratio. If the window has a aspect ratio different to that of the file, the excess area will be given the background color.

### 5.1.9.3 Zoom Width



*Zoom Width* zooms the image to the width of the window. The function maintains the image's aspect ratio. If the image is too tall to fit in the window after zooming, the vertical pan slider will be displayed to enable you to view those parts of the image that fall outside the window. If the resulting image is smaller than the height of the window, the excess area will be given the background color.

#### 5.1.9.4 Zoom Height



*Zoom Height* zooms the image to the height of the window. The function maintains the image's aspect ratio. If the image is too wide to fit in the window after zooming, the horizontal pan slider will be displayed to enable you to view those parts of the image that fall outside the window. If the resulting image is narrower than the width of the window, the image will be centered horizontally in the window and the excess area will be given the background color.

#### 5.1.10 Zoom In Button



*Zoom In* zooms in towards the image so the image is enlarged. Each time you initiate the function the image is enlarged one step. The function maintains the image's aspect ratio. Pan sliders will be displayed if they are required. Click the *Zoom Out* button to reverse the process.

#### 5.1.11 Zoom Out Button



*Zoom Out* zooms away from the image so the image is reduced in size. The function maintains the image's aspect ratio. The area between the edges of the image and the window frame will be given the background color. Click the *Zoom In* button to reverse the process.

#### 5.1.12 Pan Hand Button



*Pan Hand* enables you to view parts of an image that are outside the window by grabbing the image and moving it. The image will not move if it is less than the window size.





### 5.1.13 Bird's Eye View Button

*Bird's Eye* creates an overview of the file, and allows you to pan around and select areas to zoom.

The *Bird's Eye View* function provides an overview of the file, and allows you to pan around and select areas to zoom.

#### Overview of an image

Activate the function and a total view of the file contents appears in the *Bird's Eye View* window. Change the size of the Bird's Eye window by dragging its borders.

#### Zooming

Place the cursor inside the *Bird's Eye View* window and press the right mouse button. Drag the mouse diagonally to create a frame that marks the area you want to zoom into. Release the right mouse button and the selected area zooms to fit the file's view window.

#### Panning

The red indicator frame inside the *Bird's Eye View* window is superimposed over the part of the file currently visible in the file workspace. Place the cursor inside the red frame, click and hold the left mouse button, and drag the cursor until the frame encloses the information you wish to see. As you do so, the view in the work area changes to match the area enclosed in the frame.



### 5.1.14 Measure Button

*Measure* allows measurement on the file. The function measures the length of a line, the angle between two lines, or the area enclosed by multiple lines, inside the viewed file. See Chapter 6.

#### 5.1.14.1 Calibrate

Click the drop-down arrow to the right of the Measure button and select *Calibrate* to initiate the calibration function. See Chapter 6.

### 5.1.15 3D Rotate Button



When operating on a 3D model you can rotate the 3D model in all directions using the 3D rotation button.

The *Rotate* button enables you to rotate the image about its center point such that you can view the image from any direction. Place the Rotate cursor on the image. Click and hold down the left mouse button. Drag the mouse.

### 5.1.16 Reset Model Button



Clicking this button will reset the model to its original state. Click the drop-down arrow beside the button to display a list of 3D functions:

#### 5.1.16.1 Enable clipping

Enable clipping will turn on any defined cross section. To see the effects of sectioning as you perform the operation, click the Enable clipping button.

#### 5.1.16.2 Show Clip Plane

To see the sectioning planes, click the Show Cross-Section Planes button. The planes are displayed in pale gray.

#### 5.1.16.3 Section Clipping

The Section Clipping dialog appears as shown below.

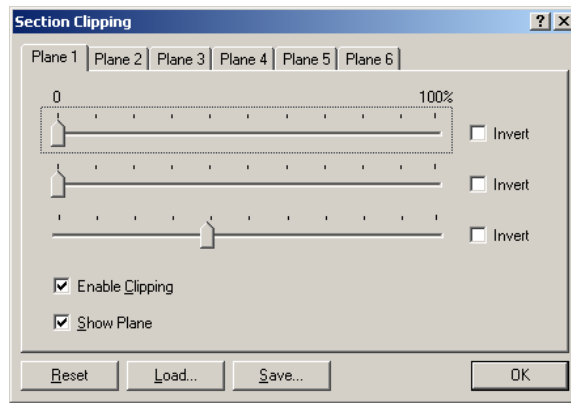


Figure 2 Section Clipping dialog.

Select a plane tab and then use the sliders to position that plane as required. Check Invert to see the other part of the image.

Select other plane tabs as required and set them up.

**Note** The Enable Clipping and Show Plane boxes can be checked individually for each plane.

Use the Rotate functions to turn the image to the desired view. To reset the image and remove any section planes, click the Reset 3D Model button. Click Reset to remove any changes made to the planes. Click Load to open a standard File Open dialog enabling you to load a previously saved Section Settings file.

Click Save to open a standard Save As dialog enabling you to name and save the file with the current section settings.

#### 5.1.16.4 WireFrame

You can display an image as wireframe, i.e. remove the rendering, by clicking the *Wireframe* button on the 3D toolbar.

#### 5.1.16.5 WireFrame

Click the *Perspective* button on the 3D toolbar to change a 3D image from a simple isometric view to a view with perspective.

#### 5.1.16.6 Remove hidden lines

Check this option to remove lines (e.g. In Wire-frame view) that would normally be hidden by other surfaces.

#### 5.1.17 Set Cross-Section



Click the *Set Cross-Section* button. Place the cursor where you want to start the cut, and click and hold the left mouse button. Drag the cursor to create the desired cutting plane, and then release the mouse button. The part of the image to one side of the cut will disappear.

#### 5.1.18 Page Down Button



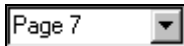
*Page down* through a multipage file. The button is deactivated if the file comprises only one page or when the last page is reached. In a spreadsheet file this lists the different sheets. In a vector file this lists the views in the file.

#### 5.1.19 Page Up Button



*Page up* through a multipage file. The button is deactivated if the file comprises only one page or when the first page is reached. In a spreadsheet file this lists the different sheets. In a vector file this lists the views in the file.

#### 5.1.20 Page List Box




Indicates the current page being displayed. The list shows for multi-page text files, spreadsheets and vector files containing views. To go to another page, either type in the desired page number and press Enter, or click the list box to obtain a list of the pages available and scroll the list to the required page number. Click on the number, and RxViewX loads and displays the selected page.

A loaded page or spreadsheet is stored in memory and is not re-loaded.

**Note** If the number of pages in the file is unknown, the list box will show 999 pages.

## Chapter 6 RxViewX Dialogs

### 6.1 Print Dialog

Click on the *Print* button  to open the Print dialog, or click the Open File dropdown button and select menu item *Print*. This dialog contains three tabs; Options, Watermark and Pen Table.

#### 6.1.1 Options

**Print Portion options:**

*All Pages* – All pages, sheets or views.

*Pages* - print range e.g. 1, 3-5, 10

*Whole of Current Page / Image* – print only the current page.

*Displayed Portion*, the visible portion of the image as displayed.

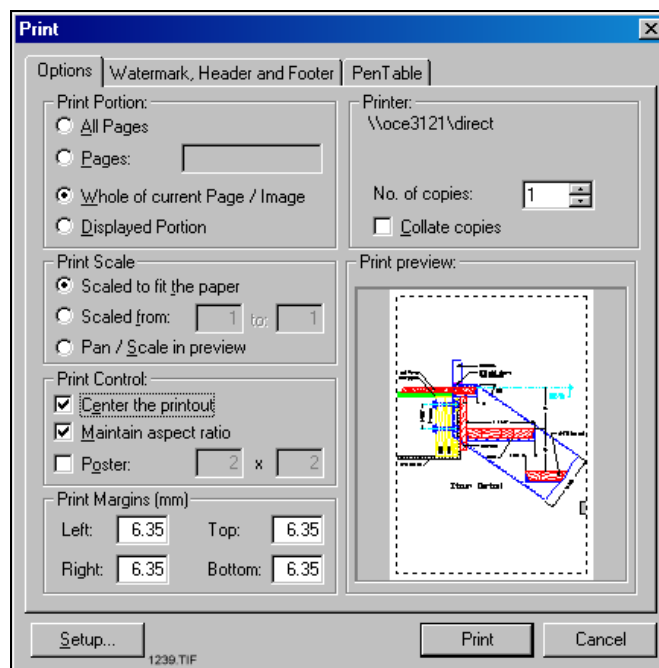


Figure 3 The Print Options dialog

**Print Scale options:**

*Scaled to fit the paper* - will reduce or expand the image to match the paper size.

*Scaled from: to:* - enter the scale factor for printing the image. For example, Scaled from 10 to 1 will reduce the image to 1/10 its original size (though this may still require several sheets of paper – refer to option *Poster* later in this list).

*Scale in preview* enables you to scale the printout as described in *Print Preview options* below.

**Print Control options:**

*Center the printout* on the paper is self-explanatory.

*Maintain aspect ratio* fixes the ratio of the x and y axes during alterations to the size of the image.

*Poster* prints over multiple sheets. You can set the number of sheets in the *No. horizontal* and *No. vertical* fields. The number of sheets used and the position of the image are shown in the preview window. You can scale and move the image to match the selected number of sheets as described in *Print Preview options*.

**Print Preview options:**

View the printout before you print. *Whole of Current Page / Image* or *Displayed Portion* options must be selected. The *Print preview* represents a true visualization of the image to be printed. It allows you to fit the image to the paper with the required orientation and scaling factor. You can fit the image to the paper both vertically and horizontally by not checking the *Maintain aspect ratio*.



Position the image on the paper by placing the cursor on the image and dragging. The *Center the printout* option must be unchecked.



Scale the image with or without maintaining the aspect ratio by placing the cursor on the button at the lower right corner of the image and dragging. *Whole of Current Page / Image* or *Displayed Portion* options must be selected.

### Print Setup options:

Select *Setup* to check, modify or change the default Windows printer. Use the *Setup* option to set the paper size, source and orientation (landscape or portrait).

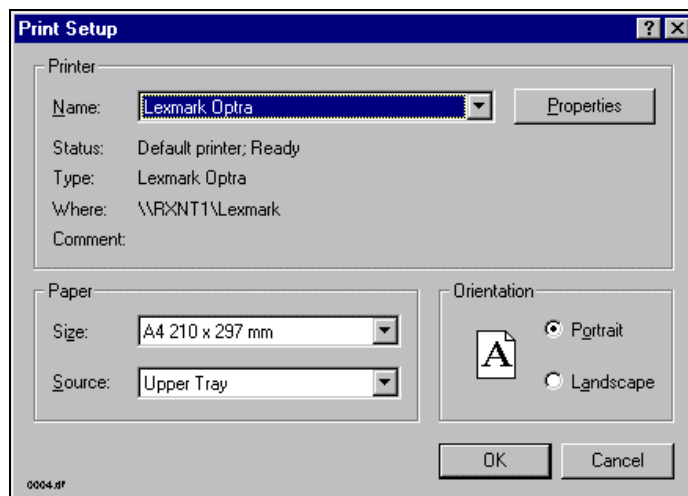


Figure 4 The Print Setup dialog

Click *OK* to start the print job.

Click *Cancel* to cancel.

Printer settings are retained only for the current RxViewX session. Permanent changes to the default printer settings are made through the Windows *Control Panel*.



### 6.1.2 Watermark, Header and Footer

You can add a watermark to the printout of your file. Check a box to enable a specific function.

**Enable watermark** – Use the options to change color, font and orientation. Position the watermark above, below or across the drawing. Set the watermark in front of or behind the drawing.

