

**FLUKE®**

**SW90W**

FlukeView® ScopeMeter® Software

Users Manual

4822 872 80233

October 1998

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## Chapter 1 Installing FlukeView

### Installing the FlukeView Software

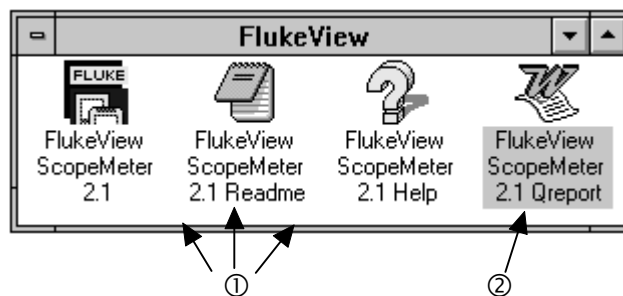
FlukeView® software offers you simple mouse-controlled tools to work with your ScopeMeter® test tool.

The setup program installs the FlukeView software on PC's running Windows 95/98, Windows NT, or Windows 3.1/3.11. To install FlukeView, insert the floppy disk into the disk drive (for example A:) and do the following:

Windows 95/98/NT	Windows 3.1/3.11
<ul style="list-style-type: none"><li>• Choose <b>Start - Run...</b></li><li>• Type <b>A:SETUP.EXE</b></li><li>• Click <b>OK</b></li></ul>	<ul style="list-style-type: none"><li>• Choose <b>File - Run...</b></li><li>• Type <b>A:SETUP.EXE</b></li><li>• Click <b>OK</b></li></ul>

The setup program prompts you for information to complete the installation.

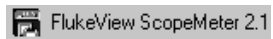
When the FlukeView software is completely installed, you are requested if the following FlukeView icons must be created:



In addition to the FlukeView software (see ①), the setup program also installs a report-template (see ②) that allows you to report measurements from the ScopeMeter test tool directly into a Word document.

## ***Running the FlukeView Software***

### ***Running under Windows 95/98/NT***



FlukeView ScopeMeter 2.1

Choose from **Start - Programs - FlukeView** to run the FlukeView software.



FlukeView ScopeMeter 2.1 Qreport

Choose from **Start - Programs - FlukeView** to create a test report.

### ***Running under Windows 3.1/3.11***



FlukeView  
ScopeMeter  
2.1

Double-click from **FlukeView** to run the FlukeView software.



FlukeView  
ScopeMeter  
2.1 Qreport

Double-click from **FlukeView** to create a test report.

#### *Note*

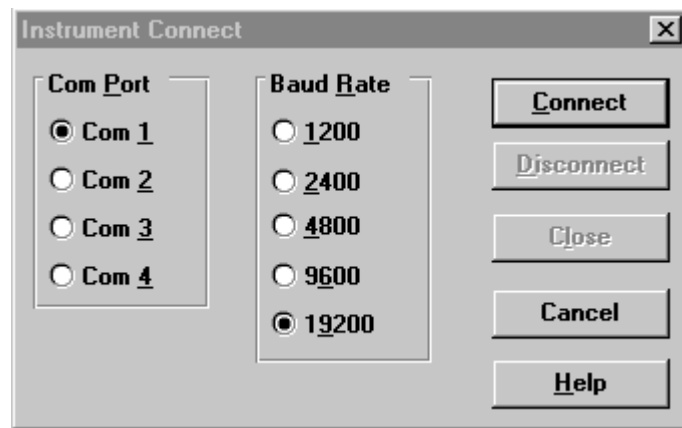
*To use the QREPORT template, copy the file QREPORT.DOT to your Word template directory (or folder).*

## **Connecting the ScopeMeter Test Tool**

The FlukeView software communicates with your ScopeMeter test tool via the optically isolated RS-232 adapter/cable (see Appendix) connected to a COM port of the PC.

During startup (except for the first time), the FlukeView software automatically tries to make a connection with the instrument according to the last valid connection.

If automatic connection is not successful, the dialog box shown below appears, allowing you to make a connection.



- 1** Select the **Com Port** that connects the instrument to the PC.
- 2** Select a **Baud Rate**, for example, the highest.
- 3** Click **Connect** to establish a connection with the instrument.





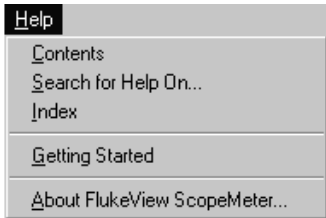


## Chapter 2

# Using FlukeView


### Using On-line Help

The FlukeView software offers you access to on-line help by using the **F1** key, the **Help** button, or the **Help** menu:

	Press to show the help page for the topic that has the focus, such as for the active window, the toolbar, or a dialog box.
	Click to get context-sensitive help in dialog and error boxes.
	Click <b>Help - Contents</b> to get help on menu commands, toolbar buttons, and much more. Click <b>Help - Search for Help On ...</b> or <b>Help - Index</b> to search for help-topics through alphabetical lists.

