

Installation Note

8722DU Option 007

Mechanical Transfer Switch Upgrade Kit



Agilent Technologies

Part Number 08722-90042

Printed in USA June 2001

Notice

The information contained in this document is subject to change without notice.

Agilent Technologies makes no warranty of any kind with regard to this material, including but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Agilent Technologies shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

8722DU Option 007

Product Affected:	8722D Network Analyzer
Serial Numbers:	All
To Be Performed By:	Personnel Qualified by Agilent
Estimated Installation Time:	15 minutes
Estimated Verification Time:	15 minutes

Introduction

The 8722DU Option 007 upgrade kit provides a standard 8722D network analyzer with an optional mechanical transfer switch. The purchase price of this kit includes the cost of installation by qualified Agilent personnel.

Installation Kit Parts List

[Table 1](#) describes the parts included in this upgrade kit. Check the contents of the kit against this table.

Table 1 **Parts List**

Quantity	Description	Part Number
1	Installation Note	08722-90042
1	Mechanical Transfer Switch Assembly	08722-60098
2	Screw SMM3.0 18 CWPNTX	0515-0666

Tools Required

[Table 2](#) describes the equipment and tools required to complete the installation of the upgrade.

Table 2 **Equipment and Tools Required**

Quantity	Description	Part Number
1	TX10 TORX screwdriver	8710-1623
1	TX15 TORX screwdriver	8710-1622
1	8-mm or 5/16-in torque wrench	T274852
1	Short 2.4-mm (f) ¹	85056-60021
	Anti-static wrist strap and mat	

1. part of calibration kit 85056B/D

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. Refer to the documentation that pertains to your instrument for information about static-safe workstations and ordering static-safe accessories.

Procedure

Proper installation of the mechanical transfer switch consists of verifying instrument operation, installing the switch, and then reverifying operation.

Verify the Operation of the Instrument

Before installing the mechanical transfer switch, verify the operation of the analyzer with the following operator's check.

Description of Operator's Check.

The operator's check consists of two softkey initiated tests: Op Ck Port 1 and Op Ck Port 2.

A short is connected to port 1 (or port 2) to reflect all the source energy back into the analyzer for an S_{11} (or S_{22}) measurement.

The first part of OP CK PORT 1 checks the repeatability of the transfer switch. An S_{11} measurement is stored in memory, and the switch is toggled to port 2 and then back to port 1 where another S_{11} measurement is made. The difference between the memory trace and the second trace is switch repeatability.


The remaining parts of both tests exercise the internal attenuator in 5 dB steps over a 55 dB range. The resulting measurements must fall within a limit testing window to pass the test. The window size is based on both source and receiver specifications.

The operator's check determines that:

- The source is phase-locked across the entire frequency range.
- All samplers are functioning properly.
- The transfer switch is operational.
- The attenuator steps 5 dB at a time.

Procedure for Operator's Check.

1. Be sure the analyzer has been turned on and warmed up for at least 30 minutes.
2. To run the test for port 1, press **(Preset) PRESET: FACTORY (System) SERVICE MENU TESTS EXTERNAL TESTS**.
3. The display should show **TEST 21 Op Ck Port 1** in the active entry area.
4. Press **EXECUTE TEST** to begin the test.
5. When prompted, connect the short to the port indicated. Make sure the connection is tight.
6. Press **CONTINUE**.

7. The test is a sequence of subtests. At the end of the subtests, the test title and result will be displayed. If all tests pass successfully, the overall test status will be **PASS**. If any test fails, the overall test status will be **FAIL**.
8. To run the test for port 2, press the step  key. The display should show **TEST 22 Op Ck Port 2** in the active entry area.
9. Repeat steps 4 through 7.
10. If both tests pass, the analyzer is about 80% verified. If either test fails, refer to “Step 4. Faulty Group Isolation” in Chapter 4 of the analyzer’s *Service Guide*, or:
 - a. Make sure that the connection is tight. Repeat the test.
 - b. Visually inspect the connector interfaces and clean if necessary (refer to “Principles of Microwave Connector Care,” located in Chapter 1 of the analyzer’s *Service Guide*).
 - c. Verify that the short meets published specifications.
 - d. Substitute another short, and repeat the test.

If any part of the operator’s check fails, and you cannot resolve the failure, contact the nearest Agilent Technologies sales or service office. (See [Table 1](#).)

