

# **Installation Note**

---

## **Agilent Technologies E4440A Spectrum Analyzer Option BAB, APC 3.5 Input Connector Retrofit Kit**



**Agilent Technologies**

**Part Number E4440-90569 Supersedes: E4440-90092  
Printed in USA August 2003**



**E4440-90569**

**Notice.**

The information contained in this document is subject to change without notice.

Agilent Technologies makes no warranty of any kind with regard to this material, including but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Agilent Technologies shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

---

## Option BAB Hardware Retrofit Kit

Products Affected:	PSA E4440A
Serial Numbers:	US00000000/US99999999 MY00000000/MY99999999
To Be Performed By:	(X) Agilent Service Center (X) Personnel Qualified by Agilent ( ) Customer
Estimated Installation Time:	45 Minutes
Estimated Adjustment and Verification Time:	8 Hours

### Introduction

The Option BAB retrofit kit provides all the parts and instructions necessary to install the APC 3.5 input connector into the Agilent E4440A spectrum analyzer. The Option BAB is licensed for one instrument model number/serial number combination. The kit will only function on the instrument it was ordered for.

---

#### NOTE

The instrument must be performance tested to assure it meets specifications following the hardware installation. It is possible that installing the input connector and different input cable might cause frequency response to be out of specifications. The PSA Series Performance Verification and Adjustment Software must be used. All adjustments are automated. This software is included in the Option OBW service documentation and performance test and adjustment software package.

---

## Contents

Quantity	Description	Agilent Part Number
1	Option Upgrade Entitlement Certificate	---
1	Installation Note	this note
2	Screws, M3x0.5 8mm-LG (Crest Washer-Pan Head-TORX)	0515-0372
1	APC 3.5 Input Connector Assembly The input connector assembly is made up of:  W7, Input Cable semi-rigid Input connector, APC 3.5 Bracket, APC 3.5 Nut, connector mounting	E4440-60335

## Tools Required

- ☐ T-20 Torx driver
- ☐ T-10 Torx driver
- ☐ 5/16-inch open end wrench

---

## Installation Procedure

1. Perform the following procedures in order:
  - a. Remove the instrument outer case.
  - b. Remove the instrument top brace.
  - c. Drop the front frame.
  - d. Install the Option BAB retrofit kit.
  - e. Install the front frame, instrument top brace, and outer case.
  - f. Install the option designator key.
  - g. Perform the performance tests.

For assistance at any time during this procedure, get in touch with your nearest Agilent Technologies Sales and Service Office. To find your local Agilent office access the following URL or call the following telephone number:

<http://www.agilent.com/find/assist>

1-800-452-4844 (8am-8pm EST)

