

**RSA5BUP  
RSA5100B Series Real-Time Signal Analyzers  
85/125/165 MHz Acquisition Bandwidth and High Dynamic  
Range Upgrade  
Instructions**

[www.tektronix.com](http://www.tektronix.com)



075-1057-01

**Tektronix**

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- Worldwide, visit [www.tektronix.com](http://www.tektronix.com) to find contacts in your area.

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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 *RSA5100B Real-Time Signal Analyzer Service* manual (Tektronix part number 077-0903-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 Acquisition Bandwidth Upgrade Options in an RSA5100B Series Real-Time Signal Analyzer. This kit requires the removal of the existing acquisition board in your instrument and replaces it with a new acquisition board.

This kit describes the installation of the following upgrade options:

### Acquisition bandwidth options

- Option B85: 85 MHz Acquisition Bandwidth (from 25 MHz)
- Option B85E: 85 MHz Acquisition Bandwidth (from 40 MHz)
- Option B125: 125 MHz Acquisition Bandwidth (from 25 MHz)
- Option B125E: 125 MHz Acquisition Bandwidth (from 40 MHz)
- Option B125H: 125 MHz Acquisition Bandwidth (from 85 MHz)
- Option B16X: 165 MHz Acquisition Bandwidth (from 25 MHz)
- Option B16XE: 165 MHz Acquisition Bandwidth (from 40 MHz)
- Option B16XH: 165 MHz Acquisition Bandwidth (from 85 MHz)
- Option B16XK: 165 MHz Acquisition Bandwidth (from 125 MHz)

### High dynamic range acquisition bandwidth options

- Option B85HD-25: 85 MHz Acquisition Bandwidth (from 25 MHz)
- Option B85HD-40: 85 MHz Acquisition Bandwidth (from 40 MHz)
- Option B85HD-85: 85 MHz Acquisition Bandwidth (from 85 MHz)
- Option B125HD-25: 125 MHz Acquisition Bandwidth (from 25 MHz)
- Option B125HD-40: 125 MHz Acquisition Bandwidth (from 40 MHz)
- Option B125HD-85: 125 MHz Acquisition Bandwidth (from 85 MHz)
- Option B125HD-125: 125 MHz Acquisition Bandwidth (from 125 MHz)
- Option B16XHD-25: 165 MHz Acquisition Bandwidth (from 25 MHz)
- Option B16XHD-40: 165 MHz Acquisition Bandwidth (from 40 MHz)
- Option B16XHD-85: 165 MHz Acquisition Bandwidth (from 85 MHz)
- Option B16XHD-125: 165 MHz Acquisition Bandwidth (from 125 MHz)
- Option B16XHD-165: 165 MHz Acquisition Bandwidth (from 165 MHz)

## Products

**RSA5103B.** All serial numbers.

**RSA5106B.** All serial numbers.

**RSA5115B.** All serial numbers.

**RSA5126B.** All serial numbers.

## Kit parts lists

**Table 1: Options B85/E, B125/E/H, B16x/E/H/K**

Quantity	Part number	Description
1 ea	071-2179-xx	MANUAL, TECH; SMPLP; TEKTRONIX SUPPLEMENTAL INFORMATION SHEET FOR THE PEOPLES REPUBLIC OF CHINA; CHINA ROHS
1 ea	075-1057-xx	MANUAL, TECH: RSA5BUP (OPTIONS B85, B85E, B16X, B16XE) RSA5100B SERIES REAL-TIME SIGNAL ANALYZERS
1 ea	863-0987-xx	CIRCUIT BOARD ASSY; ADC 400 (85/16X MHZ WIDE BAND OPTION), PB-FREE, TESTED
1 ea	N/A	LABEL, MANUFACTURED; OPTION KEY UPGRADE LABEL 2.100 X 2.700, SAFETY CONTROLLED
1 ea	N/A	LABEL, MANUFACTURED; PRODUCT LABEL, SAFETY CONTROLLED

