8648B-02B

S E R V I C E N O T E

Supersedes:
8648B-02A

8648B Synthesized Signal Generator

Serial Numbers: 3836U01936 / 3836U01981

Procedure to replace defective 864X display module

Parts Required:

P/N	Description	Qty.
08648-60035	Vacuum Fluorescent Display with Connector	1

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:

MODIFICATION RECOMMENDED

ACTION CATEGORY:	[X] ON SPECIFIED FAILURE [[]] AGREEABLE TIME	STANDARDS LABOR: 1.0 Hours	
LOCATION CATEGORY:	[X] CUSTOMER INSTALLABLE [[]] ON-SITE [X] SERVICE CENTER [[]] CHANNEL PARTNER	SERVICE INVENTORY: [[]] RETURN [[]] SCRAP [[]] SEE TEXT	USED PARTS: [[]] RETURN [X] SCRAP [[]] SEE TEXT
AVAILABILITY: PRODUCT'S SUPPORT LIFE		NO CHARGE AVAILABLE UNTIL: EOS	
AUTHOR: PY		PRODUCT LINE: PL15	
ADDITIONAL INFORMATION:			

October 22, 2009

Rev. 16

Agilent Technologies

Situation:
The 864x family changed the display type from 2090-0312 to 2090-0362* in May 1998. After initial investigation it was found that the early releases of the display had a slightly resistive surface mount fuse fitted. Under certain circumstances these fuses can blow causing the display to become inoperative (dead). This problem has now been rectified. A more robust fuse type has now been fitted during the manufacturing process. The serial numbers affected are shown on page 1.

* Replacement part, 2090-0362 has been cross reference **to 08648-60035**. The 08648-60035 consists of the VFD display with the D-type connector (1X), hole plug 6960-0149 (1X), white washer 3050-0300 (2X) and gray bushing 0340-1162 (2X).

Solution:
It is recommended that any display module with a blown fuse be replaced without having to remove the front panel.

Action:
The following sections contain a replacement procedure and a list of recommended tools to replace the defective 864x display module. The procedure outlines the necessary steps to change a defective display assembly (08648-60035) without breaking the RF path. This has the advantage of reducing cost to the division and down time to the customer. Also the repair can be carried out at the customers' site with very little equipment verification and no re-calibration required. Finally a list of recommended tools is provided at the end of this document to facilitate the replacement process.

Note: **DO NOT REMOVE FRONT PANEL or BREAK RF PATH**

Replacement Procedure:

Step 1. Remove the 11 outer casing screws (MP14) from the instrument cover (MP8) with a Proto T15 torx driver.

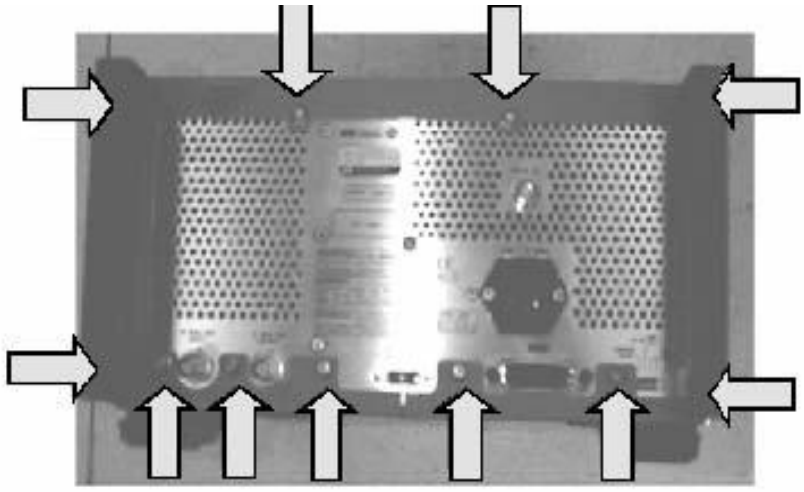

FIGURE 1

Step 2. Remove the instrument cover (MP8).

Step 3. Remove the display D-type connector (W2).

