**Instruction Manual** 

# Tektronix

TLA6UP Logic Analyzer Field Upgrade Kit 071-0866-05

This document applies to TLA System Software version 4.4.

#### Warning

These servicing instructions are for use by qualified personnel only. To avoid personal injury, do not perform any servicing unless you are qualified to do so. Refer to all safety summaries prior to performing service.

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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.

Only qualified personnel should perform service procedures.

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.

To Avoid Fire or Personal Injury	<b>Use Proper Power Cord.</b> Use only the power cord specified for this product and certified for the country of use.
	<b>Use Proper Voltage Setting.</b> Before applying power, ensure that the line selector is in the proper position for the power source being used.
	<b>Connect and Disconnect Properly.</b> Do not connect or disconnect probes or test leads while they are connected to a voltage source.
	<b>Ground the Product.</b> This product is grounded through the grounding conductor of the power cord. To avoid electric shock, the grounding conductor must be connected to earth ground. Before making connections to the input or output terminals of the product, ensure that the product is properly grounded.
	<b>Observe All Terminal Ratings.</b> To avoid fire or shock hazard, observe all ratings and marking on the product. Consult the product manual for further ratings information before making connections to the product.
	Do not apply a potential to any terminal, including the common terminal, that exceeds the maximum rating of that terminal.
	<b>Do Not Operate Without Covers.</b> Do not operate this product with covers or panels removed.
	Use Proper Fuse. Use only the fuse type and rating specified for this product.
	<b>Avoid Exposed Circuitry.</b> Do not touch exposed connections and components when power is present.
	<b>Do Not Operate With Suspected Failures.</b> If you suspect there is damage to this product, have it inspected by qualified service personnel.
	Do Not Operate in Wet/Damp Conditions.
	Do Not Operate in an Explosive Atmosphere.
	Keep Product Surfaces Clean and Dry.

Provide Proper Ventilation. Refer to the manual's installation instructions for details on installing the product so it has proper ventilation.

#### 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.

**Terms on the Product.** These terms may appear on the product:

DANGER indicates an injury hazard immediately accessible as you read the marking.

WARNING indicates an injury hazard not immediately accessible as you read the marking.

CAUTION indicates a hazard to property including the product.

**Symbols on the Product.** The following symbols may appear on the product:







- CAUTION Refer to Manual
- Double Insulated



Mains Disconnected OFF (Power) ON (Power)



- Mains Connected Standby

# Service Safety Summary

Only qualified personnel should perform service procedures. Read this *Service Safety Summary* and the *General Safety Summary* before performing any service procedures.

**Do Not Service Alone.** Do not perform internal service or adjustments of this product unless another person capable of rendering first aid and resuscitation is present.

**Disconnect Power.** To avoid electric shock, disconnect the main power by means of the power cord or, if provided, the power switch.

**Use Care When Servicing With Power On.** Dangerous voltages or currents may exist in this product. Disconnect power, remove battery (if applicable), and disconnect test leads before removing protective panels, soldering, or replacing components.

To avoid electric shock, do not touch exposed connections.

## Preface

This instruction manual contains specific information about the TLA6UP logic analyzer field upgrades. The logic analyzer field upgrades consist of software and hardware options for the TLA600 Series Logic Analyzers. Use Table i, below, to explore possible upgrade paths.

#### Table i: TLA6UP Logic Analyzer Field Upgrade Matrix

New capability desired	Current configuration and TLA software version	Current operating system	Please order
Add More DRAM and a Larger HDD	TLA6xx Std or Option 1J with V4.4 TLA SW	Windows 2000 Professional	TLA6UP Option 10
Provides 512 MB DRAM and/or replace current hard disk drive with	TLA6xx Std or Option 1J with	Windows 2000	TLA6UP Option 10
a larger, fixed, bootable MAX hard disk drive.	V4.3, 4.2, 4.1, or 4.0 TLA SW	Professional	TLA6UP Option 35 (With HD Image CD, recommended) <b>OR</b>
Works with either Windows 98 Second Edition or Windows 2000			TLA6UP Option 36 (Without HD Image CD)
Professional.	TLA6xx Std or Option 1J with	Windows 98	TLA6UP Option 10
	V3.2 TLA SW	Second Edition	TLA6UP Option 35 (With HD Image CD)
Add New Software Features Add new functionality to existing	TLA6xx Std or Option 1J with V4.3, V4.2, or V4.1, or V4.0	Windows 2000 Professional	TLA6UP Option 35 (With HD Image CD, recommended) <b>OR</b>
TLA6XX logic analyzers by up- grading to Version 4.4 TLA Ap- plication Software.	TLA SW		TLA6UP Option 36 (Without HD Image CD)
Version 4.4 requires Windows 2000 Professional operating system.	TLA6xx Std or Option 1J with V3.2 TLA SW	Windows 98 Second Edition	TLA6UP Option 35 (With HD Image CD)
Add New iView External Oscillo- scope Capability Add new iView capability to view	TLA6xx Std or Option 1J with V4.4 TLA SW	Windows 2000 Professional	TLA6UP Option 15
data from TDS oscilloscopes	TLA6xx Std or Option 1J with	Windows 2000 Professional	TLA6UP Option 15
correlated directly on the TLA600 logic analyzer <sup>1</sup> .	V4.3, V4.2, V4.1, or V4.0 TLA SW		TLA6UP Option 35 (With HD Image CD, recommended) <b>OR</b>
Requires Version 4.1 TLA Applica- tion Software and Windows 2000 Professional operating system or			TLA6UP Option 36 (Without HD Image CD)
higher.	TLA6xx Std or Option 1J with	Windows 98	TLA6UP Option 15
TLA600 mainframe memory requirements: 256 MByte mini- mum, 512 MByte preferred.	V3.2 TLA SW	Second Edition	TLA6UP Option 35 (With HD Image CD)

#### Table i: TLA6UP Logic Analyzer Field Upgrade Matrix (Cont.)

New capability desired	Current configuration and TLA software version	Current operating system	Please order
Upgrade Logic Analyzer State Speed and Memory Depth Enhance your current TLA600 logic analyzer by increasing state speed or memory depth. Run the PowerFlex Utility to inform you what upgrades are available. Instructions to obtain an upgrade are provided.	Any TLA600 series logic analyzer with V4.4, V4.3 TLA SW	Windows 2000 Professional	Run the PowerFlex Utility software located on the instrument and then purchase the appropriate PowerFlex kit.
Upgrade Logic Analyzer State Speed and Memory Depth Enhance your TLA600 logic analyzer by increasing state speed or memory depth. Once installed, the PowerFlex Utility will inform you what upgrades are available. Instructions to obtain an upgrade are provided.	Any TLA600 series logic analyzer with V4.2 TLA SW or earlier	Windows 2000 Professional	TLA6UP Option PF or visit www.tektronix.com/LA for the PowerFlex Utility software
Add CD-RW Drive Add the CD-RW drive to backup or	TLA6xx Std or Option 1J with V4.4 TLA SW	Windows 2000 Professional	TLA6UP Option 20
transfer files.	TLA6xx Std or Option 1J with V4.3, V4.2, V4.1, or V4.0 TLA SW	Windows 2000 Professional	TLA6UP Option 20
			TLA6UP Option 35 (With HD Image CD, Recommended) <b>OR</b>
			TLA6UP Option 36 (Without HD Image CD)
	TLA6xx Std or Option 1J with V3.2 TLA SW	Windows 98 Second Edition	TLA6UP Option 20
			TLA6UP Option 35 (With HD Image CD)

<sup>1</sup> For a list of supported TDS oscilloscopes, please visit our Web site at www.tektronix.com/la.

## **Service and Upgrade Notes**

To prevent personal injury or damage to the instrument, consider the following requirements before attempting service:

- Read the *General Safety Summary* and *Service Safety Summary* found at the beginning of this manual.
- Only qualified service personnel should perform the procedures in this manual.

Be sure to follow all warnings, cautions and notes.

## **Adjustment and Certification Interval**

Generally, you should perform the adjustments and performance verification procedures described in the *TLA600 Logic Analyzer Series Service Manual* (071-0728-xx) once per year, or following repairs that may affect adjustment or calibration.

## **Service Offerings**

Service Offerings			
	Tektronix provides service services that are designed t	-	ir under warranty as well as other pecific service needs.
		chnicians are	ce or any of the other services listed equipped to service your logic analyzer. ces Centers.
Warranty Repair Service	The warranty for this product is located behind the title page in this manual. Tektronix technicians provide warranty service at most Tektronix service locations worldwide. The Tektronix product catalog lists all service locations worldwide, or you can visit us on our <i>Customer Services World Center</i> Web site at:		
	Tektronix.com/Measur	ement/Service	e
Calibration and Repair Service	In addition to warranty repair, Tektronix Service offers calibration and other services which provide solutions to your service needs and quality standards compliance requirements.		
	The following services can be tailored to fit your requirements for calibration and/or repair of your logic analyzer.		
	<b>Service Options.</b> Tektronix service options can be selected at the time you purchase your instrument. You select these options to provide the services that best meet your service needs. Tektronix Service Options are available at the time you order your instrument. Contact your local Tektronix Sales Office for more information.		
	Product installation service <sup>1</sup>	Option IN	Provides initial product installation/configura- tion and start-up training session including front panel and product familiarization.
	Three years of calibration services	Option C3	Provides factory calibration certification on delivery, plus two more years of calibration coverage. The instrument will be calibrated according to its calibration interval.

Five years of calibration ser- vices	Option C5	Provides factory calibration certification on delivery, plus four more years of calibration coverage. The instrument will be calibrated according to its calibration interval.
Test data	Option D1	Provides initial Test Data Report from factory on delivery.
Test data	Option D3	Provides test data on delivery plus a Test Data Report for every calibration performed during 3 years of coverage – requires Option C3.
Test data	Option D5	Provides test data on delivery plus a Test Data Report for every calibration performed during 5 years of coverage - requires Option C5.
Three years repair coverage	Option R3	Extends product repair warranty to three years.
Five years repair coverage	Option R5	Extends product repair warranty to five years.

<sup>1</sup> Availability of installation and on-site services depends on the type of product and may vary by geography.

**Service Agreements.** If service options are not added to the instrument purchase, then service agreements are available on an annual basis to provide calibration services or post-warranty repair coverage. Service agreements may be customized to meet special turn-around time and/or on-site requirements.

**Service on Demand.** Tektronix offers calibration and repair services on a "per-incident" basis that is available with standard prices.

**Self Service.** Tektronix supports repair to the replaceable-part level by providing for circuit board exchange.

Use this service to reduce down-time for repair by exchanging circuit boards for remanufactured ones. Tektronix ships updated and tested exchange boards. Each board comes with a 90-day service warranty.

