Manual Changes Supplement

8757D Network Analyzer Service Manual

This supplement is written for the 8757D Network Analyzer Service Manual, part number 08757-90110, print date March 2005. It contains important information for correcting manual errors, and for updating the manual to include analyzer improvements made after the printing of the manual.

Agilent Technologies

Part Number 08757-91082

Printed in USA May 2006

Terminology Used in This Supplement

Replace Remove the existing manual pages and replace them with the pages provided in this supplement.

Contacting Agilent

Assistance with test and measurement needs and information on finding a local Agilent office are available on the Web at:
http://www.agilent.com/find/assist

If you do not have access to the Internet, please contact your Agilent field engineer.

NOTE In any correspondence or telephone conversation, refer to the Agilent product by its model number and full serial number. With this information, the Agilent representative can determine whether your product is still within its warranty period.

Change 1

Change 1, located on page 6-5, revises the part number for Reference Designation W10, Cable Data for LCD, to 8121-0576.

Instructions

Replace page:

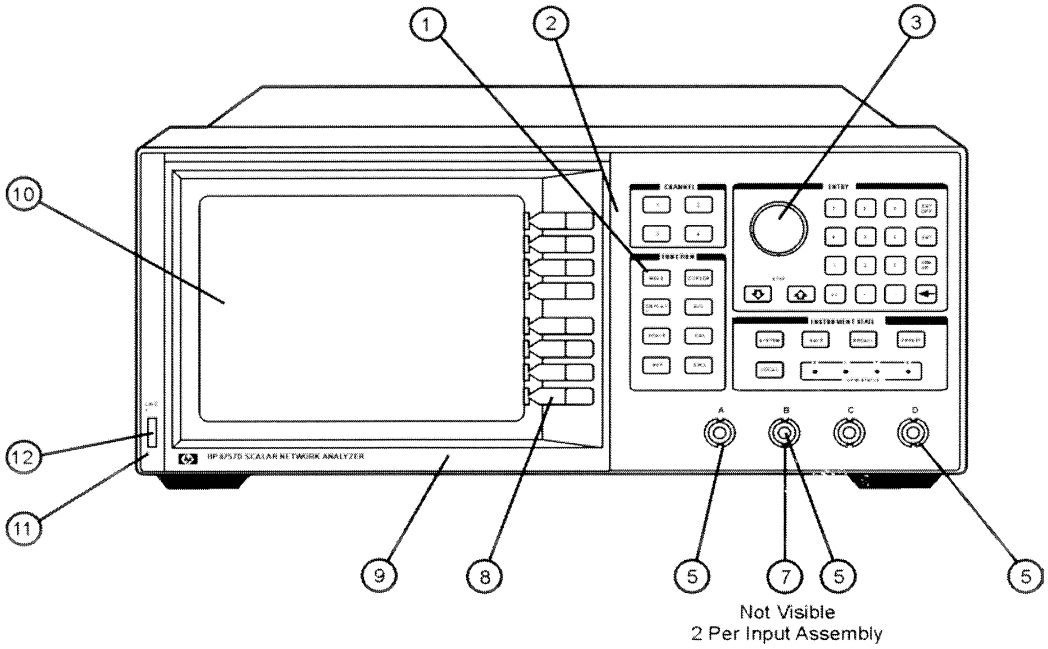
- 6-5/6-6

Reference Designation	Agilent Part Number	Qty	Description
1	08757-60151	1	DISPLAY FRONT PANEL ASSY[a,b]
	0950-3379	1	INVERTER
	8121-0576	1	CABLE, LCD DATA
	8120-8842	1	CABLE, INVERTER
	08757-40018	1	SOFT KEYPAD
	2090-0386	1	BACKLIGHT LAMP
	1000-0095	1	DISPLAY GLASS
	08757-00061	1	LCD RETAINER (SHEET METAL)
W10	8121-0576	1	CABLE, DATA FOR LCD
W11	8120-8842	1	CABLE, INVERTER, FLAT FLEX
4	08757-00056	1	LOGGER COVER
5	0515-1410	4	SCREW SMM3.0 20 CWPNTX
6	08757-00071	1	FRONT SUBPANEL
7	1990-1525	1	RPG ASSEMBLY
8	2190-0104	1	WSHR INKL .439ID
10	2950-0043	1	NUT-HEX-DBL-CHAM 3/8-32-THD .094-IN-THK
11	08757-40017	1	MAIN KEYPAD-RUBBER
12	0515-0374	6	SCREW SMM3.0 10 CWPNTX
13	08757-00072	1	CHASIS DISPLAY INTERFACE MOUNT (SHEET METAL)
14	0515-2086	2	SCREW SMM4.0 7 PCFLTX
15	0515-1382	8	SCREW SMM3.5 6 PCFLTX
A1.1	08757-60149	1	KEYBOARD
A2	08757-60113	1	KEYPAD INTERFACE
A1W1	08757-60045	1	KEYBOARD/INTERFACE CABLE
W1-W4	08757-60034	1	DETECTOR INTERFACE CABLE
W5	8120-4112	1	FRONT PANEL INTERFACE CABLE