#### Note

To show help items on a help page, do one of the following:

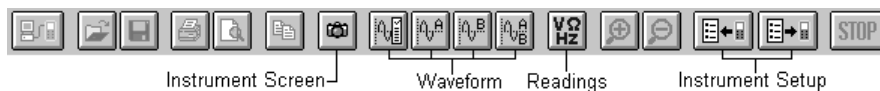
- move the mouse pointer (changes to  above a help item).
- press **Tab** (changes the background of a help item).

## ***Introducing the FlukeView Software***

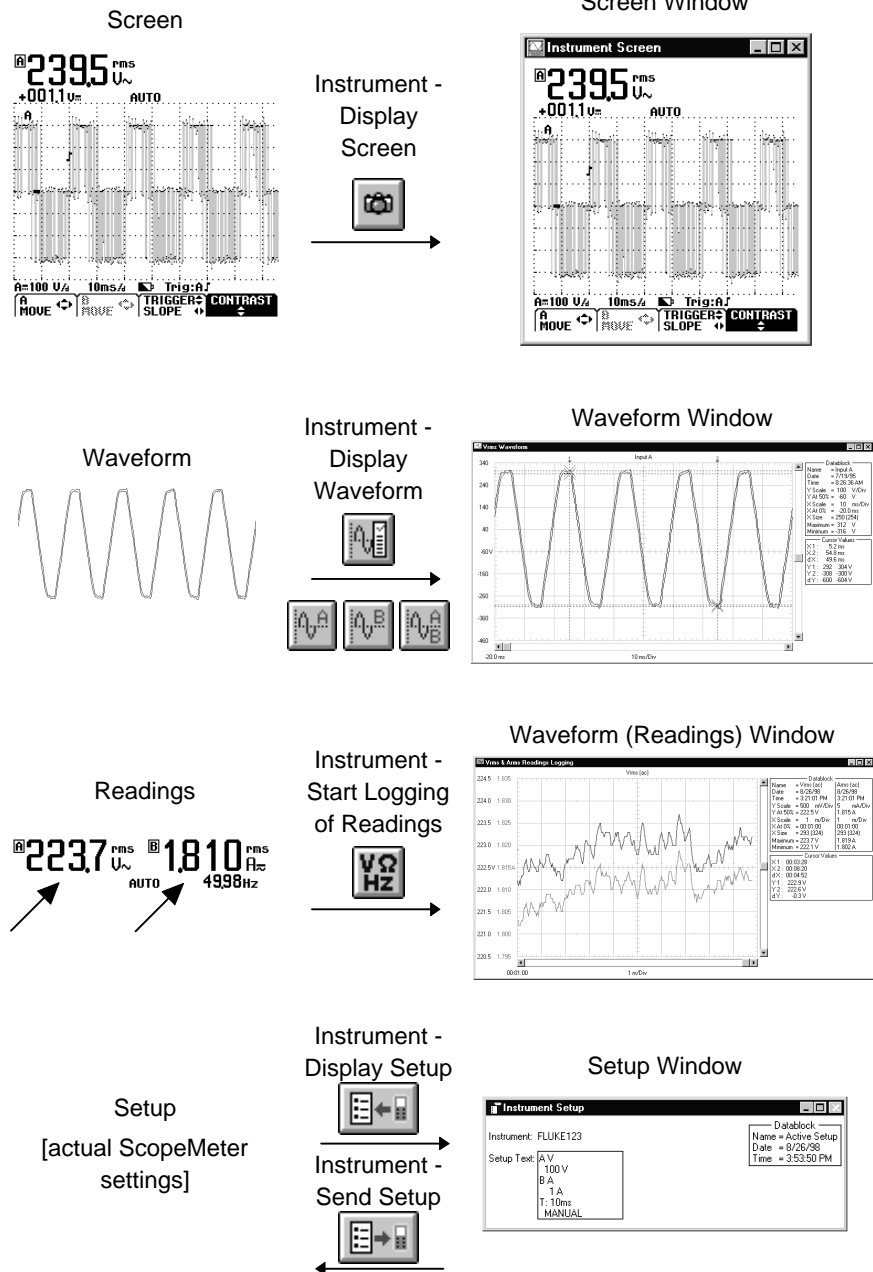
FlukeView software enables you to read the following types of data from the ScopeMeter test tool into a window on the PC screen:

<b>Data</b>	<b>Type</b>	<b>Use</b>
Screen	bitmap-graphics data from the instrument's screen (in pixel-format)	to create documents and reports
Waveform	numerical waveform points to generate Y-t vector-graphics data	to zoom, scale, or create a spectrum
Readings	numerical values to log Y-X vector-graphics data	to zoom, scale, or create a spectrum
Setup	binary settings data from the instrument	to retrieve and send back

By clicking the following buttons on the toolbar, you can read data directly from the ScopeMeter test tool:



You can save, open, and print the data, or export it to other programs.