**For More Information.** Contact your local Tektronix service center or sales engineer for more information on any of the Calibration and Repair Services just described.

## **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
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

 <sup>\*</sup> 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

Outside North America, contact a Tektronix sales office or distributor; see the Tektronix web site for a list of offices.

Preface

# **TLA6UP Option 10**

# **TLA6UP Option 10: MAX HDD and MAX DRAM Upgrade**

TLA6UP Option 10 supports replacing your existing hard disk drive with a greater capacity hard disk drive, and upgrading to 512 MB of DRAM memory for your TLA600 series logic analyzer.



#### Instruments

TLA600 Series Logic Analyzers

All Serial Numbers

#### **Parts List**

#### Table 1-1: TLA6UP Option 10 parts list

Quantity	Part number	Description
2 ea	156-9074-xx	256 MB DRAM - Total of 512 MB
1 ea	119-6832-xx	Hard Disk Drive (no software loaded)
1 ea	003-0008-xx	Spudger tool for removing the trim ring
1 ea	N/A	TLA6UP kit label
1 ea	N/A	TLA600 BIOS floppy disk
1 ea	N/A	IBM\Hitachi HDD Feature Tool floppy disk

## **Minimum Tool and Equipment List**

ltem no.	Name	Description	General tool number
1	Screwdriver handle	Accepts Torx®-driver bits	620-440
2	T-15 Torx tip	Used for removing most the instru- ment's screws. Torx®-driver bit for T-15 size screw heads	640-247
3	T-20 Torx tip	Used for removing the handle hardware. Torx®-driver bit for T-20 size screw heads	640-250
4	#1 Phillips screwdriver	Screwdriver for removing Phillips screws, hard drive.	Standard tool

Table 1-2: Tools required for installing upgrade

#### **Installation Prerequisite**

These instructions assume that you are familiar with servicing the instrument. If you need further details for disassembling or reassembling the instrument, refer to the *TLA600 Series Logic Analyzer Service Manual* (071-0728-XX). You can also contact your nearest Tektronix Service Center for installation assistance.



**CAUTION.** To prevent static discharge damage, service this product only in a static-free environment. Always wear a grounded wrist strap, grounded foot strap, and static resistant apparel while installing this kit.

# **TLA6UP Option 10: MAX HDD and MAX DRAM Installation**

The following instructions guide you through the process of replacing the existing hard disk drive with a greater capacity, but unformatted, hard disk drive. These instructions additionally guide you through the process of upgrading to 512 MB of DRAM memory.

#### **Back Up Your Software**

Before performing these procedures, take steps to protect the contents of your hard disk drive by backing up any files, applications and personal documents. Refer to *Back Up Files* on page 4-4 for more details. Unless you have also ordered Option 35, *TLA Application Software and Windows Operating System Upgrade*, use the backup media that was shipped with the instrument to reinstall the operating system and applications.

#### Preparation

Be sure to observe the following precautions to avoid damaging the logic analyzer while preparing to service it. Contact your nearest Tektronix, Inc., Service Center or Tektronix Factory Service Center for installation assistance.



**CAUTION.** Many components within the instrument are susceptible to static-discharge damage.

Service only in a static-free environment. Observe standard handling precautions for static-sensitive devices.

Always wear a grounded wrist strap, grounded foot strap, and static-resistant apparel while installing this kit.



**WARNING.** Dangerous voltages may be present. Before performing any procedure in this subsection, disconnect the power cord from the line voltage source. Failure to do so could cause serious injury or death.

- Do not handle static-sensitive components on boards.
- Transport and store static-sensitive boards in their original containers or on conductive foam. Label any package that contains static-sensitive assemblies.

- Wear anti-static wrist strap while handling the boards to discharge the static voltage from your body.
- Do not allow anything capable of holding or generating a static charge on the work surface.
- Avoid handling boards in areas that have a floor or work surface cover that is capable of generating a static charge.

#### **Remove the Trim**

Remove the logic analyzer trim to gain access to either the TLA60X closed face bracket or the TLA61X/62X flat panel display. You will need a screwdriver with both a size T-15 Torx tip and a size T-20 Torx tip to perform this procedure.

**Removal** Remove the trim as shown in Figure 1-1 on page 1-5 and Figure 1-2 on page 1-6, using the following procedure.

- 1. Turn the logic analyzer off.
- 2. Remove the power cord and all probes.
- 3. Remove the top cover trim.
  - a. Remove the accessory pouch; it snaps off.
  - **b.** Remove the four T-15 Torx-drive screws that secure the top cover trim to the instrument. The T-15 Torx-drive screws also secure the snap rings to the top cover.
  - c. Remove the top cover trim from the instrument.
- 4. Remove carrying handle and right/left side trim.
  - **a.** Remove the T-20 Torx-drive screws that secure the handle to the instrument and then remove the handle.
  - **b.** Slide the side trim panels toward the rear of the instrument allowing the tabs to clear the cover openings, then pull out to remove the panels from the instrument.

**NOTE**. You may want to place a small strip of adhesive tape over the elastomeric On/Standby button to prevent losing it when you remove the trim ring.

- 5. Remove the front panel trim. Use the spudger tool that came with this kit to pry on the edges of the trim ring to release the three plastic snaps. Grasp the trim ring by its top edge and pull toward you to gently remove it from the instrument.
- 6. Remove the input panel; Tilt the instrument onto its cord-wrap feet and remove the three T-15 Torx-drive screws that secure the input panel to the instrument.

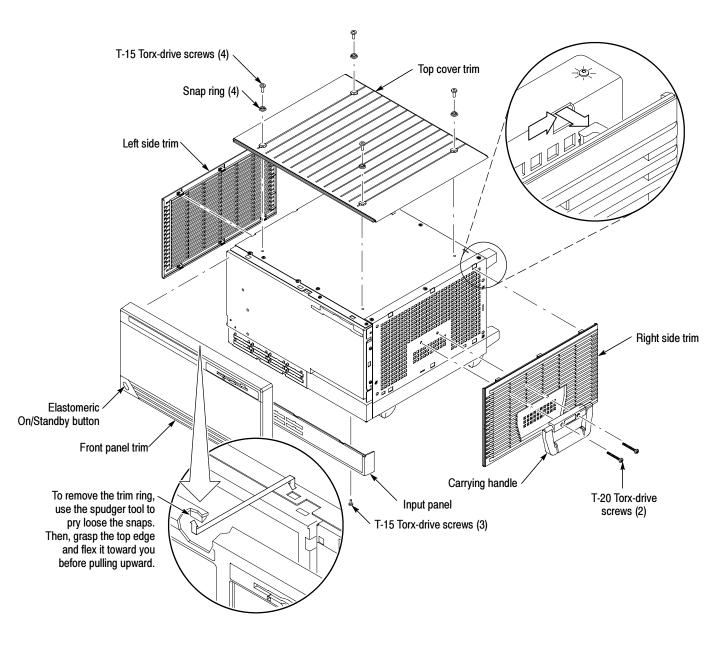


Figure 1-1: TLA60X trim removal

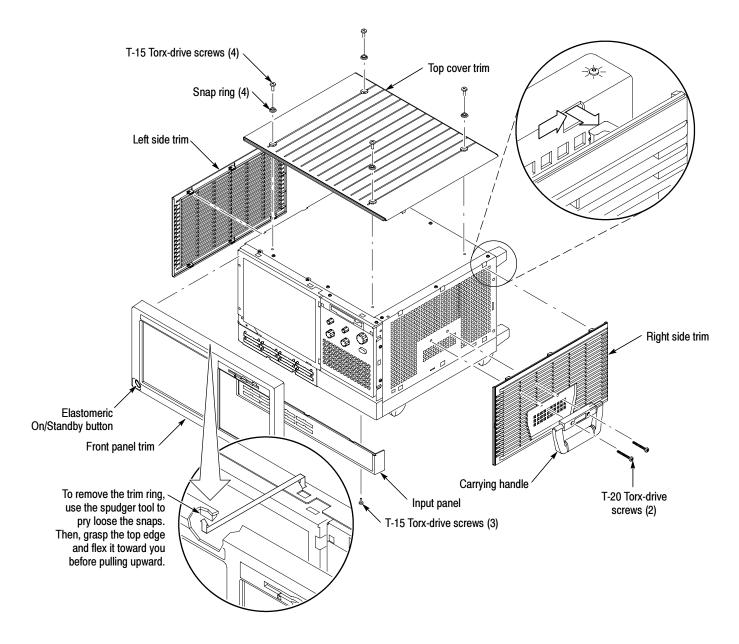


Figure 1-2: TLA61X/62X trim removal

#### **Remove the TLA60X Closed Face Bracket**

Remove the TLA60X closed face bracket to gain access to the internal hard disk drive. You will need a screwdriver with a T-15 Torx tip to perform this procedure.

**Removal** To remove the TLA60X closed face bracket, follow these instructions:

- 1. Remove the ten T-15 Torx-drive screws that secure the closed face bracket to the logic analyzer, as shown in Figure 1-3.
- 2. Disconnect the ribbon cable connector from the display circuit board.

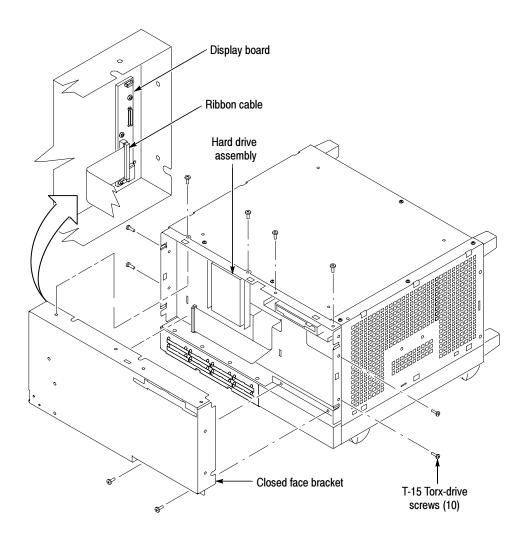


Figure 1-3: TLA60X closed face bracket removal

### **Remove the TLA61X/62X Flat Panel Display**

Remove the TLA61X/62X flat panel display to gain access to the internal hard drive. You will need a screwdriver and a T-15 Torx tip to perform this procedure.

**Removal** To remove the display, follow these instructions:

- 1. Remove the four T-15 Torx-drive screws that attach the display assembly to the chassis, as shown in Figure 1-4 on page 1-9.
- **2.** Grasp the top edge of the display assembly and pull forward far enough to allow access to the ribbon cable connector.
- **3.** Disconnect the ribbon cable from the display assembly. Remove the display module assembly from the instrument.
- 4. Lift the bottom edge of the flat panel display assembly and rotate it upward and off the front face of the instrument.



