

**RSA6100A Series
Real-Time Spectrum Analyzers
RSA6UP Option 200
Enhanced DPX and Triggers
Instructions**

www.tektronix.com



075-0987-00

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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 RSA6100A Service manual (Tektronix part number 071-1914-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 the RTT/DPX (Option 200) Board and the CPU bracket in an RSA6100A Series Real-Time Spectrum Analyzer. The RTT/DPX (Option 200) board enables Enhanced DPX and Triggers functionality, and replaces the RTT/DPX board in the instrument.

NOTE. *You may not need to install the CPU bracket, check your instrument to verify which bracket is installed. (See Figure 2 on page 5.)*

Products

RSA6100A Series. All instruments

Kit Parts List

Quantity	Part number	Description
1 ea	863-0273-XX	CIRCUIT BD ASSY; RTT/DPX,PB-FREE,870027300 FUNCTIONALLY TESTED,878027300 TESTED,389367101 WIRED, OPTION 200
1 ea	407-5142-XX ¹	BRACKET,SUPPORT; SLOT PC
1 ea	075-0987-00	INSTRUCTION,KIT; DPX BOARD INSTALLATION FOR RSA6UP 200,PRINTED
1 ea	020-2715-XX	PACKAGING KIT; INSTRUMENT SOFTWARE
1 ea	063-3930-XX	SOFTWARE;DOCUMENTS CD

¹ You may or may not need to install the CPU bracket, check your instrument.

Installation Instructions

This section contains all procedures needed to install the RTT/DPX (Option 200) Board, the CPU bracket, and the product software in RSA6100A Series instruments.

Minimum Tool and Equipment List

The following tools are required to remove the instrument covers, the bracket, and reinstall the VGA cable. 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	T-15 TORX tip	TORX-driver tip for T-15 size screws on the instrument covers
3	5/32-in. hex wrench	Hex wrench to remove Allen head screws at front of top cover
4	T-10 TORX tip	TORX-driver tip for T-10 size screw heads on the VGA cable connector
5	3/16-in. nut driver	Nut driver to remove the hex posts from the bracket (Slot PC board)

Optional: A torque wrench helps to ensure reliable connections to meet the nominal torque values that may be listed in these instructions.

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 product service manual, Tektronix part number 071-1914-xx.

Remove Cosmetic Top Cover

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 which may result in injury or loss of life, switch off the instrument power, then disconnect the power cord from the mains power.

1. Remove the power cord.
2. If it is installed, pull the front protective cover off the instrument.
3. Remove the two T-15 TORX-driver 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 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 (leave the bottom cover in place). Remove the top cover by pulling straight back about 1 inch. Then pull the sides of the top cover outward, flexing them slightly to clear the instrument chassis, and pull it away from the instrument.
6. Remove the 18 T-15 screws that secure the top internal cover to the chassis, and then remove the top internal cover from the instrument.

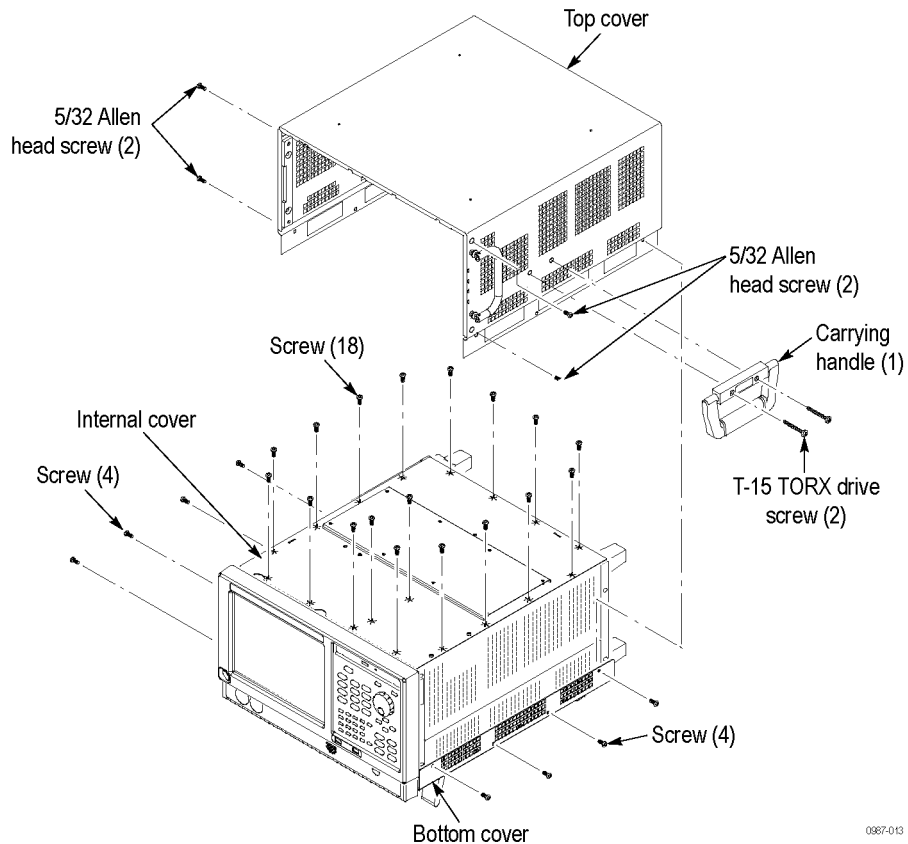


Figure 1: Removing the Cosmetic Top Cover

Remove the RTT/DPX Board and Bracket

NOTE. The slot numbers are labeled on the Digital Interface board by the connectors.