### Remove the Outer Case

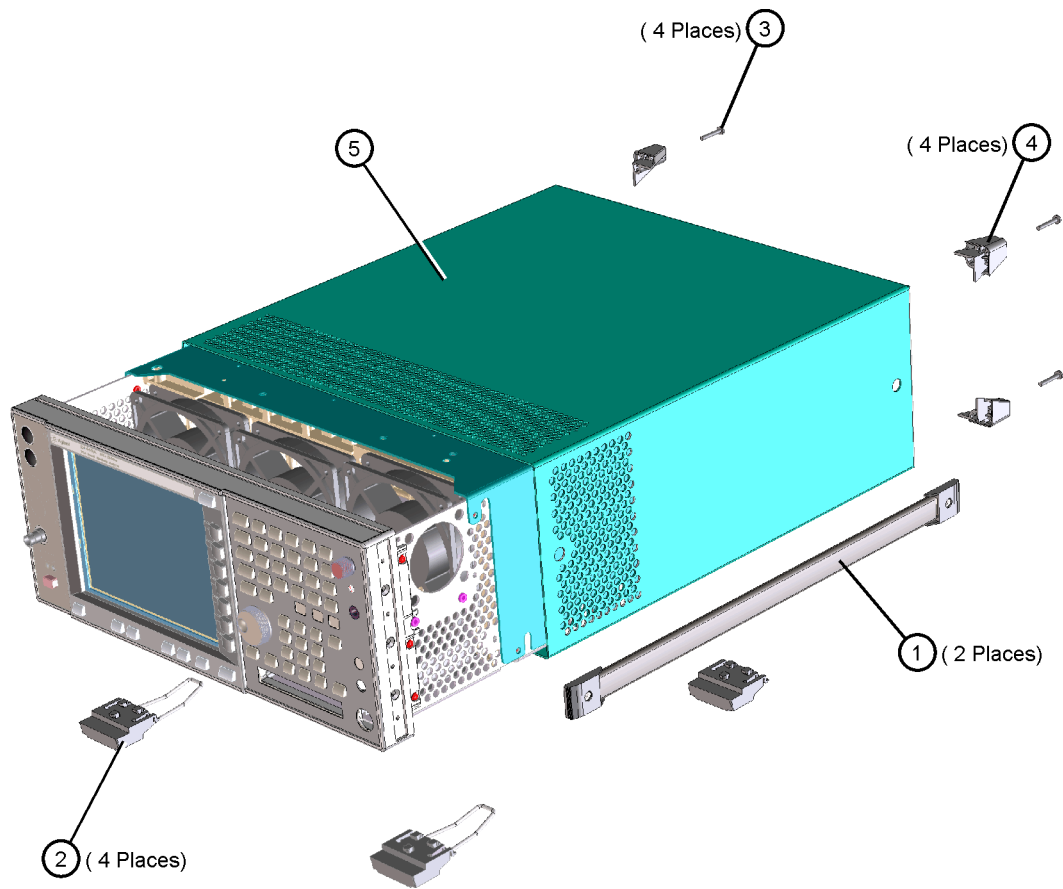
---

<b>CAUTION</b>	If the instrument is placed on its face during any of the following procedures, be sure to use a soft surface or soft cloth to avoid damage to the front panel, keys, or input connector.
----------------	---

---

1. Disconnect the instrument from ac power.
2. Refer to Figure 1. Remove the two handles on the sides of the instrument as shown. Use the T-20 driver to loosen the screws that attach each handle (1). Remove the handles.
3. Remove the four bottom feet (2). Lift up on the tabs on the feet, and slide the feet in the direction indicated by the arrows.
4. Remove the four screws (3) that hold the rear feet (4) in place.
5. Pull the instrument cover (5) off toward the rear of the instrument.

