Installation Manual

Tektronix

Optional Applications Software on Windows-Based Oscilloscopes

071-1078-10

www.tektronix.com



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General Safety Summary

Review the following safety precautions to avoid injury and prevent damage to this product or any products connected to it. To avoid potential hazards, use this product only as specified.

While using this product, you may need to access other parts of the system. Read the *General Safety Summary* in other system manuals for warnings and cautions related to operating the system.

NOTE. Refer also to the application online help for the General Safety Summary specific to the application.

To Avoid Fire or Personal Injury

Connect and Disconnect Properly. Do not connect or disconnect probes or test leads while they are connected to a voltage source.

Observe All Terminal Ratings. To avoid fire or shock hazard, observe all ratings and markings on the product. Consult the product manual for further ratings information before making connections to the product.

Symbols and Terms

Terms in this Manual. These terms may appear in this manual:



WARNING. Warning statements identify conditions or practices that could result in injury or loss of life.



CAUTION. Caution statements identify conditions or practices that could result in damage to this product or other property.

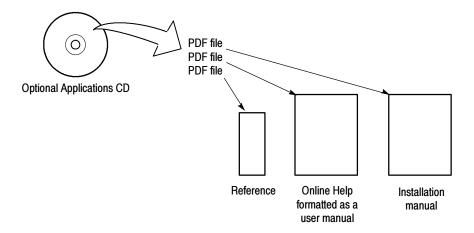
Preface

You can use information in this manual to install any application from the *Optional Applications Software for Windows-Based Oscilloscopes CD-ROM* (CD) onto your Microsoft Windows based Tektronix oscilloscope. For compatibility information, refer to the table on page NO TAG.

Documentation and Online Help

This installation manual is part of a set of documents that you can use to understand how to operate an application. For each application, the CD contains the software and a portable document format (PDF) file of each corresponding document, as well as a PDF file of the online help formatted like a user manual.

The next figure shows the PDF files available on the CD for each application.



NOTE. If you do not have an Acrobat reader to view a PDF file, you can get a free copy of the reader from the www.adobe.com/products/acrobat web page.

The documentation set consists of the following items:

- This installation manual provides instructions on applying the authorized Option Installation key label, installing an application from the CD, enabling the application, and downloading an application from the Tektronix web site.
- The application-specific reference quickly introduces you to the steps required to take measurements and includes a diagram of the menu structure (no reference for the TDSDDM2 application).

■ The Online Help contains the following types of information:

A *Getting Started* group of topics briefly describes the application, lists oscilloscope compatibility, contains connection procedures, and includes a deskew procedure, if required.

An *Operating Basics* group of topics covers basic operating principles of the application. The sequence of topics reflects the steps you perform to operate the application and includes definitions for all menus and options.

A *Tutorial* group of topics that teach you how to set up the application to acquire a waveform, take a measurement, view the results, and save data to a log file.

An optional *Application Examples* (or laboratory) group of topics includes examples of tests and measurements to give you ideas on how to solve your own measurement problems.

A *Reference* group of topics includes the parameters (range of values) for all options and the default values.

A *Measurement Algorithms* group of topics with information on measurement guidelines and on how the application calculates each measurement.

An optional *GPIB Command Syntax* group of topics contains a list of arguments and values that you can use with the GPIB commands and their associated parameters. To show you how to operate the application using GPIB commands, this part may also contain a simple GPIB program.

■ A printable PDF file of the online help formatted to resemble a user manual.

Contacting Tektronix

Phone 1-800-833-9200*

Address Tektronix

Department or name (if known) 14200 SW Karl Braun Drive

P.O. Box 500

Beaverton, OR 97077

USA

Web site www.tektronix.com

Sales support 1-800-833-9200, select option 1*

Service support 1-800-833-9200, select option 2*

Technical support Email: 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.

Product Descriptions

There are many applications available for Microsoft Windows based oscilloscopes by Tektronix that you can use to test, to analyze, and to debug many types of electronic devices and products. To learn about most applications, you can use the Browse Documents button (from the Installation Browser that appears when you insert the *Optional Applications Software on Windows-Based Oscilloscopes CD-ROM* into an oscilloscope) and view any document listed. You can also access the Tektronix web site for information on how to use an application to resolve complex problems, such as an application note on how to analyze jitter or an application note on how to verify compliance to a serial data standard.

