E4418B-14

S E R V I C E N O T E

Supersedes:
NONE

Agilent E4418B EPM Average Power Meter

Serial Numbers: **GB00000000/GB99999999**
MY00000000/MY99999999
US00000000/US99999999

Front Panel Repair Procedure

Parts Required:

P/N	Description	Qty.
E4418-61001	Front Panel Sub-assembly	1
E4418-00035	Front Panel Overlay	1
E4418-61036	Sensor Cable Assembly Kit	1
E4418-61811	Power Reference Cable Kit	1
E4418-40002	Rubber Keypad	1
E4418-20007	Keypad Flex Circuit	1
E4418-00014	Blanking Plate (Sensor)	1
6960-0178	Blanking Plug (Power Ref)	1
1401-0247	Protective Cap (Power Ref)	1

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:

INFORMATION ONLY

AUTHOR: FC PRODUCT LINE: PN

ADDITIONAL INFORMATION:
The list of parts provided above covers various repair scenarios. A breakdown of the parts needed for specific repairs is included in this Service Note.

Agilent Technologies

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Situation:

The repair strategy for the front panel assembly has always been to completely replace it. The replacement part could either be new or refurbished. Customer feedback has prompted us to review this strategy, as the front panel cost is prohibitive for simple repairs, such as keypad damage.

Solution/Action:

The purpose of this Service Note is to define the new repair strategy for the front panel assembly. This new strategy moves away from buying a complete replacement, making the lower level assemblies and parts available instead.

The most expensive component to replace is the LCD module. This is supplied as part of Front Panel Sub-assembly, rather than as a stand-alone part. Supplying it in this way adds very little in terms of cost, but it reduces repair time, reduces the risk of damaging the LCD, and minimizes the skill set & tools required to repair the front panel.

The Front Panel Sub-assembly comprises of the following components:

- LCD Module
- Foam Gasket
- EMI Screen
- Keypad Flex Circuit
- EMI Shielded Window
- Rubber Keypad
- Plastic Front Bezel

Of these, the Rubber Keypad and Keypad Flex Circuit are also available as individual components.

<u>Repair Scenarios</u>

Three different repair scenarios will be described in this Service Note:

- Replacing the Sensor Cable Assembly or Power Reference Connector.
- Replacing the Rubber Keypad or Keypad Flex Circuit.
- Replacing the LCD Module.

Repair Scenario 1: Replacing the Sensor Cable Assembly or Power Reference Connector.

Parts Required:
- Sensor Cable Assembly Kit
- Power Reference Cable Kit

Tools Required:
- Circlip Pliers
- 9/16” Socket (torque set to 25 lb-in)

Repair Instructions:
The necessary repair instructions are provided in the Service Guide (refer to Chapter 5).

Repair Scenario 2: Replacing the Rubber Keypad or Keypad Flex Circuit.

Important Note:
This repair should be carried out in a clean room environment. Failure to do so may introduce dirt and/or dust between the EMI Shielded Window and the LCD Module.

Parts Required:
- Rubber Keypad
- Keypad Flex Circuit

Tools Required:
- Circlip Pliers
- 9/16” Socket (torque set to 25 lb-in)
- Small Flat-blade Screwdriver

Repair Instructions:
1. Remove the Sensor Connector Assembly and the Power Reference Connector (if fitted) as per the instructions provided in the Service Guide (refer to Chapter 5).

2. Using the flat-blade screwdriver, carefully pull out the 4 metal clips that hold the EMI Screen to the Plastic Front Bezel. Figure 1 shows a picture of one of these clips.

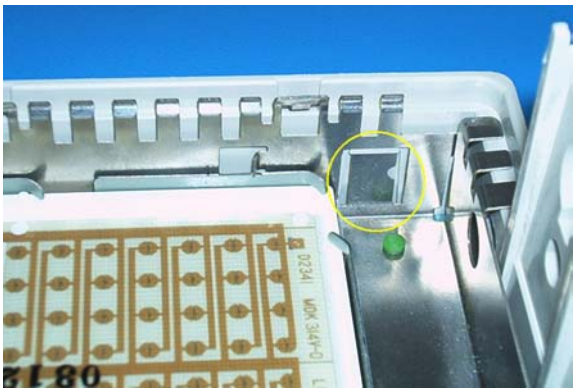

Figure 1

3. Carefully lift the EMI Screen out of the Plastic Front Bezel. Figures 2 and 3 show different views of the removed assembly.

