

TEST EQUIP. POOL

Ⓜ MODEL 608C/D VHF SIGNAL GENERATORS

Ⓜ 608C Serials Below 247-04756

Ⓜ 608D Serials Below 247-08115

MODIFICATION FOR REGULATED DC FILAMENT OPERATION

This Service Note outlines the procedure for modifying the Ⓜ Model 608C/D VHF Signal Generators for regulated DC filament operation of the RF circuits.

The original multivibrator filament power supply in some cases caused ripple on the output RF signal from the generator. The DC filament supply prevents this from happening.

The modification consists of removing the multivibrator supply and installing the regulated DC power supply. The filament windings are then rewired to provide 12.6 VAC isolated from ground for driving the regulated DC filament supply.

No recalibration of the signal generator is required when the modification is completed.

PART FURNISHED IN MODIFICATION KIT  
608C-95A OR 608D-95J

Quantity	Description	Ⓜ Stock No.
1	Capacitor, Fixed 1000 mf 25 vdcw	0180-0057
1	Plate, Transistor	1200-0043
2	Bushing, Transistor	1200-0081
1	Transistor	1850-0087
1	Bracket, capacitor	608D-12R
1	Rectifier, Board Assembly	608D-75H
	or	
	Rectifier, Board Assembly	608C-75H
1	Socket, Lamp	1450-0009
2	Flat Washer, #4	3050-0016
1	Terminal Lug	0360-0016
2	Machine Screw, Binding Head, w/Lockwasher, 6-32 x 3/8"	2390-0009
2	Machine Screw, 4-40 x 1/2 inch, Round Head	2200-0009
2	Nut, Hex, w/Lockwasher, 6-32	2420-0001
2	Nut, Hex, 4-40	2260-0002
2	Lockwasher, #4	2190-0004
1	Gray Wire #22 Gauge, 90 inch length	8150-0027

Quantity	Description	Ⓜ Stock No.
1	Brown Wire #22 Gauge, 90 inch length	8150-0007
1	Black Wire #22 Gauge, 4 inch length	8150-0005
1	Violet Wire #22 Gauge, 3 inch length	8150-0030
1	Brown Wire #18 Gauge, 25 inch length	8150-0086
1	Brown-Orange Wire #22 Gauge, 23 inch length	8150-0009
	(not required in 608C modification)	

MODIFICATION PROCEDURE

NOTE

For 608C modification, substitute 608C-75H for 608D-75H. Delete step 28. In the following procedure, (NS) means do not solder connection. (S1) means solder connection. Number indicates number of wires on connection.

1. Disconnect power, remove cabinet cover.
2. Disconnect all wires on transformer T2. Remove T2, Attenuator Cable Shield, and T2 Mounting Bracket.

NOTE

If the mounting bracket is held on with PEM fasteners, it will be necessary to loosen the nuts supporting T1 so T1 can be tipped out of the way. This will allow removal of the screws holding the mounting bracket. It is not necessary to completely remove the nuts supporting T1.

3. Mount capacitor bracket 608D-12R where T2 bracket was located. Use 6-32 hardware. Tighten nuts holding T1.
4. Remove all leads from XV17. Use #27 drill to drill out rivets holding XV17. Remove socket.
5. Remove resistor board assembly 608D-75C and discard. Remove all red wires connected to R87 from instrument.

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6. Disconnect shielded cable and discard from FL-1.

NOTE

Refer to Figures 1 and 2 for the following wiring steps.

7. Mount transistor Q1, 1850-0087, at location of XV17. Slot one hole with a #27 drill to ease mounting of Q1. Make sure collector is not grounded.
8. Mount rectifier board assembly 608D-75H at location of 608D-75C.
9. Mount capacitor C75, 1000 mf, 25 vdc. Do not mount attenuator cable shield at this time.
10. Connect short white wire on 608D-75H to emitter of Q1 (S1).

11. Run long white wire on 608D-75H between 608D-75H and chassis, through hole for shielded filament cable. Connect to FL-1 (S1).

