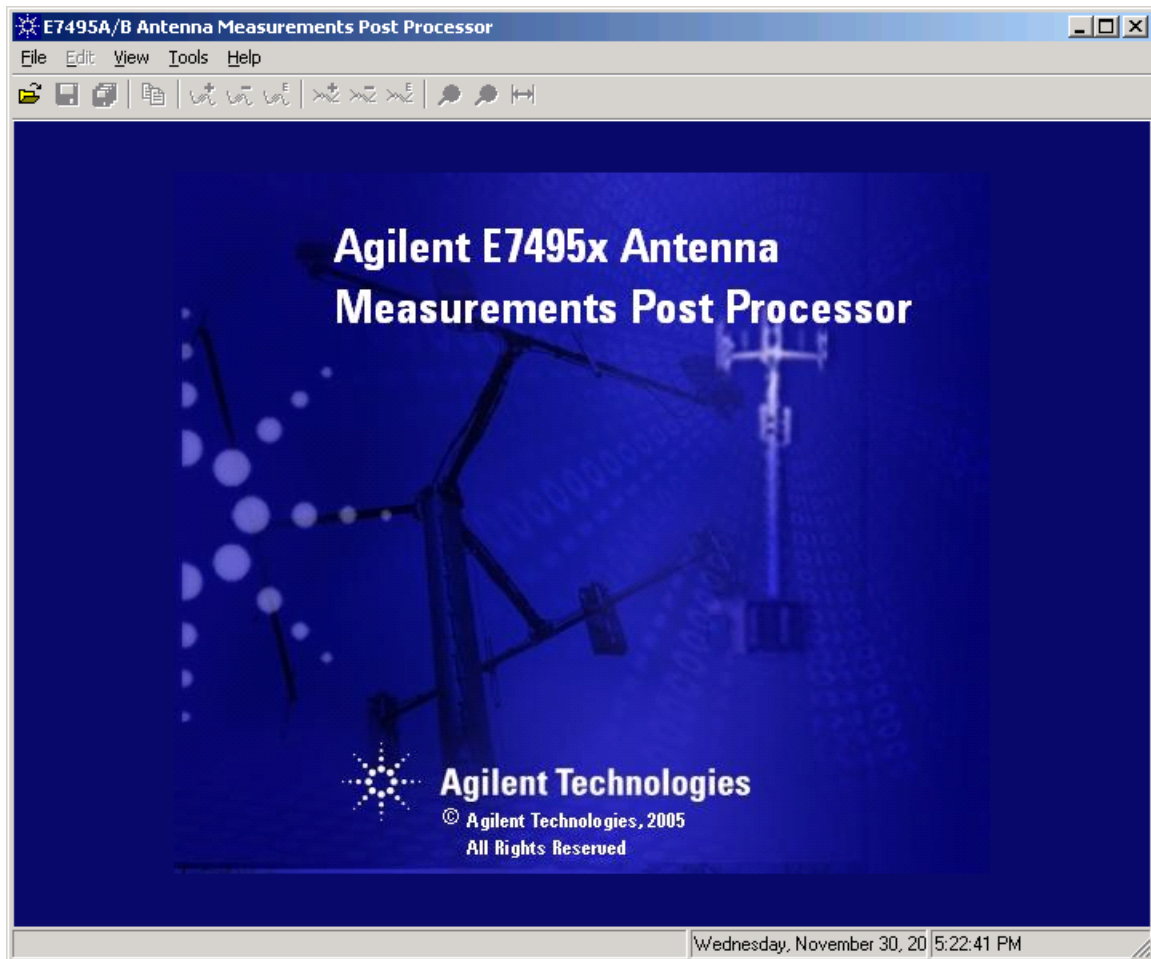# Agilent E7495A, E7495B
Antenna Measurements Post Processor

Version A.01.05

December 12, 2005

http://www.agilent.com/find/e7495_software

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Table of Contents

Agilent E7495A, E7495B Antenna Measurements Post Processor

The "E7495A/B Antenna Measurements Post Processor" tool is an external PC based application for the E7495A and E7495B Base Station Test Sets providing users with an easy-to-use interface to analyze Return Loss and Distance to Fault saved measurements. This application allows users to load "Save Data" files from E7495A/B Return Loss or Distance To Fault measurements to graph the trace data, and provide additional graph manipulation functions (adding markers, zoom, scaling, comments, and trace overlays). The application will also allow the user to store and print the graphs along with the added comment field information.

1   System Requirements

1.1   Hardware Requirements

Processor: 450MHz, Pentium II class (600MHz, Pentium III class recommended)
Memory: 96MB RAM (Microsoft Windows 2000 Pro)/160MB RAM (Microsoft XP)
Display: 800x600 resolution, 16k Colors.

1.2   Software Requirements

1.3   Supported Operating System

Microsoft® Windows® XP Home/Pro (SP1 or later)

Note: Windows XP is supported for the Antenna Measurements Post Processor. The following Operating Systems should work, however as all design and testing was performed using Windows XP, we cannot guarantee that all features and functions will fully operate using other Operating Systems:
   - Microsoft® Windows® 98 SE
   - Microsoft® Windows® Millennium Edition
   - Microsoft® Windows® 2000 Pro (SP4 or later)

1.4   E7495A / E7495B Required Firmware Versions

E7495A/B firmware A.03.00 and newer

1.5   Other Utilities required

Microsoft® .NET Framework 1.1
Microsoft® J# .NET
Agilent T&M toolkit 2.0 (Installed with the E7495A/B Post Processor)

Note: The intent of this package is to provide a value added tool (at no charge) to our respected E7495A/B customers. Since this is a free SW utility, Agilent Technologies does not warrant that the operation of the software will be uninterrupted or error free.

2   Installing the Software on the PC

The E7495xPostProc_Installer will guide the user through the required components needed to run the post-processing tool on their PC. The Installer checks to see if any of the required components are not installed on the users PC.   If any of the components are not installed, the installer program will help you locate them on the web and install the necessary utilities.

2.1   Software Download and Installation

1. Download the Windows Installer Package "E7495xPostProc_Installer" file from the Agilent Technologies website: http://www.agilent.com/find/E7495_software.
Right Click on the E7495xPostProc_Installer_A0105.msi file and select "Save Target As …",
When prompted, select location where you want the Windows Installer Package saved on your PC (Desktop or other Location) and then click the "Save" Button.

