

Instructions



RSA6100A Series Real-Time Spectrum Analyzers

RSA6UP Option 02 and Option 2L Frequency Mask Trigger and 1 GB Memory Upgrade

071-1917-01

Warning

The 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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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 Frequency Mask Trigger and 1 GB Memory Expansion Upgrade (Option 02 and Option 2L) in an RSA6100A Series Real-Time Spectrum Analyzer.

Products

RSA6106A All serial numbers
RSA6114A All serial numbers

Option 02 Kit Parts List

Quantity	Part number	Description
1 ea	071-1917-01	MANUAL,TECH:INSTALLATION,RSA6UP, OPT02/2L
1 ea	NS	DATA SHEET; SOFTWARE OPTION KEY AUTHORIZATION CERTIFICATE, UPGRADE KITS
1 ea	NS	LABEL, MANUFACTURED; OPTION KEY UPGRADE LABEL 2.100 X 2.700, SAFETY CONTROLLED

NS Not Saleable

Option 2L Kit Parts List

Quantity	Part number	Description
1 ea	071-1917-01	MANUAL,TECH:INSTALLATION,RSA6UP, OPT02/2L
1 ea	NS	DATA SHEET; SOFTWARE OPTION KEY AUTHORIZATION CERTIFICATE, UPGRADE KITS
1 ea	NS	LABEL, MANUFACTURED; OPTION KEY UPGRADE LABEL 2.100 X 2.700, SAFETY CONTROLLED
1 ea	167-0342-xx	IC, MEMORY, DRAM; 128MX72, 1GB, DDR, 333MHZ, CL-2.5, PC2700, MT18VDDF12872-HG-335D1, SODIMM 200
1 ea	167-0517-xx	IC, MEMORY, DRAM; 128MX64, 1GB, DDR, 333MHZ, CL-2.5, PC2700, MT16VDDF12864HG-335, SODIMM 200

NS Not Saleable

Installation Instructions

This document contains two procedures for installing the Frequency Mask Trigger and 1 GB Memory Upgrade.

To determine which procedure to use, follow these steps:

1. After the instrument boots, go to the Start menu and select Control Panel.
2. Double-click on the System icon.
3. Verify whether the General tab displays **1.96 GB or 992 MB of RAM**.
 - If 1.96 GB is displayed, use the Option 02 procedure: see page 15 (your kit does not include the memory modules).
 - If 992 MB is displayed, use the Option 2L procedure: see page 4 (your kit includes the memory modules).

Updating the Instrument Application Software

Select **Help > About..** from the spectrum-analyzer software menu bar to check the version of your spectrum-analyzer software. The software version appears at the top-right corner of the About box. If your instrument is not running version 1.3.x or later software, you must download and install the latest version of the application software. If your instrument is running version 1.3.x or later software, proceed to Install the Option Key.

To install the latest version of the spectrum analyzer application software:

4. Use your Web browser to go to: www.tektronix.com/software.
5. Enter your instrument model number in the Search by keyword text box and click Go.
6. Follow the link for the RSA6100A Series Software and download the software.
7. Follow the instructions on the Web page to install the software.

Installing Option 2L

The following section contains all the procedures needed to install the Frequency Mask Trigger and 1 GB Memory Expansion Upgrade for Option 2L in your instrument.

Minimum Tool and Equipment List

The following tools are required to remove the instrument covers, remove and install semi-rigid cables, and install the frequency mask trigger and 1 GB memory expansion upgrade. All tools are standard tools that should be readily available.

Table 1: Tools required for Option 2L installation

Item no.	Name	Description
1	Screwdriver handle (magnetic)	Torque driver. Accepts 1/4" 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
5	5/32" 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 product service manual, Tektronix part number 071-1914-xx.

Remove Cosmetic Covers

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 cause injury or death.

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 the four T-15 TORX screws along each side that secure the top and bottom cosmetic covers to the instrument, and remove the two $\frac{5}{32}$ " Allen head screws near the front edge of the top cover (next to the folding handles) on each side.
5. Remove the top cosmetic cover by pulling straight back about 1". 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.

