RSA5BUP (Options 65, 66, and 6566)
RSA5UP (Option 5566)
RSA5100A and RSA5100B Series Real-Time Signal Analyzers
Digital I and Q Outputs and Zero Span Output Upgrades

Instructions

www.tektronix.com

075-1061-00

Tektronix

Service safety summary

Only qualified personnel should perform service procedures. Read this *Service Safety Summary* and the *General Safety Summary* located in the *Service Manual* 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 following Options:

RSA5100B Series.

- Option 65: Digital I and Q Outputs
- Option 66: Zero Span Output
- Option 6566: Digital I and Q Outputs and Zero Span Output

RSA5100A Series.

- Option 5566: Digital I and Q Outputs and Zero Span Output

Products

RSA5103B. All serial numbers

RSA5106B. All serial numbers

RSA5115B. All serial numbers

RSA5126B. All serial numbers

RSA5103A. All serial numbers

RSA5106A. All serial numbers

RSA5115A. All serial numbers

RSA5126A. All serial numbers

Kit parts list

The following table provides a list of parts contained in this kit. The kit contains the same parts, regardless of which of the three options you ordered. The actual option (or options) available is controlled with the option key provided in the kit.

Quantity	Part number	Description
1	075-1061-XX	MANUAL, TECH INSTALLATION, RSA5BUP OPTIONS 65, 66, 6566
1	171-2191-XX	MANUAL,TECH; SVCPT-UPG; TEKTRONIX SUPPLEMENTAL INFORMATION SHEET FOR THE PEOPLES REPUBLIC OF CHINA; CHINA ROHS
2	174-5106-XX	CABLE, ASSEMBLY (I AND Q OUT, PANEL MOUNT), SAFETY CONTROLLED
2	174-5195-XX	CABLE ASSY ELEC: 2X 50P MDR CONN. 1.5M L, 18 TWIST PAIR, 100 OHM, 1 I/O, 13 GND, W/SHIELD ***NOTE.*** *These cables are not needed to install the Option. They are supplied for external connections to the I and Q Output connectors.*
1	174-5213-XX	CABLE ASSY, RIBBON; STATIC GROUND, 1X2; SAFETY CONTROLLED
1	174-6418-XX	CABLE, COAX BNC-ST TO SMB-RA
1	200-5317-XX	COVER, REAR PANEL, OPTION (I AND Q / ZERO SPAN)
4	211-0450-XX	SCREW, MACHINE; 2.5MM X 0.45 X 6MM, PNH, STEEL, ZINC PLATED, T8 TORX DRIVE
8	211-1050-XX	SCREW, MACHINE; 6-32 X 0.312 L, PNH, STEEL, ZINC FINISH, T15
1	863-0955-XX	CKT BD SUBASSY; REAL TIME IQ AND LOG VIDEO OUTPUT, FUNCTIONALLY TESTED
1	N/A	LABEL, EXPORT CONTROL CLASSIFICATION ***NOTE.*** *Export control label only applies to RSA5100B Series instruments when installing Option 65 or Option 6566.*
1	N/A	LABEL, MANUFACTURED; OPTION KEY UPGRADE LABEL
1	N/A	LABEL, MANUFACTURED; PRODUCT LABEL, SAFETY CONTROLLED

Installation instructions

This section contains all procedures needed to install the required components.

Minimum tool and equipment list

The following tools are required to for installation of this kit. All tools are standard tools that are readily available.

Item	Name	Description
1.	Screwdriver handle (magnetic)	Torque driver. Accepts 14 inch hex-head driver tips
2.	T8 TORX tip	TORX driver tip for T-8 size screw heads
3.	T15 TORX tip	TORX driver tip for T-15 size screw heads
4.	T20 TORX tip	TORX driver tip for T-20 size screw heads
5.	5/8" hex wrench	Open end wrench to install BNC connector
6.	5/32" hex wrench ***NOTE.*** *Only needed for early models of the RSA5100A Series instruments.*	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's Service Manual.

Remove cosmetic covers and shield

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 can 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 T15 Torx-head 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 T15 Torx-head screws along each side that secure the top and bottom covers to the instrument, and two T20 Torx-head screws near the front edge of the top cover (next to the folding handles).