2. Double click the downloaded file to launch the Windows Installer program.

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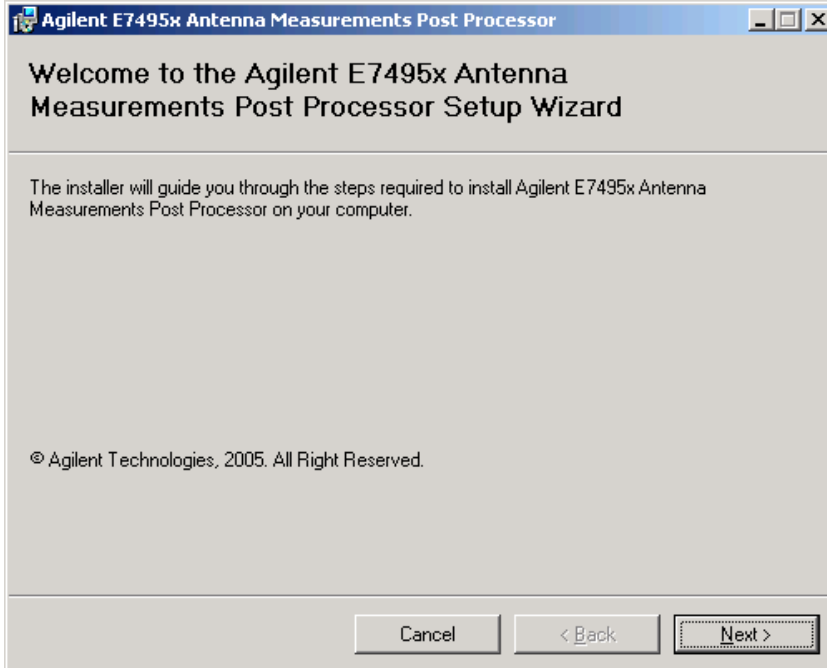
You will be prompted to create a folder named "E7495x Post Processor" at C:\Program Files\Agilent\ or in a different folder if you do not want to use the default location.
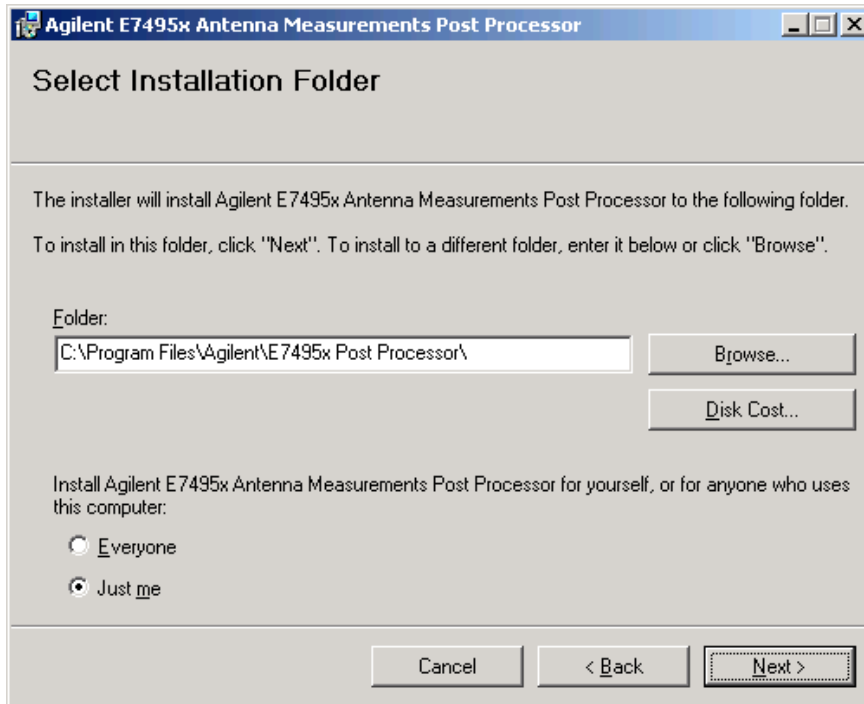
3. The installer will then check for the following required components.
- Microsoft® .NET Framework 1.1
- Microsoft® J# .NET
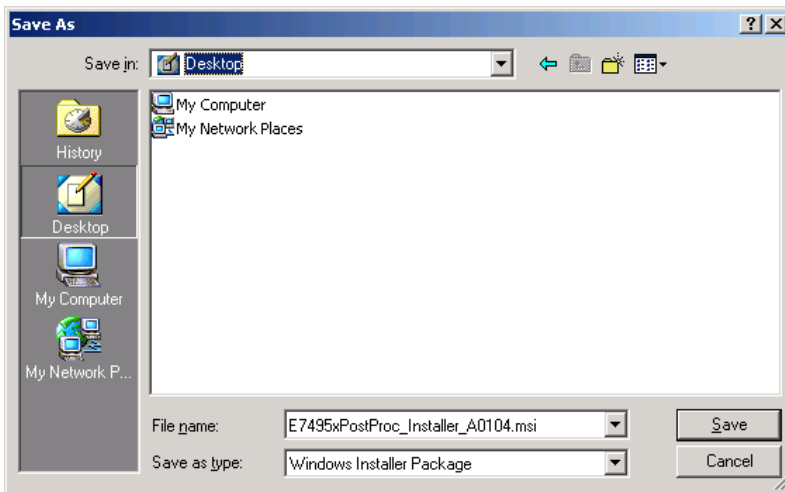- Agilent T&M toolkit 2.0 (Installed with the E7495A/B Post Processor)

If any of these are missing, the installer will guide you to locate and install the required components. After verifying all components are present, the E7495A/B Antenna Measurements Post Processor program will be installed.

Note: If the .NET components need to be installed, Internet Access is required to download the files.

2.2   Microsoft .NET Framework 1.1 Download and Installation

If Microsoft .NET Framework 1.1 is not installed on your PC, the Installer Program will guide you to the .NET Framework download site.
- Click on the link for ". NET Framework 1.1" to proceed to the .NET Framework 1.1 Downloads site.
- Clicking on the .NET Framework 1.1 download link will take you to the "Get the .NET Framework 1.1" page which will provide details on how to check to see if .NET Framework 1.1 is installed already, and how to download and install the necessary components. For General Users, .NET Framework is installed through the Microsoft Windows Update service, for Developers, you will download and install the .NET Framework Software Development (SDK) version.

Note: If .NET Framework 1.1 must be installed, once the installation has been completed, you will need to re-run the E7495x Post Processor Windows Installer program to complete the program installation.
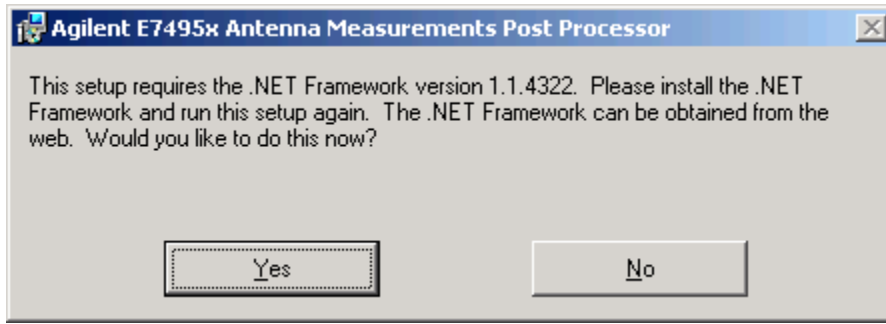
2.3   Microsoft Visual J# .NET Download and Installation

If Microsoft Visual J Sharp .NET Redistributable Package 1.1 is not installed on your PC, the Installer Program will guide you to the .NET Visual J Sharp download site.
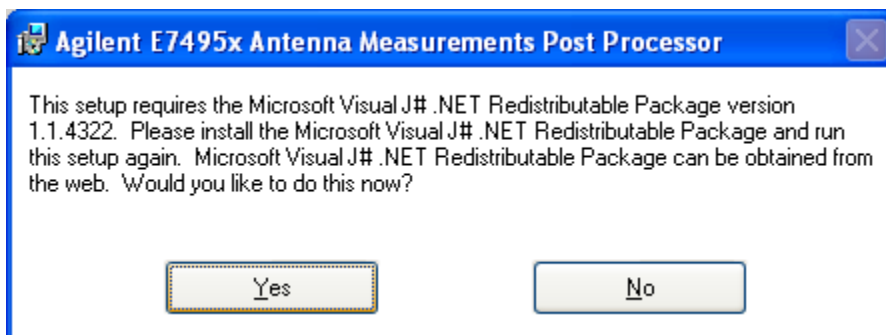
- Click on the link for "Visual J# .NET Redistributable Package 1.1" to download and install the necessary components.
- Click on the "Download" button and select "Save" to save the installation file to your hard drive for installation at a later time, or select "Open" to install the files immediately. Follow the on-screen prompts to complete the installation.

Note: If Visual J# .NET must be installed, once the installation has been completed, you will need to re-run the E7495x Post Processor Windows Installer program to complete the program installation.

2.4   T&M Toolkit 2.0

After verifying that all the above necessary components are installed, the E7495A/B Post Processor program and T&M Toolkit will then be installed on your PC.

2.5   Completing the installation

To complete the installation, press the "Next" button. A shortcut will be added to both the desktop and to the "Start>Programs" menu allowing you to easily run the application.

