

**FLUKE®**

**SW90W**  
FlukeView® ScopeMeter® Software

Users Manual

July 2006

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# Table of Contents

Title	Page
<b>Installing FlukeView</b> .....	<b>1</b>
Installing the FlukeView Software.....	1
Running the FlukeView Software .....	2
Connecting the ScopeMeter Test Tool.....	3
<b>Using FlukeView</b> .....	<b>4</b>
Using Online Help.....	4
Introducing the FlukeView Software .....	5
Instrument Screens.....	6
Waveforms.....	7
Readings.....	8
Instrument Setups.....	9
Creating a Test Report.....	10
Documenting Screens.....	12
Displaying an Instrument Screen on the PC .....	12
Replaying Screens.....	13
Recording Screens to Disk.....	15
Inserting Screens into a Document .....	17
Analyzing Waveforms.....	18
Displaying Waveforms on the PC.....	18
Sending a Reference Waveform .....	21
Zooming In and Out on a Waveform .....	21
Scaling a Waveform.....	21
Replaying Waveforms .....	22
Generating an FFT-Spectrum from a Waveform .....	24
Automatic Spectrum Updates .....	26
Logging Readings .....	27
Graphing Readings.....	27
Inserting Readings into a Spreadsheet .....	30
Transferring Instrument Setups .....	31
Reading/Saving Setups from/to File .....	31
Saving/Recalling the Active ScopeMeter Setup .....	32
Printing Windows.....	33
Saving Windows to a File .....	35
<b>Index</b> .....	<b>37</b>

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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 2000 and XP.

To install FlukeView, insert the CD ROM into the CD ROM drive and run SETUP.

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

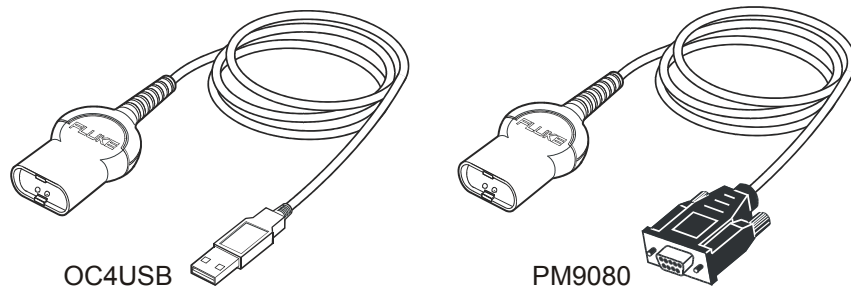
## ***Running the FlukeView Software***



Choose from **Start - Programs - FlukeView - ScopeMeter 4.x English** to run the FlukeView software.

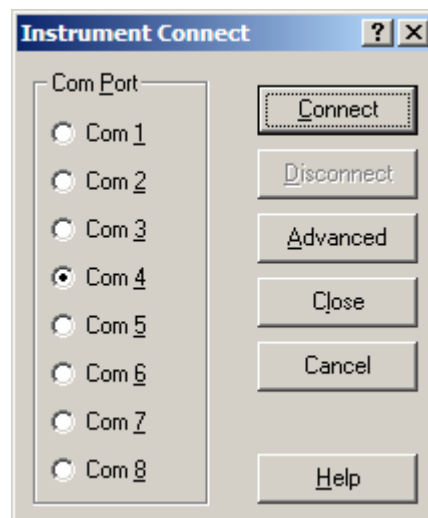
## Connecting the ScopeMeter Test Tool

The FlukeView software communicates with your ScopeMeter test tool via the optically isolated USB cable OC4USB, or the optically isolated RS-232 cable PM9080 connected to 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.








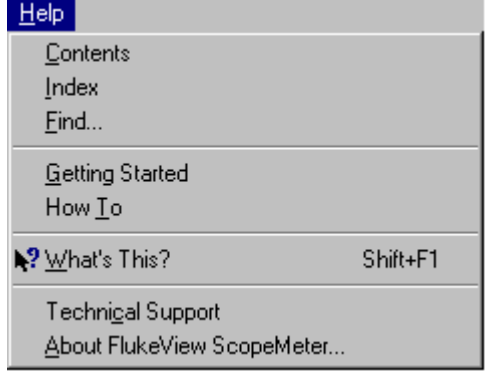
- 1 Select the **Com Port** that connects the instrument to the PC.
- 2 Click **Connect** to establish a connection with the instrument.

# Chapter 2

## Using FlukeView


### Using Online Help

The FlukeView software offers you access to online help by using the **F1** key, a **Help** button, “**What’s This?**” help, or the **Help** menu:

 or <b>Shift+</b> 	Press to get online help for the topic that has the focus.
 or 	Click, move the mouse pointer on a topic, and click again to get “What’s This” help.
	Click to get help in dialog and error boxes.
	<p>For example:</p> <p>Click <b>Help - How To</b> and view the online manual on the screen.</p> <p>Click <b>Help - Technical Support</b> to get access to the Fluke home page.</p>

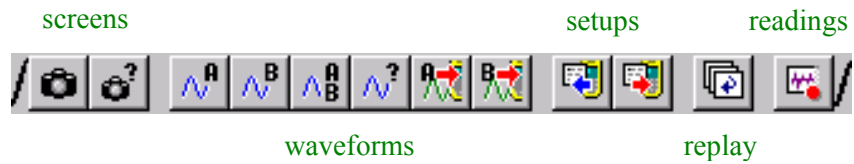
*Note*

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***

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

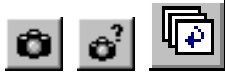


You can save, open, and print the data, or export it to other programs.

