

Instruction Manual



TLA6UP **Logic Analyzer Field Upgrade Kit** **071-0866-03**

This document applies to TLA System Software version 4.2.

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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Table of Contents

General Safety Summary	v
Service Safety Summary	vii
Preface	ix
Service and Upgrade Notes	xi
Adjustment and Certification Interval	xi
Service Offerings	xi
Contacting Tektronix	xiii

TLA6UP Option 10

TLA6UP Option 10: MAX HDD and MAX DRAM Upgrade	1-1
Instruments	1-1
Parts List	1-1
Minimum Tool and Equipment List	1-2
Installation Prerequisite	1-2
TLA6UP Option 10: MAX HDD and MAX DRAM Installation ...	1-3
Back Up Your Software	1-3
Preparation	1-3
Remove the Trim	1-4
Remove the TLA60X Closed Face Bracket	1-7
Remove the TLA61X/62X Flat Panel Display	1-8
Replace the Hard Disk Drive	1-9
Remove the Covers and Install the Memory	1-11
Reassembly	1-13
Software Installation	1-14
TLA6UP Option 10: Verify Operation	1-17
Verify MAX HDD Operation	1-17
Verify MAX DRAM Operation	1-17
CheckIt Utilities	1-17
Attach the Upgrade Kit Label to the Instrument	1-18

TLA6UP Option 15

TLA6UP Option 15: iView External Oscilloscope Cable Installation	2-1
Instruments	2-1
Minimum Tool and Equipment List	2-1
Parts List	2-1
Installation Prerequisite	2-2
Installation Instructions	2-2
Attach the Upgrade Kit Label to the Instrument	2-2

TLA6UP Option 20

TLA6UP Option 20: CD-RW Drive Upgrade	3-1
Instruments	3-1
Parts List	3-1
Minimum Tool and Equipment List	3-2
TLA6UP Option 20: CD-RW Drive Installation	3-3
Preparation	3-3
Remove the Trim and Covers	3-4
Replacing the CD-ROM Drive	3-9
Reassembly	3-11
Verifying Operation	3-12
Click'N Burn Pro Software Installation	3-12
Attach the Upgrade Kit Label to the Instrument	3-13

TLA6UP Option 21

TLA6UP Option 21: Application Software and Windows	
Operating System Upgrade	4-1
Instruments	4-1
Minimum Tool and Equipment List	4-1
Parts List	4-2
TLA6UP Option 21: Application Software and Windows	
Operating System Instructions	4-3
Install Firmware	4-3
Install Software	4-8
Upgrade the TLA600 Firmware	4-12
Calibrate the Instrument	4-12
Upgrade the TLAVu Offline Software (Optional)	4-13
Attach the Upgrade Kit Label to the Instrument	4-14

TLA6UP Option 22

TLA6UP Option 22: Application Software Upgrade	5-1
Instruments	5-1
Parts List	5-1
Minimum Tool and Equipment List	5-2
Upgrade Instructions	5-2
TLA6UP Option 22: Application Software Instructions	5-3
Remove the TLA Application Software	5-4
Remove the QA+PlusWin32 Software	5-4
Install Windows 2000 Service Pack 2 (SP2)	5-5
Install Windows 2000 Security Rollup Package 1 (SRP1)	5-5
Install TLA Application Software Version 4.2	5-6
Install the NI-GPIB-USB-A Software	5-6
Install the NI-MAX Software	5-7
Install the SnagIt Software	5-7
Install the CheckIt Utilities	5-8
Upgrade the TLA600 Firmware	5-9
Calibrate the Logic Analyzer	5-10
Upgrade the TLAVu Offline Software (Optional)	5-10
Attach the Upgrade Kit Label to the Instrument	5-11

TLA6UP Option PF

TLA6UP Option PF: PowerFlex Utility Upgrade	6-1
Instruments	6-1
Minimum Tool and Equipment List	6-1
Parts List	6-1
Installation Prerequisite	6-1
Installation Instructions	6-1
Start the PowerFlex Utility	6-2

TLA6UP Option 1F

TLA6UP Option 1F: Upgrade Installation Service	7-1
Instruments	7-1

List of Figures

Figure 1-1: TLA60X trim removal	1-5
Figure 1-2: TLA61X/62X trim removal	1-6
Figure 1-3: TLA60X closed face bracket removal	1-7
Figure 1-4: TLA61X/62X display assembly removal	1-9
Figure 1-5: Hard disk drive replacement	1-10
Figure 1-6: Internal covers and memory board location	1-12
Figure 1-7: Kit label locations	1-18
Figure 2-1: Kit label locations	2-2
Figure 3-1: TLA60X trim removal	3-6
Figure 3-2: TLA61X/62X trim removal	3-7
Figure 3-3: Internal covers	3-8
Figure 3-4: CD-ROM drive location	3-10
Figure 3-5: Kit label locations	3-13
Figure 4-1: Revision and kit label locations	4-14
Figure 5-1: Revision and kit label locations	5-11

List of Tables

Table i: TLA6UP Logic Analyzer Field Upgrade Matrix	ix
Table 1-1: TLA6UP Option 10 parts list	1-1
Table 1-2: Tools required for installing upgrade	1-2
Table 2-1: TLA6UP Option 15 parts list	2-1
Table 3-1: TLA6UP Option 15 parts list	3-1
Table 3-2: Tools required for installing upgrade	3-2
Table 4-1: TLA6UP Option 21 parts list	4-2
Table 4-2: Software not covered by the software setup	4-3
Table 4-3: TLA600 Controller BIOS setup	4-4
Table 4-4: TLA user file suffixes	4-8
Table 5-1: TLA6UP Option 22 parts list	5-1
Table 5-2: Software applications and version numbers	5-2
Table 7-1: TLA6UP Option PF parts list	6-1

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

Use Proper Power Cord. Use only the power cord specified for this product and certified for the country of use.

Use Proper Voltage Setting. Before applying power, ensure that the line selector is in the proper position for the power source being used.

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

Ground the Product. 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.

Observe All Terminal Ratings. 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.

Replace Batteries Properly. Replace batteries only with the proper type and rating specified.

Do Not Operate Without Covers. Do not operate this product with covers or panels removed.

Use Proper Fuse. Use only the fuse type and rating specified for this product.

Avoid Exposed Circuitry. Do not touch exposed connections and components when power is present.

Do Not Operate With Suspected Failures. 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:



WARNING
High Voltage



Protective Ground
(Earth) Terminal



CAUTION
Refer to Manual



Double
Insulated

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 analyzer. Use Table i, below, to explore possible upgrade paths.

Table i: TLA6UP Logic Analyzer Field Upgrade Matrix

New capability desired	Current mainframe configuration	Current operating system	Please order
Add More DRAM and a Larger HDD Provides 512 MB DRAM and/or replace current hard disk drive with a larger, fixed, bootable MAX hard disk drive. Works with either Windows 98 Second Edition or Windows 2000 Professional.	TLA6XX Std or Option 1J with V4.2, TLA Application Software	Windows 2000 Professional	TLA6UP Option 10 ¹
	TLA6XX Std or Option 1J with V4.1 or V4.0 TLA Application Software	Windows 2000 Professional	TLA6UP Option 10 ¹ TLA6UP Option 22
	TLA6XX Std or Option 1J with V3.2 TLA Application Software	Windows 98 Second Edition	TLA6UP Option 10 ¹ TLA6UP Option 21
Add New Software Features Add new functionality to existing TLA6XX logic analyzers by upgrading to Version 4.2 TLA Application Software. Version 4.2 requires Windows 2000 Professional Operating System.	TLA6XX Std or Option 1J with V4.2 TLA Application Software	Windows 2000 Professional	-
	TLA6XX Std or Option 1J with V4.1 or V4.0 TLA Application Software	Windows 2000 Professional	TLA6UP Option 22
	TLA6XX Std or Option 1J with V3.2 TLA Application Software	Windows 98 Second Edition	TLA6UP Option 21
Add New iView External Oscilloscope Capability Add new iView capability to view data from TDS oscilloscopes correlated directly on the TLA600 logic analyzer ² . Requires Version 4.2 TLA Application Software and Windows 2000 Professional Operating system. TLA600 mainframe memory requirements: 256 MByte minimum, 512 MByte preferred.	TLA6XX Std or Option 1J with V4.2 TLA Application Software	Windows 2000 Professional	TLA6UP Option 15
	TLA6XX Std or Option 1J with V4.1 or V4.0 TLA Application Software	Windows 2000 Professional	TLA6UP Option 15 TLA6UP Option 22
	TLA6XX Std or Option 1J with V3.2 TLA Application Software	Windows 98 Second Edition	TLA6UP Option 15 TLA6UP Option 21

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

New capability desired	Current mainframe configuration	Current operating system	Please order
Add CD-RW Drive	TLA6XX Std or Option 1J with V4.2 TLA Application Software	Windows 2000 Professional	-
	TLA6XX Std or Option 1J with V4.1 or V4.0 TLA Application Software	Windows 2000 Professional	TLA6UP Option 20 TLA6UP Option 22
	TLA6XX Std or Option 1J with V3.2 TLA Application Software	Windows 98 Second Edition	TLA6UP Option 20 TLA6UP Option 21
Upgrade Logic Analyzer State Speed and Memory Depth Enhance your current TLA600 logic analyzer by increasing state speed or memory depth. Once installed on your TLA600, the PowerFlex Utility software will inform you what upgrades are available. Complete instructions on how to obtain an upgrade are provided.	Any TLA600 series logic analyzer	-	TLA6UP Option PF or visit www.tektronix.com/LA for the PowerFlex Utility software

- ¹ **For maximum performance and depending on your current configuration, please order either TLA6UP Option 21 or 22 for the latest version of Windows operating system software and TLA application software. Otherwise, you will need to reload your current operating system and TLA application software, onto your new MAX hard disk drive.**
- ² **For a list of supported TDS oscilloscopes, please visit our website 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.
- The procedures in this manual may only be performed by a qualified service person.