Agilent E7495x Antenna Measurements Post Processor

Installation Complete

A shortcut has been created on your desktop and added to Start>Programs menu to allow you to easily run the application. Please use Add/Remove Programs in Control Panel to uninstall this application.

| Cancel | < Back | Next > |
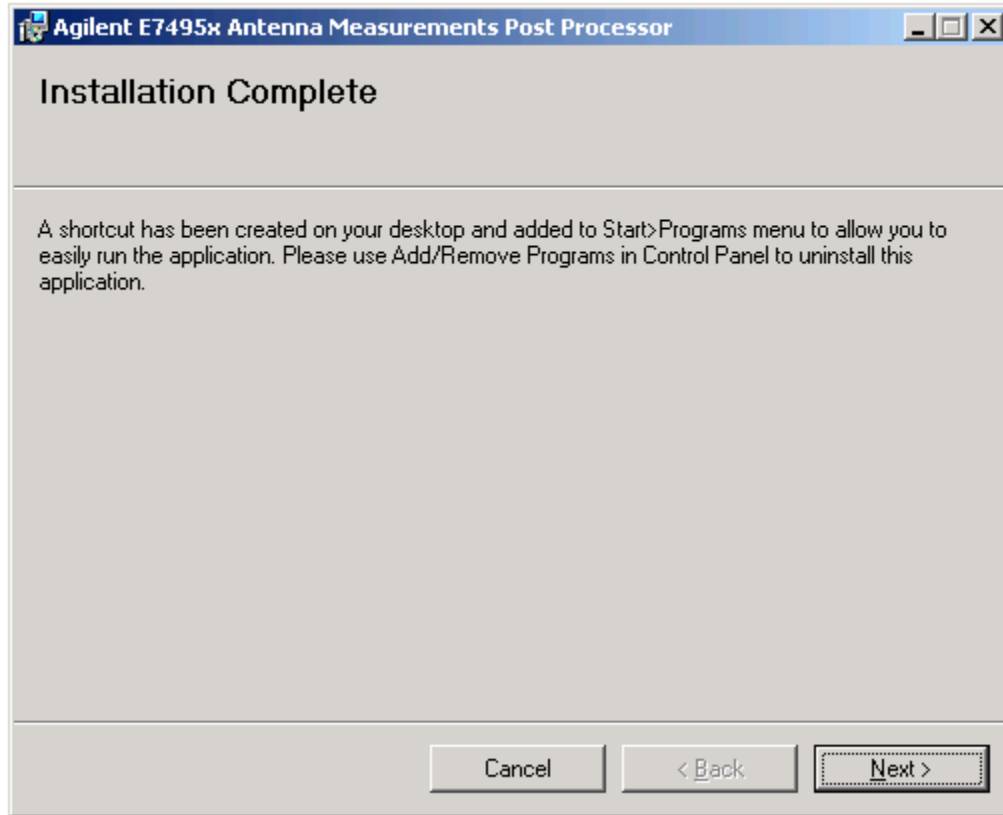
2.6   Uninstalling

To uninstall the E7495x Antenna Measurements Post Processor, use the Add/Remove Programs utility located in the PC's Control Panel.

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3 Quick Start (basic operation guide)

This section provides basic operation information on using the E7495x Antenna Measurements Post Processor Program. Additional information on the many features of this program can be found in the Detailed Operation Information Section.

3.1 Running the E7495x Post Processor

E7495x Post Processor

To start the "E7495x Post Processor" program, double click the E7495x Post Processor Icon on your desktop or locate and click on the program by selection "Start", "Programs" from the Windows Task Bar.

3.2 Loading a Saved Data File

Return Loss and Distance to Fault Data Files are saved from the E7495A/B Base Station Test Set to a PCMCIA or Compact Flash card by using the "Save Data" button on the front panel. These files can then be opened with the E7495x Post Processor to further analyze the data. To open a Saved Data File, click on the File Open icon from the tool bar or use the standard Windows File menu to locate and select a saved data "Return Loss" or "Distance to Fault" file. The Post Processor will then open the data file with automatic scaling to graph the best fit for the data.

Note: If a Saved Data file other than Return Loss or Distance to Fault is selected, you will receive an "Incorrect file format" error. Make sure to select a Return Loss or Distance to Fault Saved Data File only.

3.3 Graphing the Saved Data File

The Post Processor retrieves all the information from a Return Loss or Distance To Fault Saved Data File. Once the data has been retrieved, it then scales and graphs the trace data and displays all other available information contained in the file.

3.4 Interpreting the Displayed Data

The Display Portion of the Post Processor is separated into 3 major areas (or Panels) to display this information, the *Graph Area*, *Additional Data Panel*, and the *Marker Metrics Panel*

Maker Metrics Panel

Graph Area

Additional Data Panel
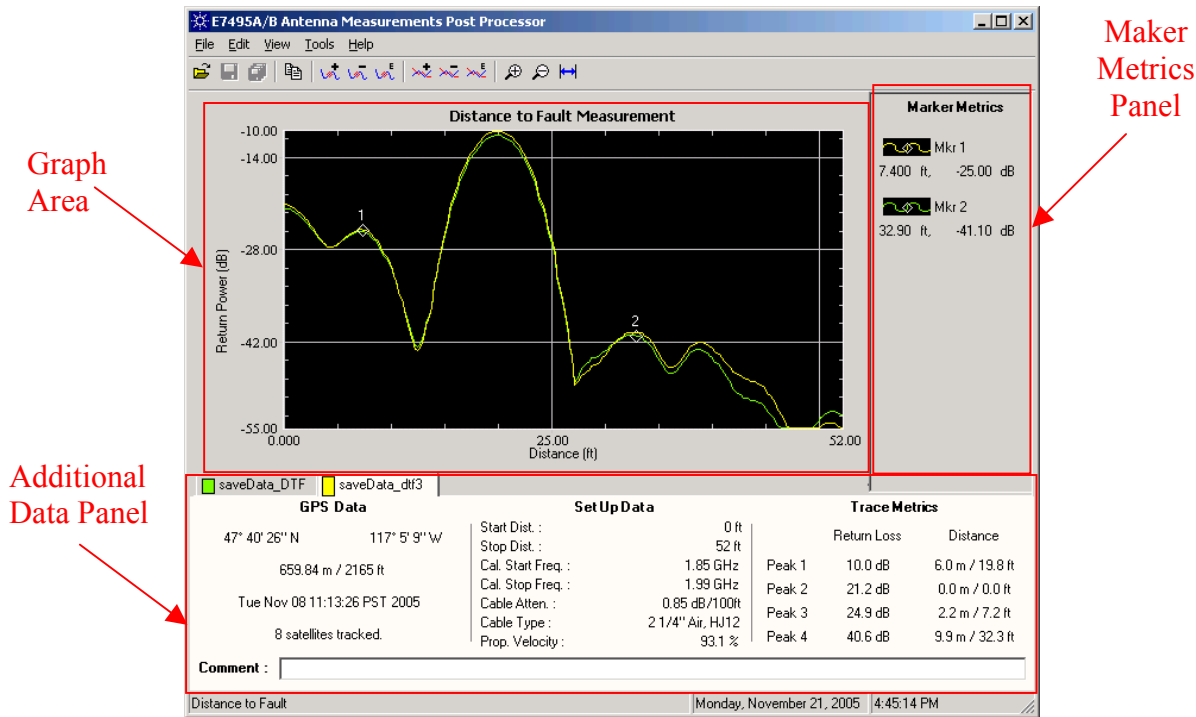
3.4.1   Graph Area

The Graph Area displays the trace data retrieved from the Saved Data File along with any additional overlaid traces and markers added by the user. The Measurement Type will also be displayed as the Graph Title along with the Axis Labels and Grid Values. A maximum of 5 graphs can be opened and viewed in the Graph Area, the original trace and up to 4 additional overlays. The Graph Area is always displayed and there are no options to enable or disable the viewing of this section. You can however change the size of the program window by dragging the window, or using the minimize and maximize buttons on the menu bar.

3.4.2   Additional Data Panel

The Additional Data Panel is located below the Graph Area and is used to display any additional data contained in the Saved Data file. Additional Information that may be displayed in this Panel is GPS Data, Trace Set Up Data, and Trace Metrics. The user has the option of changing the display view to enable or disable viewing the Additional Data Panel.