**Table 2: Options B85HD-25/40/85, B125HD-25/40/85/125, B16xHD-25/40/85/125/165**

<b>Quantity</b>	<b>Part number</b>	<b>Description</b>
1 ea	071-2179-xx	MANUAL, TECH; SMPLP; TEKTRONIX SUPPLEMENTAL INFORMATION SHEET FOR THE PEOPLES REPUBLIC OF CHINA; CHINA ROHS
1 ea	075-1057-xx	MANUAL, TECH: RSA5BUP RSA5100B SERIES REAL-TIME SIGNAL ANALYZERS UPGRADE INSTRUCTIONS
1 ea	863-0810-xx	CIRCUIT BOARD ASSY; 160 MHZ ADC BOARD;TESTED
1 ea	N/A	LABEL, MANUFACTURED; OPTION KEY UPGRADE LABEL 2.100 X 2.700, SAFETY CONTROLLED
1 ea	N/A	LABEL, MANUFACTURED; PRODUCT LABEL, SAFETY CONTROLLED

# Installation instructions

This section contains all procedures needed to install the new Acquisition Bandwidth option in RSA5100B Series instruments.

## 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.

Name	Description
Screwdriver handle (magnetic)	Torque driver handle. Accepts 1/4-in. hex-head driver tips
T-15 TORX tip	TORX driver tip for T-15 size screw heads
T-20 TORX tip	TORX driver tip for T-20 size screw heads
T-25 TORX tip	TORX driver tip for T-25 size screw heads

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 *RSA5100B Series Real-Time Signal Analyzers Service Manual*, Tektronix part number 077-0903-XX.

## Update instrument software

Update the instrument to the latest available application software prior to installing the new acquisition board.

1. Select **Help > About** to check the software version.
2. Use your Web browser to go to: [www.tektronix.com/software](http://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.

## Remove cosmetic covers and shield

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

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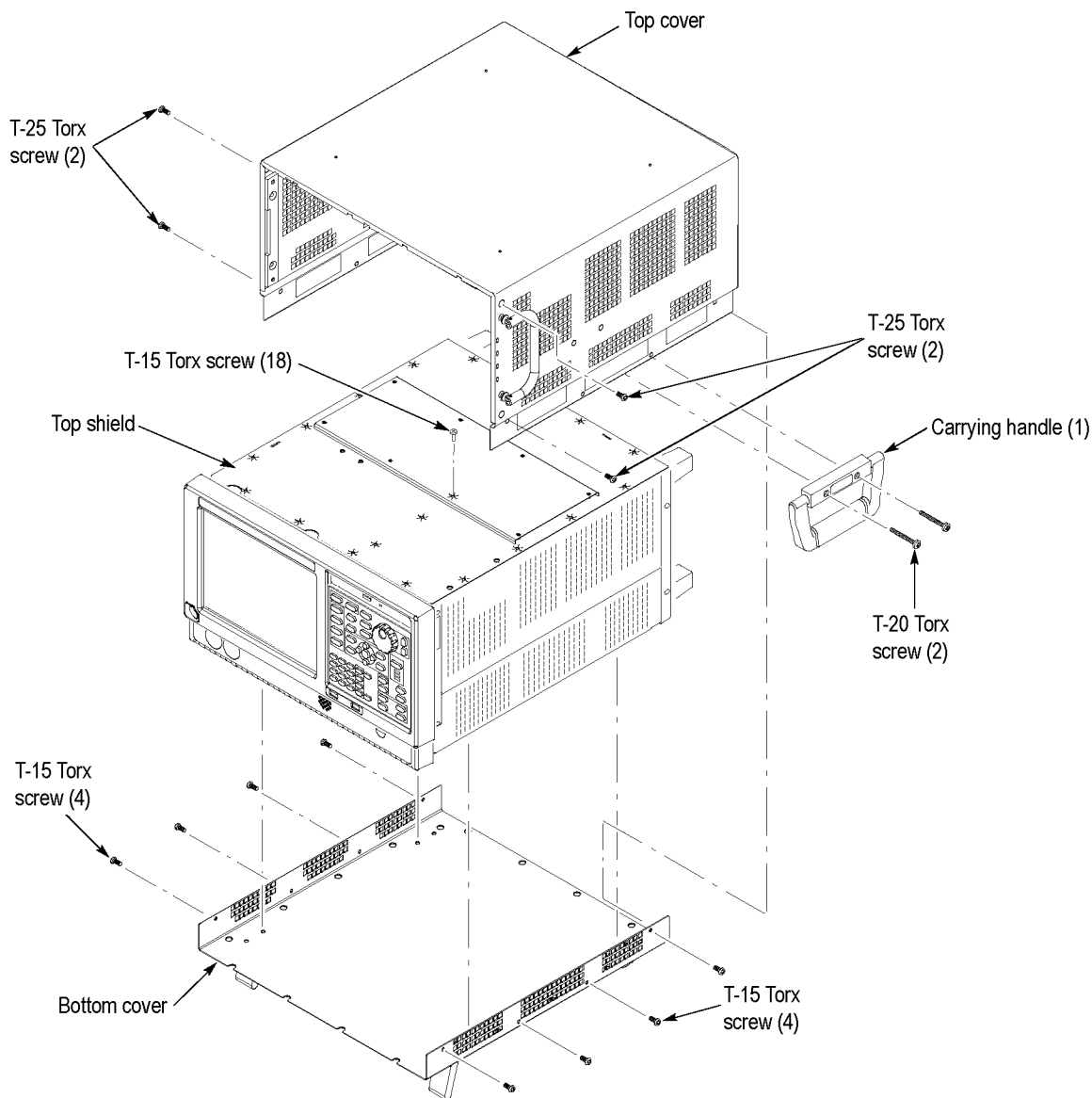
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**WARNING.** *To avoid electric shock, switch off the instrument power, then disconnect the power cord from the mains power. Failure to do so could result in injury or death.*