1. Remove the RTT/DPX board from the instrument (Slot 5). Discard this board as recommended by your company policy.

NOTE. Check if your instrument already has the CPU bracket installed as shown. (See Figure 2.) If it does, skip the remaining steps in this section and install the RTT/DPX (Option 200) board. Beginning with step 10. (See page 15.)

If you need to install the CPU bracket, follow these steps.

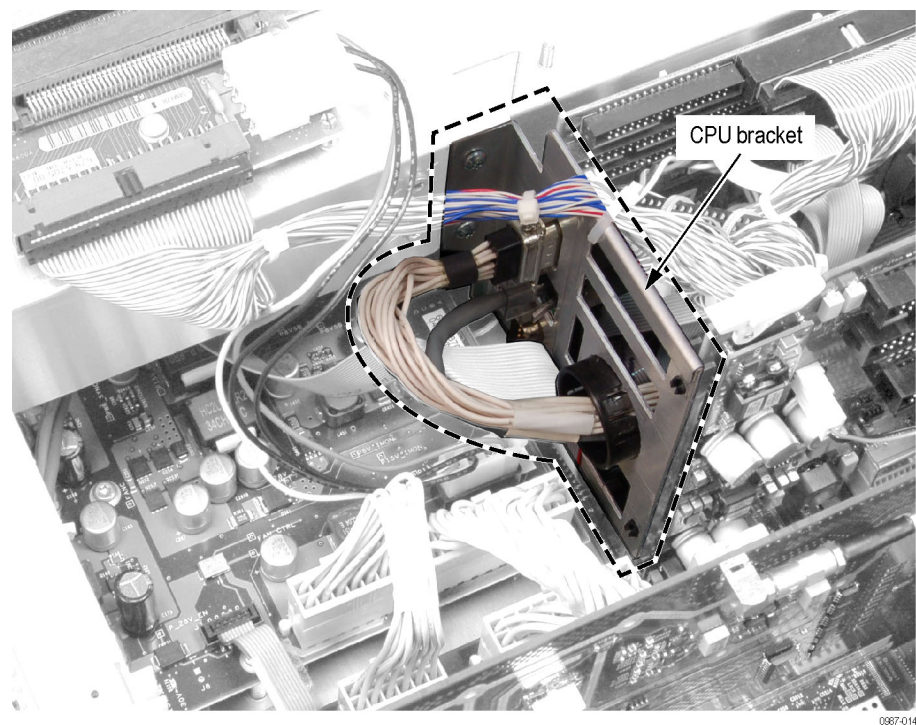


Figure 2: CPU bracket installed on Slot PC board

2. If Option 05 (RT/IQ board) is installed in Slot 3, disconnect the cabling from the RT/IQ board to gain sufficient clearance to remove the Slot PC board:
 - a. Use the board ejectors to disconnect the RT/IQ board connector.
 - b. Disconnect the IQ Out cables from the RT/IQ board, and lay them over the rear panel.
 - c. Disconnect the IF Out cable from the SMB connector on the RT/IQ board. Note the routing of this cable for reinstallation.
 - d. Disconnect the RT/IQ ground cable from its two-pin connector. Note the routing of this cable for reinstallation.

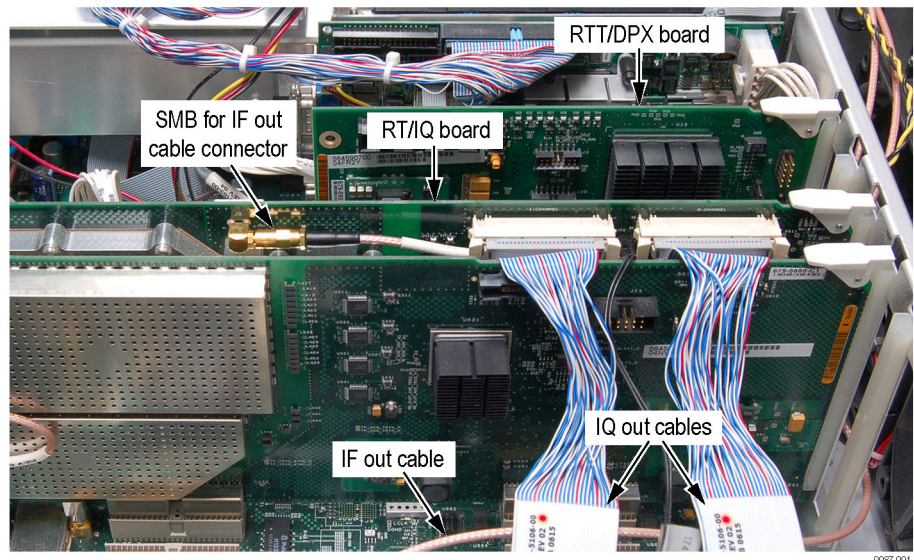


Figure 3: Removing the cables from RT/IQ board

3. Remove the RT/IQ board from the instrument.



CAUTION. Do not remove the Acquisition board from the instrument. The calibration of the instrument may be compromised, requiring a return to the factory for recalibration.