NOTE. *Early models of the RSA5100A Series instruments used four 5/32" Allen socket cap screws in place of the T15 Torx-head screws.*

5. Remove the top and bottom covers. 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.
6. Remove the eighteen T15 Torx-head screws that secure the top shield to the chassis and remove the shield.

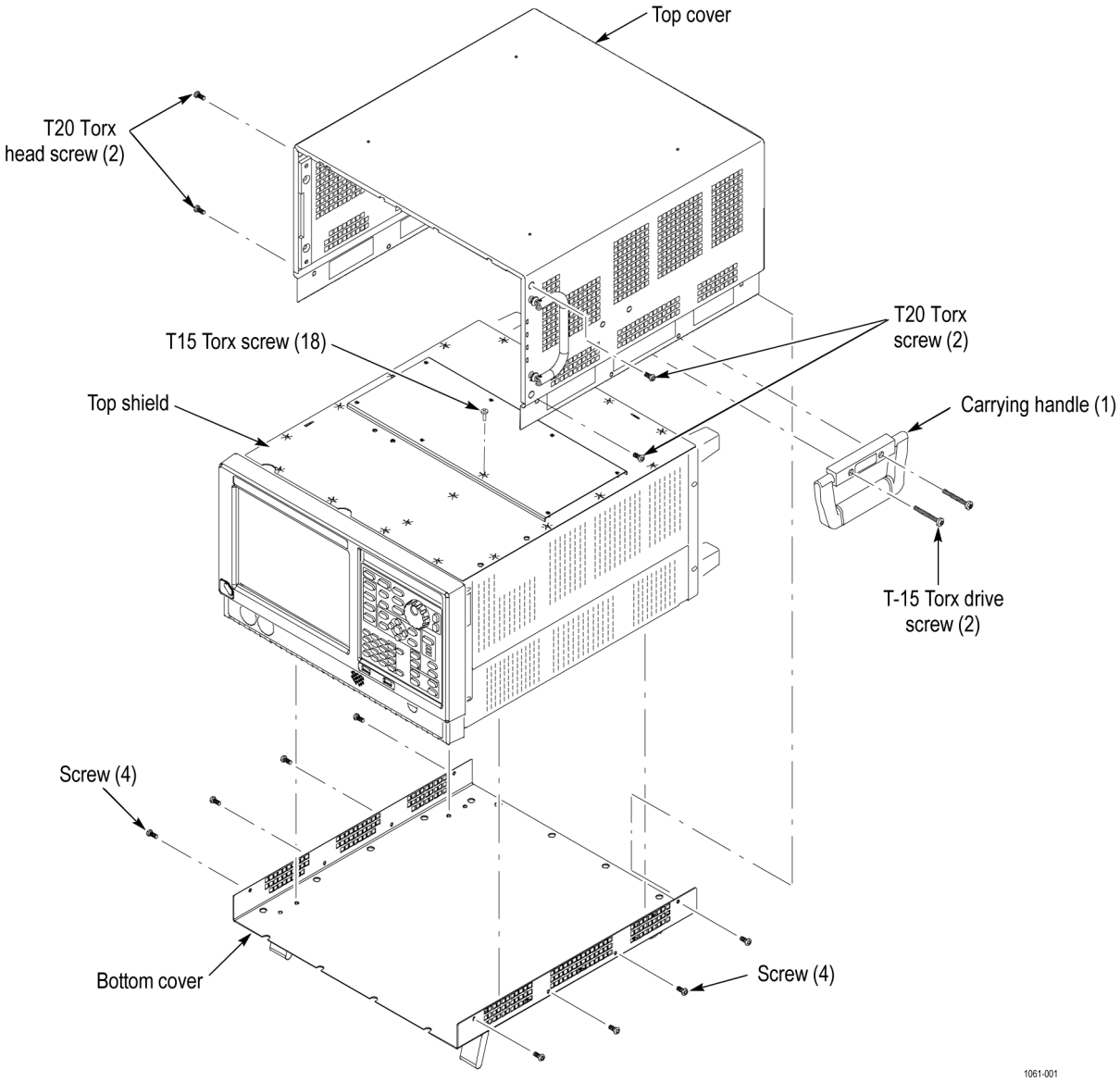


Figure 1: Remove covers

Attach cables to rear-panel cover insert

1. Install the cables to the new rear-panel cover provided in this kit. (See Figure 2.)
   - Install the two IQ Output ribbon cables onto the rear panel cover using four T8 Torx-head screws provided in the kit. Tighten the screws using a torque driver set to 5.5 in-lb.
   - Install the Ground cable onto the spade connector on the rear-panel cover.
   - Install the Zero Span Output BNC cable to the rear-panel cover. Use the BNC washer and 5/8″ nut that is provided with the BNC connector.

