

MODIFICATION RECOMMENDED –
CORRECTS MANUFACTURING OR DESIGN DEFECTS

E8356A-02B

S E R V I C E N O T E

Supersedes:
E8356A-02A

E8356A PNA Series RF Network Analyzers

Serial Numbers: US00000000 thru US42060343

Some front Panel Interface (FPI) boards are causing “won’t boot” conditions and USB signal integrity problems. Installing a new FPI board corrects these problems.

If the front panel assembly is removed, remember to add the new bracket modification described in Service Note E8356A-03.

To Be Performed By: Agilent-Qualified Personnel

Parts Required:

P/N	Description	Qty.
E8361-63061	Printed-circuit assembly board	1

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:			
MODIFICATION RECOMMENDED			
ACTION CATEGORY:	☐ IMMEDIATELY ☐ ON SPECIFIED FAILURE ☒ AGREEABLE TIME	STANDARDS: Labor: Models w/ Opt 014 or 015: 2 hrs (add 2 hrs for E8361A) Models w/o Opt 014 or 015: 1 hr	
LOCATION CATEGORY:	☐ CUSTOMER INSTALLABLE ☒ ON-SITE ☒ SERVICE CENTER	SERVICE ☐ RETURN INVENTORY: ☒ SCRAP ☐ SEE TEXT	USED ☐ RETURN PARTS: ☒ SCRAP ☐ SEE TEXT
AVAILABILITY:	PRODUCT'S SUPPORT LIFE		
Agilent responsible until: Product's support life			
AUTHOR: MF		PRODUCT LINE: WN	
ADDITIONAL INFORMATION: This Service Note applies to PNA models E8356/7/8A, E8801/2/3A, N3381/2/3A, E8361A, E8362/3/4A, E8362/3/4B, and N5230A.			

© AGILENT TECHNOLOGIES, INC. 2005
PRINTED IN U.S.A.



November 30, 2005

Situation:

FPI boards E8356-60209 and E8356-60029 were both identified as causing a serious “won’t boot” condition and a USB signal integrity issue. These issues were noticed in production as well as service centers. The booting issue was due to a tantalum capacitor (C58, 4.7uF, 50V) reversed biased at 10 percent of its rated voltage. Both issues were fixed with a board layout change.

Solution/Action:

FPI boards E8356-60209 and E8356-60029 should be replaced using the E8361-63061 FPI board. Service centers should replace the board when an instrument arrives for calibration or repair.

If the PNA has either the E8356-60003 or the E8361-63061 FPI board installed, it is NOT necessary to replace the FPI board. Neither board has the issue with the reverse biased capacitor. Here is how to identify both of these good boards:

- E8361-63061 - Remove the round knob (RPG) from the front panel by gently pulling the knob forward. Examine the board’s RPG spindle. A dot of red paint on the end of the spindle indicates a new E8361-63061 FPI board. If there is no red dot on the RPG spindle, remove the outer cover of the PNA so that you can see the FPI board. On the back of the board, next to the barcode label, locate the silk-screened part number of the raw board. If it reads E8361-20061, it is NOT necessary to replace the board.
- E8356-60003 - On the back of the CPU board, locate the USB connector next to the GPIB connector. If the USB connector is positioned horizontally (parallel to the top of the PNA), the FPI board is the E8356-60003 and does NOT need to be replaced. If the USB connector is positioned vertically (perpendicular to the top of the PNA), the FPI board should be changed.

Action 1: Replace the old FPI board with the new board.

You can find instructions for replacing the FPI board in the Service Guide for your PNA. To view this Service Guide information online, use the following steps:

- A. Go to <http://www.agilent.com>.
- B. Enter your PNA model number (Ex: 8356A) in the **Search** box and click **GO**.
- C. Scroll down to the heading **Manuals & Guides** and click on the title/hyperlink for the Service Guide. If you don’t find your Service Guide listed on the Web page that is displayed initially, click on the **More** hyperlink.
- D. When the PDF of the Service Guide is displayed, click on the bookmark for the Contents section.
- E. Scroll through the Contents section to locate the chapter “Repair & Replacement Procedures.”
- F. Click on the title/hyperlink for the section “Removing & Replacing Front Panel Subassemblies.”
- G. Follow the instructions in the subsection “Removing the A3 Front Panel Interface Board Assembly.”

NOTE: While the front panel assembly is removed, remember to add the new bracket modification described in Service Note E8356A-03.

Action 2 (Only for models with Option 014 or 015): Perform Source Calibration and Receiver Calibration.

PNA models with Option 014 or 015 that have had an E8361-63061 FPI board installed require a new Source calibration and Receiver calibration. For instructions on performing these calibrations, refer to the calibration section of PNA Help that is embedded in the analyzer. PNA Help can also be viewed online. Use the Action 1 steps A-C above, but in Step C, click on the title/hyperlink for PNA Help.

Action 3: Perform tests on the A1, A2, and A3 assemblies to verify correct operation of the new FPI board.

You can find instructions for performing the necessary tests in the Service Guide for your PNA. To view this Service Guide information online, use the Action 1 steps A-E on the previous page, but in Step E locate the chapter "Troubleshooting". Next, click on the title/hyperlink for the section "Front Panel Troubleshooting." Perform the tests for the A1, A2, and A3 assemblies.