

86790B-02

S E R V I C E N O T E

SUPERSEDES: None

HP 86790B Modulation Data Source

Serial Numbers: 0000A00000 / 9999A99999

Firmware History and Upgrade Procedures

To Be Performed by: HP-Qualified Personnel

Parts Required:

HP Part No.	Description	Qty.
86790-80062	Programmed EPROM, U16	1
86790-80063	Programmed EPROM, U17	1
86790-80064	Programmed EPROM, U18	1
86790-80065	Programmed EPROM, U19	1

Situation:

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

Continued

DATE: 01 February 1993

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:			
MODIFICATION RECOMMENDED			
ACTION CATEGORY:	<input checked="" type="checkbox"/> IMMEDIATELY <input type="checkbox"/> ON SPECIFIED FAILURE <input type="checkbox"/> AGREEABLE TIME	STANDARDS:	LABOR 1.0 Hours
LOCATION CATEGORY:	<input type="checkbox"/> CUSTOMER INSTALLABLE <input checked="" type="checkbox"/> ON-SITE <input checked="" type="checkbox"/> HP LOCATION	SERVICE INVENTORY:	<input type="checkbox"/> RETURN <input checked="" type="checkbox"/> SCRAP <input type="checkbox"/> SEE TEXT
		USED PARTS:	<input type="checkbox"/> RETURN <input checked="" type="checkbox"/> SCRAP <input type="checkbox"/> SEE TEXT
AVAILABILITY:	PRODUCT'S SUPPORT LIFE	HP RESPONSIBLE UNTIL: 01 February 1994	
AUTHOR: DGS	ENTITY: 0400	ADDITIONAL INFORMATION:	

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This service note is intended to document the various versions of firmware for the HP 86790B Modulation Data Source. With each new release of firmware, the changes will be incorporated into this service note, and a revised note issued.

This note also documents the procedure for checking the firmware version installed in the HP 86790B over the HP-IB interface bus and procedures for replacing the firmware. All ordering information for the firmware version will be listed under the section titled Firmware Version, Kits, and History.

Checking the Firmware Version Number

1. Connect an HP-IB compatible computer to the rear panel of the HP 86790B Modulation Data Source. If the Modulation Data Source is part of the HP FASS system, connect the HP-IB compatible computer to the HP FASSes public bus. See the HP FASSes System Service Manual for location of the public bus.
2. With the HP BASIC language loaded in the computer, load and run the following basic program with the computer connected to the Modulation Data Source.

```
10 DIM A$(40)
20 OUTPUT 717;"*IDN?"
30 ENTER 717;A$
40 PRINT "INSTRUMENT IS ";A$
50 END
```

or if the computer is connected to the HP FASSes public bus, run the following basic program.

```
10 DIM A$ [1200]
20 OUTPUT 719;"SID:SEND? '(717)';*IDN?"
30 ENTER 719 USING "-K";A$
40 A$=A$[14,LEN(A$),-2]
50 ! STRIPS THE LEADING AND TRAILING CHARACTERS
60 PRINT USING "#,K";A$
70 END
```

The Modulation Data Source will return a character string in the following format:

HEWLETT-PACKARD, HP86790B,0,X.XX

Where X.XX is the firmware version number such as 1.00 or 1.31.

Solution/Action:**Replacing the Firmware EPROMS****NOTE**

The following procedures require a knowledge of, and tools for working with electrostatic sensitive devices. A properly grounded workstation, with operator wrist strap is recommended while performing the following procedures.

1. Unplug the line (mains) power cable from the Modulation Data Source (MDS). Ensure that the MDS is grounded, as a ESD precaution, and you are wearing a grounded ESD wrist strap.
2. Open the rear door of the MDS by turning the door knob counterclockwise several turns until the door releases.
3. Using thumb pressure, press down on the spring-loaded tab on the board retainer clamp, and pull back on the top of the clamp toward the rear-panel door until it clears the rear of the MDS. Lift the clamp out of the MDS.
4. Locate the microprocessor assembly A13, and remove any cable assemblies. Using the board extractors, pull the board towards the rear of the MDS.
5. Place the A13 microprocessor assembly on the ESD workstation. Locate U16 through U19. Replace the programmed EPROMs with the latest revision.
6. Re-install the A13 microprocessor into the MDS and reconnect all cables to the A13 assembly.
7. Re-install the board retainer and close the rear-panel door.
8. Plug in the line (mains) power cable and turn-on the MDS. When the instrument is turned on, it will begin running the power-up tests. After about three minutes, check the front panel indicators. The H/W fault indicator should be off indicating that the diagnostics passed.

NOTE

The firmware EPROMs are NOT part of the A13 microprocessor assembly. When replacing the A13 Microprocessor, the EPROMs should be removed from the defective assembly and installed on the replacement assembly.

Firmware Versions, Kits, and History

The following documentation contains information on the latest firmware parts/kits available, ordering information, firmware version numbers, problems corrected and history of past versions.

Version 1.65

This version was released as part of the E2500B HP FASS Model 11 system Instrument-on-a-Disk (IDs) REV 1.5. EPROM part numbers were 86790-80052 (U16), 86790-80053 (U17), 86790-80054 (U18), and 86790-80055 (U19).

Version 1.67

This version was released as part of the REV 2.0 upgrade. EPROM part numbers were 86790-80058 (U16), 86790-80059 (U17), 86790-80060 (U18), and 86790-80061 (U19).

Version 1.68

This version was released on prefix break 3242A. This version of firmware corrected a bug in the internal diagnostics. During class "B" testing of the HP E2506A MODEL 7 FASS, it was found that the diagnostics on the AM/PM memory boards may fail at temperatures above 30 degree C. Version 1.68 corrects the diagnostics so that it works over the specified temperature range. EPROM part numbers are 86790-80062 (U16), 86790-80063 (U17), 86790-80064 (U18), AND 86790-80065 (U19).

Compatibility Issues:

Versions 1.65. This version is only compatible with REV 1.5 Instrument-on-a-Disk (IDs) and IS NOT forwards compatible with REV 2.0 or later Instrument-on-a-Disk for the Model 7/11/21 HP FASS systems.

Version 1.67/1.68. These versions of Firmware are ONLY compatible with REV 2.0 or later Instrument-on-a-Disk (IDs) for the Model 7/11/21 HP FASS systems and are NOT backwards compatible with REV 1.5 Instrument-on-a-Disk (IDs).