
HP Infinium Demo Upgrade Kit

Upgrade Instructions

Since the introduction of the HP Infinium Oscilloscope family in September 1997, HP has incorporated several improvements in the oscilloscopes. These improvements are included in this upgrade.

This upgrade kit (P/N 54810-68710) provides hardware and software you need to upgrade your HP Infinium Demo Unit or Loaner Unit to a more durable HP Infinium Oscilloscope. All of the improvements in this upgrade are automatically built into all HP Infinium scopes manufactured starting April 1998.

Hewlett-Packard understands that oscilloscopes that are used as sales demonstration units and loaner units are subjected to mechanical stress that is higher than normal. This means that the HP demonstration units and loaner units require these upgrades without a doubt, based on their high usage and high visibility.

HP Infinium scopes manufactured before March 1998 *did not* include the Local Area Network (LAN) capability as a standard feature. If you have an HP demonstration unit or loaner unit that does not have a LAN card installed, you should use this opportunity to add the LAN capability. The HP E2650A LAN Upgrade Kit contains the hardware, software, and installation instructions for adding the LAN capability to all HP Infinium Oscilloscopes. See Service Note 54810A-04 for additional information.

Models Affected

These are the HP Infinium Oscilloscope models that may require this upgrade:

- HP 54810A
- HP 54815A
- HP 54820A
- HP 54825A
- HP 54845A

This upgrade is required if the oscilloscope serial number prefix is lower than 3813. For example:

Serial # US 3473nnnn — An upgrade is required.

Serial # US 3813nnnn — An upgrade is not required.

Tools Required

- T-15 Torque Wrench (>30 in-lb)
- HP Infinium Service Manual (See Upgrade Note 1 in “Notes in Upgrade Procedures” at the end of this document.)

Use HP Service Manual 54810-99003 for these oscilloscope models:

- HP 54810A
- HP 54815A
- HP 54820A
- HP 54825A

Use HP Service Manual 54845-99002 for these oscilloscope models:

- HP 54845A

Follow ESD Precautions

When performing the procedures in this upgrade, you must use proper ESD precautions. As a minimum, you must place the instrument on a properly grounded ESD mat and wear a properly grounded ESD wrist strap.

CAUTION

Failure to implement proper antistatic measures may result in damage to the HP Infinium Oscilloscope.

CAUTION

Do not remove or replace any circuit board assemblies in the oscilloscope while power is applied. The assemblies contain components that may be damaged if you remove or replace the assembly while power is connected to the oscilloscope.

WARNING

SHOCK HAZARD! To avoid electrical shock, adhere closely to the following procedures. Also, after disconnecting the power cable, wait at least three minutes for the capacitors on the power supply and sweep boards to discharge before servicing the oscilloscope. Hazardous voltages exist on the inverter for the display monitor.

Parts Required

The parts listed here are contained in this Demo Upgrade Kit, and are necessary in upgrading the scope. The LAN Upgrade Kit part number is also shown.

Contents of HP Infinium Demo Upgrade Kit (P/N 54810-68710)

Quantity	Part Number	Description
1	54810-66503 or 54810-66523 w/cable	Scope Interface Board (See Upgrade Note 4.)
3	0515-1038	Stand-off screws
3	0380-1407	Stand-off
3	1401-0202	Insulators
1	5090-4370	Upgrade label
2	5021-4302	Handle screws (black)
1	54810-42201	Front panel cover
1	54810-68708	Software pouch
1	1400-0249	Cable tie
1	54810-92002	Upgrade Instructions

Optional Part (Order separately if LAN is to be added.)

Quantity	Part Number	Description
1	E2650-68701	LAN Upgrade Kit (See Upgrade Note 2.)

Tasks You Will Perform

In the upgrade procedures that follow, you will perform these tasks:

- Step 1. Run Self-Tests
- Step 2. Determine the Software Version Number
- Step 3. Install Software (if necessary)
- Step 4. Prepare HP Infinium for Hardware Changes
- Step 5. Install the LAN Card (if necessary)
- Step 6. Exchange the Scope Interface Card
- Step 7. Secure All Internal Connections
- Step 8. Finish HP Infinium Hardware Changes
- Step 9. Install the Mouse and Keyboard
- Step 10. Run the LAN Setup Procedure (if necessary)
- Step 11. Run Self-Tests Again
- Step 12. Attach the Upgrade Label
- Step 13. Return the Old Scope Interface Card to HP

Notes that you'll see in the upgrade procedures are described in "Notes in Upgrade Procedures" at the end of this document.

Step 1. Run Self-Tests

- 1 Enable the graphical interface.



With the mouse pointer on the right hand button, click the mouse to enable the graphical interface.

- 2 Select Self Test from the Utilities menu.
- 3 Select Scope Self Test from the Self Test drop down list box.
- 4 Click the Start Test button and follow the instructions that appear on the screen.
- 5 Verify that all of the tests pass.

If the self-tests fail, you must correct the problem(s) before continuing. If necessary, refer to the appropriate HP Service Manual for more information.