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1. Power down the analyzer.
2. Remove the power cord.
3. If it is installed, pull the front protective cover off the instrument.
4. Remove the two T-20 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.)
5. Remove eight T-15 Torx-head screws, four along each side, that attach the top and bottom covers to the instrument.
6. Remove four T-25 Torx-head screws, two on each side, near the front edge of the top cover (next to the folding handles).
7. Carefully tip the instrument up and set it on its rear feet.
8. Remove the bottom cover.
9. Remove the top cover as follows:
  - a. Pull the cover straight back with a short, firm jerk about 1 inch.
  - b. Pull the sides of the top cover outward, flexing them slightly to clear the instrument chassis.
  - c. Pull the front cover away from the instrument.
10. Carefully return to instrument to rest on its bottom feet.
11. Remove the eighteen T-15 Torx-head screws that secure the top shield to the chassis and remove the shield.





1057-001

Figure 1: Removing covers

## Remove the installed acquisition board

1. If Options 65, 66, or 6566 is installed (in Slot 3), the cables from this board to the rear panel cross over the acquisition board. These need to be temporarily disconnect to allow access to the acquisition board in Slot 1.

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**NOTE.** Depending on the installed options, not all cables may be present.

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- Disconnect the I and Q cables from the option board, and lay them over the rear panel (if installed).
- Disconnect the ground cable from the option board (if installed).
- Disconnect the Zero Span cable from the option board (if installed).