**CAUTION.** To avoid damage to the front panel standby/on switch assembly, do not set the display module assembly face-down on a work surface. Sliding the instrument over the edge of the work surface could break off the standby/on switch LED illuminator.

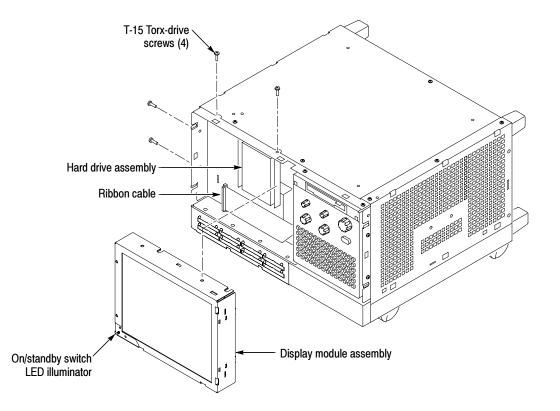


Figure 1-4: TLA61X/62X display assembly removal

#### **Replace the Hard Disk Drive**

You will need a screwdriver with a size T-15 Torx tip and a #1 Phillips screwdriver to perform this procedure.

**Removal** Use the following procedure to remove the hard disk drive:

- 1. Locate the hard disk drive shown in Figure 1-5 on page 1-10.
- **2.** Remove the four T-15 Torx-drive screws that secure the hard disk drive bracket to the chassis.
- **3.** Disconnect the ribbon cable connector at the top of the hard disk drive by pulling up (away from the hard disk drive) on the connector.
- 4. Lift the hard disk drive and bracket out of the chassis.
- 5. Remove the four #1 Phillips screws that attach the hard disk drive to the bracket.
- 6. Lift the hard disk drive out of the bracket.

**Installation** Use the following procedure to install the new hard disk drive:

- 1. Insert the new hard disk drive into the bracket.
- **2.** Install the four #1 Phillips screws that mount the hard disk drive to the bracket.
- 3. Reconnect the cable connector to the hard disk drive connector.
- 4. Place the hard disk drive and bracket back into the chassis.
- **5.** Install the four T-15 Torx-drive screws that secure the hard disk drive bracket to the chassis.

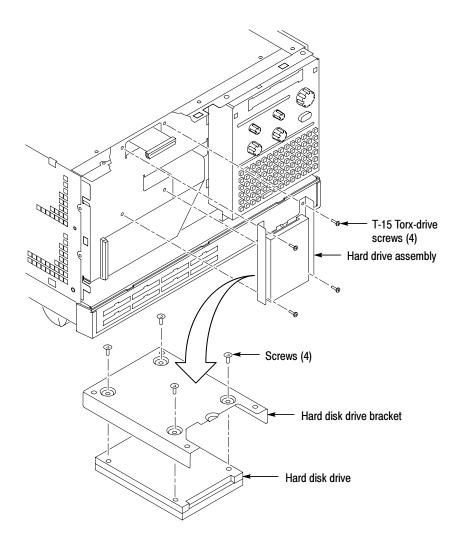


Figure 1-5: Hard disk drive replacement

#### **Remove the Covers and Install the Memory**

Use the following procedure, and Figure 1-6 on page 1-12, to remove the logic analyzer internal covers and install an additional DRAM memory board. You will need a screwdriver and a T-15 Torx tip to perform this procedure.

- 1. Remove the bottom cover (with feet) using the following procedure:
  - **a.** Remove the four T-15 Torx-drive screws that secure the bottom cover to the instrument.
  - **b.** Remove the bottom cover from the instrument.
- 2. Remove the bottom-right and top-left covers using the following procedure:

**NOTE**. All mounting screw holes are indicated by a star etched around the mounting hole.

- **a.** Remove the eleven T-15 Torx-drive screws that secure the covers to the top and both sides of the chassis.
- **b.** Remove the seven T-15 Torx-drive screws that secure the covers to the bottom of the chassis.
- **c.** Pull the bottom-right cover down and slide to the right to remove it from the instrument. Pull the top-left cover upward and slide to remove it from the instrument.
- **3.** Remove any existing memory boards from the instrument and then install the new memory boards in the location shown in Figure 1-6 on page 1-12. This avoids having mixed memory modules.



**CAUTION.** Use care not to bind or snag the covers on the instrument's internal cabling as you remove or install.

4. *Reinstallation*: Do in reverse steps 1 and 2 to reinstall the internal covers.

**NOTE**. You must reinstall the top-left cover before reinstalling the bottom-right cover to ensure that the top trim, described on page 1–13, will fit properly.

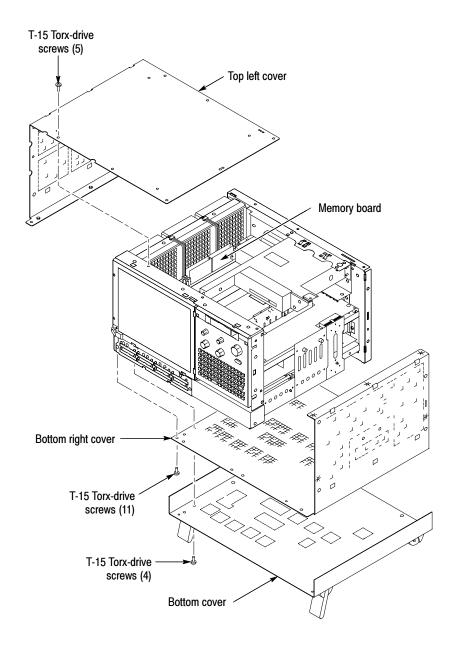


Figure 1-6: Internal covers and memory board location

## Reassembly

	Use the following procedure to reassemble the instrument:	
Reinstall the TLA60X closed face bracket	Use the following procedure to install the TLA60X closed face bracket, as show in Figure 1-3 on page 1-7.	'n
	1. Reattach the ribbon cable connector to the display adapter circuit board.	
	2. Reinsert the closed face bracket into the logic analyzer.	
	<b>3.</b> Reinstall the ten T-15 Torx-drive screws that secure the closed face bracket t the chassis.	0
Reinstall the TLA61X/62X display	Use the following procedure to install the TLA61X/62X display assembly, as shown in Figure 1-4 on page 1-9.	
	1. Reattach the ribbon cable connector to the display assembly.	
	2. Reinstall the flat panel display assembly by first inserting the top edge and then rotating it downward into position.	
	<b>3.</b> Reinstall the four T-15 Torx-drive screws that attach the flat panel display assembly to the chassis.	
Reinstall the trim	Use the following procedure to install the trim as shown in Figure 1-1 on page 1-5 and Figure 1-2 on page 1-6.	
	1. Replace the elastomeric on/standby button.	
	2. Replace the trim ring on the front panel. Align the tabs on the sides of the front panel. Then, start at the top edge and work around to the bottom (using care not to damage the elastomeric on/standby button or switch), until the three plastic snaps engage.	3
	Press the trim ring down all around the edges until it is completely seated.	
	3. Reinstall the right/left side trim and carrying handle.	
	<b>a.</b> Starting from the rear of the instrument, slide the side trim panels toward the front of the instrument until the tabs lock into the cover openings.	ď
	<b>b.</b> Replace the handle to the right side trim and reinstall the two T-20 Torx-drive screws that secure the handle to the instrument. Tighten the screws to 8in-lbs.	

	4. Reinstall the top cover trim.	
	<b>a.</b> Reinstall the top cover trim on the instrument.	
	<b>b.</b> Reinstall the four T-15 Torx-drive screws that secure the snap rings to the top cover, and secure the top cover trim to the instrument.	
	c. Reattach the accessory pouch to the top of the instrument.	
	<b>5.</b> Replace the input panel; Reinstall the three T-15 Torx-drive screws that secure the input panel to the instrument.	
	<b>6.</b> Reinstall probes that were removed during disassembly.	
	7. Connect the power cord to the logic analyzer.	
Software Installation		
	Before you reinstall the software that came with your TLA600 series logic analyzer, you may need to flash the BIOS on your logic analyzer and install a software utility that is required for setting the drive speed of your new hard disk drive.	
Verify the TLA600 BIOS	Use the following steps to determine if you have the correct BIOS.	
	<b>NOTE</b> . If you have a TLA61X/62X logic analyzer, you will need to attach an external display to your instrument in order to complete the following procedure.	
	1. Power on the logic analyzer and then press function key F2 to enter the BIOS setup.	
	2. Under the Main menu, check that the BIOS version is SU81010A.86A.0009-P09.	
	3. If you have the correct version:	
	<b>a.</b> Skip steps 4 through 11.	
	<b>b.</b> Insert the IBM/Hitachi HDD Feature Tool floppy disk.	
	c. Exit the BIOS	
	d. Continue with IBM/Hitachi HDD Feature Tool on page 1-18.	

**5.** Restart the logic analyzer and allow it to boot from the floppy disk. After booting from the floppy disk, the program on the floppy disk will automatically flash the BIOS on the TLA600 controller.



**CAUTION.** Do not remove the TLA600 BIOS disk or turn off the power during the BIOS flash operation. Doing so will cause the system to become inoperable.

- 6. Wait for the BIOS flash procedure to complete.
- 7. After the flash procedure has completed, turn the logic analyzer off and remove the floppy disk.
- **8.** Power on the logic analyzer and press function key F2 *before* the logic analyzer boots the Windows operating system.
- **9.** Press function key F9, select Yes and press Enter to set the default settings, and verify that both the hard disk was auto-recognized and that the correct size of the hard disk is displayed in the Primary Master setting.
- **10.** Verify that all of the settings are the same as the settings in Table 1-3.
- 11. Press function key F10 to exit and save the BIOS setup.