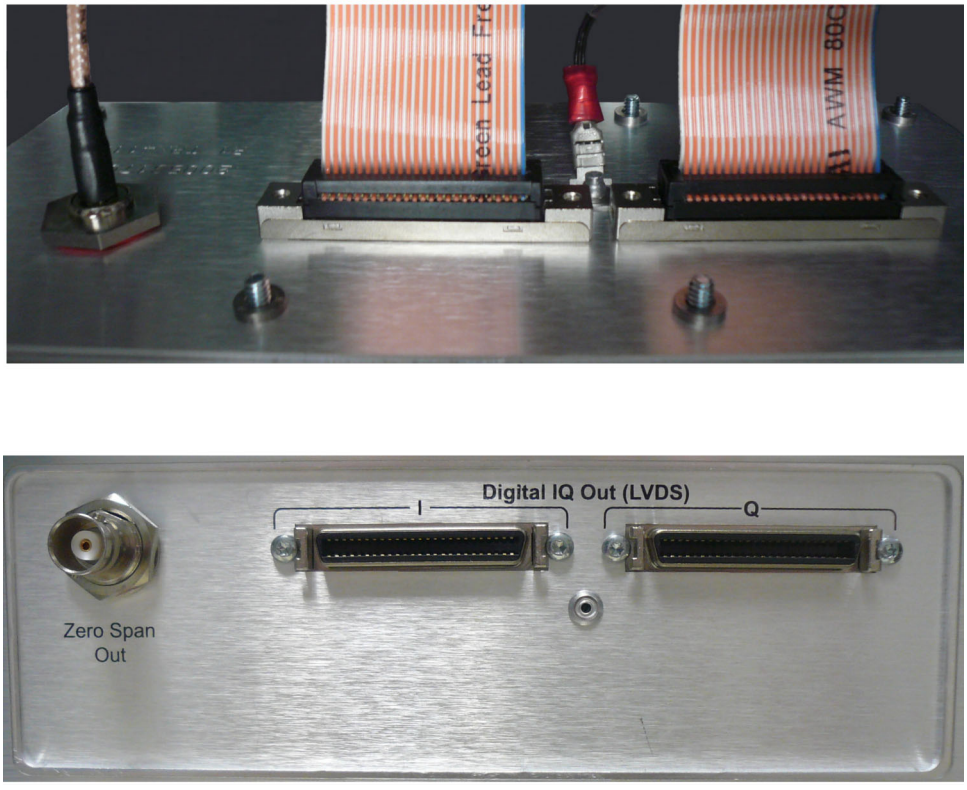


Figure 2: Installing cables

Install rear panel cover insert into instrument

1. Remove the blank, rear-panel cover from the chassis (attached with eight T15 Torx-head screws). Discard the blank panel.
2. Install the new rear-panel cover (with attached cabling) on the rear panel chassis using eight T15 Torx-head screws. Torque these screws to 10.0 in/lb. (See Figure 3.)