## Documenting Measurements

### Creating a Report Using a Prepared Template

- 1 Choose  or  from **FlukeView**.

As a result, Word is started and the required macro's are loaded.

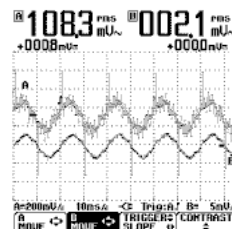
In Word 97, select **Enable Macros** when requested.

- 2 Click predefined fields (**Company, Contact, ...**) and type your text.
- 3  Click to insert the active ScopeMeter screen.  
As a result, FlukeView is started, a connection is made, and the active **Instrument Screen** is pasted into the document.
- 4 Click the **Description** field and type your text.
- 5  Click to print your report.
- 6  Click to save your report.

#### Fluke ScopeMeter® Test Report

**Company:** Fluke Industrial  
**Contact:** A. Person  
**Address:** Street 90  
**Zip:** 1234 AB  
**City:** Almelo  
**Phone:** 12 345 678910  
**Fax:** 12 345 678911  
**E-mail:** aperson@almelo.fluke.nl  
**Date:** September 31, 1998


#### Instrument Screen:



#### Description:

On these lines you can type your description.

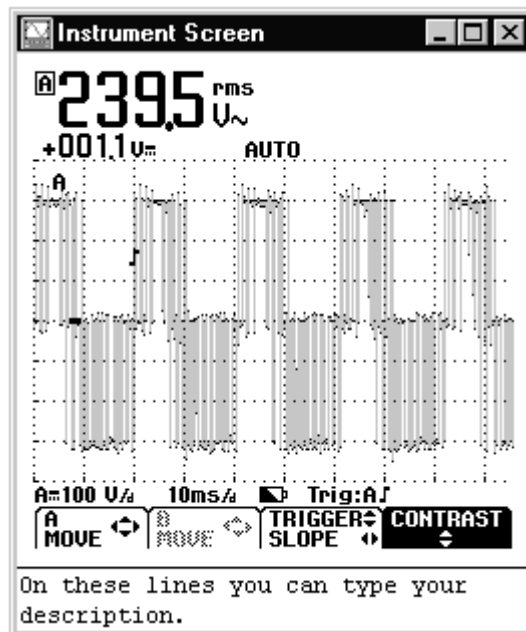
## Displaying Instrument Screens on the PC

- 1  Click to display the active ScopeMeter screen in a screen window.

*Note*

To display screens from ScopeMeter memories (saved), select **Instrument - Display Screen**.

- 2 Select **Options - Add Description** and type a description in the text box below the window (max. 10 lines).
- 3 Select **Options - Title** to change the title of the window.
- 4 Select **Options - Colors** to change window colors.







Each ScopeMeter screen has been displayed in a separate screen window.

## ***Inserting Screens into a Document***

- 1** Click on the screen window you want to insert.

### **Tip**

To avoid losing resolution because of copying to the clipboard, click  or  in the right window corner to maximize the window for the best resolution; then resize it.

- 2**  Click to copy the window to the clipboard.
- 3** Switch to a wordprocessor.
- 4** Open or create a document and place the cursor where you want to insert the window.
- 5** Select **Edit - Paste** to insert the screen window into the document.
- 6**  Click to save your document.

