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# Read-This-First!

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## Installation Instructions

For upgrading the operating system of HP 83480A and HP 54750A mainframes.



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## Introduction

This pamphlet documents the Option 001 and Option 002 upgrade software which gives HP 83480A and HP 54750A mainframes the ability to use new modules. (Option 001 upgrades HP 83480A mainframes. Option 002 upgrades HP 54750A mainframes.)

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**CAUTION**

Always remove HP 83491/2/3A clock recovery modules from the mainframe before performing the following procedure. Failure to remove these modules could result in improper instrument operation. After the procedure is completed, reinsert the clock recovery module.

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## Step 1. Update the Operating System

- 1 Insert the Option 001 or 002 diskette in the mainframe's disk drive.
- 2 Press the front-panel SYSTEM Utility key.
- 3 Press the *System config . . .* softkey.
- 4 Press the *Update system firmware* softkey.
- 5 Press the *Continue* softkey, and wait for the installation to complete.

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**NOTE**

This step will take approximately 7 minutes.

- 6 Remove the diskette from the disk drive.

## Step 2. Initialize Electrical Plug-in Modules

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**CAUTION**

DO NOT DO THIS STEP if you are installing a plug-in module that has an optical input connector. If you initialize a plug-in module that has an optical connector, you must return your module to a Hewlett-Packard Sales and Service Office for service.

- 1** If you have an optical plug-in module, skip this procedure and continue with “Step 3. Calibrate the Plug-in Module” on page 4.
- 2** Press the front-panel SYSTEM Utility key.
- 3** Press the *Service . . .* softkey.
- 4** Locate the bottom portion of the display which is labeled “Plug-ins”.
- 5** In the “Plug-ins” area, if any modules has ~known as its model number, initialize the module using the following steps:
  - a** In the “Plug-ins” area, note the slot number used by the module.
  - b** Press the *Plug-in . . .* softkey.
  - c** Press the *Plug-in* softkey to select the slot number used by the module to be initialized.
  - d** Press the *Initialize plug-in memory* softkey.

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## Step 3. Calibrate the Plug-in Module

- 1** Press the front-panel SYSTEM Utility key.
- 2** Press the *Calibrate . . .* softkey
- 3** Press the *Calibrate plug-in . . .* softkey.
- 4** Press the *Plug-in* softkey to select the plug-in to be calibrated.  
Press the *Start cal* softkey, and follow the directions that appear on the display’s top line.

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## New Features

This upgrade adds the following general functions to the system:

- Best Flatness (*added to HP 54750A mainframes*)
- Variable Bandwidth Limit (*added to HP 83480A and HP 54750A mainframes*)
- Read Files GPIB Command

### **Best Flatness**

Best Flatness is a new function located in the Acquisition menu. The samplers used in the HP 54750A and HP 83480A systems have a certain amount of passive feed through. This feed through is corrected by a compensation circuit. A small amount of feed through does remain after compensation and this causes slight non-flatness in a step response. Since averaging implies single-valued waveforms, the Best Flatness control takes advantage of this to further improve flatness. This is done by taking a sample with the samplers turned on and then with the samplers turned off. The two results are then subtracted thereby removing the residual non-flatness.

### **Variable Bandwidth Limit**

The variable bandwidth limit filter is a software fourth-order lowpass Bessel filter. To locate the function, press *Math*, *Define function . . .*, and then *Operator*.

### **Read Files GPIB Command**

With this new firmware upgrade to version 7.00, a new GPIB programming command has been added. This command allows you to read files from the instrument's front-panel disk drive directly from an external controller. The command's syntax is shown in the following line:

```
:DISK:DATA? "<filename>"
```