It is recommended that you upgrade your oscilloscope to the latest firmware prior to installing or operating an application. You may download the latest firmware from the www.tektronix.com website. To do so, follow the instructions on page 13. Be sure to select the firmware version appropriate for your specific oscilloscope model.

This manual contains information for the applications and utilities on the *Optional Applications Software on Windows-Based Oscilloscopes CD-ROM*, Tektronix part number 063-3478-12.

Application Upgrades

The Optional Applications CD contains all the current applications. Some of these applications are offered as upgrades to previous products. The following upgrades are available:

- TDSJIT2 upgrade to TDSJIT3 Essentials
- TDSPWR2 upgrade to TDSPWR3
- TDSET2 upgrade to TDSET3

TDSJIT2 to TDSJIT3 Essentials

The TDSJIT2 application has been replaced by the TDSJIT3 Essentials application and the TDSJIT2 application is no longer included on the Optional Applications CD. It is recommended that you upgrade to the TDSJIT3 Essentials or to the TDSJIT3 application. Temporarily, the TDSJIT3 Essentials application will operate using your TDSJIT2 Option Authorization key. Please contact your Tektronix sales office or Tektronix account manager to order an upgrade.

To begin using TDSJIT3 Essentials, install the Jitter and Timing Analysis Essentials application by selecting the Jitter and Timing Analysis button from the Installation Browser on the CD. Please see the TDSJIT3 readme.txt file for compatibility information.

TDSPWR2 to TDSPWR3

The TDSPWR2 application has been replaced by the TDSPWR3 application and the TDSPWR2 application is no longer included on the Optional Applications CD.

NOTE. The oscilloscope recognizes this upgrade only when the TDSPWR2 application is installed and enabled (Option Authorization key) prior to the installation of the TDSPWR3 application. If you do not enable the TDSPWR2 application before installing the TDSPWR3 application, you will only be able to run the 5-time free trials of the TDSPWR3 application.

TDSET2 to TDSET3

The TDSET2 application has been replaced by the TDSET3 application and the TDSET2 application is no longer included on the Optional Applications CD. To order an upgrade, please contact your Tektronix sales office or Tektronix account manager.

Application and Oscilloscope Compatibility

The next table lists the applications included on this Optional Applications CD with the compatible oscilloscope models and firmware version numbers.

NOTE. To check the firmware version number of the oscilloscope, select Help> About in the menu bar. Information will appear that includes the firmware version.

If access is denied when installing software on Windows 2000, you may need administrator rights to install.

Applications on this CD and compatible oscilloscopes

Application name	Software version	Oscilloscope model	Firmware version
RT-Eye* Serial Data Compliance and Analysis	V 1.0.0 and above	TDS6404, TDS6604, TDS7154, TDS7254, TDS7404, CSA7154, CSA7404	V 2.4.0 and above
InifiniBand or PCI Express (requires RT-Eye)* Serial Data Compliance and Analysis	V 1.0.0 and above	TDS6404, TDS6604, TDS7404, CSA7404	V 2.4.0 and above
TDSCPM2	V 1.1.1 and above	TDS7154, TDS7254, TDS7404	V 2.0.0 and above
Communications Pulse Measurements		CSA7154, CSA7404	V 2.0.0 and above
		TDS7054, TDS7104	V 2.1.0 and above
TDSDDM2	V 1.2.3 and above	TDS7054, TDS7104	V 1.2.0 and above
Disk Drive Measurements		TDS7404	V 1.3.0 and above
		TDS7254	V 1.3.1 and above
		TDS5052, TDS5054, TDS5104	V 1.0.7 and above
		CSA7154, TDS7154, CSA7404	V 2.0.0 and above

Applications on this CD and compatible oscilloscopes (Cont.)

