

HP MODEL 8690A-SERIES SWEEP OSCILLATORS
Serials Below 747-01711
MODIFICATION FOR USE WITH HP MODEL 8706A AND 8707A

This Service Note outlines modifications which must be performed on any HP Model 8690A Sweep Oscillator (Serial Number below 747-01711) before the 8690A is used with the HP Models 8706A Control Unit and 8707A RF Unit Holder.

Two pairs of diodes are to be installed in the 8690A. These diodes protect the ALC Amplifier and the Crystal Detector in the leveling loop from the switching transients encountered when the power supply circuits are being switched between 8690-series RF Units.

To prevent ground loops in the leveling circuits a minor wiring change must also be made in any RF Unit to be used with the 8690A and the 8706A/8707A.

Parts Included in Modification Kit 08706-6006

Quantity	Descripton	HP Part Number
4	Diodes	1901-0033
1	Service Note	8690A-6
1	Service Note	8690A-7
1	Label	7124-0951

MODIFICATION PROCEDURE

1. Turn LINE to OFF. Disconnect power.
2. Remove bottom cover of 8690A. Remove ALC Amplifier Assembly A12.
3. Locate the dual transistor A12Q1. (Refer to Figure 5-21 of your Operating and Service Manual.)
4. Install two diodes as shown in the schematic, Figure 1. The diodes are HP Part Number 1901-0033.
 - a. Connect the cathode of one diode to the base of A12Q1A. Connect the anode of this diode to the emitter of A12Q1A.
 - b. Connect the cathode of the second diode to the base of A12Q1B. Connect the anode of this diode to the emitter of A12Q1B.



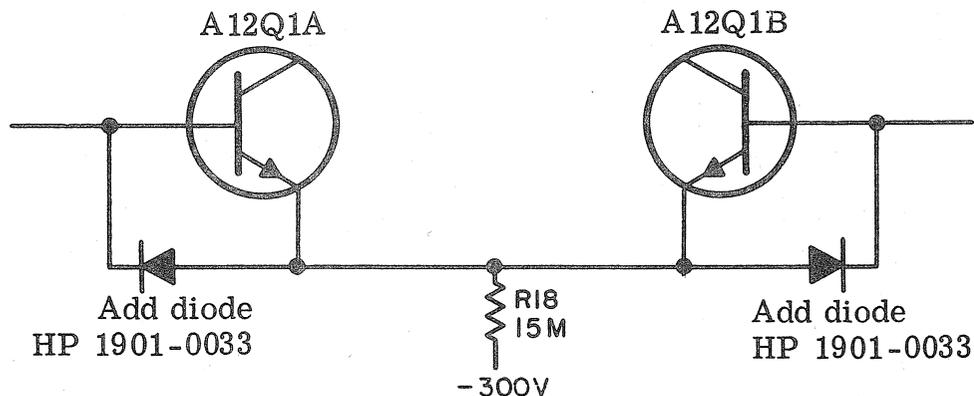


Figure 1. Schematic, Modified ALC Amplifier

5. Connect two diodes (HP Part Number 1901-0033) in parallel between the center conductor and ground of the front panel XTAL ALC Input Connector. Connect the diodes with polarities as shown in Figure 2. Note: the diodes must be located on the XTAL input BNC connector itself to provide proper protection for the Crystal Detector.

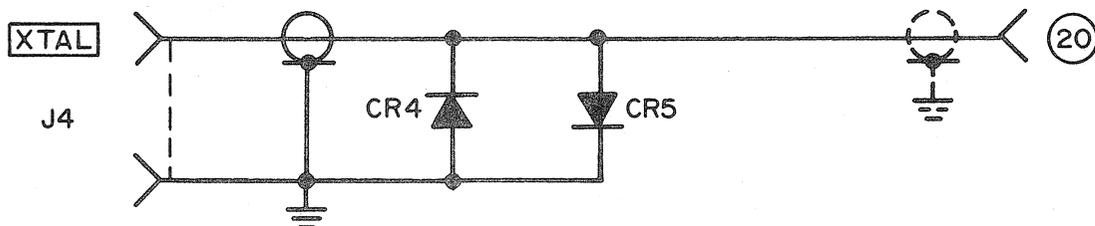


Figure 2. Schematic, Modified ALC XTAL Input

6. RF Unit, Models 8692A/B through 8694A/B and 8695A through 8697A, if not already modified, must be modified for operation in the 8707A RF Unit Holder. (The Model 8691A/B cannot be used in the 8707A.)
 - a. Remove the RF Unit from the 8690A or 8707A.
 - b. Locate Pins 6 and 8 on the 32-pin connector P12. If a black wire is connected from Pin 8 to chassis ground, disconnect this wire at Pin 8. Connect the wire to Pin 6.

This completes the modifications. Replace the A12 Assembly and the bottom cover of the 8690A. No recalibration of the instrument is required following this modification. Install label on rear panel of 8690A.