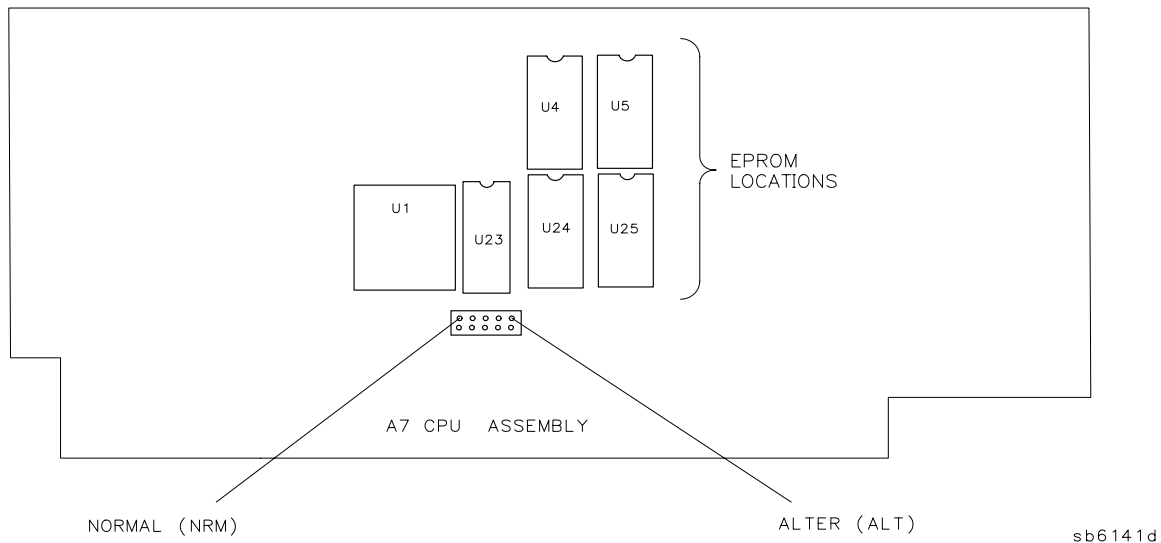
Install the Mechanical Transfer Switch

1. Disconnect the analyzer’s power cord.
2. Remove the lower set of guard feet from the analyzer’s rear panel.
3. Remove the bottom cover.
4. Refer to [Figure 1](#) or [Figure 2](#):

Use [Figure 1](#) and step 4a if your analyzer has *not* had the CPU board upgrade installed (Option 000).

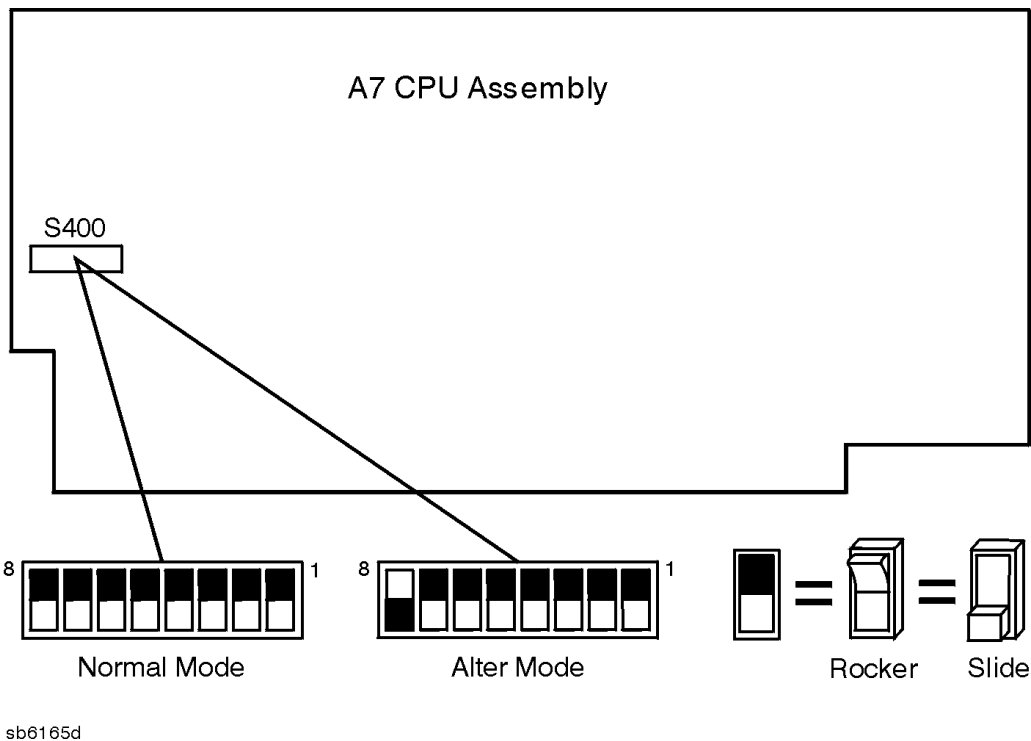
Use [Figure 2](#) and step 4b if your analyzer *has* had the CPU board upgrade installed (Option 000).

