11757B-02

S E R V I C E N O T E

SUPERSEDES: None

HP 11757B Multipath Fading Simulator

Serial Numbers: 0000A00000 / 9999A99999

Duplicate Service Notes:

11758U-01
11758V-01

To Be Performed By: HP-Qualified Personnel

Parts Required:

HP Part No.	Description	Qty.
0180-4129	1uF electrolytic capacitor; 35V	3
0180-3771	1uF electrolytic capacitor, 3 leaded; 35V	2
0360-0124	Post connector	3
0890-0212	Insulating tubing	3 in.
9320-5105*	Blank label	1

* Any equivalent generic self-adhesive label may be substituted.

Continued

DATE: 12 August 1993

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:

MODIFICATION AVAILABLE

ACTION CATEGORY: AGREEABLE TIME		☐ PERFORMANCE ENHANCEMENT ■ SERVICE/RELIABILITY ENHANCEMENT
LOCATION CATEGORY:	☐ CUSTOMER INSTALLABLE ☐ ON-SITE ■ HP LOCATION	AVAILABLE UNTIL: 12 August 1994
AUTHOR: JJ	ENTITY: 0400	ADDITIONAL INFORMATION:

© 1993 HEWLETT-PACKARD COMPANY
PRINTED IN U.S.A.

HEWLETT PACKARD

Situation:

Some spurs 50KHz - 300KHz offset from the carrier, greater than the -67dBc specification for the RF source were observed on a few production units (11758). The problem was isolated to the EEPROM/Counter Board, both the current (11757-60056) and older (11757-60038) assemblies, on the U2, U3, and U4 regulators. The fix was to add 1uF capacitors to the input and output of the regulators as described in the regulator's application notes. This makes the regulators optimally stable and eliminates oscillations which were causing the spurs on the RF source's signal. The older board (11757-60038) can be retrofitted with a field installable modification (described in this service note) rather than replacing the board with its direct replacement, the Counter/EPROM Upgrade Kit (11757-60059). This eliminates the need to scrap the old board and order both the new board and new firmware contained in the kit. The updated older board (11757-60038) will become 11757-60061 after the fix is implemented. Similarly, the 11757-60056 can be modified and would become 11757-60060.

Solution:

The new board (11757-60060) contains the complete solution for the spur problem described above. However, the older boards (11757-60038 and 11757- 60056) both have the potential to exhibit this problem. Repairs or replacements should follow the strategy as outlined in the matrix below:

Troubleshooting Action

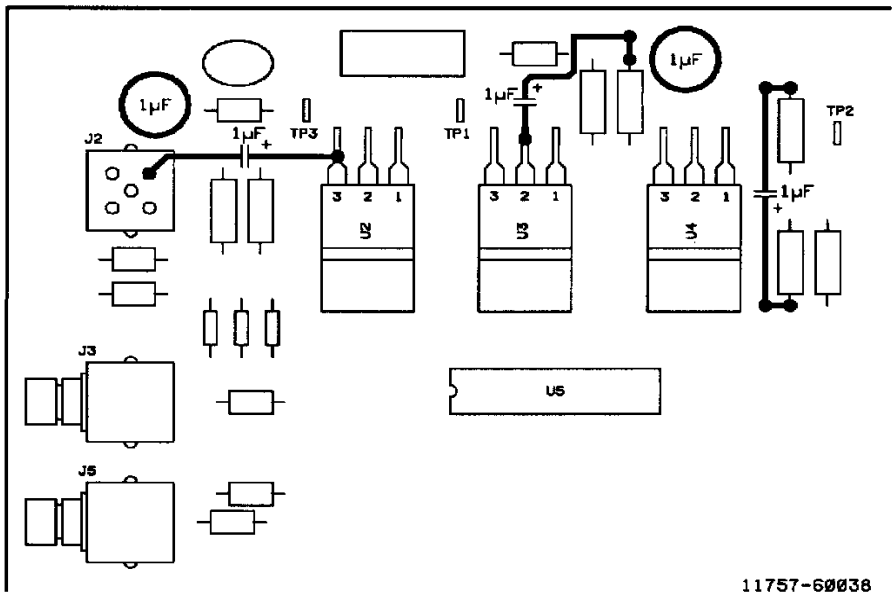
Customer Currently Has

	11757-60038	11757-60056
Spur problem found	Perform board modification as outlined in this service note. Board becomes 11757-60061.	Perform board modification as outlined in this service note. Board becomes 11757-60060.
Board swap as part of troubleshooting or need to replace board.	Order upgrade kit 11757-60059. This includes 11757-60060 board which contains spur modification.	Order exchange assembly 11757-69060 from SMO. This board will already contain spur modification.

The modification can be performed by following this procedure:

1. Place board on a bench equipped with an ESD mat. Make sure person performing this modification is grounded also. Observe all normal ESD precautions while this procedure is being followed.
2. Make sure that all exposed capacitor leads are covered with the insulating tubing to prevent contact with other points on the board.
3. Attach the non-polarized lead from a 1uF capacitor (0180-4129) to pin 2 of U3 and solder it.
4. Unsolder the lead of R7 closest to the edge of the pc board and solder a post connector into the hole. Re-attach R7 to the post as well as the polarized (plus) lead of the 1uF capacitor that was soldered to U3 pin 2.

5. Unsolder opposing leads of R30 and R10 (see diagram) and solder post connectors into both locations. Re-attach respective leads for R30 and R10 as well as leads for a 1uF electrolytic capacitor (0180-4129). Make sure polarized (plus) end of the capacitor goes to the R30 lead.
6. Attach the polarized (plus) lead of a 1uF electrolytic capacitor (0180-4129) to pin 3 of U2 and solder it. Remove the solder from the J2 ground hole indicated on the diagram, insert the remaining capacitor lead and solder.
7. Remove both capacitors C11 and C9 and replace with 1uF capacitors (0180-3771). Note that since these are three-lead items, it does not matter which way the capacitors are oriented.
8. Type the appropriate board number (according to the above matrix) on the label and apply over the existing board number.
9. This completes the modification procedure. After board is reinstalled in the instrument, please repeat spur tests to confirm that spurs found in the 50KHz - 300KHz carrier offset region have been eliminated.



11757B-02 Modification Diagram