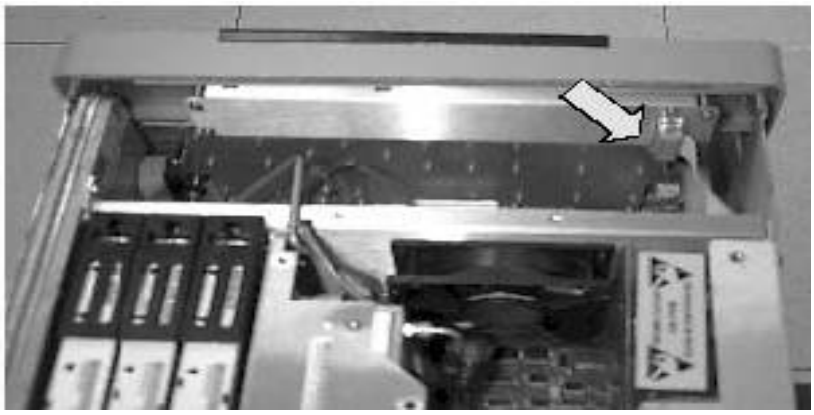

FIGURE 2

Step 4. Place the unit (front panel) face down on a protected work surface area.

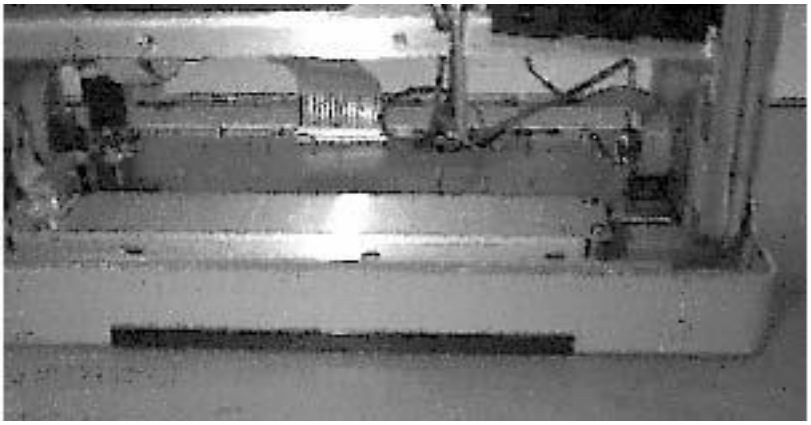

FIGURE 3

Step 5. Remove the 6 screws (MP12) from the display cover (A1MP4) with an L-shaped T10 torx driver.

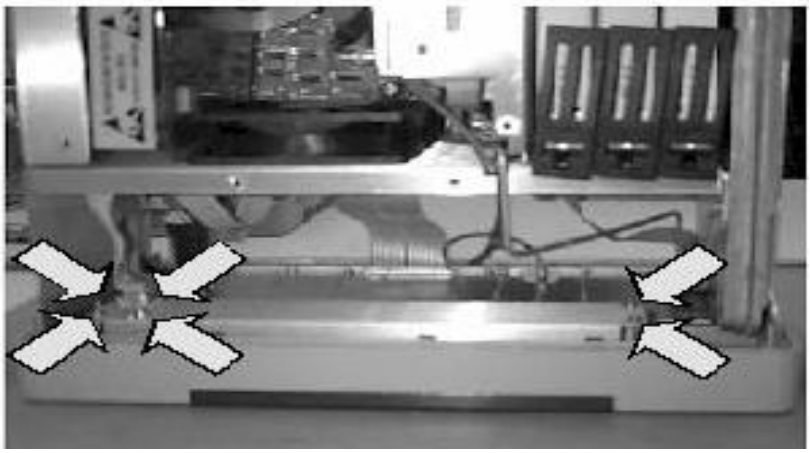

FIGURE 4

Step 6. Remove the display cover (A1MP4)

Step 7. Remove the 6 screws (MP12) from the display VFD 2x40 (A1A4) with an L-shaped T10 torx driver.

