

**RSA5100A Series Real-Time Signal Analyzers
RSA5UP Option 56, Option 57, and
Option 59 Upgrades
Instructions**

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071-2863-00

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Service Safety Summary

Only qualified personnel should perform service procedures. Read this *Service Safety Summary* and the *General Safety Summary* located in the *RSA5100A Real-Time Signal Analyzer Service* manual (Tektronix part number 077-0522-XX) 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, switch off the instrument power, then disconnect the power cord from the mains power.

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.

Kit Description

This kit describes the installation of each of the three hard drive upgrade options (Option 56, Option 57, and Option 58) in an RSA5100A Series Real-Time Signal Analyzer.

Products

RSA5100A Series. All serial numbers.

Kit Parts List

The following parts lists detail the parts included with your upgrade kit. The parts shipped in your kit depend on the kit option you ordered.

RSA5UP Option 56 Removable Hard Drive Parts List

Quantity	Part number	Description
1 ea	NS	SOFTWARE COA (CERTIFICATE OF AUTHENTICITY); MICROSOFT WINDOWS 7 PRO FOR EMBEDDED SYSTEMS 32/64BIT
1 ea	020-3068-XX	SOFTWARE, OS RESTORE KIT, WIN XP EMBEDDED, RSA51XXA SERIES
1 ea	071-2191-XX	MANUAL, TECH; SVCPT-UPG; TEKTRONIX SUPPLEMENTAL INFORMATION SHEET FOR THE PEOPLES REPUBLIC OF CHINA; CHINA ROHS
1 ea	071-2863-00	MANUAL, TECH: RSA5K 56, 57, 59 INSTALLATION INSTRUCTIONS
2 ea	211-1050-00	SCREW, MACHINE; 6-32 X 0.312 L, PNH, STEEL, ZINC FINISH, T15
4 ea	211-1081-00	SCREW, MACHINE; M3 X 0.5 X 3.5MM, FLAT WAFER HD W/SERRATIONS STRESS RELIEVED, PHL, ZINC PLATED STEEL
1 ea	407-5337-00	BRACKET, RHDD; SATA COMBO CABLE RETENTION
1 ea	407-5473-00	BRACKET; HARD DRIVE 2.5 INCH REMOVABLE
1 ea	650-5353-00	DRIVE ASSEMBLY; REMOVABLE HARD DRIVE, PROGRAMMED, RSA5XXX SERIES

**RSA5UP Option 57 Internal
HDD and DVD-R / CD-RW
Parts List**

Quantity	Part number	Description
1 ea	NS	SOFTWARE COA (CERTIFICATE OF AUTHENTICITY); MICROSOFT WINDOWS 7 PRO FOR EMBEDDED SYSTEMS 32/64BIT
1 ea	020-3068-XX	SOFTWARE, OS RESTORE KIT, WIN XP EMBEDDED, RSA51XXA SERIES
1 ea	071-2191-XX	MANUAL, TECH; SVCPT-UPG; TEKTRONIX SUPPLEMENTAL INFORMATION SHEET FOR THE PEOPLES REPUBLIC OF CHINA; CHINA ROHS
1 ea	071-2863-00	MANUAL, TECH: RSA5K 56, 57, 59 INSTALLATION INSTRUCTIONS
1 ea	119-7678-00	OPTICAL, CD-RW/DVD-R/RW DVD+R/RW, 16.7 MB/SEC, 650MEG/8.5GIG, SATA/ATAPI;TEAC MODEL DV-W28S-V93.
1 ea	174-5650-00	CABLE, SATA-DVD, DATA AND POWER, SAFETY CONTROLLED
1 ea	200-5143-00	COVER; DVD
4ea	210-1543-01	SCREW, SHOULDER, SPECIAL; 6-32 (USE WITH VIBE ISOLATION GROMMETT)
4 ea	211-0510-00	SCREW, MACHINE; 6-32 X 0.375, PNH, ZINC PLATED STEEL, T15
4 ea	211-1070-00	SCREW; M2 X .4 X 2MM, PNH, PHL, STL NI PL
4 ea	348-1835-00	GROMMET; VIBRATION ISOLATION
1 ea	407-5476-00	BRACKET, DVD DRIVE
1 ea	650-5352-00	DRIVE ASSEMBLY; INTERNAL FIXED DRIVE, PROGRAMMED 1197524XX, , RSA5XXX SERIES

**RSA5UP Option 59 Internal
Hard Disk Drive**

Quantity	Part number	Description
1 ea	NS	SOFTWARE COA (CERTIFICATE OF AUTHENTICITY); MICROSOFT WINDOWS 7 PRO FOR EMBEDDED SYSTEMS 32/64BIT
1 ea	071-2191-XX	MANUAL, TECH; SVCPT-UPG; TEKTRONIX SUPPLEMENTAL INFORMATION SHEET FOR THE PEOPLES REPUBLIC OF CHINA; CHINA ROHS

Kit Description

Quantity	Part number	Description
1 ea	071-2863-XX	MANUAL, TECH: RSA5K 56, 57, 59 INSTALLATION INSTRUCTIONS
1 ea	119-7678-XX	OPTICAL, CD-RW/DVD-R/RW DVD+R/RW, 16.7 MB/SEC, 650MEG/8.5GIG, SATA/ATAPI; TEAC MODEL DV-W28S-V93.
1 ea	174-5650-XX	CABLE, SATA-DVD, DATA AND POWER, SAFETY CONTROLLED
1 ea	200-5143-XX	COVER; DVD
4 ea	210-1543-XX	SCREW, SHOULDER, SPECIAL; 6-32 (USE WITH VIBE ISOLATION GROMMETT)
4 ea	211-0510-XX	SCREW, MACHINE; 6-32 X 0.375, PNH, ZINC PLATED STEEL, T15
4 ea	211-1070-XX	SCREW; M2 X .4 X 2MM, PNH, PHL, STL NI PL
4 ea	348-1835-XX	GROMMET; VIBRATION ISOLATION
1 ea	407-5476-XX	BRACKET, DVD DRIVE
1 ea	650-5352-XX	DRIVE ASSEMBLY; INTERNAL FIXED DRIVE, PROGRAMMED 1197524XX, , RSA5XXX SERIES

Removing the Installed Drives

This section contains all the procedures to remove Option 56 (Removable Hard Disk Drive), Option 57 (DVD-R/W drive and internal hard drive), or Option 59 (Internal Hard Disk Drive only) from your RSA5100A Series signal analyzer. The section following this one describes the installation of the new drive(s).