Figure 2

Figure 3

4. The Rubber Keypad is attached to the EMI Screen by 4 rubber mounting lugs. These can be disengaged by carefully pulling the four corners of the Rubber Keypad away from the EMI Screen. Figure 4 shows a picture of one of these lugs.

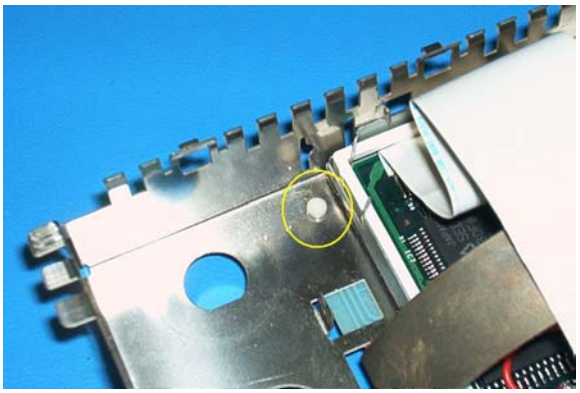

Figure 4

5. Carefully remove the Rubber Keypad, taking care not to damage the EMI Shielded Window that is positioned between it and the EMI Screen. Take note that the edges on one side of the EMI Shielded Window are coated with a special paint – when refitting this part, the painted edges must face towards the EMI Screen. Figure 5 shows a picture of the EMI Screen with the Rubber Keypad and EMI Shielded Window removed.

Figure 5

6. Carefully remove the Keypad Flex Circuit from the EMI Screen. Note that this part is not secured to the EMI Screen, and can be easily removed by pulling the flex tail through the slot in the metal. Figure 6 shows a picture of the EMI Screen with the Keypad Flex Circuit removed.

Figure 6

7. The repaired front panel can be re-assembled by performing the above procedure in reverse. Some points to note:
    - Assembly can be made easier by positioning the Rubber Keypad face down, and aligning both the EMI Shielded Window & Keypad Flex Circuit on top of it. The EMI Screen can then be positioned on top of these parts, at which point the 4 rubber mounting lugs can be pushed through into place.
    - When refitting the EMI Screen to the Plastic Front Bezel, the 4 metal clips should automatically engage when the EMI Screen is pushed into place. This may not happen if a clip has been deformed during the removal procedure, and so each clip should be checked and manually engaged as necessary.

Repair Scenario 3: Replacing the LCD Module.

Parts Required:
- Front Panel Sub-assembly
- Front Panel Overlay

Tools Required:
- Circlip Pliers
- 9/16” Socket (torque set to 25 lb-in)
- Small Flat-blade Screwdriver
- Craft Knife

Repair Instructions:
1. Remove the Sensor Cable Assembly and the Power Reference Connector (if fitted) from the faulty front panel, as per the instructions provided in the Service Guide (refer to Chapter 5).

2. Remove the Power Reference Blanking Plug (if fitted) from the faulty front panel.

3. Use the craft knife to cut away part of the Front Panel Overlay on the faulty unit. The area that has to be removed lies between the holes for the sensor connector and the power reference connector.

4. Remove the Sensor Blanking Plate from the cut-away section of the Front Panel Overlay.
5. Discard the faulty front panel assembly.
6. Fit the Sensor Cable Assembly to the bottom hole on the new Front Panel Sub-assembly.
7. Fit the Power Reference Connector (if applicable) to the top hole on the Front Panel Sub-assembly.
8. Fit the Sensor Blanking Plate to the middle hole on the Front Panel Sub-assembly.
9. Carefully align and fit the adhesive-backed Front Panel Overlay to the Front Panel Sub-Assembly.
10. Fit the Power Reference Blanking Plug (if applicable) to the Front Panel Sub-assembly.