*Note: Distance to Fault Set Up Data is only available with firmware A.04.00 and above.
Return Loss Set Up Data is only available with firmware A.05.00 and above.
If the Set Up data is not available in the Saved Data file, a "Set Up Data not available" message will be displayed.*

3.4.3   Marker Metrics Panel

The Marker Metrics Panel is located to the right of the Graph Area and provides information on any of the 6 available markers.   The x and y values of each marker will be displayed, and a trace icon the same color as the trace the marker is attached to. The user has the option of changing the display view to enable or disable viewing the Marker Metrics Panel.

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4 Detailed Operating Information

This section provides more detailed information on the features and function for all the sections of the Antenna Measurement Post Processing Tool. The detail is separated into three areas, Graph Area, Additional Data Panel, and the Marker Metrics Panel. Information on each of these sections is explained below.

Graph Area

Maker Metrics Panel

Additional Data Panel
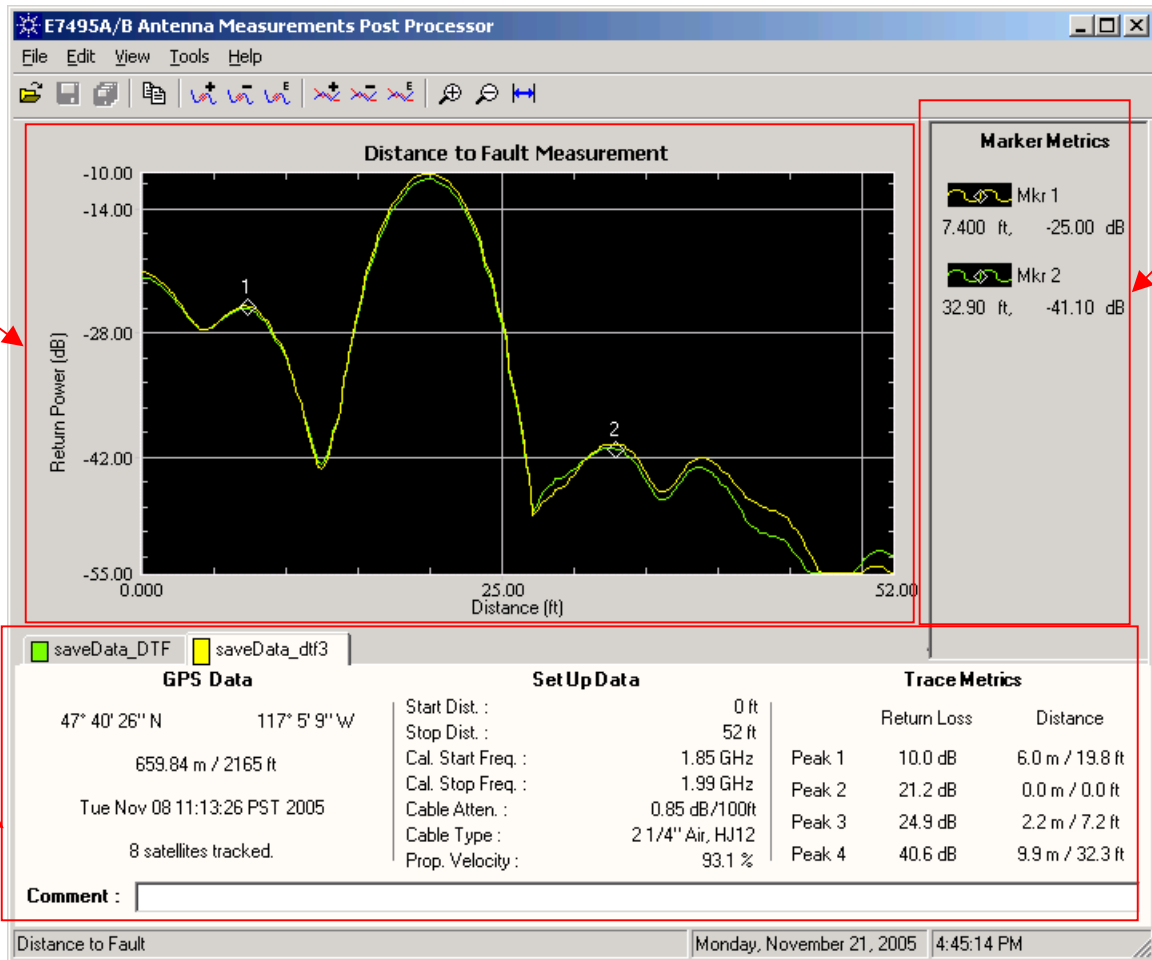
4.1 Graph Area

The Graph Area displays the trace data retrieved from a Saved Data File along with any additional overlaid traces and markers added by the user. The Measurement Type will also be displayed as the Graph Title along with the Axis labels and grid values. A maximum of 5 graphs can be opened and viewed in the Graph Area (the original trace and up to 4 additional overlays). The Graph Area is always displayed and there are no options to enable or disable the viewing of this section. You can however change the size of the program window by dragging the window, or using the minimize and maximize buttons on the menu bar.

4.1.1   Loading and Graphing Trace Data

Return Loss and Distance to Fault Data Files are saved from the E7495A/B Base Station Test Set to a PCMCIA or Compact Flash card by using the "Save Data" button on the front panel. These files can then be opened with the E7495x Post Processor to further analyze the data. Select the File Open icon from the tool bar or use the standard Windows File menu to locate and select a saved data "Return Loss" or "Distance to Fault" file. The Post Processor will then open the data file with automatic scaling to graph the best fit for the trace data.
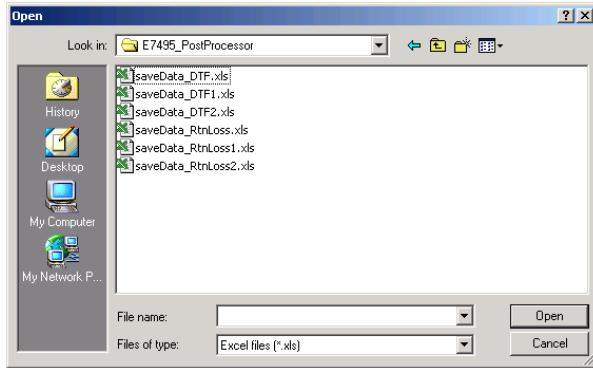
Note: If a Saved Data file other than Return Loss or Distance to Fault is selected, you will receive an "Incorrect file format" error. Make sure to select a Return Loss or Distance to Fault Saved Data File only.

4.1.2   Adding Traces (Overlays) to the Graph Area

A total of 5 traces (the original trace plus up to 4 overlays) can be opened and displayed.
- The overlays must be of the same measurement type, you cannot mix DTF and Return Loss traces.
- The default range of the original trace is used; adding traces with values that exceed the X-axis of the original trace will limit the display of the overlay trace. You will need to use the zoom feature to view the complete trace.