### **Note**

*In the same way, you can insert waveform and spectrum windows into a document.*

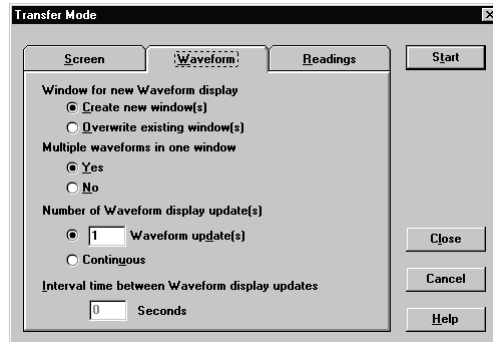
## Analyzing Waveforms

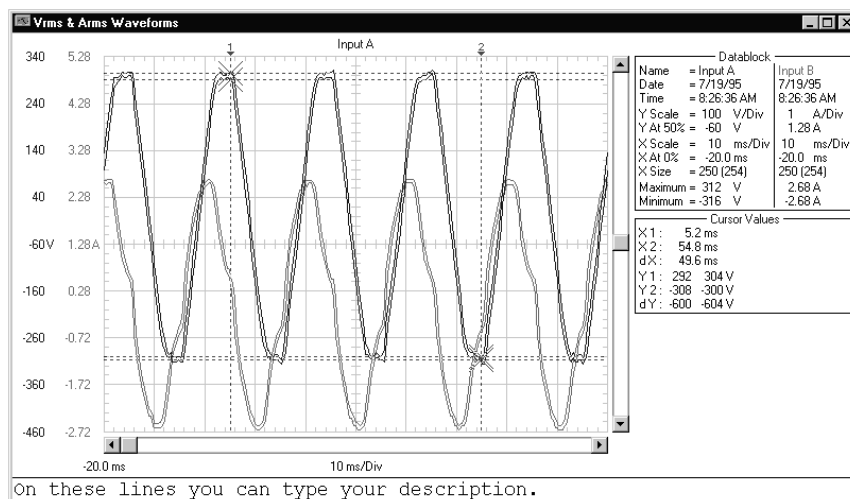
You can read numerical waveform samples from the ScopeMeter test tool and display these samples in a waveform window. Up to four waveforms can be displayed in a window.

To demonstrate this, a Vrms and Arms trace will be read from Input A and B.

### Displaying Waveforms on the PC

- 1** Select **Instrument - Transfer Mode - Waveform**.
- 2** Choose **Yes** to select multiple waveforms in one window.
- 3** Choose **1 Waveform update(s)** to read and display waveforms once only.
- 4** Click **Start**. A dialog box appears allowing you to select the waveforms you want to read.
- 5** Click the check boxes of **Input A** and **Input B**.
- 6** Click **Start** to read and display the selected waveforms.
- 7** Select **Options - Add Description** and type a description in the text box below the window (max. 10 lines).
- 8** Select **View - Datablock** to show the data block.
- 9** Select **View - Cursors** to show the cursors.
- 10** Select **Options - Colors** to change waveform colors.





The waveforms have been displayed in a waveform window. Use the mouse or (Shift) ← → keys to move the cursors.

Datablock of Input A and B	Cursor Values
Name : Name of the waveform	X1 : Time at cursor 1
Date : Date of the waveform	X2 : Time at cursor 2
Time : Time of the waveform	dX : X2 - X1
Y Scale : Vertical scale	Y1 : Minimum and maximum value at cursor 1
Y At 50% : Vertical position	Y2 : Minimum and maximum value at cursor 2
X Scale : Horizontal scale	dY : Minimum and maximum Y2 - Y1
X At 0% : Horizontal position	
X Size : Shown (Total) number of waveform points	
Maximum : Maximum value	Notice that waveform values apply to the active waveform.
Minimum : Minimum value	

**Note**

*The Date and Time formats depend on the Windows® settings.*



### Tips



Click to quickly read waveform(s) from input channels or memories.



Click to quickly read the waveform from INPUT A.



Click to quickly read the waveform from INPUT B.



Click to quickly read the waveforms from INPUT A and INPUT B.

- To change the scaling, select **Options - Scales**.
- To change window titles, select **Options - Titles**.
- To show or hide the description, select **View - Description**.

### ***Zooming In and Out on a Waveform***

Drag with the mouse in the graph to select and zoom in on the part of the waveform you want to enlarge.



Click to zoom in on a waveform.

Use the scroll bar to select the part you want to view.



Click to zoom out on a waveform (undoes one 'zoom in' step).

### ***Scaling a Waveform***

If a waveform is not completely shown in a window, a scroll bar is displayed. Use this scroll bar to select the part you want to view.

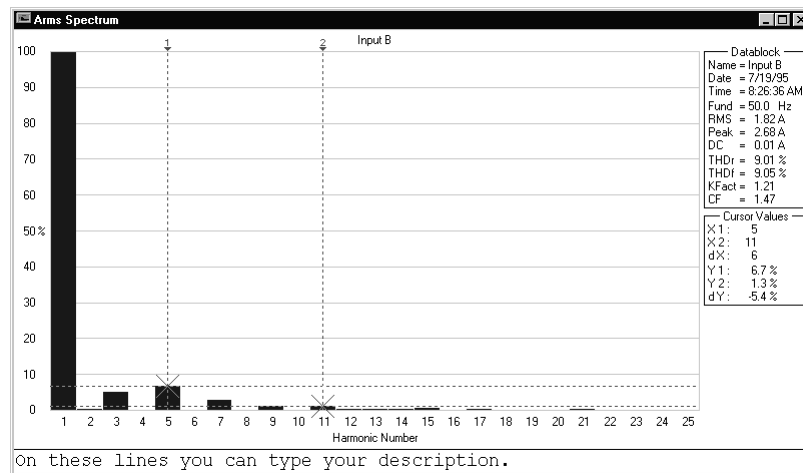
Select **Options - Scales**, to change the following in the active window:

- horizontal scaling (Time axis) of all waveforms.
- vertical scaling (Y axis) of the active waveform.