a. When it is necessary to replace the bezel or the LCD display, replace the complete display front panel assembly (08757-60151). The bezel and LCD parts should not be replaced individually because of gaskets requiring special handling. See the A15 section of Chapter 8 for more information.

b. The indented parts are included in the display front panel assembly (08757-60151).

Figure 6-2. Front View



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Reference Designation	Agilent Part Number	Qty	Description
1	08757-40017	1	MAIN KEYPAD-RUBBER
2	08757-80084	1	FRONT PANEL LABEL (STANDARD)
	08757-80085	1	FRONT PANEL LABEL OPTION 001
	08757-80086	1	FRONT PANEL LABEL OPTION 002
	08757-80083	1	FRONT PANEL LABEL OPTION 001/002
3	01650-47401	1	KNOB-BASE 1 1/8 JGK
5	08757-60034	4	P/O DETECTOR INTFC ASSY
7	0535-0031	8	NUT M-HXSEM M3.0
8	08757-40018	1	SOFT KEYPAD-RUBBER
9	08757-80099	1	NAME PLATE LABEL
10	08757-60151	1	DISPLAY FRONT PANEL ASSY
11	08757-80098	1	LABEL, POWER SWITCH
12	08757-40005	1	LINE BUTTON

Changes 2 - 6

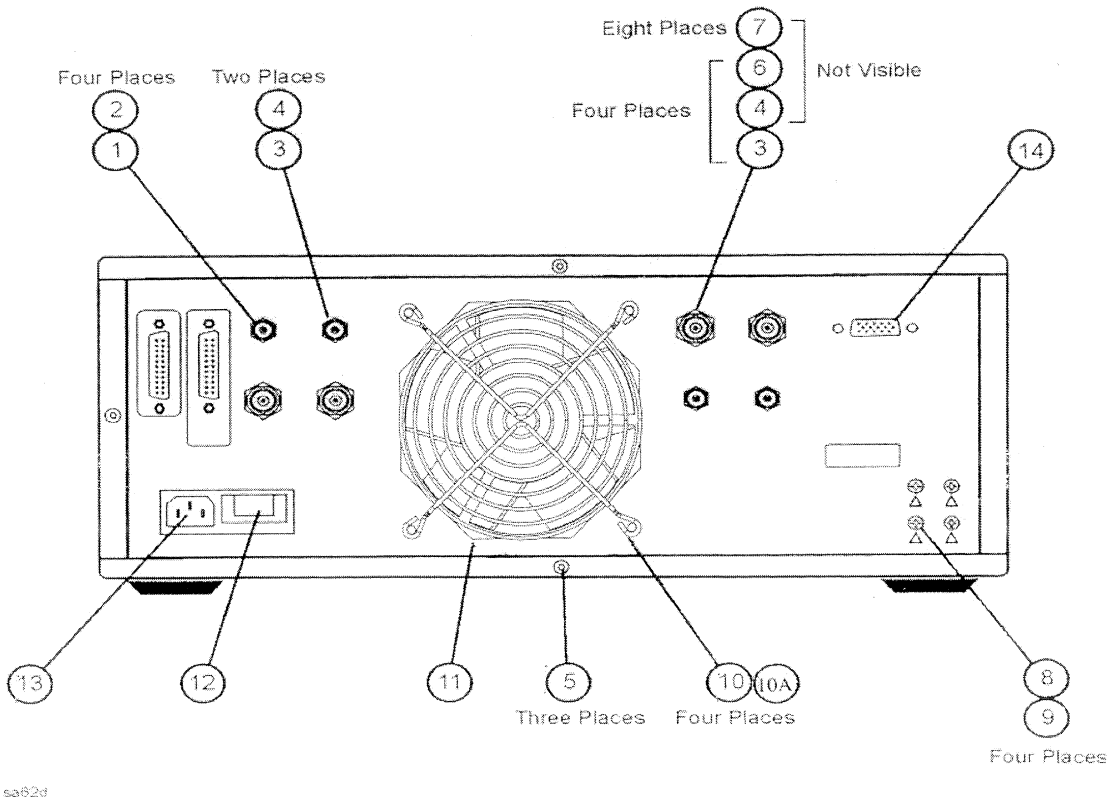
- Change 2, located on page 6-7, revises the appearance of the network analyzer rear panel.
- Change 3, located on pages 6-7, revises Reference Designation 10, to 0515-2012, SMM3.5 25 CWPNTX.
- Change 4, located on pages 6-7, adds Reference Designation 10A, part number 3050-0001, quantity 4, Wahser-FL MTLC NO.8 .172-IN-ID.
- Change 5, located on pages 6-7, revises Reference Designation 11, to part number 3160-0281, Fan Grill.
- Change 6, located on pages 6-7, revises Reference Designation 13, to part number 9135-5790, Line Module-Unfiltered.