Note: If viewing Distance to Fault save data, the overlay save data will be converted into the same x-axis unit as the original trace for display purposes. For example, if the original trace opened was saved in feet and you add an overlay saved in meters this data will be converted into feet for display on the graphical area.
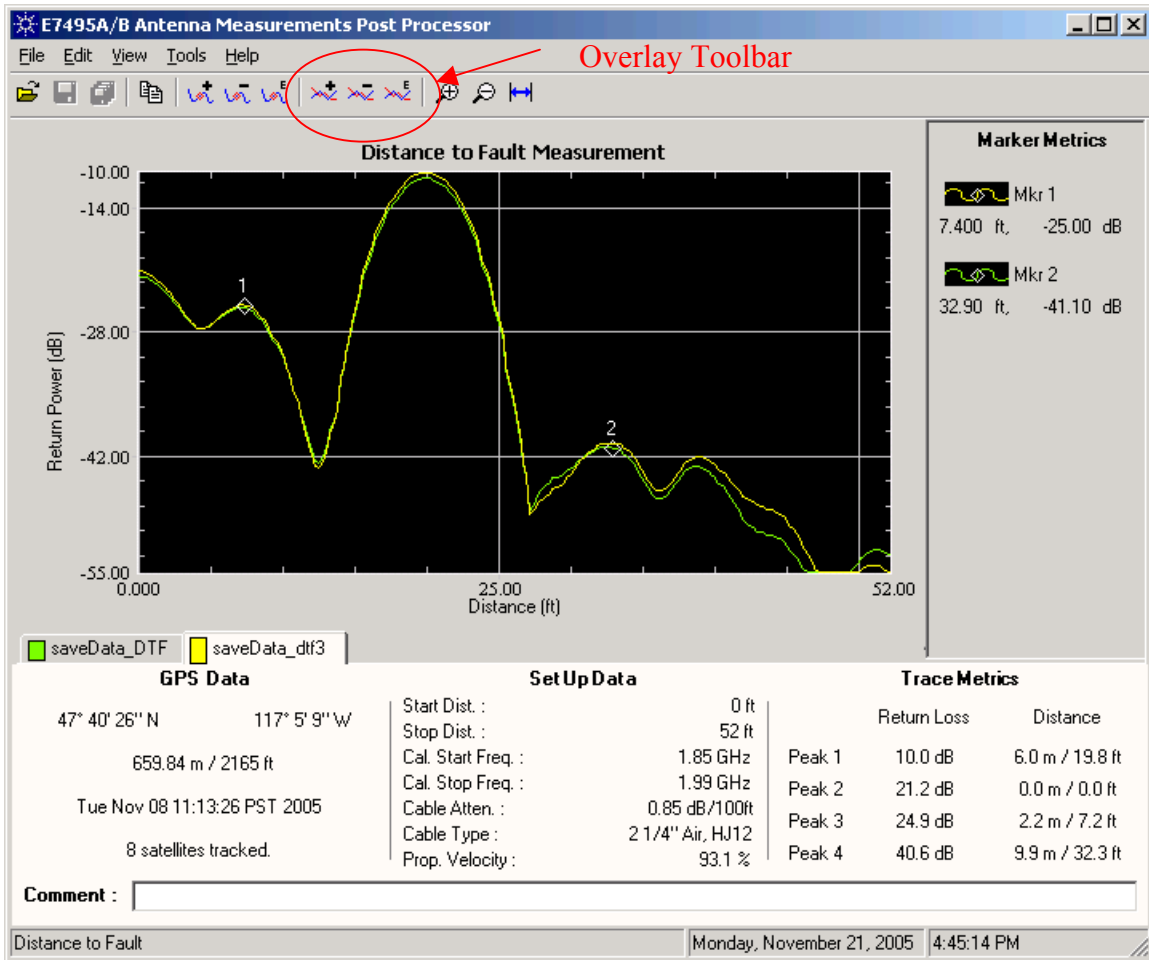
To add additional traces (overlays) follow one of the two methods below:

Adding an additional trace

- Click on the Add Overlay Icon on the toolbar; or
- Select "Tools", "Overlay", "Add" (Shift + F7)

This will bring up the Standard Windows "File Open" dialog box allowing you to select the file name of the trace you wish to add to the graph area.
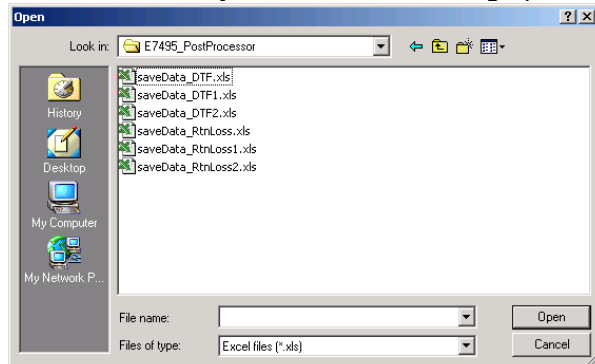

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Select the name of the file and click on the Open button to add the trace to the graph area, and to add the trace data to the Additional Data Panel.

Note: This feature is only available when a trace has already been opened. If no traces are currently open, these options will not be available and will be grayed out.

Opening a new trace or adding a trace
- Select the File Open icon from the toolbar or
- Select "File", "Open File" (Ctrl + O)

If a trace is currently open, either of these actions will launch the "Opening a new trace" dialog box giving you the choice of closing the current trace and open a new trace, or adding an additional trace in the graph area. If no traces are currently open, this box will be skipped and the File Open dialog box will be displayed instead.
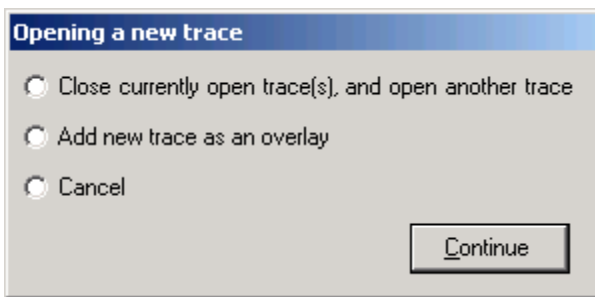
Once you have made your selection and clicked on the Continue button, the File Open dialog box will be displayed as describe above.
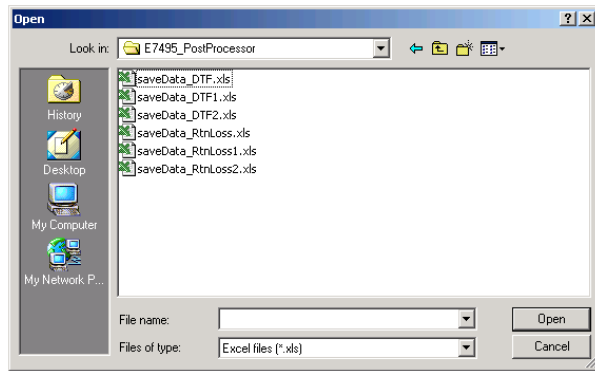
4.1.3   Removing Trace Overlays
Overlays can be removed by two different methods much the same way as they were added.
- Click on the "Remove Overlay Icon" on the overlay toolbar or
- Select "Tools", "Overlay", "Remove (Ctrl+F7)" from the main toolbar.

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This will open a dialog box where you will select which Trace will be deleted. After selecting the Trace and clicking on the "Remove" button, both the Trace and the trace data will be removed from the Graph Area and the Additional Data Panel.

4.1.4   Editing the Trace Overlay's displayed properties

Each Trace Overlay can be edited (or modified) to change its color, style, and width. There are two different methods to edit and change the overlay.
- Click on the "Edit Overlay Properties" icon on the overlay toolbar, or
- Select "Tools", "Overlay", "Edit Properties" from the main toolbar.

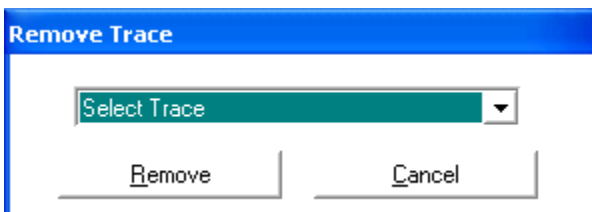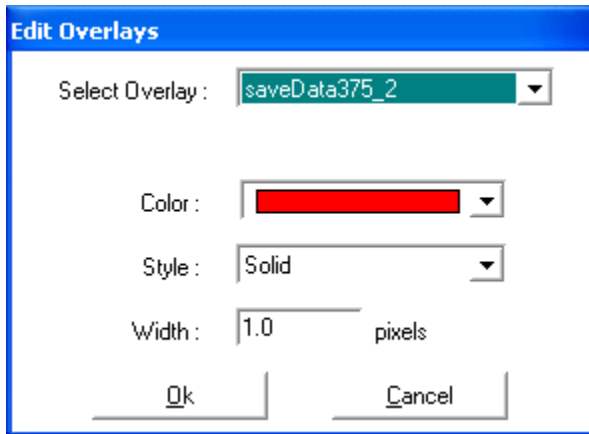Either of these methods will open a dialog box allowing the user to modify the Overlay properties.