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

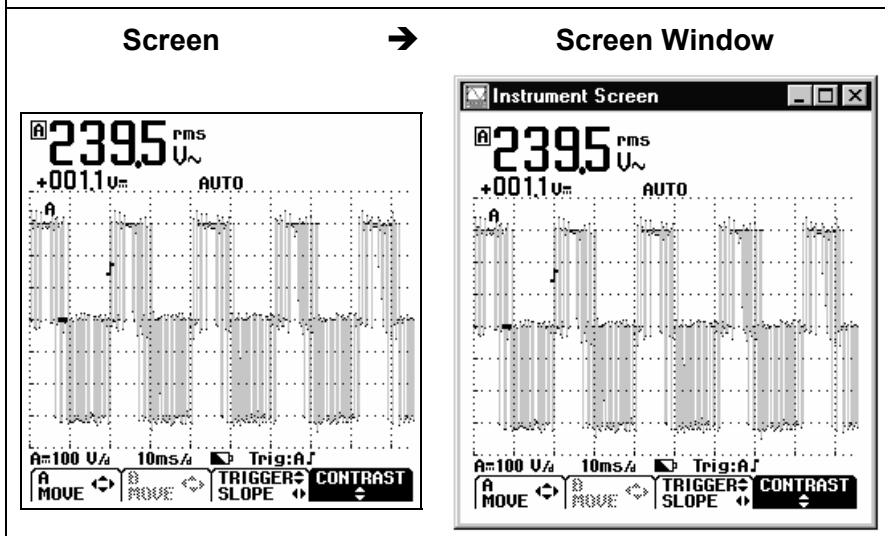


## Instrument Screens

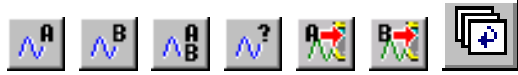


**Type:** bitmap graphics data from the instrument's screen (in pixel-format)

**Use:** to create documents and reports



## Waveforms

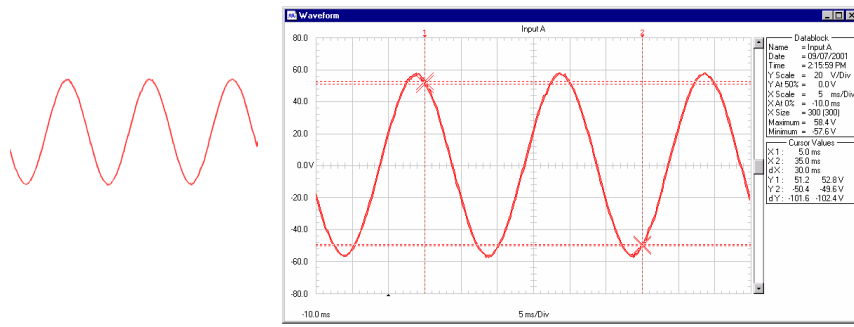


**Type:** numerical waveform points to generate Y-t vector-graphics data

**Use:** to analyze by zooming, scaling, or creating a spectrum from

**Waveform** →

**Waveform Window**



## Readings



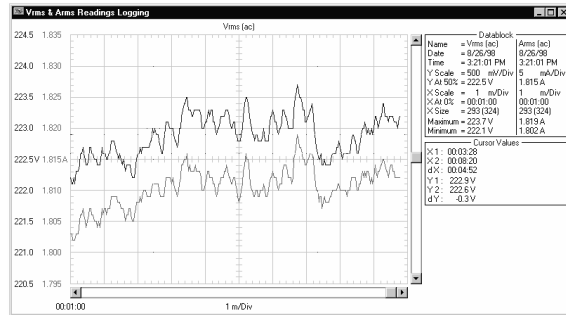
**Type:** numerical values to log Y-X vector-graphics data

**Use:** to analyze by zooming, scaling, or creating a spectrum from


Readings →

Waveform (Readings) Window

223.7  $rms$   $\bar{U}$  1.810  $rms$   $\bar{A}$   
AUTO 499.8 Hz



## Instrument Setups



**Type:** binary settings data from the instrument

**Use:** to retrieve and send back instrument setups


---

**Setup** →

←

[actual  
ScopeMeter  
settings]

**Setup Window**



Instrument Setup

Instrument: FLUKE199C

Setup Text: Not applicable.

— Datablock —

Name = Active Setup

Date = 09/06/2001




Time = 1:15:22 PM

## ***Creating a Test Report***

To create a test report using Word, do the following:

- 1 Open the QWReport.dot or Qreport.doc file. You can find these files in the FlukeView installation folder.

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

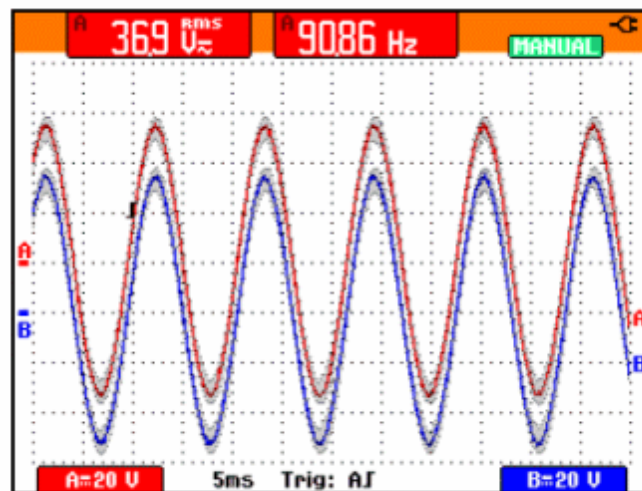
- 2 Click predefined fields (**Company, Contact, ...**) and type your text.
- 3  Click to insert the active ScopeMeter screen.  
As a result, FlukeView is started, a connection is made, and the active **Instrument Screen** is pasted into the document.
- 4 Click the **Description** field and type your text.
- 5  Click to print your test report. See the next page for an example of a test report.
- 6  Click to save your test report.
- 7 Exit Word to continue with the next section of this manual.

# 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 6, 2001

---

## Instrument Screen:





## Description:

On these lines you can type your description.