Instructions

Replace pages:

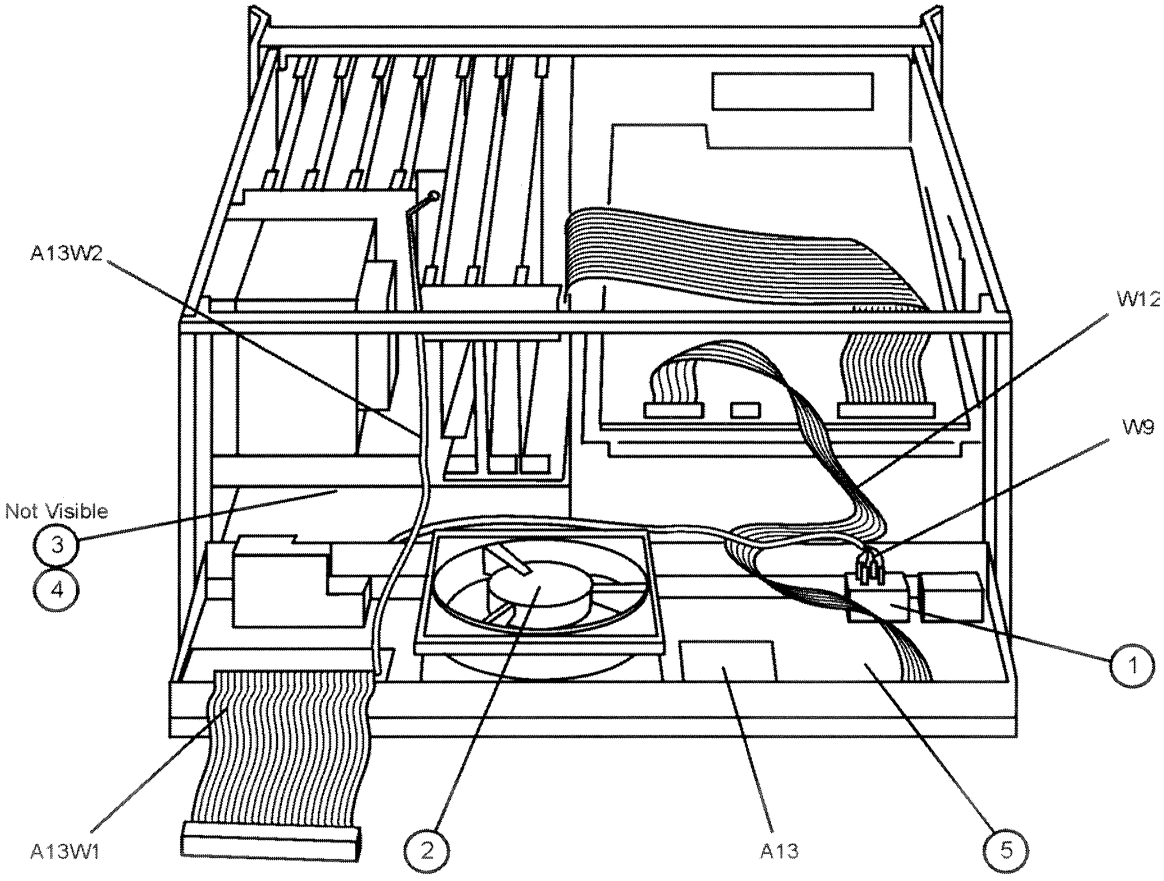
- 6-7/6-8

Figure 6-3. Rear View



Reference Designation	Agilent Part Number	Qty	Description
1	0380-0643	4	STANDOFF-HEX .255-IN-LG 6-32THD
2	2190-0017	4	WASHER-LK HLCL NO.8 .168-IN-ID
3	2950-0035	5	NUT-HEX-DBL-CHAM 15/32-32-THD
4	2190-0102	5	WASHER-LK INTL T 15/32 IN .472-IN-ID
5	0515-1245	3	SCREW-SPCL M3.5 X 0.6 12MM-LG
6	3050-1094	4	WASHER-FL MTLC T 1/2 IN .505-IN-ID
7	5040-8857	8	WASHER-SHOULDER
8	0624-0324	4	SCREW-TPG 4-20 .312-IN-LG PAN HP-POZI
9	3050-0891	4	WASHER-FL MTLC 3.0MM 3.3-MM-ID
10	0515-2012	4	SCREW SMM3.5 25 CWPNTX
10A	3050-0001	4	WASHER-FL MTLC NO.8 .172-IN-ID
11	3160-0281	1	FAN GRILL
12	2110-0083	1	FUSE (INCH) 2.5A 250V NTD FE UL-LST
-	2110-0043	1	FUSE (INCH) 1.5A 250V NTD FE UL-LST
13	9135-5790	1	LINE MODULE-UNFILTERED