Editing an Overlay
The first step is to select the Overlay you wish to change. Click on the down arrow in the Overlay dropdown box to select which Overlay you want to modify. The information below provides details on the Overlay properties that can be changed.

Overlay Color

Allows the user to change the color of the Overlay.
Click the down arrow on the Color dropdown box to select and change the Overlay color.

Overlay Style

Allows the user to change the shape of the Overlay.
Click the down arrow on the Shape dropdown box to select and change the Overlay shape

Overlay Width

Allows the user to change the width of the Overlay.
Enter the value in pixels for the desired width of the Overlay trace.

Applying Edited Properties

Once the modifications have been entered, select the "Ok" button to apply the changes to the Trace Overlay's display properties.

4.1.5   Trace Zooming:

Several Zooming features are available so that you can zoom-in on selected areas of the trace for a more detailed view, or zoom-out to achieve a larger view area.

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Zooming in on a selected area of the trace

Using the mouse, "click-and-drag" to draw a box around the area you wish to zoom in on.
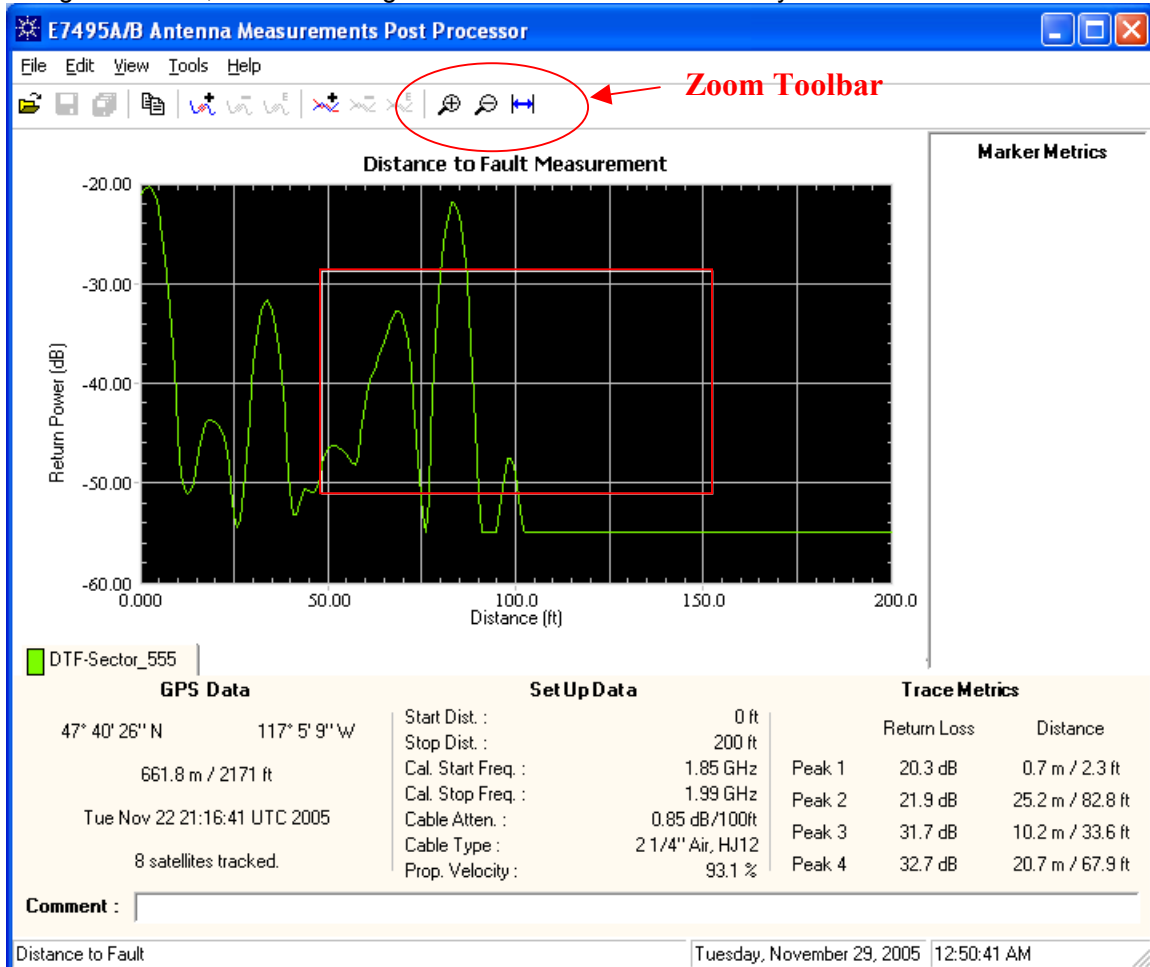
The selected area will then be enlarged to fill the graph area.

Zooming in on the center portion of the graph area

Selecting either of the following two functions will zoom in on the center part of the trace by a factor of 2. This will fill the graph area with the center half of the screen and double the magnification of graphed data points in this area to provide more detail.

- Select "Tools", "Zoom", "Zoom In" (Shift +F8) from the toolbar or
- Select the "Zoom In" Icon from the Zoom Toolbar

Zooming out on the center portion of the graph area

Selecting either of the following two functions will zoom out on the center part of the trace by a factor of 2. This will double the graph area of the screen and increase the scale by x2.

- Select "Tools", "Zoom", "Zoom Out" (Ctrl +F8) from the toolbar (or)
- Select the "Zoom Out" Icon from the Zoom Toolbar

Auto Adjust Zooming (Auto Scaling)

Selecting either of the following two functions will zoom in on the trace by automatic scaling the X and Y axes to graph the best fit for the trace data. This will set the graph scale to the default values used when the original trace was opened.

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Note: When multiple traces are open and Auto Adjust Zooming is used, the auto scale values are determined by the primary/original trace, not the overlay trace(s).

- Select "Tools", "Zoom", "Auto Adjust" from the toolbar (or)
- Select the "Auto Adjust Zoom" Icon from the Zoom Toolbar

Manual Adjust Zooming (manually setting the scale axes)

The Adjust Zoom feature will allow you to manually enter min and max values for both the X and Y Axis.

- Select "Tools", "Zoom", "Adjust Zoom" from the toolbar.
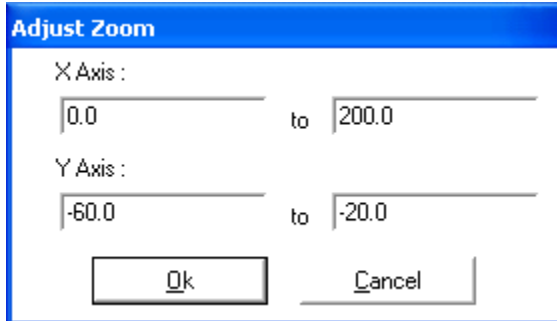
Enter the new values for the X & Y Axis and press the "Ok" button. This will set the graph scale values to those entered into the Adjust Zoom dialog box.

4.1.6 Grid Lines

The Grid Lines can be turned on or off by either selecting or unselecting the "Grid" command in the "View" menu at the top of the screen.

4.1.7 Toolbars

The program contains 3 sets of toolbars (Marker, Overlay, and Zoom) which can be turned on or off by either selecting or unselecting each of the toolbar names in the "Toolbar" menu located under the "View" Function".

4.1.8 Printing

The Print Function allows the user to print either the Graph Area (Graph) or the complete display area that includes the Graph Area, Additional Data Panel, Marker Metrics Panel and the Comment Field.
Click the right mouse button anywhere on the programs Graph Area to select either "Print All", or "Print Graph"

4.1.9 Copying information to the clipboard

The Copy Function allows the user to copy to the clipboard either the just the Graph Area, or the complete display area to allow you to paste this information to another program.