Minimum Tool and Equipment List

The following tools are required to remove the instrument covers and to remove and install the new drive(s). All tools are standard tools that should be readily available.

Table 1: Tools required for installation

Item no.	Name	Description
1	Screwdriver handle (magnetic)	Torque driver handle. Accepts 1/4-in. hex-head driver tips
2	No. 2 Phillips or Pozidriv tip	Phillips or Pozidriv-driver tip for number 2 size screw heads
3	T-15 TORX tip	TORX driver tip for T-15 size screw heads
4	T-20 TORX tip	TORX driver tip for T-20 size screw heads
6	5/32-in. hex wrench	Hex wrench to remove Allen head screws at front of top cover

These instructions are for qualified service personnel who are familiar with servicing the product. If you need further details for disassembling or reassembling the product, refer to the *RSA5100A Series Real-Time Signal Analyzers Service Manual*, Tektronix part number 077-0522-XX.

Removing a Removable Hard Disk Drive (Option 56)



WARNING. To avoid electric shock, switch off the instrument power, then disconnect the power cord from the mains power. Failure to do so could result in injury or death.

If you are upgrading from Option 56 to Option 57 or Option 59, you need to remove the drive assembly from the instrument to begin the upgrade process. Perform the following steps to remove the removable hard disk.

1. Loosen the thumbscrews securing the drive to the front panel.
2. Grasp the drive assembly by the thumbscrews and pull the drive assembly straight out of the instrument.
3. Place the removed drive assembly in anti-static packaging and store it in a protected location for possible future use or discard the drive.

Removing a DVD Drive and Internal Hard Drive (Option 57 or Option 59)

NOTE. *Right-side or left-side references in these instructions assume you are viewing the instrument from the front panel.*

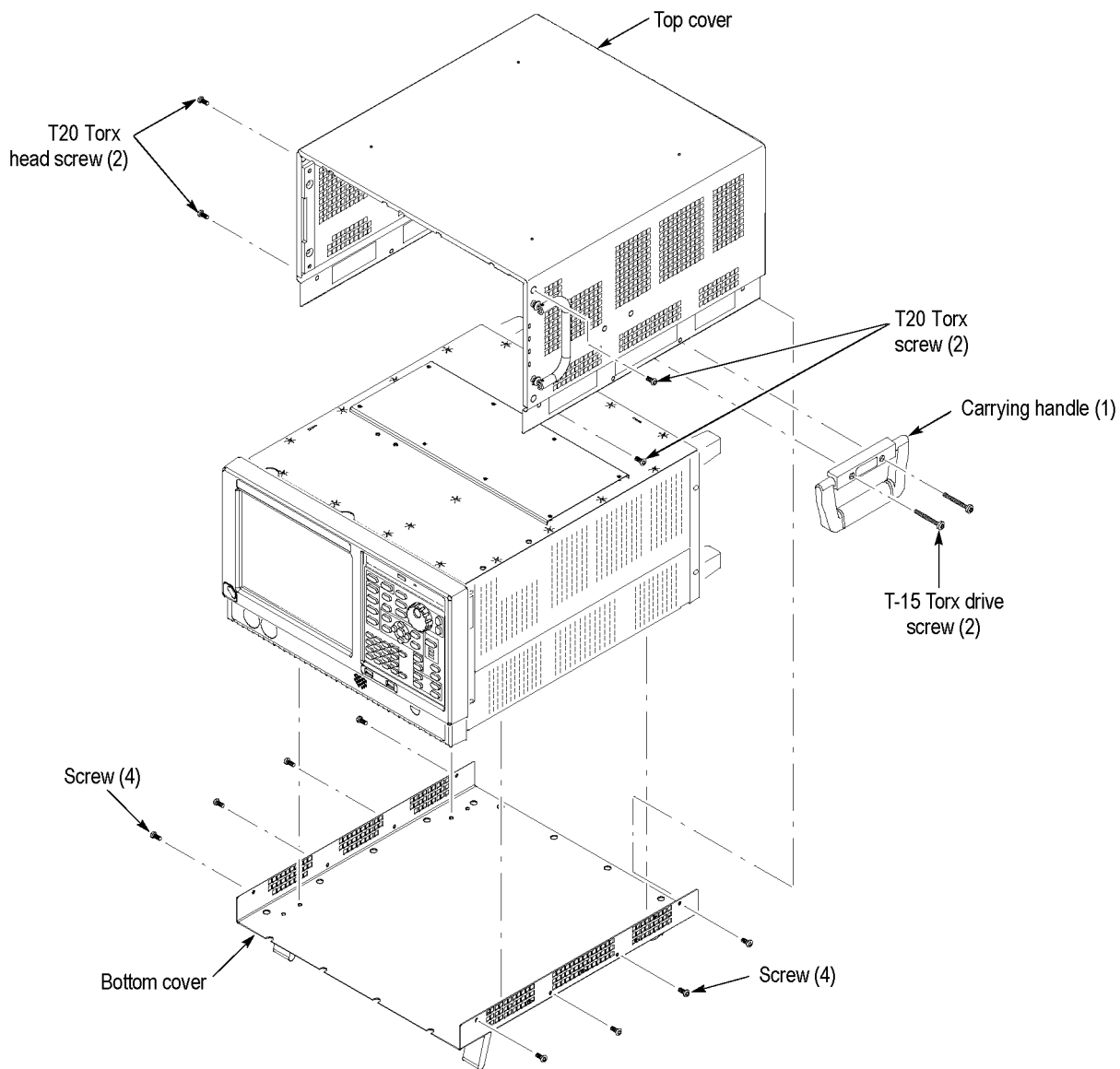


WARNING. *To avoid electric shock, switch off the instrument power, then disconnect the power cord from the mains power. Failure to do so could result in injury or death.*

If you are upgrading from Option 57 (DVD drive) to Option 56, you have to remove the DVD drive and the internal hard drive from your instrument.