**Enable header** – Use the options to change the font.

**Enable footer** – Use the options to change the font.

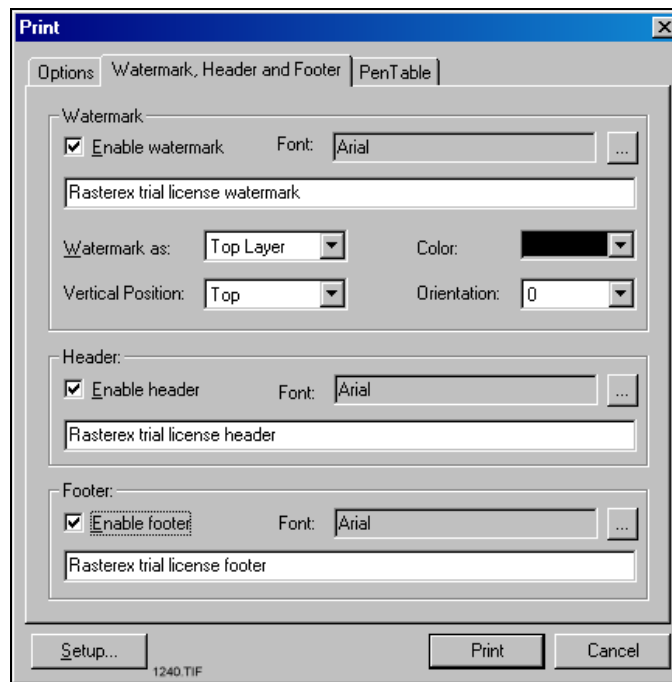



Figure 5 Watermark, Header and Footer dialog

### 6.1.3 Pen Table

Typically, in a vector file, lines have the same on-screen thickness but different colors. Colors can be interpreted to create printed output with different line thickness, colors and styles. Use the *Pen Table* dialog to define how you want a particular line color on the file to be printed or plotted. Change a single line or multiple lines by using standard Windows techniques to select them in the table then set the options as required.

To open the Pen Table dialog, click the *Print* button  or click the *Vector Control* button then select the *Pen Table* tab. Check the *Use Pen Table* box. The other options then become active.

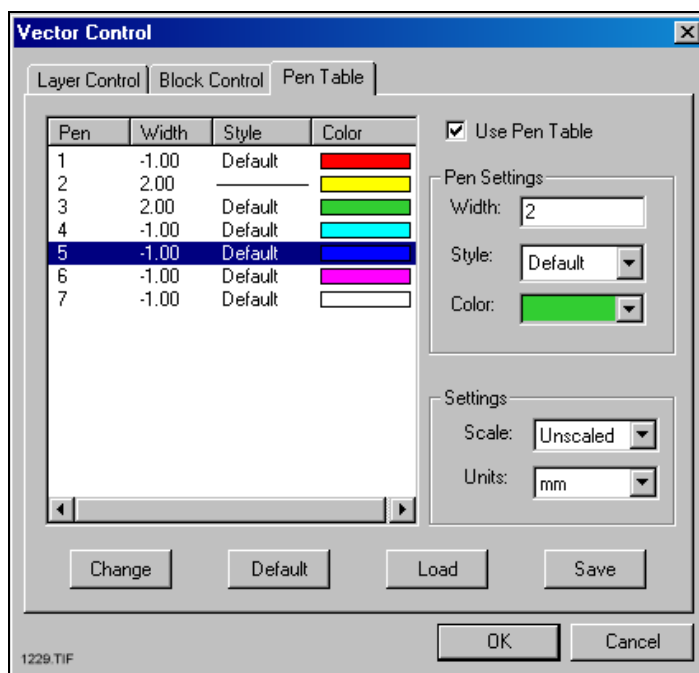



Figure 6 Pen Table dialog

- Width** – Set the desired printed width for the selected lines in the units defined in *Units*. -1 indicates that width isn't defined for that pen.
- Style** – Set the desired printed style for the selected lines (full, dotted, dashed etc.). -1 indicates that no width has been defined for that pen.
- Color** – Set the desired printed color for the selected lines.
- Scale** – Select *Scaled* if when you resize a drawing file you want the line widths to follow the scale of the drawing. Select *Unscaled* to keep the line widths constant irrespective of the scale of the drawing.
- Units** – Select the units of measurement, metric (mm) or imperial (inches), you wish to use when defining line widths.
- Change** – Click to apply the changes to the file.
- Default** - Click to return to the default settings.
- Load** – Click to load a previously saved pen table (\*.RPT) file. A *Load Pen Table* dialog opens to enable you to find and select the desired file.
- Save** – Once you have made the desired changes to the pen table, save your table as an .RPT file so you can reuse the settings. A *Save Pen Table* dialog opens enabling you to name the file and place it in the appropriate folder.

## 6.2 Preferences Dialog

Click on the *Preferences* button  to open the Preferences dialog. The tabs in this dialog hold options for display setup. The dialog opens at the General tab.

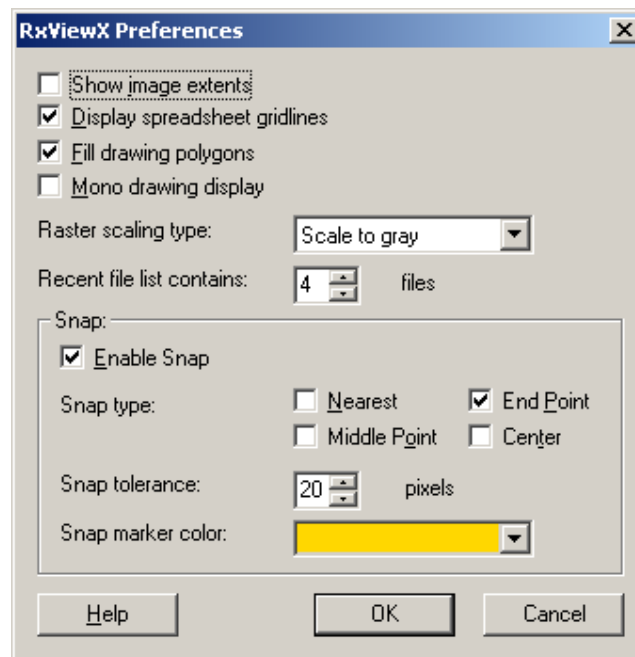


Figure 7 The Preferences dialog

**Show image extent** – Check this option to display the boundaries of the displayed image.

**Display spreadsheet gridlines** - Uncheck this option if you do not want to display and print the grid lines in a spreadsheet.

**Fill drawing polygons** – Displays vector polygons filled. Do not use this option if you require a faster display.

**Mono drawing display** – Will display vector files, e.g. DWG, DGN, in monochrome rather than color.

**Raster Scaling Type** - To display an image perfectly requires a lot of processing, so displaying is a compromise between the accuracy of the display and the time taken to calculate the image.

- **Normal** – Raster scaling is the fastest method of displaying during zooming. Some black areas may disappear during zooming.
- **Scale to gray** – Scaling is the slowest method of displaying during zooming, but it gives the best display results. If you have problems reading, for example TIF files, use this option to improve clarity.
- **Preserve black** – Scaling is the next fastest display method. Some black areas may disappear during zooming.


**Recent file list contains** - Click the drop-down arrow beside the File Open button on the Control toolbar, a list of recently opened files appears. Type in or pan to the appropriate number in the list box to define how many file names are to appear.

**Snap** - When performing measurements use the snap function to pull the cursor to nodes. Click the drop-down arrow beside the Snap Type box to select the desired snap type.

- **Nearest** – Snaps to the nearest line.
- **End point** – Snaps to the nearest end-point on the nearest line.
- **Middle point** – Snaps to the mid-point of the nearest line.
- **Center** – Snaps to the center of the circle.

## 6.3 Filter Settings Dialog

The *Filter Settings* dialog holds information about the various file filters included with RxViewX, and options enabling you to set up the filters.

Click on the *Filter Settings* button  The *Filter Settings* dialog opens at the *Information* tab.

### 6.3.1 Information Tab

When you open the *Filter Settings* dialog, you are presented first with a list of the filters and the *Information* tab. Pan to and select the filter to set up. The *Information* tab shows types of files the selected filter supports, the file group (text, raster etc.), the version and name of the filter. See below.

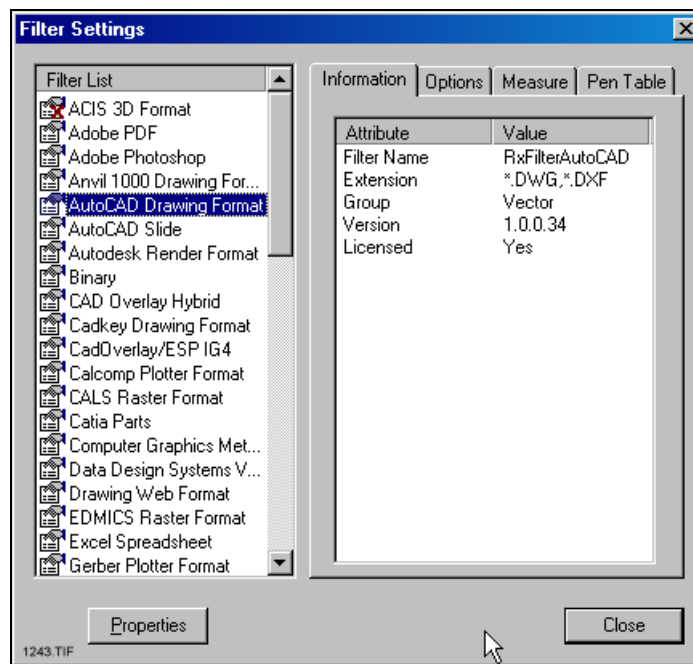


Figure 8 The Filter Settings dialog, Information tab

**Properties** – Opens the *Filter Properties* dialog if applicable. See paragraph 5.3.5.

### 6.3.2 Options Tab

The *Options* tab enables you to set default settings for the selected filter.

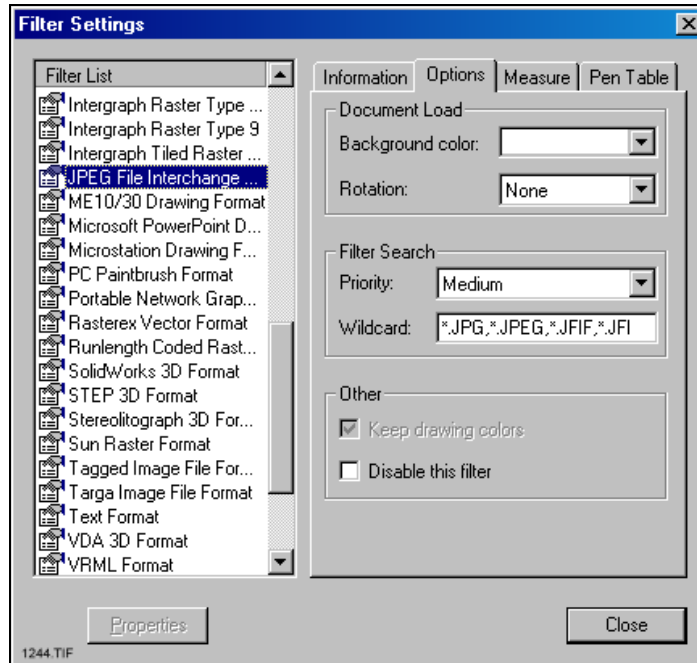


Figure 9 The Filter Settings dialog, Options tab

**Background color** – Sets the default background color to be used for files supported by the selected filter.

**Rotation** – If a large percentage of the files supported by this filter need to be rotated before opening (for example they may have been scanned at a different angle), you can preset a rotation angle here.

**Priority** – Give the filter a priority. Filters with a higher priority will be interrogated first when RxView is attempting to recognize an unidentified file type. Use this option to speed up file detection.

**Wildcard** – On installation, the various filters are installed with a wildcard matching the normal file extension, but you may add or use other extensions. Write optional wildcards in this field for selected filters. The *File Open* dialog box then uses these wildcards to search for matching file types in the selected folder. Multiple file extensions for a filter can be used. Each wildcard must be separated by a semicolon, for example, \*.TXT;\*.ASC;\*.DAT.

**Keep drawing colors** – Normally, if a color on the image is very close to the background color (for example a light gray line on a white background), RxView will invert the color to obtain a better contrast and make the object more visible. If you check this box, RxView will keep the original colors. Note that you may then risk losing details from the image.

**Disable this filter** – Check this box if you know you will not need to use a particular filter. This will prevent the filter being used. The box will remain checked until you uncheck it.



### 6.3.3 Measure Tab

This tab is used to set the scale of the image and calibrate it to enable measurements to be made on the screen.