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

Tektronix provides service to cover repair under warranty as well as other services that are designed to meet your specific service needs.

Whether providing warranty repair service or any of the other services listed below, Tektronix service technicians are equipped to service your logic analyzer. Services are provided at Tektronix Services 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 *Customer Services World Center* web site at:

Tektronix.com/Measurement/Service

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.

Service Options. 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. These service options are listed on the *Tektronix Service Options* page following the title page of this manual.

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

* **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.**



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
1 ea.	071-0866-03	TLA6UP Logic Analyzer Field Upgrade Kit Instruction Manual
2 ea.	156-9074-00	256 MB DRAM - Total of 512 MB
1 ea.	119-6751-00	MAX Hard Disk Drive (no software loaded)
1 ea.	003-0008-00	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 Feature Tool floppy disk

Minimum Tool and Equipment List

Table 1-2: Tools required for installing upgrade

Item 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 instrument'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

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 4–8 for more details. Unless you have also ordered Option 21, *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 from 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.

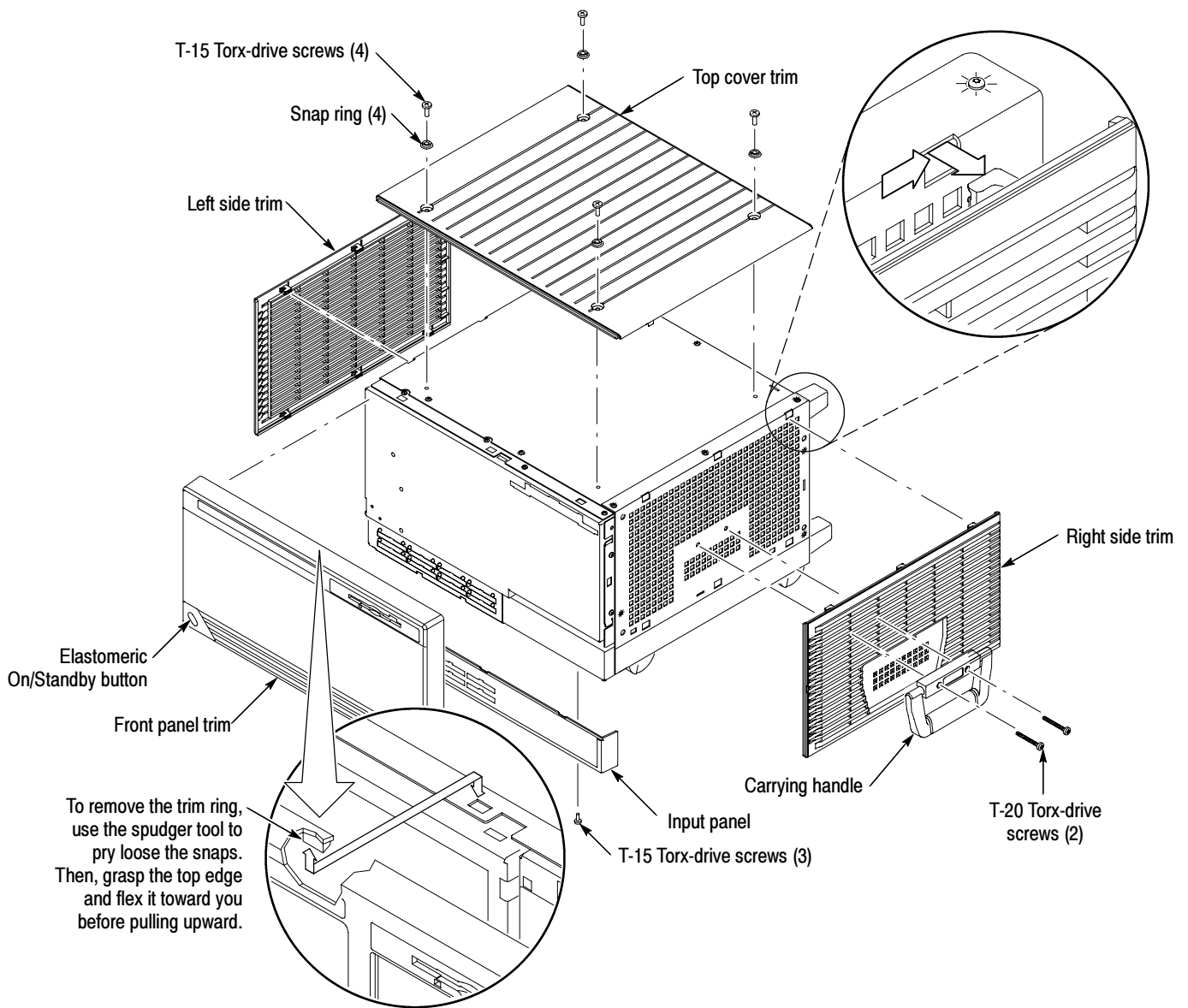


Figure 1-1: TLA60X trim removal

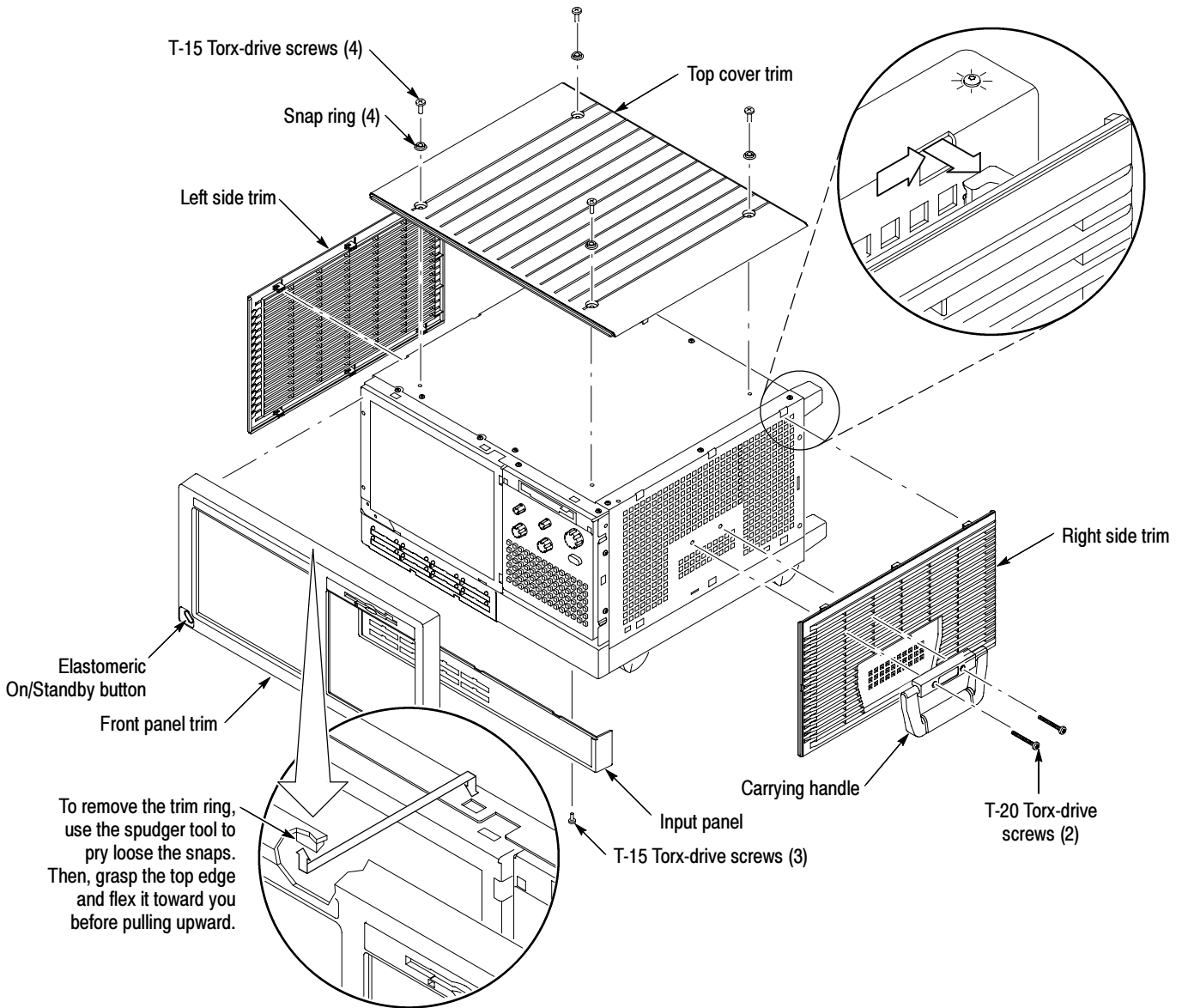


Figure 1-2: TLA61X/62X trim removal

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.