You can copy the data to the clipboard using three different methods.
- Click on the "Copy Graph Display" Icon
- Click the right mouse button anywhere on the programs Graph Area
- Select "Edit" from the file menu.

The "Copy Graph Display" Icon will save the complete display area while either of the other two methods will allow you to copy either "Copy All", or "Copy Graph" to the clipboard.

4.1.10 Saving Data Files

The Save Function allows the user to save the information in the Antenna Measurements Post Processor tool to a Save Data File. All of the original trace data, the Additional Data Panel information, and the comment field will be saved to a data file. Select "File "from the main menu to select the following save data functions.
Note: At this time the Marker Metrics are not saved.
Note: Only the comment can be added or edited, no trace data or metrics can be changed.

Save

File, Save (Ctrl+S); Selecting this save option allows you to save the original data file along with any changes made to the comment field. When multiple graphs are open and "Save" is selected, only the active trace will be saved (the trace who's tab is active/selected in the Additional Data Section). To save the comments and trace data for the other open graphs, you must select its tab in the Additional Data Section and then select "Save" for each trace. If you want to save all of the graphs, you will quicker to select the "Save All" option.

This will display the "Saving…" dialog box to allow you to overwrite the original file.

Note: When multiple data files are open and the "Save" function is selected, only the active data file will be saved.

Save As

File, Save As; Selecting this save option allows you to save the original data file along with any changes made to the comment filed to a new Save Data File. A standard windows Save File dialog box will be opened allowing you to enter the location and file name for the Save Data File.

Save All

File, Save All; When multiple traces are opened, this option allows you to save changes made to any of the open data files back to the original Save Data File. For each file opened, this save option will save the original data file along with any changes made to the comment filed to the original Save Data Filed

4.2   Additional Data Panel

This panel will display the Trace Filename, GPS Data, Trace Set Up Data, Trace Metrics, and Comment Field for each opened Saved Data File.
Each opened Saved Data File will have its own tab in the Additional Data Panel. Clicking on a tab's filename will bring that tab forward to display its unique trace data.

4.2.1   Trace Legend

Each Tab will be labeled with the filename of the Saved Data File (minus the filename extension) and a small colored box the same color as the trace located to the left of the filename (legend). .

4.2.2   Enabling or Disabling the Trace Legends

The Trace Legends can be turned on or off by either selecting or unselecting the "Legend" command in the "View" menu at the top of the screen.
Note: When the trace legends are turned off, the filename for the active additional data tab will no longer be displayed so you will need to rely on the Comment field to determine which trace the displayed data belongs to.

4.2.3   Enabling or Disabling the Additional Data Panel

The Additional Data Panel can be turned on or off by either selecting or unselecting the "Additional Details" command in the "View" menu at the top of the screen.

4.2.4   Comment Field

The Comment Field is located at the bottom of each Additional Data Section Tab and allows the user to add a 256-character comment for each trace/file. The comments can be stored in the Saved Data File so that each time the Save Data File is opened, the stored comment will be displayed. To save the comment field with the data, perform a "File Save" or "File Save As" command from the main toolbar.

Note: The comment field cannot be disabled and will always be displayed at the bottom of the Additional Data Panel even when the Additional Data, and Trace Legends are disabled.

4.2.5   GPS Data

GPS Data will be displayed if the GPS on the E7495A/B was locked when the Save Data File was stored. If the GPS was not locked, instead of GPS Data, a "GPS Data Unavailable" message will be displayed.
Displayed GPS Data:
Latitude
Longitude
Altitude (meters and feet)
Time/Date (UTC Format)
Number of satellites tracked

4.2.6   Set Up Data

The Set Up Data section provides the viewer with useful information on the E7495A/B parameters when the measurement was originally Set Up. Opening a Return Loss or Distance to Fault file will display the unique Set Up data used for each measurement.

The Distance to Fault Measurement Set Up Data is available for all Save Data files extracted from E7495A/B instruments running firmware A.04.00 and above. If the Set Up data is not available a "Set Up Data not available" message will be displayed instead.

The Return Loss Measurement Set Up Data is available for all Save Data files extracted from E7495A/Bs running firmware A.05.00 and above. If the Set Up data is not available a "Set Up Data not available" message will be displayed instead.

Displayed Additional Set Up Data:

For DTF Measurements	For Return Loss Measurements
Start Distance	Start Frequency
Stop Distance	Stop Frequency
Calibration Start Frequency	Calibration Start Frequency
Calibration Stop Frequency	Calibration Stop Frequency
Cable Attenuation	
Cable Type	
Propagation Velocity	

Note: Distance to Fault Set Up Data is only available with firmware A.04.00 and above.

Return Loss Set Up Data is only available with firmware A.05.00 and above.

4.2.7   Trace Metrics

The Trace Metrics section displays the trace measurements from the metrics section of the E7495A/B that is stored in the Saved Data File. This Data is the same information displayed on the E7495A/B Return Loss or Distance to Fault measurement screens.

Displayed Trace Metrics:
For DTF Measurements:
The following metrics are displayed for each of the 4 worst faults:
Return Loss (dB)
Distance (meters and feet)
Note: VSWR is not displayed

For Return Loss Measurements:
The following metrics are displayed for both the Best and Worst Return Loss points
Frequency (MHz)
Return Loss (dB)
SWR

4.3   Marker Metrics Panel

The Marker Metrics Panel is located to the right of the Graph Area and is used to display information on all of the 6 available markers.   The x and y values of each marker will be displayed along with the marker number, and a trace icon the same color as the trace it is attached to. Any of the 6 markers can be enabled and used on any of the 5 traces (main trace or any of the 4 overlay traces).

4.3.1   Changing Marker Position

Markers can be moved to any of the data points on the same trace by one of the three methods:
- Clicking and dragging. Using the mouse, click and hold while drag it along the trace.
- Scrolling. Using the mouse, click on the marker and then use the mouse scroll wheel to move to each of the data points.
- Set the Markers X Position. In the Edit Marker dialog box, enter the frequency you want the marker to be positioned at. (See "Editing the markers display properties" for additional information)

Note: The marker can only be set to a valid data point (one which was retrieved from the Saved Data File); it cannot be placed between two data points.

4.3.2   Adding Markers

Any of the 6 markers can be added to any of the displayed traces by two different methods:
- Click on the "Add Marker Icon" on the marker toolbar
- Select "Tools", "Markers", "Add (Shift +F6)" from the main toolbar

This will open a dialog box allowing you to select which trace the marker will be added to. After selecting the trace and clicking on the "Add" button, the new marker will be added to the center of the trace and to the Marker Metrics Panel.

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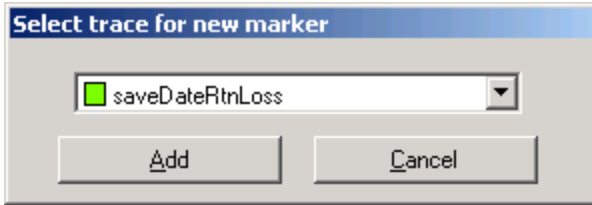
4.3.3 Removing Markers

Markers can be removed with two different methods much the same way as they were added.
- Click on the "Remove Marker Icon" on the marker toolbar
- Select "Tools", "Markers", "Remove (Ctrl +F6)" from the main toolbar.

This will open a dialog box where you will select which marker will be deleted. After selecting the marker and clicking on the "Remove" button, the marker will be removed from both the trace and the Marker Metrics Panel.
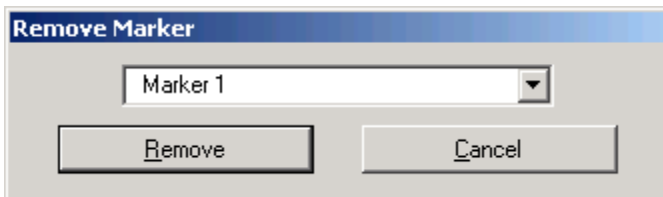

4.3.4 Editing the markers displayed properties

Each Marker can be edited (or modified) to change its color, shape, and functionality. There are three different methods to edit and change the markers.
- Click on the "Edit Marker Properties" on the marker toolbar
- Select "Tools", "Markers", "Edit Properties" from the main toolbar
- Click on the marker icon in the Marker Metrics Panel

Any of these three methods will open a dialog box allowing the user to modify the markers properties.