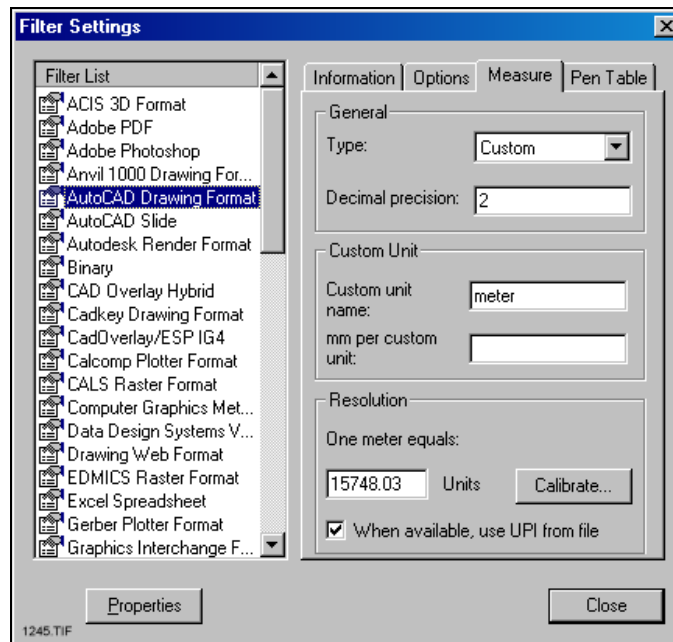


Figure 10 The Filter Settings dialog, Measure tab

**Type** – Set the type of units required for files associated with this filter. Choose between System, Imperial, Metric and User.

- **System** – No units of measurement are specified for this filter, so RxView will use the default units specified by the file.
- **Imperial** – Use imperial units for the filter.
- **Metric** – Use metric units.
- **User** – Define your own units for the filter. Name the units

**Decimal precision** – Must be input for the selected units. The decimals are shown in the X and Y coordinate fields located in the right end of the status bar when a drawing is loaded.

**Custom unit name** – If you wish to define your own unit of measurement, give it a name here.

**mm per custom unit** – Define how large, in mm, you wish your units to be.

**Resolution** – Some files have a resolution in *dots per inch* included in the file.

Depending on the type of units selected, the resolution will be shown in dots per inch, dots per mm or the user-defined unit selected for the filter.

AutoCAD files do not have absolute units of measurement, so for these files you must decide the length a unit is to have. The easiest way to do this is to use *Calibrate*.

**Calibrate** allows you to set the scale of a drawing. Refer to 6.1 for further details.

**When available use UPI from file** – Some file types contain UPI (Units per Inch) information. Check this box if you want to use UPI information in your measurements.

### 6.3.4 Pen Table Tab

This tab is used to select a pen table file (.RPT file) if one is available. The option will be grayed out if it is not applicable to the selected filter.

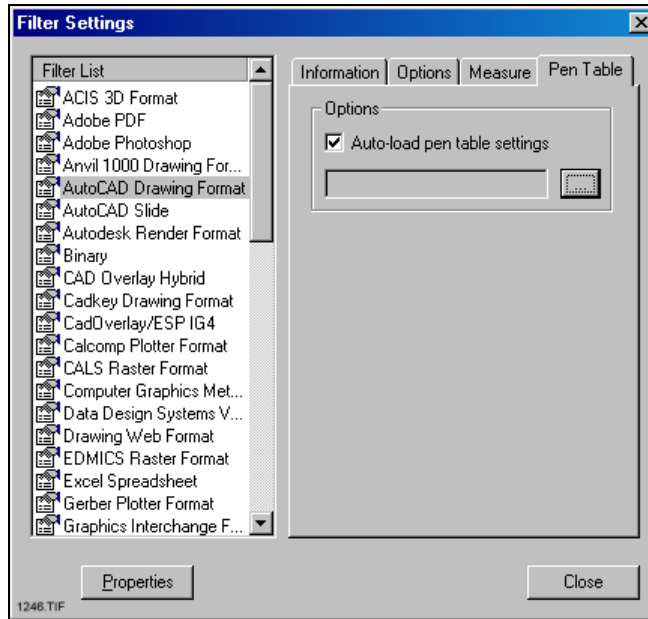


Figure 11 The Filter Settings dialog, Pen Table tab

**Auto load pen table settings** – Check this box to enable the *Choose Pen Table File* (\*.RPT file) selection dialog. When the box is checked and a pen table file is selected, that pen table file will be used automatically when a file using the selected filter is opened.

### 6.3.5 Filter Setup Properties

Some file filters have a properties setup. Click the *Properties* button on the *Filter Settings dialog*. The option will be grayed out if it is not applicable to the selected filter.

#### 6.3.5.1 The AutoCAD Tab

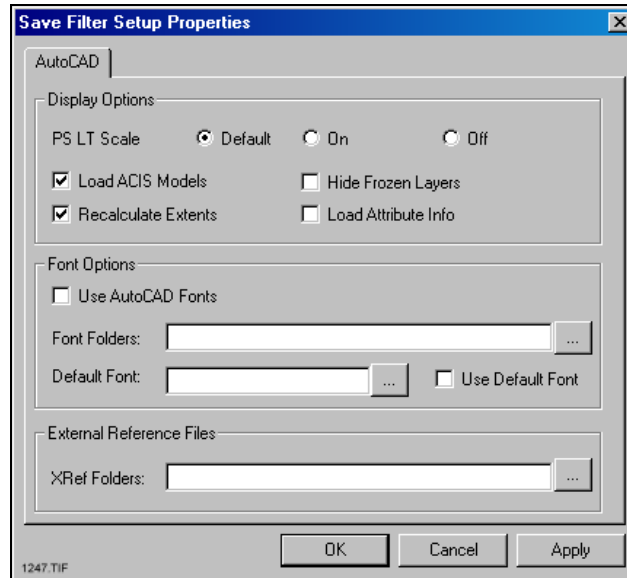


Figure 12 The Filter Properties dialog, AutoCAD tab

Sets display and font options for files created using AutoCAD.

The options are as follows:

**PS LT Scale** – Controls paper space line-type scaling. Select the required option.

**Load ACIS Models** – Check this box if you wish to allow the filter to load 3D ACIS models. Note that these models may take a considerable time to load.

**Hide Frozen Layers** – Check this box if you wish to hide layers that have been frozen.

**Recalculate Extents** – If the drawing's actual extents are not given in the header, use this option to find the extents and redraw the display.

**Use AutoCAD Fonts** – Check this box if you wish to allow the filter to use AutoCAD fonts.

**Font Folder** – If you wish RxView to use AutoCAD fonts, input the path to the folder containing the font files.

**Default Font** – Input the name of the font file you wish to use as default. Check the *Use Default Font* box if you wish to restrict RxView to using that particular font.

**XRef Folders** – Type in folders where the filter is to search for externally referenced drawings. You may specify several folders separated by “;” e.g. C:\XREFS; C:\AUTOCAD etc.

### 6.3.5.2 The Binary Tab

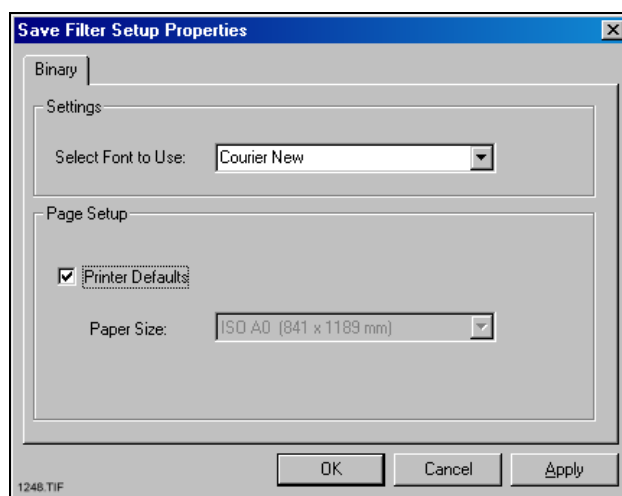


Figure 13 The Filter Properties dialog, Binary tab

Sets the default font and page size for files displayed as binary format. We recommend you leave the *Printer Defaults* box checked.

### 6.3.5.3 The CalComp Tab

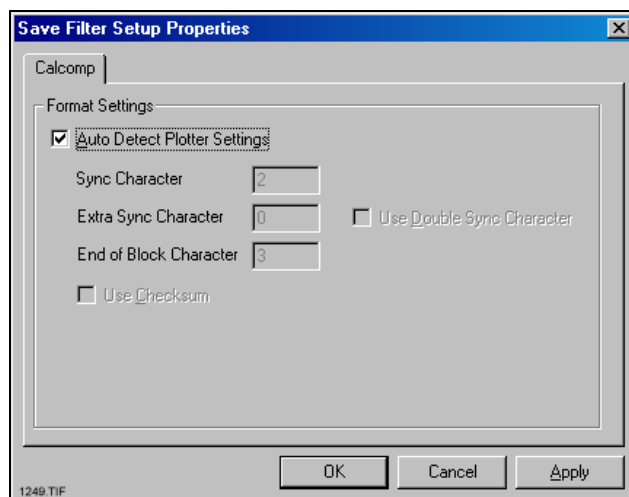


Figure 14 The Filter Properties dialog, CalComp tab

A file may be set up to print correctly on a specified CalComp plotter. The Rasterex filter must then be configured to interpret the file settings such that the file can be printed to a different unit. This tab enables you to configure the settings.

**Auto Detect Plotter Settings** – Check this box if you want the filter to search for the required settings automatically.

**Sync Character** – Set the number of synchronization characters to be used.

**Extra Sync Character** – Input a value here if an additional sync. character is to be used.

**Use Double Sync Character** – Check this box if both the above sync. characters are to be used.

**End Of Block Character** – Input the appropriate end-of-block character.

**Use Checksum** – Check this box if a checksum is used.

### 6.3.5.4 The Gerber Tab

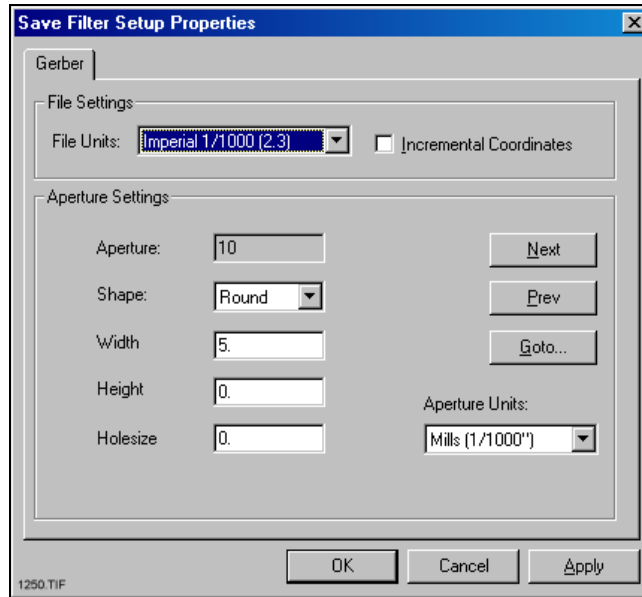


Figure 15 The Filter Properties dialog, Gerber tab

This tab enables you to set the default units and the aperture number, shape and size for Gerber files.

**File Units** – Select the type of units to be used for the file.

**Incremental Coordinates** – Check this box if the file uses incremental coordinates, otherwise absolute coordinates will be used.

**Aperture Number** – The number of the aperture you wish to show/change.

**Shape** – The shape of the aperture.

**Width** – The size of the aperture along the X-axis, given in the file units selected.

**Height** – The size of the aperture along the Y-axis, given in the file units selected.

**Hole Size** - If an object contains a hole, for example a do-nut, this defines the size of the hole.

**Note** Some of the parameters depend on the shape selected.

**Next** – Show the next aperture.

**Prev** – Show the previous aperture.

**Goto** – Opens an “aperture selection” dialog where you can enter the aperture you wish to show/change.

**Aperture Units** - Unit specified for a particular aperture.

### 6.3.5.5 The MicroStation Tab

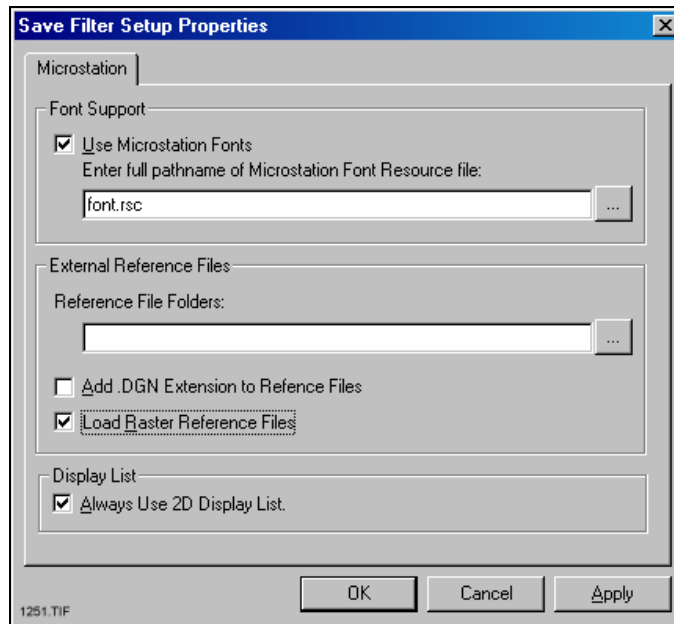


Figure 16 The Filter Properties dialog, MicroStation tab

Sets the path to the required font resource file and reference file folders for MicroStation files.