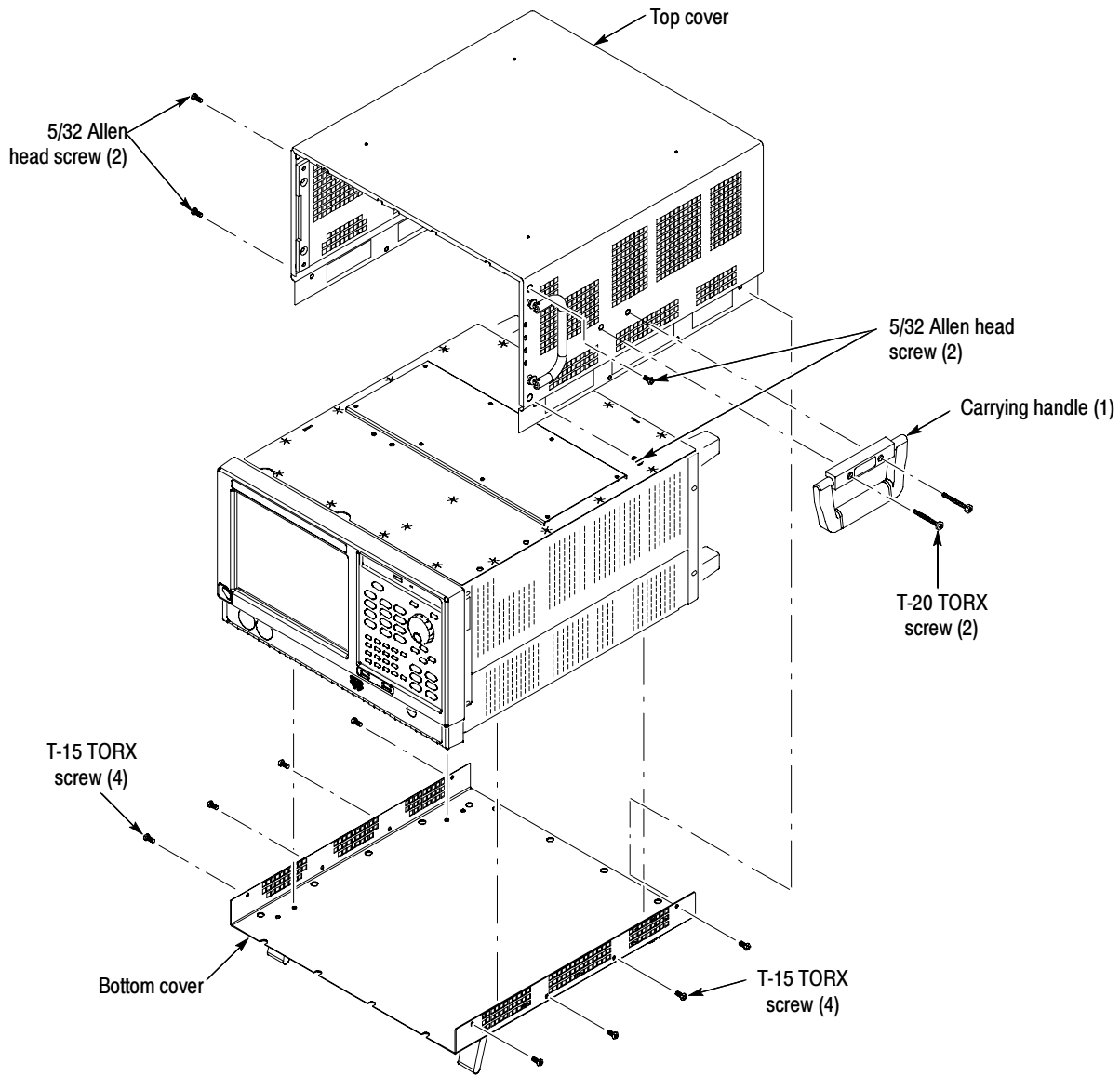


Figure 1: Remove cosmetic covers

Install Memory Expansion

1. Remove the 18 T-15 screws securing the top internal cover to the chassis, and then lift the cover from the chassis.
2. Locate the memory module on the Digital Interface board at the rear of the instrument. See Figure 2.