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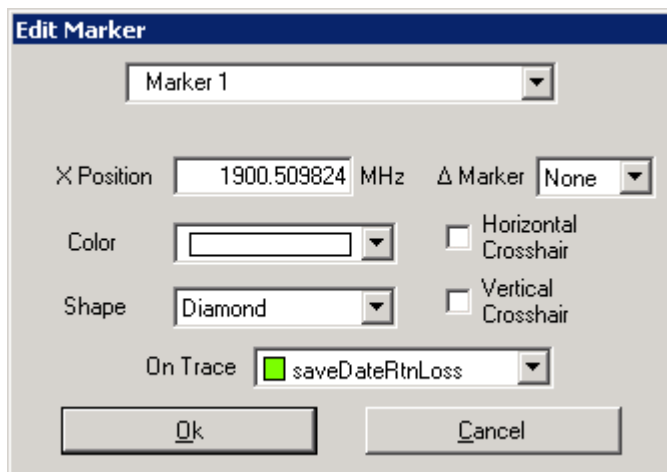
Editing a Marker:
The first step to select the marker you wish to change. Click on the down arrow in the Marker dropdown box to select which marker you want to modify. The information below provides details on the marker properties that can be changed.

X Position

Changes the position of the marker on the trace.
Enter the frequency in MHz (for Return Loss), or the distance (for Distance to Fault) where you want the marker placed. For example, on a Return Loss file, entering 1930 would place the marker on the trace's data point nearest to 1.93 GHz.

Color

Allows the user to change the color of the marker.
Click the down arrow on the Color dropdown box to select and change the markers color.

Shape

Allows the user to change the shape of the marker.
Click the down arrow on the Shape dropdown box to select and change the markers shape

On Trace

Allows the user to select which trace the marker will be placed on.
Click the down arrow on the On Trace dropdown box to select which trace the marker will be placed on. You can select the original trace or any of the overlays displayed on the screen.

Delta Marker

Allows a marker to be used as a delta marker to indicate the difference from another marker.
Click the Δ Marker down arrow to enable the delta function and to select which marker you wish to use as the reference point.

Note: you must have two markers enabled to use the delta marker function.

Example: Using Marker 2 as a delta marker to measure the difference from Marker 1.
A. Open the Edit Marker dialog box for Marker 2
      Click on Marker 2's icon in the Marker Metrics section
B. Select which Marker you want to set as the reference point to measure from
      Click the ΔMarker down arrow and select "Marker 1" (this will set Marker 1 as the reference point for Marker 2.

The following changes will occur to the Marker and the Marker Metrics:
- In the Marker Metrics Panel a "Δ Mkr 2" notation will be added next to Marker 1 indicating it is the reference for the delta function of Marker 2.
- On the Graph Area, the Marker 1 Icon name will change from "1" to "$\Delta2$" indicating it is the reference for the delta function of Marker 2.
- The Marker Metrics for Marker 1 will indicate the delta values of Marker 2 from the Marker 1 reference point.
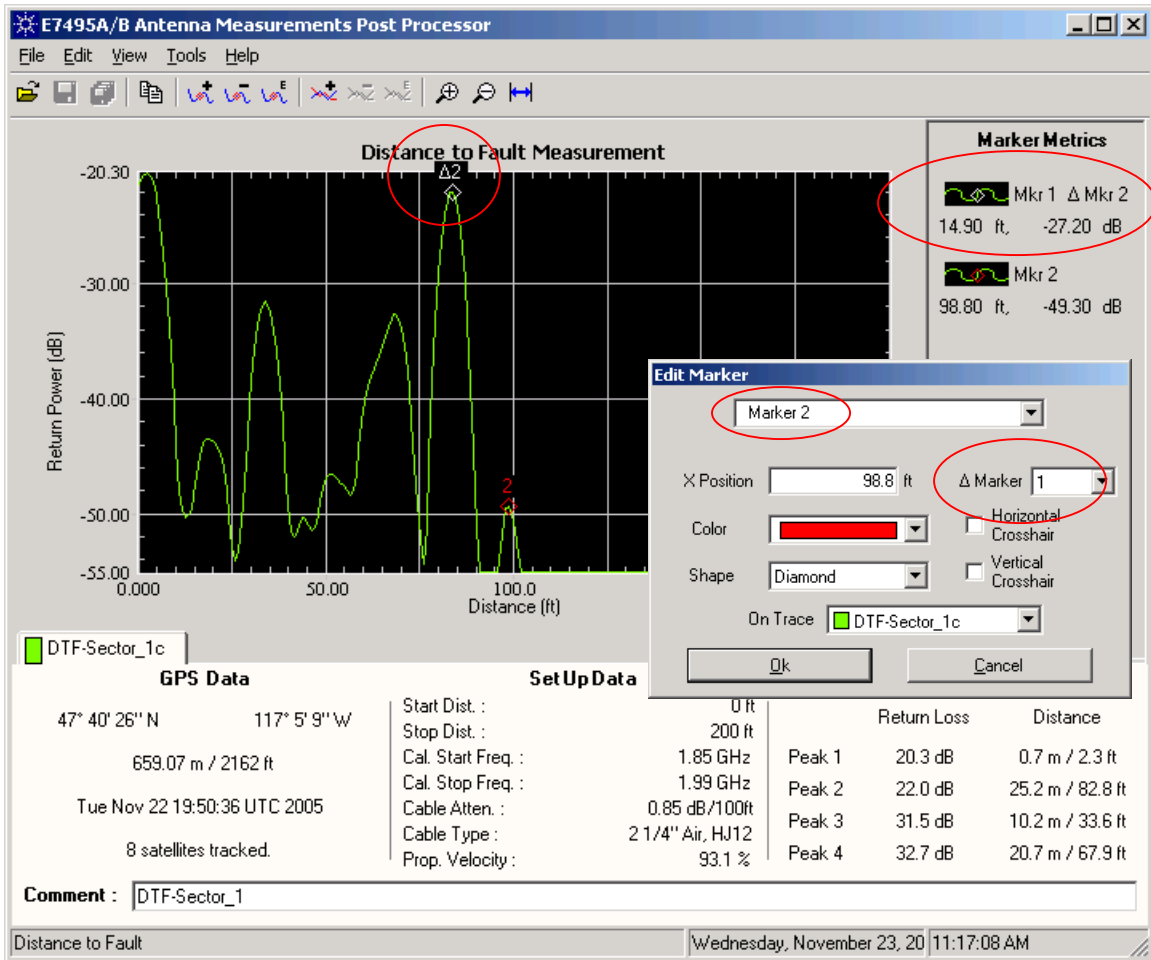
Horizontal Crosshair

Places a horizontal line on the Graph Area at the location of the marker.
Click the Horizontal Crosshair control box to add or remove the horizontal crosshair on the graph.
When enabled (on), a check mark will be displayed in the control box.

Vertical Crosshair

Places a Vertical line on the Graph Area at the location of the marker.
Click the Vertical Crosshair control box to add or remove the vertical crosshair on the graph.
When enabled (on), a check mark will be displayed in the control box.

4.3.5   Enabling or Disabling the Marker Metrics Panel:

The Marker Metrics Panel can be turned on or off by selecting or unselecting the "Marker Metrics" command in the "View" menu at the top of the screen. Turning the Marker Metrics to off disables the Marker Metrics Panel and allows the area to be used to increase the size of the Graph Area.

5   Error Messages and Warnings

When opening, closing, or saving the Saved Data files, the program will check the data file for data integrity and filename errors. Error checking is also performed when entering values into the dialog boxes and when adding or removing markers and traces from the display. If any problems are detected, an error message will be displayed informing the user of the issue and in most cases providing information on correcting the error.