Installation Note

Agilent Technologies ESG Family Signal Generators
Small Fan (B1) Replacement Kit
Kit Part Number E4400-60218

Agilent Technologies
Innovating the HP Way

Part Number E4400-90344
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ESG Series Signal Generators: Part Number E4400-60218

Product Affected:	E4400A/B, E4420A/B, E4421A/B, E4422A/B, E4423B, E4424B, E4425B, E4426B, E4430A/B, E4431A/B, E4432A/B, and E4433A/B, E4434B, E4435B, E4436B, & E4437B Family RF Synthesized Signal Generators
Serial Numbers:	All
Options:	All
To Be Performed By:	(X) Agilent Technologies Service Center (X) Personnel Qualified by Agilent Technologies (X) Customer
Estimated Installation Time:	1 hour
Estimated Verification Time:	1 minute

Introduction

This kit enables you to replace the small fan (B1). You will perform the following steps:

- check instrument functionality
- disassemble the instrument - external shell
- remove the existing small fan (B1) assembly
- install a new small fan (B1) assembly
- verify fan operation
- reassemble the instrument
- verify instrument operation

Installation Kit Parts List

Item	Quantity	Description	Part Number
1	1	B1 Fan Kit Assembly	E4400-60222
2	4	Rivet NY Flat	0361-1341
3	4	Screw 3mmx10mm	0515-0374
4	1	Installation Note	E4400-90344

Tools Required

- ❑ Ratchet 21 in-lb
- ❑ Hand Torque Driver 9 in-lb
- ❑ Hand Torque Driver 6 in-lb
- ❑ Knife blade
- ❑ Long nose pliers
- ❑ Torque screw driver
- ❑ Torxdriver T-10
- ❑ Torxdriver T-15

Safety Considerations

WARNING **Before you disassemble the instrument, turn the power switch off and unplug the instrument. Failure to unplug the instrument can result in personal injury.**

CAUTION **Electrostatic discharge (ESD) can damage or destroy electronic components. All work on electronic assemblies should be performed at a static-safe workstation.**

Functionality Check

This procedure verifies that the signal generator powers up and that the internal instrument check identifies no errors. The internal check evaluates the correctness of operation and returns an error message if it detects a problem.

1. Turn on power to the signal generator by pressing the power switch. Let the instrument warm up for at least 60 minutes.
2. Cycle the power to the signal generator. The green LED should light and the instrument performs a self check.
3. When the display lights, check to see if the **ERR** annunciator is on.
4. If the **ERR** annunciator is on, review the error messages in the queue by pressing **Utility** > **Error Info** > **View Next Error Message**. The first error message in the queue appears in the display text area. Refer to the signal generator error messages document information about the error message.

   If there is more than one error message (each message is designated *n* of *n*), continue pressing the **View Next Error Message** softkey until you have seen all of the messages.
5. After you resolve all of the errors, press **Clear Error Queue(s)** to delete the messages. Then restart this procedure at step two.

NOTE For instruments with Option 1E5, the error message **ERROR 514, Reference Oven Cold** occurs when you first connect the signal generator to AC line power. The **OVEN COLD** annunciator and the **ERR** annunciator both turn on. The **OVEN COLD** annunciator automatically clears after approximately 5 minutes. The error queue cannot be cleared, however, until the **OVEN COLD** annunciator turns off.

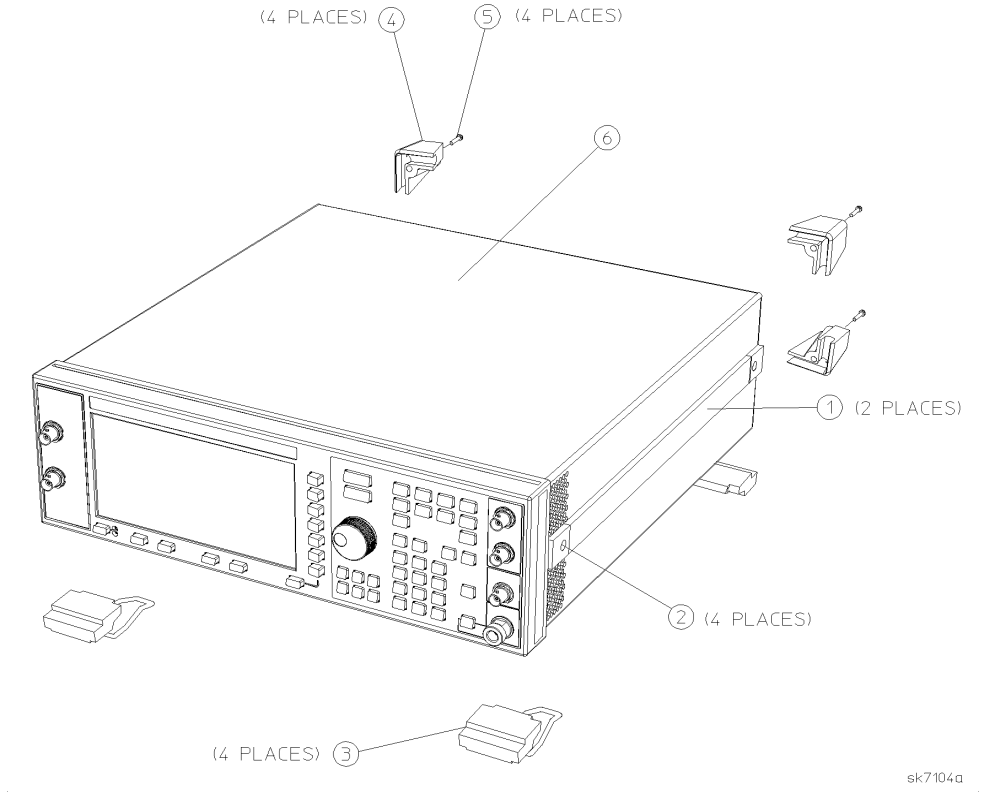
Disassemble the Instrument - External Shell

1. Remove the two strap handles (item 1) from each side of the signal generator by loosening the two screws (item 2) and each handle. Refer to Figure 1, "Instrument Cover and Associated Parts".
2. Remove the four bottom feet (item 3).