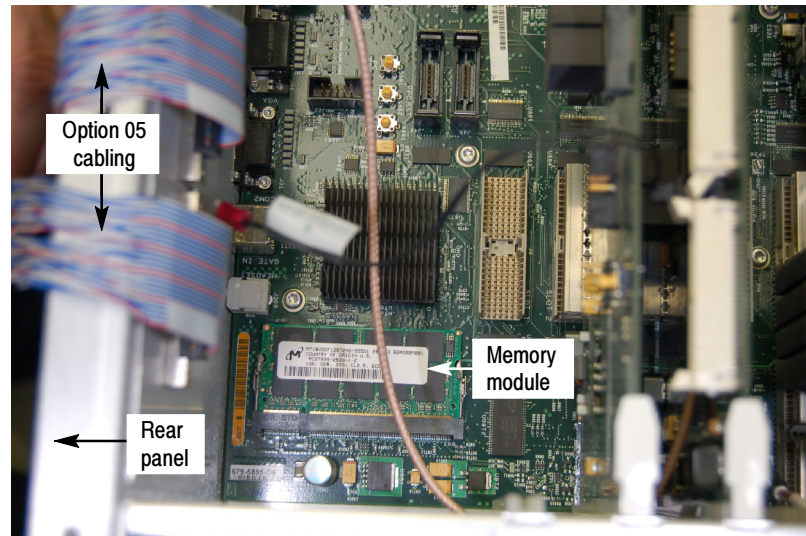


Figure 2: Memory module on Digital Interface board



CAUTION. If an Acquisition board is installed in Slot 1, space available to manipulate the memory module is very limited. Use care to not disturb the Acquisition board or its cable. If either of these are disturbed the spectrum analyzer will need to be returned to the factory for recalibration.

3. Carefully spread the metal tabs at the edges of the module. The module will pop up.
4. Remove the module and replace it with the 167-0342-xx memory module provided in the kit.

Slot PC board (Slot 6)

Perform these steps to remove the Slot PC board

1. Locate the RTT/DPSA board in slot 5. See Figure 3.
2. Remove the RTT/DPSA board from the RSA6100A.
3. Locate the Slot PC board. See Figure 3.

4. Remove the two T-15 screws that secure the Slot PC bracket to the Power Supply bracket.

When reinstalling, torque these screws to 8.0 in/lb.

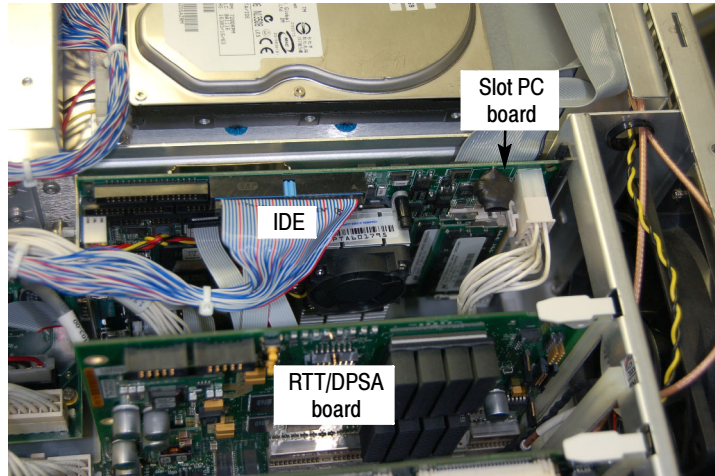


Figure 3: Location of Slot PC board

5. Disconnect the IDE cable to the HDD (blue connector on IDE cable).
6. Disconnect these cables from the Digital Interface board. See Figures 4 and 5:
 - a. Ethernet cable from J20 (PC NETWORK).
 - b. VGA cable from J28 (PC VIDEO).

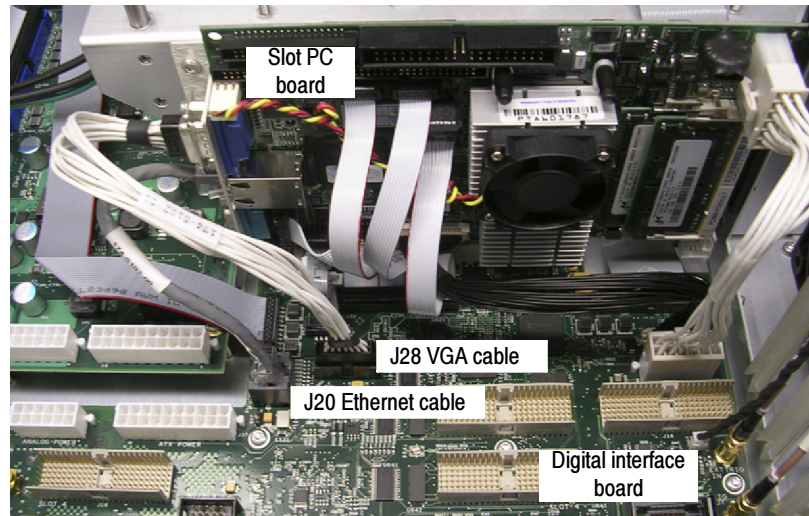


Figure 4: Ethernet and VGA cable connection locations

- c. 12-pin Power cable from J36 (PC POWER).
- d. 40-pin cable from J29 (LVDS VIDEO IN).