Application name	Software version	Oscilloscope model	Firmware version				
TDSDVD**	V 1.0.5 and above	TDS7054, TDS7104	V 2.1.0 and above				
Optical Storage Analysis and Measurements		TDS7154, TDS7254, TDS7404	V 2.0.0 and above				
		CSA7154, CSA7404	V 2.0.0 and above				
		TDS5032 and TDS5034	V 1.1.5 and above				
TDSDVD** Optical Storage Analysis and Measurements	V 1.0.5 and above	TDS5052, TDS5054, TDS5104	V 1.0.7 and above				
TDSDVI DVI Compliance Test Solution	V 1.0.0 and above	TDS7254, TDS7404, TDS6404, TDS6604, CSA7404	V 2.2.0 and above				
TDSET3 Ethernet Compliance Test Software	V 1.0.0 and above	TDS6404, TDS6604, TDS7054, TDS7104, TDS7154, TDS7254, TDS7404, CSA7154, CSA7404	V 2.2.0 and above				
TDSJIT3 Jitter Analysis Measurements and	V 1.1.5 and above	TDS7054, TDS7104, TDS7254, TDS7404	V 2.1.0 and above				
TDSJIT3E JItter Analysis Essential Measurements		TDS5054, TDS5104	V 1.0.9 and above				
ments		TDS5034	V 1.1.5 and above				
		TDS6604, TDS7154, CSA7154, CSA7404	V 2.1.0 and above				
		TDS6404	V 2.2.0 and above				
TDSPWR3	V 1.0.2 and above	0.2 and above TDS7054, TDS7104					
Power Analysis Measurements		TDS5052, TDS5054, TDS5104, TDS5032, TDS5034	V 2.2.0 and above 104 V 2.2.0 and above 054, TDS5104, 034 V 1.1.2 and above				
		TDS7154, TDS7254, TDS7404, CSA7154, CSA7404, TDS6404, TDS6604	V 2.2.1 and above				
TDSUSB2 for the TekScope	V 1.1.5 and above	TDS7054, TDS7104, TDS7254, TDS7404	V 1.4.1 and above				
Universal Serial Bus Measurements Package		TDS5054, TDS5104	V 1.0.7 and above				
		TDS5034	V 1.1.5 and above				
		TDS6604, CSA7154, TDS7154, CSA7404	V 2.0.0 and above				
		TDS6404	V 2.2.0 and above				
TDSUSB2 for the PC [†]	V 1.4.1 and above	TDS694C	V 6.0e and above				
TekConnect Adjustment Application [‡]	V 1.11 and above	TekScope with TekConnect devices	All				

^{*} Requires Windows 2000 operating system.

^{**} Can run on a personal computer (PC) connected to a compatible oscilloscope; compatible with Windows 98 SE and Windows 2000 operating systems.

[†] Can run on a PC connected to a TDS694C oscilloscope; compatible with Windows 98 SE, Windows NT 4.0, and Windows 2000 operating systems.

[‡] For installation instructions, refer to page 12.

5-Time Free Trial

A 5-Time Free Trial is available for all applications in the previous table. You can start and exit an application up to five times to help you evaluate Tektronix software solutions.

NOTE. To evaluate an application, check that your TDS6000, TDS7000, or CSA7000 oscilloscope firmware version is V 2.1.0 or above. The 5-time free trial runs are available for all versions of firmware on TDS5000 oscilloscopes.

If an application becomes available after you receive your oscilloscope, you can download the new application as described on page 13 to begin your free trials.

To start an application, refer to page 11.

Requirements and Restrictions

Read the following information before installing software.

Firmware Versions

To operate a compatible application on an oscilloscope with Windows 2000, you must install the application software version as listed in the previous table and use the following list of firmware versions:

TDS5000 V1.1.2 and above TDS6000 V2.3.2 and above TDS/CSA7000 V2.3.2 and above

JRE

The correct version of the Sun Java Run-time Environment (JRE) must be installed on the oscilloscope to operate Java-based applications. If the JRE is removed from the oscilloscope, the InstallWizard prompts you to install the JRE when you reinstall the application software.

NOTE. The TekConnect Adjust and the Ethernet Compliance Test (TDSET3) applications do not use the JRE software.

Application Installation

This manual contains information on the following tasks:

- Reinstalling a newer version of an application
- Installing an application from the optional applications compact disc (CD)
- Applying a new label
- Enabling an application
- Starting an application
- Installing the TekConnect Adjust software from the optional applications CD
- Downloading an application from the www.tektronix.com web site

NOTE. Some applications may require a deskew fixture or a test fixture. The application online help includes connection procedures for these fixtures. If the application requires a fixture, read the General Safety Summary in the fixture user manual before you start the connection procedure.

Reinstalling an Application

Most available applications are factory installed on the hard disk in the oscilloscope at the time the oscilloscope is shipped. The *Optional Applications Software on Windows-Based Oscilloscopes* CD-ROM serves as a way to deliver applications to you that were introduced after you received your oscilloscope, and as a backup in case you have to rebuild the hard disk.

