

S E R V I C E N O T E

SUPERSEDES: E4419A-07

E4419A EPM Series Power Meter

Serial Numbers: GB0000000/GB9999999
US0000000/US9999999

Hardware upgrade information.**Duplicate Service Notes:** E4418A-06B**To Be Performed By:** Agilent-Qualified Personnel

Parts Required:

P/N	Description	Quantity
E4418-60021	EPM HW Upgrade kit	1
11683A	Range Calibrator	1
11730A	Power Sensor Cable	1

Situation:

The E4419A requires new hardware pn E4418-80023 and firmware version (A2.04.00 or above) to be fitted in order to make it compatible with the E9300 series sensor. The new E9300 series power sensor requires EPM "A" model dual channel power meters to have firmware version A2.04.00 or greater and have U13 (pn E4418-80003) on the A6 Measurement Assy to be replaced with pn E4418-80023. These changes are required to allow the E9300 series power sensors to operate with the EPM "A" model power meter.

Continued

DATE: November 1999

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:

MODIFICATION AVAILABLE

ACTION CATEGORY:		PERFORMANCE ENHANCEMENT SERVICE/RELIABILITY ENHANCEMENT
AGREEABLE TIME		
LOCATION CATEGORY:	CUSTOMER INSTALLABLE ON-SITE SERVICE CENTER	AVAILABLE UNTIL: November 2001
AUTHOR: JW	ENTITY: E600	ADDITIONAL INFORMATION: This upgrade should take no more than one hour.



Solution / Action:

The new parts allow the user to utilise the new E9300 power sensors. These sensors are capable of performing the following:

- Wide Dynamic range measurements of all modulated signals.
- Accurate measurement of signals with high peak to average ratios.
- Flat calibration factors give accurate measurement of multi-tone signals.

Installation Procedure**EEPROM Replacement**

Replacing the EEPROM requires removal of the power meter cover and the A6 measurement assemblies from the chassis. With the measurement assemblies removed, the EEPROMs are replaced. The power meter is then reassembled and the measurement path verified.

Outer Cover Removal

1. Ensure all power and sensor cables are disconnected from the power meter. **WARNING:** The power meter contains potentially hazardous voltages.
2. Using a T15 screw driver, loosen the captive screws in the rear bezel and remove the power meter chassis from the cover as shown in Figure 1.

Figure 1 Outer Cover removal

Measurement Assemblies

1. Access the power meter as shown in Figure 3.

NOTE

Replacement of the EEPROM can be achieved on Channel B of a dual channel meter without the removal of the A6 measurement assembly only after disconnecting and removing the Channel A A6 measurement assembly as described in steps 2 and 3.

2. Disconnect the flex circuit from the measurement assembly.

NOTE

Care should be taken when disconnecting the flex circuit from the measurement assembly. Do not touch the flexi circuit contacts. See Figure 2.

Figure 2 Flexi Circuit Connections

3. Slide the measurement assembly out from the side of the power meter.

Figure 3 Measurement Assembly Removal

EEPROM Replacement

1. Identify U13, See Figure 4 and using the IC extraction tool, remove the EEPROM U13
2. Correctly orientate the EEPROM supplied and insert it into the IC socket.
3. Refit the measurement assembly into the card cage and refit the flex circuits.

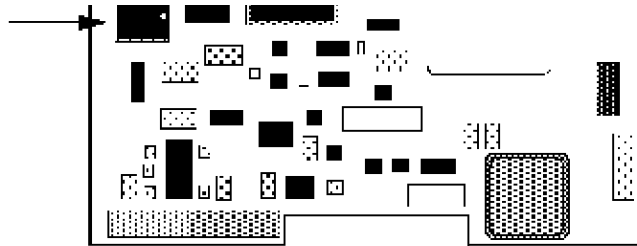


Figure 4. U13 Location on Measurement Assy

Cover Replacement

1. Refit the power meter cover. Take care to avoid snagging any loose cables.
2. Replace rear bezel and using a T15 screw driver, tighten the captive screws. The assembly of the power meter is now complete.

Power Meter Verification

After performing the EEPROM upgrade now ensure the power meter passes the Power On self tests and Instrument Self Tests.

1. Reconnect the power cord and switch the power meter on.
2. On the power meter press , , , , . System Inputs, More, Self Test, Instrument Self Test
3. Verify all tests pass.
4. If any Meas Assy tests fail, switch off the power meter and proceed as follows:
 - a. Remove the power cord and remove the cover as described in "Cover Replacement"
 - b. Ensure the EEPROM, flex circuit and measurement assemblies are correctly located.
 - c. Refit the cover and retest the power meter. When all Instrument Self Tests pass verify the DSP program loaded in the EEPROM is the correct version as follows:

5. Press to exit the Instrument Self Test menu. Done.
6. Press System/inputs, More, Service, Version. Check the DSP Revision A.01.11 As shown below:

Figure 5. DSP Code Revision

7. Press Done to exit the Version screen.

Measurement Path Verification

Self Test

1. Re-connect the power cord and press to power up the power meter.
2. Ensure the power meter passes all the power-up self tests before proceeding.

Perform Zero Test and Instrument Accuracy Tests from the Service Guide pn E4418-90023 for both measurement channels of the meter.

The retrofit and verification are now complete. You should now install the latest instrument firmware. This can be achieved by ordering Agilent part number E4418-61035 or by accessing the following URL:

<http://www.tmo.hp.com/tmo/datasheets/English/HPE4418B.html>

Click on the E4418B Technical support hyperlink and then click the firmware upgrade link. Follow the on-screen instructions to perform the upgrade.