Installation Note

**Agilent Technologies
ESA-E Series Spectrum Analyzers
RF Preamplifier (Option 1DS)
Retrofit Kit**

Agilent Technologies

Notice.

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RF Preamplifier (Option 1DS)

Products Affected:	ESA E4401B
	ESA E4402B
	ESA E4404B
	ESA E4405B
	ESA E4407B
Serial Numbers:	US00000000/US99999999
Options:	1DS
To Be Performed By:	(X) Agilent Service Center
	(X) Personnel Qualified by Agilent
	(X) Customer
Estimated Installation Time:	2.0 Hours

Introduction

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

Installation Kit Parts List

Item	Description	Part Number
1	RF Preamplifier Installation Note	this note
2	License Key Certificate	5964-5136[a]
3	Letter	5964-5139[a]
4	Firmware Upgrade Kit	Option UE2

a. This part cannot be ordered. The part number is given only to identify the
   item in this kit.

NOTE   After the RF preamplifier has been activated, you must adjust the frequency
        response of the preamplifier path. ESA Adjustment Software is required to
        perform this adjustment, but is not included in this kit. Obtain the software by
        ordering either the Service Documentation Option (0BW), or the N2717A
        Performance Verification and Adjustment Software.

Procedure

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.

Load New Firmware, if Required

1. Turn on the analyzer and press **System**, **More, Show System**. Note the firmware revision. If the firmware revision is the same as that supplied on the firmware upgrade diskettes in this kit, activate the license key in the next process without loading any firmware.

2. If your firmware revision is before the revision supplied on the firmware diskettes in this kit, then you must upgrade your instrument firmware. Refer to the installation note supplied with the firmware upgrade kit included in this kit.

Activate the Option 1DS License Key

The license key supplied in this kit allows you to activate the RF Preamplifier (Option 1DS).

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 *ESA Spectrum Analyzers User's Guide*.

2. Use the alpha editor and the numeric keypad to enter the three letter designation for the option (that is: "1DS") that you wish to install in the instrument.

3. Press **Done** on the alpha editor menu.

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 wish to install in the instrument.

6. Press **Done** on the alpha editor menu.

7. Press **Activate** to turn on the option.

Adjust the RF Preamplifier

1. Use the Adjustment Software (not supplied) to perform the Frequency Response adjustment. Obtain the software by ordering either the Service Documentation Option (0BW), or the N2717A Performance Verification and Adjustment Software.

Functional Testing

1. Press **System**, **More**, **Show System** to verify existence of Option 1DS.

2. Press **Preset, FREQUENCY/Channel, Stop Freq, 1 GHz, AMPLITUDE/Y Scale, Int Preamp** (On). Verify that the preamplifier can be set to On.

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*.

   • "Frequency Response"

   • "Frequency Response (Preamp On)"

   • "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*.