**Use MicroStation Fonts** – Check this box to instruct the filter to use the font defined by the MicroStation file.

**Font Resource File pathname** – If you check the above box, type in the path of the required font file or browse to it.



**Reference File Folders** – A DGN file can include references to other files. Type in the path to the appropriate folder or browse to the file. Multiple file paths can be entered; separate them with ;. All paths will be searched.

**Add .DGN Extension to Reference Files** – Add the DGN file extension to reference files to simplify file searches.

**Load Raster Reference Files** – You can deselect this option to reduce the time taken to load a hybrid file.

**Display List** – Check to force a drawing to be displayed as a 2D image even though it may originally be a 3D drawing. A 2D image will be displayed faster than a 3D image.

#### 6.3.5.6 The Text Tab

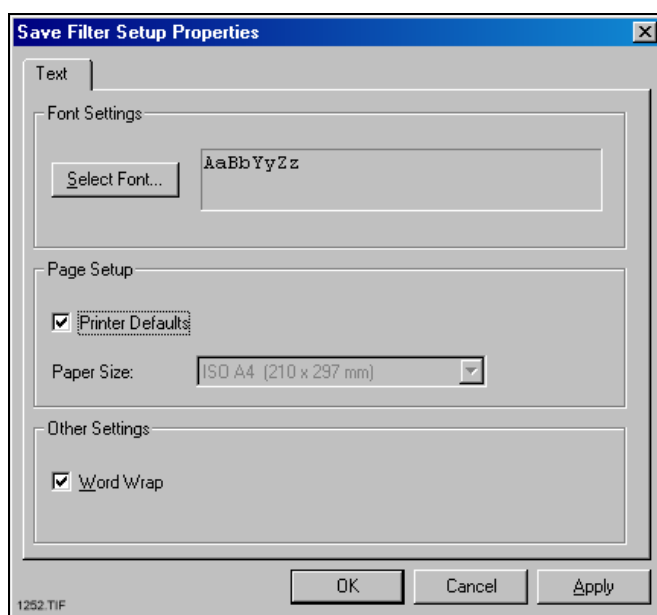


Figure 17 The Filter Properties dialog, Text tab

Sets the default font and other parameters for text files.

**Name** – Use this list box to set the default font to be used when displaying text files.

**Style** – Use this list box to set the default font style to be used when displaying text files.

**Size** – Use this list box to set the default font size to be used when displaying text files.

**Page Setup** – Setup the page layout for printing. Use either default printer settings or select a different paper size.

**Word Wrap** – Check this box if you want words that extend beyond the end of the line to wrap to the next line.

#### 6.3.5.7 The VC5 Tab (Rasterex Vector Format)

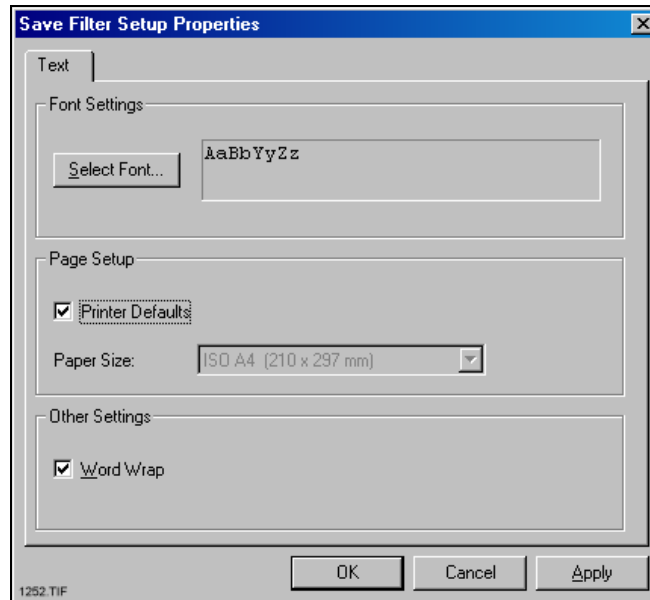


Figure 18 The Filter Properties dialog, VC5 tab

Gives the location of AutoCAD font files. If AutoCAD font files are not found but required, then the drawing text may not be displayed.

**In all cases:**

Click *OK* to accept the settings and close the dialog, click *Apply* to accept the settings and keep the dialog open, or click *Cancel* to close the dialog without implementing any changes.

## 6.4 File Properties Dialog

The *File Properties* dialog provides information about the active file. Click the Open File dropdown button and select menu item *Properties*.

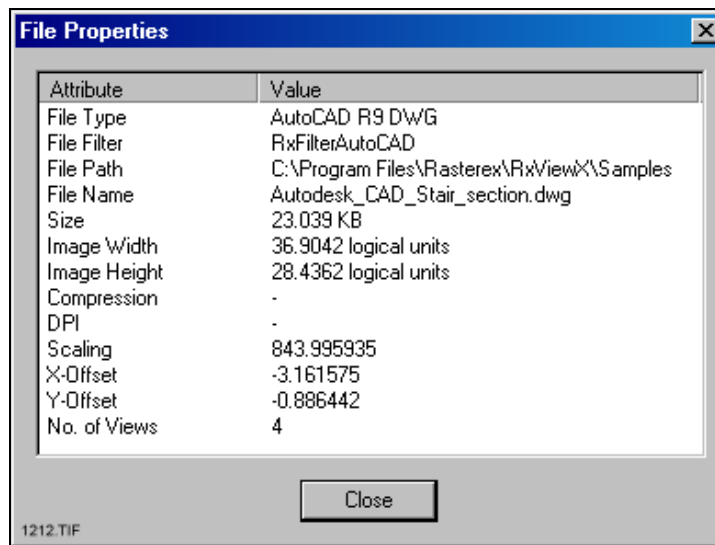


Figure 19 The File Properties dialog

**File Type** – The type of file, e.g. BMP, TIF, JPEG etc.

**File Filter** – The filter used to read the file.

**File Path** – The full path to the file.

**File Name** – The full name and extension of the file.

**Size** – The file's size.

**Image Width** – The width of the image in the units defined for the file. This may be "pixels" in the case of raster files, "drawing units" for vector files etc. The value and units are defined when the file is created and are not affected by image calibration (see 7.2), filter settings (see paragraph 6.3.3), or by the zoom factor.

**Image Height** – The height of the image in the units defined for the file. See *Image Width* above.

**Image Depth** – For 3D images, the depth of the image in the units defined for the file. See *Image Width* above.

**Compression** – The type of file compression used.

**DPI** – Dots per inch, the resolution of the file.

**Scaling** – An internal factor for RimEngine relating the screen coordinate system with the file's internal information.

**X-Offset** – Information retrieved from file header.


**Y-Offset** – Information retrieved from file header.

**No. of Views** – in vector CAD files

**No. of Pages** – in multipage documents, PowerPoint presentations

**No. of Sheets** – in spreadsheets

## 6.5 Vector Control Dialog

To open the *Vector Control* dialog click the *Vector Control* button  on the toolbar. The dialog opens at the Layer Control tab.

### 6.5.1 Layer Control Tab

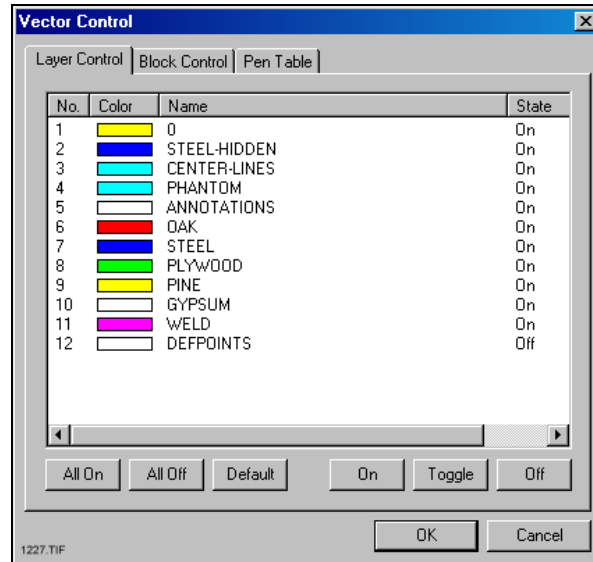


Figure 20 The Vector Control dialog, Layer Control tab

This dialog box enables you to turn on and off selected layers in a multi-layer file. Using standard Windows selection techniques, select in the *Number* column the layers you wish to toggle.

**All On** – Click this option to turn all the layers on (no need to select layers).

**All Off** – Click this option to turn all the layers off (no need to select layers).

**Default** – Click this option to reset the layers to their default values (as they were when the file was initially opened).

**On** – Click this option to turn the selected layer(s) on.

**Toggle** – Click this option to toggle the selected layer(s) to the other setting (on or off).

**Off** – Click this option to turn the selected layer(s) off.

**OK** – Applies the changes and closes the dialog.

**Cancel** - Cancels the changes and closes the dialog.

**Note** When printing a file, only the displayed layers will be printed. The layer columns can be rearranged, resized and sorted.

### 6.5.2 Block Control Tab

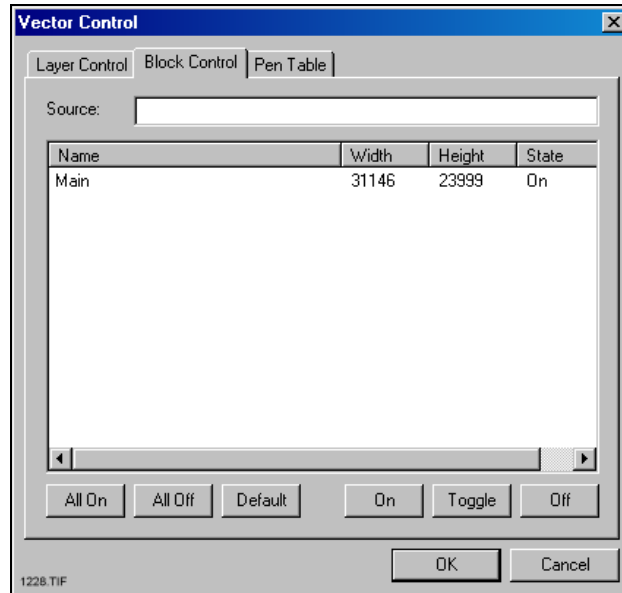


Figure 21 The Vector Control dialog, Block Control tab

CAD files that include blocks can be controlled by the *Block Control Tab*. Blocks are groups of related data.

### 6.5.3 Pen Table Tab

Typically in a vector file, lines have the same on-screen thickness but different colors. Colors can be interpreted to create printed output with different line thickness, colors and styles. Use the *Pen Table* dialog to define how you want a particular line color on the file to be printed or plotted. Change a single line or multiple lines by using standard Windows techniques to select them in the table then set the options as required.

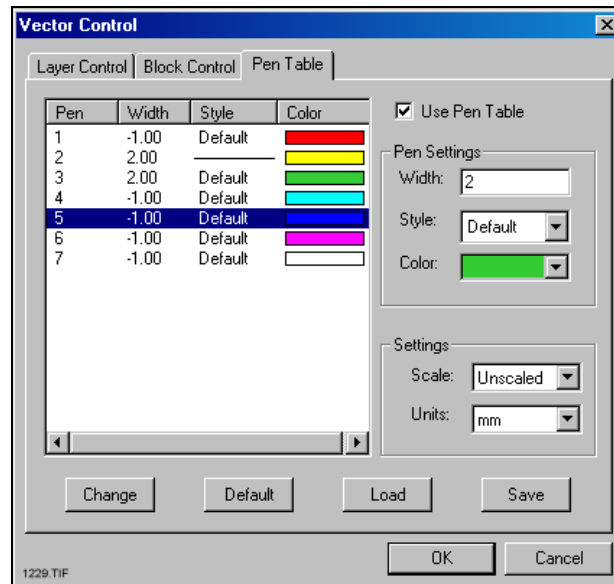


Figure 22 The Vector Control dialog, Pen Table tab

Check the *Use Pen Table* box if you wish to use the Pen Table function. The other options then become active.