Parameter	Setting/Description	2 <sup>nd</sup> Field setting	Мето
Main			
BIOS Version	SU81010A.86A.0009.P09		No active selections
Processor Type	Intel (R) Celeron ™		No active selections
Processor Speed	500 or 566 MHz		No active selections
Cache RAM	128 KB		No active selections
Total Memory	64, 128, 256, or 512 MB		Total memory installed
Memory Bank 0	64, 128, or 256 MB		Typically
Memory Bank 1	Not Installed		Will be installed as an option
System Time	[set to the current time]		
System Date	[set to the current day]		
Advanced			
Boot Configuration			
Plug & Play O/S	[No]		
Reset Configuration Data	[No]		
Numlock	[Off]		

#### Table 1-3: TLA600 Controller BIOS setup

Parameter	Setting/Description	2 <sup>nd</sup> Field setting	Memo
Peripheral Configuration			
Serial Port A	[Auto]		
Serial Port B	[Disabled]		
Parallel Port	[Auto]		
Mode	[ECP]		
Audio Device	[Enabled]		
LAN Device	[Enabled]		
Legacy USB Port	[Enabled]		
► IDE Configuration			
IDE Controller	[Both]		
Hard Disk Pre-Delay	[Disabled]		
Primary IDE Master	[Mfg. name - model] (HDD)		e.g.: Autodectable
Primary IDE Slave	[Not installed]		
Secondary IDE Master	[Mfg. name - model] (CD ROM)		e.g.: Autodectable
Secondary IDE Slave	[Not installed]		
Diskette Configuration			
Diskette Controller	[Enabled]		
Floppy A	[1.44/1.25 MB 3 1/2		
Diskette Write Protect	[Disabled]		
Event Log Configuration			
Event Log	[Space Available]		Not Active Selections
Event Log Validity	[Valid]		Not Active Selections
► View Event Log		Event Log: Pre-Boot Error: CMOS Checksum Error	Displays after "Mark Events as Read" is set below
Clear Event Log	[No]		
Event Logging	[Enabled]		
Mark Events as Read		[Yes]	
Video Configuration			
Primary Video Adapter	[PCI]		PCI = Internal Display AGP = External Monitor

Parameter	Setting/Description	2 <sup>nd</sup> Field setting	Memo
Security			
Supervisor Password Is [Not Installed]			Not Active Selections
User Password Is	User Password Is [Not Installed]		Not Active Selections
Set Supervisor Password		Enter Password	
Set User Password		Enter Password	
Power			
Power Management	[Enabled]		
Inactivity Timer	[Off]		
Hard Drive	[Enabled]		
Video Power Down	[Disabled]		
ACPI Suspend State	[S1 State]		
Boot			
Quiet Boot	[Disabled]		
Quick Boot	[Enabled]		
Scan Upper Flash Area	[Disabled]		
After Power Failure	[Last State]		
On Modem Ring	On Modem Ring [Stay Off]		
On LAN	[Power On]		
On PME	[Stay Off]		
1 <sup>st</sup> Boot Device	[Floppy]		
2 <sup>nd</sup> Boot Device	[IDE-HDD]		
3 <sup>rd</sup> Boot Device	[ATAPI CDROM]		
4 <sup>th</sup> Boot Device	[Intel UNDI, PXE-2.0 (b)]		
5 <sup>th</sup> Boot Device	[Disabled]		
► IDE Drive Configuration			
	Primary IDE Master	[1 <sup>st</sup> IDE]	
	Primary IDE Slave	[2 <sup>nd</sup> IDE]	
	Secondary IDE Master	[3 <sup>rd</sup> IDE]	
	Secondary IDE Slave	[4 <sup>th</sup> IDE]	

Table 1-3: TLA600 Controller BIOS setup (Cont.)

#### IBM/Hitachi HDD Feature Tool

The following procedure describes how to install the IBM/Hitachi HDD Feature Tool floppy disk, which allows you to set your hard disk drive speed to 33 Mhz (UDMA Mode 2).

**NOTE**. If you have installed a hard disk drive that is manufactured by a company other than IBM or Hitachi, it must operate at ATA33 (UDMA Mode 2) speed and you must obtain and use a switch utility from that hard disk drive manufacturer.

- **1.** If you have not already done so, install the IBM/Hitachi HDD Feature Tool floppy disk in the floppy disk drive.
- 2. Reboot the logic analyzer. After booting from the floppy disk, the program on the floppy disk will display its license agreement.
- **3.** Review the software license agreement. If you agree with the terms of the agreement, click the I Agree button. The system responds by displaying a list of current disk drive settings.
- **4.** Select Change Ultra DMA mode from the Feature menu or type ALT+U. The Change the maximum ULtra DMA mode window displays.
- **5.** Click the Ultra DMA mode 2 setting and then click okay. The software will change the DMA mode settings and then displays an Information window.
- 6. Click OK to leave the Information window.
- 7. Exit the application (type Alt+X), turn off the logic analyzer and remove the floppy disk.

**Reinstalling Software** The steps to reinstall the software on your instrument after you have upgraded the hard disk drive and memory will depend on your situation. Read through the scenarios and follow the steps that best describe your situation:

**Restoring Version 3.2 TLA Application Software.** If your logic analyzer has Windows 98 Second Edition operating system with the Version 3.2 TLA application software and you *do not* intend to upgrade the application software, follow the procedures in *Installing Software on the TLA600 Series* section in the *Tektronix Logic Analyzer Family Version 3.2 Software User Manual* (071-0729-00).

**Upgrading from Version 3.2 TLA Application Software to Version 4.4 TLA Application Software.** If your logic analyzer has Windows 98 Second Edition operating system with the Version 3.2 TLA application software and you intend to upgrade your TLA application software and operating system, follow the TLA6UP. Option 35 procedures in *TLA Application Software and Windows Operating System Upgrade* beginning on page 4–1.

**Restoring Version V4.0–V4.4 TLA Application Software or Upgrading to Version 4.4 TLA Application Software from Version 4.0–4.3 TLA Application Software.** If you are restoring Version 4.0 or higher TLA application software or if you are upgrading to Version 4.4 TLA application software you can use the EasyRestore software to install the Windows 2000 Professional operating system and the TLA application software. Use the appropriate TLA600 Hard Disk Image CD for your application software version. Follow the instructions under *Install Software* beginning on page 4–4 to install the operating system and the TLA application software.

# **TLA6UP Option 10: Verify Operation**

After installing TLA6UP hardware upgrades, use the following procedures to verify that both the MAX hard disk drive and additional DRAM are recognized and are operating properly.

#### **Verify MAX HDD Operation**

Reboot the instrument after completing the fixed hard disk drive upgrade instructions to confirm that the hard disk drive is operating properly.

#### **Verify MAX DRAM Operation**

Follow the steps below to ensure that your instrument recognizes the newly installed DRAM after completing the upgrade:

- 1. Click the Start button, and then point to Programs.
- 2. Click Accessories.
- **3.** Click System Tools. The system responds by displaying the Microsoft System Information dialog.
- **4.** Verify that the Microsoft System Information dialog indicates that Total Physical Memory is equal to 512 MB.

#### **Checklt Utilities**

If you already have TLA Application Software Version 4.1 (or higher) installed on your logic analyzer, you can also use the CheckIt Utilities to verify the hard disk and the available memory. To use the CheckIt Utilities, select Start  $\rightarrow$ Program  $\rightarrow$  CheckIt Utilities.

#### Attach the Upgrade Kit Label to the Instrument

After completing all the previous steps, you need to install the upgrade kit label on the instrument to indicate that the kit is installed.

Locate the big label on the rear of the instrument, and then attach the TLA6UP kit label as shown in Figure 1-7.

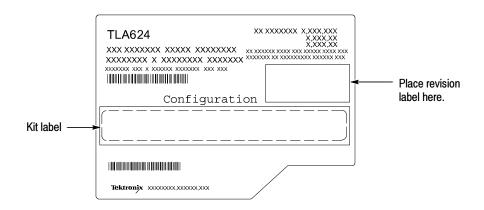


Figure 1-7: Kit label locations

# **TLA6UP Option 15**

## TLA6UP Option 15: iView External Oscilloscope Cable Installation

TLA6UP option 15 provides the capability of connecting your logic analyzer to an external Tektronix oscilloscope through the iView cable.



#### Instruments

TLA600 Series Logic Analyzers

All Serial Numbers

#### **Minimum Tool and Equipment List**

No special tools or equipment are required.

#### **Parts List**

Quantity	Part number	Description
1 ea	012-1614-xx	iView external oscilloscope cable kit (includes USB-to-GPIB & BNC, BNC-to-SMB adapter, and instruction card)
1 ea	N/A	TLA6UP kit label

Table 2-1: T	LA6UP O	ption 15	parts list
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#### Installation Prerequisite

Requires Version 4.1 TLA Application Software or higher, Windows 2000 Professional operating system, and 256 MB minimum mainframe memory (512 MB preferred).

#### Installation Instructions

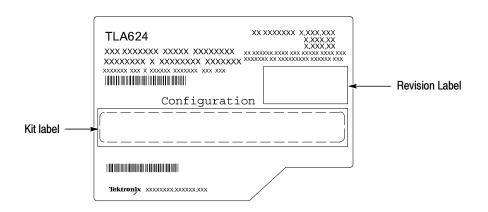
Online installation instructions are provided within the TLA application through a wizard. After powering on the instrument, select Add iView External Scope from the System menu and follow the online instructions.

#### Attach the Upgrade Kit Label to the Instrument

After completing all the previous steps, you need to install the upgrade kit label on the instrument to indicate that the kit is installed.

Locate the big label on the rear of the instrument, and then attach the TLA6UP kit label as shown in Figure 2-1.

**NOTE**. If there is an upgrade kit label already installed, install the new label above or below the old one, wherever there is room.





# **TLA6UP Option 20**

# **TLA6UP Option 20: CD-RW Drive Upgrade**

TLA6UP option 20 allows you to replace the CD-Rom drive with a CD-RW drive for your TLA600 series logic analyzer. This option does not include any software media and license. Please order TLA6UP Option 35 or 36 to get the latest software to support your new CD-RW drive.



#### Instruments

TLA600 Series Logic Analyzers

All Serial Numbers

#### **Parts List**

#### Table 3-1: TLA6UP Option 20 parts list

Quantity	Part number	Description
1 ea	119-6722-00	CD-RW Drive
1 ea	003-0008-xx	Spudger tool for removing the trim ring
1 ea	N/A	TLA6UP kit label

### **Minimum Tool and Equipment List**

ltem no.	Name	Description	General tool number
1	Screwdriver handle	Accepts Torx®-driver bits	620-440
2	T-15 Torx tip	Used for removing most the instru- ment's screws. Torx®-driver bit for T-15 size screw heads	640-247
3	T-20 Torx tip	Used for removing the handle hardware. Torx®-driver bit for T-20 size screw heads	640-250
4	#1 Phillips screwdriver	Screwdriver for removing Phillips screws, CD-ROM Drive.	Standard too

Table 3-2: Tools required for installing upgrade

# **TLA6UP Option 20: CD-RW Drive Installation**

The following instructions guide you through the process of replacing the existing CD-ROM drive with a CD-RW drive.

#### Preparation

Be sure to observe the following precautions to avoid damaging the logic analyzer while preparing to service it. Contact your nearest Tektronix, Inc., Service Center or Tektronix Factory Service Center for installation assistance.