NOTE. This cable is very difficult to connect. When reinstalling, make sure that the connector is fully seated.

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

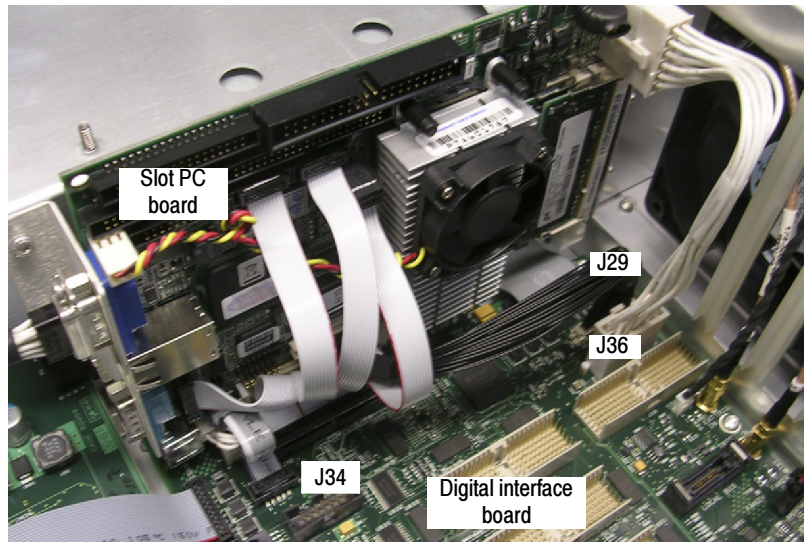


Figure 5: 10-pin, 12-pin, and 40-pin connector locations

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.
8. Disconnect these cables from the Digital Interface board (see Figure 6):
 - a. 44-pin ribbon cable from J32 (COM/USB/FP).
 - b. 5-pin cable from J4.