**Scale** – Select *Scaled* if when you resize a drawing file you want the line widths to follow the scale of the drawing. *Unscaled* keeps the line widths constant irrespective of the scale of the drawing.

**Units** – Select the units of measurement, metric (mm) or imperial (inches), you wish to use when defining line widths.

**Width** – Set the desired printed width for the selected lines in the units defined in *Units* above. -1 indicates that no width has been defined for that pen.

**Style** – Set the desired printed style for the selected lines (full, dotted, dashed etc.). -1 indicates that no width has been defined for that pen.

**Color** – Set the desired printed color for the selected lines.

**Change** – Click to apply the changes to the file.

**Default** - Click to return to the default settings.

**Load** – Click to load a previously saved pen table (\*.RPT) file. A Load Pen Table dialog opens to enable you to find and select the desired file.

**Save** – Once you have made the desired changes to the pen table, save your table as an .RPT file so you can reuse the settings. A *Save Pen Table* dialog opens enabling you to name the file and place it in the appropriate folder.

**OK** – Apply the changes and close the dialog.

**Cancel** – Cancel the changes and close the dialog.






## Chapter 7 Calibration and Measurement

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### 7.1 Measuring Distances, Angles and Areas

Activate the Measure function by clicking the *Measure* button  on the toolbar. Repeat to switch off the function.

**Note** You may have to calibrate your image first. See this chapter.


The *Measurement* function enables you to measure the length of a line, the angle between two lines, or the area enclosed by multiple lines, on the active file. The results - Distance, Angle, Area, Accumulated distance - are displayed dynamically in the status bar, and will also be displayed in the *Measurement Statistics* dialog (see this chapter).

The results are displayed using the units of measurement selected in the *Filter Settings > Measure* tab for the particular file type.

A *Snap* function is available to assist with accuracy when measuring to and from particular points on a line. See next paragraph for further details.

The results from the Measurement Statistics dialog can be copied to the clipboard then pasted into another application or document.

#### 7.1.1 Snap

Click on the *Preferences* button  to open the Preferences dialog to set the snap mode. The Snap function improves accuracy when measuring vector drawings. The cursor snaps to defined points (nodes) on the nearest line when the cursor moves within a pre-defined range of the node. The defined nodes are Nearest, End point, Middle point, and Center, and each type of node has a particular cursor shape to indicate the node type.

### 7.1.2 Measurement Statistics Dialog

When you have finished measuring an object, angle or area, click the right mouse button at the last point to stop the function and open the *Measurement Statistics* dialog. This dialog, an example of which is shown below, displays the results.

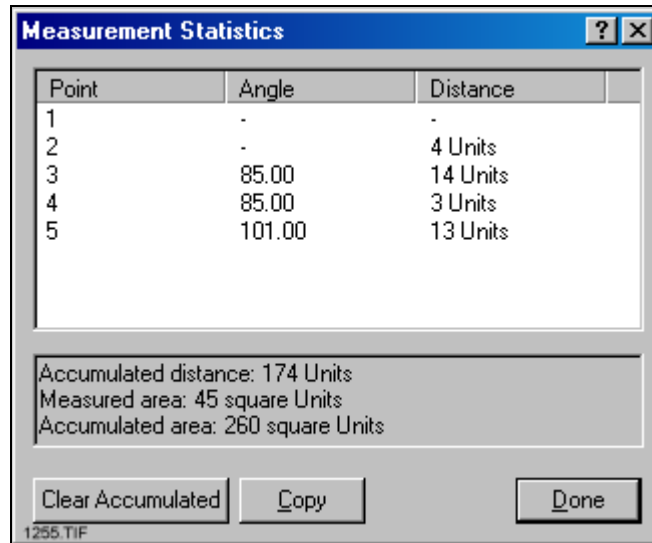


Figure 23 The Measurement Statistics dialog

**Point** – The points you have clicked, 1 being the start point.

**Angle** – The angles between the lines created.

**Distance** – The distances between the points, in the units of measurement defined in the *Filter Settings > Measure* tab for the particular file type.

**Accumulated distance** – The total distance of all the measurement operations since the last time the *Clear Accumulated* button was pressed.

**Accumulated area** – The area generated by the last measurement operation.

**Accumulated area** – The total area generated by all the measurement operations since the last time the *Clear Accumulated* button was pressed.

**Clear Accumulated** – Resets the accumulated totals to zero.

**Copy** – Copies the measurements and accumulated totals to the Windows clipboard so you can paste them into another application as a list. The list has tab delimiters between fields so the text can be pasted and converted to a table in Word or pasted directly into an Excel spreadsheet.

**Done** – Closes the *Measurement Statistics* dialog.

### 7.1.3 Measuring the Length of an Object

1. Zoom in to the image to achieve the appropriate accuracy, activate the Measure function and move the cursor to one end of the object to be measured.
2. Click the **left** mouse button, move the cursor to the other end of the object and click the **right** mouse button. An arrow forms behind the cursor as you move it, indicating the start point and current end-point of the measurement line.

The *Measurement Statistics* dialog is opened and displays the results. The results are presented dynamically in the status bar while the measurement function is in progress, and will be deleted from the status bar when a new function is selected.

### 7.1.4 Measuring the Angle Between Two Lines

1. Zoom in to the image to achieve the appropriate accuracy, activate the Measure function. Move the cursor to one end of the angle to be measured and click the **left** mouse button.
2. Move the cursor to the apex of the angle and click again, then move the cursor to the end of the other line such that the red lines define the required angle and click the **right** mouse button.

The *Measurement Statistics* dialog is opened and displays the results. The results are presented dynamically in the status bar while the measurement function is in progress. The steps can be repeated as often as required, but only the angle between the last two lines is displayed in the status bar. All the angles are listed in the *Measurement Statistics* dialog.

### 7.1.5 Measuring Area Enclosed by Multiple Lines

1. Zoom in to the image to achieve the appropriate accuracy. Activate the Measure function and move the cursor to a point on the boundary of the object to be measured.
2. Click the **left** mouse button on the edge of the object to measure and move the cursor to the next point.
3. Continue clicking points around the object until the object is completely enclosed except from the last point.
4. Click the **right** mouse button to complete the enclosed area and to terminate the current measurement.

The *Measurement Statistics* dialog is opened and displays the results. The results are presented dynamically in the status bar while the measurement function is in progress, and will be deleted from the status bar when a new function is selected.


## 7.2 Calibrating an Image

The *Calibration* function enables you to measure the length of an object on the active file and define a value for that measurement. The ratio of the measured distance to the defined distance is remembered, and thereafter any distances measured on that file will be multiplied by this scaling factor before being presented. The measurements are displayed using the units selected in the *Filter Settings > Measure* tab for the particular file type.

**Note** To calibrate a file, the units of measurement for that file must be set to a standard type, i.e. not *System*. If the *Calibrate* button is inactive, go to the *Measure* tab in the *Filter Settings* dialog and change the unit type. See chapter 5 for further details about *Filter Settings*.

To activate the *Calibrate* function, click the dropdown *Measure* button on the RxViewX toolbar, then select the *Calibrate* menu item, or *Calibrate* from the *Filter Settings > Measure* tab.

**Note** The *Calibrate* function switches off automatically once you have completed a calibration operation.

1. Click the drop-down arrow beside the Measure button  and select the Calibrate function.
2. Move the cursor to the object to be measured.

3. Activate the Snap function if required (see paragraph 7.1.1 for details).
4. Click the **left** mouse button on one end of the object and drag the arrow-headed line to the other end.  
The length of the connecting line is displayed dynamically in the status bar.
5. Click the **right** mouse button to stop calibration.  
A dialog similar to that shown in Figure 24 is displayed:

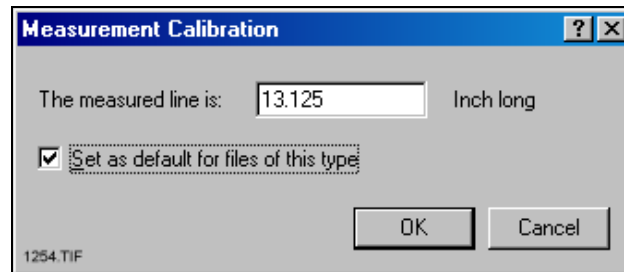


Figure 24 The Measurement Calibration dialog

6. Type into the data field the measurement you wish to use for the selected distance.
7. Check the *Set as default for all files of this type* box if you wish the scaling function to apply to all files using the same filter.
8. Click **OK**.  
Further measurements on this file will use the new scale.



## Chapter 8 Overlay, Compare, Convert, Save

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The *Overlay* feature allows you to overlay one or more files on a background file. Overlay files can be scaled and offset to match a background even if they have different scaling.

The *Compare* feature allows you to compare two files. Typically, these files would be two revisions of a drawing compared so that the differences can be clearly seen. The differences are highlighted while identical features in the drawings are played down.

*Save to raster file* allows you to convert and save a drawing file (vector file or raster file) to a raster file format. Typically, CAD drawings can be saved to a non-editable format such as TIFF.

*Save to vector file* allows you to convert and save a selected drawing file (vector file only) to a vector file format. Typically, CAD drawings can be saved to a compact non-editable standard plot format such as HPGL for distribution.

### 8.1 Overlay

*Overlay* allows you to load several files and display them in the same view window. Many files can overlay each other simultaneously. To overlay files, click the drop-down arrow beside the *Open* button and select the *Overlay File* item.

*Overlay* is a dynamic dialog. Changes to the overlay can be seen on screen as you work. The result is displayed in a new window marked "(Overlay)". The settings applied to the overlay can be changed and saved. Load the saved overlay settings file (file extension is XWS) and you will re-create the overlay as it was last saved. There is no limit to the number of overlay files you can create.

**Note** All files to be overlaid or compared must already be loaded before you open the *Overlay* dialog.

The *Document Overlay and Compare* dialog shows a list box, see below. The list box shows all the currently loaded files. Only one of these files can be selected as the background image the other files will be overlay files.



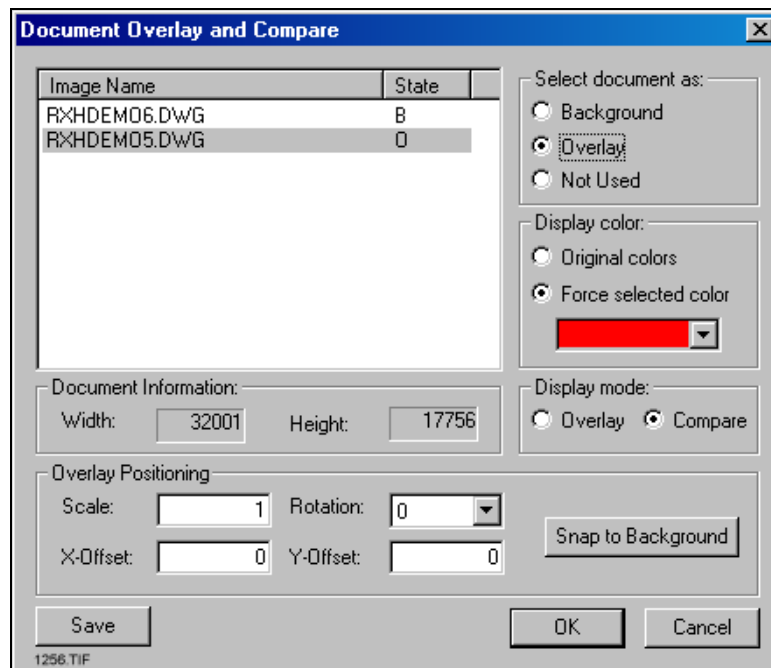


Figure 25 The Overlay Selection dialog

### How to overlay files

1. Load the files to overlay and then click the drop-down arrow beside the *Open* button and select the *Overlay* item.
2. In the *Overlay and Compare* dialog select a background file in the list box on the left. Click the *Select document as: > Background* radio button.  
The selected file is the **background** image. Only one file can be set as background.
3. Select an overlay file in the list box on the left. Click the *Select document as: > Overlay* radio button.  
The selected file is the **overlay** image. You can have multiple overlay files.