**CAUTION.** Many components within the instrument are susceptible to static-discharge damage.

Service only in a static-free environment. Observe standard handling precautions for static-sensitive devices.

Always wear a grounded wrist strap, grounded foot strap, and static-resistant apparel while installing this kit.



**WARNING.** Dangerous voltages may be present. Before performing any procedure in this subsection, disconnect the power cord from the line voltage source. Failure to do so could cause serious injury or death.

- Do not handle static-sensitive components on boards.
- Transport and store static-sensitive boards in their original containers or on conductive foam. Label any package that contains static-sensitive assemblies.
- Wear anti-static wrist strap while handling the boards to discharge the static voltage from your body.
- Do not allow anything capable of holding or generating a static charge on the work surface.
- Avoid handling boards in areas that have a floor or work surface cover that is capable of generating a static charge.

#### **Remove the Trim and Covers**

Remove the logic analyzer trim and covers to gain access to the internal components of the logic analyzer. You will need a screwdriver with a size T-15 Torx tip and a size T-20 Torx tip and a spudger tool to perform this procedure.

- **Removal** Remove the trim as shown in Figure 3-1 on page 3-6 and Figure 3-2 on page 3-7, using the following procedure.
  - **1.** Turn the logic analyzer off.
  - 2. Remove the power cord and all probes.
  - **3.** Remove the front panel trim. Use the spudger tool to pry on the edges of the trim ring to release the three plastic snaps. Grasp the trim ring by its top edge and pull toward you to gently remove it from the instrument.
  - 4. Remove the top cover trim.
    - a. Remove the accessory pouch; it snaps off.
    - **b.** Remove the four T-15 Torx-drive screws that secure the top cover trim to the instrument. The T-15 Torx-drive screws also secure the snap rings to the top cover.
    - c. Remove the top cover trim from the instrument.
  - 5. Remove carrying handle and right/left side trim.
    - **a.** Remove the T-20 Torx-drive screws that secure the handle to the instrument and then remove the handle.
    - **b.** Slide the side trim panels toward the rear of the instrument allowing the tabs to clear the cover openings, then pull out to remove the panels from the instrument.

**NOTE**. You may want to place a small strip of adhesive tape over the elastomeric On/Standby button to prevent from losing it when you remove the trim ring.

**6.** Remove the input panel; Tilt the instrument onto its cord-wrap feet and remove the three T-15 Torx-drive screws that secure the input panel to the instrument.

- 7. Remove the bottom cover (with feet) as shown in Figure 3-3 on page 3-8 by following this procedure.
  - **a.** Remove the four T-15 Torxdrive screws that secure the bottom cover to the instrument.
  - **b.** Remove the bottom cover from the instrument.
- **8.** Remove the left and right covers as shown in Figure 3-3 on page 3-8 by following this procedure.

**NOTE**. All mounting screw holes are indicated by a star etched around the mounting hole.

- **a.** Remove the eleven T-15 Torxdrive screws that secure the covers to the top and both sides of the chassis.
- **b.** Remove the seven T-15 Torxdrive screws that secure the covers to the bottom of the chassis.
- **c.** Pull the bottom-right cover down and slide to the right to remove from the instrument. Pull the top-left cover upward and slide to the left to remove from the instrument.



**CAUTION.** Take care not to bind or snag the covers on the instrument's internal cabling as you remove or install.

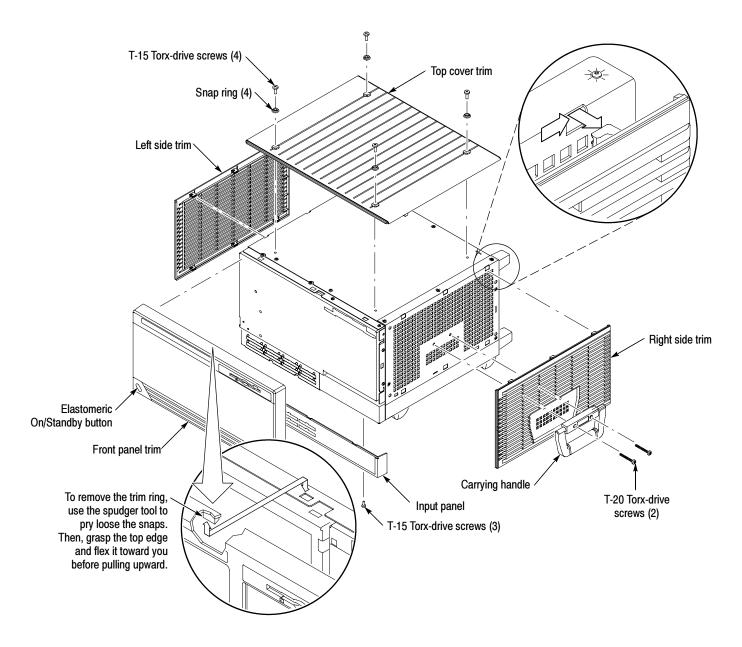


Figure 3-1: TLA60X trim removal

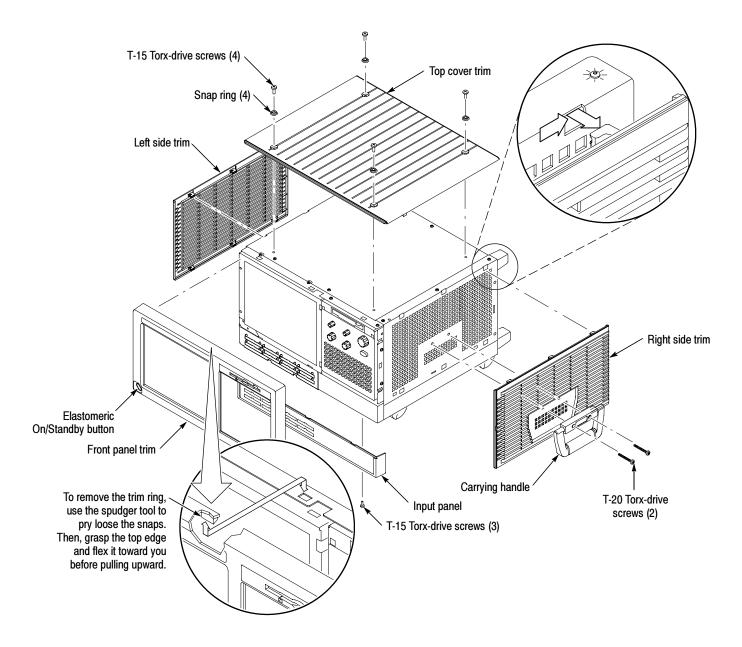


Figure 3-2: TLA61X/62X trim removal

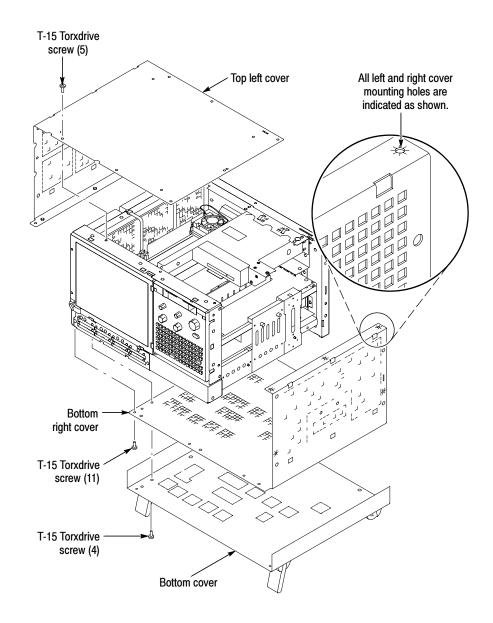


Figure 3-3: Internal covers

#### **Replacing the CD-ROM Drive**

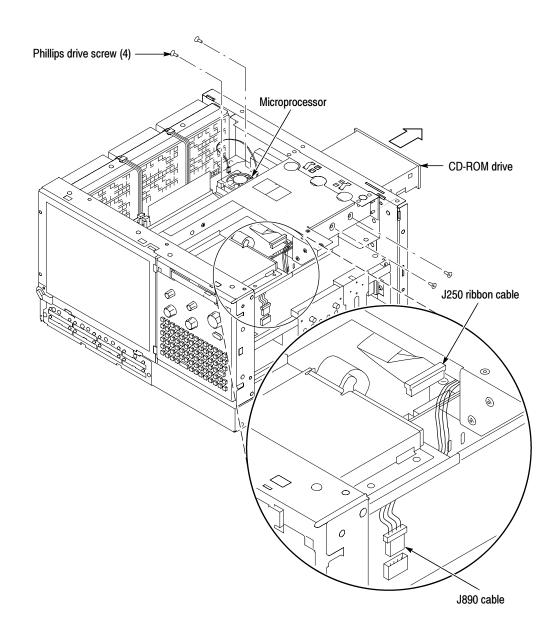
To replace the CD-ROM drive with the CD-RW drive, follow these instructions:

- 1. The CD-ROM drive is located at the rear right hand corner as shown in Figure 3-4 on page 3-10.
- **2.** Remove the four Phillips screws that secure the CD-ROM bracket to the chassis.



**WARNING.** Be careful not to touch the microprocessor with your screwdriver while removing or installing the Phillips screws. Touching the microprocessor may cause it to partially come out of the socket.

- 3. Disconnect the power connector J890 from the interface circuit board.
- **4.** Slide the CD-ROM out of the instrument to allow you to access to the CD-ROM signal connector J250 on the riser circuit board.
- 5. Disconnect signal connector J250 from the riser circuit board.
- 6. Slide the CD-ROM drive with the signal connector cable and the power cable out of the bracket.
- 7. Remove the signal connector cable and power cable from the CD-ROM drive and then set the CD-ROM drive aside.
- 8. Connect the signal and power connectors to the new CD-RW drive.
- **9.** Slide the new CD-RW drive with cables into the bracket to allow you to connect the signal connector J250 to the riser circuit board.
- **10.** Then slide the CD-RW drive all the way into the bracket.
- **11.** Install the four phillips screws that mount the CD-RW drive to the bracket. Tighten the screws to 2.5 in-lbs.
- **12.** Connect the power connector J890 to the interface circuit board.