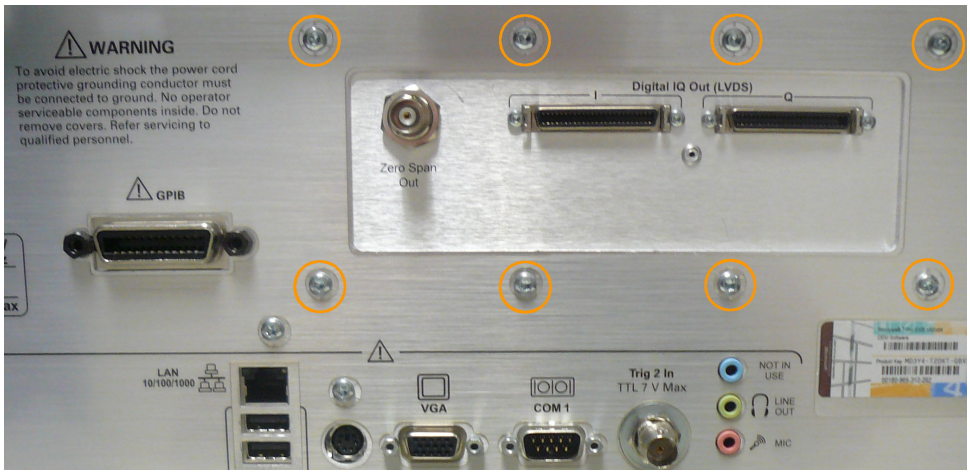


Figure 3: Installing the rear panel cover on the rear panel of the chassis

Install option board

1. Slide the option board (Digital I and Q / Zero Span) into Slot 3 (counting from the rear of the instrument). (See Figure 4.)

CAUTION. *Be careful not to bend the pins on the Interface Board when installing the option board.*

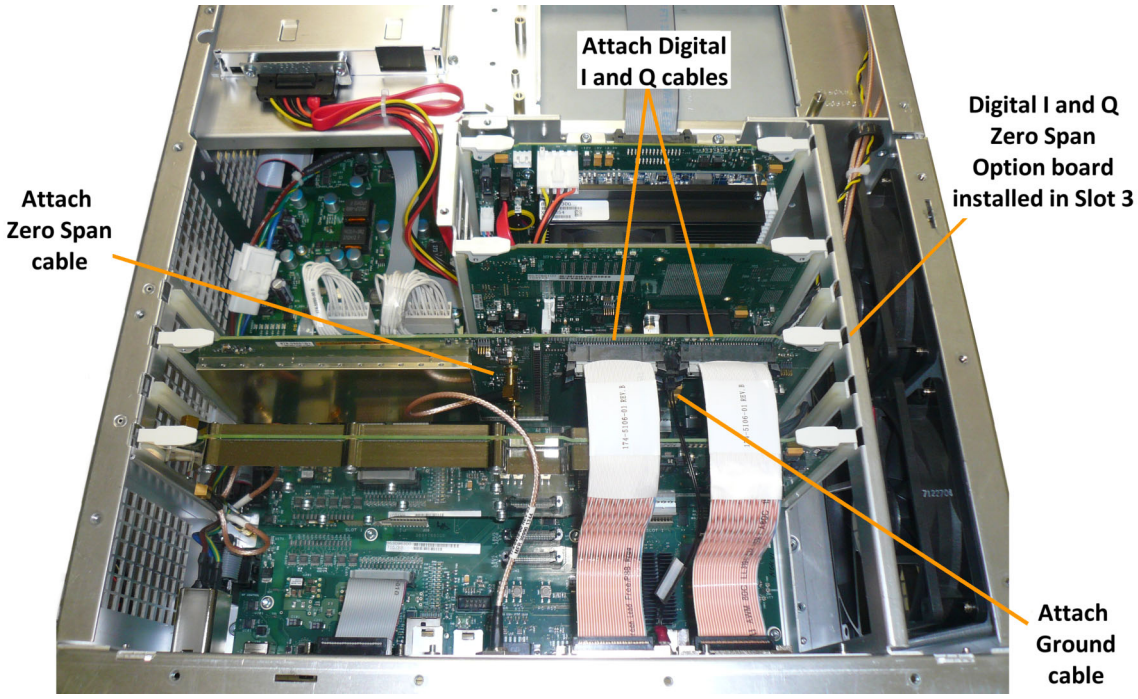


Figure 4: Installing the option board

2. Connect the cables from the rear-panel cover to the Option board. (See Figure 5.)
   - Connect the 2-wire ground cable.
   - Connect the I and Q output cables.
   - Connect the Zero Span output cable.