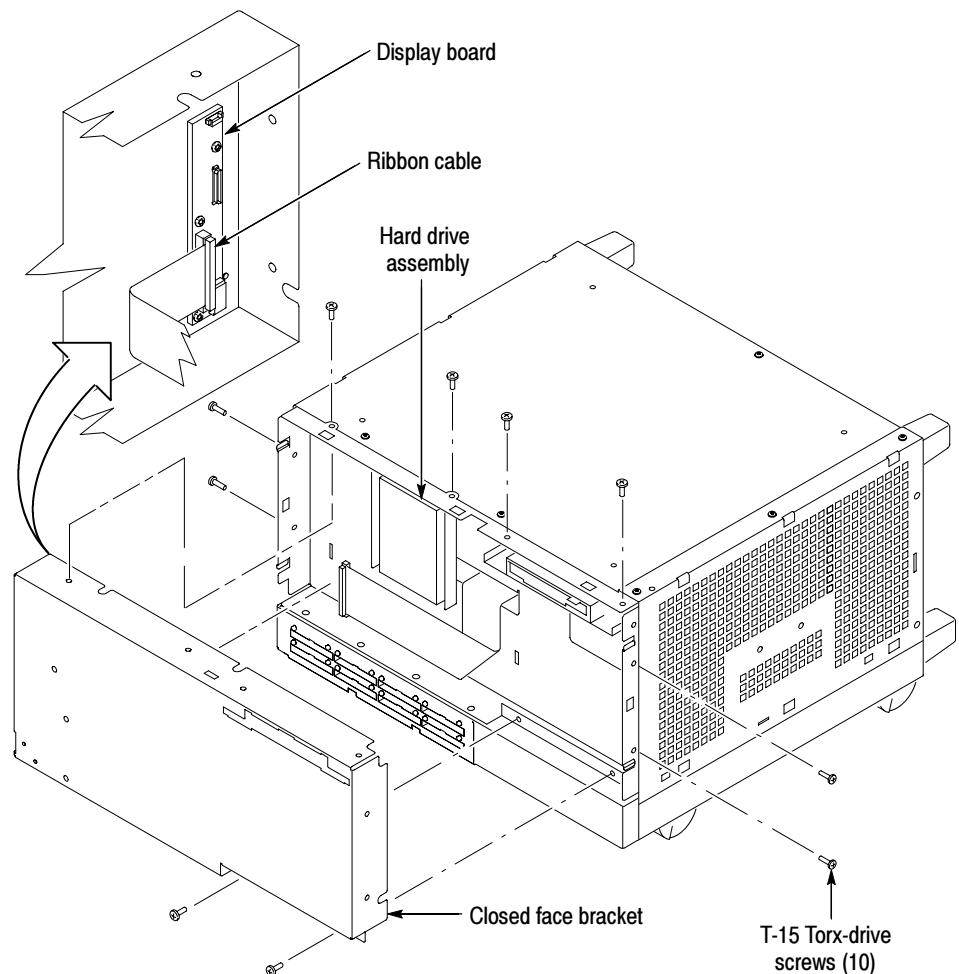


Figure 1-3: TLA60X closed face bracket removal

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.*

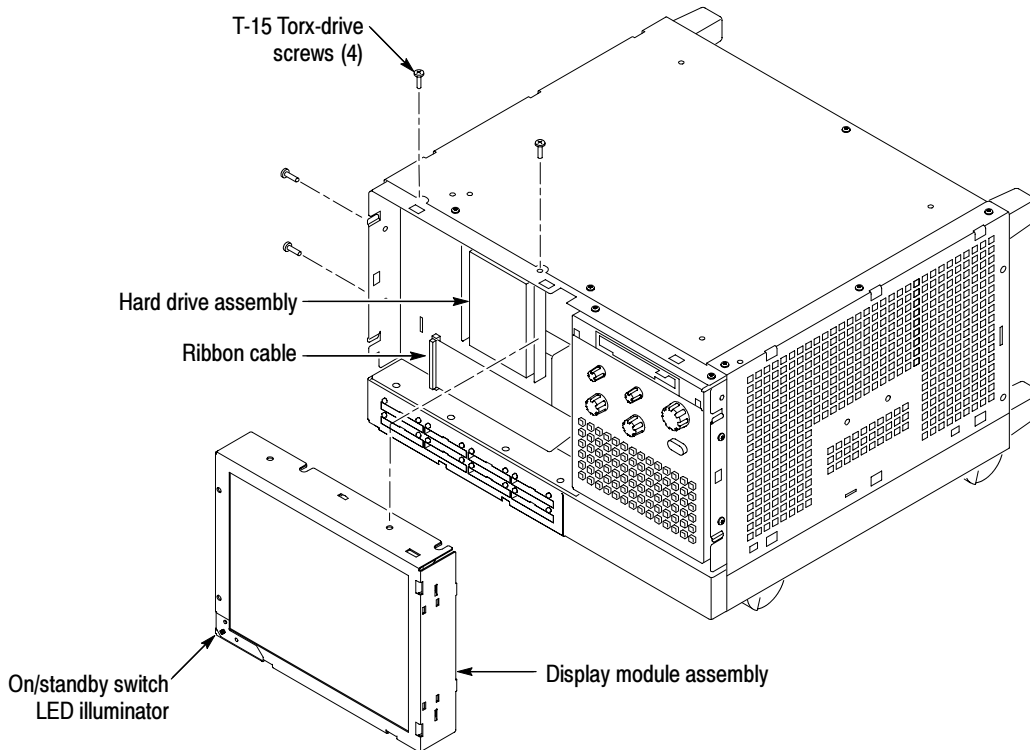


Figure 1-4: TLA61X/62X display assembly removal

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 MAX 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.

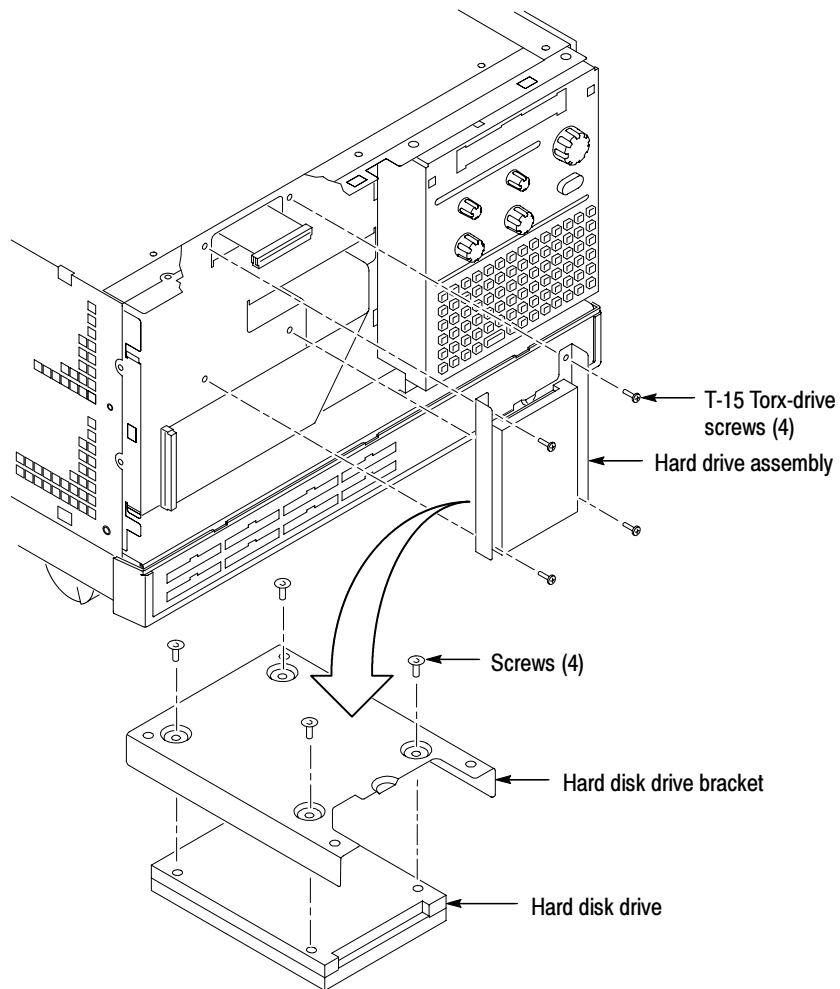


Figure 1-5: Hard disk drive replacement

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.

