

83731A/32A-01

S E R V I C E N O T E

SUPERSEDES: None

HP 83731A/32A Synthesized Signal Generators

Serial Numbers: 0000A00000 / 9999A99999

Firmware Upgrade Procedure to 8.94

Throughout the lifecycle of Hewlett-Packard products, we are constantly striving to improve their performance through design changes. Changes in firmware is one area of design which is easy to retrofit into the existing installed base of instruments. Firmware can be purchased and installed to improve overall performance, alleviate operational problems, or to retain compatibility with either hardware upgrades in the instrument or application software.

This service note is intended to document one particular revision, but the general procedure may be applied to all firmware revisions with the exception of features and resulting procedures that are unique to this revision.

It prevents possible pulse rise time problems as well as frequency deviations caused by switching "on" the phase noise filter.

This firmware version also adds a stepped sweep capability.

Continued

DATE: 05 January 1993

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:		
MODIFICATION AVAILABLE		
ACTION CATEGORY:	AGREEABLE TIME	<input checked="" type="checkbox"/> PERFORMANCE ENHANCEMENT <input type="checkbox"/> SERVICE/RELIABILITY ENHANCEMENT
LOCATION CATEGORY:	<input checked="" type="checkbox"/> CUSTOMER INSTALLABLE <input type="checkbox"/> ON-SITE <input type="checkbox"/> HP LOCATION	AVAILABLE UNTIL: January 1994
AUTHOR: JJ	ENTITY: 0400	ADDITIONAL INFORMATION:

CAUTION

The EPROMs can be damaged by electrostatic discharge, ESD. Therefore, this upgrade should be performed at a proper ESD workstation and using proper ESD protection techniques.

NOTE

The EPROMs should be replaced as a pair and not individually.

Procedure:

1. Unplug the LINE (mains) power cable from the 83731/2A. As an ESD precaution, ensure that the signal generator is grounded, and a grounded wrist strap should be worn.
2. Remove instrument top cover by following procedure below:
 - a. Place the signal generator with the top cover up.
 - b. Unscrew the four screws that attach the handles to the sides of the instrument and remove the handles.
 - c. Unscrew the eight screws that are under the handles. There are four screws per side.

WARNING

Voltages in the instrument can cause personal injury; be extremely careful. Capacitors can be charged even if the instrument has been disconnected from line power.

- d. Unscrew the captive screw at the middle of the rear edge of the cover. This is a captive screw, and will cause the cover to pull away from the front frame.
 - e. Slide the cover to the rear to remove.
3. Locate and remove U7 and U24 on the A3 Microprocessor Board Assembly.
4. Examine the new EPROM labels. The part numbers should be 83732-80019 and 83732-80020 and the version should be 8.94. Also, each label should indicate which position (U7 or U24) each EPROM is to be inserted. U7 should be 83732-80019 and U24 should be 83732-80020. They are not interchangeable.
5. Replace the cover and handles.
6. Verify the firmware version by the following procedure:
 - a. Press SPCL key on the front panel, then ENTER key. This will access special function 1 (default is 1).
 - b. Display should show: "SW 8.94 SERIAL xxxxAxxxxx".

How to Use Stepped Sweep Function

1. Press SPCL key on the front panel, then 100 from the numeric keypad. Press ENTER key. This accesses special function 100.
2. The display will prompt for a start frequency. Use the numeric keypad and the frequency keys to specify a start frequency, then press ENTER.
3. The display then prompts for a stop frequency. Use the same procedure in step 2.
4. The display will then ask how many steps (sweep points) are required. Specify using the numeric keypads and ENTER.
5. The display should now indicate "FREQ SWEEP OFF". To activate sweep mode, press SPCL ON key. The display should indicate "FREQ SWEEP ON".
6. The sweep mode can be turned on or off at any point by using SPCL ON and SPCL OFF keys. The display will respond with the appropriate message indicating the sweep mode being either on or off.
7. The power level may be changed while the sweep mode is active. Press the POWER LEVEL key, then use the keypad and dBm key to select desired power level. Note that if the sweep mode is on, it will continue sweeping during the power level selection process.
8. To regain control of the sweep function, special function 100 must be accessed again.
9. Note that front panel settings, including sweep function, will be preserved when the power is turned off. Upon subsequent power up, the instrument should function in modes that were present immediately prior to shutdown.
10. Sweep function may be aborted at any time by pressing PRESET key.