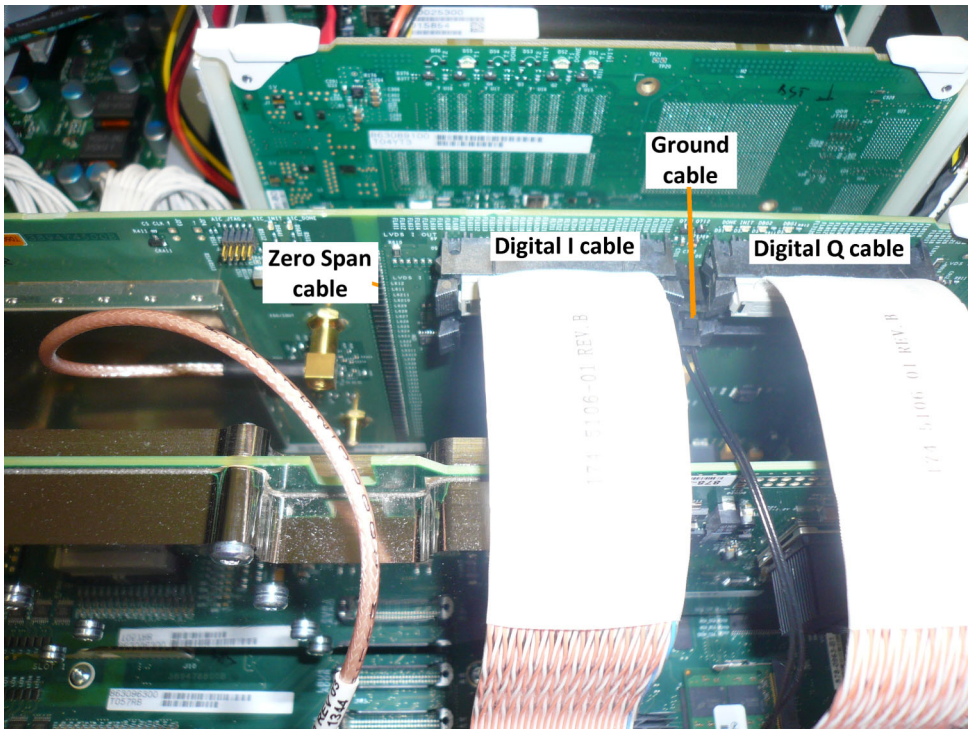


Figure 5: Connecting the output cables

Reinstall top shield and cosmetic covers

1. Place the instrument on its bottom feet.
2. Place the top shield on top of the instrument and reinstall the eighteen T15 Torx-head screws.
3. Place the instrument on its rear feet, so the front panel is facing up and the top is toward you.
4. 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.
5. Reinstall the four T20 Torx-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. Torque these screws to 8.0 in/lb.
6. Rotate the instrument so the bottom faces you.
7. Place the bottom cover on the instrument, with the flip feet towards the front.

8. Align the four screw holes on each side in the top and bottom covers with the holes in the chassis, and install eight T15 Torx-head screws, four on each side. Torque these screws to 8.0 in/lb.
9. Position the plastic carrying handle and its bracket on the right side of the instrument, and install the two T15 Torx-head screws that secure it in place. Torque these screws to 8.0 in/lb.

Install option key

NOTE. *RSA5100A Series - If adding Option 5566 to an RSA5100A Series instrument, the software most likely requires updating to recognize the new feature. This should be done before installing the new option key.*

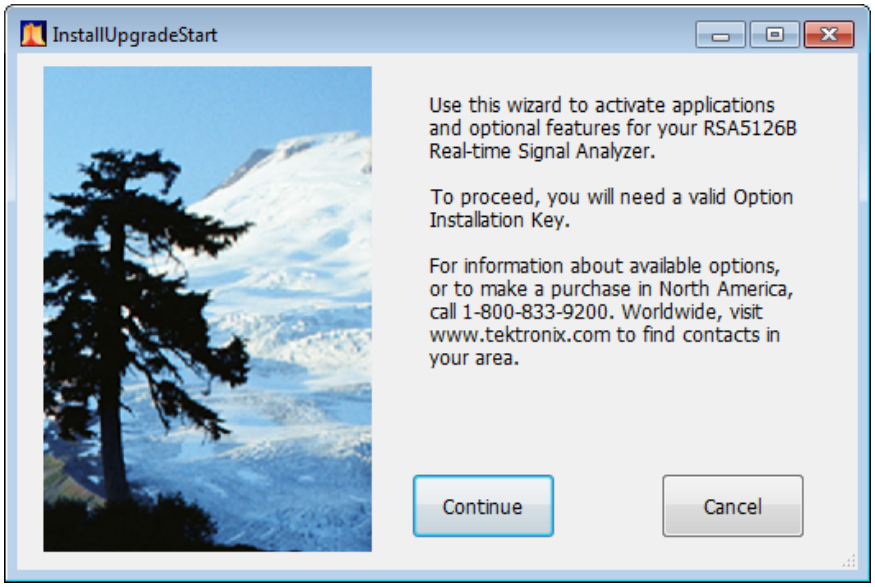
See the procedure "Verify instrument software version".