**Figure 1 Instrument Outer Case Removal**

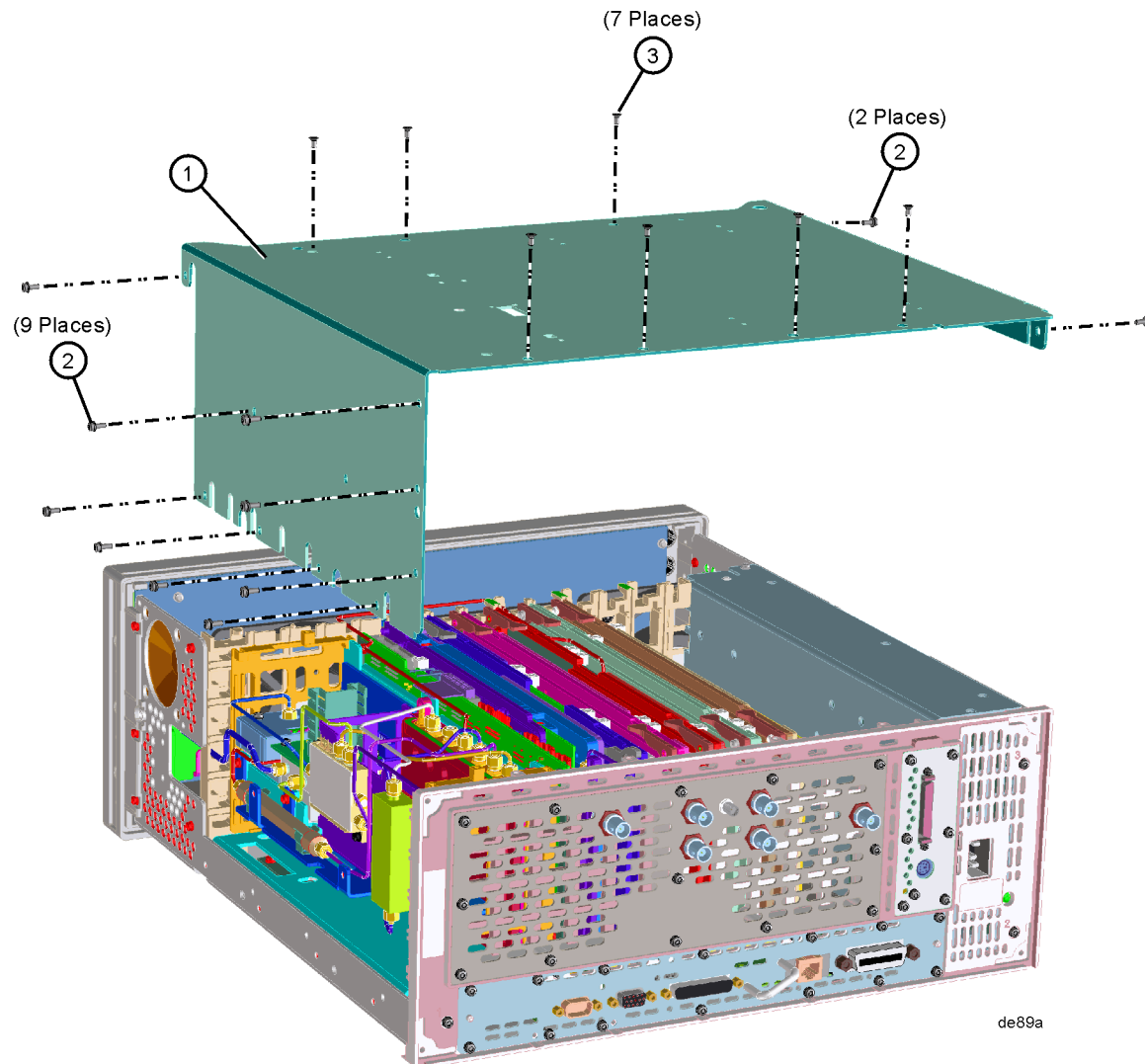


de83a

## Remove the Top Brace

1. Refer to Figure 2. Use the T-10 driver to remove the top screws (3) (one screw is under the security label), and the side screws (2) attaching the top brace (1) to the deck.
2. Remove the top brace from the deck.