The optional applications CD may contain a newer version of the application software than the version on your oscilloscope. The www.tektronix.com web site may include an even newer version of the application software than the version on the CD.

Before you continue, determine if you need to reinstall a newer version of the application. To do this, follow these steps:

- 1. In the menu bar of the oscilloscope, select File > Run Application> <application product name>.
- 2. In the menu bar of the application, select Help> About <application>.

The application displays information about the application that includes the software version number.

- **3.** Check the version number of the application on the web site. To do so, follow these steps:
 - **a.** Access the www.tektronix.com web site and select Software & Drivers.

The Software and Firmware Finder page appears. To define the search criteria, use one of the following methods:

- Make selections in the Browse by Product Category and Browse by Product Series fields.
- Enter information in the Find by Model Number or Keyword field.
- **b.** Select Go. The search returns a list of software.
- **c.** Scroll through the list to the desired application, select the link, and view the web page instructions to download the application to your oscilloscope. The version number is at the top of the web page.

If the version number is higher than the version number in the compatibility table (on page NO TAG), then follow the *Downloading Updates Through the Web Site* procedures on page 13.

The next table shows an example of how to check the application version numbers and whether or not you need to reinstall the application.

Checking the application software version number example

Application on the oscilloscope	As listed in the table on page NO TAG	As shown on the web site	Reinstall?
V 1.0.0	V 1.0.0	V 1.0.0	No
V 1.0.0	V 1.1.0	V 1.1.0	Yes, from the CD
V 1.0.0	V 1.1.0	V 1.2.0	Yes, from the web site

Installing an Application

Normally, application software resides on the hard disk of your oscilloscope. However, you may still need to install the application software for the following reasons:

- You receive an application introduced after you received your oscilloscope.
- You have to rebuild the hard disk of the oscilloscope.
- You download an update for an application from the Tektronix web site.

NOTE. For information on how to install the TekConnect Adjust application, refer to page 12.

Windows-Based Oscilloscopes

The table on page NO TAG lists the available applications, compatible oscilloscope models, and the corresponding software version and firmware version numbers.

The installation procedure may require a keyboard attached to the oscilloscope. You can use either a PS-2 or a USB keyboard. Though not required, it is also convenient to attach a mouse.

Application Introduced After You Received an Oscilloscope. To install an application that does not currently reside on the hard disk of the oscilloscope from the optional applications CD, follow these steps:

- 1. If the keyboard is not installed, connect it to the oscilloscope rear panel. (The optional-accessory keyboard plugs into the USB connector.)
- 2. Power on the oscilloscope to start Windows.
- **3.** Insert the optional applications CD in the CD-ROM reader. The reader is located on the right side panel of a TDS5000 series, and on the rear panel of a TDS6000 series or a TDS/CSA7000 series oscilloscope.

The oscilloscope may automatically start the Installation Browser program.

- **4.** If the oscilloscope does not start the Installation Browser program, follow these steps:
 - a. Select and open the My Computer icon.
 - **b.** In the Exploring My Computer window, select the D: (CD-ROM) drive and then the Launch.exe file.
- 5. Select the Install Products button.

- **6.** Select the appropriate button for the application to install.
- 7. Follow the on-screen instructions given by the InstallShield Wizard. Answer "OK" if prompted to install the JRE, and do not change the default directory.

The oscilloscope must reboot to complete the installation process.

Newer Version than the Application on the Oscilloscope. To install a newer version of the application, you must first remove the version that currently resides on the hard disk of the oscilloscope.

To remove the current version of the application software, follow these steps:

- 1. Select File> Minimize in the menu bar to minimize the oscilloscope.
- 2. Select Start> Settings> Control Panel> Add/Remove Programs.
- 3. Scroll through the list until the name of the application is highlighted.
- **4.** Select the Add/Remove button and follow the on-screen instructions from the InstallShield Wizard.

The oscilloscope must reboot to complete the removal process.

To install the newer version of software, follow the procedure on page 7.

NOTE. If you install a newer version of an application than was previously enabled, you do not have to enter the authorized Option Installation key again.

Personal Computer (PC)

Some application software can reside on the hard disk of a PC connected to an oscilloscope. The application controls the PC through GPIB commands sent to and received from the oscilloscope.

First Time on the PC. To install an application that does not currently reside on the hard disk of your PC from the optional applications CD, follow these steps:

- 1. Power on the PC to start Windows.
- 2. Insert the optional applications CD in the CD-ROM reader.