### Reassembly

SSCIIDIY			
	Use the following procedures to reassemble the instrument. These procedures assume that you have already installed the new CD-RW drive in the instrument.		
Reinstall the Top and Bottom Covers	Use the following procedure to reinstall the top and bottom covers. Refer to Figure 3-3 on page 3-8 as needed. Tighten all T-15 Torx drive screws to 8 in-lbs.		
	1. Place the top-left cover on the instrument.		
	2. Place the bottom-right cover on the instrument and slide it to the left to set it in place.		
	<b>3.</b> Install the seven T-15 Torx-drive screws that secure the covers to the bottom of the instrument.		
	<b>4.</b> Install the eleven T-15 Torx-drive screws that secure the covers to the top and both sides of the instrument.		
	5. Place the bottom cover (with feet) on the instrument and secure it in place with the four T-15 Torx-drive screws.		
Reinstall the trim	Use the following procedure to install the trim as shown in Figure 3-1 on page 3-6 and Figure 3-2 on page 3-7.		
	1. Replace the elastomeric on/standby button.		
	2. Replace the trim ring on the front panel. Align the tabs on the sides of the front panel. Then, start at the top edge and work around to the bottom (using care not to damage the elastomeric on/standby button or switch), until the three plastic snaps engage.		
	Press the trim ring down all around the edges until it is completely seated.		
	3. Reinstall the right/left side trim and carrying handle.		
	<b>a.</b> Starting from the rear of the instrument, slide the side trim panels toward the front of the instrument until the tabs lock into the cover openings.		
	<b>b.</b> Replace the handle to the right side trim and reinstall the two T-20 Torx-drive screws that secure the handle to the instrument. Tighten the screws to 8 in-lbs.		
	4. Reinstall the top cover trim.		
	<b>a.</b> Reinstall the top cover trim on the instrument.		
	<b>b.</b> Reinstall the four T-15 Torx-drive screws that secure the snap rings to the top cove, and secure the top trim to the instrument.		

- c. Reattach the accessory pouch to the top of the instrument.
- **5.** Replace the input panel. Reinstall the three T-15 Torx-drive screws that secure the panel to the instrument.

### **Verifying Operation**

To verify the proper operation of the logic analyzer, follow these steps:

- 1. Attach the power cord and power on the logic analyzer.
- 2. Exit all applications and close any open windows.
- **3.** Click Start in the Windows tool bar.
- 4. Select Programs from the Start menu.
- 5. Select the CheckIt application from the Programs menu.
- 6. Run the appropriate verification tests from the CheckIt diagnostics.
- 7. Turn the logic analyzer off, and then on again before running any application software including the TLA application software.

#### Attach the Upgrade Kit Label to the Instrument

After completing all the previous steps, you need to install the upgrade kit label on the instrument to indicate that the kit is installed.

Locate the big label on the rear of the instrument, and then attach the TLA6UP kit label as shown in Figure 3-5.

**NOTE**. If there is an upgrade kit label already installed, install the new label above or below the old one, wherever there is room.

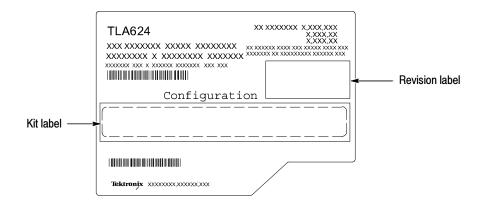


Figure 3-5: Kit label locations

# **TLA6UP Option 35**

## TLA6UP Option 35: Application Software and Windows Operating System Upgrade

TLA6UP option 35 supports the upgrade to TLA application software version 4.4 and Multi-language Windows 2000 Professional operating system (Service Pack 3). TLA application software version 4.4 will only run on Tektronix instruments with the Windows 2000 Professional operating system.

This kit provides instructions to upgrade the TLA application software and firmware for a TLA600 series logic analyzer with TLA application software version 3.2 and the Windows 98 Second Edition operation system.

You can also use this kit to upgrade TLA600 series logic analyzers with TLA application software 4.3 and below using the restore CD. This process removes the entire contents of your hard disk drive. Therefore, you must back up any files that you want to keep to backup media before beginning the upgrade procedure.



#### Instruments

TLA600 Series Logic Analyzers

All Serial Numbers

#### **System Requirements**

- Minimum 10 GB hard drive
- 256 MB RAM minimum, 512 MB recommended

### **Minimum Tool and Equipment List**

No special tools or equipment are required to install this option.

### **Parts List**

Quantity	Part number	Description
1 ea	N/A	Tektronix Logic Analyzer Family Application Software Version 4.4 (TLA App SW and TLAVu Offline software)
1 ea	N/A	Tektronix Logic Analyzer Family TLA600 Hard Disk Image Version 4.4 (dual CD-ROM set)
1 ea	N/A	Microsoft Windows 2000 Professional Certificate of Authenticity
1 ea	N/A	Microsoft Windows 2000 Professional license
1 ea	016-1524-xx	TLA mouse pad
1 sheet	N/A	Software revision labels
1 ea	N/A	TLA6UP kit label
1 ea	N/A	TLA600 BIOS floppy disk
1 ea	N/A	IBM/Hitach HDD Feature Tool floppy disk
1 ea	N/A	Checklt Utilities sticker
1 ea	N/A	Easy Restore license
1 ea	N/A	RecordNow MAX license

Table 4-1: TLA6UP Option 35 parts list

### TLA6UP Option 35: Application Software and Windows Operating System Instructions

These instructions guide you through the process of upgrading your TLA600 series logic analyzer software and firmware. Software instructions describe the process for upgrading to Windows 2000 Professional operating system and TLA application software version 4.4.



**CAUTION.** The software installation procedure will remove the entire contents of your hard disk. If you want to save any files or software applications on the hard disk, back them up to another media (floppy disks or a network drive) before continuing with this procedure.

In addition to the Tektronix Logic Analyzer application software, there are other software programs that may be installed separately; Table 4-2 lists some of the software that you may have installed on your logic analyzer.

#### Table 4-2: Software not covered by the software setup

Software	Installation information
Microprocessor or bus support software	Refer to the manual that was shipped with the microprocessor or bus support.
PC Card Software	Refer to the instructions that come with your PC Card.
Other Software	Refer to the instructions that come with your software.

#### Update the BIOS

If you have just installed TLA6UP Option 10, you can skip this section and continue with *Install Software* on page 4-4.

You may need to flash the logic analyzer controller BIOS with the latest flash image before reinstalling software on the hard disk drive. To verify or update your BIOS settings and the hard disk drive UDMA mode, refer to the following procedures beginning on page 1–14 and then return to this section:

- Verify the TLA600 BIOS
- IBM\Hitachi HDD Feature Tool

#### **Install Software**

The Tektronix Logic Analyzer field upgrade kit comes with a CD entitled *TLA600 Hard Disk Image*, which contains Microsoft Windows 2000 Professional operating system and the latest application software. All software required to run the logic analyzer comes with the CD, with the exception of any microprocessor support packages or non-logic analyzer application software.



**CAUTION.** The software installation procedure will destroy the **entire contents** of your hard disk. If you want to save any files or software applications on the hard disk, back them up to another media (floppy disks or a network drive) before continuing with this procedure.

The process of reloading the software on the hard disk will destroy any files or programs installed on the hard disk. If you do not care that the contents of your hard disk drive will be overwritten, proceed to *Install Windows 2000 Profession- al and the TLA Application Software* on page 4–5.

**Back Up Files** Before loading the Hard Disk Image software, make sure that you back up any files, applications, and personal files to another PC via a network, or via another backup medium such as a ZIP drive.

You can find most TLA user files using the Windows Find utility. For example, open Windows Explorer and select the C:\My Documents folder. Right click the folder and select Find. Enter one of the suffixes from Table 4-3 to locate the TLA files in the current folder and all subfolders:

Suffix	Description
.tla	TLA setup files and stored data
.tsf	TLA symbol files
.tbf	Tektronix binary format
.tls	TLA script file
.tpg	Tektronix pattern generator files
.txt	Tektronix TLA data exchange format files
.stk	Stack files
.spz	Protocol files

Table 4-3: TLA user file suffixes

Once you find the files, copy or drag them to the external storage device. Use this procedure to find and save any TLA files or applications.

If you purchased any microprocessor support packages, you will need to reinstall them after you reinstall the hard disk image. If you don't have a copy of the microprocessor support software, contract your Tektronix Account Manager to order a replacement copy. If you cannot contact the account manager, contact the Tektronix Support Center.

#### Install Windows 2000 Professional and the TLA Application Software

This procedure automatically reformats the hard disk, installs the Windows 2000 Professional Operating system software, and installs the the Tektronix Logic Analyzer application software. Because this procedure reformats the hard disk drive, be sure to back up any files or software that you want to preserve by following the steps in the previous section.

**Change the BIOS Boot Settings and Load the Hard Disk Image.** Before installing the Hard Disk Image, you must change the BIOS settings to enable booting from the CD-ROM.

- **1.** Restart the logic analyzer and then press function key F2 to enter the BIOS setup.
- 2. In the BIOS setup, go to the Boot menu.
- 3. Select Boot Device Priority.
- 4. Set the Boot devices as shown below:

First Boot Device:	[ATAPI CDROM]
Second Boot Device:	[Floppy]
Third Boot Device:	[IDE-HDD]

- 5. Insert the Hard Disk Image CD in the CD-ROM drive.
- **6.** Save the settings by pressing function key F10 and press Enter to confirm that you want to save the new settings.
- 7. After booting from the CD-ROM drive, the program on the CD will display its license agreement. Review the license agreement. If you agree to the terms of the license agreement, proceed with the next step.

**NOTE**. Use care when prompting through the software license agreement to avoid confirming that you want to cancel the software installation procedure.

- **8.** After you have reviewed the software license agreement, the EasyRestore dialog displays and prompts you to continue, or to cancel the upgrade process. Click the Continue button to load the contents of the upgrade CD.
- **9.** If EasyRestore detects errors and prompts you to allow the program to fix them, click Yes to continue the upgrade process.
- **10.** When prompted remove Disc 1 and insert Disc 2 to continue the software installation.
- **11.** The program automatically loads the hard disk image. This procedure is fully automatic and takes approximately 15 minutes to complete.

The image loading procedure installs and sets up the logic analyzer application. You should not need to make any changes to the setup to use the logic analyzer.

- **12.** After the image is loaded, follow the prompts to remove the CD from the CD-ROM drive and reboot the logic analyzer.
- **13.** The System Settings Change message displays, prompting you to restart the computer before your changes can take effect. Click Yes to restart your computer.
- 14. If you receive warning and error messages indicating that new PCI bridge devices were found, refer to *PCI-VXI Bridge Driver Reinstallation* on page 4-7. If you do not receive any messages, no action is necessary and you may proceed to step 15.
- **15.** Reinstall any user files that you backed up previously. Reinstall any software (such as the microprocessor support packages) that you want to use on the logic analyzer.

