Tektronix Software Solutions

WaveStar™ Software for Oscilloscopes
WaveStar™ Upgrade

VocalLink™ Software

AD007 GPIB-LAN Adapter

TDS3EM Ethernet Communication Module
TDS3GV GPIB, VGA Port, and RS-232
Communication Module

Preface

Tektronix Software Solutions is a suite of software products designed to connect your PC to Tektronix TDS, THS, and CSA series instruments via GPIB, RS-232, or Ethernet connections. WaveStar Software for Oscilloscopes lets you remotely control, capture, analyze, and document waveform and measurement data. VocalLink Software lets you remotely control your instrument using voice commands. Refer to the product user manual for more information on each product.

This CD-ROM disc also contains software or information to support the AD007 GPIB-LAN adapter, as well as the TDS3EM Ethernet Communication Module (TDS3000 series only) and the TDS3GV GPIB/VGA/RS-232 Communication Module (TDS3000 and TDS3000B series only).

This manual describes how to install the following products:

Contacting Tektronix

Phone	1-800-833-9200*	
Address	Tektronix, Inc. Department or name (if known) 14200 SW Karl Braun Drive P.O. Box 500 Beaverton, OR 97077 USA	
Web site	www.tektronix.com	
Support	Sales:	1-800-833-9200, select option 1*
	Service:	1-800-833-9200, select option 2*
	Technical:	Send email to techsupport@tektronix.com 1-800-833-9200, select option 3* 6:00 a.m. - 5:00 p.m. Pacific time

* This phone number is toll free in North America. After office hours, please leave a voice mail message. Outside North America, contact a Tektronix sales office or distributor; see the Tektronix web site for a list of offices.

WaveStar Software for Oscilloscopes

Welcome to WaveStar Software for Oscilloscopes, an easy-to-use family of applications that connect your PC to a Tektronix oscilloscope. There are four WaveStar applications:

■ WaveStar Software for Oscilloscopes (WSTRO) lets you control, capture, display, analyze, measure, and document oscilloscope signal waveforms on your PC.

■ Upgrade to WaveStar Software for Oscilloscopes (WSTROU), upgrades owners of WaveStar for Windows 3.1 software to WaveStar Software for Oscilloscopes.

■ WaveStar Software DEMO, a free, fully-functional version of WaveStar with a 30-day use limit.

■ WaveStar Software Reader, a free application that lets you view data sheet and notebook files created by WaveStar Software for Oscilloscopes. You can load WaveStar Reader on any number of PCs.

Supported Instruments

WaveStar Software for Oscilloscopes supports the following Tektronix oscilloscope series: TDS200, TDS300, TDS400, TDS500, TDS600, TDS700, TDS800, TDS1000, TDS2000, TDS3000, TDS3000B, TDS5000, TDS6000, TDS7000, TDS8000, THS700, CSA800, CSA7000, CSA8000, CSA8000B, and 11800.

Oscilloscope Requirements

All supported oscilloscopes provide GPIB, RS-232, and/or Ethernet ports as either built-in features or as optional add-ons. Refer to your oscilloscope user documentation to determine available communication ports and obtain a port if required.

> **NOTE.** *Supported Tektronix Windows-based instruments can run WaveStar software directly from their Windows desktop. However, WaveStar cannot control other instruments connected to the Windows-based instrument.*

PC Requirements

- Windows 98, Windows 2000, Windows ME, or Windows NT 4.0 operating system
- 16 MB RAM or greater recommended
- CD-ROM drive, 4X or better
- Super VGA monitor or better
- 20 MB disk space
- Appropriate interface hardware to connect your PC to an oscilloscope:
    - National Instruments IEEE 488.2 GPIB Interface Card
    - RS-232 serial communications port and RS-232 cable
    - 10/100BaseT compatible Ethernet card

Installing WaveStar Software

Follow the steps below to install the WaveStar Software. Refer to the *WaveStar for Oscilloscopes User Manual* (printed manual or PDF file version included on the CD-ROM disc) for more detailed installation information.