14	8120-6876	1	VGA CONNECTOR AND CABLE
-	1251-7812	1	JACKSCREW

Figure 6-4. Rear View Interior



Reference Designation	Agilent Part Number	Qty	Description
1	3101-2780	1	SWITCH DPST (PART OF W9)
2	08757-20083	1	FAN-MODIFIED
3	1251-3967	1	CONTACT-CONN U/W-POST-TYPE FEM CRP
4	1251-4933	1	CONN-POST TYPE 2.5-PIN-SPCG 3-CONT
A13	08757-60013	1	REAR PANEL ASSEMBLY
A13W1	08757-60029	1	REAR PANEL/MOTHERBOARD CABLE
A13W2	08757-60044	1	REAR PANEL/MODULATOR BOARD CABLE
W9	08757-60033	1	POWER CABLE ASSY (WITH SWITCH)
5	08757-00074	1	REAR PANEL (SHEET METAL) WITH LABEL
W12	8120-6876	1	VGA CONNECTOR AND CABLE
	1251-7812	2	JACKSCREW (USED WITH VGA CONNECTOR)

Change 7

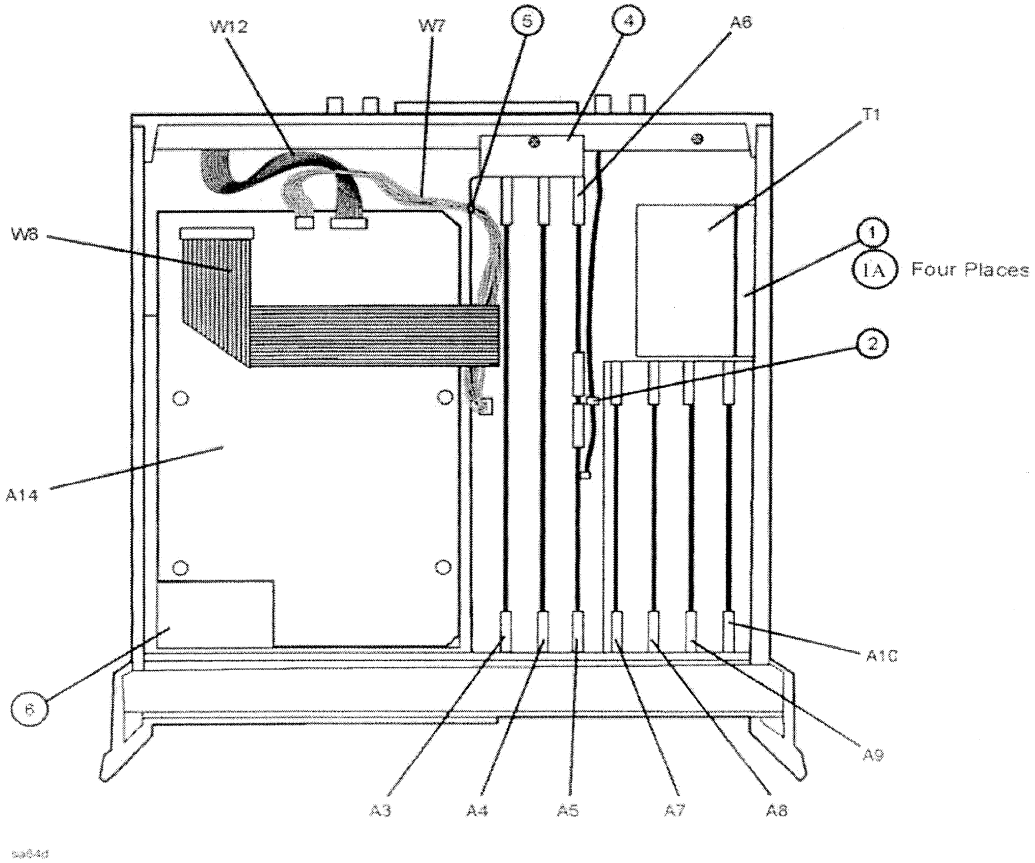
Change 7, located on page 6-9, adds Reference Designation 1A, part number 0380-4913, quantity 4, Spacer-Round .171-IN-ID .3125-IN-OD.