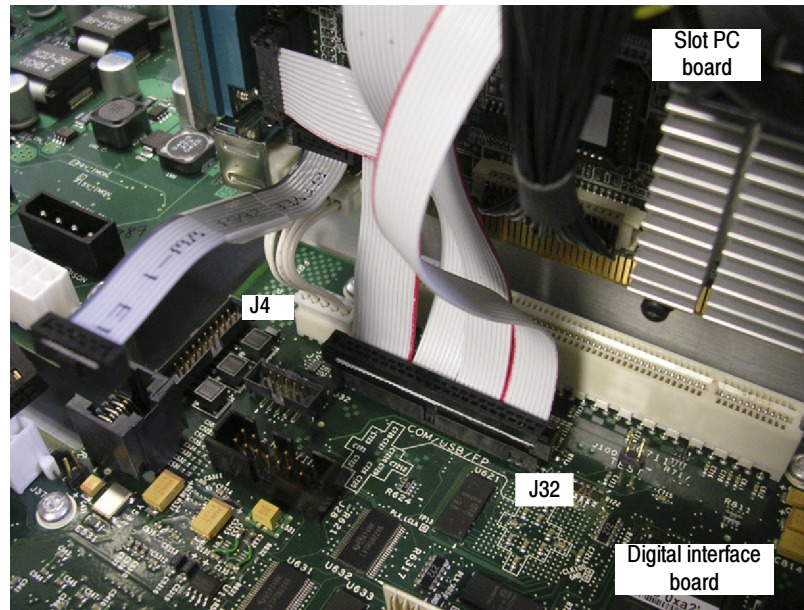


Figure 6: 5-pin and 44-pin connector locations

9. Remove the Slot PC board from the instrument. See Figure 7.

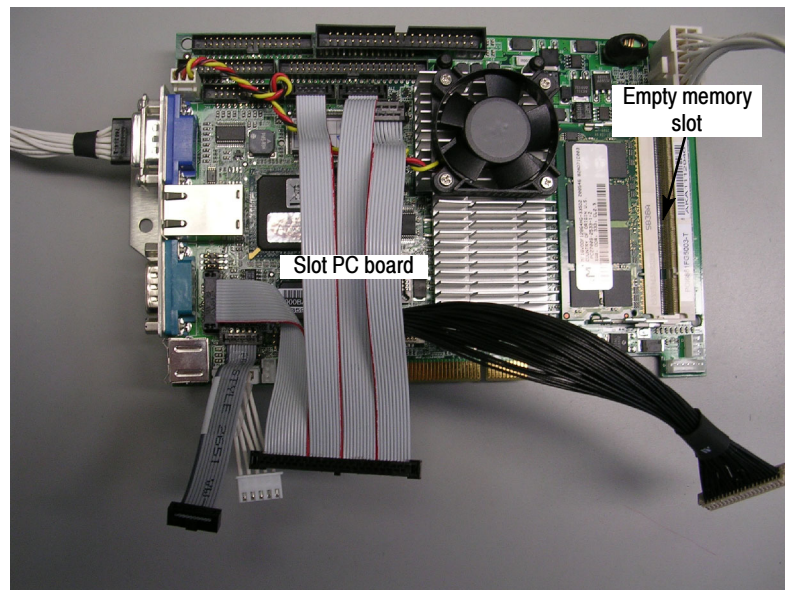


Figure 7: Slot PC board with empty memory slot

10. Slide the 167-0517-xx memory module, provided in the kit, into the empty memory slot at an angle and push it down. See Figure 8.

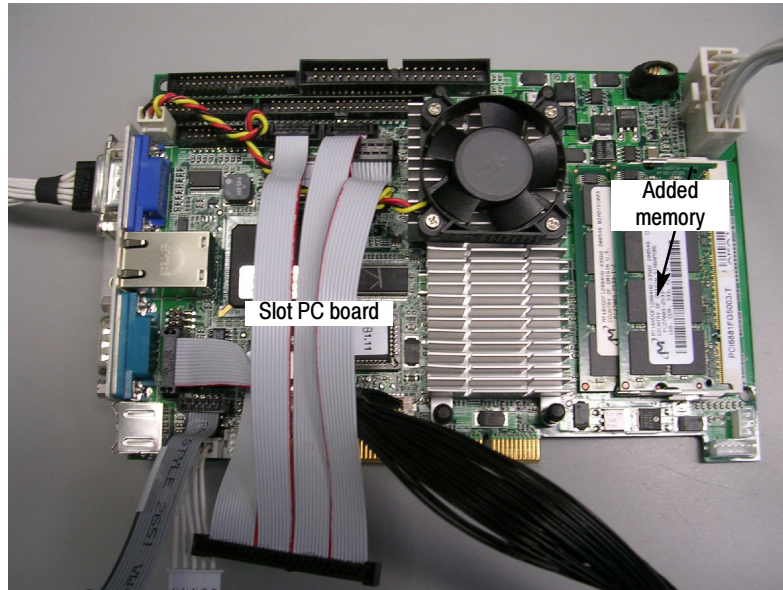


Figure 8: Slot PC board with added memory module

11. Reinstall the Slot PC board by performing steps 4 through 9 of this sequence in reverse order.
12. Reinstall the RTT/DPSA board into slot 5.
13. 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 T-15 to secure the cover to the chassis. Tighten these screws to 8.0 in/lb.
14. 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 towards 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 $\frac{5}{32}$ " Allen 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 T-15 screws, four on each side. Torque 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 T-15 screws that secure it in place. Torque these screws to 8.0 in/lb.
15. Reinstall the power cord and power up the instrument.
 16. After the instrument boots, go to the Start menu and select Control Panel.
 17. Double-click the System control panel.
 18. Verify that the General tab displays **1.96 GB RAM**.
- This completes the installation of the memory upgrade.

Install Frequency Mask Trigger

1. In the spectrum analyzer application, select **Tools > Install Upgrades**. The Install Upgrade wizard starts, as shown in Figure 9. Click **Continue**.

