

S E R V I C E N O T E

SUPERSEDES:

NONE

HP MODEL 8566A SPECTRUM ANALYZER

All Serials

FIELD INSTALLATION OF OPTION 650

This service note contains procedure for installation of the Option 650, Quasi-Peak Adapter Kit (HP Part Number 85650-60050) in the IF-Display section of the HP 8566A Spectrum Analyzer. IF Display sections with serial prefix 1745A and below require additional modifications detailed in Service Note 8568A-40.

The following is a list of parts included in the Quasi-Peak Adapter Kit (HP Part Number 85650-60050).

Qty.	Description	HP P/N	CD
3	Clip, Cable .31D	1400-0017	0
1.5 ft	Spiral Wrap	1400-0963	5
4	Nut, Hex 15/32 - 32	2950-0035	8
1	Hole Plug .500D	6960-0002	4
1	Screw, 6-32	2360-0197	2
1	Washer, Split No. 6	2190-0018	5
1	Washer, Flat No. 8	3050-0139	6
1	Washer, Flat No. 6	3050-0227	3
2	Washer, Flat No. 6 (small)	3050-0010	2
1	Panel, Right Rear	85662-00071	9
1	Cable, IF INP (89)	85662-60118	1
1	Cable, IF OUT (87)	85662-60119	2
1	Cable, VIDEO OUT (7)	85662-60120	5
1	Cable, VIDEO INP (96)	85662-60121	6
2	Cable, BNC (m) to BNC (m)	85660-60117	8
1	Label	7121-2137	3
1	Nut Starter (red)		
1	Service Note 8568A-39		
1	Service Note 8566A-15		

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INSTALLATION PROCEDURE

1. Unplug AC line cord from both instruments.
2. Disconnect Coax Interconnect cable at J1 ❶ and Bus Interconnect cable at J2 ❷ of IF-Display Section (See Figure 1.)
3. Loosen lock feet thumb screws ❸ on the IF-Display section.
4. Separate IF-Display section from RF section by pulling it forward to disengage front lock links, then lift it off.
5. Remove top and bottom covers of IF-Display section by removing the 4 feet ❹ from rear of instrument.
6. Place unit on its bottom with rear toward you.

NOTE

Unless stated otherwise, all hardware must be saved for reassembly of instrument.

7. Remove Voltage Regulator Cover ❺ by removing 5 screws. (See Figure 2.)
8. Remove the 3 power supply boards. (A1A6, blue tab; A1A7, violet tab; and A1A8, gray tab.)
9. Remove the Dual Capacitor Bracket ❻ by removing 2 screws.
10. Place unit on right side.
11. Remove the 3 large filter capacitors.
- 12a. If IF-Display section serial prefix is 2050A or higher, remove hole plugs from IF OUT, IF INP, VIDEO OUT and VIDEO INP on right rear panel ❸. See Figure 1. Set unit on bottom side with rear toward you, then continue with step 16.
- 12b. If IF-Display section serial prefix is 2049A or lower, remove nuts from 9 BNC connectors on right rear panel ❸.
13. Remove remaining two screws ❹ on bottom frame and pull out right rear panel. See Figure 3.
14. Install new right rear panel from kit using 2 screws removed in last step. Be certain to re-install ground strap ❿.
15. Place unit on bottom side with rear toward you. Re-install 9 BNC cables removed in step 12b as follows:

Rear Panel Designation	Cable Number
BLANK	86 (gray/blue)
EXT TRIGGER	85 (gray/green)
Z	82 (gray/red)
PEN LIFT	84 (gray/yellow)
Y	81 (gray/brown)
X	83 (gray/orange)
VIDEO	1 (brown)
SWEEP	3 (orange)
21.4 MHz IF OUTPUT	2 (red)

Install 0.500 inch hole plug-in unmarked hole in upper right corner of right rear panel.