Instructions

Replace page:

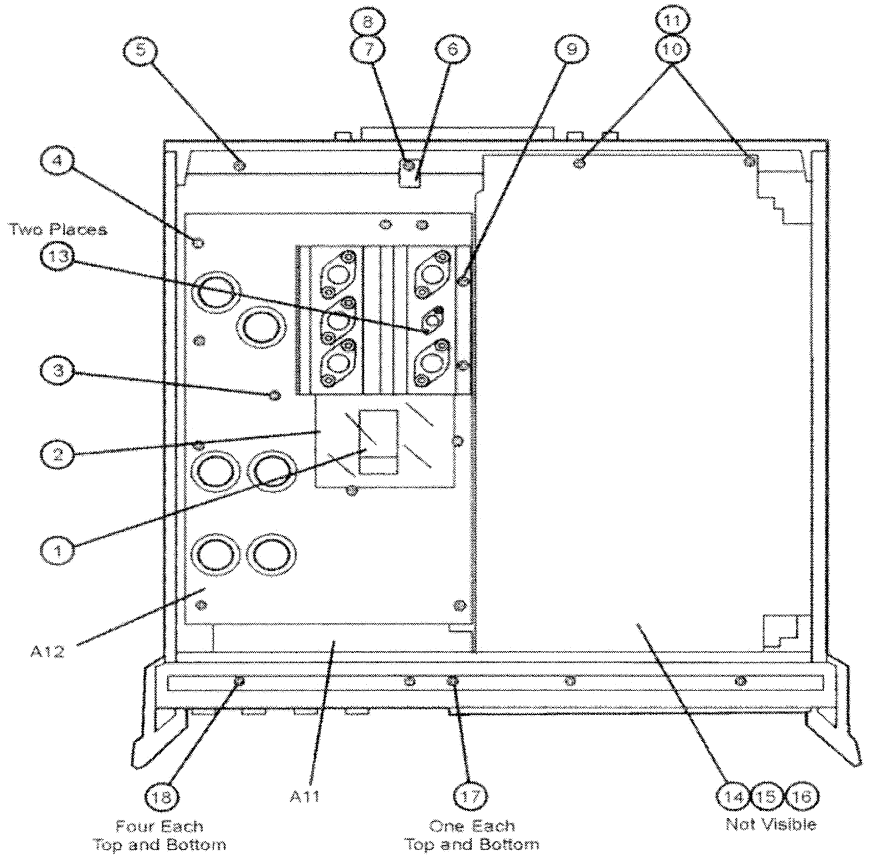
- 6-9/6-10

Figure 6-5. Top View



Reference Designation	Agilent Part Number	Qty	Description
1	08757-00045	1	TRANSFORMER MOUNTING FRAME
1A	0380-4913	4	SPACER-ROUND .171-IN-ID .3125-IN-OD
2	0400-0009	1	GROMMET-RND .125-IN-ID .25-IN-GRV-OD
4	08757-00032	1	REAR SUPPORT
5	0400-0002	1	GROMMET-RND .188-IN-ID .312-IN-GRV-OD
W12	8120-6876	1	VGA CONNECTOR AND CABLE
A3	08757-60157	1	CPU ASSEMBLY
A4	08757-60004	1	ADC ASSEMBLY
A5	08757-60005	1	MODULATOR DRIVE ASSEMBLY STANDARD
-	08757-60111	1	MODULATOR DRIVE ASSEMBLY OPTION 002
A6	08757-60006	1	HP-IB ASSEMBLY
A7, A8, A9, A10	08757-60146	4	LOG AMPLIFIER (A9 HP 8757D OPT 001 ONLY)
A14	08757-60147	1	DISPLAY INTERFACE BOARD (GSP)
6	08757-00072	1	CHASIS DISPLAY INTERFACE MOUNT (SHEET METAL)
T1	9100-4766	1	POWER TRANSFORMER
W7	08757-60071	1	A14 POWER CABLE
W8	08757-60076	1	CABLE AY-34C 28AWG

Figure 6-6. Bottom View



Reference Designation	Agilent Part Number	Qty	Description
1	7120-4293	1	WARNING LABEL
2	08757-20084	1	SHIELD
3	0515-0375	2	SCREW SMM3.0 16 CWPNTX
4	0515-0372	5	SCREW SMM3.0 8 CWPNTX
5	0515-0380	1	SCREW SMM4.0 10 CWPNTX
6	1400-0017	1	CLAMP-CABLE .25-DIA .5-WD NYL
7	0515-0380	1	SCREW SMM4.0 10 CWPNTX
8	3050-0893	1	WASHER-FL MTLC 4.0 MM 4.4-MM-ID
9	0515-0374	2	SCREW SMM3.0 10 CWPNTX
10	3050-0893	2	WASHER-FL MTLC 4.0 MM 4.4-MM-ID
11	0515-0380	2	SCREW SMM4.0 10 CWPNTX
13	0515-1079	2	SCREW SMM3.0 8 ETPNPD
14	8160-0649	1	RFI CONTACT
15	08757-00041	1	RFI BASE PLATE
16	0515-0885	2	SCREW-MACH M4 X 0.7 8MM-LG PAN-HD
17	0515-2086	2	SCREW-SMM4.0 7 PCFLTX
18	0515-1382	8	SCREW SMM3.5 6 PCFLTX
A11	08757-60066	1	MOTHERBOARD
A12	08757-60102	1	POWER SUPPLY BOARD

Changes 8-9

- Change 8, located on page 6-15, deletes the obsoleted part number 08757-90107.