4. Disconnect the IDE cable to the HDD and/or DVD connector (Blue connector on the IDE cable) from the Slot PC board.

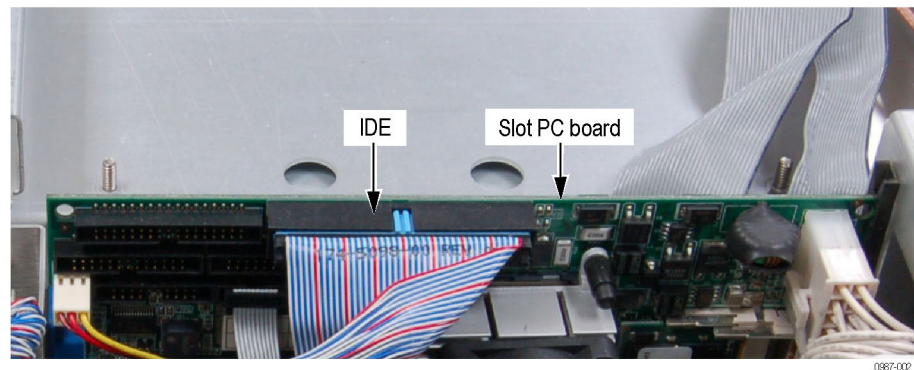


Figure 4: IDE cable location

NOTE. Only disconnect the following cables from the **Digital Interface Board**. Do not disconnect these cables from the Slot PC board (except for the Ethernet cable).

5. Disconnect these cables from the Digital Interface board:
 - Ethernet cable from J20 (PC NETWORK) and the Slot PC board
 - VGA cable from J28 (PC VIDEO)

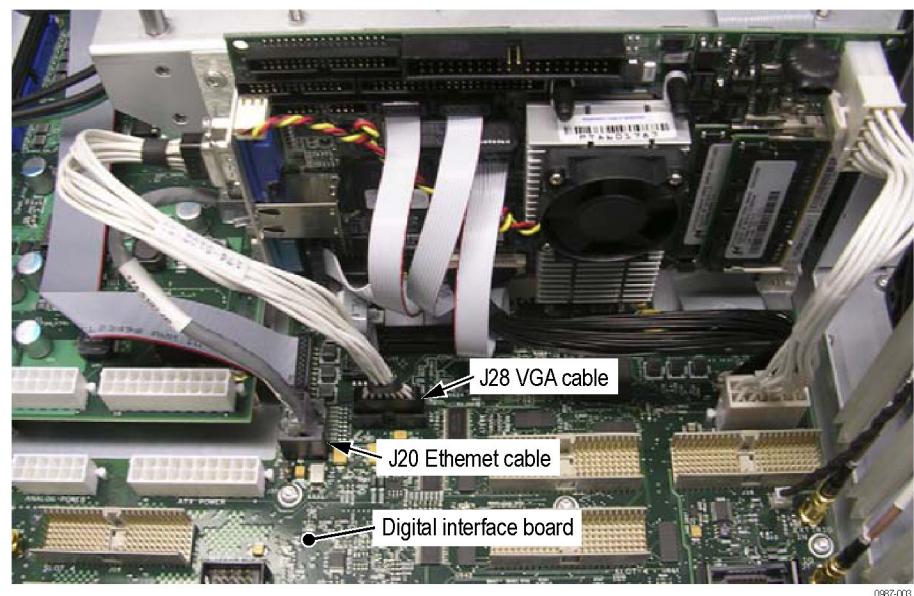


Figure 5: Cables J20 and J28 locations

- 12-pin Power cable from J36 (PC POWER). Hold down the latches on either side of the connector to remove the cable.
- 40-pin cable from J29 (LVDS VIDEO IN). See note below.

NOTE. The 40-pin cable (J29) is difficult to connect and seat in the connector on the Digital Interface board. When reinstalling, make sure that the connector is fully seated.

- 10-pin ribbon cable from J34 (AC97 IN).