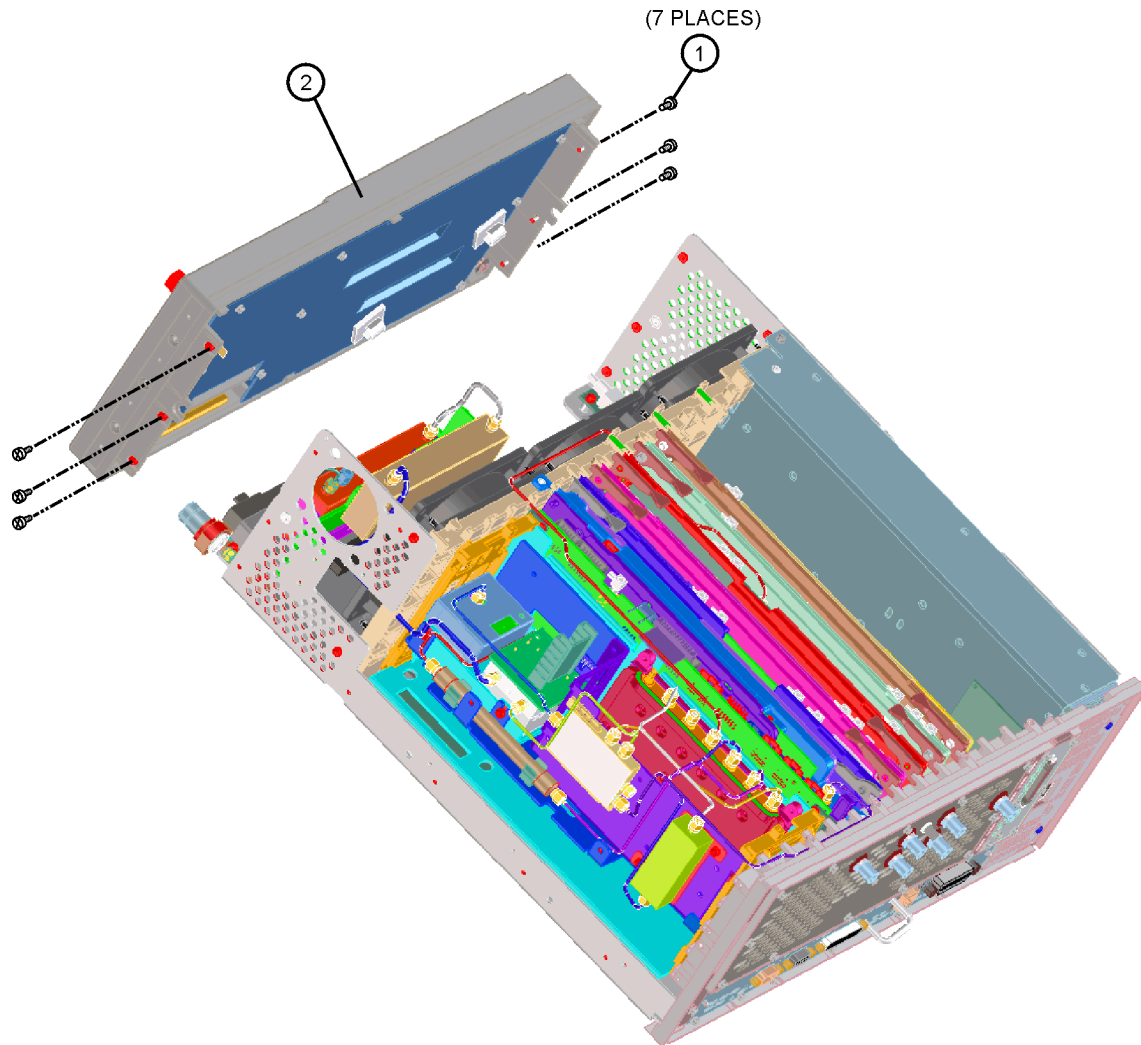
**Figure 2**      **Top Brace Removal**



## Drop the Front Frame

1. Refer to Figure 3. Using the T-10 driver, remove the 7 screws (1) that attach the front frame assembly (2) to the deck.
2. Pull the front frame off of the deck until it is disengaged from the disc drive.
3. At this point, the front frame can be placed flat on the bench for service while still attached to the instrument.