## **Generating an FFT-Spectrum from a Waveform**

For spectrum calculations, a repetitive waveform or a waveform that contains repetitive components is superposed of a fixed offset value (DC component) and a number of sine waves. The spectrum shows the amplitude and frequency of each sine wave as a bar-graph. The value of the DC component is shown in the datablock.

- 1 Select the waveform from which you want to generate a spectrum.  
In a multiple waveform window, select **View - Active Waveform** or click with the mouse to choose the active waveform.
- 2 Select **Tools - Spectrum**. The Spectrum is created and displayed in a spectrum window.
- 3 Select **Options - Add Description** and type a description in the text box below the window (max. 10 lines).
- 4 Select **View - Datablock** to show the data block.
- 5 Select **View - Cursors** to show the cursors.
- 6 Select **Options - Colors** to change spectrum colors.



The calculated spectrum has been displayed in a spectrum window. Use the mouse or **(Shift) ← →** keys to move the cursors.

Datablock	Cursor Values
Name : Name of the spectrum	X1 : Frequency (or Harmonic Number) at cursor 1
Date : Date of the waveform	X2 : Frequency (or Harmonic Number) at cursor 2
Time : Time of the waveform	dX : X2 - X1
Fund : Fundamental frequency	Y1 : Spectrum value at cursor 1
RMS : Root Mean Square	Y2 : Spectrum value at cursor 2
Peak : Maximum voltage	dY : Y2 - Y1
DC : Direct Current voltage	
THDr : Total Harmonic Distortion (RMS)	
THDf : Total Harmonic Distortion (Fund)	
KFact : K-factor	
CF : Crest factor (Peak/RMS)	

*Note*

*The Date and Time formats depend on the Windows® settings.*

**Tips**

- To change window titles, select **Options - Titles**.
- To change the scaling, select **Options - Scales**.
- To show or hide the description, select **View - Description**.

### ***Automatic spectrum updates***

To get continuous updates of a waveform and spectrum, do the following:



Click to select and display the waveform from which to create a spectrum.

- Select **Tools - Spectrum** to create a spectrum from the waveform.
- Select **Window - Auto Tile** to tile the waveform and spectrum window on the PC screen.
- Select **Instrument - Transfer Mode**. A dialog box appears.
- Select **Waveform, Overwrite existing window(s)**, and **Continuous**.
- Click **Start** to get continuous waveform and spectrum updates.

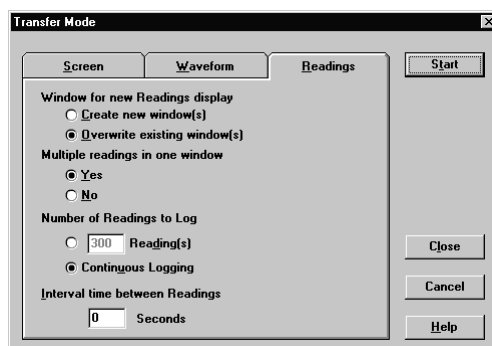
## Logging Readings

### Graphing Readings

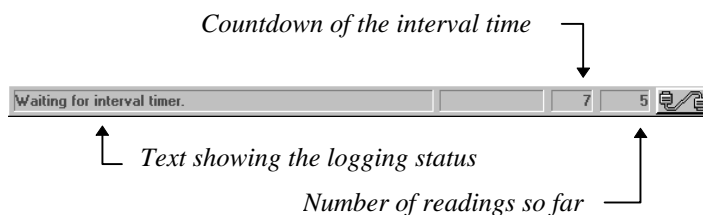
You can transfer and graph readings taken by the ScopeMeter test tool over a period of time. Up to four types of readings can be displayed in a window.


To demonstrate this, Vrms (Input A) and Arms (Input B) readings will be logged.

- 1 Select **Instrument - Transfer Mode - Readings**.
- 2 Choose **Yes** to select multiple readings in one window.
- 3 Choose **Continuous Logging**.