If you are upgrading from Option 59 (internal hard drive) to Option 56, you have to remove the internal hard drive from your instrument.

1. Remove the power cord.
2. If it is installed, pull the front cover off the instrument.
3. Remove the two T-15 screws that secure the plastic carrying handle to the side of the instrument. (It is not necessary to remove the black metal handles.) (See Figure 1.)
4. Remove four T-15 Torx-drive screws along each side that secure the top and bottom covers to the instrument, and remove two 5/32-in. Allen head screws near the front edge of the top cover (next to the folding handles).
5. Remove the top cover by pulling straight back about 1 inch. Then pull out on the sides of the top cover outward, flexing them slightly to clear the instrument chassis, and pull it away from the instrument.



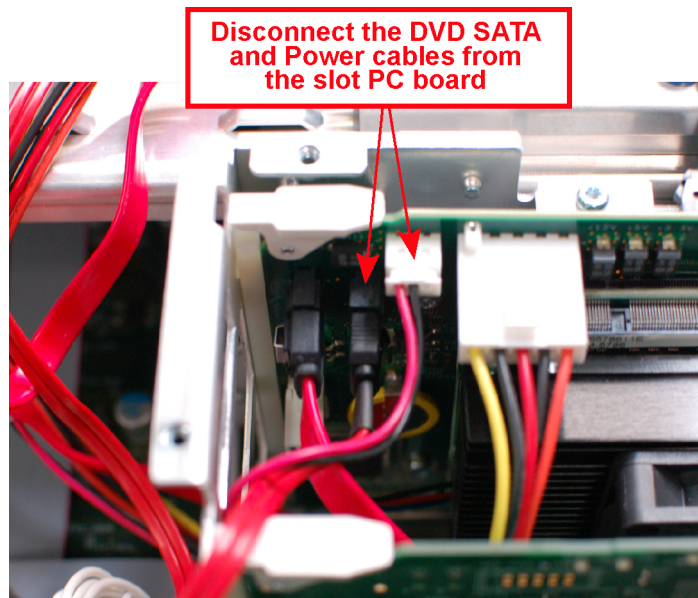
2880-001

Figure 1: Removing the top cosmetic cover.

6. Remove the 18 T15 screws that secure the top internal cover to the chassis, and then remove the top internal cover from the instrument.

Removing a DVD Drive

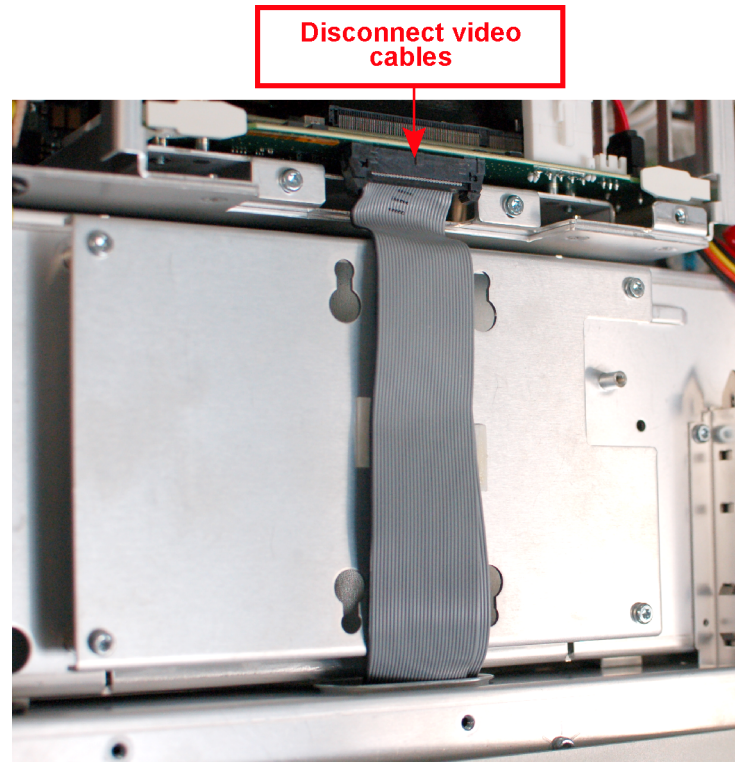
1. Remove the two black screws securing the DVD bezel to the front panel and remove the bezel.
2. Disconnect the SATA cable and power cable from the PC Carrier board. Pull the SATA cable and power cable back through the metal bracket, away from the PC Carrier board.



3. Pull the DVD drive out from the front of the chassis, pulling the SATA and power cable out with the drive.
4. Place the removed DVD drive and cabling in anti-static packaging and store it in a protected location for possible future use or discard the drive.

Removing the Internal Hard Drive

1. Disconnect the two video cables from the PC carrier board. Move the cables out of the way.



2. Remove the four screws at the corners of the hard disk drive mounting plate that secure the mounting plate to the instrument.
3. Lift the hard disk drive mounting plate out of the instrument. Disconnect the SATA cable from the hard disk drive.
4. Remove the four screws that secure the hard disk drive to the mounting plate.



5. Place the removed hard drive in anti-static packaging and store it in a protected location for possible future use or discard the drive.

NOTE. *If you discard or recycle the removed drive, be sure to follow your organization's security protocols to ensure the destruction of sensitive data.*

6. Reinstall the hard disk drive mounting plate in the chassis.

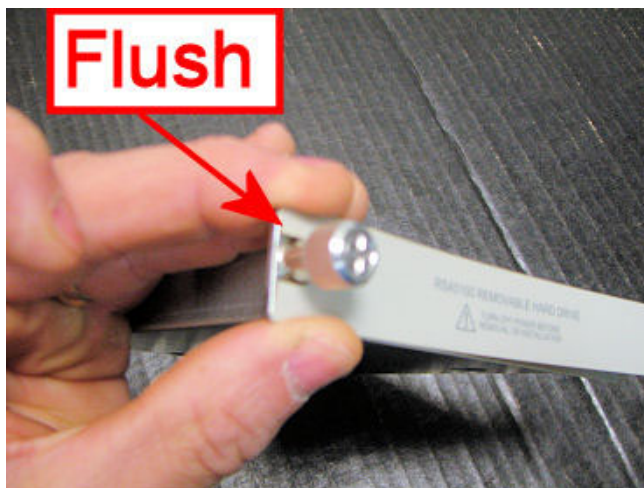
Installing New Drive Options

This sections describes how to install your new drive options.