**Reset the BIOS Boot Settings (Optional).** After you have successfully installed the hard disk image, if you wish to reset the BIOS settings and disable booting from CD-ROM do the following, otherwise continue with *PCI-VXI Bridge Driver Reinstallation* on page 4–7.

- **1.** Restart the logic analyzer and then press function key F2 to enter the BIOS setup.
- 2. In the BIOS setup, go to the Boot menu.
- 3. Set the Boot devices as shown below to disable booting from the CD-ROM:

First Boot Device:	[Floppy]
Second Boot Device:	[IDE-HDD]
Third Boot Device:	[ATAPI CDROM]

**4.** Save the settings by pressing function key F10 and press Enter to confirm that you want to save the new settings.

Once you have successfully reset the BIOS boot settings, you have completed the operating system and TLA application software upgrade.

**PCI-VXI Bridge Driver Reinstallation.** Some TLA600 systems are configured with PCI devices that are not fully compatible with the CD hard disk image in this release. The first time you boot your logic analyzer, you may receive several warning and error messages indicating that new PCI devices were found and are being installed.

Without confirming or closing the displayed messages, perform the following steps:

- **1.** Use your mouse to select and drag the messages to an alternate location on your desktop, allowing access to the Insert Disk dialog.
- **2.** Select the Insert Disk dialog and click the OK button. The system responds by displaying the Files Needed dialog.

**NOTE**. You do not need to insert a CD labeled "PCI-VXI Bridge Driver" into your CD-ROM drive. Use the Files Needed dialog to specify the path to driver information on your hard disk drive.

**3.** Select the Files Needed dialog and enter the following path information in the Copy Files From field:

C:\WINNT\system32\drivers

- **4.** Click the OK button. The system responds by installing the required PCI bridge driver.
- 5. Reboot the logic analyzer and verify that no further warning or error messages display.

Upon confirming that your system boots without error, return to the *Change the BIOS Boot Settings and Load the Hard Disk Image* procedure, step 10 located on page 4–6.

#### Upgrade the TLA600 Firmware

Use the following procedure to upgrade the firmware for the TLA600 Series Logic Analyzers. Because the TLA600 Series Logic analyzers are monolithic instruments you can easily tell if the firmware needs updating by the absence of the logic analyzer module in the System window.

- 1. Disconnect any probes connected to the logic analyzer.
- 2. Exit the logic analyzer application.
- 3. Click Start → Programs → Tektronix Logic Analyzer → TLA Firmware Loader.
- 4. You may see a pop-up window reminding you to cycle the power on the mainframe after completing the upgrade operation. Click Yes to continue.
- 5. Select the module from the Supported list box near the top of the window.
- 6. Select Load Firmware from the Execute menu.
- 7. Click the TLA6xx.lod file.
- **8.** Click OK. You will be asked to confirm your action; click Yes when prompted.
- **9.** Exit the firmware loader program and power down the logic analyzer. You must power down the logic analyzer to allow the TLA application to start up properly.

#### **Calibrate the Instrument**

After verifying proper operation you need to calibrate the logic analyzer.

- 1. Allow the instrument to warm up for at least 30 minutes before continuing.
- **2.** In the System window, select Calibration and Diagnostics from the System menu.

- **3.** Click the Self Calibration tab.
- 4. Select the Run button and click Yes to any confirmation messages.

**NOTE**. The calibration process may take several minutes.

The Status column indicates Running while the instrument is being calibrated.

- 5. Verify that the Status column changes to Calibrated.
- **6.** After the instrument has been calibrated close the dialog box and power down the instrument.

#### Upgrade the TLAVu Offline Software (Optional)

TLAVu Offline software allows you to view data and create setups for your logic analyzer on a PC. You must ensure that the version of the TLAVu Offline software is the same version as that of TLA application and that your PC has the Microsoft.NET Framework software installed.

Complete the following steps to update the TLAVu application software on your PC. If you have an older version already installed on your PC, the program will automatically detect it and replace it during the upgrade process.

- **1.** Install Disc 1 of the Tektronix Logic Analyzer Family Application Software in the CD-ROM drive of the PC.
- 2. Start Windows Explorer, and browse to and execute D:\DotNet Framework\FrameworkSetup.exe.
- **3.** Click Yes to start the installation.
- 4. Read and accept the license agreement.
- **5.** Follow any on-screen instructions. If any messages appear asking you for permission to overwrite any read-only files, select Yes to All.
- 6. After the software has been successfully installed, restart Windows.
- 7. Remove Disc 1 and install Disc 2 of the Tektronix Logic Analyzer Family Application Software in the CD-ROM drive of the PC.
- 8. Start Windows Explorer, and browse to and execute D:\TLAVu\Setup.exe.
- 9. Click Yes to perform the installation. Follow any on-screen instructions.

**10.** Windows will uninstall the selected application. If any messages appear asking you for permission to remove unused shared files or any read-only files, select Yes to All.

**NOTE**. The ReadMe file for the TLAVu Offline application contains most of the information that you need to run the application. Access the ReadMe file by selecting: Start  $\rightarrow$  Programs  $\rightarrow$  Tektronix Logic Analyzer  $\rightarrow$  TLA Documentation  $\rightarrow$  TLAVu ReadMe.

#### Attach the Upgrade Kit Label to the Instrument

After completing all the previous steps, you need to install the upgrade kit label on the instrument to indicate that the kit is installed.

Locate the big label on the rear of the instrument and then attach the software revision label and the TLA6UP kit label as shown in Figure 4–1.

**NOTE**. If there is an upgrade kit label already installed, install the new label just above or below the old one, wherever there is room. However, ensure that you install the software revision label over the old revision label to indicate the current version of software on your instrument.

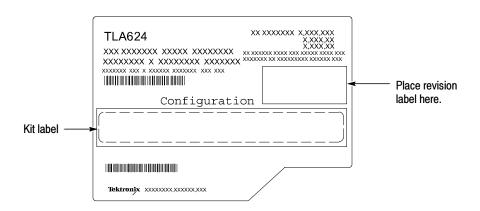


Figure 4-1: Revision and kit label locations

## **TLA6UP Option 36**

## **TLA6UP Option 36: Application Software Upgrade**

TLA6UP option 36 supports the upgrade to TLA application software version 4.4. This kit provides instructions to upgrade the TLA application software and firmware for a TLA600 Series logic analyzer with TLA application software version 4.0 or higher. This software will only run on instruments with the Windows 2000 Professional operating system that were purchased from Tektronix.



#### Instruments

TLA600 Series Logic Analyzers

All serial numbers

#### **System Requirements**

- Minimum 10 GB hard drive
- 256 MB RAM minimum, 512 MB recommended

### **Parts List**

Quantity	Part number	Description
1 ea	N/A	Tektronix Logic Analyzer Family Application Software Version 4.4 (dual CD-ROM set: TLA App SW and TLAVu Offline software)
1 ea	N/A	RecordNow MAX license
1 ea	016-1524-xx	TLA mouse pad
1 sheet	N/A	Software revision labels
1 ea	N/A	TLA6UP kit label
1 ea	N/A	Checklt Utilities sticker

Table 5-1: TLA6UP Option 36 parts list

### **Minimum Tool and Equipment List**

No special tools or equipment are required to install this option.

### **TLA6UP Option 36: Application Software Instructions**

The following instructions direct you through the process of upgrading the TLA application software on your TLA600 series logic analyzer. These instructions apply only to TLA600 series logic analyzers with TLA application software version 4.0, or higher, and the Windows 2000 Professional operating system.

#### **Upgrade Instruction Overview**

The basic upgrade procedure is to manually remove the older software and reinstall the new software. The upgrade steps are listed in this document.

While performing the upgrade procedures, keep the following items in mind:

- Throughout this procedure you will see the term "log on as Administrator." The instrument is set up to automatically log on as Administrator (with no password) so you may not see the log in prompt. If the network setups have been changed on your instrument, make sure that you log on as Administrator or as a user who has administrator privileges. Failure to do so can prevent the software upgrade from completing successfully.
- After logging on as administrator, quit any applications.
- If your instrument does not display the file extensions, you need to change your folder options to display the file extensions. (From the Control Panel, double-click Folder Options, select the View tab, and then deselect the "Hide file extensions for known file types" selection.)
- Use the Windows Add or Remove Programs Control Panel utility to remove existing software.
- You will be asked to restart Windows after you install each software package. If you do not restart Windows when prompted your software may not install properly and can cause unpredictable behavior.
- If Windows does not restart normally, press and hold the On/Standby button for five or six seconds to force a shutdown.
- You may be asked to remove some software packages that may not be loaded on your instrument. If this is the case, skip those instructions.

#### **Remove the Old Software**

Complete the following steps to remove the old software packages from your logic analyzer. Skip any steps that mention software that isn't installed on your logic analyzer.

- 1. If you have not already done so, power on the logic analyzer and log on as Administrator.
- 2. After logging on, wait for the instrument to complete the start-up sequence.
- **3.** Exit the TLA application (and pattern generator application if you have it installed on your instrument).
- 4. Open the Control Panel by clicking Start  $\rightarrow$  Settings  $\rightarrow$  Control Panel.
- 5. Double-click the Add or Remove Programs icon.
- 6. For each of the following software packages, select the software package (the exact names may very depending on the software version), click the Change/Remove button, and follow the on-screen instructions to remove the software:
  - Adobe Acrobat Reader
  - CheckIt Utilities
  - Click'N Burn Pro
  - NI-488.2
  - NI-Max
  - QA+Win32
  - SnagIt
  - RecordNow MAX
  - Macromedia Flash Media Player
  - Tektronix TLA Application
- 7. Windows will uninstall the selected application. If any messages appear asking you for permission to remove unused shared files or any read-only files, select Yes to All.
- 8. After the software has been successfully removed, restart Windows.

#### **General Software Installation**

The following procedures assume that your CD drive is the D: drive. If this is not the case, substitute the appropriate letter for your CD drive. Unless otherwise specified, for each procedure, install Disc 1 of the Tektronix Logic Analyzer Family Application Software in the CD drive of the logic analyzer. Then follow the instructions to install each software package.

#### **Install Adobe Acrobat Reader**

- 1. Log on to the instrument as Administrator.
- 2. If you have not already done so, install Disc 1 of the Tektronix Logic Analyzer Family Application Software in the CD drive of the logic analyzer.
- **3.** Start Windows Explorer, and browse to and execute D:\Documentation\AdobeReader60Install.exe.
- 4. Click Next to start the the installation. Follow the on-screen instructions.
- 5. After the software has been successfully installed, restart Windows.

