

Installation Note

**ESG-D Series Signal Generators
Option UN3/4 PHS Modification Kit
Kit Part Number E4400-60147**



Part Number E4400-90162

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Option UN3/4 PHS Modulation Kit

Product Affected:	E4430A, E4431A, E4432A, E4433A
Serial Numbers:	All
Options:	UN3/4
To Be Performed By:	(X) Agilent Service Center (X) Personnel Qualified by Agilent (X) Customer
Estimated Installation Time:	1.0 hours
Estimated Verification Time:	0.1 hours

Introduction

The Option UN3/4 modification kit corrects the PHS base station frame triggering which was causing bit error rate faults. The kit contains a replacement U203 for the A8 data generator board and provides a firmware upgrade to the latest firmware revision.

There are no performance or verification tests associated with this kit except what may be required for the installation of the firmware.

Installation Kit Parts List

Table 1 Option UN3/4 Modification Kit E4400-60147 Contents

Item	Quantity	Description	Part Number
1	1	Socketed EPROM (U203)	E4400-80080
2	1	Digital Firmware Upgrade Kit	E4400-60046
3	1	Extractor Tool	8710-1982
4	1	ESG-D Signal Generators User's Guide	E4400-90081
4	1	Installation Note	E4400-90162

Tools Required

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

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.

Installation Procedure

Installing the New Firmware

1. Using the firmware upgrade kit installation note, install the new firmware.

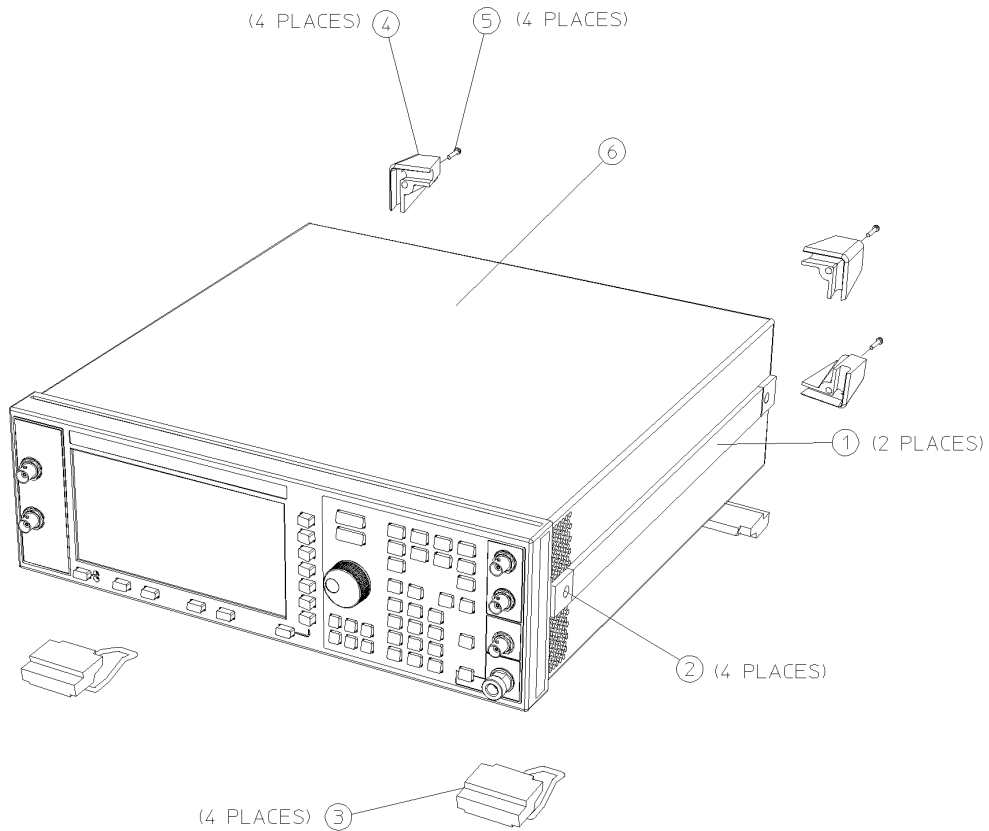
Verifying the Firmware

1. Perform the verification procedure that is described in the firmware upgrade note. Once the firmware verification procedure has been completed, continue with “Installing U203”.