The PC may automatically start the Installation Browser program.

- **3.** If the PC does not start the Installation Browser program, follow these steps:
 - a. Select and open the My Computer icon.
 - **b.** In the Exploring My Computer window, select the D: (CD-ROM) drive and then the Launch.exe file.
- **4.** Select the Install Products button.

NOTE. The table on page NO TAG indicates which applications you can install on a PC.

- **5.** Select the appropriate button for the application to install.
- **6.** Follow the on-screen instructions given by the InstallShield Wizard.

The PC must reboot to complete the installation process.

Newer Version than the Application on the PC. To install a newer version of the application, you must first remove the version that currently resides on the hard disk of the PC. To remove the current version of the application software, follow the procedure for a newer version than application on the oscilloscope on page 8.

To install a newer version of the application, follow the previous procedure.

Configuring an Application to Operate on a PC. To run the TDSUSB2 or TDSDVD application on a PC connected to an oscilloscope, you must follow several configuration steps. The online help (OLH) includes a procedure to configure your PC and oscilloscope prior to starting the application on the PC.

You can view a PDF file of the OLH to access the procedure. To do so, follow these steps:

- **1.** Select Start> Programs> TekApplications> <application name>> PDF. The corresponding PDF file displays.
- 2. Locate and follow the procedure to configure the PC and oscilloscope.

Applying a New Label

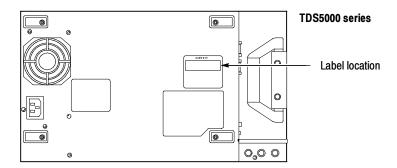
You may need to apply a new authorized Option Installation key label to the rear-panel of the oscilloscope for the following reasons:

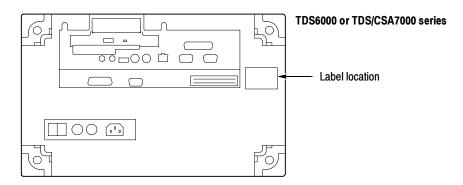
- You purchase a software license to an application already installed on the oscilloscope; the license allows you to enable the application
- You upgrade the licensed application to a newer application
- You purchase an application introduced after you received your oscilloscope

The label contains important information, such as the serial number of the oscilloscope, options purchased for that serial number, and an authorized Option Installation key number. Each label is unique.

NOTE. You do not apply a label on the TDS694C oscilloscope.

The next figures show where to apply the new label on the rear-panel of a TDS5000 series, TDS6000 series or TDS/CSA7000 series oscilloscope.





Enabling an Application

You must enter the authorized Option Installation key to enable all purchased applications and product options on your oscilloscope. The key is unique; it is specific to the serial number of the oscilloscope and purchased options.

NOTE. You do not need to enable the TekConnect Adjust application or any applications controlled by a PC connected to a TDS694C oscilloscope.

To enter the alphanumeric key number, follow these steps:

- 1. If the oscilloscope powered on in the toolbar mode (default), select the Menu button (upper right corner of the display) to put the oscilloscope into menu-bar mode. In menu-bar mode you should see a PC-style menu across the top of the display.
- 2. Go to the Utility menu in the menu bar and select Option Installation.
- **3.** Follow the on-screen instructions to enter the alphanumeric key number exactly as it is printed on the rear-panel label. The previous two figures show the location of the label on the back of the oscilloscope.

Starting an Application

To start an application, select File> Run> <application name> from the menu bar of the oscilloscope.

NOTE. You can view Online Help (OLH) topics from the oscilloscope or a PC.

To view OLH topics from an oscilloscope, follow these steps:

- **1.** Select Start> Programs> TekApplications> <application name>> Help. The corresponding OLH system displays.
- 2. Use standard techniques to navigate through the Help topics.

You can view (and print out) a PDF file of the OLH formatted to resemble a user manual from an oscilloscope. To do so, follow these steps:

- 1. Select Start> Programs> TekApplications> <application name>> PDF. The corresponding PDF file displays.
- 2. Use standard techniques (such as the File> Find search function) to locate specific information.

To start an application on a PC (TDSUSB2 or TDSDVD applications only) select Start> Programs> TekApplications> TDSxxx> <descriptive name>.

