

# Installation Note

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**Agilent Technologies ESG-D Series Signal Generators  
Options UN8 and UN8+9 Upgrade Kit  
Data Generator Assembly Replacement Kit**

**Kit Part Numbers E4400-60209 and E4400-60210**

**Models: E4430B, E4431B, E4432B and E4433B**



Part Number E4400-90312

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# Data Generator Assembly Replacement Kit

Product Affected: . . . . .	E4430B, E4431B, E4432B and E4433B Signal Generators
Serial Numbers: . . . . .	All
Options: . . . . .	UN8, UN8+9
To Be Performed By: . . . . .	(X) Agilent Service Center (X) Personnel Qualified by Agilent Technologies (X) Agilent Personnel on Site (X) Customer
Estimated Installation Time: . . . . .	1.0 Hour
Estimated Verification Time: . . . . .	None

## Introduction

The Option UN8 or UN8+9 Data Generator Assembly Replacement Kit is intended to repair an ESG-D series signal generator which has a faulty data generator assembly. For an ESG-D series signal generator that already has Option UN8 or UN8+9 installed, this kit can be used to upgrade to the latest shipping version of Option UN8 or UN8+9.

There are no performance or verification tests associated with this kit, except those required for the firmware installation. An I/Q calibration should be conducted after installation of the data generator assembly.

## Replacement Kit Parts Lists

**Table 1 E4400-60209 Option UN8 Replacement Kit Contents**

Item	Quantity	Description	Part Number
1	1	A8 1 Mbyte Data Generator Assembly	E4400-60154
2	1	Firmware Upgrade Kit	E4400-60230
3	1	Installation Note	E4400-90312
4	1	Ribbon Cable 16F-16F (W27)	8120-8725

**Table 2 E4400-60210 Option UN8+9 Replacement Kit Contents**

Item	Quantity	Description	Part Number
1	1	A8 8 Mbyte Data Generator Assembly	E4400-60195
2	1	Firmware Upgrade Kit	E4400-60174
3	1	Installation Note	E4400-90312
4	1	Ribbon Cable 16F-16F (W27)	8120-8725

## Tools Required

- ❑ T-10 TORX screwdriver
- ❑ T-15 TORX screwdriver
- ❑ T-20 TORX screwdriver
- ❑ Long nose pliers

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

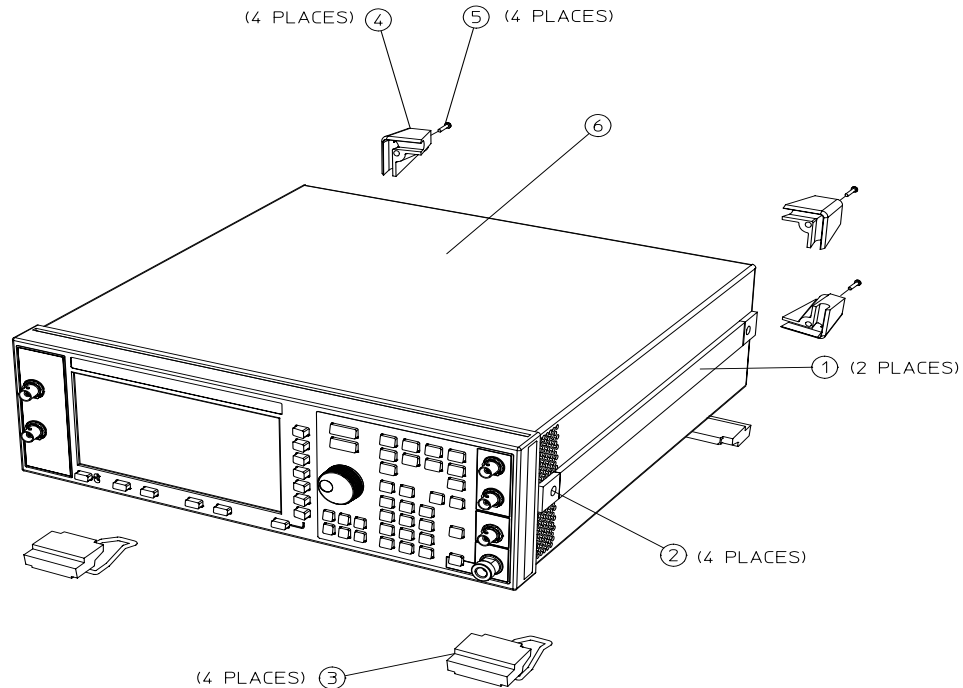
**CAUTION** Electrostatic discharge (ESD) can damage or destroy electronic components. All work on electronic assemblies should be performed at a static-safe workstation.