16. On the 7 (violet) and 96 (white/blue) cables in the kit, place a mark 4 1/2 inches (11.5 cm) from the rear of the BNC connector. Place a mark 3 3/4 inches (9.5 cm) from the rear of the BNC connector on the 87 (gray/violet) and 89 (gray/white) cables.
17. Wrap one full turn of the spiral wrap around the 89 cable starting at the mark made in step 16.
18. Align marks on all 4 cables and wrap spiral wrap around all 4 cables. Secure spiral wrap by winding last turn around the 89 cable only.
19. Install the 4 Quasi-Peak Adapter cables on right rear panel as follows:

Rear Panel Designation	Cable Number
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IF INP	89 (gray/white)
IF OUT	87 (gray/violet)
VIDEO INP	96 (white/blue)
VIDEO OUT	7 (violet)

20. Disconnect 2 black wires ⑪ which go from fan to A1A9 Bus Transition board. See Figure 2.
21. Remove Fan Guard ⑫ by removing 2 screws.
22. Remove P.C. Board Bracket ⑬ by removing 2 screws.
23. Place unit on right side and remove 2 screws ⑭ that hold fan to bottom rear frame. See Figure 3.
24. Place unit on bottom and carefully pull fan out of rear frame.
25. Remove nut and split washer ⑮ from inside lower left screw on fan. See Figure 4.
26. Route the four (4) Quasi-Peak Adapter cables as shown in Figure 4.
27. Slide cable clamp over cables near point where spiral wrap starts.
28. Lay fan down and push it back slightly into rear frame.
29. Place cable clamp over # 6 screw, then follow with # 6 flat washer from kit, then split washer and nut removed in step 25. A nut starter is provided in the kit to assist in starting nut on bolt. Tighten nut.
30. Slide fan into rear frame, being careful not to pinch 2 black wires. Check to see that 3 Quasi-Peak Adapter cables have a small amount of strain relief ⑯ .
31. Remove # 8 screw ⑰ from clip on center rail.
32. Slide cable clamp over 4 Quasi-Peak Adapter cables. Insert # 8 screw removed in step 31 through # 8 flat washer from kit and then re-install clip to center rail.
33. Re-install P.C. Board Bracket ⑬ . Do not tighten screws. Refer to Figure 2.
34. Place unit on right side and re-install 2 screws which hold fan in rear frame.
35. Set unit on bottom. Install A1A5 ±15V REG ASSY (blue tab). Be careful not to pinch Quasi-Peak Adapter cables near fan. Reposition cables, if necessary.

36. Install A1A7 (violet tab) and A1A8 (gray tab).
37. Adjust P.C. Board Bracket ⑬ so that slots engage power supply boards, then tighten screws.
38. Reconnect 2 black wires ⑩ from fan to A1A9 Bus Transition board.

Re-install Voltage Regulator Cover ⑤ . Quasi-Peak Adapter cables are routed between A4A9 board and relay on A1A9 Bus Transition board. The 89, 7, and 96 cables are held in place with a cable clamp ⑭ supplied with the kit. The 6-32 screw, # 6 split washer and small # 6 flat washer from the kit go on top of the cable clamp. The remaining small # 6 flat washer goes under the cable clamp. The 6-32 screw and # 10 flat washer originally used where the cable clamp is, may be discarded. Refer to Figure 5.

39. Disconnect 8 (gray) cable ⑮ from A4A6J1 to A4A6J2. Refer to Figure 2.
40. Place label with 87 (supplied with kit) over the 8 near A4A6J2 ⑰ . Plug 87 cable into this connector. See Figure 5.
41. Place label with 89 (supplied with kit) over the 8 near A4A6J1 ⑳ . Then plug 89 cable into A4A6J1.
42. Disconnect 9 (white) cable ㉑ from A4A1J1 to A3A9J1.

NOTE

A3A9J1 and A3A9J2 are connected to the same point. Another 9 cable is connected from A3A9J2 to A3A2J1. See Figure 2.

43. Place label with 7 over the 9 near near A4A1J1 ㉒ . Then plug 7 cable into A4A1J1. See Figure 5.
44. Place label with 96 over 9 near A3A9J1 ㉓ . Then plug 96 cable into A3A9J1.
45. Place unit on right side with rear toward you.
46. Re-install A1A10C2, 250 μ f capacitor, located nearest the left side of unit. Observe proper polarity.
47. Re-install A1A10C4, 8700 μ f capacitor next to A1A10C2. Observe proper polarity.
48. Re-install A1A10C1 22000 μ f capacitor. Observe proper polarity. If necessary, loosen screw holding ground strap to rear frame.
49. Check that all screws on bottom of rear frame are tight, then install bottom cover.
50. Place unit on bottom with rear toward you.
51. Re-install Dual Capacitor Bracket ⑥ . See Figure 2.
52. Re-install Fan Guard ⑫ .
53. Re-install top cover, then 4 rear feet. Lock feet go on lower corners.
54. Connect BNC to BNC cable from kit from IF OUT to IF INP. Connect remaining BNC to BNC cable from VIDEO OUT to VIDEO INP.
55. Slide IF-Display Section on top of RF Section. Be sure that front lock links are engaged. Tighten thumbscrews on rear lock feet.