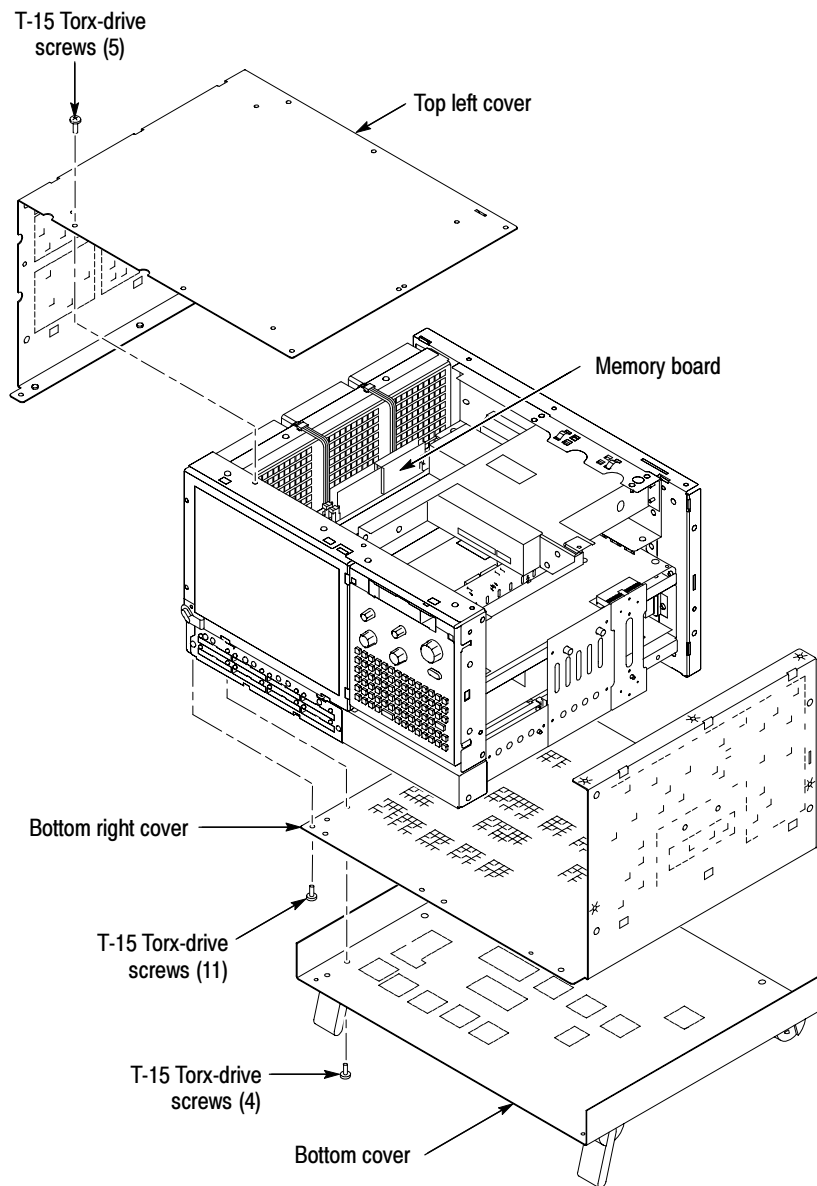


Figure 1-6: Internal covers and memory board location

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 shown in Figure 1-3 on page 1-7.

1. Reattach the ribbon cable connector to the display adapter circuit board.
2. Reinsert the closed face bracket into the logic analyzer.
3. Reinstall the ten T-15 Torx-drive screws that secure the closed face bracket to the chassis.

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.
3. 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.

Press the trim ring down all around the edges until it is completely seated.

3. Reinstall the right/left side trim and carrying handle.
 - a. 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. Replace the handle to the right side trim and reinstall the two T-20 Torx-drive screws that secure the handle to the instrument.

4. Reinstall the top cover trim.
 - a. Reinstall the top cover trim on the instrument.
 - 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.
5. Replace the input panel; Reinstall the three T-15 Torx-drive screws that secure the input panel to the instrument.
6. 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 will 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.

Flashing the TLA600 BIOS

Complete the following steps to flash the controller BIOS on your logic analyzer:

1. Exit all applications and turn the logic analyzer off.
2. Insert the TLA600 BIOS disk, Version P09, in the floppy disk drive.
3. Power on 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.
4. Wait for the BIOS flash procedure to complete.
5. After the flash procedure has completed, turn the logic analyzer off and remove the floppy disk.



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.

IBM Feature Tool

The following procedure describes how to install the IBM Feature Tool floppy disk, which allows you to set your IBM 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, 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. Install the IBM 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.
8. Power on the logic analyzer to complete the change process.

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 below and follow the appropriate steps that best describes 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 *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 4.2 TLA Application Software. If your logic analyzer has Windows 98 Second Edition operating system with the Version 3.2 TLA application software and you intend to upgrade your TLA application software and operating system, follow the TLA6UP Option 21 procedures in *TLA Application Software and Windows Operating System Upgrade* beginning on page 4-1.

Restoring Version 4.2, 4.1, or V4.0 TLA Application Software or Upgrading to Version 4.2 TLA Application Software from Version 4.1 or 4.0 TLA Application Software. If you are restoring Version 4.2, 4.1, or 4.0 TLA application software or if you are upgrading to Version 4.2 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 4-8 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.

CheckIt Utilities

If you already have TLA Application Software Version 4.1 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 → Program → 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.

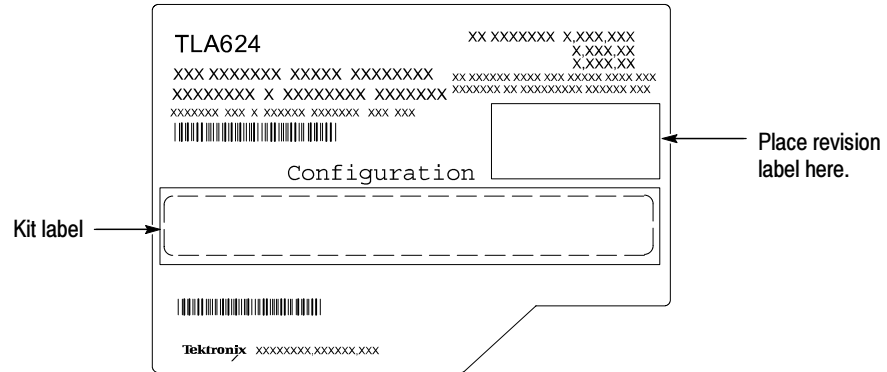


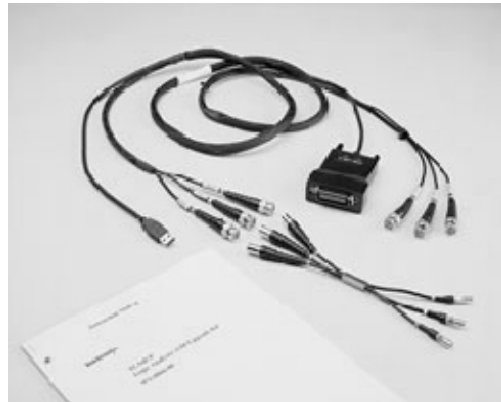
Figure 1-7: Kit label locations



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

Table 2-1: TLA6UP Option 15 parts list

Quantity	Part number	Description
1 ea.	012-1614-00	iView external oscilloscope cable kit (includes USB-to-GPIB & BNC, BNC-to-SMB adapter, and instruction card)
1 ea.	071-0866-03	TLA6UP Logic Analyzer Upgrade Kit Instruction Manual
1 ea.	N/A	TLA6UP kit label

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 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.*

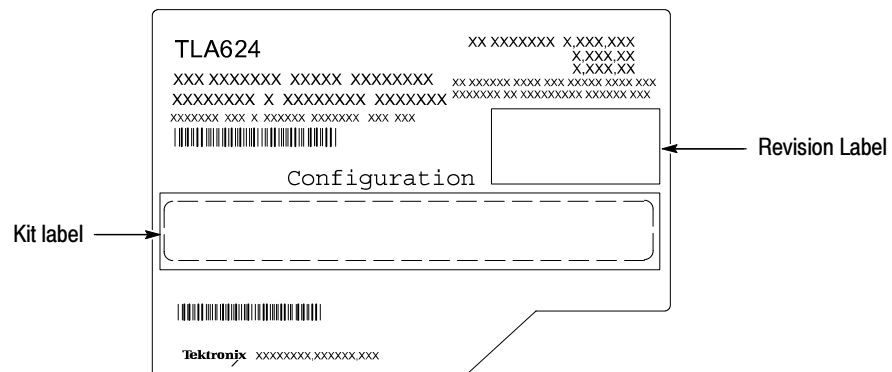


Figure 2-1: Kit label locations



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 also includes the Click'N Burn Pro software media and license.