Installing Option 56: Removable Hard Disk Drive

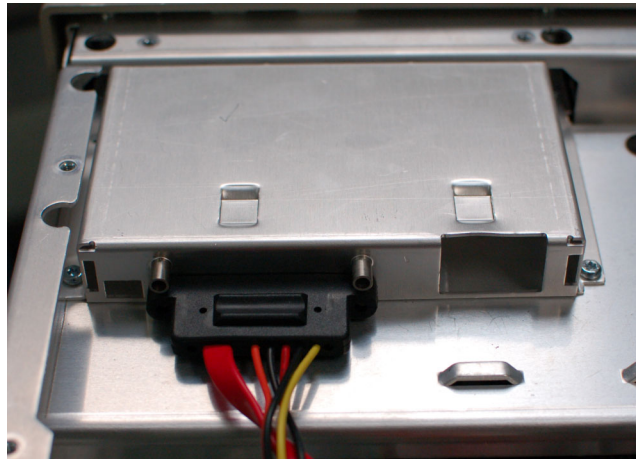
To perform the following procedure you must have already removed Option 57 or 59 from your instrument. (See page 6, *Removing a DVD Drive and Internal Hard Drive (Option 57 or Option 59).*)

1. Attach the removable hard drive to the removable hard disk drive bracket (part number 407-5473-XX) with four screws (part number 211-1081-XX) using a torque driver with a T1 tip. Tighten the screws to 4.0 in-lbs.
2. Attach the removable hard drive label to the removable hard drive bracket. Start by centering one end of the label and making it flush with the bracket. Make sure the label is correctly oriented with the bottom of the label aligned with the bottom of the bracket.

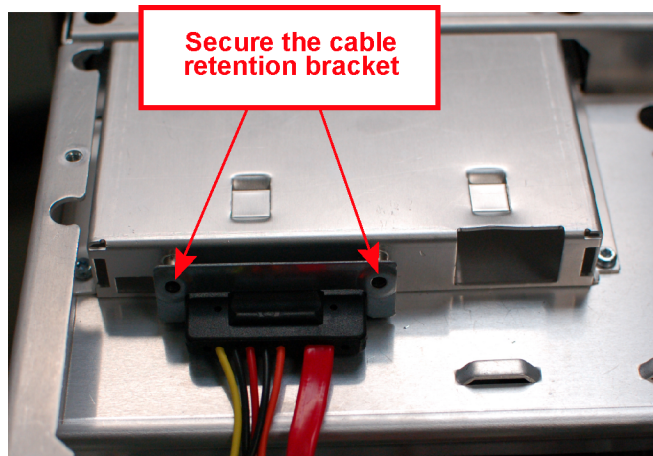


3. Slide the removable hard disk drive assembly into the drive opening and secure the hard drive with the two thumbscrews.

4. Connect the SATA and power cable connector to the connector on the removable hard drive.



5. Slide the SATA combo cable retention bracket (part number 407-5337-00) over the cable and secure the retention bracket with two screws (part number 211-1050-XX) using a torque driver with a T15 tip. Tighten the screws to 4.0 in-lbs.



6. Reinstall the top internal cover:
 - a. Position the top internal cover on the instrument, so that the protrusions in the cover match up with the slots in the chassis.
 - b. Reinstall the 18 T15 to secure the cover to the chassis. Tighten these screws to 8.0 in/lb.

7. Reinstall the top and bottom cosmetic covers and carrying handle:
 - a. Place the instrument on its rear feet, so the front panel is facing up and the top is toward you.
 - b. Place the top cover over the top of the instrument and slide it toward the front panel. Make sure that the top cover wraps around the flanges on the rear panel on all three sides.
 - c. Reinstall the four 5/32" hex head screws (two on each side) that secure the top cover to the instrument, near the front edge of the top cover (next to the folding handles).
 - d. Align the four screw holes on each side in the top and bottom covers with the holes in the chassis, and install eight T15 screws, four on each side. Tighten these screws to 8.0 in/lb.
 - e. Position the plastic carrying handle and its bracket on the right side of the instrument, and install the two T15 screws that secure it in place. Tighten these screws to 8.0 in/lb.
8. Remove the Windows Certificate of Authenticity from the rear panel. Replace it with the Certificate of Authenticity provided in this kit.
9. Reinstall the power cord and power on the instrument.

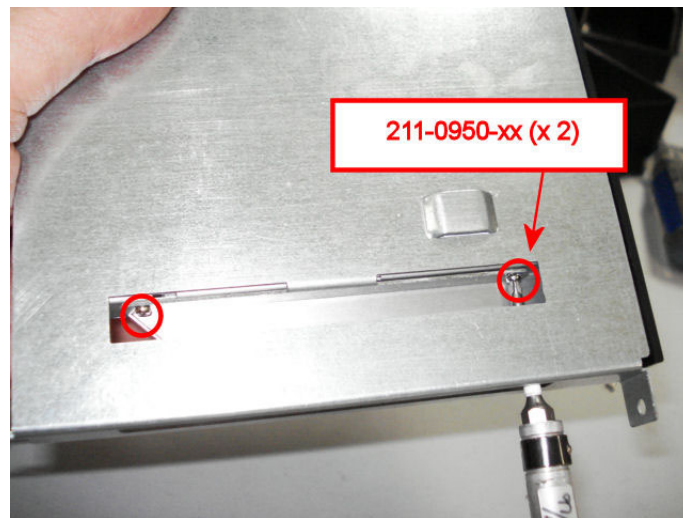
This completes the upgrade from to Option 56. If you need to restore the operating system on your instrument, use the operating system restore DVD (Tektronix part number 020-3016-XX) that shipped with this upgrade kit. Do not use the operating system restore disk that originally shipped with your instrument or any operating system restore disks you might have created.