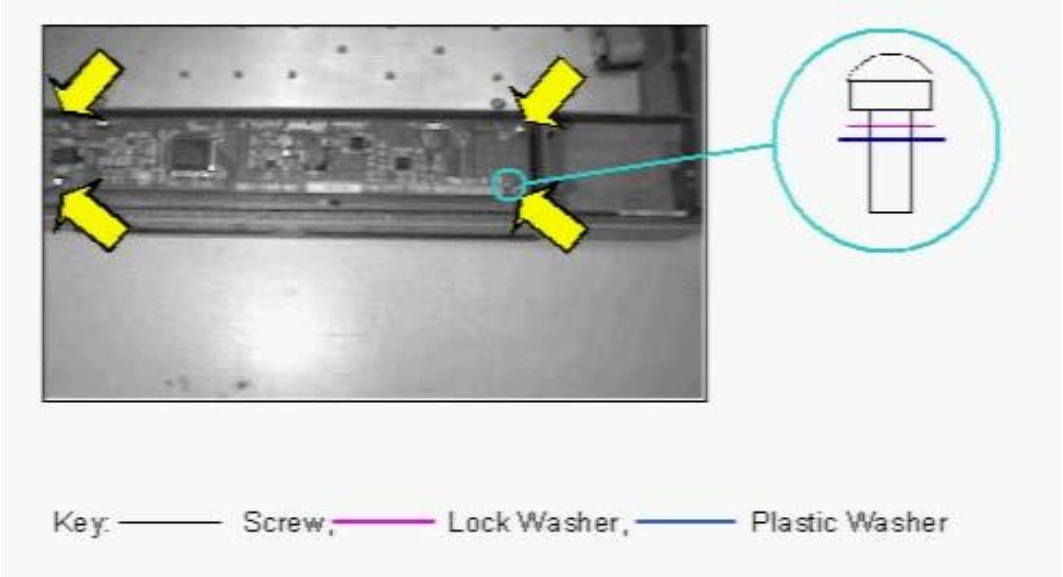

FIGURE 5

Step 8. Remove the defective display VFD 2x40 (A1A4).

Step 9. Ensure that the front frame display aperture is free from small debris particles.

Step 10. Stack white washer 3050-0300 (2X) and place over threaded insert on D-type connector of 08648-60035

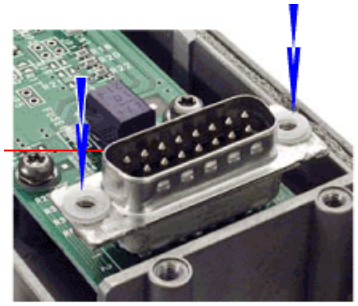

FIGURE 6

Step 11. Fit the replacement display, with plastic lens cover removed, by pushing toward the bottom of the front panel display aperture.