> **NOTE.** *The installation program deletes an installed VISA file (visa32.dll) from the Window's System directory and installs the Tektronix version of VISA in its place. If you need to retain the currently-installed visa32.dll file, refer to the* VISA *section in the* Installation and Uninstallation *chapter of the WaveStar user manual before installing WaveStar.*

> **NOTE.** *If you are reinstalling WaveStar, or are installing over an older version, the installation program deletes the installed WaveStar software and then prompts you to reboot your PC. After your PC reboots, run the installation program again to install the new WaveStar software.*

1. Insert the CD-ROM disc into the CD-ROM drive. Typically, the PC automatically runs the installer program. If it does not, run the *install.exe* file located in the CD-ROM drive root directory. The computer displays the main installation window, which contains tabs along the top of the window.

2. Select the **WaveStar for Oscilloscopes** tab. The installer opens the WaveStar information window with a menu bar at the top of the installer window.

3. Select **Install** in the menu bar. The installation wizard appears next and guides you through the rest of the installation process. Follow the instructions in the wizard.

4. When prompted, select the appropriate button to install the relevant WaveStar software:

   - **WaveStar Software for Oscilloscopes–Purchase required** to install the purchased WaveStar software (WaveStar Software for Oscilloscopes (WSTRO) or Upgrade to WaveStar Software for Oscilloscopes (WSTROU)).

   - **WaveStar Software DEMO** to install the free fully-functional 30-day demo version of WaveStar.

   - **WaveStar Software for Reader** to install the free WaveStar Software Reader application.

5. When prompted, enter the WaveStar key code. If you are installing the purchased WaveStar Software for Oscilloscopes, the key code label is on the back cover of this manual. Make sure that you keep the key code for future reference or reinstallation.

If you are installing the Upgrade to WaveStar Software for Oscilloscopes (WSTROU), you will also need to enter the serial number from your WSTR31 WaveStar Software. This number is on the seal of the software license agreement envelope in which you received the WSTR31 installation disks, or on the WSTR31 floppy disk label.

6. Continue with the installation process, supplying required information when prompted.

7. You will need to restart your PC when the installation is completed to finish the install process.

PC to Instrument Communication Setup

You must establish a communication link from your PC to your instrument prior to running WaveStar. If you are connecting your PC to an instrument via Ethernet, you must first run the TekVISA Configuration program to register and locate the instrument, then run the Instrument Manager Service to open the connection to the instrument.

If you are connecting your PC to an instrument using RS-232 or GPIB, you do not need to run the TekVISA Configuration program, but you do need to run the Instrument Manager Service (IMS) program (page 9).

Refer to the *Instrument Manager* section in the *WaveStar for Oscilloscopes User Manual* (printed manual or PDF file version included on the CD-ROM disc) for more information on instrument communication setup.

TekVISA Configuration. Do the following to configure TekVISA for Ethernet communications:

1. Run the TekVISA Configuration program:
   Start > Programs > TekVISA > TekVISA Configuration

   The TekVISA Configuration program opens and searches for GPIB and defined Ethernet addresses. If this is the first time running the TekVISA Configuration program, there will not be any defined Ethernet connections, and the program window lists only GPIB instruments attached to the PC.

2. Select the **Add** button to open the Add Remote Host dialog.

3. In the Host Name field, enter the Ethernet IP address of the instrument (for example, 128.121.119.29) in the Host Name field.

4. Select **OK**. The program closes the dialog box, returns to the main TekVISA Configuration window, and adds the GPIB or Ethernet address to the Remote Host field.

5. Select the **Find** button. The configuration program attempts to locate the specified host address and list it in the TekVISA Resources field.

NOTE. *The TekVISA Configuration program must be able to find an Ethernet instrument before you can continue with this procedure and run the Instrument Manager Service (IMS) program. If TekVISA cannot find an instrument, check that your instrument is connected to the PC or network using the correct cables, and that the PC and instrument Ethernet IP address information is correct.*

6. Repeat steps 2 through 5 to add and find other instrument IP addresses.

7. Select **Quit** to exit the TekVISA Configuration program.

Instrument Manager Service (IMS) Configuration. Do the following to open a communications connection to the instrument:

1. Run the IMS program:
   Start > Programs > WaveStar for Oscilloscopes > Instrument Manager

   The program opens the IMS window and then opens the Instrument Connect wizard if there are no defined instruments.