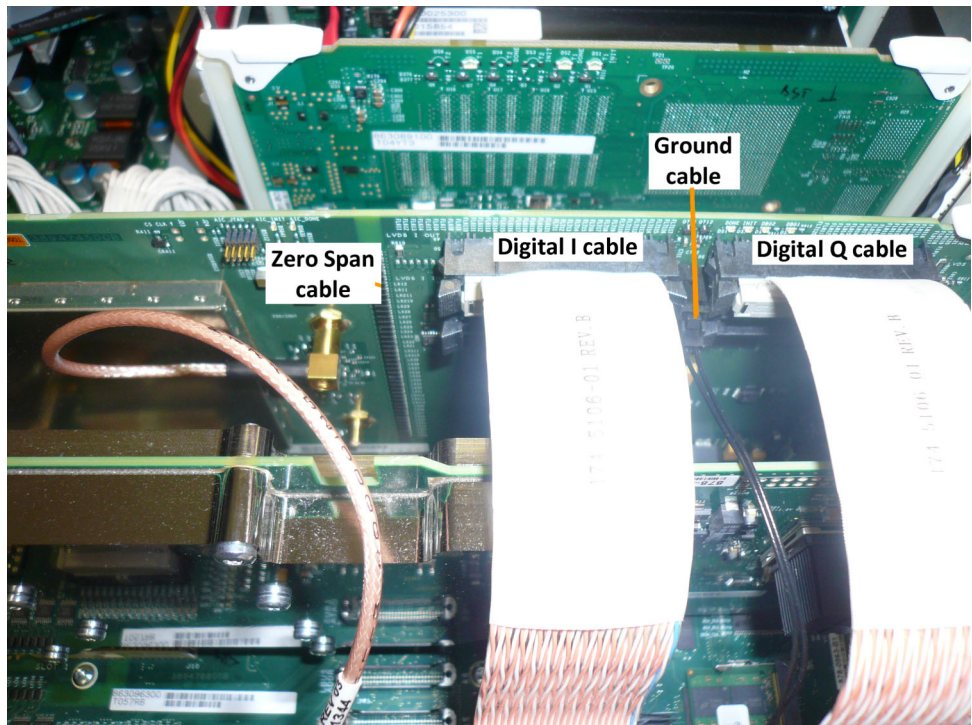
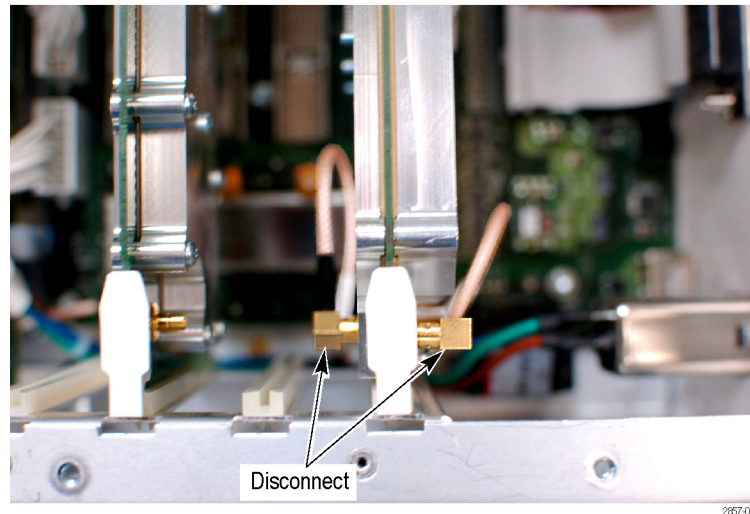


Figure 2: Disconnect Option 65, 66, 6566 cables

2. Disconnect the two SMB cable assemblies from the installed acquisition board (in Slot 1). (See Figure 3.)



**Figure 3: Disconnect the two SMB cable assemblies**

3. Remove the installed acquisition board from the instrument using the ejector tabs. Place the board into a static-shielded bag for safe storage.

## Install the new acquisition board



**CAUTION.** *Be careful not to bend the connector pins on the Digital Interface board. To prevent damage to the connector pins, gently slide and then connect the acquisition board into the Digital Interface board connector.*

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1. Install the new acquisition board, provided in the kit, into the slot from which you removed the original acquisition board (Slot 1). Be careful not to bend the connector pins on the Digital Interface board.
2. Reconnect the SMB cable to the connector on the back of the new acquisition board (the side facing the front panel). (See Figure 4.)