Installing TekConnect Adjustment Software

You must install the application on the hard disk of your oscilloscope for the application to communicate with TekConnect devices. The application software uses internal commands to validate test hardware, and to communicate with TekConnect devices.

NOTE. The TekConnect Adjust application does not require the JRE software and does not need to be enabled.

- 1. If the keyboard is not installed, connect it to the oscilloscope rear panel (the optional-accessory keyboard plugs into the USB connector). It may also be convenient to connect a mouse.
- 2. Power on the oscilloscope to start Windows.
- **3.** Select File> Minimize in the menu bar to minimize the oscilloscope.
- **4.** Insert the optional applications CD in the CD-ROM reader. The reader is located on the rear panel of a TDS6000 series or a TDS/CSA7000 series oscilloscope.

The oscilloscope may automatically start the Installation Browser program.

- **5.** If the oscilloscope does not start the Installation Browser program, follow these steps:
 - a. Select and open the My Computer icon.
 - **b.** In the Exploring My Computer window, select the D: (CD-ROM) drive and then the Launch.exe file.
 - **c.** Select the TekConnect Adjust button.
- **6.** Follow the on-screen instructions given by the InstallShield Wizard and reboot if recommended.

For a list of other adjustment procedures required for products with TekConnect devices, refer to the service manual for your TekConnect device. Use the Installation Browser, and click the Browse Documents button to view the service manuals on the CD.

After installation, the Service Manuals and the application are available on the oscilloscope from Start Menu>Programs>Tektronix>TekConnect Adjust.

Downloading Updates Through the Web Site

You can find information about applications for TDS5000, TDS6000, or TDS/CSA7000 oscilloscopes on the www.tektronix.com web site. Click the Software and Drivers link to download updates to the software and other free applications.

NOTE. When updating an application, the Release Notes file on the www.tektronix.com web site supercedes the Readme.txt file in the zipped archive.

To an Oscilloscope

To download an application when you can access the web site through the oscilloscope, follow these steps:

1. Access the www.tektronix.com web site and select Software & Drivers.

The Software and Firmware Finder page appears. To define the search criteria, use one of the following methods:

- Select oscilloscope in the Browse by Product Category and a product in the Browse by Product Series fields.
- Enter information in the Find by Model Number or Keyword field.
- 2. Select Go. The search returns a list of software.
- **3.** Scroll through the list to the desired application, select the link, and view the web page instructions to download the application to your oscilloscope.

The version number is at the top of the web page.

- **4.** To start the install, select the Download button. You need to register to complete the install.
- **5.** Follow the on-screen prompts.

To a PC (Installing from Floppy Disks)

To download an application when you cannot access the web site through the oscilloscope, follow these steps:

1. From a PC, access the www.tektronix.com web site and select Software & Drivers.

The Software and Firmware Finder page appears. To define the search criteria, use one of the following methods:

■ Select oscilloscope in the Browse by Product Category and a product in the Browse by Product Series fields.

- Enter information in the Find by Model Number or Keyword field.
- 2. Select Go. The search returns a list of software.
- **3.** Scroll through the list to the desired application, select the link for the application with "For Floppy" in the title. View the web page instructions to download a zip file of the application to your PC.
- 4. Select the Download button. You need to register to complete the install.
- **5.** Follow the on-screen prompts.
- **6.** Unzip the archive file on your PC. When you unzip the archive, the PC creates several folders labeled Disk1, Disk2, and so on.
- 7. Copy only the contents of each folder to a floppy disk, and label the floppy disk according to the folder name, such as Disk1, Disk2, and so on.

To install the application from floppy disks, follow these steps:

- 1. Power on the oscilloscope to start Windows.
- 2. Select File> Minimize in the menu bar to minimize the oscilloscope.
- **3.** Insert Disk1 in the floppy disk drive.
- **4.** Select and open the My Computer icon.
- 5. In the Exploring My Computer window, select the A: (3 1/2 Floppy) drive.

NOTE. Additional information about the application is located in a Readme.txt file in the zipped archive. Read the file before you continue.

When updating an application, the Release Notes file on the www.tektronix.com web site supercedes the Readme.txt file in the zipped archive.

- **6.** Select the Setup.exe file to start the install program.
- 7. Follow the on-screen instructions given by the InstallShield Wizard.

Wait until after the floppy disk drive LED has gone out to remove each floppy disk and insert another.

8. When the installation is complete, the oscilloscope will restart. Remove the final floppy disk and reboot the oscilloscope.