## Documenting Screens

### Displaying an Instrument Screen on the PC

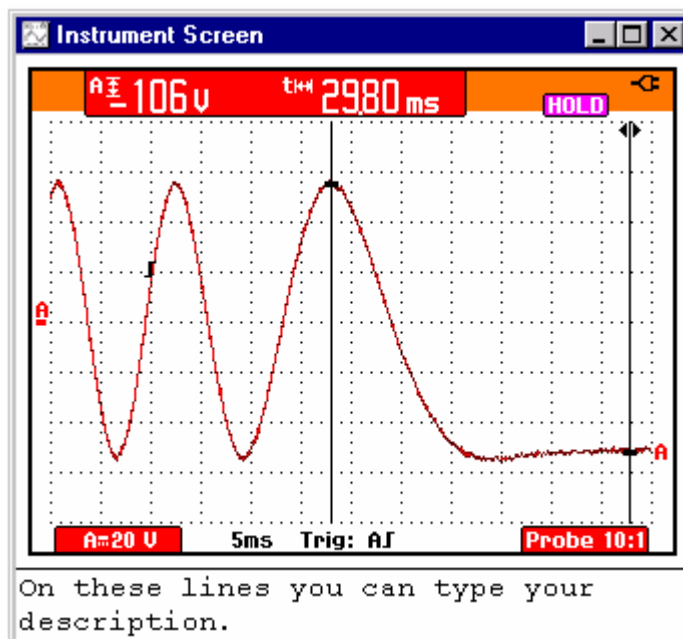
- 1a  Click to display the **active** ScopeMeter screen in a screen window.
- 1b  Click. A dialog box appears allowing you to select saved ScopeMeter screens to display in screen windows.

#### Tip

To specify conditions for transferring screens, choose **Instrument - Multiple Transfers**.

To change the window to your preference:


- 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.

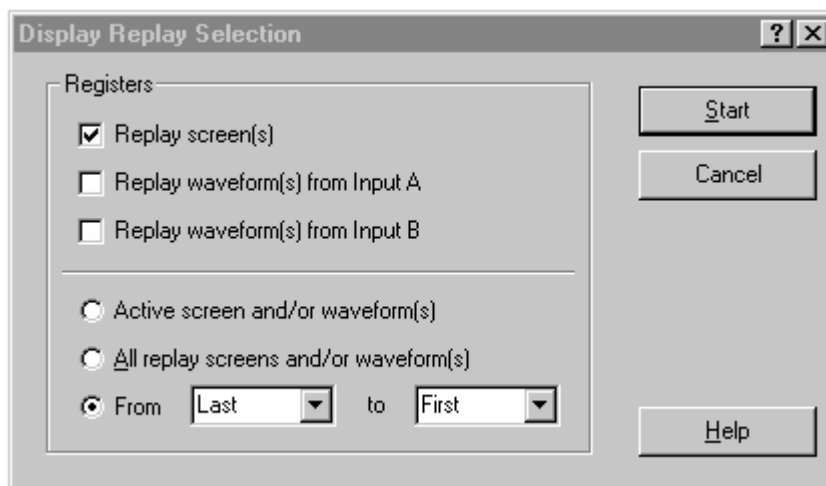


Each ScopeMeter screen appears in a separate screen window.

## Replaying Screens


[for Fluke 190 series ScopeMeter test tools]

- 1  Click. A dialog box appears allowing you to make the following selections:



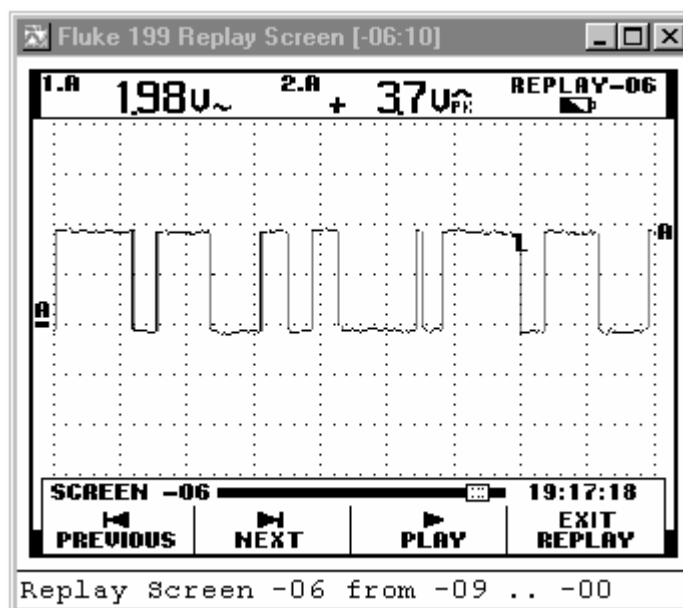
- 2 Click **Start** to read and display the replay screens.

### Note



To stop reading and displaying the replay sequence, click  or press **Esc**.

- 3 If applicable, choose **View - Ratio 4:3** to change the X:Y ratio of the window.



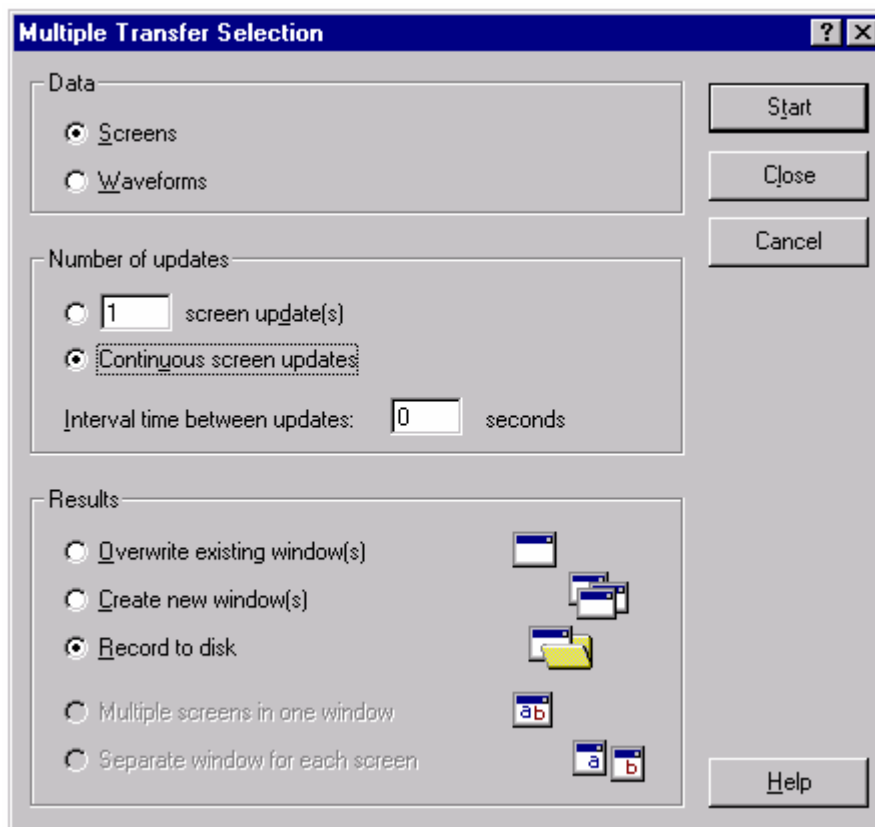


To change the window to your preference:

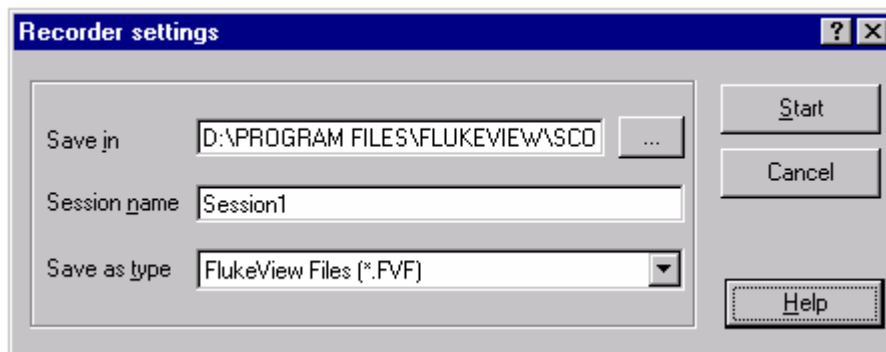
- 4   Click to view the previous or next replay screen.  
You can also choose **View - Replay** to scan through the replay sequence of screens.
- 5 Select **Options - Add Description** and type a description in the text box below the window (max. 10 lines).
- 6 Select **Options - Title** to change the title of the window.
- 7 Select **Options - Colors** to change window colors.

## Recording Screens to Disk

- 1 Select **Instrument - Multiple Transfers**. A dialog box appears.




- 2 Choose **Screens**, **Continuous screen updates**, and **Record to disk**.
- 3 Click **Start**. As a result a dialog appears allowing you to make recorder settings.



- 4 Type or change the path in the **Save in** field.

**Tip**

Click  to browse for the disk path.



- 5 Type or change the sub directory (sub folder) in the **Session name** field.
- 6 Select the file extension from the **Save as type** field, for example, BMP.
- 7 Click **Start** to begin recording the active screens to files. The name of the files will be *rec1.bmp*, *rec2.bmp*, etc. FlukeView is counting the number of recorded screens, see the status bar below.
- 8  Click to stop recording. Check that the recorded screens are stored in the file names on disk.

## ***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, choose **Windows – Default Size**.

- 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.*

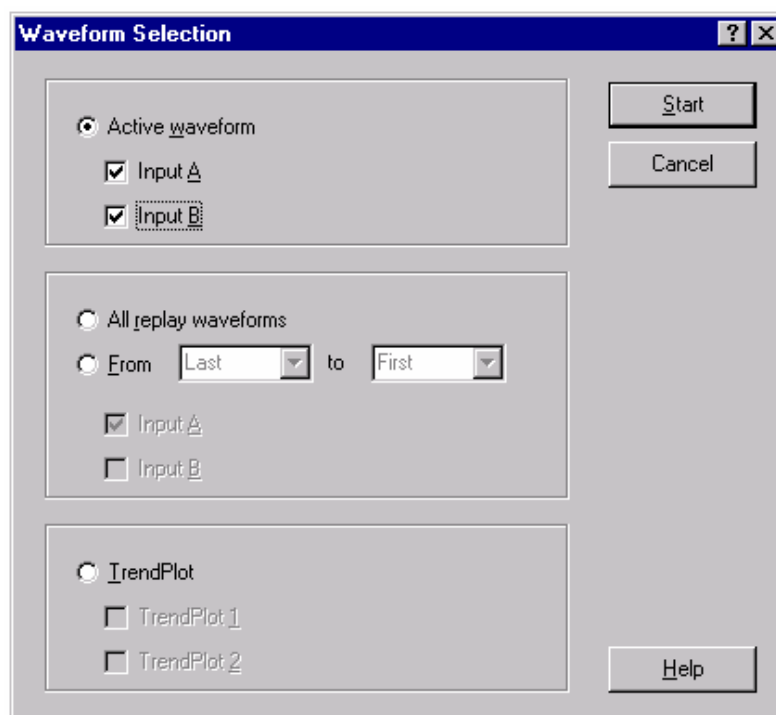
## Analyzing Waveforms

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 trace will be read from Input A and B.

### Displaying Waveforms on the PC

- 1  Click. A dialog box appears allowing you to select the waveforms you want to read.



- 2 Choose **Active waveform**.
- 3 Choose **Input A** and **Input B**.
- 4 Click **Start** to read and display the selected waveforms.

To change the window to your preference:

- 5** Select **Options - Add Description** and type a description in the text box below the window (max. 10 lines).
- 6** Select **View - Datablock** to show the data block.
- 7** Select **View - Cursors** to show the cursors.
- 8** Select **Options - Colors** to change waveform colors.

See the next page for an example of a waveform window.

### Tips



Click to quickly read the waveform from INPUT A.

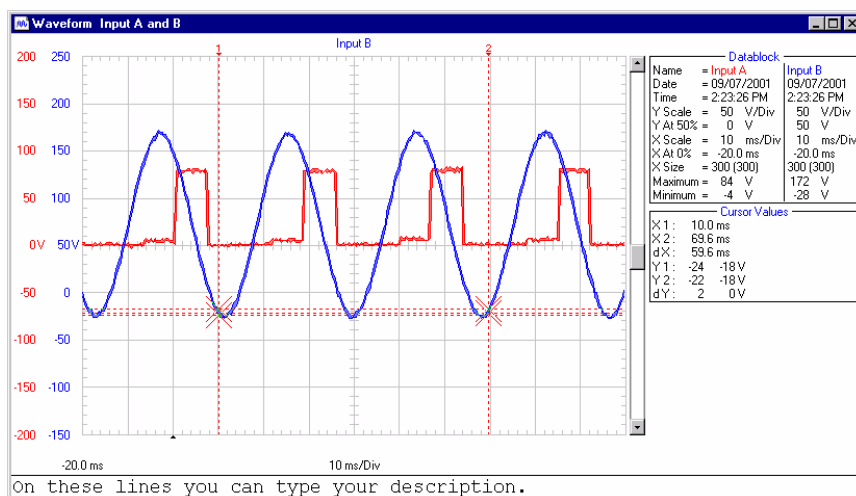


Click to quickly read the waveform from INPUT B.