The *Display Color* allows setting of colors. *Overlay* files will normally use the original file colors and the overlay files are displayed transparently on top of the background file as a *hybrid*. In *Compare* mode, the overlay file is displayed on top of the background file with an XOR function. This means that any differences between the two drawings are best displayed in a different color. In *Compare* mode, different *Display colors* are automatically selected for the active files.

4. The *Display Mode* offers *Overlay* or *Compare* radio buttons. The paragraph above described the difference between *Overlay* and *Compare* modes.
5. The *Scale* entry field allows you to type in an exact scale of the overlay image in relation to the background image.
6. *Rotation* allows an overlay image to be rotated by selecting the desired angle of rotation, 0, 90, 180 and 270 in the *Rotation* field.
7. The *X-Offset* and *Y-Offset* entry fields allow you to type in the exact position in the background file where the overlay file is to be displayed.
8. *Snap to Background* forces the overlaid files to fit to the background. This also resets the *Overlay Positioning* dialog settings and presents a new *Scale* factor.  
Drag the *Overlay and Compare* dialog box to one side in order to see the result.
9. *Save* stores the settings of the *overlay* or *hybrid* to a file with extension XWS (*Rasterex WorkSpace*) file.
10. Select *OK* to confirm the overlay instructions, or *Cancel* to return to the active file window.

A *Rasterex WorkSpace* file can have the same name as the background file, but with the extension XWS.

An XWS workspace file can be loaded using the drop-down arrow beside the *Open* button and selecting the item *Overlay File*.

**Note** The overlay function is useful for pictures and drawings. You cannot overlay spreadsheets and documents.

## 8.2 Compare

Drawing files can be compared to identify changes in a revision process. Typically, these files would be two revisions of a drawing and the comparison shows the differences between them. The differences are highlighted while identical features in the drawings are played down.

Compare is a dynamic dialog. Changes to the comparison can be seen on screen as you work. The result is displayed in a new window marked "(Overlay)". The settings applied to the comparison files can be saved and loaded. Load the saved compare settings file and you will re-create the compare as it was last saved. There is no limit to the number of compare files you can create.

The process is similar to overlay, but compare files are best viewed in different mono-colors.

**Note** All files to be overlaid or compared must already be loaded before you open the *Overlay* dialog.

The *Document Overlay and Compare* dialog shows a list box, see previous section. The list box shows all the currently loaded files. Only one of these files can be selected as the background image the other files will be overlaid.

### How to compare files

1. Load the files to compare and then click the drop-down arrow beside the *Open* button and select the *Overlay* item.
2. In the *Overlay and Compare* dialog select a background file in the list box on the left. Click the *Select document as: > Background* radio button.  
The selected file is the **background** image. Only one file can be set as background.
3. Click the *Display Mode > Compare* radio button, and the background file is assigned a mono-color.  
The selected file is the **background** image. Only one file can be set as background.
4. Select the file to compare in the list box on the left. Click the *Select document as: > Overlay* radio button and the compare file is assigned a different mono-color.

The selected file is marked as an **overlay** image. Even though you can have multiple overlay files, you will not normally use more than 2 files for comparison.

The *Display Color* allows setting of colors. In *Compare* mode, the overlay file is displayed on top of the background file with an XOR function. This means that any differences between the two drawings are best displayed in a different color. In *Compare* mode, different *Display Colors* are automatically selected for the active files. Colors are assigned even if the drawings are normally displayed as monochrome using the *Preferences* dialog.

5. The *Display Mode* is set to *Compare* radio buttons.
6. The *Scale* entry field allows you to type in an exact scale of the compare image in relation to the background image. This feature is not normally used in compare files as they will be almost identical.
7. *Rotation* allows a compare image to be rotated by selecting the desired angle of rotation, 0, 90, 180 and 270 in the *Rotation* field. This feature is not normally used in compare files as they will be almost identical.
8. The *X-Offset* and *Y-Offset* entry fields allow you to type in the exact position in the background file where the compare file is to be displayed. This feature is not normally used in compare files as they will be almost identical.
9. *Snap to Background* forces the overlaid files to fit to the background. This also resets the *Overlay Positioning* dialog settings and presents a new *Scale* factor. This feature is not normally used in compare files as they will be almost identical.

Drag the *Overlay and Compare* dialog box to one side in order to see the result.

10. *Save* stores the settings of the *compare* or *hybrid* to a file with extension XWS (*Rasterex WorkSpace*) file.
11. Select *OK* to confirm the overlay instructions, or *Cancel* to return to the active file window.

A *Rasterex WorkSpace* file can have the same name as the background file, but with the extension XWS.

An XWS workspace file can be loaded using the drop-down arrow beside the *Open* button and selecting the item *Overlay File*.

### 8.3 XWS - Rasterex WorkSpace files

*Rasterex WorkSpace* files contain the file references and settings for creating *Overlay* or *Compare* images.

RxViewX can use older versions of XWS files created with RxHighlight R4 and RxHighlight 97.

XWS files created in RxViewX R6 and RxView R6 with markup cannot be read by RxHighlight 97 or RxHighX. All users should therefore upgrade to the same version of the markup software.

You can have many Workspace files comparing different file revisions or overlay scenarios.

Workspace files can be loaded, edited and re-saved with new file configurations and settings.

If the participating files registered in the *Rasterex WorkSpace* file are not found in their original locations, then the local folder from which the *Rasterex WorkSpace* file is opened is searched.

## 8.4 Save to raster file

*Save to raster file* option enables you to save files in a different supported raster or picture format. Raster files are not easily modified and are frequently used as secure files for distribution and printing. You can save the following file types as raster files.

- Vector files (Drawings)
- Raster files (pictures)
- Multipage documents (currently first page only)
- Single page documents

Click the drop-down arrow beside the *Open* button and select *Save to raster file*. The following dialog is displayed:

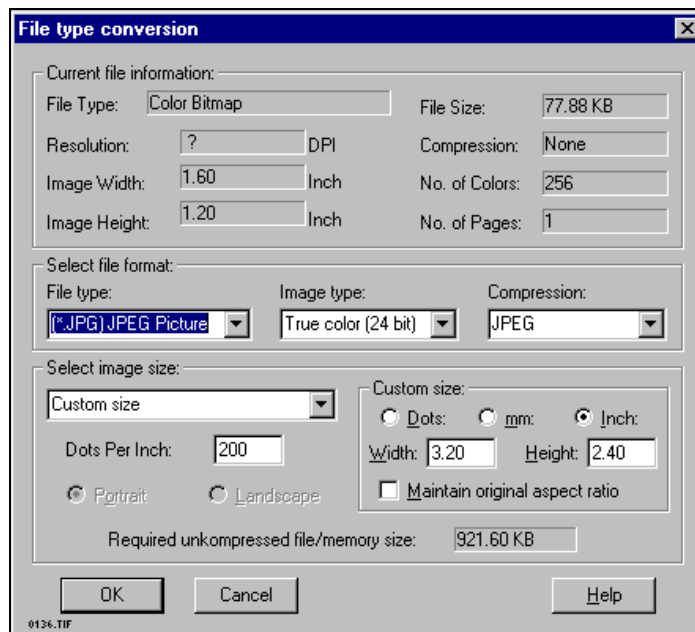


Figure 26 The Save to raster file dialog

*Select file format* group contains the options for selecting and specifying the raster file.

*File type* offer a dropdown list of available raster formats.

*Raster type* offers a dropdown list of supported raster types or color depth for the selected format. As a rule, fewer bits creates a smaller file.

*Options* button, if available, offers the type of compression.

*Select image size* group enables you to select the physical size of the image after it has been converted. Click on the arrow to open a list box of the available options. If you select *Custom size*, then the *Size* group becomes active and you can select the settings you require. Any other selection will apply preset values to the *Custom size* fields and maintain the original aspect ratio. Select a DPI value suitable for the type of image being generated. Be aware that this setting will dramatically affect the size of the resulting file.

*Size of file, if saved uncompressed* indicates the size of the file that will result from converting the current file using the selected settings and WITHOUT compression. You can generate extremely large files if you create settings that are too large. Always check this field before clicking OK.

*Cancel* returns to the active file.

*OK* presents the *Save* dialog with file name and extension.

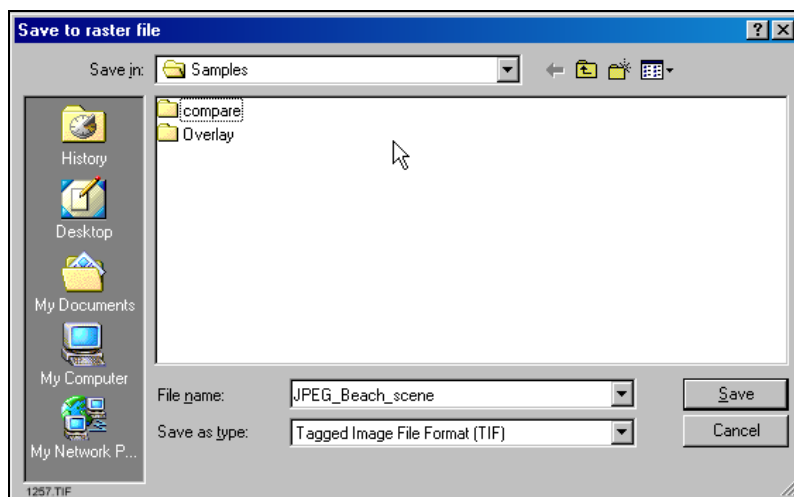


Figure 27 The Save dialog

## 8.5 Save to vector file

*Save to vector file* option enables you to save vector files in a different supported vector or drawing format. Some vector files not easily modified and are frequently used as secure files for distribution and printing. You can save the following file types as vector files.

Vector files (Drawings)

Click the drop-down arrow beside the *Open* button and select *Save to vector file*. The following dialog is displayed:

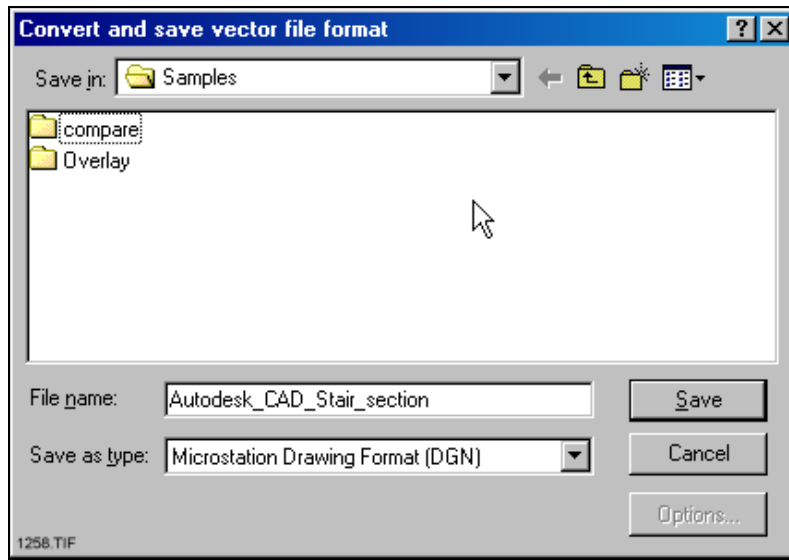


Figure 28 The Save to raster file dialog

*Save as type* offers a dropdown list of available vector formats. Vector files do not have color or compression options.

*File name* is the recommended file name with the extension of the selected vector format.





## Chapter 9 Markup Toolbar Buttons

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The markup toolbar has 2 extensive dialogs that are described in detail in the next chapter.

Markups are drawn with the thickness of the pen width defined in the *Set Line Thickness* box at the lower end of the Markup toolbar.

Text characters and numbers are written using Windows fonts and are not affected by the *Set Line Thickness* settings.

### 9.1 Markup Toolbar

The Markup tools are displayed down the left side of the work area.

Some tools have several options. These tools have a drop-down arrow beside them. Click the arrow to open a list of the options.

#### 9.1.1 Enable / Disable Button



Toggles markups display. When markups are disabled, the remaining buttons in the markup toolbar (except the *Markup Preferences* button) are grayed out.

#### 9.1.2 Save Button



Click this button to save your markups to file. The markups will be saved to a file with the same name as the markup file and with the extension as specified in the *Markup Preferences* dialog. The file will be saved in the directory specified in the *Markup Preferences* dialog.

