

70845A-02A

S E R V I C E N O T E

SUPERSEDES: 70845A-02

HP 70845A 3Gbit/s Pattern Generator Module

Serial Numbers: 3017U00101 / 9999U99999

Duplicate Service Notes:

70841A-03A
70842A-03A
70846A-02A

Firmware Revisions

Situation:

The HP 70845A module is part of the HP 71600A series of Gbit BER Testers. A number of Firmware Updates have occurred to this module since introduction.

This Service Note provides the following information:

- How to determine which Firmware Revision is fitted to your module
- EPROM part numbers for each revision
- Upgrade information
- Instructions for retrofitting new firmware

Continued

DATE: 16 July 1992

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:

INFORMATION ONLY

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Action:

- **How to determine which firmware revision is fitted to your module**

The method used to determine which firmware revision is fitted to your module will depend on availability of an HP 70004A Display or HP 70001A Mainframe.

NOTE

You should not rely on the module serial number as many older modules will have been upgraded.

a) If HP 70004A Display is available.

You can read the Firmware Revision Number directly from the HP 70004A Display using the following procedure:

1. Fit the module into the Display and supply power using a suitable line cable.
2. Switch ON, wait for system self-test to complete (around 15 seconds).
3. Press the "MENU" key beneath the display then "misc" on the left side of the Display. Press FIRMWARE REVISION and the revision numbers for all modules fitted will appear at the bottom of the Display.

b) If HP 70001A Mainframe is available.

If the HP 70004A Display is not available, you can read the module Firmware Revision Number through the HP-IB port on the rear panel of the HP 70001A Mainframe using the following procedure:

1. First of all before installing the module in the HP 70001A, note the setting of the ROW and COLUMN switches on the top of the module.
2. Set the ROW switches (3 of them) to zero and COLUMN switches to 17. (The COLUMN switch sets the HP-IB address for the module.)
3. Insert the module in the HP 70001A.
4. Loopback the MS-IB connection on the rear panel of the HP 70001A.
5. Connect a computer via the HP-IB to the HP 70001A.
6. Power on the HP 70001A. Note all the LEDs on the BER module should illuminate and some of them extinguish. Clock loss and a few others should be on.
7. Run the following program:

```
10 Ber_module=717
20 DIM Ber_id$(1000)
30 OUTPUT Ber_module;"*IDN?"
50 ENTER Ber_module;Ber_id$
60 PRINTER IS 1
70 PRINT Ber_id$
80 END
```
8. The module name and Firmware Revision Number should appear on the computer screen.
9. Re-set the ROW and COLUMN switches to the settings noted in Step 1.

c) If Module only available.

If only the module is available, the only way to determine the Firmware Revision fitted, is to check the EPROM part numbers. The following procedure should be used.

CAUTION

Electrostatic Discharge (ESD) can damage or destroy electronic components. Always use ESD Precautions when performing the following procedures.

1. Remove the posidrive screws along the top of the module. There are 7 at the front and 8 at the rear.
2. Remove the posidrive screws which secure the top cover to the module front and rear frames. There are 2 each side at the front and 3 each side at the rear.
3. Loosen BUT DO NOT REMOVE the 9 posidrive screws fitted centrally along each side of the module.

The top cover can now be carefully lifted clear of the module along with the 4 plastic board spacers.

4. Disconnect the two plug-in ribbon cables at front and rear of the A3 board assembly. This board is identified by the two ORANGE lever arms at each corner.
5. Disconnect the heavy-duty plug-in ribbon cable at the rear of the A2 board assembly. This board is identified by the two RED lever arms at each corner.
6. The plug-in A3 board assembly may now be removed vertically from the module using the lever arms.

CAUTION

Take care when removing the A3 board as clearance between it and the two A2 board power supply transformers is very small.

7. The 2 EPROMs to be checked are plugged into sockets on the A3 board assembly. They are identified on the board as U29 and U30. Compare the part numbers of these EPROMs with those shown in the Table below to determine the revision of firmware in your module.
8. Replace the A3 board assembly and the 3 plug-in ribbon cables.
9. Replace the plastic spacers and module top cover. Replace and tighten all the screws which secure the top cover.

- **EPROM part numbers and upgrade information**

The firmware revision history of the HP 70845A Pattern Generator Module is listed in the table below along with EPROM part numbers for each revision and upgrade information.

Revision Number	EPROM P/Nn's (A3, U29/30)	1st Serial No.	Ship Date	Upgrade Required
A.01.04	70841-80004/5	3017U00101	9/90	Yes
A.01.05	70841-80006/7	3051U00104	11/90	Yes
A.01.07	70841-80010/11	3051U00107	4/91	No (*)
A.01.09	70841-80014/15	3026U00124	3/92	No

(*) Upgrade only if replacing HP 70320/22A Clock Source with later type HP 70311/12A Clock Source.

- **Firmware retrofit procedure**

To retrofit the new firmware EPROMs listed in the table above, carry out all steps in procedure "c" above (module only available). When you reach step 7, replace the two EPROMs U29, U30 with the parts for the latest revision of firmware given in the table above.