56. Reconnect Coax Interconnect cable and Bus Interconnect cable to IF-Display section.
57. Connect AC line power cords. Turn unit on and let warm up for 30 minutes.
58. Press (RECALL 8), then adjust AMPTD CAL for a MARKER amplitude of -10.00 ± 0.01 dBm.
59. Improved accuracy for low repetition pulse measurements can be obtained by performing the adjustment procedures for the A4A1 Video Processor and A3A9 Track and Hold. These procedures (Volume 2 Section V, paragraphs 5-20 and 5-37 of the 8566A Operation and Service Manual) set bottom of the display for zero volts. Refer to Section III of the 85650A Operation and Service Manual to determine if the offset voltage produces a significant error for the intended measurement.

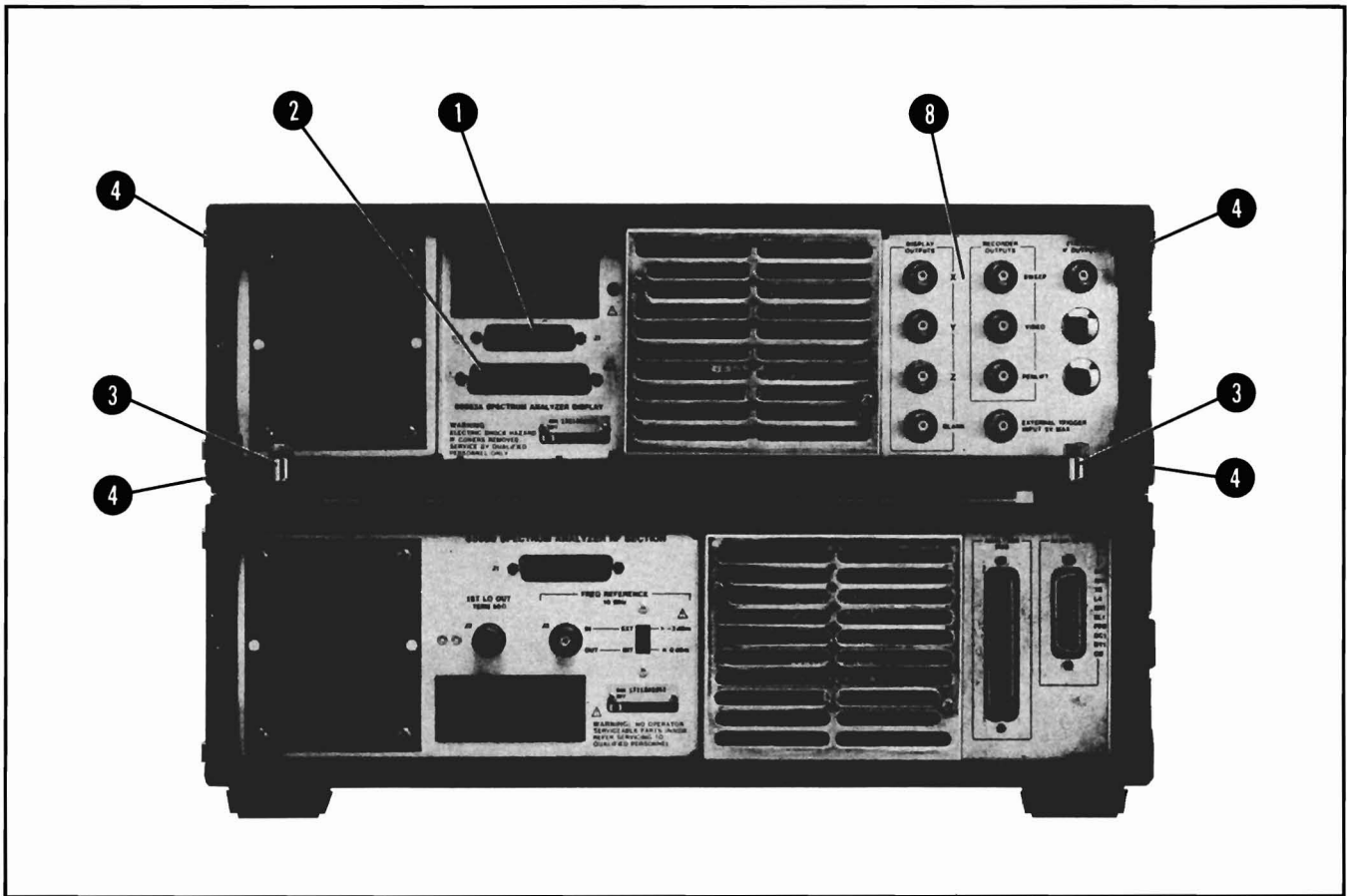


Figure 1. IF-Display Section, Rear View