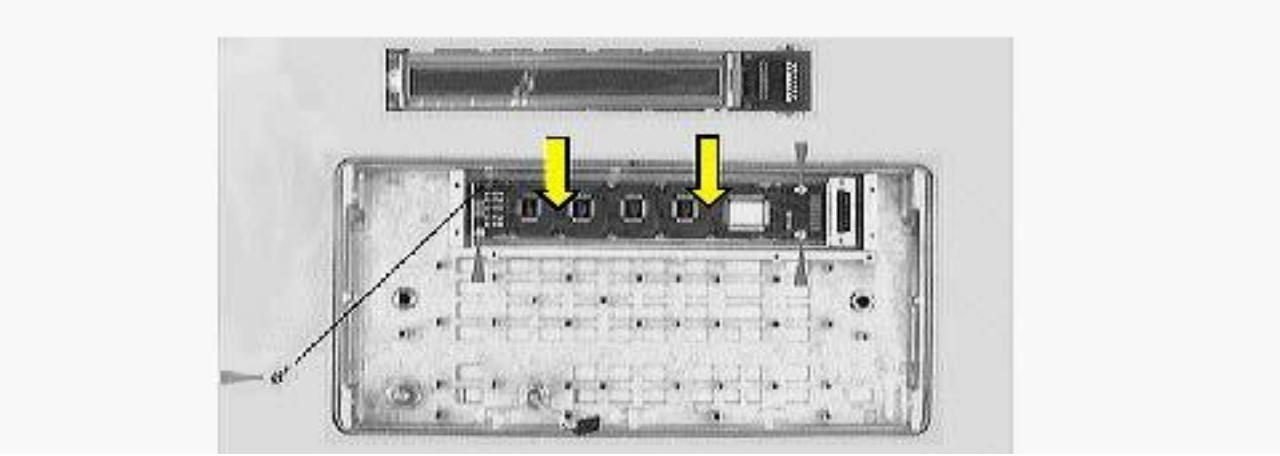

FIGURE 7

Step 12. Attach gray bushing 0340-1162 (2X) onto the display cover (A1MP4).

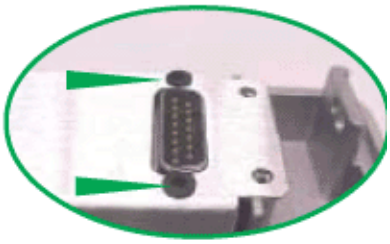

FIGURE 8

Step 13. Carry out steps 7 to 1 to reassemble the unit, ensure that all screws are refitted with 9lb/in torque. (see recommended tools section)

Step 14. Visually inspect the work carried out.

Step 15. Remove the unused Contract Potentiometer from the rear panel. Use the hole plug 6960-0149(1X) to cover up the hole.

Step 16. Electrically safety tests the unit.

Step 17. Ensure that the display and instrument are operational.

Recommended Tools:

Quickset Drivers

1/4 in. ferrale hexagon drive, torque limiting screwdrivers for tightening a wide range of fasteners to predetermined torque's, where consistent and reliable mechanical assembly is required. Tools incorporate a precision radial ball clutch and 6-lobe cam design which gives a repeatable six-point torque (to the preset value) through one complete turn of the handle. A smooth slipping action (bi-directional) completely eliminates overtightening. Handles are anodised and colour coded for fast identification, with fluted grips affording firm torque control. The 1/4 in. drive will suit **RS** screwdriver bits. Use **RS** adaptor **769-002** in conjunction with analyser **623-883** adaptors and extensions. Instructions are included with each product.

Breaking' Ratchet Handles

1/4 in. ferrale hexagon drive, torque limiting screwdrivers for tightening a wide range of fasteners to predetermined torque's, where consistent and reliable mechanical assembly is required. Tools incorporate a precision radial ball clutch and 6-lobe cam design which gives a repeatable six-point torque (to the preset value) through one complete turn of the handle. A smooth slipping action (bi-directional) completely eliminates overtightening. Handles are anodised and colour coded for fast identification, with fluted grips affording firm torque control. The 1/4 in. drive will suit **RS** screwdriver bits. Use **RS** adaptor **769-002** in conjunction with analyser **623-883** adapters and extensions. Instructions are included with each product.

Proto TORX® Bit Set

7 pc Set Contents:
1 x T10 1/4 in. Hex Torx insert bit
1 x T15 1/4 in. Hex Torx insert bit
1 x T20 1/4 in. Hex Torx insert bit
1 x T25 1/4 in. Hex Torx insert bit
1 x T27 1/4 in. Hex Torx insert bit
1 x T30 1/4 in. Hex Torx insert bit
3/8 in. dr. Bit holder

L-Shaped TORX® Drivers

7 pc Set Contents:
1 x T10 1/4 in. Hex Torx insert bit
1 x T15 1/4 in. Hex Torx insert bit
1 x T20 1/4 in. Hex Torx insert bit
1 x T25 1/4 in. Hex Torx insert bit
1 x T27 1/4 in. Hex Torx insert bit
1 x T30 1/4 in. Hex Torx insert bit
3/8 in. dr. Bit holder

FIGURE 7

Quickset Drivers RS 769-002 in conjunction with analyser 623-883 adaptors Breaking Ratchet Handles RS screwdriver bits. Use RS adaptor 769-002 in conjunction with analyser 623-883 adapters and extensions. or Proto TORXR Bit Set with L-Shaped TORXR Drivers

Alternatively refer to Radio Spares Homepage @ http://rswww.com/