Instruments

TLA600 Series Logic Analyzers

All Serial Numbers

Parts List

Table 3-1: TLA6UP Option 15 parts list

Quantity	Part number	Description
1 ea.	119-6691-00	CD-RW Drive
1 ea.	N/A	Click'N-Burn Pro software, V2.0 CD media and license
1 ea.	020-2434-00	Blank CDR and CD-RW media (one each) kit
1 ea.	003-0008-00	Spudger tool for removing the trim ring
1 ea.	071-0866-03	TLA6UP Logic Analyzer Upgrade Kit Instruction Manual
1 ea.	N/A	TLA6UP kit label

Minimum Tool and Equipment List

Table 3-2: Tools required for installing upgrade

Item 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 instrument'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 tool

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.*

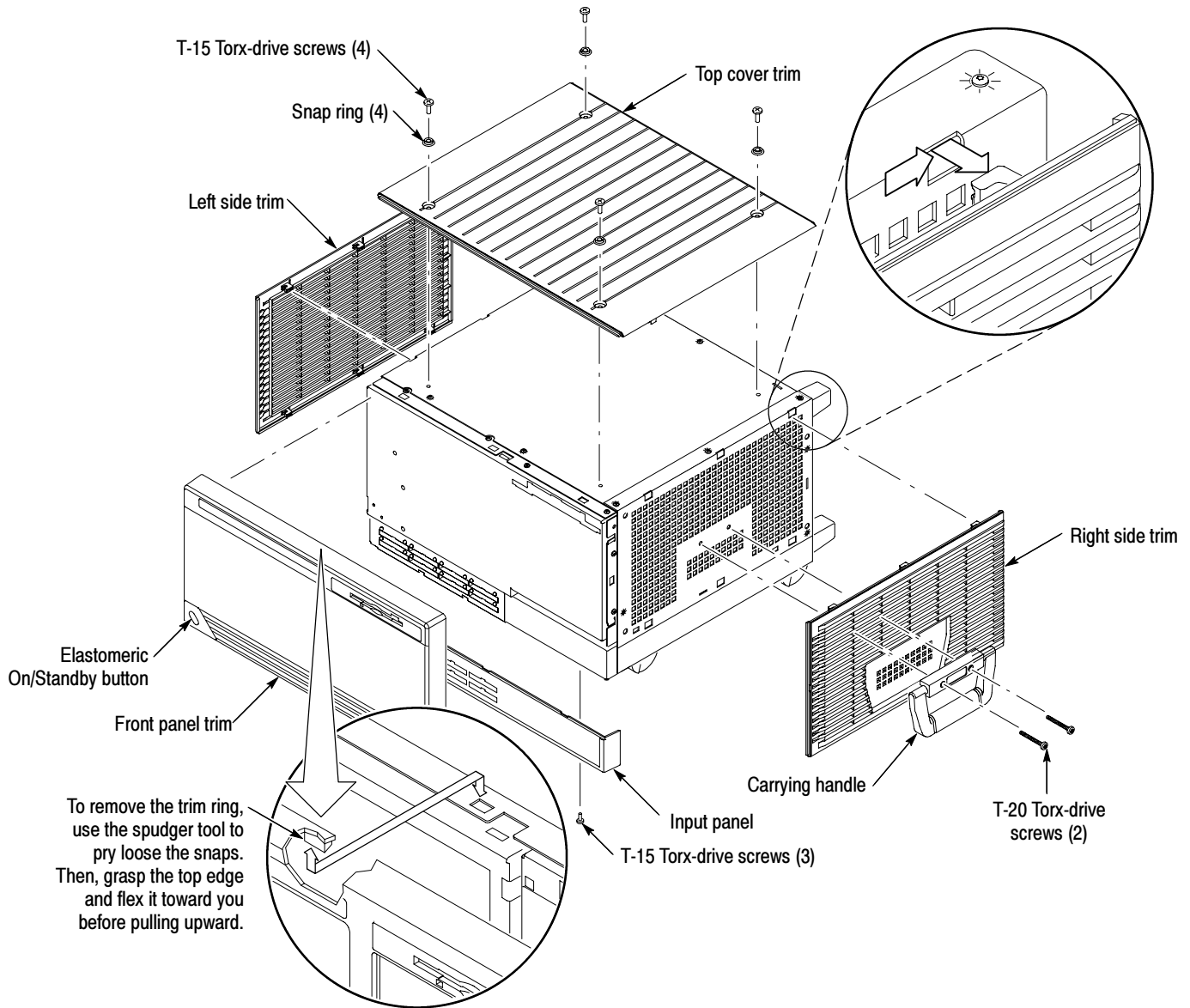


Figure 3-1: TLA60X trim removal

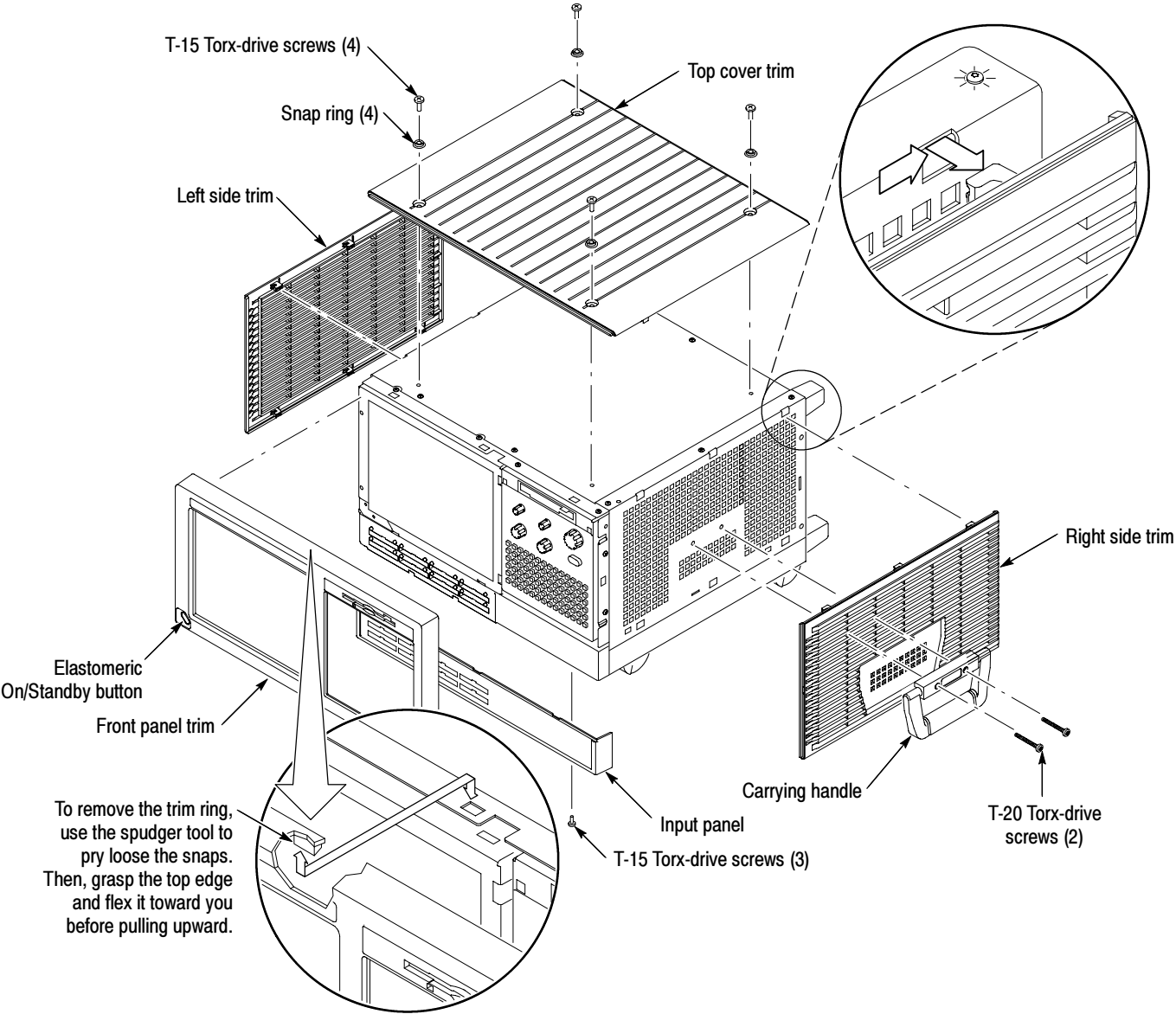


Figure 3-2: TLA61X/62X trim removal

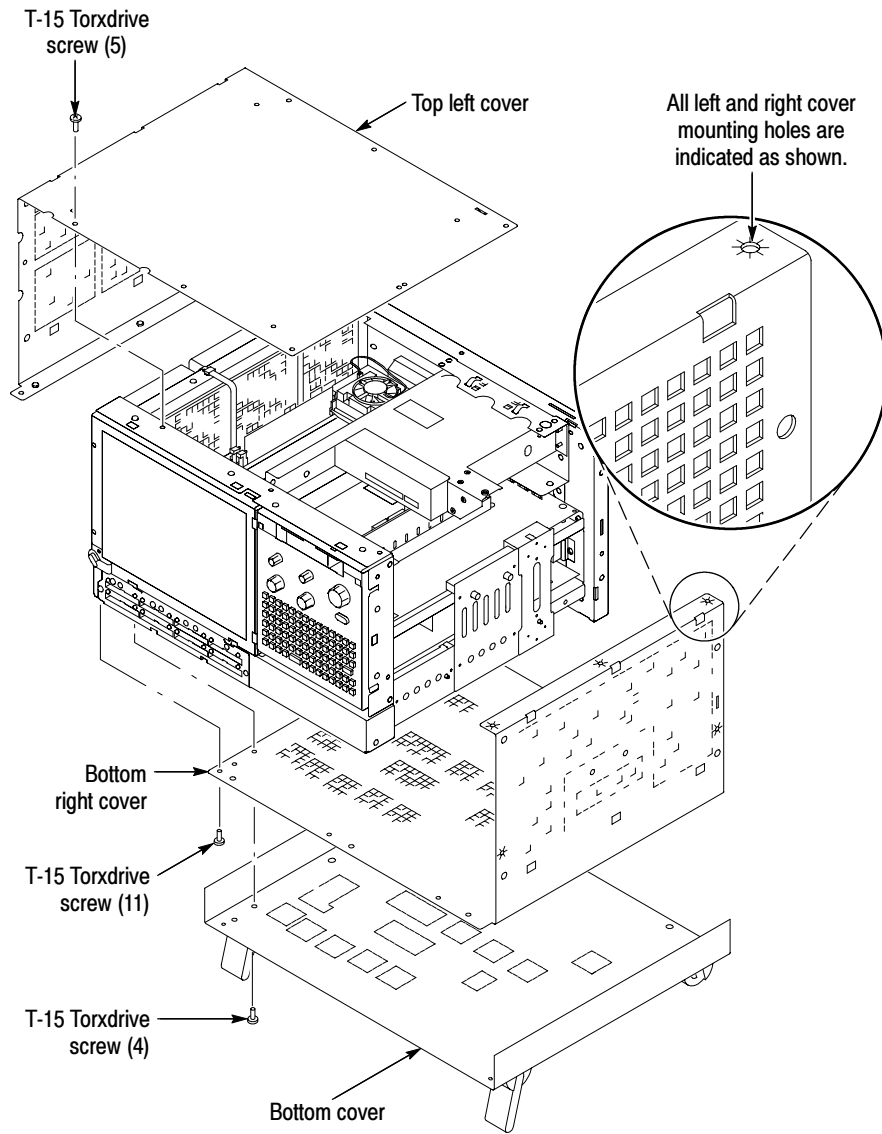


Figure 3-3: Internal covers

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.

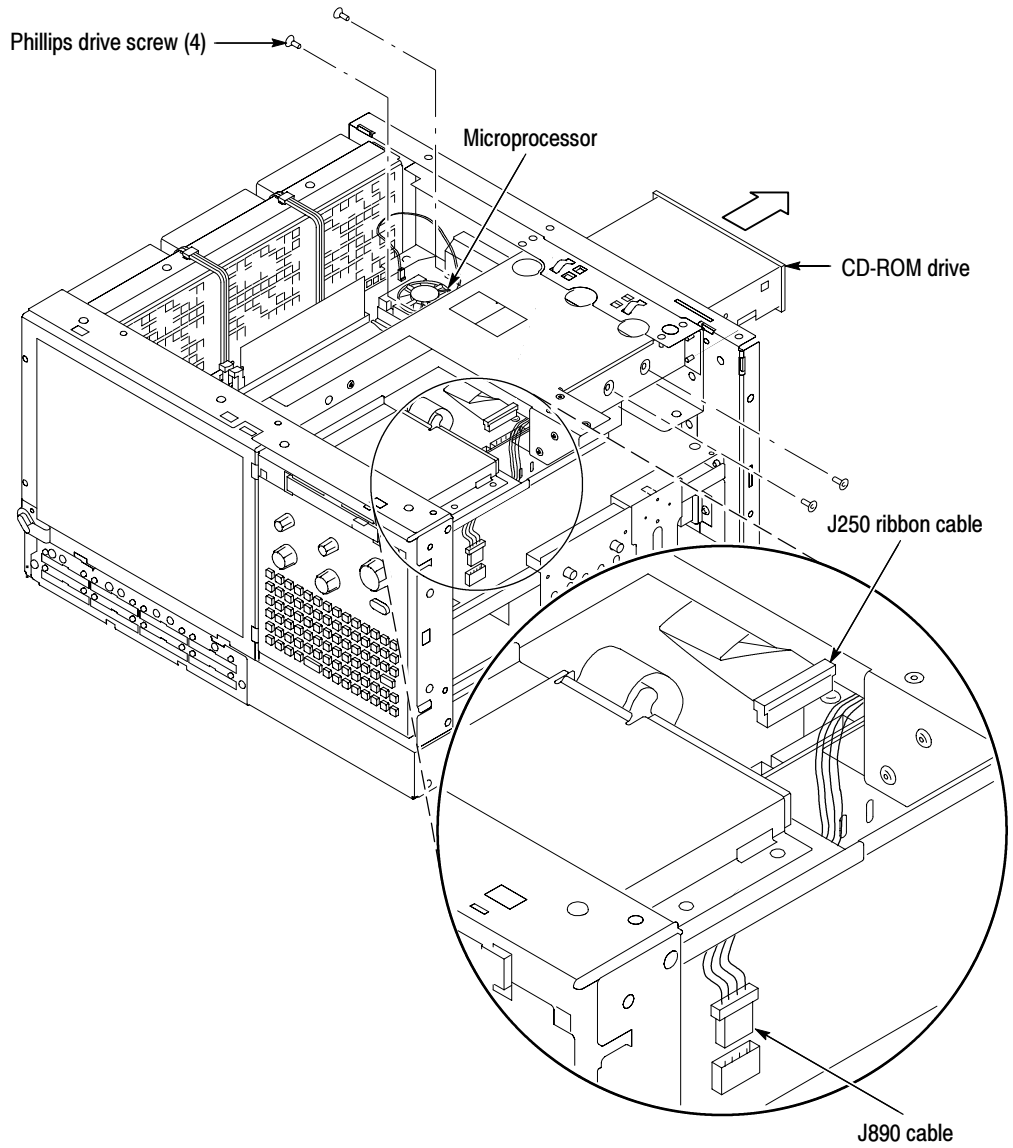


Figure 3-4: CD-ROM drive location

Reassembly

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.
3. Install the seven T-15 Torx-drive screws that secure the covers to the bottom of the instrument.
4. 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.
 - a. 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. Replace the handle to the right side trim and reinstall the two T-20 Torx-drive screws that secure the handle to the instrument.
4. Reinstall the top cover trim.
 - a. Reinstall the top cover trim on the instrument.
 - 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.

Click'N Burn Pro Software Installation

Follow the instructions that came with the CD-RW drive to install the Click'N Burn Pro software on your instrument. Tektronix recommends that you only install the *Click'N Burn Pro 2.0* and the *Veritas Simple Backup* applications.

NOTE. *You should not install the Veritas DLA application; this application is only usable with multi-session CDs on systems that have the Veritas application loaded.*

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.*

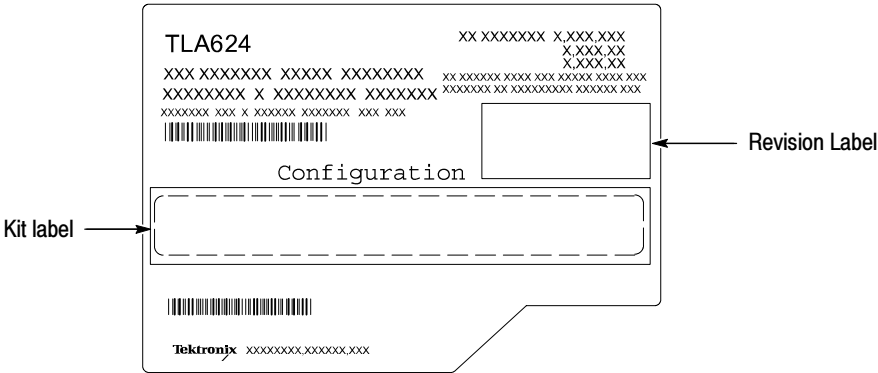


Figure 3-5: Kit label locations



TLA6UP Option 21

