Installation Note

HP E4406A Transmitter Tester
Option 300 Retrofit Kit

HP Part Number E4406-90104
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Description

The Option 300 Retrofit Kit allows you to retrofit a standard HP E4406A Transmitter Tester to an HP E4406A Option 300. The Option 300 provides a 321.4 MHz output from a rear-panel BNC connector. The characteristics of the 321.4 MHz output are documented in the Specifications manual included in this kit.

Allow about one hour to install the kit.

Option 300 Retrofit Kit, E4406-60143, Contents:

Item Number	HP Part Number	Description
1	E4406-00032	Rear Panel
2	E4406-60071	Cable, BNC-Type M
3	2950-0035	Nut, 15/32-32
4	Changes periodically	Specifications
5	E4406-90104	Installation Note, HP E4406A Transmitter Tester Option 300 Retrofit Kit

Equipment Required

Description	HP Part Number
T-10 TORX screwdriver	8710-1623
T-15 TORX screwdriver	8710-1622
T-20 TORX screwdriver	8710-1615
9/16-inch nut driver (drilled out, end covered with heatshrink tubing)	8720-0008

Installation Procedure

Step 1. Removing the instrument cover

A. Disconnect the instrument from the ac power and remove all of the rear-panel cables.

B. Remove both the left and the right strap handles from the instrument using a T-20 TORX screwdriver.

C. Using a T-15 TORX screwdriver, remove the 4 screws that secure the rear feet.

D. Place the instrument upside down. Remove the 4 bottom feet by lifting the tabs and sliding the feet in the direction indicated by the arrows.

E. Pull the cover off towards the rear of the instrument.

F. Remove the Top Brace (“L” -shapped inner cover) by removing the 7 top screws and the 10 side screws. Use a T-10 TORX screwdriver. The 7 top screws are flat-heads and the 10 side screws are pan-heads. Be careful not to mix them when re-assembling the instrument.

NOTE In the following step, care should be taken to avoid scratching the new rear panel. If the special 9/16-inch nut driver listed under “Equipment Required” is not available, place tape on the end of the tool being used to avoid scratching the rear panel when tightening the nuts on the BNC connectors.

Step 2. Replacing the rear panel

A. Using a 9/16-inch deep-socket nut driver, remove the 5 nuts that secure the BNC connectors to the rear panel.

B. Using a T-10 TORX screwdriver, remove the 13 screws that secure the rear panel. Remove the rear panel and discard it.

C. Locate the replacement rear panel, part number E4406-00032, provided in the kit. Locate the cable, part number E4406-60071, and install the BNC end into the hole marked “321.4 MHz OUT”. Secure the cable with the hex nut, part number 2950-0035, provided in the kit.

D. Install the existing TRIGGER IN cable on the replacement rear panel.

E. Insert the free end of the 321.4 MHz OUT cable through the same rear-frame hole that the TRIGGER IN cable passes through. (Both cables should now be routed through the upper hole closest to the metal center web.)

F. Install the new rear panel using the 13 screws previously removed. Re-install the nuts on all of the rear-panel BNC connectors.

Step 3. Attaching the 321.4 MHz OUT cable to the center web connector

A. Remove the RF assembly from the horizontal card cage. The RF assembly location can be found by looking at the illustration on the Top Brace (inner cover of the instrument).

B. Look at the metal center web where the RF assembly cable jacks are attached. Locate the empty plastic cable retainer

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NOTE Once the cable is inserted into the cable retainer, it cannot be removed. If the cable routing through the rear frame is not correct, the rear panel will need to be removed and the BNC end of the 321.4 MHz OUT cable rerouted.

C. Insert the 321.4 MHz OUT cable into the plastic cable retainer. Ensure that it snaps into place.

D. Re-install the RF assembly. Ensure that the 321.4 MHz OUT cable is secure and does not disconnect when the RF assembly is fully seated.

E. Route the 321.4 MHz OUT cable next to the TRIGGER IN cable on the rear frame.

Step 4. Replacing the Instrument cover

A. Carefully position the Top Brace on the instrument. Make sure that no coaxial cables will get pinched underneath the brace. Install the 7 flat-head top screws and the 10 pan-head side screws using a T-10 TORX screwdriver. The recommended torque is 9 inch-pounds.

B. Slide the cover back onto the instrument from the rear. The seam on the cover should be on the bottom. Be sure that the cover seats into the gasket groove in the front frame.

C. Attach the 4 rear feet using a T-15 TORX screwdriver. The recommended torque is 21 inch-pounds.

NOTE When re-installing the bottom feet, make sure that the 2 feet that have the tilt stands are installed toward the front of the instrument.

D. Re-install the the 4 bottom feet by pressing them into the holes in the instrument cover and sliding in the opposite direction of the arrows until they click into place.

E. Using a T-20 TORX screwdriver, re-install the strap handles on the sides of the instrument. The recommended torque is 21 inch-pounds.

Step 5. Testing the installation

A. Reconnect the ac power and set the power switch to ON (1).

B. Connect a 0 dBm, 800 MHz CW signal to the HP E4406A RF Input.

C. Connect a spectrum analyzer to the rear-panel 321.4 MHz OUT connector. Tune the spectrum analyzer to 321.4 MHz and measure the amplitude of the signal. The signal level should be approximately –5.5 dBm (–4.5 to –6.5 dBm).

NOTE For instruments with Option H54, the signal level should be approximately –4.0 dBm.

D. The installation is now complete. Ensure that the Specifications manual from the kit accompanies the instrument when returned to the user.