12. Run green wire on 608D-75H to base of Q1 (S1). Leave remaining wires on 608D-75H disconnected.

13. On transformer T1, remove connection from D5 to ground.

14. Connect a jumper from terminal C2 (S2) to terminal D1 (S3) on transformer T1.

15. Connect a brown wire #22, 24" length to terminal C1 on T1 (S2).

16. Connect a gray wire 24" length to terminal D2 on T1 (NS).

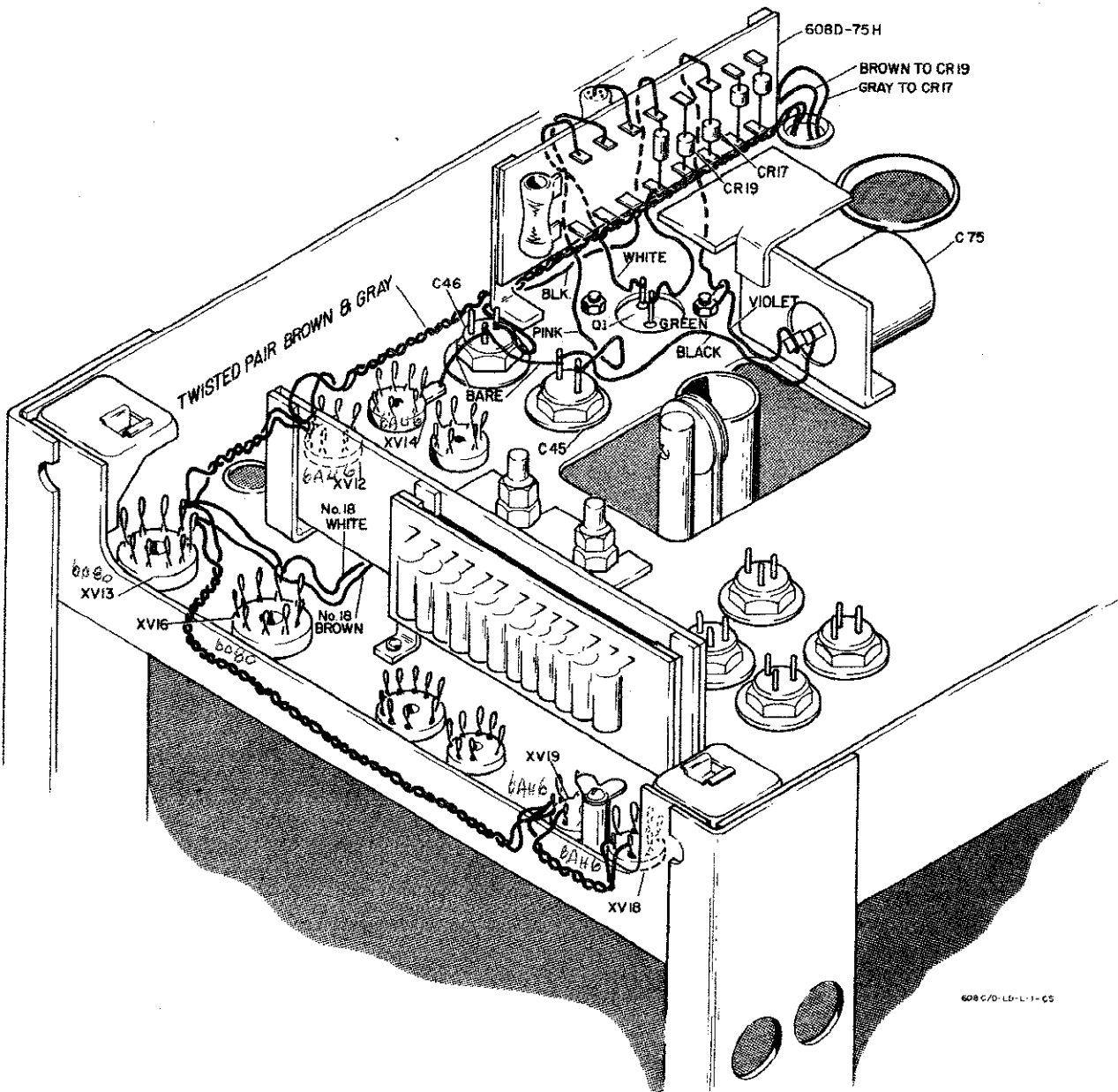


Figure 1. Model 608C/D DC Filament Installation

17. Run brown and gray wire from T1 through 3/4" hole at lower left of T1. Follow black and white wires to opposite side of chassis. Then run the brown and gray wires through the 1/2" hole in the lower right hand corner at the rear of the chassis. Follow cable harness. Run wires under 608D-75H. Connect gray wire to junction of CR-17 and CR-18 (S2). Connect brown wire to junction of CR-19 and CR-16 (S3).