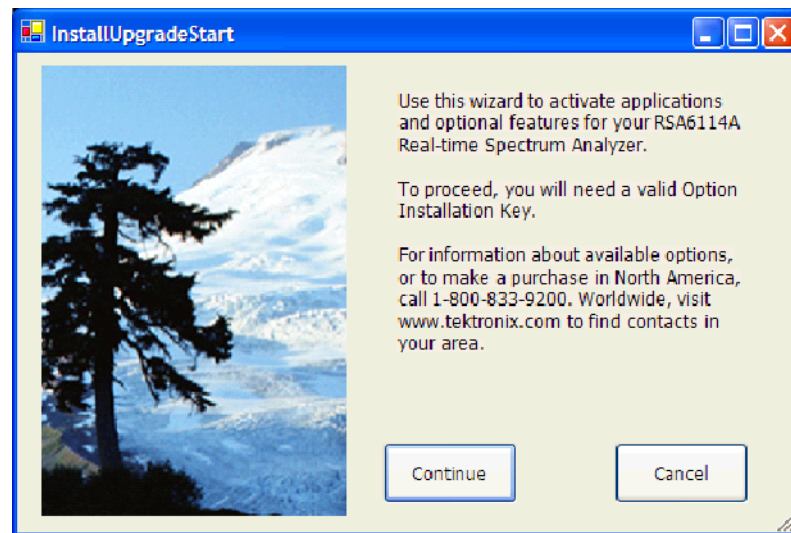


Figure 9: Starting the option upgrade

2. The Install Upgrade Enter Key screen appears (see Figure 10).

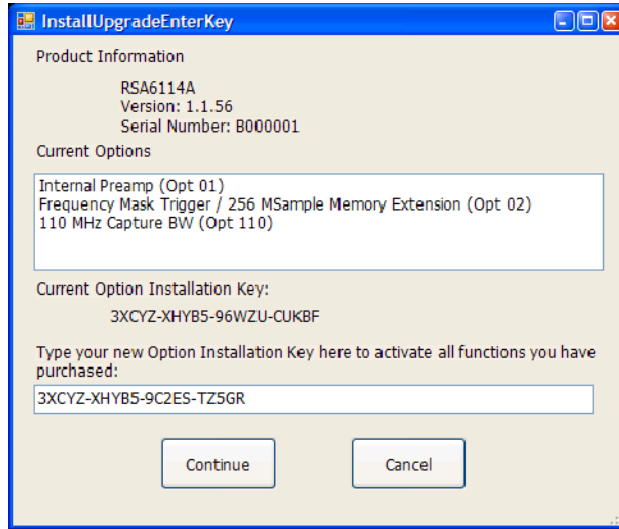


Figure 10: Entering the option installation key

3. Type the option installation key into the empty text box and click **Continue**. An Installation Success dialog opens, as shown in Figure 11.

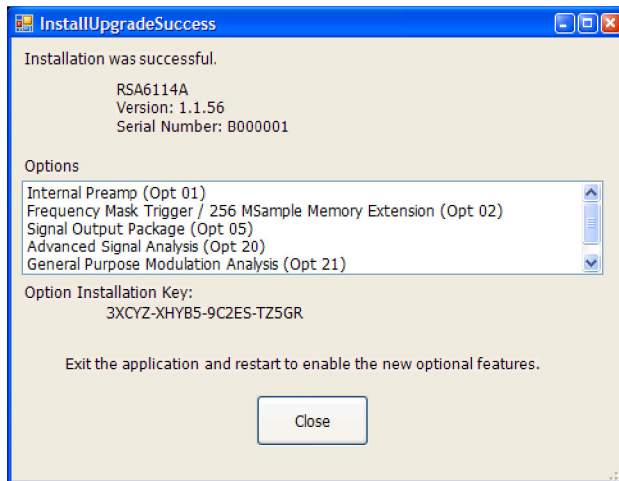


Figure 11: Upgrade success notification

4. Click **Close**, and then exit and restart the RSA6100A application, to enable the new feature.

5. From the spectrum analyzer application, click the Trig button.
6. In the Trigger control panel, select the Event tab. In the Source list, select RF Input.
7. In the Type list, select Frequency Mask. If you can select Frequency Mask, the upgrade installation completed successfully.

This completes the installation of the Frequency Mask Trigger.

Install New Option Key Label

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

This completes the installation of the Frequency Mask Trigger and 1 GB Memory Expansion upgrade kit.

Installing Option 02

Install Frequency Mask Trigger and Memory Expansion

1. In the spectrum analyzer application, select **Tools > Install Upgrades**. The Install Upgrade wizard starts, as shown in Figure 9. Click **Continue**.