2. Select the instrument family to which you want to connect.

3. Select **Next**. The program searches the TekVISA configuration information, as well as the PC RS-232 and GPIB ports, for instrument addresses, and lists them in the instrument field. If IMS does not find an RS-232 or GPIB instrument connected to your PC, verify that the instrument and PC communication settings (such as baud rate, stop bits, and so on) are the same.

4. Select the instrument address to which you want WaveStar to connect.

5. Select **Next**. The connection wizard displays an alias field in which you can enter a name or label for the instrument. This alias appears in the WaveStar instrument explorer view. If you do not enter an alias, IMS and WaveStar uses the instrument series as the alias.

6. Select **Next**. The connection wizard displays a Configure button that lets you change PC communication settings for the selected instrument communication protocol, restore default settings, or test new settings.

7. Select **Next**. The connection wizard displays a Test button that lets you test the selected instrument communication connection, and returns a pass or fail message.

8. Select **Next**. The connection wizard displays a connection verification message.

9. Select **Finish** to close the connection wizard and return to the IMS window.

10. To add more instruments, select **Edit > Add Instrument...** from the IMS menu and repeat steps 2 through 9.

11. Minimize the IMS window. You are now ready to run WaveStar.

Running WaveStar

To start WaveStar, select **Start > Programs > WaveStar for Oscilloscopes > WaveStar for Oscilloscopes**.

Refer to the *WaveStar for Oscilloscopes User Manual* (printed manual or PDF file version included on the CD-ROM disc) and the WaveStar online help for information on running WaveStar Software for Oscilloscopes or the WaveStar Reader. You can also run the WaveStar tutorial by restarting the installer, selecting the **WaveStar for Oscilloscopes** tab, and selecting **Tutorial**.

VocalLink Software

Welcome to VocalLink, an easy-to-learn and easy-to-use speech recognition interface between your PC and a supported oscilloscope. There are three VocalLink applications:

- VocalLink Basic lets you use an extensive set of verbal commands in a number of languages to remotely control oscilloscope functions and return waveform measurements such as frequency, rise time, and so on.

- VocalLink Pro has all the VocalLink Basic features plus additional verbal commands and the ability to create macros containing voice and GPIB commands that you can execute verbally. These macros let you execute complicated command sequences simply and quickly with just a few VocalLink commands.

- VocalLink Demo is a free, fully-functional version of VocalLink Pro with a 30-day use limit.

Supported Instruments

VocalLink Software supports the following Tektronix oscilloscope series: TDS500, TDS600, TDS700, TDS3000, TDS3000B, TDS5000, TDS6000, TDS7000, and CSA7000.

Oscilloscope Requirements

All supported oscilloscopes provide GPIB, RS-232, and/or Ethernet ports as either built-in features or as optional add-ons. Refer to your oscilloscope user documentation to determine available communication ports for your oscilloscope, and obtain the optional port if required.

> NOTE. *Supported Tektronix Windows-based instruments can run VocalLink software directly from their Windows desktop. However, VocalLink cannot control other instruments connected to the Windows-based instrument.*

PC Requirements

- Windows 95, Windows 98, Windows 2000, Windows ME, or Windows NT 4.0 operating system

- 166 MHz Pentium processor minimum (233 MHz or faster for best performance)

- 32 MB RAM minimum (64 MB or more for best performance)

- Sound card with an amplifier

- Noise cancelling microphone headset (supplied with purchased VocalLink)

- CD-ROM drive, 4X or better

- Super VGA monitor or better

- 20 MB of disk space

- TekVISA software (supplied) or other VISA software

- Appropriate interface hardware installed in your PC:

  - National Instruments IEEE 488.2 GPIB Interface Card

  - RS-232 serial communications port and RS-232 cable (TDS3000 and TDS3000B only)

  - 10/100BaseT compatible Ethernet card

Installing VocalLink Software

Follow the steps below to install the VocalLink Software. Refer to the *VocalLink for Oscilloscopes User Manual* (printed manual or PDF file version included on the CD-ROM disc) for more detailed installation information.