To activate your new option, you must enter a new option key.

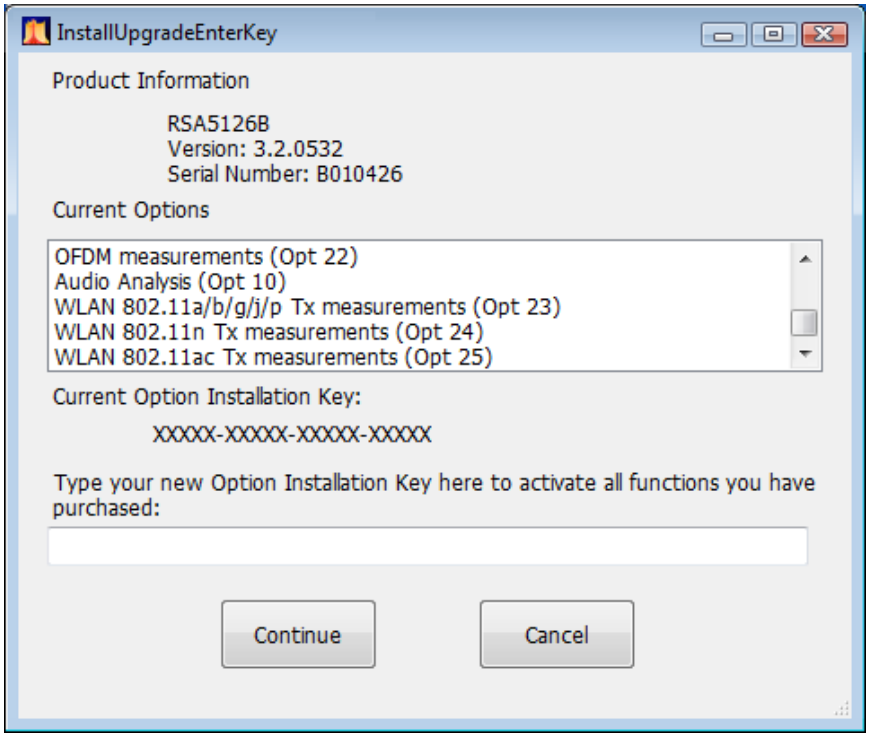
1. Power on the instrument.

NOTE. *When the application launches, it will display an error message indicating that the current option key does not support the new option hardware. Click OK to clear the error message.*

2. Select **Tools** > **Install Upgrades...** to start the upgrade installation process.
3. Click Continue from the Install Upgrades introduction screen.



4. Enter the option key provided by Tektronix, and follow the on-screen instructions to install the option.



5. Power off the instrument, then power back on.
6. In the Help menu, select About Tektronix Real-Time Analyzer.
7. Verify the new option is listed.

Attach labels

Please attach all labels provided in this kit on the instrument's rear panel.

Attach the option key label

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

Attach the product/option label

Place the new product label over the existing label on the rear panel.

Attach the Export Control classification label

Place the Export Control classification label on the instrument rear panel if you've installed the Digital I and Q Outputs option.

NOTE. *The Export Control label applies only to the RSA5100B Series instruments when installing Option 65 or Option 6566.*

Verify instrument software version

Tektronix recommends to update to the latest available application software for your instrument.

1. Select **Help > About** to check the software version.
2. Use your Web browser to go to: www.tektronix.com/software.
3. Search for your instrument's model number and follow the link to the software.
4. If the installed software is older than that available, download the software.
5. Follow the instructions on the Web page to install the software.

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