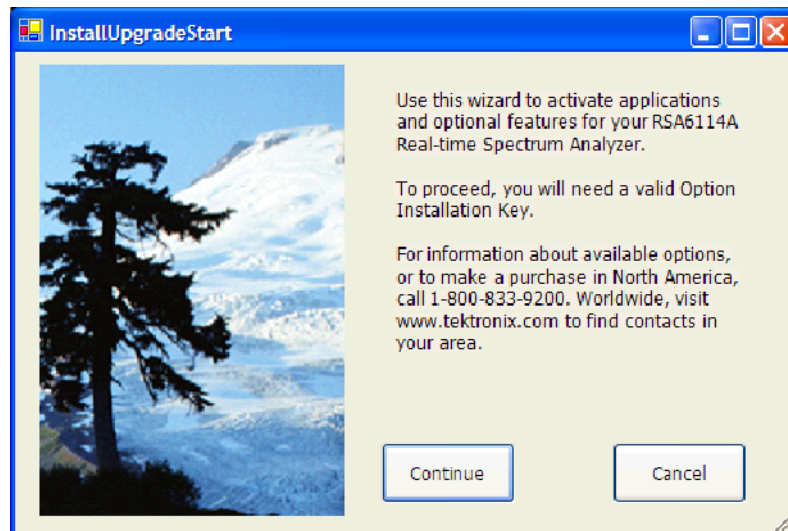


Figure 12: Starting the option upgrade

2. The Install Upgrade Enter Key screen appears (see Figure 10).

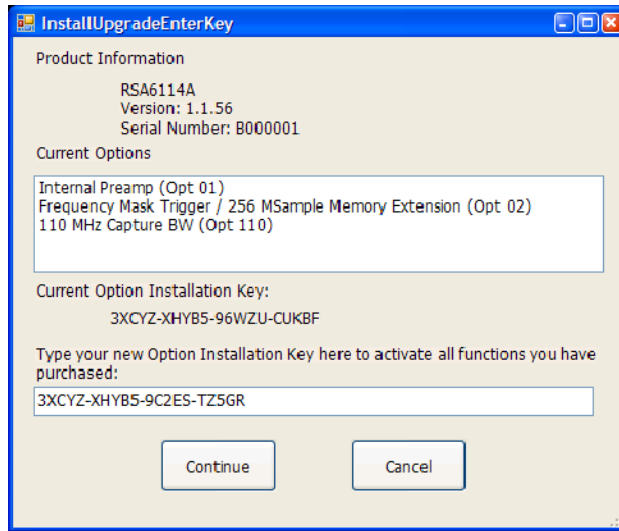


Figure 13: Entering the option installation key

3. Type the option installation key into the empty text box and click **Continue**. An Installation Success dialog opens, as shown in Figure 11.

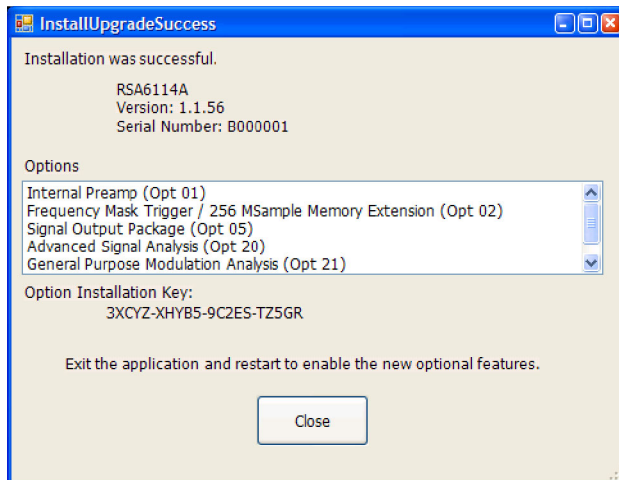


Figure 14: Upgrade success notification

4. Click **Close**, and then exit and restart the RSA6100A application, to enable the new feature.
5. From the spectrum analyzer application, click the Trig button.

6. In the Trigger control panel, select the Event tab. In the Source list, select RF Input.
7. In the Type list, select Frequency Mask. If you can select Frequency Mask, the upgrade installation completed successfully.

This completes the installation of the option key which enables both the Frequency Mask Trigger and 1 GB memory expansion.

**Install New Option Key
Label**

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

This completes the installation of the Frequency Mask Trigger and 1 GB Memory Expansion upgrade kit.

■ End of document ■