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

- To specify conditions for transferring waveforms, choose **Instrument - Multiple Transfers**.
- To change the scaling, select **Options - Scales**.
- To change window titles, select **Options - Titles**.
- To show or hide the description, select **View - Description**.
- To view a reference waveform (envelope) as a single waveform, select **View - Single Curve**.



Use the mouse or **(Shift) ← →** keys to move the cursors.

Datablock		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		
Minimum	: Minimum value		
			Notice that values apply to the active waveform.

*Note*

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

## **Sending a Reference Waveform**


[for Fluke 190B/C and 199XRAY series ScopeMeter test tools]

Refer to paragraph **Displaying Waveforms on the PC** to create a waveform that you can use as reference waveform.

- 1 Select the active waveform by clicking on it.

### *Note*

*Make sure that INPUT B is ON on the ScopeMeter test tool (press **B** and **F1**).*

- 2  Click to send the active waveform as reference waveform B to the ScopeMeter test tool.

## **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:

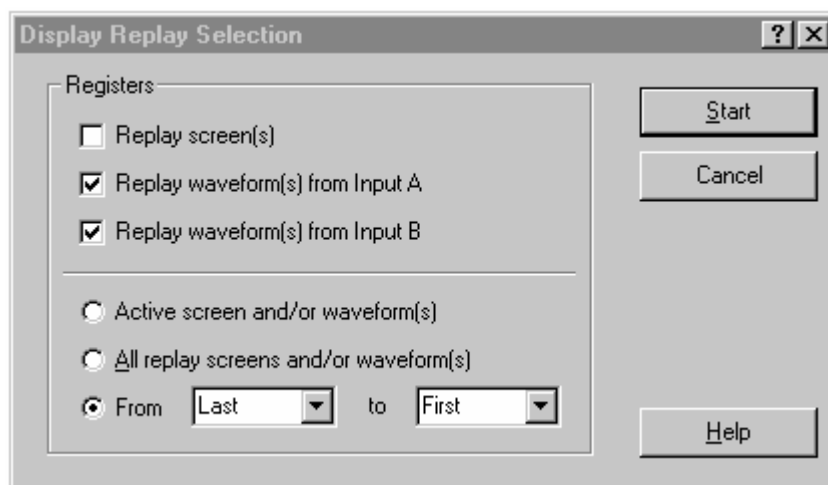
- horizontal scaling (Time axis) of all waveforms
- vertical scaling (Y axis) of the active waveform



## Replaying Waveforms


[for Fluke 190 series ScopeMeter test tools]

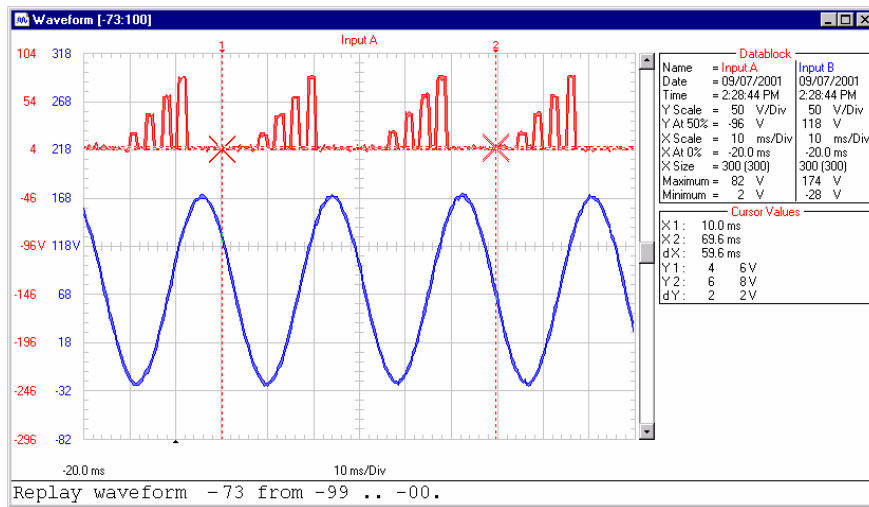
- 1  Click. A dialog box appears allowing you to make the following selections:





- 2 Choose **Replay waveform(s) from Input A** and **Replay waveform(s) from Input B**.
- 3 Select the range of waveforms (**From - to**) you want to display.
- 4 Click **Start** to read and display the replay waveforms.

### Note

To stop reading and displaying the replay sequence, click  or press **Esc**.



To change the window to your preference:

- 5   Click to view the previous or next replay waveform.  
You can also choose **View - Replay** to scan through the replay sequence of waveforms.
- 6 Select **Options - Add Description** and type a description in the text box below the window (max. 10 lines).
- 7 Select **Options - Title** to change the title of the window.
- 8 Select **Options - Colors** to change window colors.

## ***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.

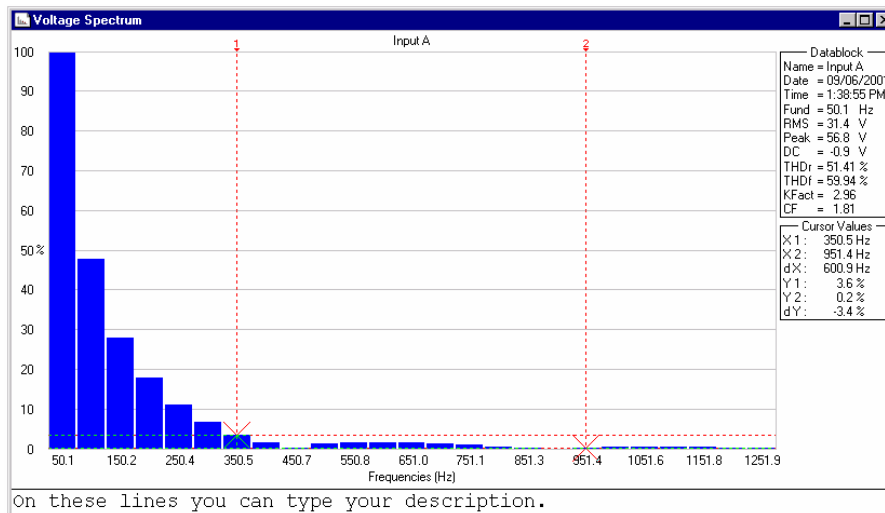
To change the window to your preference:

- 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.

