Installation Note

8662A and 8663A Signal Generator
Fan and Rear Panel Retrofit Kits
Part Number 08662-60344, 08662-60345, 08663-60383, and 08663-60384

Agilent Technologies

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Fan and Rear Panel Retrofit Kit

The original ac fan motor for the 8662A and 8663A signal generators has been discontinued. This kit enables you to perform a retrofit using the recommended replacement. Keep these instructions in the 8662A or 8663A service manuals for future calibration and service.

Installation Kit Parts List

Table 1 Parts Kits 08662-60344, 08662-60345, 08663-60383, and 08663-60384

Item	Qty	Part Number	Description
1	1	3160-0471	Fan, DC Drive, 106CFM (B1)
2	1	08662-00227	Fan Cover (for 08662-60344/08662-60345) (MP102)
		OR	
2	1	08663-00118	Fan Cover (for 08663-60383/08663-60384) (MP102)
3	1	3160-0092	Fan Grill
4	1	0360-0124	Connector, Single Contact (TP1)
5	1	0698-3162	Resistor, 46.4KΩ, 1%, .0125W (R9)
6	1	08662-61005	Cable Assembly, Blk/Yel and Blk/Rd
7	1	08662-61004	Wire Assembly, 23Volt, Blk/Rd
8	4	1250-0043	Rubber Grommet
9	4	2190-0198	Washer, Flat Nylon
10	4	3050-0105	Washer, Flat Steel
11	4	2260-0001	Hex Nut, 4-40
12	4	2260-0003	Hex Nut, 4-40, Fiber Locking
13	4	08662-20585	Stud Adaptor (not used for kit 08663-60384)
14	1	08663-20059	Rear Panel (not used for kit 08662-60344 or 08663-60383)
15		0890-0056	Tub Heat Shrink
16	1	08662-90084	Installation Note

Instructions

1. Turn off the instrument and unplug it.
2. Remove the top and bottom cover. On the power supply side of the instrument, remove the side cover. Refer to Figure 1.
3. Remove the two transformer covers to gain access to instrument and fan wiring. Also partially remove the AC Power Socket panel to gain access to the wiring.

NOTE Before removing the black wires from the fan, make note of how the wires are routed. You will need to route the new wires in the same manner.

4. Remove the old fan cover, fan, and mounting hardware. Cut the black wires at the fan connection. Remove the green/yellow ground strap and lug from the instrument chassis.

For Rear Panel Replacement Only

The complete rear frame and power supply module can be removed at this point.

a. Remove the four screws securing the power module (A7), two are next to the gray plastic cable channel on top of the instrument and two are on the side frame.

b. Disconnect the ribbon cable and coax cables attaching to the reference castings. Disconnect the GPIB ribbon cables at the rear.

c. Disconnect the power supply output connector.