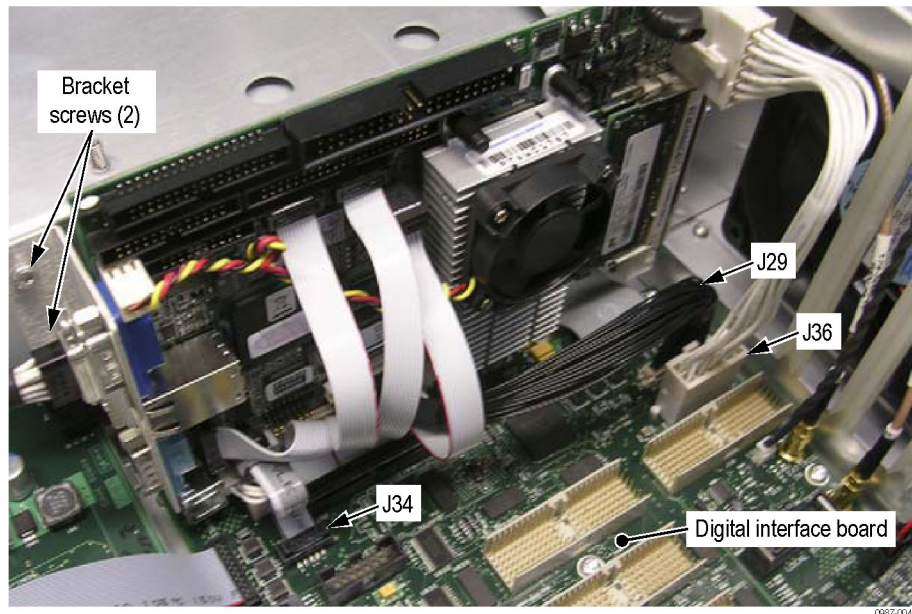


Figure 6: Cables J29, J34, and J36 locations [being updated, Mel]

6. Remove the two screws that secure the bracket to the side of the chassis using a T-15 driver. (See Figure 6.)
7. Lift the Slot PC board, to disengage the PCI connector from the Digital Interface board, but do not remove it completely from the instrument yet.

8. Disconnect these cables from the Digital Interface board as shown. (See Figure 7.)
 - 44-pin ribbon cable from J32 (COM/USB/FP).
 - 5-pin cable from J4.

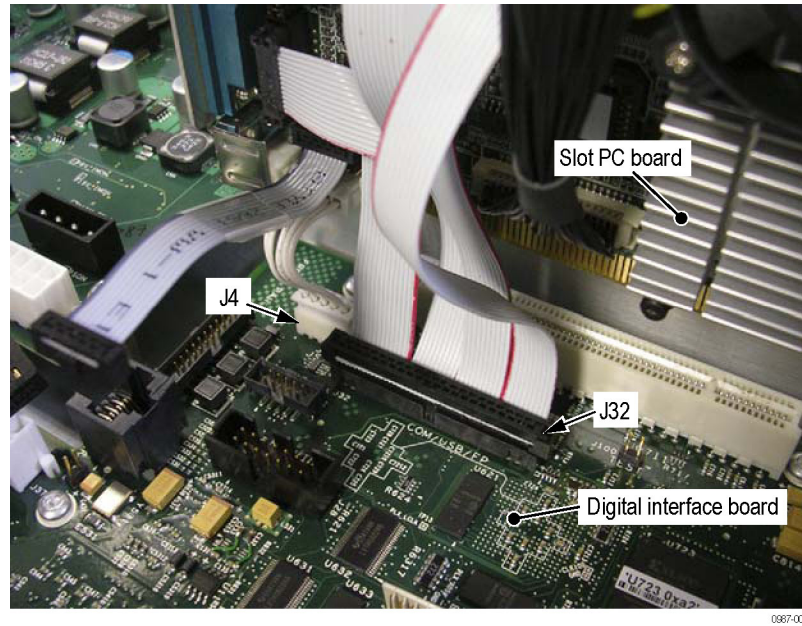


Figure 7: Cables J4 and J32 locations

9. Remove the Slot PC board from the instrument.

NOTE. *If you accidentally remove the J32 cable from the Slot PC board, reconnect the ribbon cables as shown.*

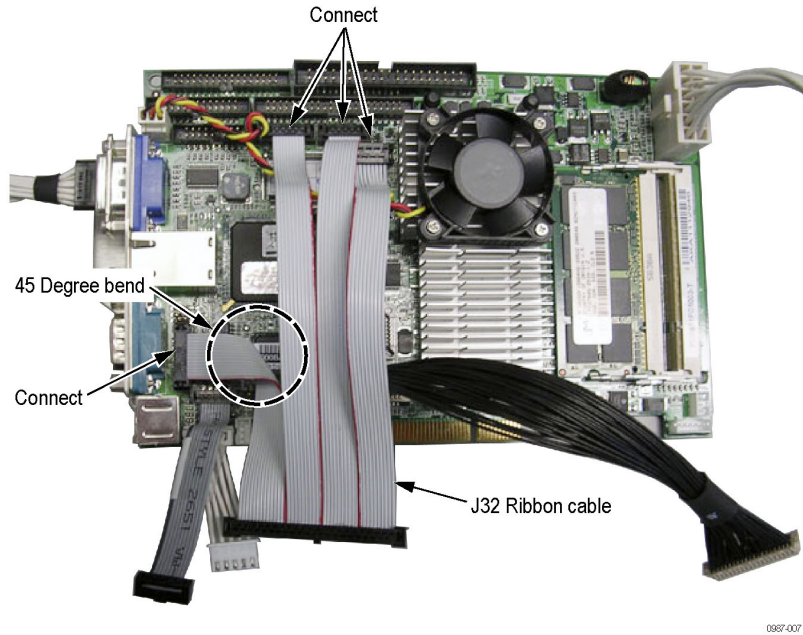
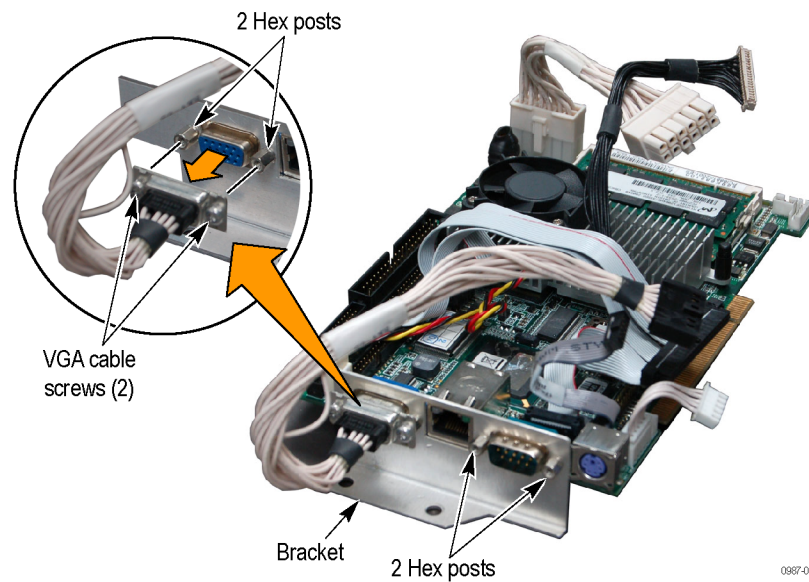