Installing Option 57: DVD-R/W Drive and Internal Hard Drive

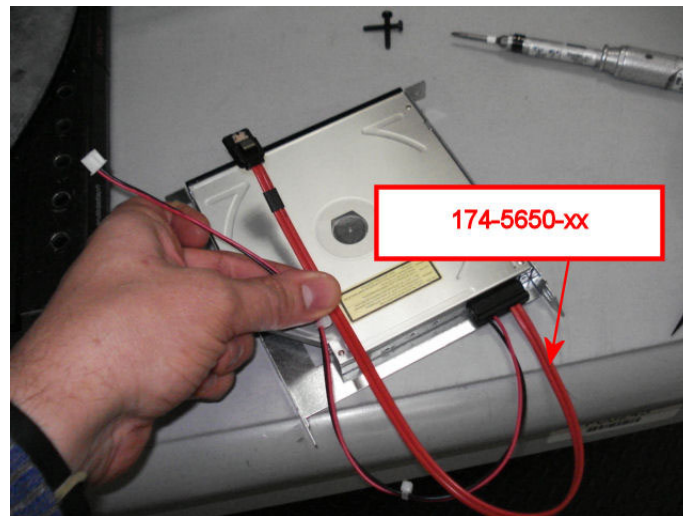
To perform the following procedure you must have already removed Option 56 or 59 from your instrument. (See page 5, *Removing a Removable Hard Disk Drive (Option 56)*.)

DVD-R/W Drive. To install the DVD-R/W drive:

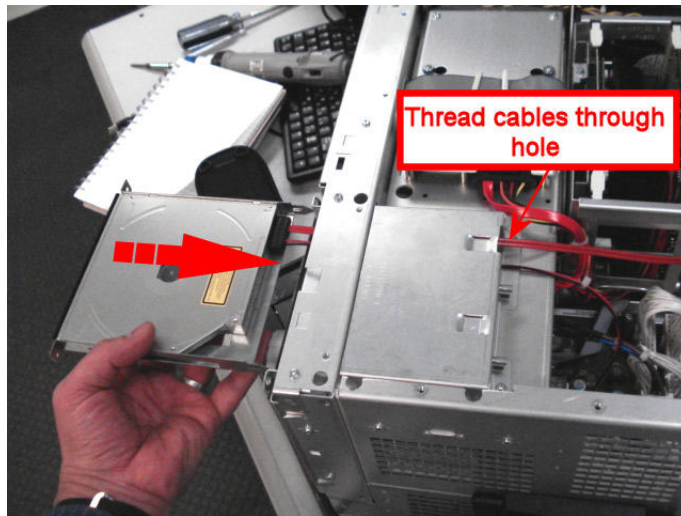
1. Slide the DVD drive (part number 119-7678-XX) into the DVD bracket (part number 407-5476-XX) with the front of the DVD drive aligned with the tabs on the DVD bracket.
2. Turn the assembly on its side and secure the DVD drive to the DVD bracket with 2 screws (part number 211-0950-XX), using a T0 tip. Tighten these screws to 0.6 in/lb.



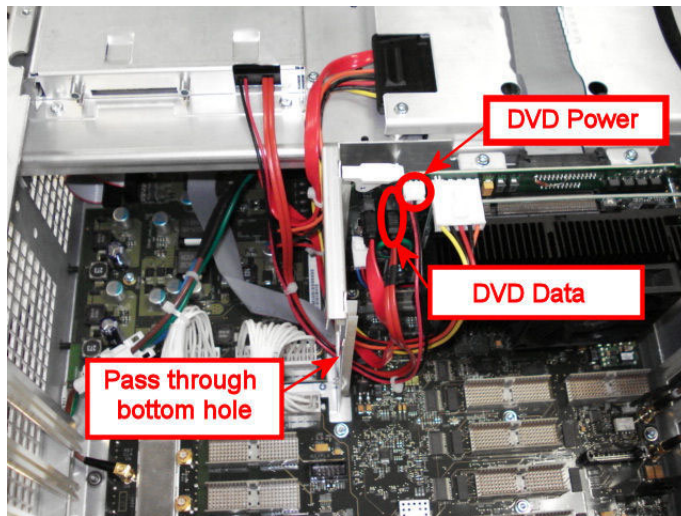
3. Turn the assembly on to the opposite side and secure the DVD drive to the DVD bracket using two screws (part number 211-0950-XX), using a T0 tip. Tighten these screws to 0.6 in/lb.
4. Attach the DVD cable (part number 174-5650-XX) to the rear of the DVD drive.



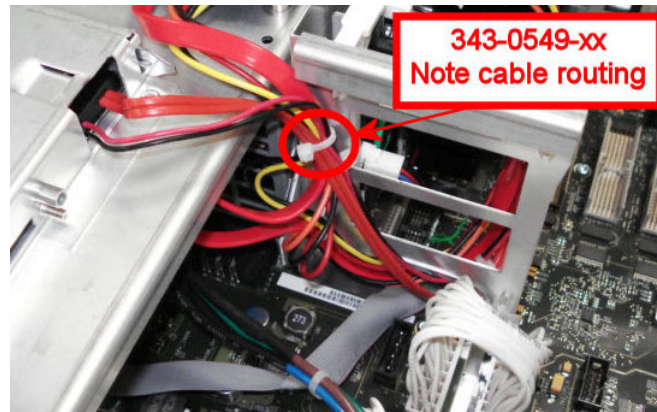
5. Holding the DVD assembly in front of the instrument, thread the DVD cables through the opening in the front panel and back through the hole in the back of the of the bracket. Slide the DVD assembly into the opening in the front panel.



6. Mount the DVD cover (part number 200-5143-XX) to the front of the instrument using two screws (part number 211-0690-XX) using a torque driver with a T-15 tip. Tighten these screws to 10 in/lb.
7. Thread the DVD cables through the bottom hole in the chassis bracket and connect them to the PC carrier board as shown.