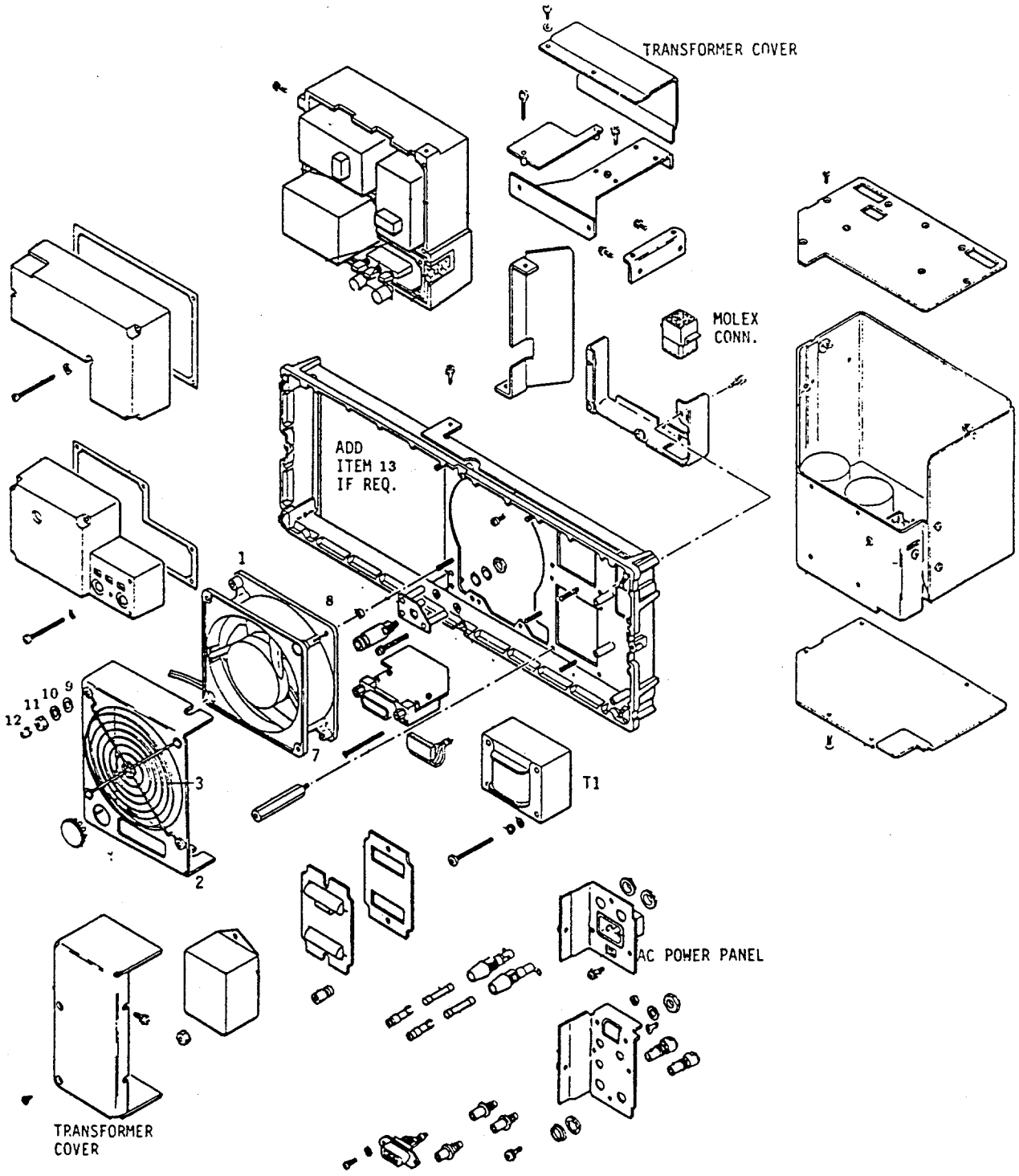
d. Remove the eight screws attaching the rear frame to the side rails.

e. The complete rear assembly should now pull away from the 8663A. The complete rear assembly can be disassembled and the rear frame (Item 13) replaced.

f. Continue with the following steps after frame reassembly.

5. Remove the top and bottom power-supply covers, and the three plug-in power supply boards.
6. Carefully cut the wire attached to T1-Pin 2 at the transformer. *Do not* attempt to unsolder this wire! The transformer pins are fragile and easily broken.
7. At pin 6, cut the wire that is inserted into the white Molex connector, P1. The Molex connector pin can be left in the Molex connector.
8. Install the new dc fan supply cable assembly (Item 6). This cable comprises two wires: a black/red with a Molex connector and a black/yellow.
   a. Feed the cable through the instrument just as the original black ac wires were routed.
   b. Plug the black/red wire into the unused center hole of the Molex connector.
   c. Solder the black/yellow wire to the instrument ground lug near the Transformer.

Figure 1 Rear Panel Illustrated Parts Breakdown



9. Referring to Figure 2 unsolder A7A4R9 and remove it from the board.
10. Refer to Figure 2 and Figure 3. On the component side of A7A4, insert the long end of the single-contact connector. (Item 4) into the feedthrough (vacated by R9) that is connected to the +23V dc trace.
11. On the solder side of A7A4, wrap and solder the stripped end of the wire assembly (Item 7) to the single contact connector.
12. Insert the other end of the wire assembly (Item 7) into the center pin of the Molex connector. There should now be a continuous +23 Vdc path from the single contact connector to the +23 Vdc fan connector.
13. Refer to Figure 2 and Figure 3. Install a new A7A4R9 (Item 5) as follows:
    a. On the component side, wrap and solder one lead of the new resistor around the single contact connector.
    b. Solder the other end into the feedthrough vacated by the old resistor.
14. If the mounting studs for the fan are less than 2 inches long, use stud adaptors (Item 13) to extend the studs. The studs must be long enough to go through the fan, fan cover, and the grill. The stud adaptors are simply threaded over the short studs until they bottom out against the sheet metal.
15. Slide one rubber grommet (Item 8) over each stud.
16. Attach the end of the cable assembly with slide -on connectors to the connector on the fan (Item 1), black/red to the + lug and black/yellow to the -lug.