NOTE Save all hardware so it can be reinstalled.

3. Remove the rear feet (item 4) from the signal generator by removing the four screws (item 5) that secure them.
4. Slide the instrument cover (item 6) off the back of the signal generator.
5. Remove the cover-top chassis by removing the 11 screws that secure it.

Figure 1 Instrument Cover and Associated Parts



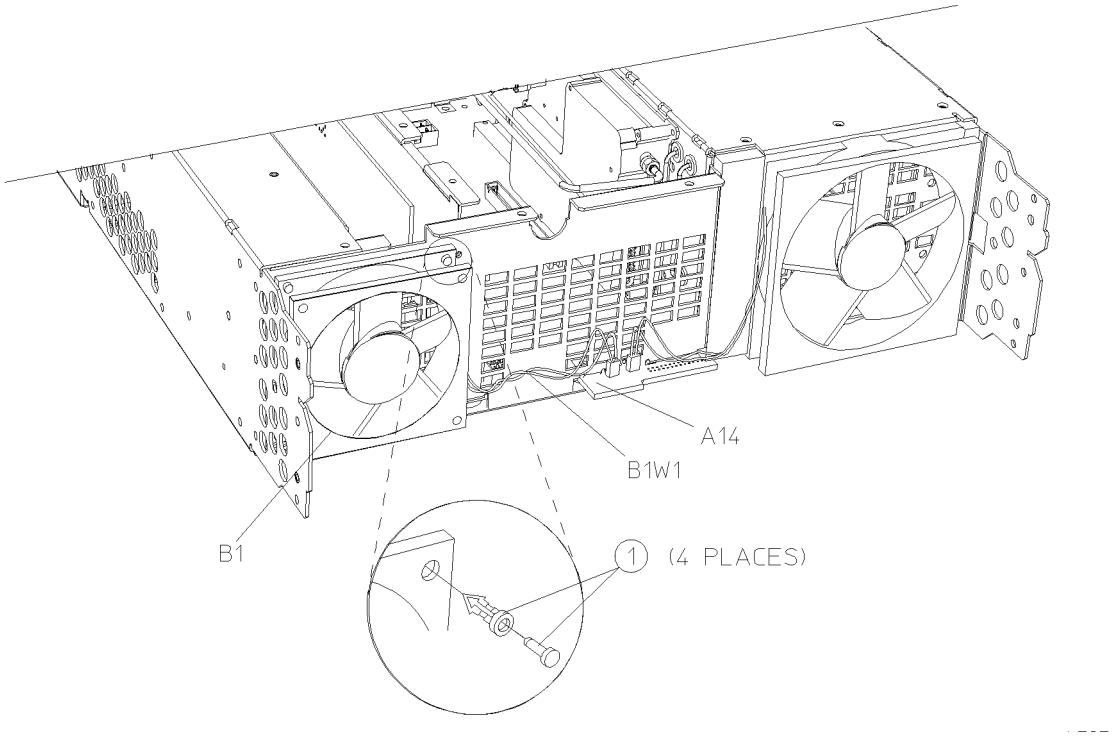
Remove Small Fan (B1) Assembly

1. Disconnect B1W1, from the CPU/Motherboard (A14). Refer to Figure 2, "Small Fan Assembly".
2. Remove the four plastic rivets (item 1) that attach the fan assembly (B1) to the instrument chassis. Use a knife blade to pry up the head of the plunger portion of the rivet. Once the head of the plunger is adequately raised, use a pair of long nose pliers to remove the rivet.

NOTE The plastic rivets consist of two pieces: a plunger and a sheath. Ensure both parts are removed.

3. Remove the fan assembly.

Figure 2 Small Fan Assembly



Install New Small Fan

1. Reverse the removal procedure for replacement. Place the new fan in the same location as the old fan, next to the chassis.
2. The fan needs to have the proper orientation for B1W1 to be connected to the CPU/Motherboard. Refer to Figure 2, "Small Fan Assembly".

NOTE When inserting the new plastic rivets, the sheath must be fully seated in the fan assembly before the plunger can be depressed.

NOTE Later models use screw, 0515-0374 (quantity 4) in place of rivets to secure the fan to chassis. Torque to 9 in-lbs.

Verify Fan Operation

1. Once the fan has been installed, connect the power cord to the signal generator.
2. Turn on the signal generator and verify that the fan operates.

Reassemble the Instrument

1. Replace the cover-top chassis and secure it with the 11 screws. Torque to 9 in-lbs.
2. Slide the instrument cover (item 6) on from back of the signal generator. Refer to Figure 1, "Instrument Cover and Associated Parts".
3. Replace the four rear feet (item 4) onto the signal generator by using the four screws (item 5) that secure them. Torque the rear feet screws to 21 in-lbs.
4. Replace the four bottom feet (item 3).
5. Replace the two strap handles (item 1) onto each side of the signal generator using two screws (item 2) on each handle. Torque the strap handle screws to 21 in-lbs.

Verify Instrument Operation

1. Verify instrument operation by performing the “Functionality Check” located on page 4.