- Change 9, located on page 6-15, deletes part number 08510-90064, Microwave Connector Care document.

Instructions

Replace page:

- 6-15/6-16

Table 6-2. Replaceable Parts List (2 of 2)

Agilent Part Number	Qty	Description
		Documentation
08757-90109	1	8757D OPERATING MANUAL
08757-90110	1	8757D SERVICE MANUAL
		Miscellaneous
10833A	1	HP-IB CABLE
6010-1140	1	COBBLESTONE GRAY TOUCH-UP PAINT
		ESD Supplies
9300-0797	1	CONDUCTIVE TABLE MAT WITH 15FT GROUND WIRE
9300-0980	1	WRIST STRAP TO TABLE MAT GROUNDING CORD
9300-1367	1	GROUNDING WRIST STRAP
9300-1126	1	ESD HEEL STRAP (REUSABLE TO 12 MONTHS)
		Fuses
2110-0083	1	FUSE (INCH) 2.5A 250V NTD FE UL-LST
2110-0043	1	FUSE (INCH) 1.5A 250V NTD FE UL-LST

Table 6-3. Reference Designations and Abbreviations (1 of 2)

REFERENCE DESIGNATIONS

A....Assembly
AT....Attenuator, Isolator, Limiter, Termination
B....Fan, Motor
C....Capacitor
CP....Coupler
CR....Diode, Diode Thyristor, Step Recovery Diode (SCR),Varactor
DC....Directional Coupler
DS....Annunciator, Lamp, Light Emitting Diode (LED), Signaling Device (Audible or Visible)
E....Miscellaneous Electrical Part
F....Fuse
FL....Filter
H....Hardware
J....Electrical Connector (Stationary Portion), Jack
K....Relay
L....Coil, Inductor
M....Meter
MP....Miscellaneous Mechanical Part
P....Electrical Connector (Movable Portion), Plug
Q....Silicon Controlled Rectifier (SCR), Transistor, Triode Thyristor
R....Resistor
RT....Thermistor
S....Switch
T....Transformer
TB....Terminal Board
TP....Test Point
U....Integrated Circuit, Microcircuit
V....Electron Tube
VR....Breakdown Diode (Zener), Voltage Regulator
W....Cable, Transmission Path, Wire
X....Socket
Y....Crystal Unit (Piezoelectric, Quartz)
Z....Tuned Cavity, Tuned Circuit