Figure 2 A7A4 Power Supply Motherboard Component Locator

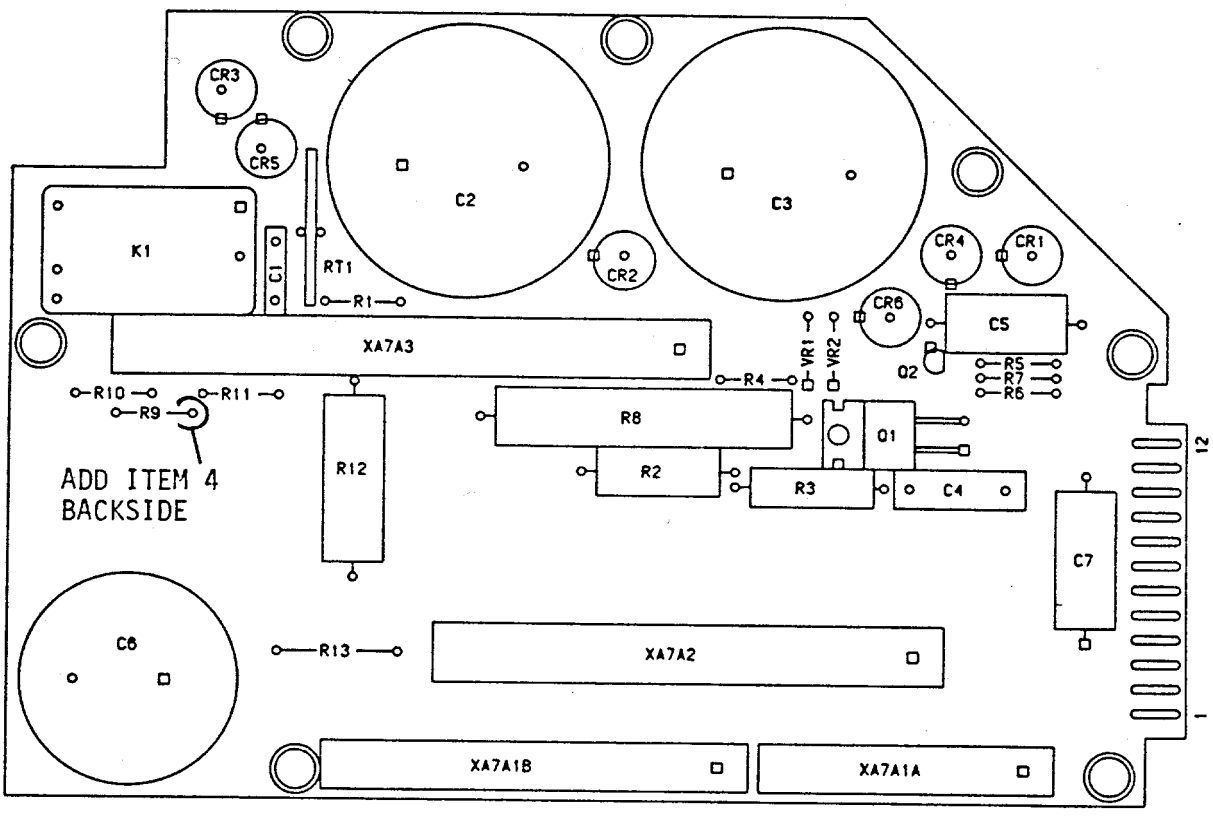
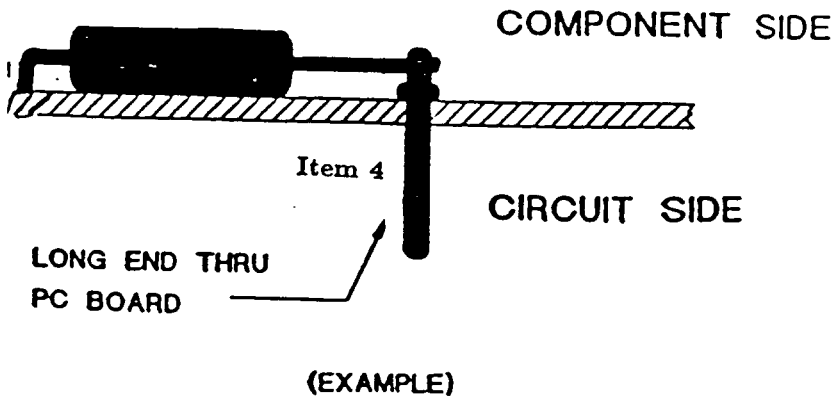


Figure 3 Example



CAUTION	Connecting the wires at the fan incorrectly will damage the fan.

17. The fan (Item 1) can now be installed. Slide the fan over the studs, orienting the fan with the power input socket to the bottom.
18. Place the Fan Cover (Item 2) over the fan. Then place the Fan Grill (Item 3) over the fan cover.
19. The fan, fan cover, and grill are held on by nuts and washers. It is critical that this hardware be attached in the following order:
    a. the nylon washers (Item 9)
    b. the steel washers (Item 10)
    c. the 4-40 nuts (Item 11)

    Torque the 4-40 nuts to two inch-pounds.