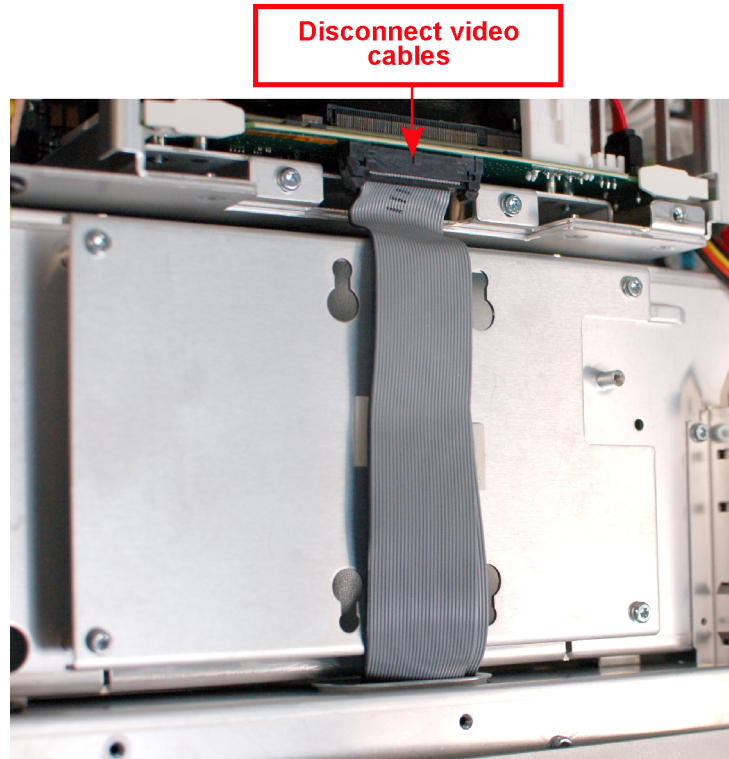


8. Secure the DVD and HDD cables to the chassis bracket with one zip tie (part number 343-0549-XX) as shown.

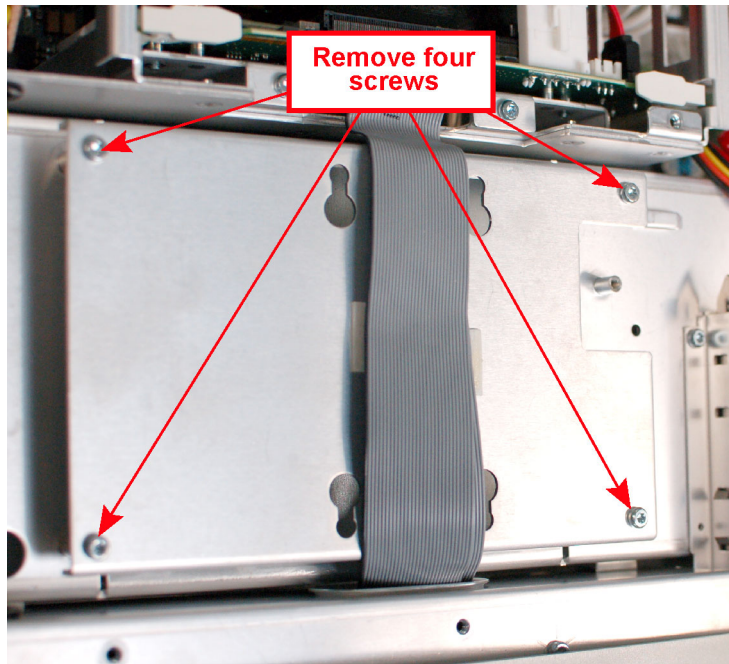


Install Internal Hard Drive. To install the internal hard drive:

9. Disconnect the video cables from the PC carrier board and fold them over the front of the instrument.



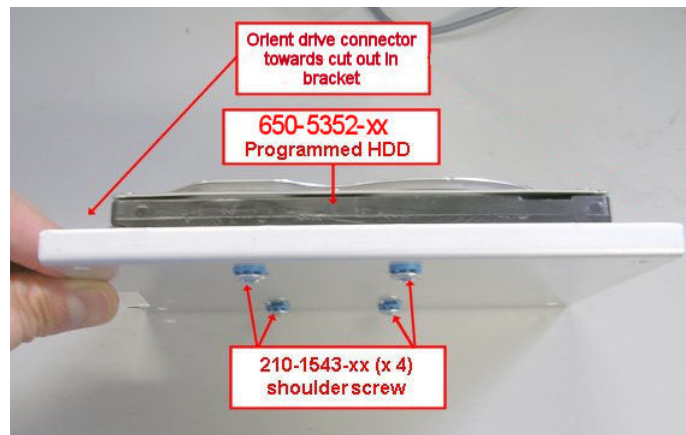
10. Remove the four screws that secure the HDD bracket to the chassis and remove the bracket.



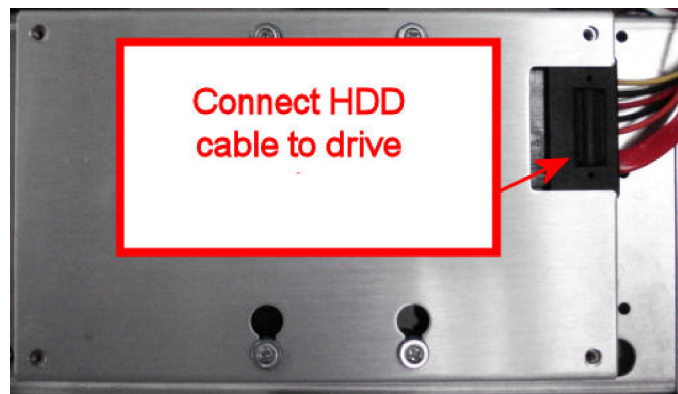
11. Install four grommets (part number 348-1835-XX) on the HDD bracket as shown.