ABBREVIATIONS

A

A....Across Flats, Acrylic, Air (Dry Method), Ampere
ADJ....Adjustment
AL....Aluminum
ALC....Alcohol, Automatic Level Control
AMP....Amperage
AMPL....Amplifier
ANDZ....Anodized
ANLG....Analog
ASTBL....Astable
ATTEN....Attenuation, Attenuator
AWG....American Wire Gauge

B

BCKT....Bracket
BD....Board, Bundle
BE....Baume, Beryllium
BFR....Before, Buffer
BLK....Black, Blank, Block
BNC....Type of Connector
BSC....Basic
BVR....Reverse, Breakdown Voltage

C

C....Capacitance, Capacitor, Center Tapped, Centistoke, CeramicCermet, Circular Mill Foot, Closed Cup, Cold, Compression
CBL....Cable
CER....Ceramic
CHAM....Chamfer
CHAN....Channe
COAX....Coaxial
COM....Commercial, Common
CONN....Connect, Connection, Connector
CONT....Contact, Continuous, Control, Controller
CONV....Cadmium Plate, Candle Power, Centipoise, Conductive Plastic, Cone Print
CRP....Crepe, Crimp
CTR....Center
CURRNT....Current

D

D....Deep, Depletion, Depth, Diameter, Direct Current
D/A....Digital-to-Analog
DB....Decibel, Double Break
DAP....Diallyl Phthalate
DC....Direct Current, Double Contact
DBL....Double
DEG....Degree
DIA....Diameter
DIFF....Differential
DIP....Dual In-Line Package
DO....Package Type Designation
DRVR....Driver

E

E....Enamel (Insulation, Enhancement, Extension)
E-MODE....Enhancement Mode
EPROM....Eraseable Programmable Read Only Memory
EXCL....Excluding, Exclusive
EXT....Extended, Extension, External, Extinguish

F

F....Farenheit, Farad, Female, Film, (Resistor), Fixed, Flange, Flint, Flourine, Frequency
FD THRU....Feed Through
FEM....Female
FF....Flange, Female Connection, Flip Flop
FLEX....Flexible
FLG....Flange
FLTR....Filter, Floater
FT....Feet
FM....Flange, Male Connection; Foam, Frequency Modulation Product (Transition Frequency);Feet, Foot
FXD....Fixed

G

GEN....General, Generator
GHZ....Gigahertz
GP....General Purpose Group
GL....Glass
GRN....Green
GRV....Grooved

H

H....Henry, Hermaphrodite, High Hole Diameter, Hot, Hub Inside Diameter, Hydrogen
HD....Hand, Hard, Head, Heavy Duty
HEX....Hexadecimal, Hexagon, Hexagonal
HGT....Height

I

IC....Collector Current, Integrated Circuit
ID....Identification, Inside Diameter
IF....Intermediate Frequency
IMPD....Impedance
IN....Inch, Indium
INP....Input
INS....Insert, Inside, Insulation, Insulator
INT....Integral, Intensity, Internal
INTL....Internal, International
INV....Invert, Inverter

J

JFET....Effect Transistor

K

K....Kelvin, Key, Kilo, Potassium
KB....Knob

Change 10

Change 10, located on page 8-56, explains the label for the WEEE Directive (2002/96/EC) that is displayed on the network analyzer rear panel.

Instructions

Replace page:

- 8-55/8-56

READ STATUS

This cycle test continuously reads and displays the output of the status register U3. Grounding one of the inputs of U3 should cause one of the displayed status bits to change to logic 0. Troubleshoot by momentarily grounding each input of U3 and checking that the corresponding status bit changes from 1 to 0 on the CRT. Status lines 0 through 4 can be grounded by closing switches A3S1A–E. If all the bits fail, check the control lines of U3 or suspect that U3 itself is defective.