TLA6UP Option 21: Application Software and Windows Operating System Upgrade

TLA6UP option 21 supports the upgrade to TLA application software version 4.2 and Windows 2000 Professional operating system (Service Pack 2). TLA application software version 4.2 will only run on Tektronix instruments 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.



Instruments

TLA600 Series Logic Analyzers

All Serial Numbers

Minimum Tool and Equipment List

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

Parts List

Table 4-1: TLA6UP Option 21 parts list

Quantity	Part number	Description
1 ea.	071-0866-03	TLA6UP Mainframe Field Upgrade Kit Instruction Manual
1 ea.	N/A	Tektronix Logic Analyzer Family Application Software Version 4.2 (dual CD-ROM set: TLA App SW and TLAVu Offline software)
1 ea.	N/A	Tektronix Logic Analyzer Family TLA600 Hard Disk Image Version 4.2 (single CD-ROM)
1 ea.	N/A	Click'N Burn Pro software V2.0 CD media and license
1 ea.	N/A	Microsoft Windows 2000 Professional Certificate of Authorization
1 ea.	N/A	Microsoft Windows 2000 Professional Sticker
1 ea.	071-0863-02	TLA Family User Manual, V4.2
1 ea.	016-1524-03	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 Feature Tool floppy disk
1 ea.	N/A	CheckIt Utilities Sticker
1 ea.	N/A	Easy Restore License

TLA6UP Option 21: Application Software and Windows Operating System Instructions

These instructions guide you through the process of upgrading your TLA600 series logic analyzer software and firmware. Firmware instructions describe the process for flashing the TLA600 BIOS and installing the IBM ATA 33 switch utility. Software instructions describe the process for upgrading to Windows 2000 Professional operating system and TLA application software, version 4.2.



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.*

This kit provides information for installing software in your logic analyzer. Note that loading the contents of the CD provided in this upgrade kit will destroy user files and programs currently on your hard disk drive.

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.

Install Firmware

You will need to flash the logic analyzer controller BIOS with the latest flash image before reinstalling software on the hard disk drive.