See the next page for an example of a spectrum window.

### **Tips**

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




Use the mouse or **(Shift)** ← → keys to move the cursors.

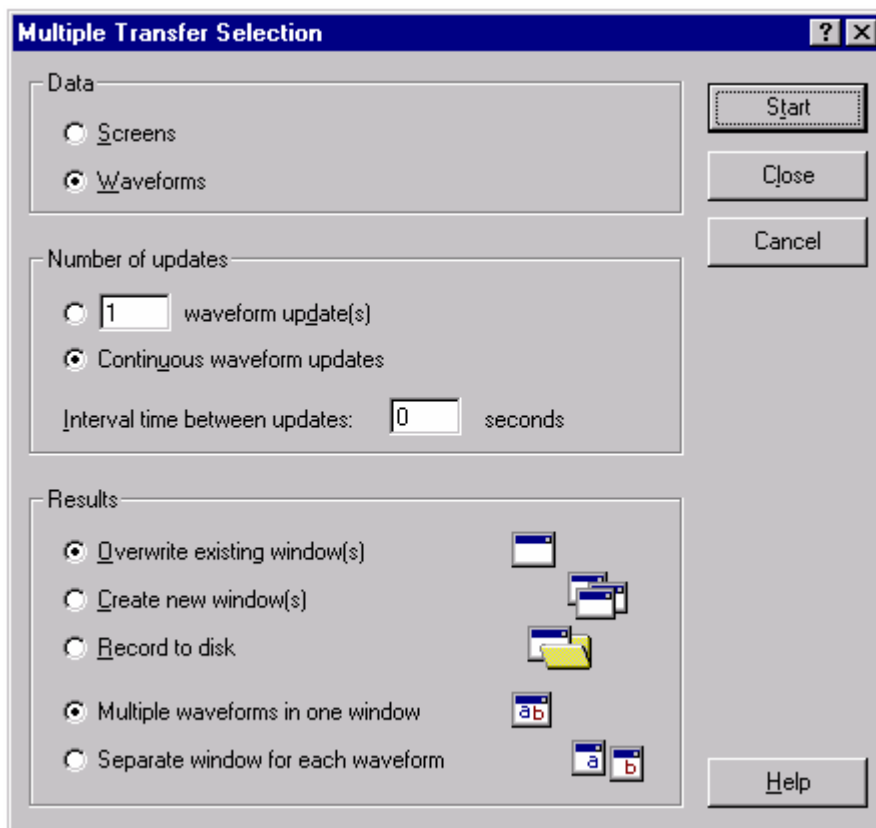
Datablock	Cursor Values
Name : Name of the spectrum	X1 : Frequency (or Harmonic Number) at cursor 1
Date : Date of the waveform	X2 : Frequency (or Harmonic Number) at cursor 2
Time : Time of the waveform	dX : X2 - X1
Fund : Fundamental frequency	Y1 : Spectrum value at cursor 1
RMS : Root Mean Square	Y2 : Spectrum value at cursor 2
Peak : Maximum value	dY : Y2 - Y1
DC : Direct Current value	
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.*

## Automatic Spectrum Updates

- 1  Click to select and display the waveform from which to create a spectrum.
- 2 Select **Tools - Spectrum** to create a spectrum from the waveform.
- 3 Select **Window - Auto Tile** to tile the waveform and spectrum window on the PC screen.
- 4 Select **Instrument - Multiple Transfers**. A dialog box appears.




- 5 Choose **Continuous waveform update(s)** and **Overwrite existing window(s)**.
- 6 Click **Start** to get continuous waveform and spectrum updates.

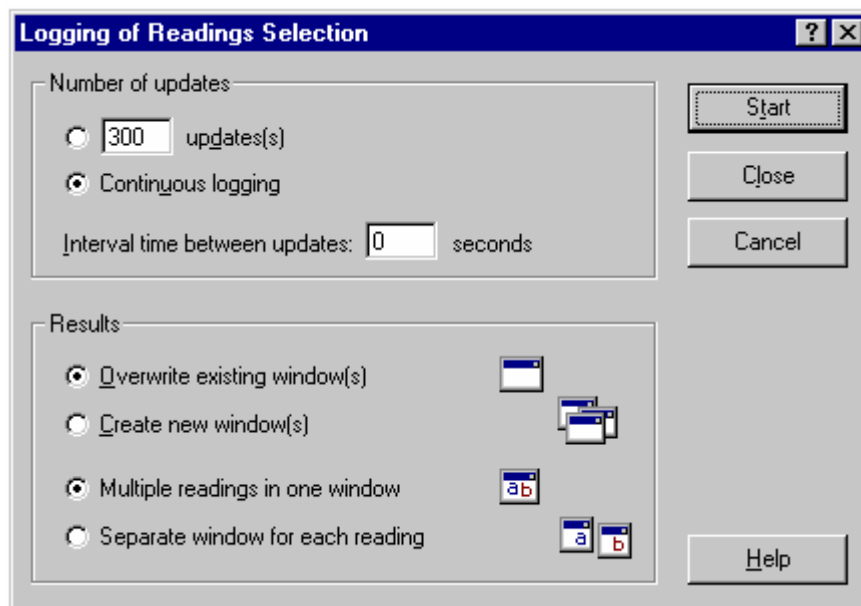
## Logging Readings

### 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.

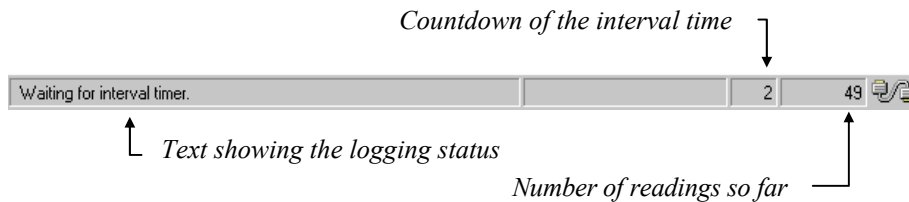
To demonstrate this, four types of readings will be logged.