Figure 1 CC Jumper Location for Original CPU Board



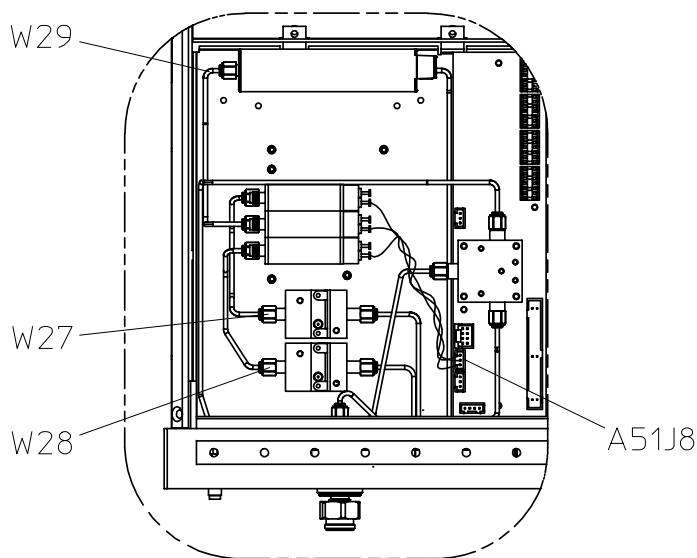
4a. Locate the CPU board and move the CC jumper from the normal (NRM) position to the alternate (ALT) position, using [Figure 1](#), above, as a guide.

Figure 2 CC Switch Location for New CPU Board



4b. Locate the CPU board and set the CC switch to the alternate (Alter Mode) position, using [Figure 2](#), above, as a guide.

Figure 3 Cable Location Diagram



df62du

5. Refer to [Figure 3](#). Remove the three semirigid cables W27, W28, W29 from the solid-state switch, S4.
6. Disconnect the wiring assembly from A51J8.
7. Remove the 2 screws that attach the transfer switch S4 to the instrument.
8. Attach the mechanical transfer switch to the instrument with the two (3.0 X 18) screws provided in this kit.
9. Reconnect the three semirigid cables W27, W28, and W29 to the new mechanical switch, S4.
10. Reconnect the wiring assembly to A51J8.
11. Return the solid-state switch to Agilent Technologies.
12. Turn on the option by pressing **(System) SERVICE MENU** **PEEK POKE**
PEEK POKE ADDRESS **(5243262)** **(x1)** **POKE** **(-1)** **(x1)** **(Preset)**
FACTORY: PRESET **(Preset)**.
13. Check to make sure the option was activated by pressing **(System) SERVICE MENU**
FIRMWARE REVISION The option number (007) should appear on the screen to the right of the serial number. If it does not, repeat step 12.

Reverify Operation

1. Verify operation by performing the operator's check described earlier in this document. If the operator's check fails, consult the analyzer's *Service Guide*.
 2. Turn off the analyzer, remove the power cord, and return the A7 CC jumper or switch to the "normal" operating position. Refer to [Figure 1](#) or [Figure 2](#), depending on the type of CPU board you have.
 3. Replace the analyzer's bottom cover and the rear panel guard feet.
- This completes the 8722DU Option 007 installation.

Contacting Agilent

By internet, phone, or fax, get assistance with all your test and measurement needs.

Table 3 Contacting Agilent

Online assistance: www.agilent.com/find/assist			
United States (tel) 1 800 452 4844	Latin America (tel) (305) 269 7500 (fax) (305) 269 7599	Canada (tel) 1 877 894 4414 (fax) (905) 282-6495	Europe (tel) (+31) 20 547 2323 (fax) (+31) 20 547 2390
New Zealand (tel) 0 800 738 378 (fax) (+64) 4 495 8950	Japan (tel) (+81) 426 56 7832 (fax) (+81) 426 56 7840	Australia (tel) 1 800 629 485 (fax) (+61) 3 9210 5947	Singapore (tel) 1 800 375 8100 (fax) (65) 836 0252
Malaysia (tel) 1 800 828 848 (fax) 1 800 801 664	Philippines (tel) (632) 8426802 (tel) (PLDT subscriber only): 1 800 16510170 (fax) (632) 8426809 (fax) (PLDT subscriber only): 1 800 16510288	Thailand (tel) outside Bangkok: (088) 226 008 (tel) within Bangkok: (662) 661 3999 (fax) (66) 1 661 3714	Hong Kong (tel) 800 930 871 (fax) (852) 2506 9233
Taiwan (tel) 0800-047-866 (fax) (886) 2 25456723	People's Republic of China (tel) (preferred): 800-810-0189 (tel) (alternate): 10800-650-0021 (fax) 10800-650-0121	India (tel) 1-600-11-2929 (fax) 000-800-650-1101	