Figure 8: Ribbon cable locations (for J32) on the Slot PC board

10. Remove the existing bracket from the Slot PC board:

- Using a T-10 driver, remove the two screws from the VGA video cable on the bracket.
- Disconnect the VGA video cable from the socket.
- Using the 3/16" nut driver, remove the four hex posts that attach the RS232 connector and VGA connector to the bracket.

**Figure 9: Slot PC board with older bracket**

Install the RTT/DPX (Option 200) Board and CPU Bracket

NOTE. Check if your instrument already has the CPU bracket installed as shown. If it does, skip the following steps and install the RTT/DPX (Option 200) board. Go to step 10. (See page 15.)

If you need to install the CPU bracket, follow these steps.

1. Install the CPU bracket on the Slot PC board as shown using the existing hex posts (4) disconnected in step 10 of the removal procedure. (See page 11.)

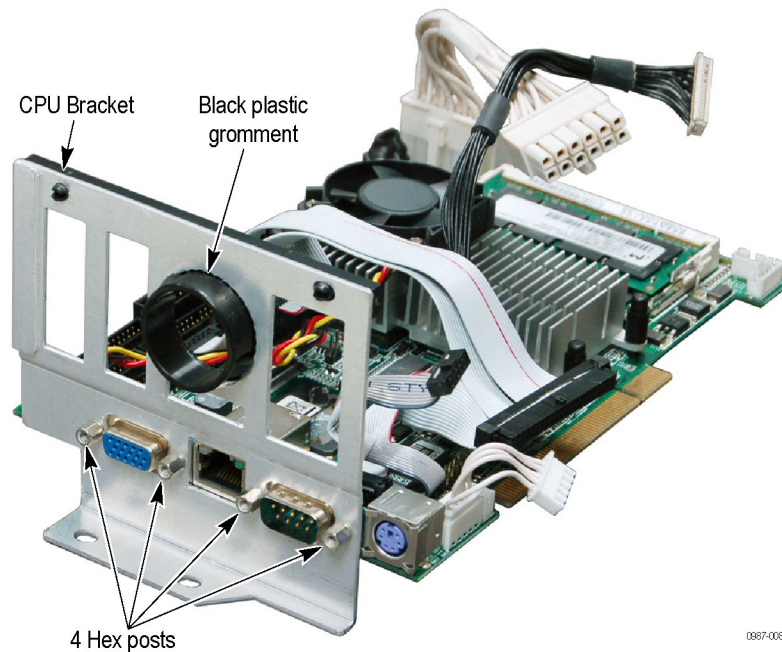


Figure 10: CPU Bracket and Slot PC board

2. Install the Slot PC board by reconnecting the cables disconnected in steps 4 through 5 of the removal procedure. (See page 7.)

3. Using a T-15 wrench and the two existing bracket screws, install the CPU bracket on the chassis (torque to 8.0 in-lb). (See Figure 11.)
4. Dress the VGA cable through the black plastic grommet on the CPU bracket and connect the VGA cable to the VGA connector on the CPU bracket.
5. Using a T-10 wrench and the two existing VGA-connector screws, secure the VGA connector to the hex posts on the CPU bracket (torque to 5.5 in-lb).
6. Dress the Ethernet cable through the black plastic grommet on the CPU bracket and connect the Ethernet cable to the Ethernet connector on the CPU bracket.

