

# Installation Note

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## **Agilent Technologies ESA Spectrum Analyzers Narrow Resolution Bandwidths (Option 1DR) Retrofit Kit**



**Agilent Technologies**

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## Narrow Resolution Bandwidths (Option 1DR)

Products Affected: . . . . .	ESA E4401B ESA E4402B ESA E4403B ESA E4404B ESA E4405B ESA E4407B ESA E4408B ESA E4411B
Serial Numbers: . . . . .	US00000000/US99999999
Options: . . . . .	1DR
To Be Performed By: . . . . .	<input checked="" type="checkbox"/> Agilent Service Center <input checked="" type="checkbox"/> Personnel Qualified by Agilent <input checked="" type="checkbox"/> Customer
Estimated Installation Time: . . . . .	0.5 Hours

### Introduction

This kit contains the parts and instructions to install the Option 1DR. No tools are required.

### Installation Kit Parts List

Item	Description	Item Number
1	Narrow Resolution Bandwidths Installation Note	this note
2	Option Upgrade Entitlement Certificate	---

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## Procedure

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**CAUTION** Electrostatic discharge (ESD) can damage or destroy electronic components. All work on electronic assemblies should be performed at a static-safe workstation. Refer to the documentation that pertains to your instrument for information about static-safe workstations and ordering static-safe accessories.

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### Firmware Revision Verification

Turn on the analyzer and wait for the power-on alignments to complete. Check that there are no error messages displayed.

Press **System, More, Show System**. Make a note of the firmware revision and see if Option B72, Expansion Memory, is listed on the display.

### ESA E-Series Analyzers

1. If the analyzer is an ESA E-Series analyzer and the firmware revision is A.04.00 or later, the firmware does not need to be upgraded and you can skip the remaining steps and go to the section [“Obtaining a License Key and Activating the Option” on page 6](#).
2. If your firmware revision is prior to A.04.00 you must upgrade your analyzer firmware before the license key can be activated.
3. If Option B72, Expansion Memory *is* installed, you should upgrade the instrument firmware to the latest version using one of the following methods:
  - Download the instrument firmware via the world-wide web at [http://www.agilent.com/find/esa\\_firmware](http://www.agilent.com/find/esa_firmware). This entire process of upgrading firmware will take approximately 45 minutes.
  - Receive the latest firmware upgrade disk set by ordering upgrade Option UE2.  
**Note:** Special instructions in the Agilent ordering configurator should have made you aware of Option UE2 in case access to the internet wasn't available.
4. If Option B72, Expansion Memory is *not* installed, you should upgrade the instrument firmware to version A.07.05. This is the latest version for instruments that do not have Option B72 installed.
  - Download the instrument firmware via the world-wide web at [http://www.agilent.com/find/esa\\_firmware](http://www.agilent.com/find/esa_firmware). Look for the link stating *“ESA Firmware Version A.07.05”*. This entire process of upgrading firmware will take approximately 45 minutes.
  - Order upgrade Option B72, which includes the expansion memory and the latest ESA firmware upgrade disk set.

## ESA L-Series Analyzers

1. If the analyzer is an ESA L-Series analyzer and the firmware revision is A.11.00 or later, the firmware does not need to be upgraded and you can skip the remaining steps and go to the section “[Obtaining a License Key and Activating the Option](#)” on page 6.

**Note:** Option B72, Expansion Memory, is required for ESA-L Series analyzers.

2. If your firmware revision is prior to A.11.00 you must upgrade your analyzer firmware before the license key can be activated.
3. If Option B72, Expansion Memory is installed, you should upgrade the instrument firmware to the latest version using one of the following methods:

- Download the instrument firmware via the world-wide web at [http://www.agilent.com/find/esa\\_firmware](http://www.agilent.com/find/esa_firmware). This entire process of upgrading firmware will take approximately 45 minutes.

**Note:** If you are upgrading an EMC analyzer, look for the link stating “*EMC Firmware*” at this website.

- Receive the latest firmware upgrade disk set by ordering upgrade Option UE2.

**Note:** Special instructions in the Agilent ordering configurator should have made you aware of Option UE2 in case access to the internet wasn’t available.

4. If Option B72, Expansion Memory is not installed you must upgrade to Option B72.
  - Order upgrade Option B72, which includes the expansion memory and the latest ESA firmware upgrade disk set.

## Obtaining a License Key and Activating the Option

The entitlement certificate supplied in this kit allows you to obtain a license key from our Agilent website so you can enable this upgrade option. Once you have retrieved the license key, you can begin the process of activating the option.

1. Press **System, More, More, Licensing, Option**. When you press **Option**, the alpha editor will be activated. For instructions on using the alpha editor, refer to the *Agilent Technologies ESA Spectrum Analyzers User's Guide*.
2. Use the alpha editor to enter the three-character designation for the option, in this case, "1DR", that you want to activate.
3. Press **Enter** when done.
4. Press **License Key**. When you press **License Key** the alpha editor will be activated.
5. Use the alpha editor and the numeric keypad to enter the 12-character license key number (for example: D7C374DABD5B) for the option that you want to activate.
6. Press **Enter** when done.
7. Press **Activate** to turn on the option.
8. If the option and license key entries were correct, a message stating "Option Activated" will appear on the analyzer display.

## Functional Testing

1. Press **System, More, Show System** to verify existence of Option 1DR.
2. Press **Span, 1 kHz, BW/Avg**. Verify the Resolution Bandwidth can be set to 10 Hz on an ESA E-Series analyzer or to 100 Hz on an ESA L-Series analyzer.
3. To test the functionality and performance of this option, execute the following performance verification tests located in the *Agilent Technologies ESA Spectrum Analyzers Calibration Guide* (dated September 2003 or later).
  - "Resolution Bandwidth Switching Uncertainty"
  - "Displayed Average Noise Level"
4. If you have problems performing any of these tests, contact the nearest Agilent Technologies sales and service office listed in the troubleshooting chapter of the *Agilent Technologies ESA Spectrum Analyzers User's Guide*.