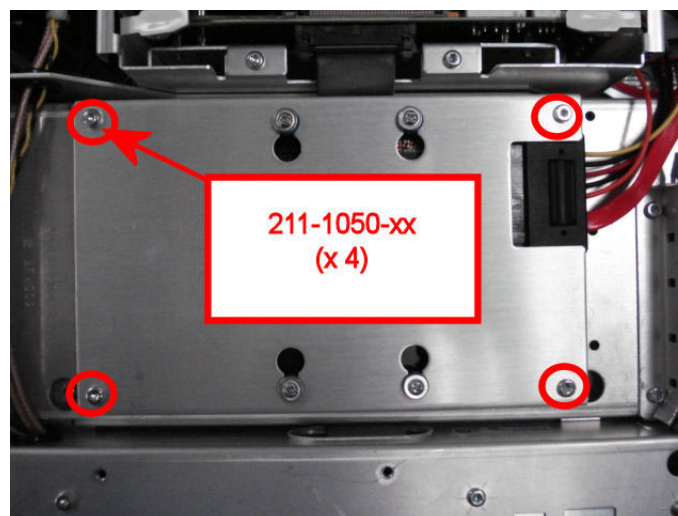
12. Place the drive assembly (part number 650-5352-XX) onto the HDD bracket with the connector appears in the cutout in the HDD bracket. Secure the drive assembly to the HDD bracket with four screws (part number 210-1543-XX) using a torque drive with a P1 tip. Tighten the screws to 4.0 in-lbs.



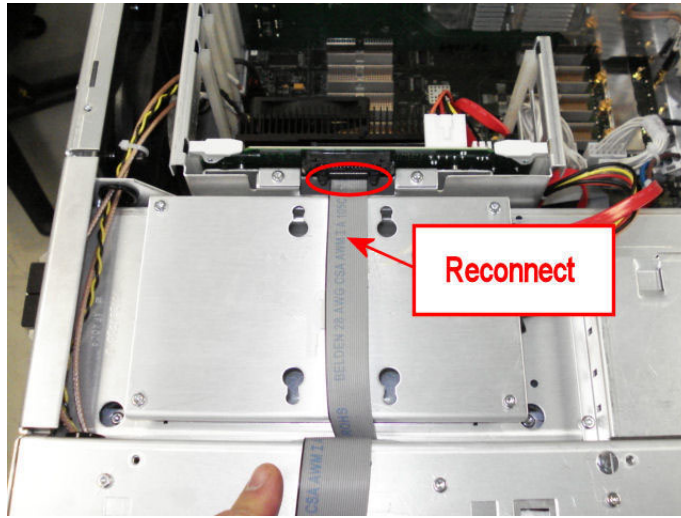
13. Connect the HDD SATA cable to the drive assembly.



14. Place the drive assembly and HDD bracket on the chassis as shown. Secure the HDD bracket to the chassis with four screws (part number 211-1050-XX) using a torque driver with a T15 tip. Tighten these screws to 10 in/lb.



15. Reconnect the smaller video cable to the PC Carrier board.



16. Reconnect the larger video cable to the PC Carrier board.
17. Reinstall the top internal cover:
 - a. Position the top internal cover on the instrument, so that the protrusions in the cover match up with the slots in the chassis.
 - b. Reinstall the 18 T15 to secure the cover to the chassis. Tighten these screws to 8.0 in/lb.
18. Reinstall the top and bottom cosmetic covers and carrying handle:
 - a. Place the instrument on its rear feet, so the front panel is facing up and the top is toward you.
 - b. Place the top cover over the top of the instrument and slide it toward the front panel. Make sure that the top cover wraps around the flanges on the rear panel on all three sides.
 - c. Reinstall the four 5/32" hex head screws (two on each side) that secure the top cover to the instrument, near the front edge of the top cover (next to the folding handles).
 - d. Align the four screw holes on each side in the top and bottom covers with the holes in the chassis, and install eight T15 screws, four on each side. Tighten these screws to 8.0 in/lb.
 - e. Position the plastic carrying handle and its bracket on the right side of the instrument, and install the two T15 screws that secure it in place. Tighten these screws to 8.0 in/lb.
19. Remove the Windows Certificate of Authenticity from the rear panel. Replace it with the Certificate of Authenticity provided in this kit.
20. Reinstall the power cord and power on the instrument.

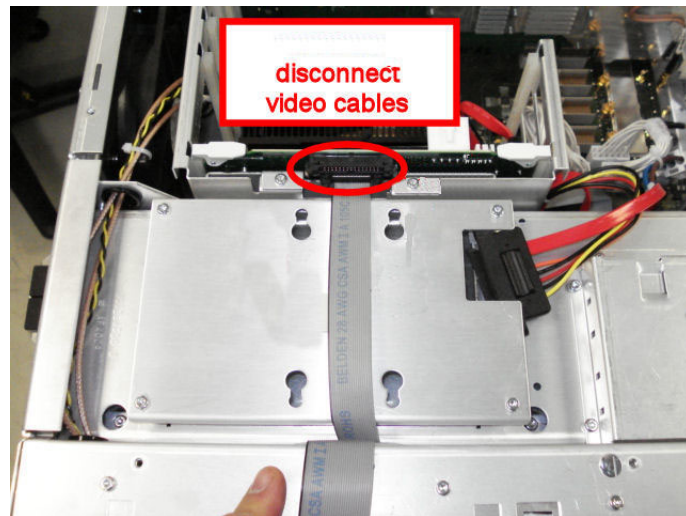
This completes the upgrade from to Option 57. If you ever need to restore the operating system on your instrument, use the operating system restore DVD (Tektronix part number 020-3016-XX) that shipped with this upgrade kit. Do not use the operating system restore disk that originally shipped with your instrument.