18. Run pink wire on 608D-75H between 608D-75H and chassis. Connect to negative side of C45 (S3).

19. Rotate C46 so red terminals are vertical and nearest to chassis edge. Connect negative on C46 (NS) to ground lug on XV14 (S1).

20. Run black wire on 608D-75H between 608D-75H and chassis. Connect to negative on C46 (S3).

21. Connect black wire 4" length from positive of C75 (S1) to grounded side of C45(S2).

22. Connect a violet wire, 3" length to negative side of C75 (S1).

23. Run violet wire on 608D-75H between 608D-75H and chassis. Connect violet wire from 608D-75H and violet wire on C75 to collector terminal lug on Q1 (S2). Replace attenuator shield.

24. Remove ground connections from pin 3 of XV12, XV14, XV18, and XV19, and from pin 8 of XV13 and XV16. Disconnect white wire #22, from pin 4 of XV18, XV19, XV12, and XV14. Remove from instrument.

25. Disconnect black wire from pin 8 of XV16 and connect to ground lug on XV16 (S1).

26. Connect brown wire #18, 25" length, to terminal D2 of T1 (S3). Follow white lead on terminal D1 of T1 up to tube socket XV16. Connect brown wire to pin 8 of XV16 (NS).

27. Disconnect and discard #22 white wires from pin 7 of XV13.

28. Connect brown-orange wire 23" length to terminal C4 on T1 (S3). Run wire through 3/4" hole at lower left of T1, across to other side of chassis, and up to FL4 (S1).

29. Connect brown wire #18, 3" length, between pin 8 of XV16 (S2) and pin 8 of XV13 (NS).

30. Make a length of twisted pair 56" long. Use #22 gray wire and #22 brown wire.

#### NOTE

In following instructions, connect brown wire to pin 3 and gray wire to pin 4. On XV13 connect gray wire to pin 7, brown wire to pin 8. Use lengths of twisted pair as indicated.

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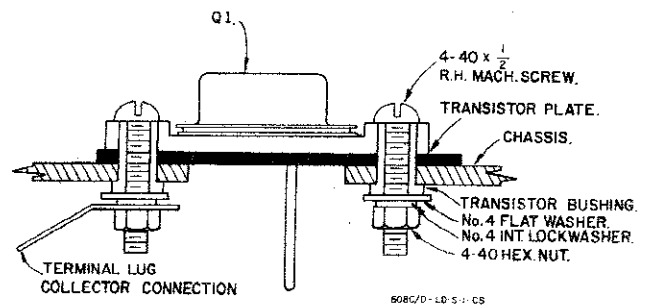


Figure 2. Transistor Q1 Mounting

31. Connect a 3" length from pins 3 and 4 of XV18 (S1) to pins 3 and 4 of XV19 (NS).

32. Connect an 8" length from pins 3 and 4 of XV19 (S2) to pins 7 and 8 of XV13 (NS).

33. Connect a 4" length from pins 7 and 8 of XV13 (S3) to pins 3 and 4 of XV12 (NS).

34. Connect a 3" length from pins 3 and 4 of XV12 (S2) to pins 3 and 4 of XV14 (NS).

35. Connect a 30" length of twisted pair to pins 3 and 4 of XV14 (S2). Follow cable harness down toward bottom right hand corner of chassis through 1/2" hole toward front panel.

36. Remove all wires presently connected to power lamp socket, XI4, from instrument.

37. Connect twisted pair to XI4 (NS).

38. Remove Frequency Dial knob. Remove and discard dial illuminating lamp socket XI3.

39. Connect an 8" length of twisted pair to the terminals of lamp socket part 1450-0009 (S1) on each terminal. Mount socket in place of XI3. Replace Frequency Dial knob.