Installing U203

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

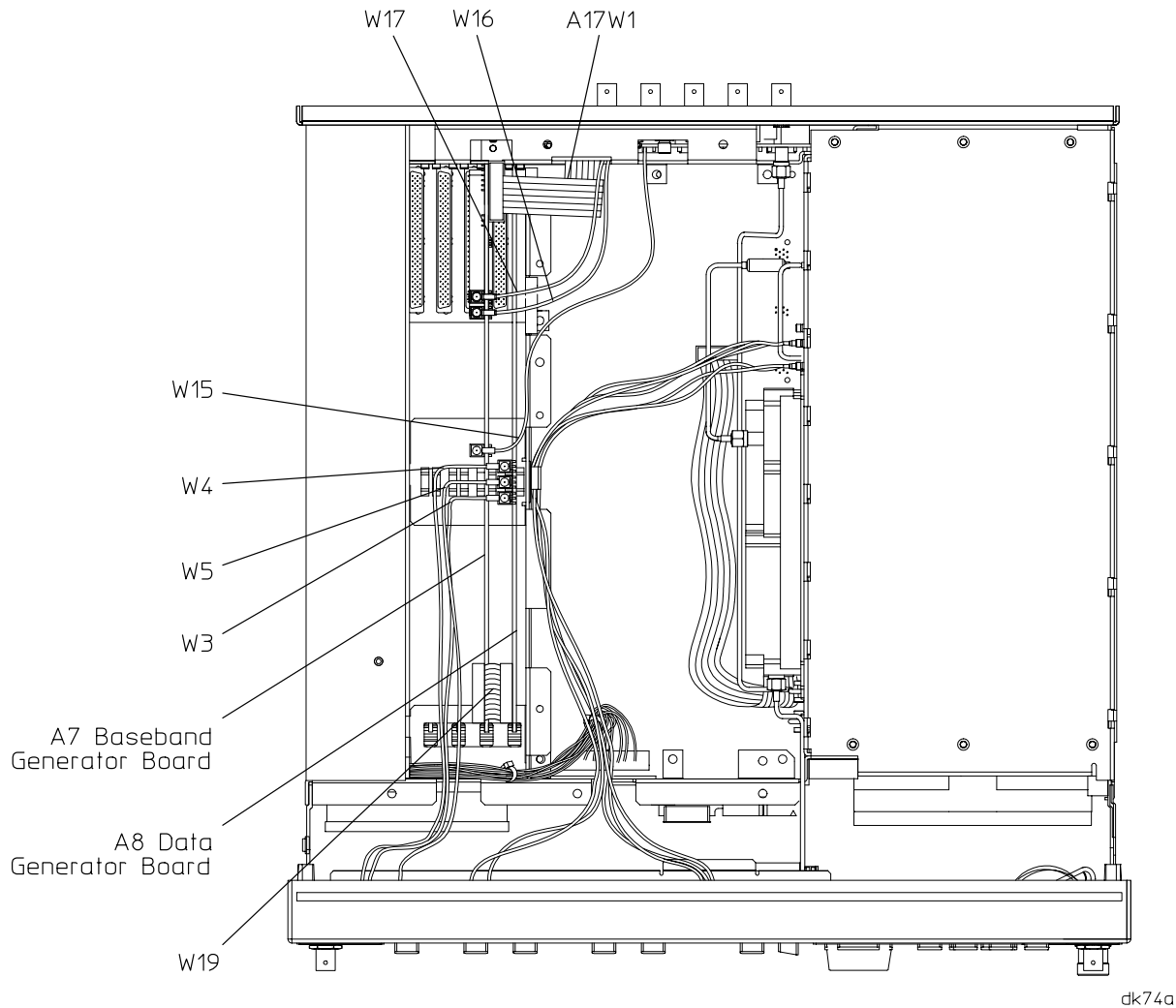
Figure 1 **Removing the Instrument Cover**



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2. Perform the following steps to remove the A8 data generator board. (Refer to Figure 2.)
 - a. Remove the top cover by removing the 11 screws that secure it.
 - b. Disconnect W3, W4, W5, W15, W16, W17, W19, and A17W1 from the A8 data generator board and from the A7 baseband generator board.
 - c. Pull up on the data generator board to remove it from the motherboard connector (A14J3).