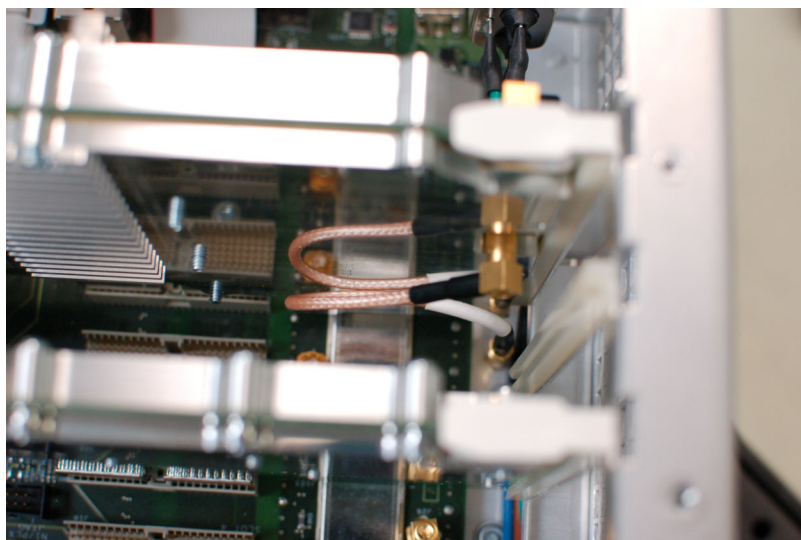


Figure 4: Reconnecting the cable on the back of the acquisition board

3. Reconnect the SMB cable to the connector on the front of the new acquisition board (the side facing the rear panel).



4. If Options 65, 66, or 6566 is installed, reconnect the cabling from this option board, in Slot 3. (See Figure 2.)

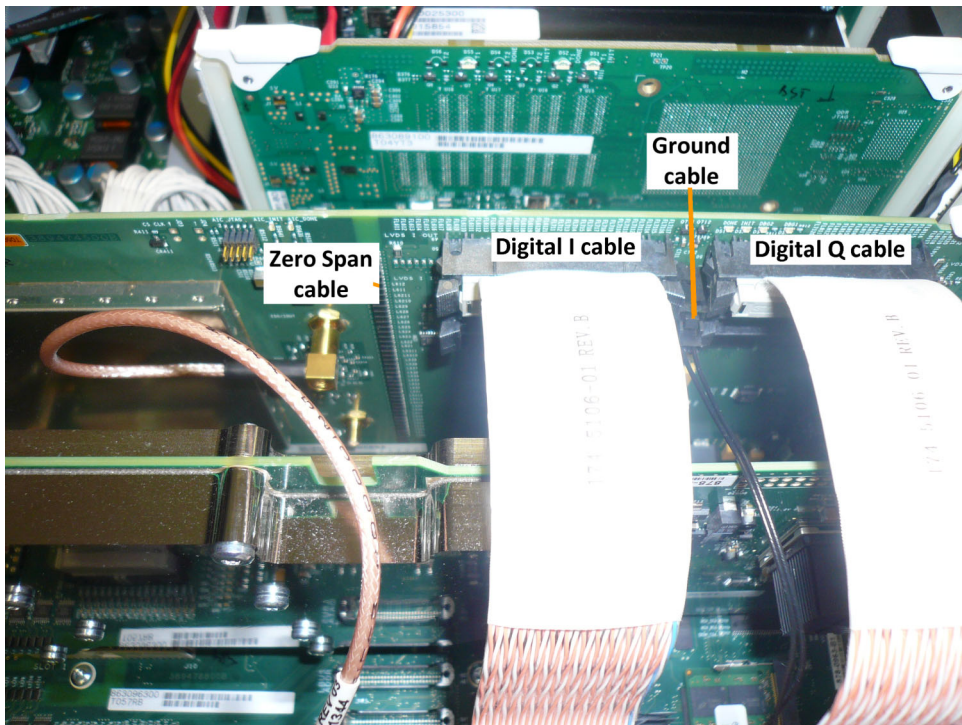


Figure 5: Option 65, 66, 6566 cables reinstalled

## Reinstall top shield and cosmetic covers

Reinstall the top and bottom covers as follows. (See Figure 1 on page 7.)

1. Place the top shield on top of the instrument and reinstall the eighteen T15 Torx-head screws.
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. Place the instrument on its rear feet, so the front panel is facing up and the top is toward you.
4. Reinstall the four T25 Torx head screws (two on each side) near the front edge of the top cover (next to the folding handles) that attach the top cover to the instrument. Torque these screws to 8.0 in/lb.
5. Rotate the instrument so the bottom faces you.
6. Place the bottom cover on the instrument, with the flip feet towards the front.
7. 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.
8. Position the plastic carrying handle and its bracket on the right side of the instrument, and install the two T20 Torx-head screws that secure it in place. Torque these screws to 8.0 in/lb.