Click the button drop-down for a menu of Save options.

##### 9.1.2.1 Save

Check the Save option to perform a standard save operation.

##### 9.1.2.2 Export

Check the Export option to export the markups to any supported vector file format. Make sure that you do not over-write your active file!

##### 9.1.2.3 Refresh

Refresh your markup file and show any markups added by other commentators.

### 9.1.3 Markup Preferences Button



Click this button to open the Markup Preferences dialog. This dialog box has two tabs; *General* and *File*. See chapter Markup Dialogs.

### 9.1.4 User / Layer Control Button



Click this button to open the Markup User Control dialog. This dialog box has two tabs; *Markup User Control* and *Markup Layer Control*. See chapter Markup Dialogs.

### 9.1.5 Undo Button



Undo the last markup made or edited. The button has only one undo level and is grayed out if there is no operation to undo.

### 9.1.6 Rubber Button



Click this button to draw markups that hide image information and other markups. These markups are invisible but can be selected, moved and deleted like visible markups.

Use this tool to draw free-hand lines, as though with a pen, on the active image. Move the cursor to the desired start point, click and hold the left mouse button, and move the cursor to draw the line.

Select the pen width in the Set Line Thickness list box at the bottom of the Markup toolbar.

“Rubber” markup color always follows the background color of the file.

### 9.1.7 Marker Button



Click this button to toggle the drawing mode between *Normal* and *Mark*. In *Normal* mode you draw with opaque colors on the screen, while in *Mark* mode you draw with transparent colors. This gives the impression of drawing with a marker pen. *Mark* mode is effective when used on black and white documents such as text documents and mono raster images, but less useful on multi-colored images.

### 9.1.8 Push Button




Select this function to inspect the contents of Note and Link buttons.

### 9.1.9 Edit Button




Click on this button to activate the Markup Edit function. This allows you to select a markup. Markup functions Edit, Move, Size, Rotate, Delete, Zoom, Cut and Copy are described in chapter Markup dialogs. The commands available for markups vary according to their properties. The cursor changes according to available functionality.

Select the  icon and click a markup, the user or commentator name and markup layer show in the status bar.

### 9.1.10 Link Button



Click on this button to activate the Create Link function. The Link function is used to create links from the active image to other documents. A link icon is placed onto the active file so that the linked files can be opened. Select the *Push* button  to activate the link. For information on links, see the chapter Markup Dialogs

### 9.1.11 Text Button




Click on this button to activate the *Markup Text* dialog. This is used to write text directly onto the active file, and is normally used for shorter markups. For longer text markups you are recommended to check the *Hide the text in Note envelope* option in the *Markup Text* dialog. A full description of the *Markup Text* dialog and functions is in chapter Markup Dialogs.

Set the color in the *Markup Preferences* dialog.

Set the text font size in the *Font* dialog displayed when you click on the drawing. When working with larger drawings you may need to experiment to find the appropriate settings.


Set the thickness of the markup frame and arrow using the pen width defined in the *Set Line Thickness* list box at the lower end of the Markup toolbar.

**Note** If you cannot see the text you have written, or it is extremely small, this may be because the *Line width and text size* option is set to *Absolute document units*, i.e. relative to the size of the original drawing. For example, text written in a 10 pt. font on an A0 drawing will be virtually invisible. Click the *Markup Preferences* button  and set the *Line width and text size* to *Current display units*, then rewrite the markup. If you wish to delete the original markup, zoom in on the area till you can see the markup, then select and delete it in the normal fashion.

**Note** When the *Line width and text size* option is set to *Current display units*, the resulting markup text size will depend on the amount of zoom applied to the document when the text is written.

#### 9.1.11.1 Note Button



Long markup texts can be stored in "envelopes" so they do not cover the work area. To inspect the contents of a note, select the  button and click the note. A full description of the text dialog and text functions is in chapter Markup Dialogs.

## 9.1.12 Lines



Lines and curves are drawn using this button.

Set the thickness of lines and arrows using the pen width defined in the *Set Line Thickness* list box at the lower end of the Markup toolbar.

Set the line color in the *Markup Preferences* dialog.

Toggle marker mode using the Marker button.

Click the drop-down arrow to open a list of the options available.

### 9.1.12.1 Freehand Pen



Select this option to draw free-hand lines, as though using a pen, on the active image. Move the cursor to the desired start point, click and hold the left mouse button, and move the cursor to draw the line.

### 9.1.12.2 Lines



Select this option to draw straight lines on the active image. Move the cursor to the desired origin and click the left mouse button. Move the cursor to the desired end-point for the line then click the left mouse button again. If you now move the cursor further, another line will be drawn using the previous end-point as its origin. To stop drawing, click the right mouse button.

**Orthogonal Mode** Hold down the CTRL key when drawing lines and the lines are snapped and drawn 45 or 90 degrees relative to the screen.

### 9.1.12.3 Curves



Select this option to draw curved lines on the active image.

### 9.1.12.4 Measurement Area



Select this option to draw a measurement area on the active image.

#### 9.1.12.5 Open

Select this option if open lines or curves are required.

#### 9.1.12.6 Closed

Select this option if closed lines or curves are required.

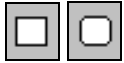
#### 9.1.12.7 Filled

Select this option if lines or curves are to be filled, i.e. the enclosed area is opaque.

#### 9.1.12.8 Edged

Select this option if lines or curves are to be edged, i.e. the enclosed area is transparent.

### 9.1.13 Rectangles / Rounded Rectangles



Draws a rectangular or rounded rectangular area. Click the arrow to open a drop-down menu of the options available. Note that rectangles can be restricted to squares.

**Square Mode** Hold down the SHIFT key when drawing rectangles or rounded rectangles and a square or rounded square is drawn.

#### 9.1.13.1 Rectangles/Rounded

Select the type of rectangle required. Rounded rectangle gives a rectangle with round corners.

#### 9.1.13.2 Outlined

Select if the rectangle is to be open (unfilled).

#### 9.1.13.3 Filled

Select if the rectangle is to be filled.

#### 9.1.13.4 Edged

Select if the rectangle is to be opaque.



### 9.1.14 Ovals / Bubbles

Draws an oval or bubble. Click the arrow to open a drop-down menu of the options available. Note that ovals can be restricted to circles.

**Circle Mode** Hold down the SHIFT key when drawing circles or bubbles and a circle or symmetrical bubble is drawn.

#### 9.1.14.1 Ovals/Bubbles

Select the type of shape required; Ovals or bubble shapes.

#### 9.1.14.2 Outlined

Select if the shape is to be open (unfilled).

#### 9.1.14.3 Filled

Select if the shape is to be filled.

#### 9.1.14.4 Edged

Select if the shape is to be opaque.



### 9.1.15 Arrows/Dimension Lines

Draws an arrow or a dimension line. Click the arrow to open a drop-down menu of the options available.

#### 9.1.15.1 Arrows/Dimensions

Select the type of arrow required. Dimension lines are double-headed and include the length measurement in the selected units.

#### 9.1.15.2 Double

Select if the arrow is to have two heads.

#### 9.1.15.3 Filled

Select if the arrow is to be filled.





## 9.1.16 Measurement Area

Draws a measurement area enclosed by polylines. Click the arrow to open a drop-down menu of the options available.

### 9.1.16.1 Outlined

Select if the measurement area is to indicate the circumference of the area.

### 9.1.16.2 Filled

Select if the measurement area is to indicate the enclosed area.

### 9.1.16.3 Edged

Select if the measurement area is to be opaque.



## 9.1.17 Set Line Thickness

Sets the line thickness or width for drawing lines, rectangles etc. The thickness is measured in dots.

### How to set line thickness

12. Click the *Line Thickness* list box.
13. The list box drops down.
14. Scroll the list box to the required line thickness.
15. Confirm line thickness by clicking on the number.

Or:

Select the box and type the desired line thickness into the box.

**Note** If the line remains very thin, this may be because the *Line width and text size* option is set to *Absolute document units*, i.e. relative to the size of the original drawing. For example, a line drawn on an A0 drawing will be virtually invisible. Click the *Markup Preferences* button




and set the *Line width and text size* to *Current display units*, then redraw the markup. If you wish to delete the original markup, zoom in on the area till you can see the markup, then select and delete it in the normal fashion.

## Chapter 10 Markup Dialogs and Editing

*Markup Preferences* allows control of markup appearance.

*User/Layer Control* allows control of markup layers and their users or commentators.

### 10.1 Markup Preferences Dialog

Click the *Markup Preferences* button  on the Markup toolbar. This dialog holds two tabs; the *General* tab and the *File* tab.

#### 10.1.1 General Tab

Use this dialog to control general markup features and options.

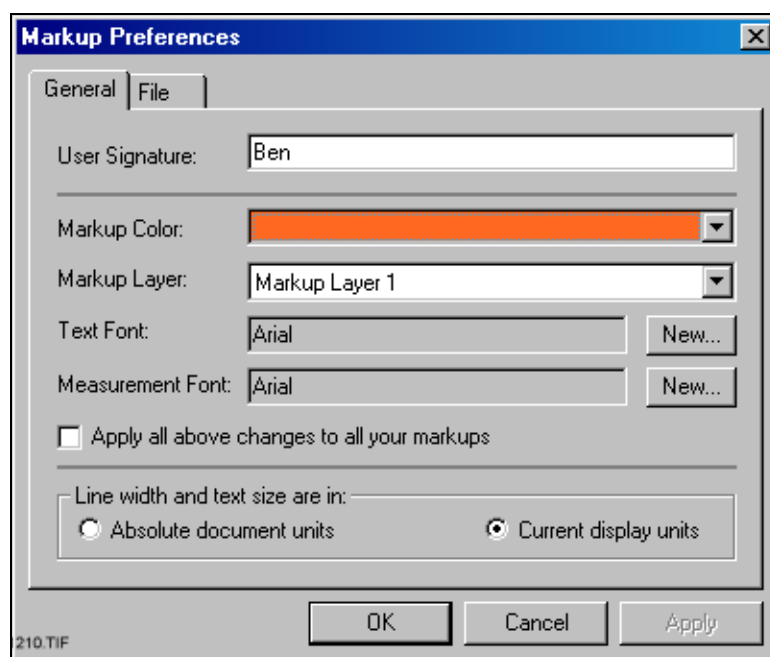


Figure 29 The Markup Preferences General Tab

**User Signature**

The name or alias of the current user. User information is shown in the status bar when a markup is selected.

**Markup Color**

The markup color used by the current markup layer. All markups on the layer are written in this color. If the color is changed, the color of previous markups on this layer is unchanged but new markups are written in the new current color.

**Markup Layer**

The markup layer currently selected. All markups are written in this layer. If the layer is changed, the new markups are written in the new current layer. Layer information is shown in the status bar when a markup is selected.

**Text Font**

The font to be used in text markups. Click the Font button to open a font selection dialog. New text markups are written in the new font and size.

**Measurement Font**

The font to be used for measurement markups. Click the Font button to open a font selection dialog. New measurement markups are written in the new font and size.

**Apply user, layer and color**

New markups will always be created using the currently selected user signature, color and layer. However, if existing markups were created in different colors or layers, you can change all markups to the current color, layer and user by checking this item and pressing the *Change* button. The changes will only be made to the active file.

**Note** This is a powerful command without an undo function. If you need to restore the original markup, then close the file and do NOT save the markup changes which are offered on exiting.

### Line width and text size are in

*Absolute document units* - The line width selected in the Markup Toolbar is relative to the active document's size. A thin markup line on a large document (for example an A0 format drawing) may not be visible on the screen.

*Current display units* - The line width selected in Markup Toolbar is relative to the display size. Typically, a markup line visible on the screen for a large document (for example an A0 format drawing) will be thick when the document is printed or plotted.

### 10.1.2 General Tab

Use this dialog to control the type of markup storage file and the location of the markup file.

