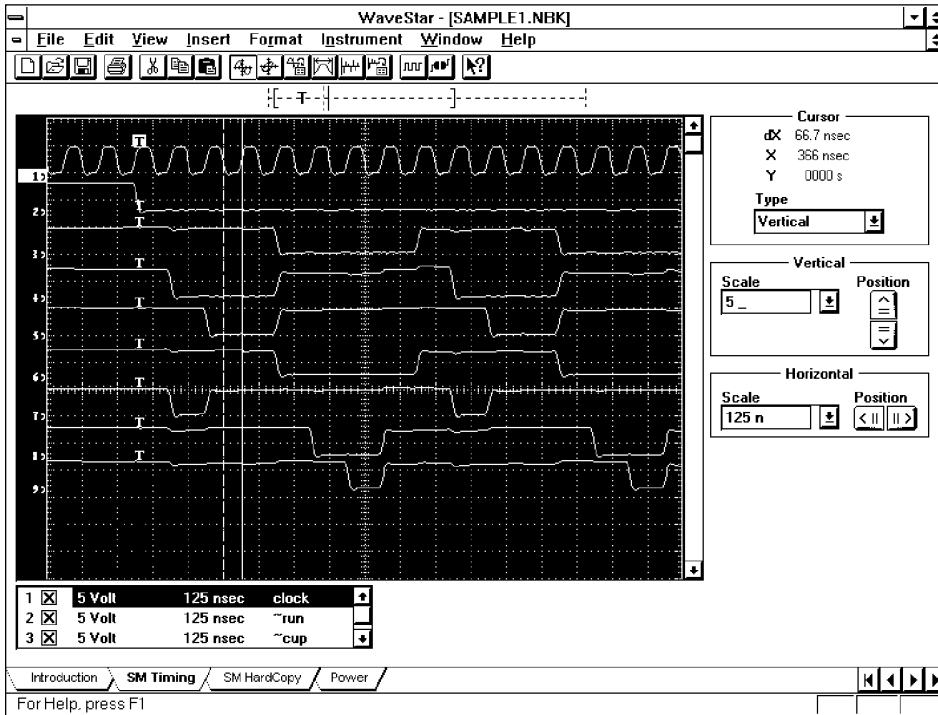




# WaveStar™ Electronic Lab Notebook Software (version 1.1)



Capture Waveforms and Settings From Digital Storage Oscilloscopes

Annotate, Organize, and Analyze Data

Perform Harmonic Analysis up to 51 Harmonics

Display Table of 22 Measurements

Store Waveforms, Pictures, Settings, and Notes

Read TDS Floppies

Exchange Waveforms and Data With Other Windows Application Software

Restore Waveforms and Settings to Digital Storage Oscilloscopes

Windows® 3.1 Application

Operation Has Been Verified Under Windows® 95

## PC Software Creates An Electronic Lab Notebook

WaveStar™ Software version 1.1 is an enhanced Windows® application program from Tektronix that allows the user to quickly create an electronic lab notebook within their personal computer to record Tektronix Digital Storage Oscilloscope (DSO) measurements. The notebook can record waveforms and/or screen shots, related scope settings, and notes. Further, WaveStar Software provides a simple link to spreadsheet and documentation software, enabling users to analyze measurement records or incorporate them within other published materials.

Version 1.1 adds new, powerful features including:

- **Harmonic Analysis** which provides a powerful tool to compute up to 51 harmonics of voltage, current, or power waveforms at the touch of an

icon button. Results are presented in either graphical or tabular form.

- **Measurement Table** which displays 22 different measurements made on a selected waveform at the touch of an icon button. If multiple waveforms are selected, the results are displayed in a side-by-side columnar format, greatly facilitating comparison and analysis.
- **File Import from TDS Floppies** allows previously saved bitmap (.bmp) and waveform (.isf and .wfm) files to be read from TDS floppies.
- **File Export in Spreadsheet Format** allows data to be exported in .csv and .xls format for analysis using other software tools.