**Figure 3**      **Front Frame Removal**



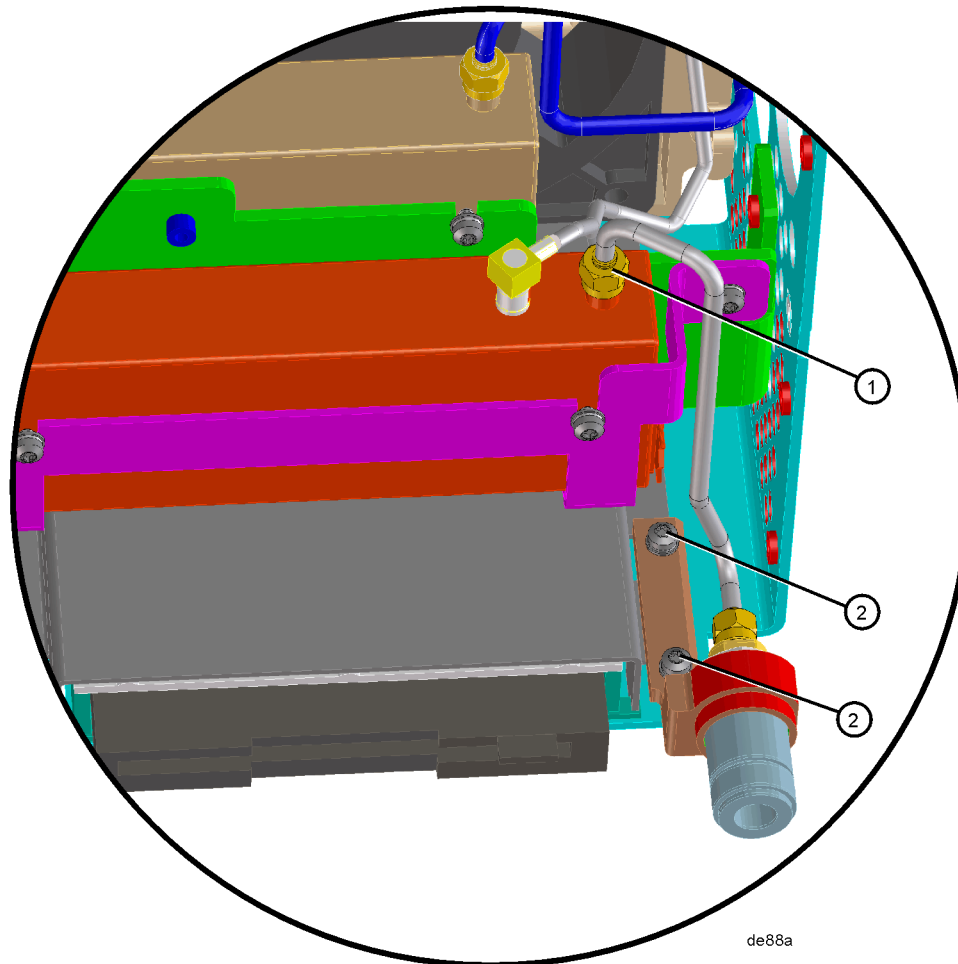
de87a



## Remove the RF Input Connector

1. Refer to Figure 4. Using a 5/16 inch wrench, disconnect the semi-rigid cable (1) from the A14 attenuator.
2. Using the T-10 driver, remove the 2 screws (2) that secure the input connector bracket to the deck.
3. Remove the connector and bracket from the instrument.

**Figure 4**            **Remove Connector and Cable**



## **Install the Option BAB RF Input Connector**

1. Remove the APC 3.5 input connector assembly from the kit.
2. Loosen, but don't remove the semi-rigid cable that is attached to the input connector assembly.
3. Install the connector assembly into the instrument. Attach the semi-rigid cable to the A14 attenuator, but don't tighten
4. Using the T-10 driver, install the 2 screws from the kit that secure the input connector bracket to the deck. Torque to 9 inch pounds.
5. Using a 5/16 inch wrench, tighten the semi-rigid cable at the attenuator and the input connector. Torque to 10 inch pounds.

## **Replace the Front Frame**

1. Position the front frame on the deck using the alignment bosses on the deck. Remember to tuck the ribbon cable under the fans when pushing the frame onto the deck. This will insure proper airflow to cool the instrument.
2. Using the T-10 driver, replace the 7 screws that secure the front frame to the deck. Torque to 9 inch pounds.

## **Replace the Top Brace and Outer Case**

1. Refer to Figure 2. Carefully position the top brace on the deck. The alignment pin at the center of the web/fan assembly must mate with the alignment hole on the top brace. Make sure that no coaxial cables will get pinched underneath the brace.
2. Use the T-10 driver to replace and tighten the top screws first; then replace the side screws. Torque to 101 Ncm (9 in-lb).
3. Refer to Figure 1. Slide the instrument cover back onto the deck from the rear. The seam on the cover should be on the bottom. Be sure the cover seats into the gasket groove in the front frame.
4. Replace the four rear feet onto the rear of the instrument. Torque to 236 Ncm (21 in-lb).
5. Use the T-20 driver to replace the handles. Torque to 236 Ncm (21 in-lb).
6. Replace the four bottom feet by pressing them into the holes in the case and sliding them in the opposite direction of the arrows until they click into place. Note that the feet at the front have the tilt stands.

## **Turn the Instrument On**

Plug in the instrument and apply power. Continue with the next procedure to install the option designator and license keyword for this option.

## 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.

---

<b>NOTE</b>	Option designator BAB and the license keyword must be entered into instrument memory before the instrument will recognize the option.
-------------	---

---

1. On the instrument front panel press: **System, More**, until the **Licensing** softkey is visible. Press **Licensing** and **Option**. This will activate the alpha editor menu. Use the front panel alpha editor to enter the upper-case option designator BAB. Press the **Enter** key.  
Note that **BAB** now appears on the **Option** key.
2. Press **License Key**. The license key number is a hexadecimal number that will require the entry of both letters and numbers. Use the alpha editor to enter the letters and the front panel numeric keypad to enter the numbers. Your entry will appear in the active function area of the display. If you make a typing error, use the backspace key to correct the error. Check the license key number you entered. Press **Enter, Activate License**.
3. Cycle instrument power and allow the instrument to perform the auto align routine.

## Performance Tests Required

---

<b>NOTE</b>	This procedure requires the use of software included in Option 0BW, PSA Service Guide and Performance Tests and Adjustment Software. This option is available through your local Agilent Technologies Sales and Service Office.
-------------	---

---

1. Load the PSA Series Performance Tests and Adjustment Software on your PC.
2. Since the cal sticker was probably broken when the instrument was taken apart, and a different input connector and cable placed in the signal path, it is recommended that all performance tests be performed. At minimum, perform the Frequency Response performance test.

For assistance, contact your nearest Agilent Technologies Sales and Service Office. To find your local Agilent office access the following URL or call the following telephone number:

<http://www.agilent.com/find/assist>

1-800-452-4844 (8am-8pm EST)