- 1  Click. A dialog box appears allowing you to select the logging parameters.



- 2 Set **Interval time** to three seconds, and choose **Continuous logging**, **Overwrite existing window(s)**, and **Multiple readings in one window**.
- 3 Click **Start**. A dialog box appears allowing you to select the type of readings you want to log.

- 4 Click **Start** to start logging. The status bar shows the logging progress.




- 5  Click to stop logging.

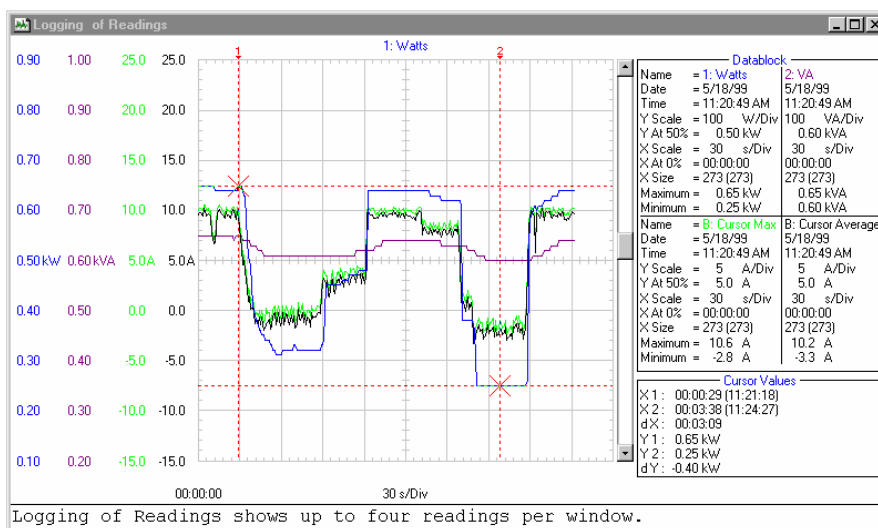
To change the window to your preference:

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

See the next page for an example of logged readings in a waveform window.

### Tips

-  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**.



Use the mouse or (Shift) ← → keys to move the cursors.


Datablock	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	
X Size : Shown (Total) number of waveform points	
Maximum : Maximum value	Notice that values apply to the active waveform.
Minimum : Minimum value	

**Note**

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



### ***Inserting Readings into a Spreadsheet***


- 1** Click on the waveform of readings you want to insert.
- 2** Select **Edit - Copy Data** to copy the reading's 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.

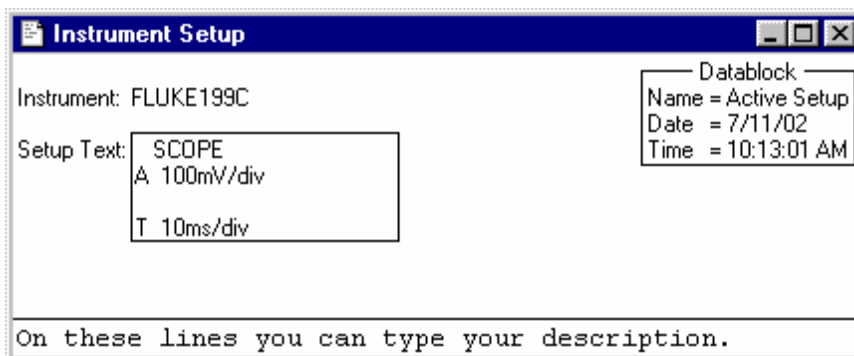
#### *Note*

*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 appears in a separate setup window.

- 6 If available from the ScopeMeter test tool, the **Setup Text** box shows setup information. Click and type in this box to change the setup text.  
Notice that special setup characters are not shown. If you change the setup text and send it back to the instrument, these special characters are not sent back.
- 7  Click to send the setups from the selected setup windows to ScopeMeter memories.

## ***Saving/Recalling the Active ScopeMeter Setup***

### ***Fluke 120 series, Fluke 190 series, Fluke 190B/C series software versions below V7.00:***

- 1** Select **Instrument - Remote Control**. A dialog box appears.
- 2** Click **Save Setup**. A dialog box appears.
- 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 appears.
- 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.

### ***Fluke 190B/C series software versions V7.00 and newer, Fluke 199XRAY:***

- 1** Select **Instrument - Remote Control**. See Remote Control on page 36.

## ***Printing Windows***

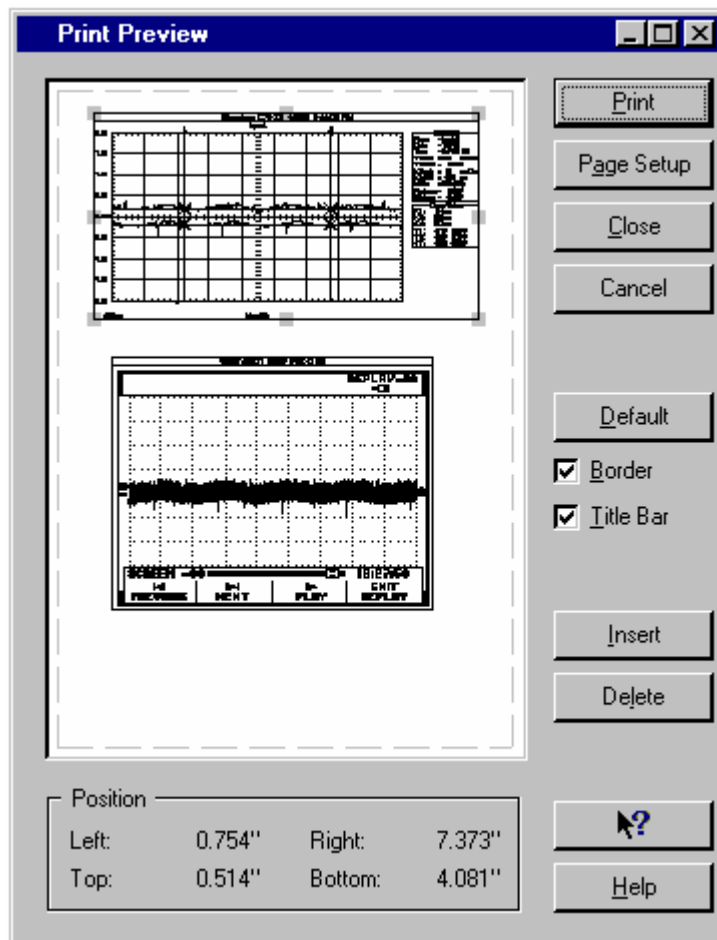
The Print Preview function enables you to preview any combination of screen, waveform, readings, spectrum, and setup windows on a page before printing.