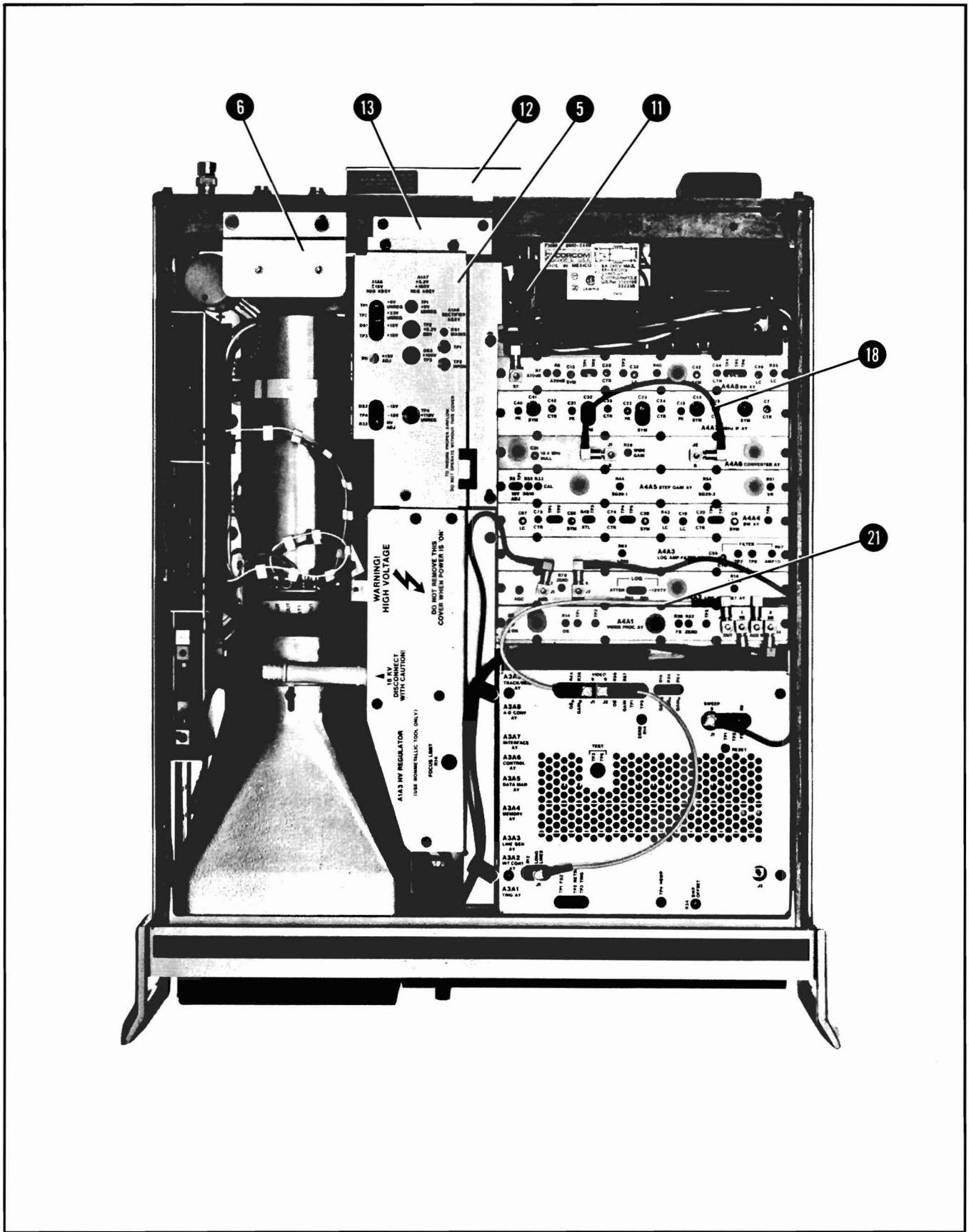


Figure 2. IF Display Section, Top View

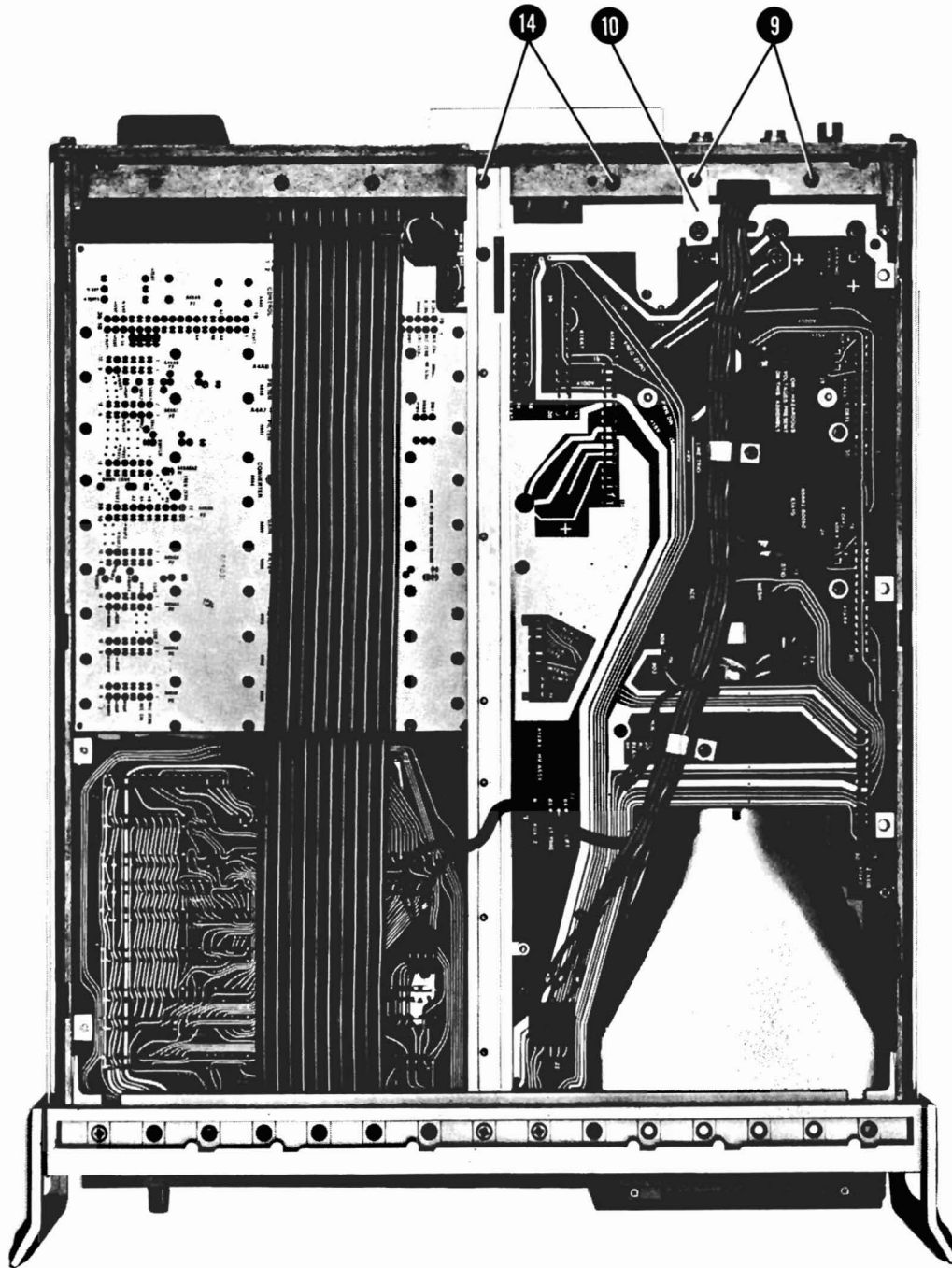


Figure 3. IF Display Section, Bottom View

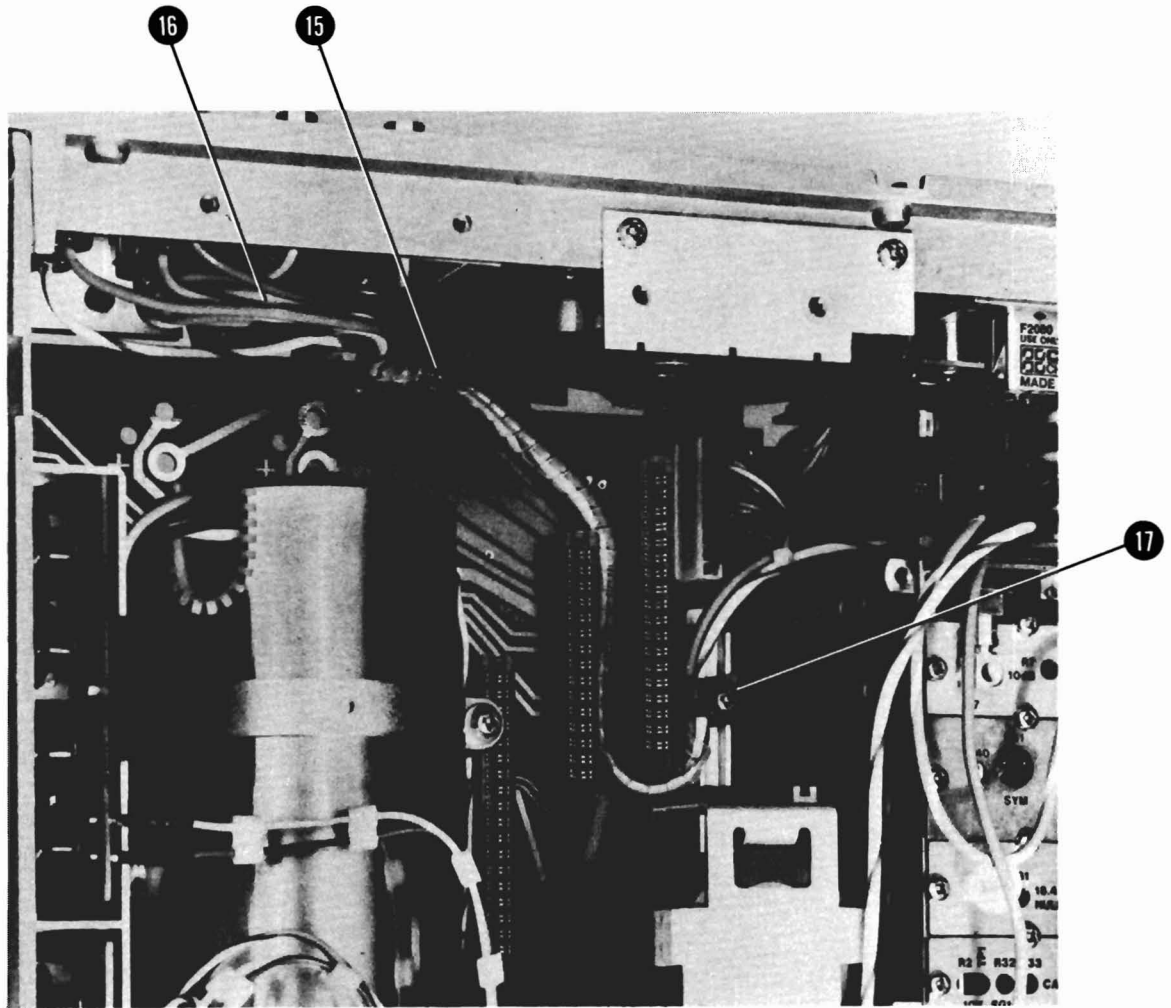


Figure 4. Quasi-Peak Adapter Cable Routing