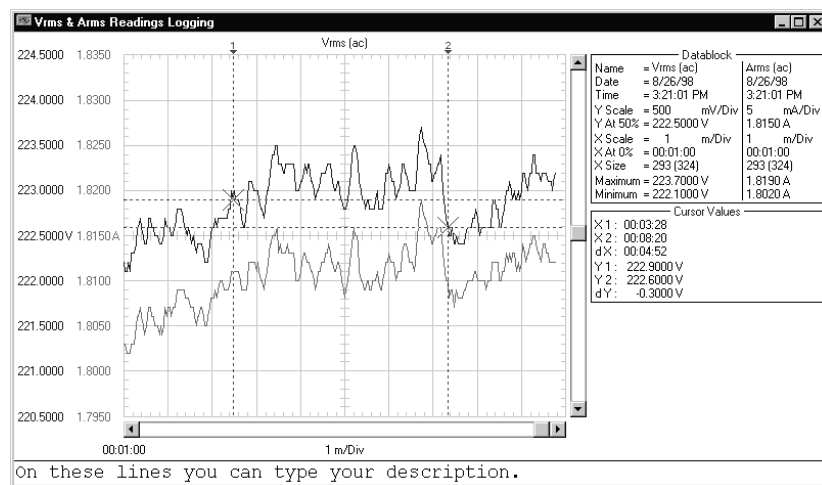


- 4 Click **Start**. A dialog box appears allowing you to select the type of readings you want to log.
- 5 Click the check boxes of **A: AC** and **B: AC**.
- 6 Click **Start** to start logging. The status bar shows the logging progress



- 7  Click to stop logging.

- 8** Select **View - Datablock** to show the datablock.
- 9** Select **View - Cursors** to display the cursors.
- 10** Select **Options - Add Description** and type a description in the text box below the window (max. 10 lines).
- 11** Select **Options - Colors** to change waveform colors.



Each type of logged readings has been displayed in a waveform window. Use the mouse or (**Shift**) ← → keys to move the cursors.

Datablock of Vrms and Arms	Cursor Values
Name : Name of the waveform	X1: Time at cursor 1
Date : Date of the waveform	X2: Time at cursor 2
Time : Time of the waveform	dX: X2 - X1
Y Scale : Vertical scale	Y1: Readings value at cursor 1
Y At 50% : Vertical position	Y2: Readings value at cursor 2
X Scale : Horizontal scale	dY: Y2 - Y1
X At 0% : Horizontal position	Notice that readings values apply to the active waveform.
X Size : Shown (Total) number of waveform points	
Maximum : Maximum value	
Minimum : Minimum value	

*Note*

*The Date and Time formats depend on the Windows® settings.*

**Tips**




Click to quickly start logging.



Click to zoom in on a part of a waveform.

- To change window titles, select **Options - Titles**.
- To show or hide the description, select **View - Description**.
- To create a spectrum from a waveform of readings, select **Tools - Spectrum**.

***Inserting Readings into a Spreadsheet***


- 1** Click on the waveform of readings you want to insert.
- 2** Select **Edit - Copy Data** to copy the readings data to the clipboard.
- 3** Switch to a spreadsheet program.
- 4** Open or create a worksheet and place the cursor where you want to insert the data.
- 5** Select **Edit - Paste** to insert the data into the worksheet with the numerical readings arranged in columns.
- 6**  Click to save your spreadsheet.

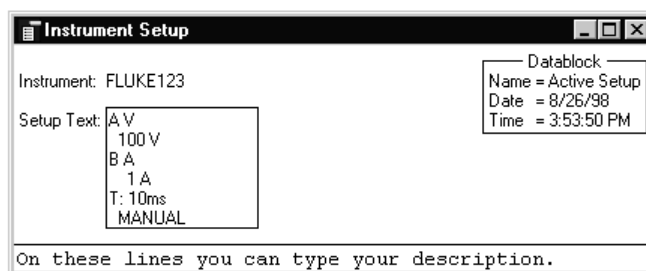
*Note*

*You can insert waveform and spectrum points into a spreadsheet in the same way.*


## Transferring Instrument Setups

### Reading/Saving Setups from/to File

- 1  Click to read the active setup or setups from ScopeMeter memories.
- 2 Select **Options - Add Description** and type a description in the text box below the window (max. 10 lines).
- 3 Select **Options - Title** to change the title of the window.
- 4 Select **View - Datablock** to show the datablock.
- 5 Select **Options - Colors** to change window colors.



Each ScopeMeter setup has been displayed in a separate setup window.  
If available from the ScopeMeter test tool, the Setup Text box shows setup information.

- 6  Click to send the setups from the selected setup windows to ScopeMeter memories.

### ***Saving/Recalling the Active Setup to/from ScopeMeter Memory***

- 1** Select **Instrument - Remote Control**. A dialog box pops up.
- 2** Click **Save Setup**. A dialog box pops up.
- 3** Click on the down arrow to display the list with setup memories.
- 4** Click on the memory location in which you want to save the active setup.
- 5** Click **Save** to send the setup to the selected memory.

The active ScopeMeter setup has been saved in a ScopeMeter memory.

- 6** Click **Recall Setup**. A dialog box pops up.
- 7** Click on the down arrow to display the list with setup memories.
- 8** Click on the memory location that contains the setup you want to make active.
- 9** Click **Recall** to recall the new active setup.


The active ScopeMeter setup has been recalled from a ScopeMeter memory.

Click **Close** to close the dialog box.