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

See next page for the window.


- 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 **Page Setup** to change the page setup
- 7 Click **Print** to start printing the window(s).

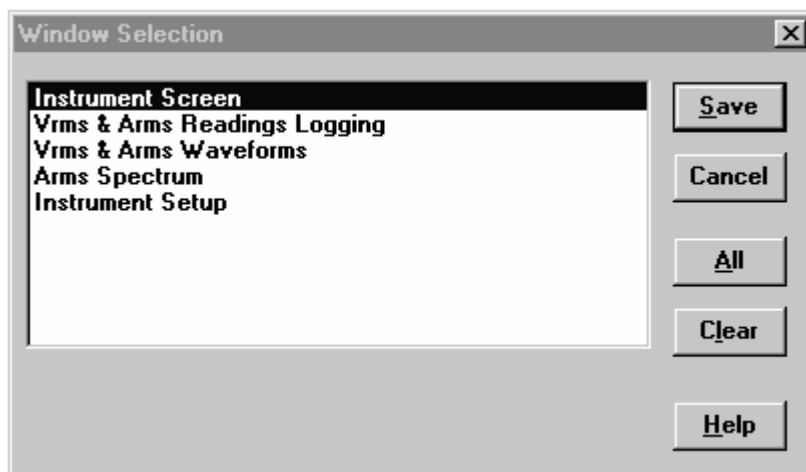
To change printer settings, select **File - Print Setup**.



## **Saving Windows to a File**

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

## Remote Control

The Fluke 190B/C series software versions V7.00 and newer, and the Fluke 199XRAY can be completely remote controlled:

### 1 Select Instrument - Remote Control.

FlukeView will open an instrument remote control screen. The instrument remote control screen is a copy of the ScopeMeter front. It allows you to operate the ScopeMeter on your PC (remote control).

To operate the connected ScopeMeter via this screen click on the simulated keys. In addition, your PC F1...F4 keys, arrow keys, and Enter key will perform the same action as corresponding instrument keys.

ScopeMeter keys	PC keyboard
Softkeys F1...F4	F1...F4 or mouse click on ScopeMeter screen
Blue arrow keys	Arrow keys
Enter	Enter

After each remote control action the updated ScopeMeter screen will be transferred to the PC screen.

The ScopeMeter can still be operated with its own keys (local operation is not locked out). If you do this, the PC screen can be updated via the Update Screen button.

Click on Close to close the remote control screen.

The Fluke 190 series, Fluke 190B/C series with software below version V7.00, and the Fluke 120 series allows you to perform limited control over the ScopeMeter test tool:

### 1 Select Instrument - Remote Control to open the remote control functions menu.

# Index

## A

Active Waveform .....	24
Analyzing Waveforms .....	18
Automatic Spectrum Updates .....	26

## B

Bitmap-graphics .....	6
-----------------------	---

## C

Cable RS-232 .....	38
Colors .....	12, 14, 19, 23, 24, 28, 31
COM Port .....	3
Continuous Waveform and Spectrum Updates .....	26
Continuous waveform update(s) .....	26, 27
Crest-factor .....	25
Cursor Values .....	20, 25, 29
Cursors .....	19, 24, 28

## D

Datablock .....	19, 20, 24, 25, 28, 29, 31
DC .....	24, 25
Description .....	12, 14, 19, 23, 24, 28, 31
Document .....	17

## F

FFT-Spectrum .....	24
Fundamental Frequency .....	25
FVF File .....	35

## G

Graphics .....	6
Graphing Readings .....	27



<b>H</b>	
Help .....	4
<b>I</b>	
Installing FlukeView .....	1
Instrument Screen .....	6, 12
Instrument Setup .....	9, 31
<b>K</b>	
K-factor .....	25
<b>L</b>	
Logging Readings.....	27
<b>M</b>	
Meta-graphics.....	7
More Windows on a Page .....	33
Multiple readings in one window .....	27
Multiple Transfers .....	12, 15, 19, 26
<b>O</b>	
Online Help.....	4
Overwrite Existing Window.....	26, 27
<b>P</b>	
Peak.....	25
Print Preview.....	33
Print Setup .....	33
Printing Windows.....	33
Print-Preview Window .....	33

## R

Ratio 4:3.....	13
Read Instrument Setups .....	31
Readings.....	8, 27
Readings Window .....	29
Record to disk .....	15
Reference Waveform .....	21
Remote Control.....	36
Replay screens .....	13
Replay waveforms .....	22
RMS .....	25
Running the FlukeView Software.....	2

## S

Saving Windows to a File.....	35
Scaling .....	21, 24
Screen.....	6, 12
Screen Window .....	12
Selection Window .....	35
Send Instrument Setups .....	31
Send waveform .....	21
Serial Cable.....	38
Session .....	16
Setup.....	9, 31
Setup Window .....	31
Spectrum.....	24
Spectrum Window .....	25
Spreadsheet.....	30

## T

Test Report .....	10
THDf.....	25
THDr.....	25
Titles.....	12, 14, 19, 23, 24, 28, 31
Tools .....	24
Type of Readings.....	27

## V

Vector-graphics .....	7
View - Active Waveform .....	24
View - Replay.....	14, 23

## W

Waveform .....	7, 18, 27
Waveform Window .....	20
What's This help .....	4
Window	
Print Preview .....	33
Readings .....	29
Screen.....	12
Selection .....	35
Setup.....	31
Spectrum.....	25
Waveform.....	20
Wordprocessor .....	17
Worksheet.....	30

## X

X At 0%.....	20, 29
X Scale .....	20, 29
X Size .....	20, 29

## Y

Y At 50%.....	20, 29
Y Scale .....	20, 29

## Z

Zooming.....	21
--------------	----