WaveStar Software defines one complete, unique electronic notebook as one saved file. Each

notebook consists of one or more sheets. A sheet is used to record an individual measurement, capture a DSO screen shot, save DSO settings, or record notes about the experiment. There are four types of sheets:

- **Waveforms** can be viewed as plots (graphs, etc.) or as a set of data (displayed in numeric format). One or more waveforms can be captured from one or more DSOs and displayed on DSO-like graticules for visual or numerical analysis. Waveforms can be exported as .csv or .xls files.
- **Pictures** are images that are generally screen captures from a connected instrument. Stored in bitmap (.bmp) format.
- **Settings** are sent by/to the oscilloscope as a response to a DSO command (e.g., SET). Stored in readable text format, but cannot be edited.

- **Notes** are text files for users to add annotations to their acquisition record.

WaveStar Software can open one or more notebooks simultaneously. Waveforms, DSO settings, DSO screen shots, and notes can be copied from one sheet to another or from one notebook to another. Waveforms and settings can be restored to the DSO.

WaveStar Software uses the Windows Clipboard to exchange waveforms and data with other Windows software such as word processors, spreadsheets, and databases.

For example, a screen shot bitmap picture contained in a WaveStar Software file can be transferred to Microsoft Word 6.0 using the Clipboard.

Waveform data can be viewed in graphical form, or as a list of numbers in tabular form. Waveforms in graphical form can be copied and pasted into word processing documents to write reports, prepare user manuals, or prepare service documentation. Waveforms in tabular form can be copied and pasted into spreadsheets for custom numerical analysis.

Frequently used functions can be directly accessed through controls on the main screen and the menu bar.

WaveStar Software can acquire data from most Tektronix DSOs and can be used with either the RS-232C or National Instruments GPIB 488.2 communication options.

WaveStar Software will run on an IBM PC-compatible 386 PC with a minimum of 4 Mbytes of RAM and 5 Mbytes of available hard disk space. However, an IBM PC-compatible 486 or greater is recommended.

## WaveStar Electronic Lab Notebook Software version 1.1 Characteristics

### Instrument Interface Support

GPIB or RS-232 interfaces with full Talk-Listen modes.

### Windows Clipboard

Copy/paste through Windows Clipboard to other Windows applications as bitmaps or metafiles.

### Printer/Plotter Support

Uses standard Windows printer drivers supplied by printer vendor.

### Waveform Export Format

Microsoft® Excel 4.0 compatible.

### Minimum Computer Configuration

**Type** – IBMPC-Compatible 386 (486 or greater recommended).

**Operating System** – Windows 3.1 or later in 386 Enhanced mode.

**RAM** – 4 Mbytes or greater.

**Hard Disk** – 5 Mbytes free space.

**Floppy Disk** – One 3.5-in. high-density disk drive.

**Monitor** – VGA or better.

**Interface Card** (DSO must have appropriate interface installed) –

GPIB: National Instruments IEEE-488 Interface Card.

RS-232: One free RS-232 port.

## Tektronix Digital Storage Oscilloscopes Supported

WaveStar Software can acquire waveforms from the following scopes:

Instrument	GPIB/RS-232	Restore <sup>1</sup>	Settings <sup>1</sup>	Picture <sup>1</sup>
11401, 11402/A, 11403/A, 11801/B, 11802, CSA404, CSA803/A, DSA601/A, DSA602/A	Both	Yes	Yes	No
2212, 2216, 2430/A, 2432/A, 2440	GPIB	Yes	Yes	No
2220, 2221A, 2230, 2232	Both	Yes	No	No
TDS 200/300 Series	Both	Yes	Yes	Yes
TDS 400, TDS 500, TDS 600, TDS 700, TDS 800 Series	GPIB	Yes	Yes	Yes
THS700 Series	RS-232	Yes	Yes	Yes

<sup>1</sup> Restore waveforms acquire/restore settings, acquire picture. WaveStar Software acquires waveforms from ALL scopes listed above.

## Ordering Information

### WSTR31 WaveStar Software version 1.1 for Windows 3.1

**Includes:** 3.5-inch Disk, Manual (070-9785-00).

### WSTR31U DocuWave Software Upgrade to WaveStar Software version 1.1 for Windows 3.1

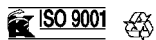
**Includes:** 3.5-inch Disk, Manual (070-9785-00).

**NOTE:**WSTR31U will not install on PC if DocuWave Software is not already installed.

## For further information, contact Tektronix:

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