Figure 2 **A8 Data Generator Board and Cable Locations**



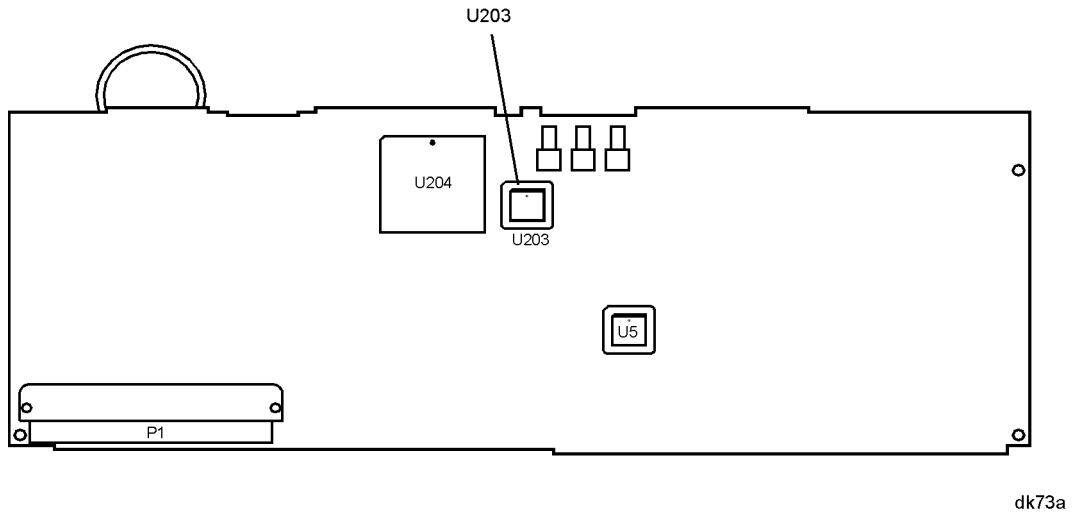
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CAUTION

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

3. Install the new U203 on the A8 data generator board. (Refer to Figure 3.)
 - a. Locate U203 on the A8 data generator board.
 - b. Following the instruction sheet for the extraction tool, carefully remove the socketed EPROM U203 from the A8 data generator board.
 - c. Correctly position the new EPROM, U203, supplied in this kit, onto the socket of the A8 data generator board.
 - d. Carefully install the new EPROM, U203, using firm, direct pressure.

Figure 3 U203 Location



Reassembling the Instrument

1. Reinstall the A8 data generator board into the motherboard connector (A14J4).
2. Reconnect the cables to the A8 data generator board and the A7 baseband generator board. The connections are shown in Table 1.

Table 1 Cable Connections

Cable	Connections
W3	DATA (front panel) to A8J2
W4	DATA CLOCK (front panel) to A8J1
W5	SYMBOL SYNC (front panel) to A8J3
W15	13 MHz In (rear panel) to A7P403
W16	Q Out (rear panel) to A7P404
W17	I Out (rear panel) to A7P405
W19	A7P403 to A8P3
A17W1	A17 to A8P2

3. Reinstall the instrument top cover with the 11 screws that secure it. Torque all T-10 TORX screws to 9 in-lbs.
4. Reinstall the instrument cover by reversing the removal procedure.
 - a. Torque the four rear feet screws to 21 in-lbs.
 - b. Torque the strap handles screws to 21 in-lbs.

Verification

Verify that when powering up the instrument, the firmware revision A.01.20 is displayed and no error messages are displayed when the power-up self test is completed.

NOTE For instruments with Option 1E5, ERROR 514, Reference Oven Cold will occur whenever the signal generator is first connected to AC line power. The OVEN COLD annunciator will automatically clear after approximately 5 minutes. The error queue cannot be cleared, however, until the OVEN COLD annunciator has turned off.