## Install option key

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

1. Power on the instrument.

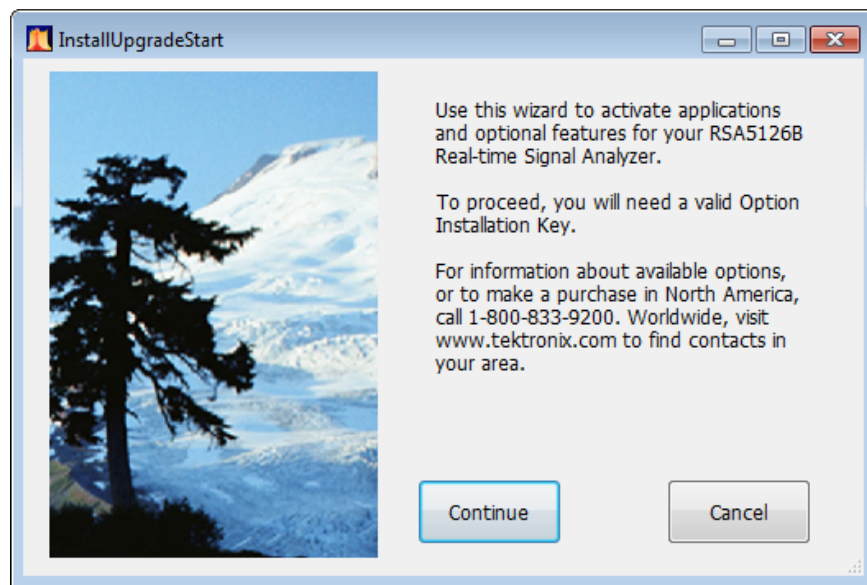
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**NOTE.** *When the application launches, it may display an error message indicating that the current option key does not support the new option hardware. Click OK to clear the error message.*

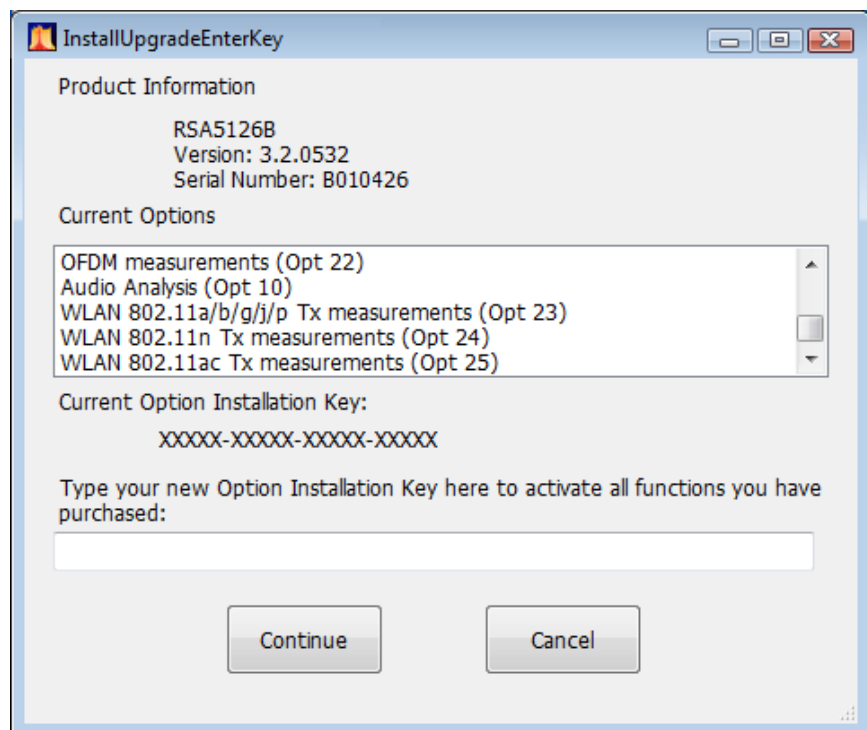
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2. Select **Tools > Install Upgrades...** to start the upgrade installation process.

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. Select **Help > About Tektronix Real Time Signal Analyzer**.
7. In the installed Options window, 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.

## Realignment of the instrument

The installation of the options in this kit require that the instrument be realigned. This process should happen automatically when the instrument is powered on after installation is complete. If it does not, check that the realignment behavior is turned on.

■ **End of Document** ■