Installing Option 59: Internal Hard Drive

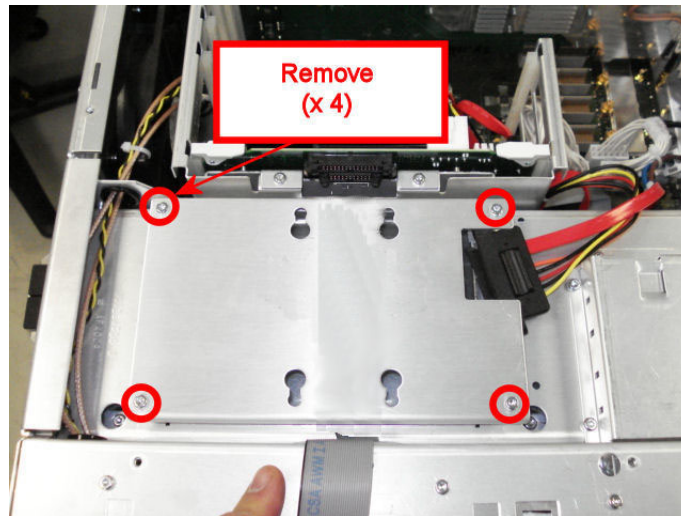
To perform the following procedure you must have already removed Option 56 from your instrument. (See page 5, *Removing a Removable Hard Disk Drive (Option 56).*)

To install the internal hard drive:

1. Disconnect the video cables from the PC Carrier board and fold them over the front of the instrument.



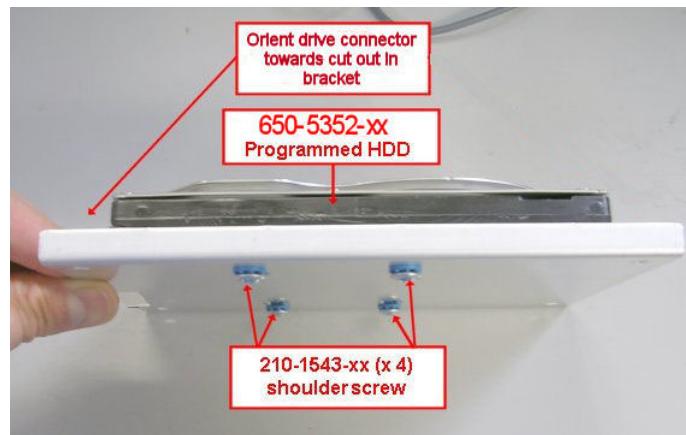
2. Remove the four screws that secure the HDD bracket to the chassis and remove the bracket.



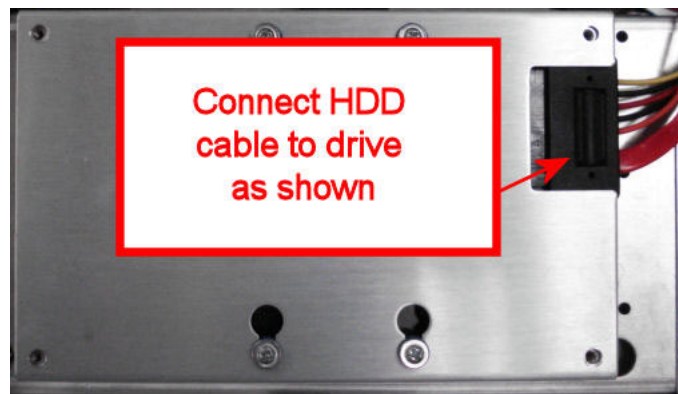
3. Install four grommets (part number 348-1835-XX) on the HDD bracket as shown.



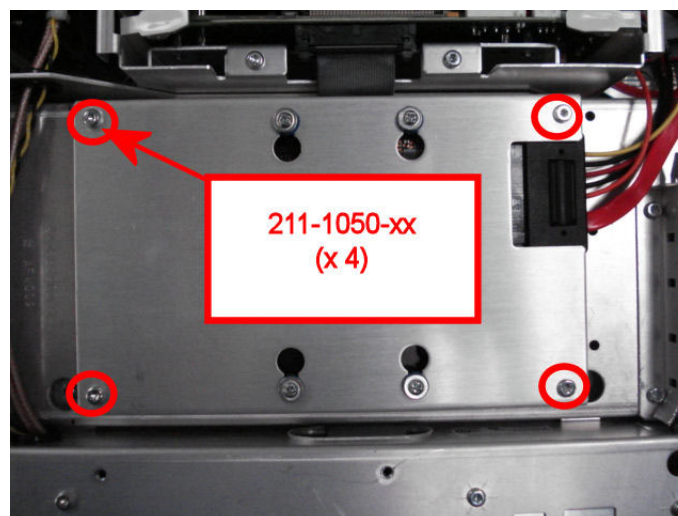
4. Place the drive assembly (part number 650-5352-XX) onto the HDD bracket with the connector appears in the cutout in the HDD bracket. Secure the drive assembly to the HDD bracket with four screws (part number 210-1543-XX) using a torque drive with a P1 tip. Tighten the screws to 4.0 in-lbs.



5. Connect the HDD SATA cable to the drive assembly.



6. Place the drive assembly and HDD bracket on the chassis as shown. Secure the HDD bracket to the chassis with four screws (part number 211-1050-XX) using a torque driver with a T15 tip. Tighten these screws to 10 in/lb.



7. Reconnect the smaller video cable to the PC Carrier board.
8. Reconnect the larger video cable to the PC Carrier board.
9. Reinstall the top internal cover:
 - a. Position the top internal cover on the instrument, so that the protrusions in the cover match up with the slots in the chassis.
 - b. Reinstall the 18 T15 to secure the cover to the chassis. Tighten these screws to 8.0 in/lb.
10. Reinstall the top and bottom cosmetic covers and carrying handle:
 - a. Place the instrument on its rear feet, so the front panel is facing up and the top is toward you.
 - b. Place the top cover over the top of the instrument and slide it toward the front panel. Make sure that the top cover wraps around the flanges on the rear panel on all three sides.
 - c. Reinstall the four 5/32" hex head screws (two on each side) that secure the top cover to the instrument, near the front edge of the top cover (next to the folding handles).
 - d. Align the four screw holes on each side in the top and bottom covers with the holes in the chassis, and install eight T15 screws, four on each side. Tighten these screws to 8.0 in/lb.
 - e. Position the plastic carrying handle and its bracket on the right side of the instrument, and install the two T15 screws that secure it in place. Tighten these screws to 8.0 in/lb.
11. Remove the Windows Certificate of Authenticity from the rear panel. Replace it with the Certificate of Authenticity provided in this kit.
12. Reinstall the power cord and power on the instrument.

This completes the upgrade from to Option 59. If you need to restore the operating system on your instrument, use the operating system restore DVD (Tektronix part number 020-3016-XX) that shipped with this upgrade kit. Do not use the operating system restore disk that originally shipped with your instrument.