NOTE. *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.*

Flash the TLA600 BIOS

Complete the following steps to flash the controller BIOS on your logic analyzer:

1. Exit all applications and turn off the logic analyzer.
2. Insert the TLA600 BIOS disk, Version P09, in the floppy disk drive.
3. Power on 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.
4. Wait for the BIOS flash procedure to complete.
5. After the flash procedure has completed, turn off the logic analyzer and remove the floppy disk.



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.

Set Up the TLA600 Controller BIOS

This procedure is necessary after flashing the TLA600 BIOS or when the CMOS settings are corrupted or lost. To configure the Controller BIOS, complete the following steps:

1. Power on the logic analyzer and press function key F2 before the logic analyzer boots the Windows operating system.
2. 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.
3. Verify that all of the settings are the same as the settings in Table 4-3.
4. Press function key F10 to exit and save the BIOS setup.

Table 4-3: TLA600 Controller BIOS setup

Parameter	Setting/Description	2 nd Field setting	Memo
Main			
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 MB		64 MB or 128 MB
Memory Bank 0	64 MB		
Memory Bank 1	Not Installed		Will be installed as an option

Table 4-3: TLA600 Controller BIOS setup (Cont.)

Parameter	Setting/Description	2 nd Field setting	Memo
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]		
▶ 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	On the 2 nd attempt reading "No unread events"
Clear Event Log	[No]		
Event Logging	[Enabled]		

Table 4-3: TLA600 Controller BIOS setup (Cont.)

Parameter	Setting/Description	2 nd Field setting	Memo
▶ Mark Events as Read		[Yes]	
▶ Video Configuration			
Primary Video Adapter	[PCI]		PCI = Internal Display AGP = External Monitor
▶ Security			
Supervisor Password Is	[Not Installed]		Not Active Selections
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	[Stay Off]		
On LAN	[Power On]		
On PME	[Stay Off]		
1 st Boot Device	[Floppy]		
2 nd Boot Device	[IDE-HDD]		
3 rd Boot Device	[ATAPI CDROM]		
4 th Boot Device	[Intel UNDI, PXE-2.0 (b)]		
5 th Boot Device	[Disabled]		
▶ IDE Drive Configuration			
	▶ Primary IDE Master	[1 st IDE]	
	▶ Primary IDE Slave	[2 nd IDE]	
	▶ Secondary IDE Master	[3 rd IDE]	
	▶ Secondary IDE Slave	[4 th IDE]	

Table 4-3: TLA600 Controller BIOS setup (Cont.)

Parameter	Setting/Description	2 nd Field setting	Memo
▶ Exit			
▶ Exit Saving Changes	Yes or No		
▶ Exit Discarding Changes	Yes or No		
▶ Load Setup Defaults	Yes or No		
▶ Load Custom Defaults	Yes or No		
▶ Save Custom Defaults	Yes or No		
▶ Discard Changes	Yes or No		

IBM Feature Tool

The following procedure describes how to install the IBM Feature Tool floppy disk, which allows you to set your IBM 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, 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. Install the IBM 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.
8. Power on the logic analyzer to complete the change process.

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 Installing Windows 2000 Professional and the TLA Application on page 4-8.

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 4-4 to locate the TLA files in the current folder and all subfolders:

Table 4-4: TLA user file suffixes

Suffix	Description
.tla	TLA setup files and stored data
.tsf	TLA symbol files
.tbf	Tektronix binary format
.tls	TLA script file

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. 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. Set the Boot devices as shown below:

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

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

Load the Hard Disk Image. Complete the following steps to load the Hard Disk Image.

1. Insert the Hard Disk Image CD in the CD-ROM drive.
2. Reboot the logic analyzer. After booting from the CD-ROM drive, the program on the CD will display its license agreement.
3. 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.

4. 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.

EasyRestore may display the following message:

This program has detected error 110 on the partition...
Would you like the program to fix this error?

When prompted, click Yes to fix the displayed error. If other errors display, allow the program to fix them and continue with the installation procedure.

5. EasyRestore displays a warning that the contents of your hard disk drive will be destroyed if you choose to continue. Click Yes to continue the upgrade process.
6. 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.

7. After the image is loaded, remove the CD from the CD-ROM drive and reboot the logic analyzer.
8. The System Settings Change error message displays, prompting you to restart the computer before your changes can take effect. Click Yes to restart your computer.
9. If you receive warning and error messages indicating that new PCI bridge devices were found, refer to *PCI-VXI Bridge Driver Reinstallation* on page 4-11. If you do not receive any messages, no action is necessary and you may proceed to step 10.
10. 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. After you have successfully installed the hard disk image, you are recommended to reset the BIOS settings and to disable booting from 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. 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 Drive]

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 step 10 of the *Load the Hard Disk Image* procedure located on page 4-10.

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. *Please be patient. 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. Complete the following procedures if you intend to use the TLAVu Offline application on a PC. You must ensure that the version of the TLAVu Offline software is the same as that of TLA application. The TLAVu Offline software is located on Disc 2 of the dual CD-ROM set.

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 2 of the Tektronix Logic Analyzer Family Application Software in the CD-ROM drive of the PC.
2. Click Run in the Windows Start menu to display the Run dialog box.
3. Enter D:\TLAVu\Disk1\Setup.exe in the Run dialog box.
4. Click OK to perform the installation. Follow any on-screen instructions.
5. 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 → Programs → Tektronix Logic Analyzer → TLA Documentation → 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.*

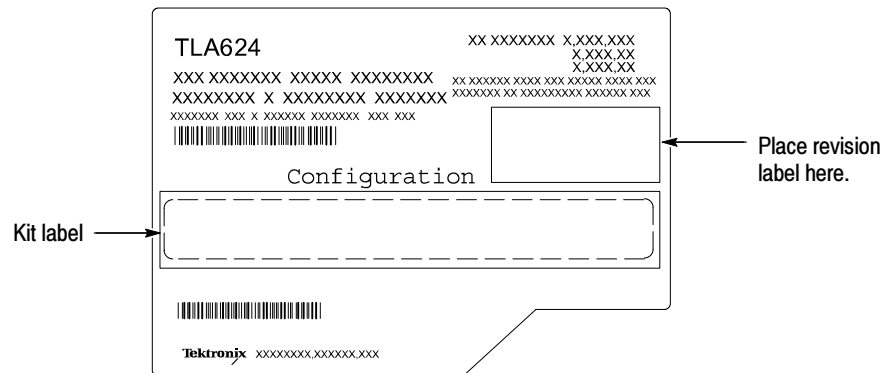


Figure 4-1: Revision and kit label locations



TLA6UP Option 22

TLA6UP Option 22: Application Software Upgrade

TLA6UP option 22 supports the upgrade to TLA application software version 4.2. 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 4.1. This software will only run on instruments with the Windows 2000 Professional operating system that were purchased from Tektronix.

This option does not include the Click'N Burn Pro software; this software is available with TLA6UP Option 20.



Instruments

TLA600 Series Logic Analyzers

All serial numbers

Parts List

Table 5-1: TLA6UP Option 22 parts list

Quantity	Part number	Description
1 ea.	071-0866-03	TLA6UP Mainframe Field Upgrade Kit Instruction Manual
1 ea.	N/A	Tektronix Logic Analyzer Family Application Software Version 4.2 (dual CD-ROM set: TLA App SW and TLAVu Offline software)
1 ea.	071-0863-02	TLA Family User Manual, V4.2
1 ea.	016-1524-03	TLA Mouse Pad
1 sheet	N/A	Software Revision Labels

Table 5-1: TLA6UP Option 22 parts list (Cont.)

Quantity	Part number	Description
1 ea.	N/A	TLA6UP Kit Label
1 ea.	N/A	CheckIt Utilities Sticker

Minimum Tool and Equipment List

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

Upgrade Instructions

The upgrade instructions will vary depending on the current version of TLA application software and on the version of additional application software installed on your instrument. Although you must upgrade the TLA application software, it is not necessary to upgrade the other applications because the versions may not have changed.

To determine which software applications require new updates refer to the online release notes the came with your logic analyzer. Version information is listed under *Software Compatibility*. You can access the release notes from the Start menu on your logic analyzer and selecting:

Programs > Tektronix Logic Analyzer > TLA Release Notes

Compare your software version against those listed in Table 5-2. If your software version is older than the ones listed in the table, you must perform those upgrade procedures. Other software applications listed in the release notes, but not listed in Table 5-2, will be automatically updated when you upgrade to the latest TLA application software version.

Table 5-2: Software applications and version numbers

Software application	TLA version 4.2	TLA version 4.1	TLA version 4.0	Upgrade procedure location
QA+Win32 ¹	-	-	2.0	Page 5-4
NI-488.2	1.0	1.0	-	Page 5-6
NI-MAX	2.0.3.17	2.0.3.17	-	Page 5-7
SnagIt	5.2	5.2	-	Page 5-7
CheckIt Utilities	6.5.5	6.5.5	-	Page 5-8

1 The QA+Win32 software was replaced by CheckIt Utilities in TLA version 4.1. You must remove the QA+Win32 software and then install the CheckIt Utilities as described in the upgrade instructions.

TLA6UP Option 22: 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.