## Procedure

### Removing Option Hardware

1. Turn the signal generator's power switch off and disconnect the line cord.

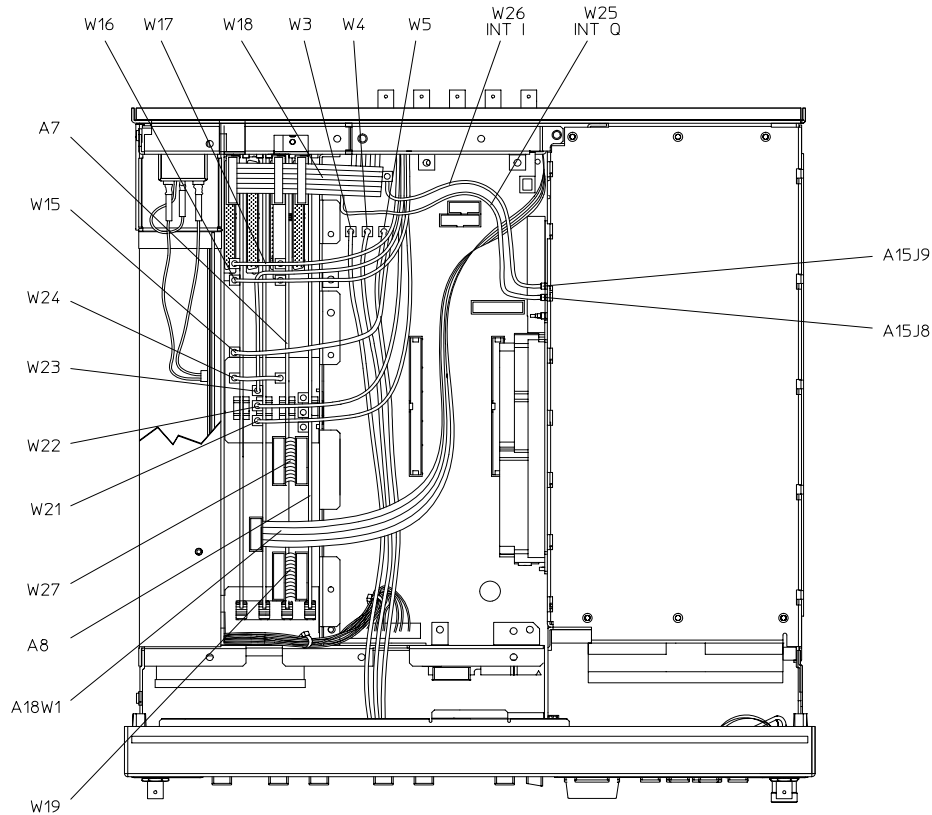
**Figure 1** Top Cover Removal



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2. Remove the two strap handles (item 1, Figure 1) from each side of the signal generator by loosening the two screws (item 2, Figure 1) on each handle.
3. Remove the four bottom feet (item 3, Figure 1).
4. Remove the four rear feet (item 4, Figure 1) from the signal generator by removing the four screws (item 5, Figure 1) that secure them.
5. Slide the cover (item 6, Figure 1) off the back of the signal generator.

**Figure 2 Removing the A8 Data Generator Assembly**



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6. Remove the 11 top cover screws and top cover.
7. Depending on the signal generator's installed options, there can be multiple flexible cables associated with the existing A8 data generator assembly (see Figure 2). First note the locations of these cables, so that they can be correctly reconnected, then disconnect them.
8. Pull up on the A8 data generator assembly to remove it from the motherboard connector.

### **Installing the New A8 Data Generator Assembly**

1. Align the new A8 data generator into the slot and slide it into position. Firmly connect the A8 assembly to the motherboard connector.
2. Connect Ribbon Cable W27 between A7P10 and A8P4.
3. Reconnect the cables to their appropriate assemblies. See Table on page 6.
4. Reinstall the signal generator top cover.
5. Reinstall the signal generator cover by reversing the removal procedure. Torque the screws as indicated:
  - Torque the four rear feet screws to 21 in-lbs..
  - Torque the strap handle screws to 21 in-lbs..
6. Perform the front panel I/Q calibration procedure.

### Cable Routing (front to rear)

Cable Description	Reference Designator	Color Number <sup>a</sup>	Connection Point to Point
<b>Option UN8 Only (Figure 2 on page 5)</b>			
Ribbon Cable Interconnect	W19	–	A7P300 to A8P3
Ribbon Cable Interconnect	W27	–	A7P10 to A8P4
BASEBAND GENREF IN	W15	8	Rear Panel to A7P403
Q OUT	W16	9	Rear Panel to A7P404
I OUT	W17	09	Rear Panel to A7P405
DATA	W3	5	Front Panel to A14P5
SYMBOL SYNC	W5	6	Front Panel to A14P7
DATA CLOCK	W4	7	Front Panel to A14P6
Rear Panel Interface Cable	W18	–	Rear Panel Interface (A17) to A8P2
INT Q	W25	05	Daughter Board (A15) to A14P103
INT I	W26	06	Daughter Board (A15) to A14P102
<b>Option UN8 &amp; Option UN7</b>			
Ribbon Cable BERT, Rear Panel	A18W1	–	Rear Panel to A6P4
BER GATE IN	W21	–	Rear Panel to A6P3
BER CLK IN	W22	–	Rear Panel to A6P2
BER DATA IN	W23	–	Rear Panel to A6P1
<b>Option UN8 &amp; Option UND</b>			
BASEBAND 13 MHz	W24	–	A5J4 to A7J3
BASEBAND GEN REF	W15	–	Rear Panel to A5J3
Q OUT	W16	–	Rear Panel to A5J2
I OUT	W17	–	Rear Panel to A5J1
Rear Panel Interface Cable	W18	–	Rear Panel Interface (A17) to A5P1

a. Cable color numbers appear in the Connector/Cable Diagram located on the top of the inside cover of the signal generator.

### Installing and Verifying the New Firmware

1. Install the new firmware following the instructions in the firmware upgrade installation note.
2. Perform the verification procedure described in the firmware upgrade installation note.