> **NOTE.** *The installation program deletes any installed VISA file (visa32.dll) from the Window's System directory and installs the Tektronix version of VISA in its place. If you need to retain the currently-installed visa32.dll file, refer to the VISA information in the* VocalLink for Oscilloscopes User Manual *before installing WaveStar.*

1. Insert the CD-ROM disc into the CD-ROM drive. Typically, the PC automatically runs the installer program. If it does not, run the *install.exe* file located in the CD-ROM drive root directory. The computer displays the main installation window, which contains tabs along the top of the window for all applications on the CD-ROM disc.

2. Select the **VocalLink** tab. The installer opens the VocalLink information window with a menu bar at the top of the window.

3. Select **Install** in the menu bar. The installation wizard appears next and guides you through the rest of the installation process. Follow the instructions in the wizard.

4. When prompted, enter the key code in the serial number field. If you are installing VocalLink Basic or VocalLink Pro, the 19-character key code is located on the back cover of this manual. Keep the software key code for possible future need.

If you are installing the VocalLink free 30-day demo, type **VocalLinkdemo** in the serial number field.

5. Select **Next**. Continue with the installation process, supplying information when prompted. You will need to reboot your PC when the installation is finished to complete the install process.

Instrument Communication Setup

You must establish a communication link from your instrument to your PC prior to running VocalLink. If you are connecting your PC to an instrument via Ethernet, you must first run the TekVISA Configuration program to 'register' and locate the instrument. See page 8 for the TekVISA Configuration program instructions. If you are connecting your PC to an instrument using RS-232 or GPIB, you do not need to run the TekVISA Configuration program.

VocalLink and TDS5000 Series Instruments

Before you can use VocalLink software with TDS5000 Series instruments, you must enable the Windows microphone input and set the input level. Doing this allows the VocalLink software to properly calibrate the microphone input.

This microphone setup procedure is only for VocalLink software running on TDS5000 Series instruments.

Follow these steps to enable and adjust the microphone input:

1. In the Start menu, select **Settings > Control Panel**.

2. In the Control Panel window, select the **Sounds and Multimedia** icon. This opens the Sounds and Multimedia Properties dialog box.

3. Select the **Audio** tab.

4. In the Sound Recording group, select the **Volume** button. This opens the Recording Control dialog box.
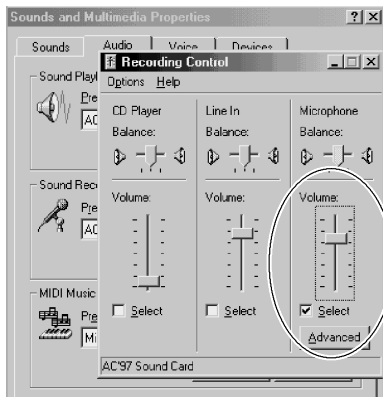
5. In the Microphone group, check the **Select** box to enable the microphone input, and set the microphone volume to about 60% of the full scale.

6. Close the Recording Control dialog box.

7. Select OK to exit the Sounds and Multimedia Properties dialog box.

This completes the Windows microphone setup procedure to use VocalLink software on a TDS5000 Series instrument. You will still need to calibrate the microphone before using VocalLink (see page 20).

Running VocalLink

> **NOTE.** *On minimum-configured machines, close all other programs before running VocalLink software.*

To start VocalLink, select **Start > Programs > Tektronix > VocalLink**.

Refer to the *VCLNKP and VCLINKB User Manual,* the *VocalLink Reference Card* (a PDF file version included on the CD-ROM disc), or the VocalLink online help for information on running VocalLink Software.

Headset and Microphone

A headset unit (combination microphone and earphone) is provided with your purchased VocalLink Basic or Pro software. If you already have speakers with your PC, you can purchase a noise-cancelling microphone headset (without headphones) to use with your speakers.

You can purchase a headset unit from most computer supply stores, or order a free headset from Tektronix (Tektronix part number 116-1059-00) while supplies last. When ordering a headset from Tektronix, please provide the model and serial number information from your oscilloscope.

Connecting the Headset to the PC

1. Using your sound card documentation, identify the microphone-in port and the line-out port on your sound card.

2. Plug the red microphone jack from the headset into the microphone-in port on the sound card.

> **NOTE.** *Some sound cards may have ports for line-in and microphone-in; use the microphone-in port.*

3. Plug the black speaker jack from the headset into the line-out port on the sound card.

Calibrating the Microphone You must calibrate the VocalLink software to the volume of your voice from your microphone. You may need to recalibrate for each new voice and for changes in the environment, to avoid command-word and -phrase recognition problems.