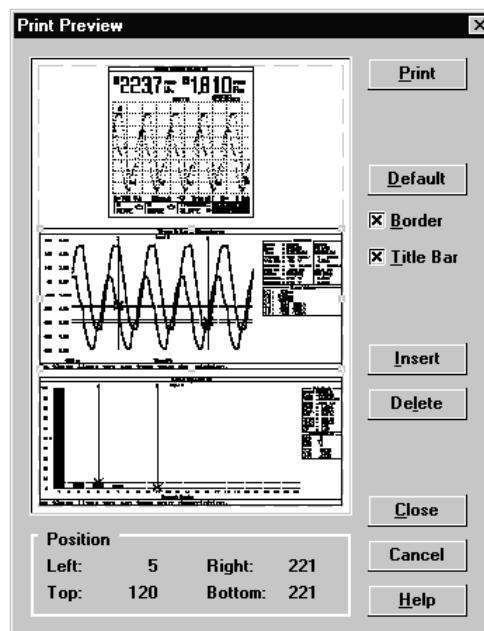


## Printing Windows

The Print Preview function enables you to preview any combination of screen, waveform, readings, spectrum, and setup windows on a page before printing.

- 1 Click on the window you want to print.
- 2  Click to preview the window on the page.

- 3 Choose **Border** to add a border around the active window.
- 4 Choose **Title Bar** to add the title of the active window.
- 5 Click **Insert** to add more windows on a page. A dialog box appears allowing you to select another window.




- 6 Click **Print** to start printing the window(s).

To change printer settings, select **File - Print Setup**.

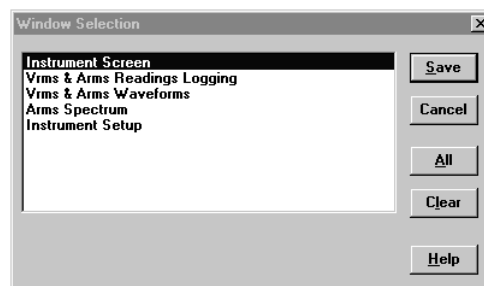
## ***Saving Windows to a File***

You can save any combination of screen, waveform, readings, spectrum, and setup windows to a FVF file.

- 1 Click on the window you want to save.
- 2  If there are more windows, a dialog box appears.

- 3 Select the windows of your choice or click **All** to select all windows.

Click **Save**. Another dialog box appears.



- 4 Enter a name for the file in the **File Name** box (FVF is default file type).
- 5 Click **OK** to start saving the windows you selected to the file.

For more information on saving to a file, select **Index - File Formats** from the **Help** menu.

## ***Troubleshooting***

### ***Troubleshooting during Startup of FlukeView***

**Problem:** *File not found during installation of FlukeView for Windows*

**Solution:** Make sure a \TEMP directory exists.  
Copy the following lines to your AUTOEXEC.BAT file:  
`SET TEMP=C:\TEMP`  
`SET TMP=C:\TEMP`

**Problem:** *FlukeView will not start*

**Solution:** Rename the file VBRUN300.DLL in the WINDOWS\SYSTEM subdirectory and re-install the FlukeView software by running the SETUP utility from the floppy.

### ***Troubleshooting during Instrument Communication***

**Problem:** *FlukeView cannot find the instrument*

**Solution:** Open the Control Panel to check or set port settings:  
`COM1: Baudrate, 8, None, 1, Xon/Xoff, 03F8, IRQ = 4`  
`COM2: Baudrate, 8, None, 1, Xon/Xoff, 02F8, IRQ = 3`

**Problem:** *FlukeView worked once, but now it cannot open a COM port*

**Solution:** Open the SYSTEM.INI file in the WINDOWS\SYSTEM subdirectory, and make sure the statement "comm.drv=....." reads "comm.drv=comm.drv".

### ***Troubleshooting Memory Problems***

**Problem:** *not enough PC memory*

**Solution:** Windows probably ran out of resources. Close all unused applications and try again, or restart Windows and try again.