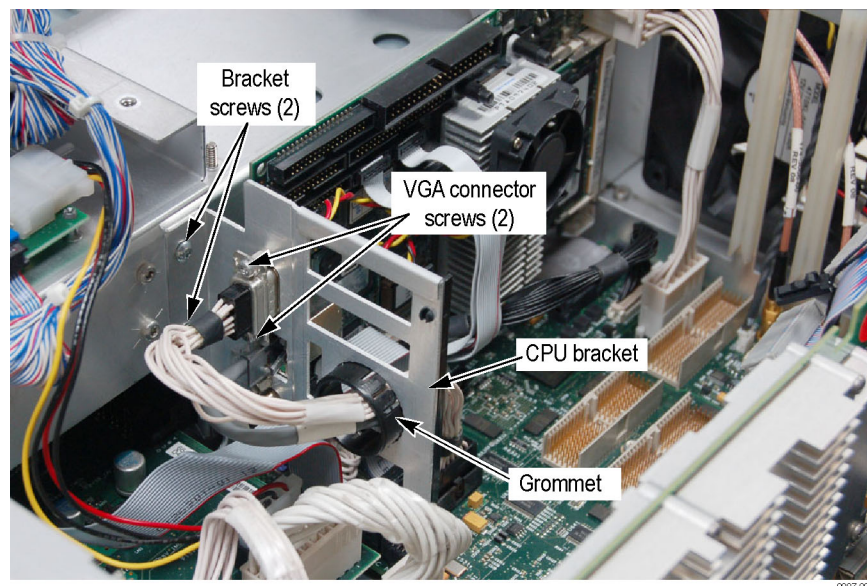


Figure 11: CPU bracket installed on the chassis

7. Reconnect the IDE cable to the Slot PC board. (See Figure 12.)
8. Using a cable tie, rebundle the IDE cables to the top of the CPU bracket (on the smooth edge).

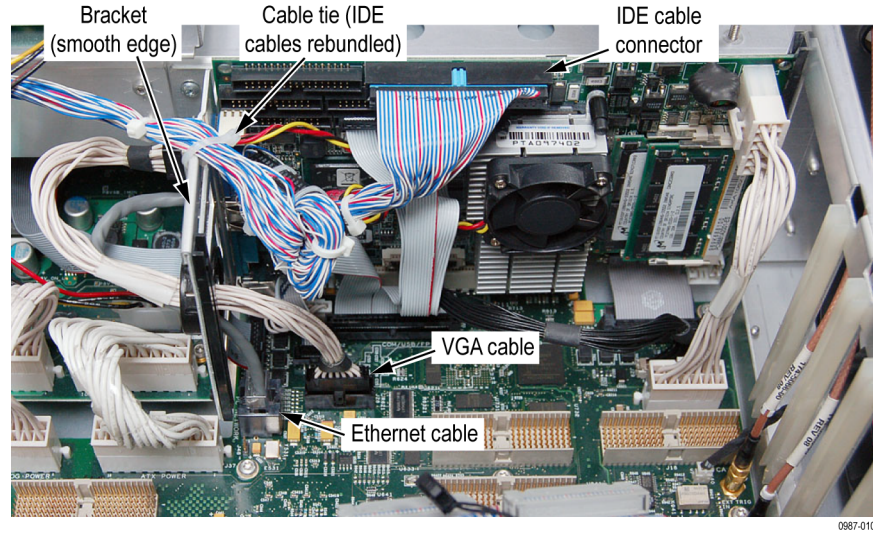


Figure 12: IDE cables and cable tie location (for Options 06 and 08)

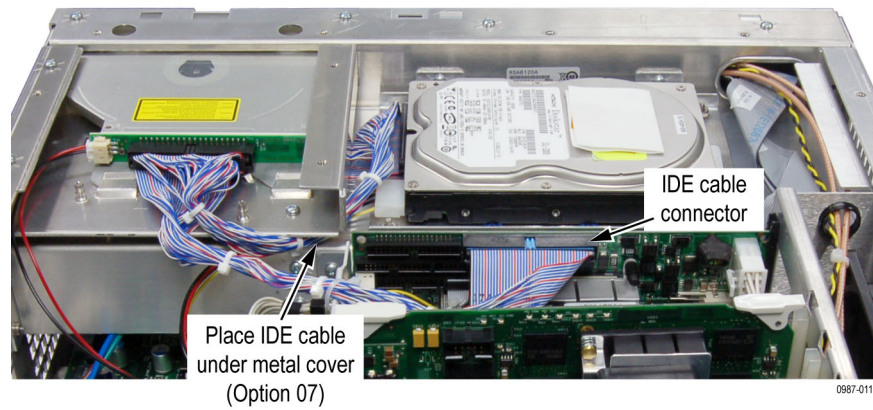


Figure 13: IDE cables and cable tie locations (for Option 07)

9. If the RT/IQ (Option 05) board was installed in Slot 3, reconnect the cables disconnected in step 2. (See page 5, *Remove the RTT/DPX Board and Bracket.*) (Reseat the RT/IQ board into the Digital Interface board connector. Be careful not to bend the pins on the Digital Interface board when seating the RT/IQ board.)