#### **Install Checklt Utilities**

- 1. Log on to the instrument as Administrator.
- 2. Start Windows Explorer, and browse to and execute D:\CheckIt\Util7.exe.
- **3.** Click Next to start the installation.
- 4. Read and accept the license agreement.
- 5. When prompted for the CheckIt serial number, use U7-9999999.
- **6.** Follow any on-screen instructions and use all of the default choices provided by the installer.
- 7. Before clicking Finish, clear any check boxes that ask you to start the application or to view the Readme file.
- 8. After the software has been successfully installed, restart Windows.

#### **Install Snaglt**

- 1. Log on to the instrument as Administrator.
- 2. Start Windows Explorer, and browse to and execute D:\SnagIt\Setup.exe.
- **3.** Click Next to start the installation.
- 4. Read and accept the license agreement.
- **5.** Follow any on-screen instructions and clear the check box for starting SnagIt automatically. Use the remaining default choices provided by the installer.
- 6. After the software has been successfully installed, restart Windows.

#### Install RecordNow Max

- **1.** Log on to the instrument as Administrator.
- 2. Start Windows Explorer, and browse to and execute D:\RecordNow MAX\Setup.exe.
- **3.** Click Next to start the installation.
- 4. Read and accept the license agreement.
- 5. Follow any on-screen instructions and use all of the default choices provided by the installer.
- 6. Cancel the installation of the Stomp DLA software.
- 7. Before clicking Finish, clear any check boxes that ask you to start the application or to view the Readme file.
- 8. After the software has been successfully installed, restart Windows.

#### **Install NI-GPIB**

- **1.** Log on to the instrument as Administrator.
- 2. Start Windows Explorer, and browse to and execute D:\NI-GPIB-USB-B\Setup.exe.
- **3.** Click Next to start the installation.
- 4. Accept the license agreement and click Next for all other responses.
- **5.** If error 1706 displays, ignore it, and click OK to continue with the installation.

- 6. When the GPIB Hardware Wizard displays, click Cancel.
- 7. Restart Windows when prompted.
- **8.** When Getting Started wizard displays, select "Do not show this at Windows startup," and then click X to exit.

#### **Install Flash Player**

- 1. Log on to the instrument as Administrator.
- 2. Start Windows Explorer, and browse to and execute D:\Macromedia\flash-player6\_winax.exe.
- **3.** Click Yes to perform the installation, and then click OK when the installation is complete.
- 4. After the software has been successfully installed, restart Windows.

#### Install Microsoft.NET Framework 1.1

- 1. Log on to the instrument as Administrator.
- 2. Start Windows Explorer, and browse to and execute D:\DotNet Framework\FrameworkSetup.exe.
- **3.** Click Yes to start the installation.
- 4. Read and accept the license agreement.
- **5.** Follow any on-screen instructions. If any messages appear asking you for permission to overwrite any read-only files, select Yes to All.
- 6. After the software has been successfully installed, restart Windows.

#### Install TLA Application Software Version 4.4

- 1. Log on to the instrument as Administrator.
- 2. Start Windows Explorer, and browse to and execute D:\TLA Application SW\Setup.exe.
- **3.** Click Yes to start the installation.
- **4.** Follow any on-screen instructions. If you are asked for permission to overwrite any read-only files, select Yes to All.
- 5. After the software has been successfully installed, restart Windows.

#### **Final Software Adjustments**

Complete the following steps to finalize the software settings in the TLA application with other installed software.

- **1.** Log on to the instrument as Administrator.
- **2.** After the TLA application starts, select Options from the System menu to display the System Options dialog box.
- **3.** Select the Tools tab.
- 4. Click the item in the list and then click the Edit button.
- 5. Change the Menu Name box from &Paint to &SnagIt, if necessary.
- 6. Click the Browse button and choose the following path:

C:\Program Files\TechSmith\SnagIt 7\SnagIt32.exe

- 7. Leave the Arguments and Initial Directory blank and then click OK twice to apply the changes.
- 8. If desired, delete the SnagIt icons from the desktop and the taskbar.
- 9. Restart Windows.

#### Upgrade the TLA600 Firmware

Use the following procedure to upgrade the firmware for the TLA600 Series Logic Analyzers. Because the TLA600 Series Logic analyzers are monolithic instruments you can easily tell if the firmware needs updating when a startup message appears telling you that you need to upgrade.

- **1.** Log on to the instrument as Administrator.
- 2. Exit the logic analyzer application.
- 3. Click Start → Programs → Tektronix Logic Analyzer → TLA Firmware Loader.
- 4. You may see a pop-up window reminding you to cycle the power on the instrument after completing the upgrade operation. Click Yes to continue.
- 5. Select the module from the Supported list box near the top of the window.
- 6. Select Load Firmware from the Execute menu.
- 7. Click the TLA6xx.lod file.

- **8.** Click OK. You will be asked to confirm your action; click Yes when prompted.
- **9.** Exit the firmware loader program and power down the logic analyzer. You must power down the logic analyzer to allow the TLA application to start up properly.

#### Calibrate the Logic Analyzer

After verifying proper operation it is recommended that you calibrate the logic analyzer.

- 1. Allow the instrument to warm up for at least 30 minutes before continuing.
- **2.** In the System window, select Calibration and Diagnostics from the System menu.
- **3.** Click the Self Calibration tab.
- 4. Select the Run button and click Yes to any confirmation messages.

**NOTE**. The calibration process may take several minutes.

The Status column should indicate Running while the instrument is being calibrated.

- 5. Verify that the Status column changes to Calibrated.
- **6.** After the instrument has been calibrated close the dialog box and power down the instrument.

#### Upgrade the TLAVu Offline Software (Optional)

TLAVu Offline software allows you to view data and create setups for your logic analyzer on a PC. You must ensure that the version of the TLAVu Offline software is the same version as that of TLA application and that your PC has the Microsoft.NET Framework software installed.

Complete the following steps to update the TLAVu application software on your PC. If you have an older version already installed on your PC, the program will automatically detect it and replace it during the upgrade process.

- **1.** Install Disc 1 of the Tektronix Logic Analyzer Family Application Software in the CD-ROM drive of the PC.
- 2. Start Windows Explorer, and browse to and execute D:\DotNet Framework\FrameworkSetup.exe.
- **3.** Click Yes to start the installation.
- 4. Read and accept the license agreement.
- **5.** Follow any on-screen instructions. If any messages appear asking you for permission to overwrite any read-only files, select Yes to All.
- 6. After the software has been successfully installed, restart Windows.

- 7. Remove Disc 1 and install Disc 2 of the Tektronix Logic Analyzer Family Application Software in the CD-ROM drive of the PC.
- 8. Start Windows Explorer, and browse to and execute D:\TLAVu\Setup.exe.
- 9. Click Yes to perform the installation. Follow any on-screen instructions.
- **10.** Windows will uninstall the selected application. If any messages appear asking you for permission to remove unused shared files or any read-only files, select Yes to All.

**NOTE**. The ReadMe file for the TLAVu Offline application contains most of the information that you need to run the application. Access the ReadMe file by selecting: Start  $\rightarrow$  Programs  $\rightarrow$  Tektronix Logic Analyzer  $\rightarrow$  TLA Documentation  $\rightarrow$  TLAVu ReadMe.

#### Attach the Upgrade Kit Label to the Instrument

After completing all the previous steps, you need to install the upgrade kit label on the instrument to indicate that the kit is installed.

Locate the big label on the rear of the instrument, and then attach the software revision label and the TLA6UP kit label as shown in Figure 5-1.

**NOTE**. If there is an upgrade kit label already installed, install the new label just above or below the old one, wherever there is room. However, ensure that you install the software revision label over the old revision label to indicate the current version of software on your instrument.

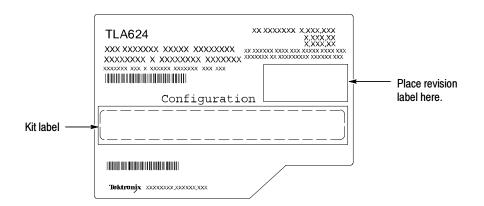


Figure 5-1: Revision and kit label locations

# **TLA6UP Option PF**

## **TLA6UP Option PF: PowerFlex Utility Upgrade**

TLA6UP Option PF installs the TLA PowerFlex Utility on your TLA600 series logic analyzer. You can use the PowerFlex Utility to determine possible upgrades for your logic analyzer to increase your state speed or memory depth. The PowerFlex Utility comes with online help that describes the upgrade processes.

The TLA PowerFlex Utility is installed on all TLA600 with TLA Application Software Version 4.3 or later. You only need to order this upgrade if your TLA600 has TLA Application Software Version 4.2 or earlier.

#### Instruments

TLA600 Series Logic Analyzers

All Serial Numbers

#### **Minimum Tool and Equipment List**

No special tools or equipment are required to install this option. The PowerFlex Utility software comes on a CD as a part of this upgrade kit.

#### **Installation Prerequisite**

No Requirements

#### Installation Instructions

Complete the following steps to install the PowerFlex Utility on your TLA600 series logic analyzer:

- 1. Install the PowerFlex CD in the CD drive of the TLA600 logic analyzer.
- 2. If required, log on to the instrument as Administrator.
- 3. Click Run in the Windows Start menu to display the Run dialog box.
- 4. Enter D:\PowerFlex\Disk 1\Setup.exe in the Run dialog box.
- **5.** Follow the on-screen instructions. If any messages appear asking you for permission to overwrite any read-only files, select Yes to All.

#### **Start the PowerFlex Utility**

Complete the following steps to start and use the PowerFlex Utility:

**NOTE**. You must exit the TLA application before you start the PowerFlex Utility. You cannot run the PowerFlex Utility and the TLA application at the same time.

- **1.** Exit the TLA application.
- 2. Start the PowerFlex Utility using the Windows Start menu. Select Start  $\rightarrow$  Program Files  $\rightarrow$  Tektronix Logic Analyzer  $\rightarrow$  TLA PowerFlex Utility.
- **3.** The PowerFlex window displays the current configuration of your logic analyzer. Refer to the PowerFlex Utility online help for information on using the utility to order and install the upgrade.

# **TLA6UP Option IF**

## **TLA6UP Option IF: Upgrade Installation Service**

TLA6UP option IF provides installation of product upgrades performed at a Tektronix service location.

**NOTE**. Availability of installation and on-site services depend on the type of product and may vary by geography.

#### Instruments

TLA601	All Serial Numbers
TLA602	All Serial Numbers
TLA603	All Serial Numbers
TLA604	All Serial Numbers
TLA611	All Serial Numbers
TLA612	All Serial Numbers
TLA613	All Serial Numbers
TLA614	All Serial Numbers
TLA621	All Serial Numbers
TLA622	All Serial Numbers
TLA623	All Serial Numbers
TLA624	All Serial Numbers