INTRPT (Forced Entry: Close switch A3S1–B and A3S1–C)

This test is similar to the READ STATUS test, except that it checks the priority interrupt IC U22. Momentarily grounding the inputs to U22 should produce the proper interrupt levels. The CRT indicates which pin is to be grounded for each interrupt. U22 pin 4 has the highest priority interrupt. Therefore, grounding it may cause a preset or prevent proper instrument operation. If the instrument locks–up, perform an instrument preset or cycle the line power.

CPU READ/WRITE CYCLE (Forced Diagnostic Test Only)

This diagnostic test is accessible only by closing switch A3S1–A and pressing [PRESET] or by momentarily grounding L PRESET (A3TP46). It is used to facilitate troubleshooting of several write–associated control lines. The free run test is always in the read mode and therefore does not exercise any control lines associated with write commands. This test should be run if other diagnostic tests are inconclusive. It is most useful when error codes 14 through 10 have been generated. Error code 15 may prevent access to this test.

Typical waveforms are shown in Figure 8–12. These waveforms were taken with the oscilloscope triggered from the negative slope of the CONTROL 2 output instead of the usual CONTROL 1 output.

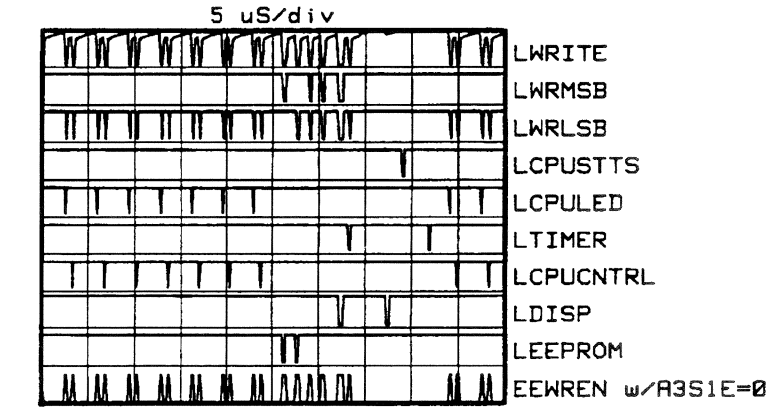


Figure 8–12. CPU Read/Write Cycle

OTHER TESTS

WARNING

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended. Discard used batteries according to manufacturer's instructions.

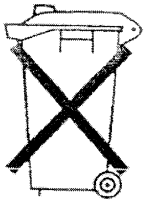
Battery BT1 is a lithium manganese dioxide battery with a nominal voltage of 2.8 V. Check the battery voltage between test points VBAT+ and VBAT- with line power to the instrument turned off. The voltage at TP3 (VBAT) should be about 3 V. Also check the voltage drop across R8 (typically about 1 mV at room temperature). If the voltage across R8 is excessive (>4mV), one of the RAM ICs may be defective. If at any time, the battery voltage drops to a level that causes loss of RAM data, a message will be displayed on the LCD during the next power-up sequence. If the battery is in need of replacement, remember that even after replacement, the next power-up sequence will still show a battery failure message. This will disappear on subsequent power-up cycles. It is recommended that the battery (BT1) be referred to qualified personnel for replacement. Refer to the front section of this manual for a list of sales and service offices.

LITHIUM BATTERY DISPOSAL

WARNING

The Agilent Technologies 8757D contains a lithium manganese dioxide battery. The battery must be recycled or disposed of properly.

If the battery on the CPU board becomes ready for disposal. Dispose of it to your country's requirements. If required, you may return the battery to the nearest Agilent Technologies sales or service office for disposal. Refer to the front section of this manual for a list of sales and service offices.



DO NOT THROW BATTERIES AWAY BUT
COLLECT AS SMALL CHEMICAL WASTE.

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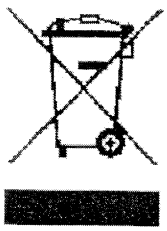
NETWORK ANALYZER DISPOSAL



This product complies with the WEEE Directive (2002/96/EC) marking requirements. The affixed label indicates that you must not discard this electrical/ electronic product in domestic household waste

Product Category: With reference to the equipment types in the WEEE Directive Annex I, this product is classed as a "Monitoring and Control instrumentation" product.

Do not dispose in domestic household waste.

To return unwanted products, contact your local Agilent office, or see http://www.agilent.com/environment/product/ for more information.