NOTE	If a torque wrench is not available, you can use the following alternative. Tighten each of the four 4-40 nuts until the fan bottoms out against the chassis deck. This requires EXTREME CAUTION! If you go too far you will break off the studs. Once the nuts are bottomed out, unscrew each nut 2.5 turns.

20. While holding the 4-40 nuts in position, install the fiber locking nuts (Item 12). The locking nut (Item 12), should prevent the torqued nut (Item 11) from loosening or changing position.
21. Route the fan wires the same as the original wires, as noted in step 3.

For Rear Panel Replacement Only

Reinstall the complete rear frame assembly on the 8663A as follows:

a. Replace the eight screws attaching the rear frame to the side rails.
b. Connect the power supply output connector.
c. Connect the GPIB ribbon cables at the rear.

d. Connect the ribbon cable and coax cables attaching them to the reference castings.

e. Replace the four screws securing the power module (A7), two are next to the gray plastic cable channel on top of the instrument and two are on the side frame.

22. The fan installation is now complete. Reinstall all circuit boards and covers.

Packing List for 08662-60344/08662-60345/08663-60383/08663-60384

Table 2 Packing List

Product Line	Shipping	Customer	Item	PN, Description, Qty
[ ]	[ ]	[ ]	1	3160-0471 Fan, DC Drive, Qty = 1
[ ]	[ ]	[ ]	2	08662-00227, Fan Cover (for 08662-60344/08662-60345), Qty = 1
				OR
[ ]	[ ]	[ ]	2	08663-00118, Fan Cover (for 08663-60383/08663-60384), Qty = 1
[ ]	[ ]	[ ]	3	3160-0092, Fan grill, Qty = 1
[ ]	[ ]	[ ]	4	0360-0124, Connector, Single Contact, Qty = 1
[ ]	[ ]	[ ]	5	0698-3162, Resistor, 46KΩ, Qty = 1
[ ]	[ ]	[ ]	6	08662-61005, Cable Assembly, 02, 04, Qty = 1
[ ]	[ ]	[ ]	7	08662-61004, Wire Assembly, 02, Qty = 1
[ ]	[ ]	[ ]	8	1250-0043, Rubber Grommet, Qty = 4
[ ]	[ ]	[ ]	9	2190-0198, Flat Nylon Washer, Qty = 4
[ ]	[ ]	[ ]	10	3050-0105, Flat Steel Washer, Qty = 4
[ ]	[ ]	[ ]	11	2260-0001, 4/40 Hex Nut, Qty = 4
[ ]	[ ]	[ ]	12	2260-0003, Hex Nut, Fiber Locking, Qty = 4
[ ]	[ ]	[ ]	13	08662-20585, Stud Adapter, Qty=1 (not used for kit 08663-60384)
[ ]	[ ]	[ ]	14	08663-20059, Rear Panel, Qty = 1 (not used for kit 08662-60344 or 08663-60383)
[ ]	[ ]	[ ]	15	0890-0056, Tub Heat Shrink
[ ]	[ ]	[ ]	16	08662-90084, Installation Note, Qty = 1
Checked By [ ] (initial)	Checked By [ ] (initial)			

Fan and Rear Panel Retrofit Kit
part numbers
08662-60344/08662-60345
08663-60383/08663-60384

TO BE OPENED
BY END USER

Item 1
3160-0471
Fan, DC Drive
Qty 1

Item 2
08662-00227
Fan Cover
(for 08662-60344/08662-60345)
Qty 1

Item 2
08663-00118
Fan Cover
(for 08663-60383/08663-60384)
Qty 1

Item 3
3160-0092
Fan Grill
Qty 1

Item 4
0360-0124
Connector, Single Contact
Qty 1

Item 5
0698-3162
Resistor, 46KΩ
Qty 1

Item 6
08662-61005
Cable Assembly, 02, 04
Qty 1

Item 7
08662-61004
Wire Assembly, 02
Qty 1

Item 8
1250-0043
Rubber Grommet
Qty 4

Item 9
2190-0198
Flat Nylon washer
Qty 4

Item 10
3050-0105
Flat Steel washer
Qty 4

Item 11
2260-0001
4/40 Hex Nut
Qty 4

Item 12
2260-0003
Hex Nut, Fiber Locking
Qty 4

Item 13
08662-20585
Stud Adaptor
(not used for kit 08663-60384)
Qty 4

Item 14
08663-20059
Rear Panel
(not used for kit 08662-60344
or 08663-60383)
Qty 1

Item 15
0890-0056
Tub-Heat Shrink

Item 16
08662-90084
Installation Note
Qty 1