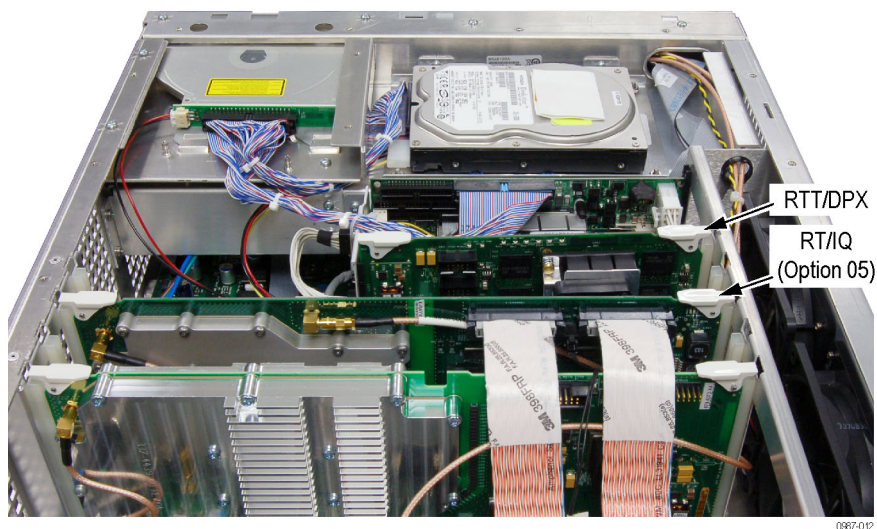


Figure 14: RT/IQ (Option 05) and RTT/DPX (Option 200) boards installed.



CAUTION. To prevent damage to the connector on the Digital Interface board, gently slide and then connect the RTT/DPX (Option 200) board into the Digital Interface board connector.

10. Install the RTT/DPX (Option 200) board (Slot 5). Be careful not to bend the pins on the Digital Interface board when seating the RTT/DPX (Option 200) board.
11. Reinstall the top internal cover. (See Figure 1 on page 4.)
 - Place the top internal cover onto the instrument, aligning the two protrusions on the cover with the two slots in the chassis.
 - Replace the 18 T-15 screws that secure the top internal cover to the chassis. Torque these screws to 8.0 in/lb.

Reinstall Cosmetic Top Cover

Reinstall the top and bottom covers. (See Figure 1 on page 4.)

1. Place the instrument on the rear feet, so the front panel is facing up and the top is toward you.
2. 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.
3. Reinstall the four 5/32-in. Allen head screws (two on each side) near the front edge of the top cover (next to the folding handles) that secure the top cover to the instrument.
4. Align the four screw holes on each side in the top and bottom covers with the holes in the chassis, and install eight T-15 screws, four on each side. Torque these screws to 8.0 in/lb.
5. Position the plastic carrying handle and its bracket on the right side of the instrument, and install the two T-15 screws that secure it in place. Torque these screws to 8.0 in/lb.

Software Installation

Use the RSA6100A Series product software disc to reinstall the spectrum analyzer product software if your instrument software version is earlier than the software version listed on the disc.

1. If a keyboard is not installed, connect one to the instrument (the supplied accessory keyboard plugs into the USB connector).
2. If your instrument has a removable hard drive (Option 06) or a solid-state hard drive (Option 08), connect a USB external DVD drive to the instrument.
3. Power on the instrument.

4. After the instrument completes booting up, exit the product software application (Select File > Exit).
5. Insert the Product Software disc in the front-panel DVD drive (or external drive), and close the drive tray.
6. The Setup Wizard starts. Follow the instructions to install the product software.



CAUTION. When the Setup Wizard displays the Select Installation Folder screen, the Setup Wizard allows you to select whether the software is installed for **Everyone** or **Just me**. Always select **Everyone** to ensure proper software operation.

7. When the product software installation is complete, the **Installation Complete** screen appears. Click Close to exit the Setup Wizard.
8. When the RSA6100A Setup dialog box appears, click **OK**.

The Product Software is now ready to use.

Install Option Key

To activate the enhanced DPX and Trigger functionality option:

1. In the spectrum analyzer application, select Tools > Install Upgrades. The Install Upgrade wizard starts, as shown in Figure 1. Click Continue.