40. Run twisted pair on XI3 over to XI4 and connect (S2) on each terminal of XI4.

41. This completes the rewiring. Check wiring for accuracy.

42. Turn the signal generator on measure voltage at outside of FL-1, should be 6.8 vdc for Model 608D; 6.5 for Model 608C. If necessary, pad R128 with a two watt resistor to bring the voltage within tolerance.

43. This completes the modification. Turn power off. Replace instrument cabinet.

The attached partial schematic, Figure 3, should be added to your Operating and Service Manual for future reference.

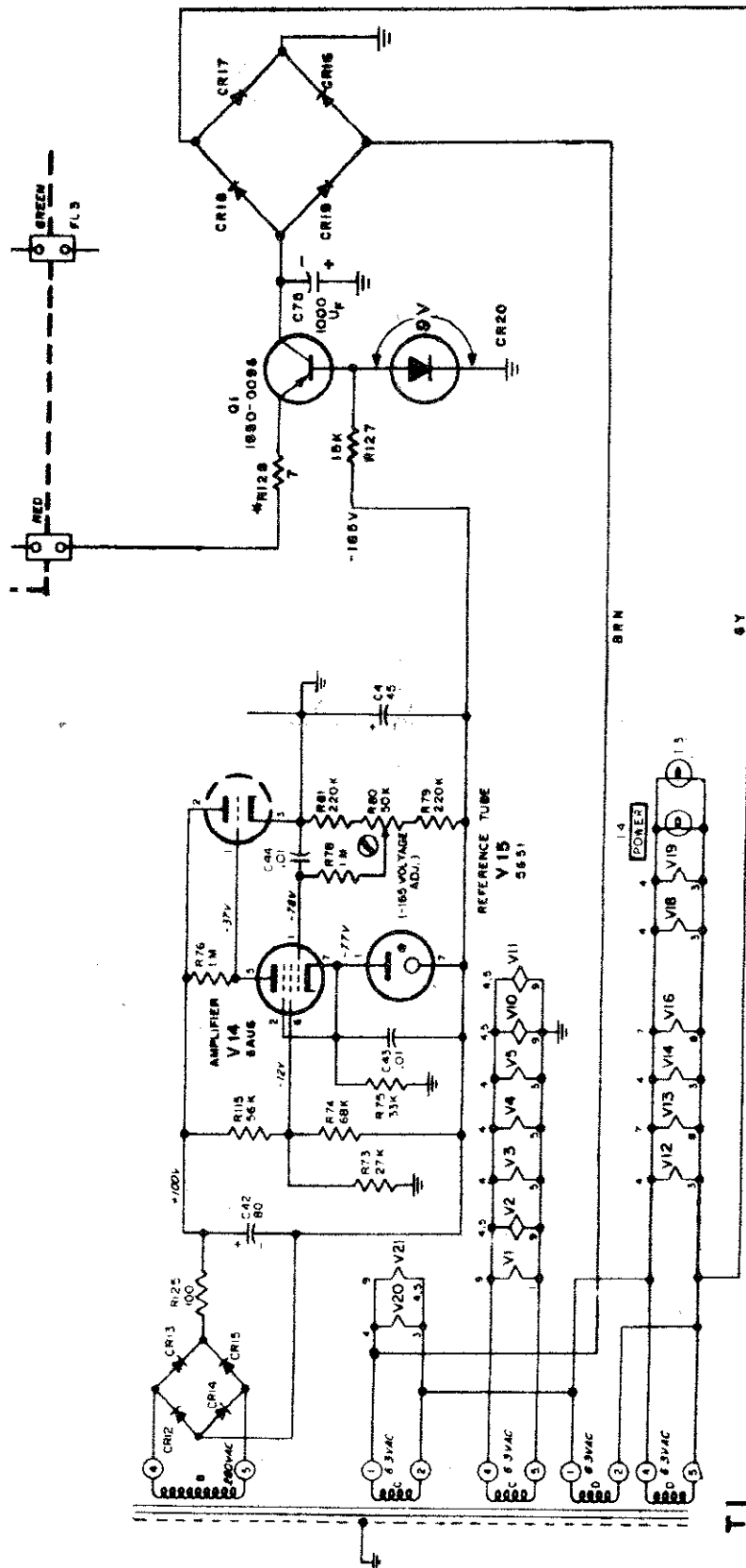


Figure 3. Model 608C/D VHF Signal Generator