1. Power on your oscilloscope.

2. Put the headset on, and adjust the microphone. Place the microphone two finger widths from the corner of your mouth.

3. Select **Start > Programs >Tektronix > VocalLink**. The VocalLink software remains busy for a few seconds on start up while it polls for an available instrument. When an instrument is connected, it is listed in the VocalLink data window.

4. If this is the first time you are running VocalLink, the program opens the Configuration dialog box with the Audio tab selected. If the configuration dialog box does not open, select **Actions > Calibrate microphone** from the menu.

5. Follow the instructions in the Audio tab dialog box to calibrate the microphone input.

6. Select **Ok** to close the Configuration dialog box and return to the VocalLink data window. You are now ready to use the voice commands. Refer to the VocalLink documentation for a list of instrument commands.

AD007 GPIB-LAN Adapter Software

The AD007 adapter connects GPIB devices (oscilloscopes, test instruments, and controllers) to a 10BaseT Ethernet local area network (LAN).

PC Requirements

- Windows 98, Windows 2000, Windows ME, or Windows NT 4.0 operating system

- CD-ROM drive

- Web browser software

- 10/100BaseT-compatible Ethernet card

LAN Requirements

- 10/100BaseT LAN connection with a server that supports BOOTP or DHCP

- LPD-compatible print server for network printing

AD007 Software Installation

Follow the steps below to install the AD007 software. Refer to the *AD007 GPIB-LAN Adapter User Manual* for detailed installation information.

1. Insert the CD-ROM disc into the CD-ROM drive. Typically, the PC automatically runs the installer program. If it does not, run the i*nstall.exe* file located in the CD root directory. The computer displays the main installation window, which contains tabs along the top of the window.

2. Select the **AD007** tab. The installer opens the AD007 information window with a menu bar at the top of the installer window.

3. Select **Install** in the menu bar. The installation wizard appears next and walks you through the rest of the installation process. Select the desired installation options and follow the instructions in the wizard.

AD007 Software Configuration

Refer to the *AD007 GPIB-LAN Adapter User Manual* for detailed configuration information.

TDS3EM & TDS3GV Communication Modules

The TDS3EM Ethernet communication module connects your TDS3000 series oscilloscope to any 10BaseT Ethernet local area network (LAN). The TDS3GV GPIB/VGA/RS-232 communication module connects your TDS3000 or TDS3000B series oscilloscope to a PC using a GPIB or RS-232 cable.

WaveStar for Oscilloscopes Software or VocalLink Software requires that TekVISA be installed in order to communicate with an instrument equipped with a TDS3EM or TDS3GV module. If you have installed WaveStar for Oscilloscopes Software or the VocalLink Software, you do not need to do the procedure on page 24, as these two software packages load TekVISA as part of their installation.

PC Requirements

- Windows 98, Windows 2000, Windows ME, or Windows NT 4.0 operating system

- 16 MB RAM or greater recommended

- CD-ROM drive, 4X or better

- Super VGA monitor or better

- 20 MB disk space

Installing TekVISA Software

Follow the steps below to install the TekVISA software. Refer to the *TDS3000 & TDS3000B Series Programmer Manual* for information on configuring the TDS3EM or TDS3GV module.

1. Insert the CD-ROM into the CD-ROM drive. Typically, the PC automatically runs the installer program. If it does not, run the i*nstall.exe* file located in the CD-ROM drive root directory. The computer displays the main installation window, which contains tabs along the top of the window.

2. Select the **TDS3EM** tab. The installer opens the TDS3EM information window with a menu bar at the top of the installer window.

3. Select **Install** in the menu bar. The installation wizard appears next and guides you through the rest of the installation process. Follow the instructions in the wizard.

Configuring the TekVISA software

Refer to *TekVISA Configuration* on page 8 for information on configuring TekVISA to communicate via Ethernet. Also refer to the *TDS3000 & TDS3000B Series Programmer Manual* for more configuration information.