Please note that the TLA application software contains several individual software packages that must be installed separately. Refer to Table 5-2 on page 5-2 to determine which individual upgrade procedures you must follow to upgrade your instrument. You will be asked to reboot your instrument after you install each package. If you do not reboot your instrument when prompted your software may not install properly and can cause unpredictable behavior.

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 set) so you may not see the login 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.

The following steps provide an overview of the upgrade process. The following steps assume that you are performing the entire upgrade process. However, you only need to perform those procedures that apply to your situation.

1. Remove the current installed version of the TLA application software.
2. Remove the QA+Win32 diagnostic software.
3. Install Windows 2000 Service Pack 2 (SP2).
4. Install Windows 2000 Security Rollup Package 1 (SRP1).
5. Install TLA application software version 4.2.
6. Install the NI-GPIB-USB-A software (required for iView).
7. Install the NI-MAX software (required for iView).
8. Install the SnagIt software.
9. Install the CheckIt Utilities.
10. Verify that the logic analyzer functions properly.
11. Calibrate the logic analyzer.
12. Upgrade the TLAVu Offline software (Optional).
13. Attach the upgrade kit label to your instrument.

Remove the TLA Application Software

Complete the following steps to remove the TLA application software from your logic analyzer. You must perform these steps in all cases.

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. Quit the TLA application.
4. Open the Control Panel by clicking Start → Settings → Control Panel.
5. Double-click the Add/Remove Programs icon.
6. Select Tektronix TLA Application and click the Change/Remove button.
7. Follow the on-screen instructions to remove the software.
8. 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.
9. After the software has been successfully removed, restart the instrument.

Remove the QA+PlusWin32 Software

These steps are only necessary if you currently have the software installed on your logic analyzer. This software has been replaced by the CheckIt Utilities.

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. Quit the TLA application.
4. Open the Control Panel by clicking Start → Settings → Control Panel.
5. Double-click the Add/Remove Programs icon.
6. In the Add/Remove Programs dialog box, select the QAWIN32 and then click the Change/Remove button.
7. Follow the on-screen instructions to remove the software.
8. Close the Add/Remove Programs dialog box and then click Start → Search → For Files or Folders . . .

9. Type QA in the Search for files folders named: box and then click Search Now.
10. Delete the following folders or files if they appear:
 - C:\Program Files\QAWin32
 - C:\Documents and Settings\All Users\Start Menu\Programs\QA+Win32
 - C:\WINNT\QAWin32.ini

NOTE. *If your instrument does not display the file extensions, you may 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 know file types” selection.)*

11. After the software has been successfully removed, restart the instrument.

Install Windows 2000 Service Pack 2 (SP2)

You must obtain the this software from the Microsoft web site at www.microsoft.com. Follow the instructions from the web site to download and install the software. If your instrument does not have a web connection, you must download the software to a PC and then transfer the files to the TLA via CD-RW drive or by other media.

Install Windows 2000 Security Rollup Package 1 (SRP1)

You must obtain the this software from the Microsoft web site at www.microsoft.com. Follow the instructions from the web site to download and install the software. If your instrument does not have a web connection, you must download the software to a PC and then transfer the files to the TLA via CD-RW drive or by other media.

Install TLA Application Software Version 4.2

You must perform the following steps in all cases.

1. Log on to the instrument as Administrator.
2. Install Disc 1 of the Tektronix Logic Analyzer Family Application Software in the CD-ROM drive of the logic analyzer.
3. Click Run in the Windows Start menu to display the Run dialog box.
4. Enter D:\TLA Application SW\Disk1\Setup.exe in the Run dialog box.
5. Click OK to perform the installation. 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 the instrument.

Install the NI-GPIB-USB-A Software

The NI-GPIB-USB-A software is required for iView to function properly. Complete the following steps to install the software after you have installed the TLA application software.

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. Quit the TLA application.
4. Install Disc 1 of the Tektronix Logic Analyzer Family Application Software in the CD-ROM drive of the logic analyzer.
5. Click Run in the Windows Start menu to display the Run dialog box.
6. Enter D:\NI-GPIB-USB-A\NI488.exe in the Run dialog box.
7. Click OK to perform the installation.
8. Follow any on-screen instructions and use all of the default choices provided by the installer.
9. After the software has been successfully installed, restart the instrument and log in as Administrator.

NOTE. *If Windows does not restart normally, press and hold the On/Standby button for five or six seconds to force a shutdown.*

10. Permanently close the NI-488.2 Getting Started Wizard when it appears.

Install the NI-MAX Software

The NI-MAX software is required for iView to function properly. Complete the following steps to install the software.

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. Quit the TLA application.
4. Install Disc 1 of the Tektronix Logic Analyzer Family Application Software in the CD-ROM drive of the logic analyzer.
5. Click Run in the Windows Start menu to display the Run dialog box.
6. Enter D:\NI-MAX\MAX20.exe in the Run dialog box.
7. Click OK to perform the installation.
8. Follow any on-screen instructions and use all of the default choices provided by the installer.
9. After the software has been successfully installed, restart the instrument and log in as Administrator.

NOTE. *If Windows does not restart normally, press and hold the On/Standby button for five or six seconds to force a shutdown.*

Install the SnagIt Software

The SnagIt software is provide so that you can easily capture screen shots for use in other applications. Complete the following steps to install the software.

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. Quit the TLA application.

4. Install Disc 1 of the Tektronix Logic Analyzer Family Application Software in the CD-ROM drive of the logic analyzer.
5. Click Run in the Windows Start menu to display the Run dialog box.
6. Enter D:\SnagIt\Setup.exe in the Run dialog box.
7. Click OK to perform the installation.
8. Follow any on-screen instructions and use all of the default choices provided by the installer.
9. After the software has been successfully installed, restart the instrument and log in as Administrator.
10. After the TLA application starts, select Options from the System menu to display the System Options dialog box.
11. Select the Tools tab.
12. Select &Paint from the list and then click the Edit button.
13. Change the Menu Name box from &Paint to SnagIt.
14. Click the Browse button and choose the following path:
C:\Program Files\TechSmith\SnagIt\SnagIt32.exe
15. Leave the Arguments and Initial Directory blank and then Click OK twice to apply the changes.

NOTE. *The first time that you use SnagIt, you will use a wizard to define the SnagIt settings. Thereafter, SnagIt will start automatically when you click the Tool icon in the TLA application.*

16. If desired, delete the two SnagIt icons from the desktop.

Install the CheckIt Utilities

The CheckIt Utilities software is a diagnostics tool used to verify the operation of the PC components of the logic analyzer. Complete the following steps to install the software.

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. Quit the TLA application.

4. Install Disc 1 of the Tektronix Logic Analyzer Family Application Software in the CD-ROM drive of the logic analyzer.
5. Click Run in the Windows Start menu to display the Run dialog box.
6. Enter D:\CheckIt\CheckIt.exe in the Run dialog box.
7. Click OK to perform the installation.
8. When prompted for the CheckIt serial number, use **US-013345**.
9. Follow any on-screen instructions and use all of the default choices provided by the installer.
10. After the software has been successfully installed, restart the instrument and log in as Administrator.

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 Logic Analyzer

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. Please be patient. 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 as that of TLA application. The TLAVu Offline software is located on Disc 2 of the dual CD-ROM set.

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 2 of the Tektronix Logic Analyzer Family Application Software in the CD-ROM drive of the PC.
2. Click Run in the Windows Start menu to display the Run dialog box.
3. Enter D:\TLAVu\Disk1\Setup.exe in the Run dialog box.
4. Click OK to perform the installation. Follow any on-screen instructions.
5. 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 → Programs → Tektronix Logic Analyzer → TLA Documentation → 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.

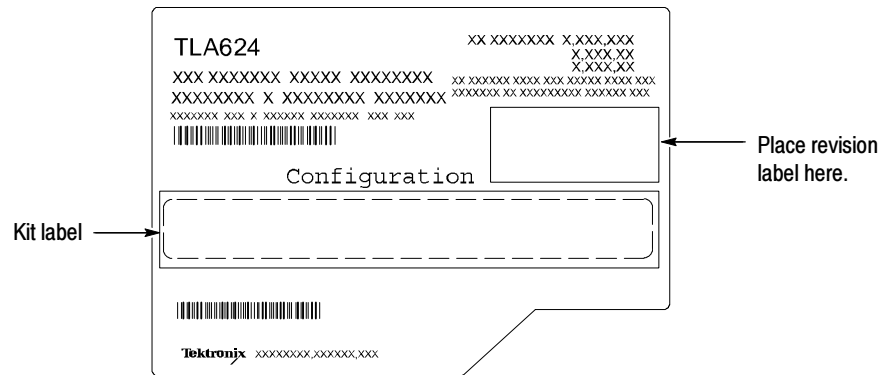


Figure 5-1: Revision and kit label locations



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.

Instruments

TLA600 Series Logic Analyzers

All Serial Numbers

Minimum Tool and Equipment List

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

Parts List

Table 6-1: TLA6UP Option PF parts list

Quantity	Part number	Description
1 ea.	071-0866-03	TLA6UP Logic Analyzer Upgrade Kit Instruction Manual
1 ea.	N/A	PowerFlex Utility software for TLA series logic analyzers

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 → Program Files → Tektronix Logic Analyzer → 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 1F: Upgrade Installation Service

TLA6UP option 1F 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

