

SUPERSEDES:

None

HP MODEL 8690B SWEEP OSCILLATORS

Serial Numbers below 1050A02191

MODIFICATION TO IMPROVE LINE SYNC TRIGGERING

This service note provides instructions for modifying Model 8690B Sweep Oscillators to improve line sync triggering.

The modification is recommended for 8690B Sweep Oscillators below serial number 1050A02191 with line sync problems. Line sync problems may occur because of insufficient trigger amplitude or because of spurious signals from the power line. This modification will increase trigger amplitude and reduce any spurious power line signals.

These sync problems are most likely to occur in line sync (sweep time vernier in the fully clockwise or detent position) at low line voltage or at line frequencies below 60 Hz and will appear as jitter, incomplete sweeps, or missing sweeps.

These problems can best be observed by connecting an oscilloscope to the 8690B SWEEP OUT. Adjust the sweep oscillator and oscilloscope to view several cycles of the sweep ramp. For very slow sweep speeds, missing or incomplete sweeps may be observed directly from the display. For faster sweep speeds, missing or incomplete sweeps will appear as a change in intensity of one or more ramps. Jitter will appear as a slight movement along the horizontal axis of the display, i.e., the oscilloscope will trigger on one ramp so the first ramp on the display will be stable but succeeding ramps will shift slightly back and forth.

The following table lists the parts required for this modification:

Qty.	Description	HP Part No.
2	CAPACITOR FXD 0.05 μ F 400 VDC	0150-0052
1	CAPACITOR FXD 3900 PF 300 VDC	0160-2675
1	CAPACITOR FXD MICA 0.01 μ F 300 VDC	0160-2120
1	RESISTOR FXD COMP 33K OHM 10% 1/2W	0687-3331

MODIFICATION PROCEDURE:

1. Remove the 8690B top and bottom covers.
2. Remove the A2 Assembly.
3. Change A2C1 to HP Part No. 0150-0052 (0.05 μ F).
3. Change A2C3 to HP Part No. 0160-2675 (3900 PF).
5. Add A2C10 HP Part No. 0160-2120 (0.01 μ F). Install this capacitor across A2CR3 by making solder connections to the axial leads of A2CR3.
6. Reinstall the A2 Assembly in the 8690B.
7. Remove the A9 Assembly securing screws and pull the A9 Assembly up to provide access to the circuit side of the board.
8. Change A9C6 to HP Part No. 0150-0052 (0.05 μ F).

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9. Check the value of A9R6. If value is other than 33K ohms change A9R6 to HP Part No. 0687-3331 (33K ohms).
10. Reinstall the A9 Assembly and the 8690B top and bottom covers.

NOTE

No adjustments are required to the 8690B as a result of this modification.

11. Make the necessary changes to your 8690B Operating and Service Manual parts list and schematics to document this modification.