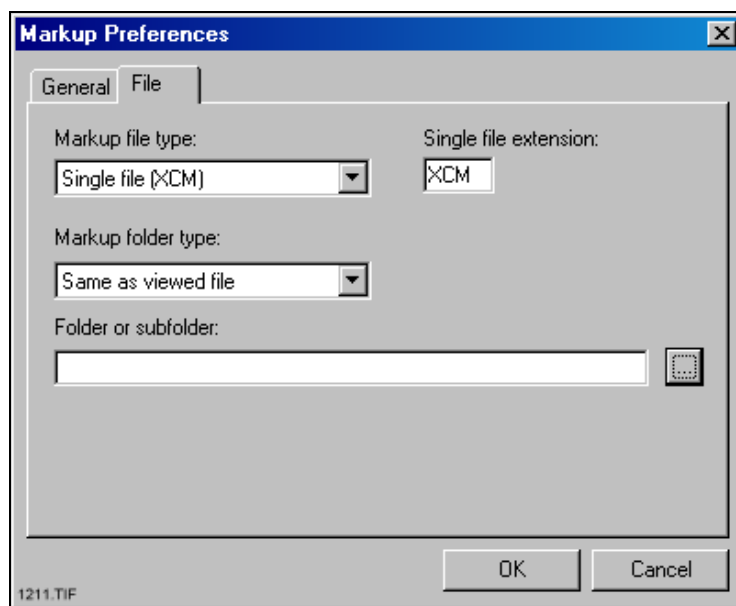


Figure 30 The Markup Preferences File Tab

### Markup file type

- **Single file (XCM)** - Markups are saved in a single file which contains the markups from all the users. The default *Single file extension* is .XCM.
- **000 - 999 files** - Markups are saved in multiple files, one file for each commentator. The files are saved sequentially in the range 000 - 999.
- **X00 - XZZ files** - Markups are saved in multiple files, one file for each commentator. The files are saved sequentially in the range X00 - X9Z.

### Single file extension

When you select Single file (XCM) as the Markup file type, the XCM file extension is added as default. However you can save the markup file as any type of file by typing in the appropriate file extension.

### Markup folder type

You can select in which folder you wish the markup file to be saved:

- **Same as viewed file** - The markup file is saved in the same folder as the image file to which it is attached.
- **Subfolder to viewed file** - The markup file is saved in a subfolder to the folder in which the image file is located. Type the name of the required subfolder into the Folder or Subfolder field.
- **Separate markup folder** - The markup file is saved in an entirely separate folder to that in which the image file is located. Type the full path and name of the required folder into the Folder or Subfolder field.

### Folder or subfolder

If you have selected to save the markup file in a subfolder to the image file folder, or in an entirely separate folder, then browse to the folder or type the path and name of the required markup folder into this data field as described above.

## 10.2 Markup User and Layer Control Dialog

Click the *User / Layer Control* button  on the Markup toolbar. This dialog holds two tabs; the *User Control* tab and the *Layer Control* tab.

### 10.2.1 User Control Tab

Use this dialog for an overview of users and markups. Turn On and Off markups written by different users, and delete users.

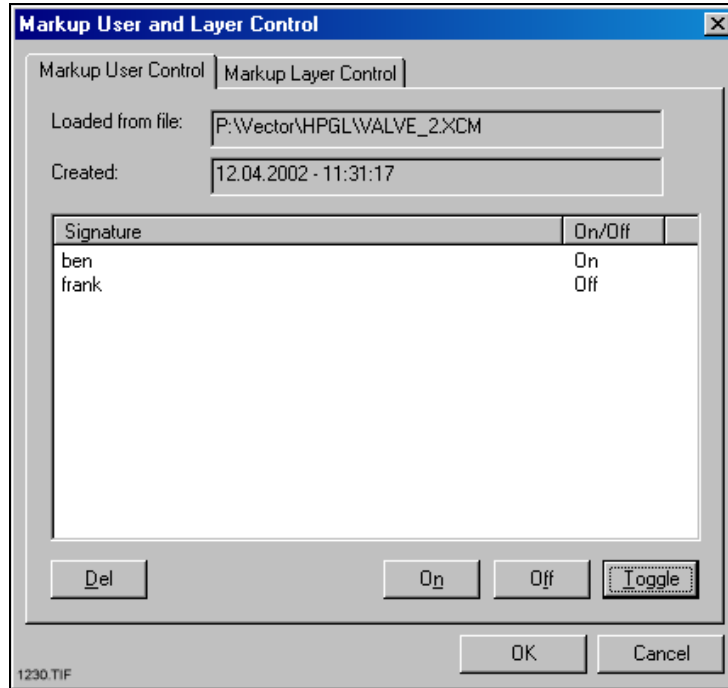


Figure 31 The Markup User and Layer Control dialog > User Control tab

The dialog comprises a list box where each line represents a user with his or her signature, and On or Off indicating whether the respective user's markups are currently turned on or off. This is a dynamic control so you can see the changes on screen when you toggle or delete users.

#### **10.2.1.1 To Turn Users On and Off**

16. Using standard Windows techniques select one or more users in the list box.
17. Click On, Off or Toggle as appropriate to turn the selected user's markups on or off.
18. Click Close to close the dialog.

#### **10.2.1.2 To Delete Users**

1. Using standard Windows techniques select one or more users in the list box.
2. Click Del to delete the selected users and their markups - this operation removes all the selected markups.
3. Click OK to confirm deletion, or Cancel to restore the deletion.

**Warning** Deleting other users' markups is an irreversible command. If you are in doubt then click Cancel.

**Note** Your User Profile determines whether you can delete other user's markups. In an organization this will be a restricted command.

## 10.2.2 Layer Control Tab

The dialog comprises a list box where each line represents a Markup layer, and On or Off indicating whether the markup layer is currently turned on or off. This is a dynamic control so you can see the changes on screen when you toggle layers.

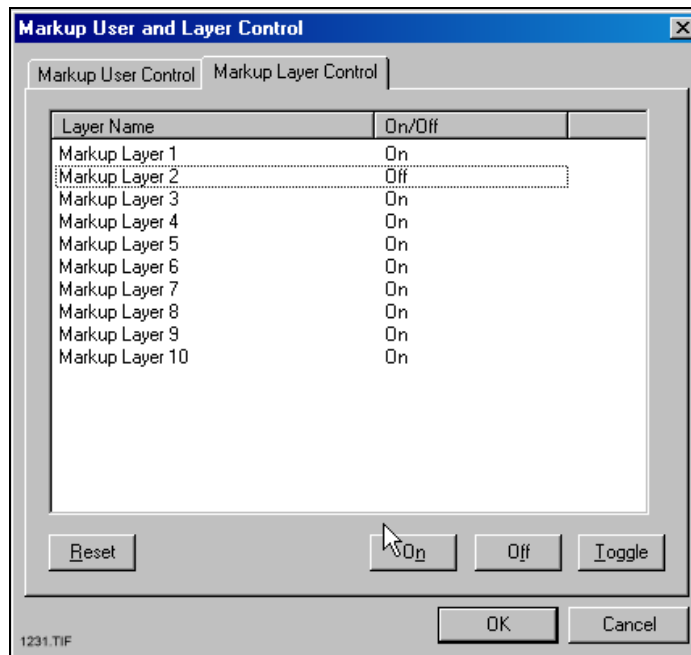


Figure 32 The Markup User and Layer Control dialog > Layer Control tab

### 10.2.2.1 To Turn Layers On and Off

1. Using standard Windows techniques select one or more layers in the list box.
2. Click On, Off or Toggle as appropriate to turn the selected markup layers on or off.
3. Click Close to close the dialog.



## 10.3 Text Markup

### 10.3.1 Text Button




Click on this button to activate the *Markup Text* dialog. This is used to write text directly onto the active file, and is normally used for shorter markups. For longer text markups you are recommended to check the *Hide the text in Note envelope* option in the *Markup Text* dialog. A full description of the *Markup Text* dialog and functions is in chapter Markup Dialogs.

Set the color in the *Markup Preferences* dialog.

Set the text font size in the *Font* dialog displayed when you click on the drawing. When working with larger drawings you may need to experiment to find the appropriate settings.


Set the thickness of the markup frame and arrow using the pen width defined in the *Set Line Thickness* list box at the lower end of the Markup toolbar.

**Note** If you cannot see the text you have written, or it is extremely small, this may be because the *Line width and text size* option is set to *Absolute document units*, i.e. relative to the size of the original drawing. For example, text written in a 10 pt. font on an A0 drawing will be virtually invisible. Click the *Markup Preferences* button  and set the *Line width and text size* to *Current display units*, then rewrite the markup. If you wish to delete the original markup, zoom in on the area till you can see the markup, then select and delete it in the normal fashion.

**Note** When the *Line width and text size* option is set to *Current display units*, the resulting markup text size will depend on the amount of zoom applied to the document when the text is written.


#### 10.3.1.1 Note Button




Long markup texts can be stored in "envelopes" so they do not cover the work area. To inspect the contents of a note, select the  button and click the note.

## 10.4 Editing Markups

### 10.4.1 Rules

1. Markups can only be edited by the owner of the markup.
2. The current user must own the markup in order to edit it. The current user is the case-sensitive name shown in the *Markup Preferences > General tab > User Signature*.
3. To change the current user click the *Markup Preferences* button  and write the new user's name. The user name is case-sensitive. Close the dialog.
4. User information is stored in the markup file. If a user signature is changed you may be asked to save the markup file before exiting the *Markup Preferences* dialog.

### 10.4.2 Selecting markups

1. Click the  *Edit* button on the Markup toolbar.
2. Click a markup. The owners name is shown in the status bar. If you are not the owner then you cannot edit the markup. If you own the markup then it will be selected. A selection is enclosed by a black frame with one or more small buttons or handles.
3. Click outside the selection to de-select.


### 10.4.3 Editing markups

The editing controls depend on the type of markup.




*Move* a markup by placing the cursor inside the markup selection and clicking the left mouse button. The cursor changes from an arrow to a hand. Press and hold down the left mouse button, and drag the markup to the desired position. Click outside the line to de-select.




*Zoom* or size a markup by placing the cursor on the  button. The cursor changes to a finger. The markup is scaled by holding down the left mouse button and dragging the corner of the markup. Click outside the line to de-select.




*Rotate* a markup by placing the cursor on the  button. The cursor changes to a finger. The markup is rotated by holding down the left mouse button and dragging the corner of the markup. Click outside the line to de-select.



*Control* button on a selected line, arrow or dimension offers *Drag and Scale* buttons on the markup. Place the cursor on the  button. The cursor changes to a finger. Click to access the grip buttons.



*Drag and scale* a markup line, arrow or dimension by placing the cursor on the  button, holding down the left mouse button and dragging to move or change the length of a line. Click outside the line to de-select.

### Right mouse button menu

Click the right mouse button to show other options.

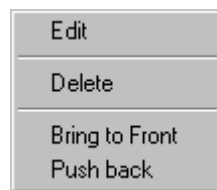


Figure 33 The Markup Right mouse button menu

*Edit* allows you to edit the selected markup.

*Delete* allows you to delete the selected markup.

*Bring to Front* allows you to move a markup to the front.

*Push Back* allows you to move a markup to the back.

### 10.4.4 Markup Edit dialog

*Edit* presents the following common dialog for all markups..

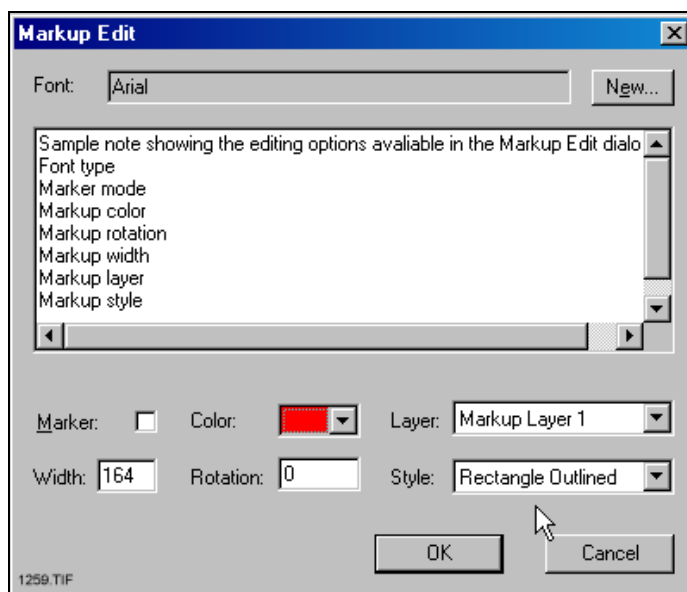


Figure 34 The Markup Edit dialog

The options presented in the Markup Edit dialog are described throughout this guide.

Changes to markups are not permanent unless the Markup file is saved.

## 10.5 Links

*Link* information is stored in a Markup file. If the file registered in the link is not found in its original location, then the local folder from which the file and Markup is opened is searched.

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