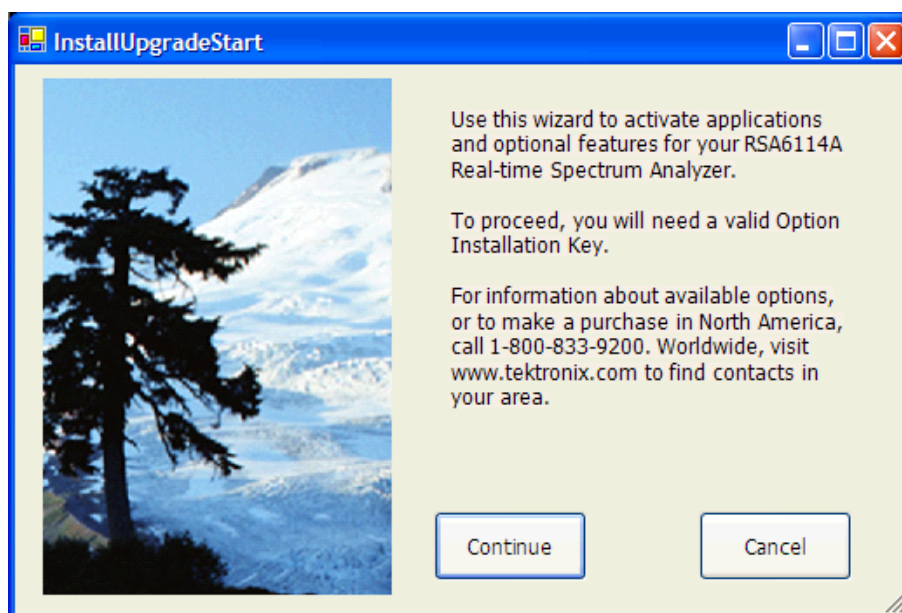


Figure 15: Starting the option upgrade

2. The Install Upgrade Enter Key screen appears as shown.

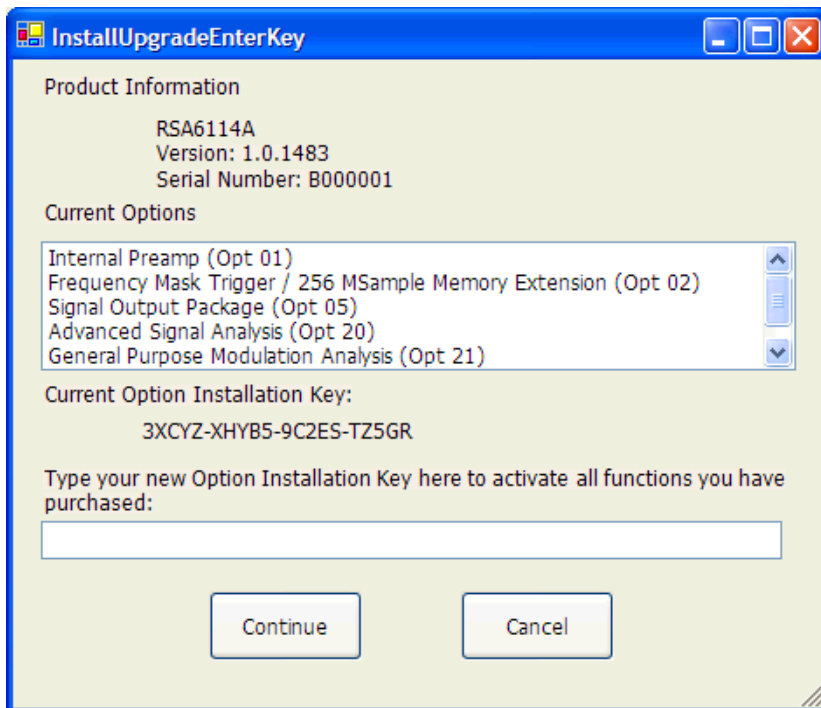


Figure 16: Entering the option installation key

3. Type the option installation key into the empty text box and click Continue. An Installation Success dialog box opens, as shown.

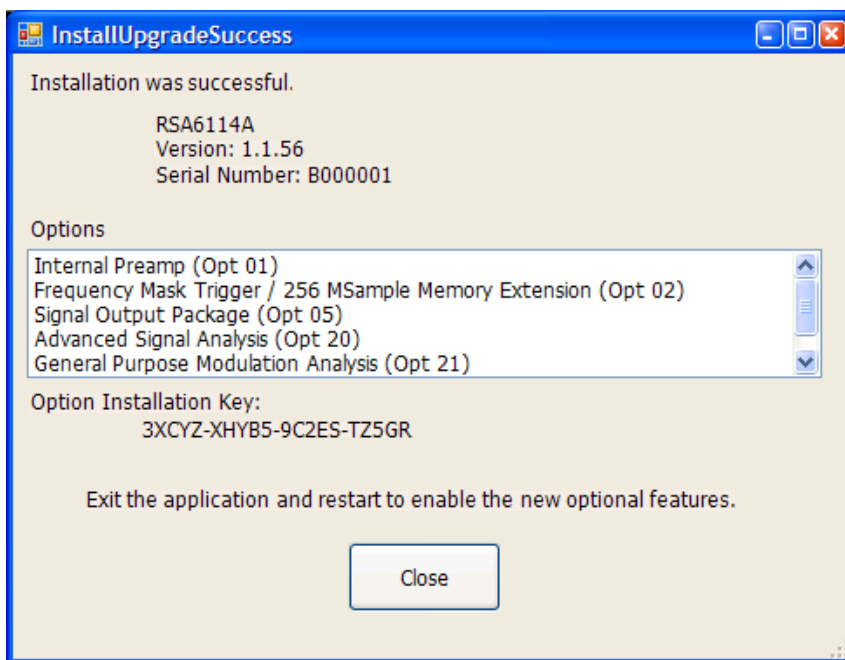


Figure 17: Upgrade success notification

4. Click Close. Exit and restart the RSA6100A application to enable the new feature.
5. Select Help > About Tektronix Real Time Spectrum Analyzer.
6. In the installed Options window verify that Option 200 is listed.
7. Click Ok.

Installing the Option Key Label

Place the new option key label over the existing label on the instrument rear panel.

This completes the installation of the Enhanced DPX and Trigger functionality (Option 200) upgrade kit.

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