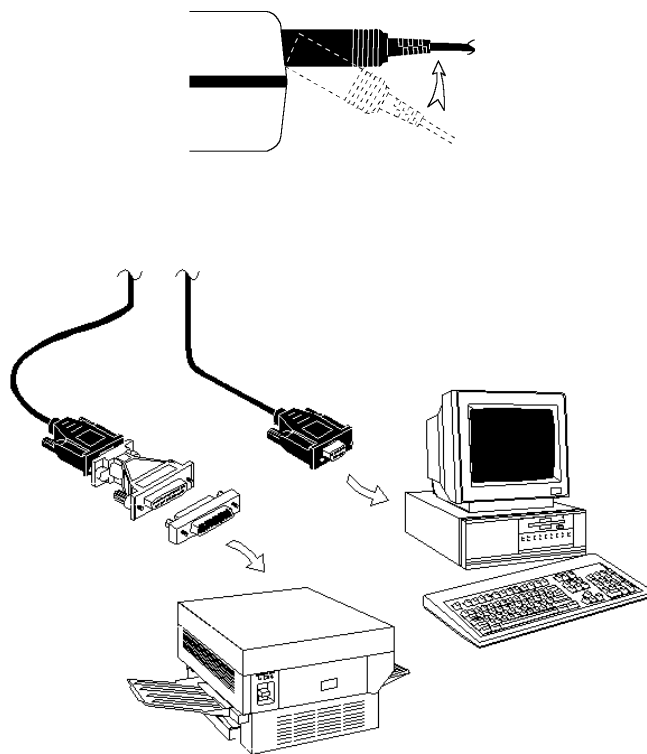
### ***General Troubleshooting Tips***

- Consult the README.TXT file of FlukeView.
- Run the FlukeView software again or reinstall the FlukeView software.
- Run MSD.EXE in MS-DOS or any other diagnostics software program to get information on computer and Windows.



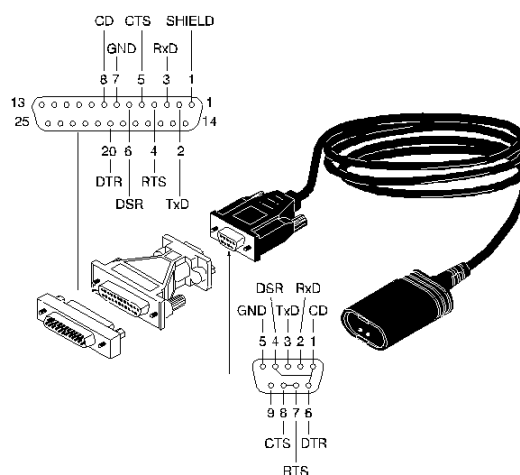
## ***Appendix A*** ***Optically Isolated RS-232 Interface*** ***(optional)***

### ***Interface Connections***



## Interface Specifications

CHARACTERISTICS	SPECIFICATION	INFORMATION
Type of interface	RS-232 / EIA-232-D	Optically isolated
States: SPACE = 0 MARK = 1	Light No light	Wavelength = 800 nm
RXD signal levels:	SPACE = +10V to +4V MARK = -4V to -10V	Max. input = +15V Min. input = -15V
Other signal levels:	SPACE = +12V to +7V MARK = -7V to -12V	Max. input = +15V Min. input = -15V
Handshake method	XON/XOFF	Software handshake only
Environmental: <ul style="list-style-type: none"> <li>Meets requirements of</li> <li>Temperature: <ul style="list-style-type: none"> <li>- Operating 0 °C to +50 °C</li> <li>- Storage -20 °C to +70 °C</li> </ul> </li> </ul> Mechanical: <ul style="list-style-type: none"> <li>Cable length 1.5 m</li> <li>Weight 0.14 kg</li> </ul>		



## Warranty

### LIMITED WARRANTY & LIMITATION OF LIABILITY

Each Fluke product is warranted to be free from defects in material and workmanship under normal use and service. The warranty period is three years and begins on the date of shipment. Parts, product repairs and services are warranted for 90 days. This warranty extends only to the original buyer or end-user customer of a Fluke authorized reseller, and does not apply to fuses, disposable batteries or to any product which, in Fluke's opinion, has been misused, altered, neglected or damaged by accident or abnormal conditions of operation or handling. Fluke warrants that software will operate substantially in accordance with its functional specifications for 90 days and that it has been properly recorded on non-defective media. Fluke does not warrant that software will be error free or operate without interruption.

Fluke authorized resellers shall extend this warranty on new and unused products to end-user customers only but have no authority to extend a greater or different warranty on behalf of Fluke. Warranty support is available if product is purchased through a Fluke authorized sales outlet or Buyer has paid the applicable international price. Fluke reserves the right to invoice Buyer for importation costs of repair/replacement parts when product purchased in one country is submitted for repair in another country.

Fluke's warranty obligation is limited, at Fluke's option, to refund of the purchase price, free of charge repair, or replacement of a defective product which is returned to a Fluke authorized service center within the warranty period.

To obtain warranty service, contact your nearest Fluke authorized service center or send the product, with a description of the difficulty, postage and insurance prepaid (FOB Destination), to the nearest Fluke authorized service center. Fluke assumes no risk for damage in transit. Following warranty repair, the product will be returned to Buyer, transportation prepaid (FOB Destination). If Fluke determines that the failure was caused by misuse, alteration, accident or abnormal condition of operation or handling, Fluke will provide an estimate of repair costs and obtain authorization before commencing the work. Following repair, the product will be returned to the Buyer transportation prepaid and the Buyer will be billed for the repair and return transportation charges (FOB Shipping Point).

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