Step 2. Determine the Software Version Number

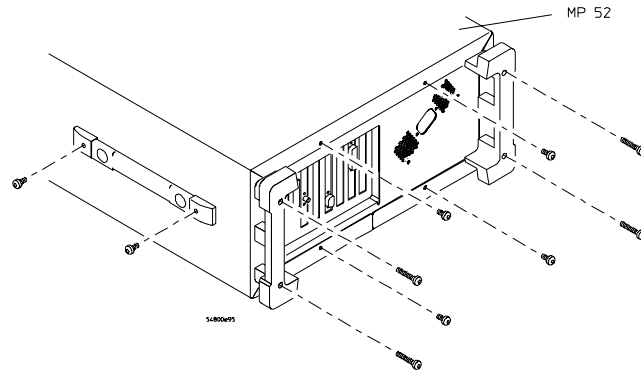
- 1 Enable the graphical interface.
- 2 Select About Infinium... from the Help menu.
- 3 Make a note of the software version number.

Step 3. Install Software (if necessary)

- 1 If you determined the Infinium software version number to be less than A.02.00, you must install the software supplied in the Demo Upgrade Kit, P/N 54810-68710.
- 2 Refer to the installation instructions printed on Disk 1, and install all of the software supplied.

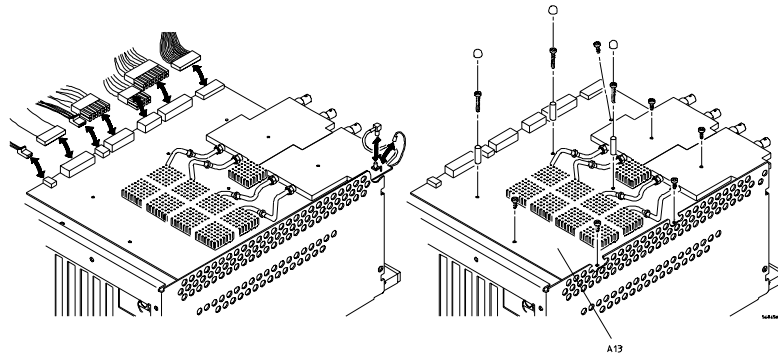
Step 4. Prepare HP Infinium for Hardware Changes

- 1** Install the front panel cover onto the Infinium Oscilloscope. This will allow you to place the instrument face down so that you can easily remove and replace the cabinet sleeve.
- 2** Remove the oscilloscope's side handle, the rear screws, and feet using a Torx-15 driver. Then remove the oscilloscope's cabinet sleeve (MP52).



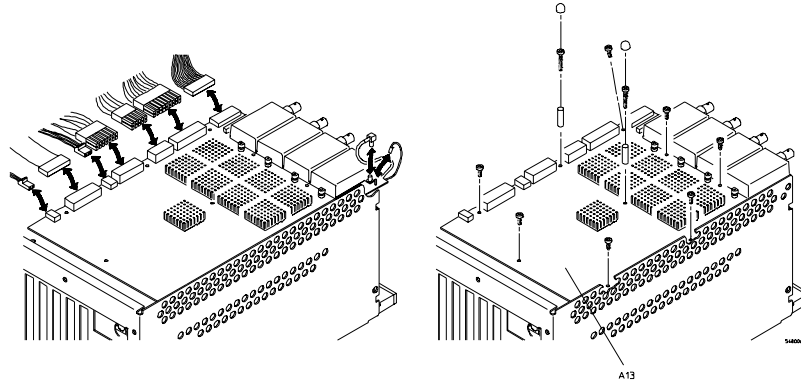
- 3** Remove the screws from the acquisition assembly as shown, and connect the stand-offs using stand-off screws.
 - a. For HP 54845A:

On the bottom side of the scope, locate the acquisition board assembly (A13). Remove the two mounting screws directly in front of and behind the Channel 1 A/D heatsink. Then remove the mounting screw directly in front of the Channel 3 A/D heatsink.



b. For all other HP Infinium Models:

On the bottom side of the scope, locate the acquisition board assembly (A13). Remove the mounting screw directly behind the Channel 1 A/D heatsink. Then remove the mounting screw directly behind the Channel 3 A/D heatsink.



- 4** Install the 25-mm spacers using the 35-mm screws in place of the screws you removed in the previous step.
- 5** Install the protector caps on top of the spacers to prevent intermittent electrical contact with the bottom of the cabinet sleeve.

Step 5. Install the LAN Card (if necessary)

- 1** Determine whether you need to install the LAN card. See Upgrade Note 3.
- 2** If you will be installing the LAN card, follow the instructions in the HP E2650A Ethernet Adapter Installation Guide supplied in the LAN Upgrade Kit.
- 3** If you will not be installing the LAN card, go to the next step.

Step 6. Exchange the Scope Interface Card

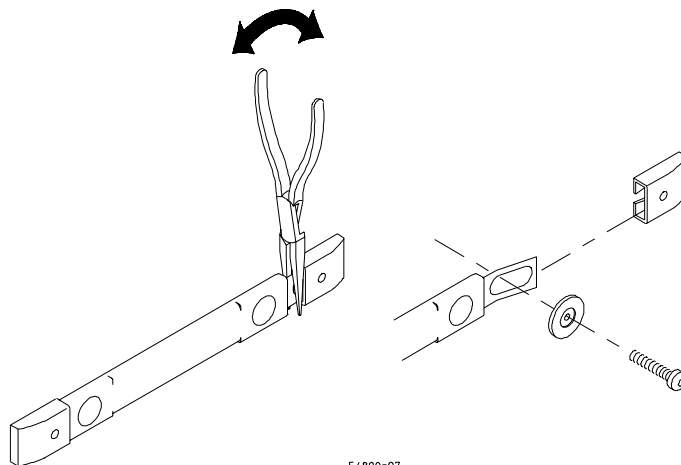
- 1** Refer to the appropriate HP Service Manual for your oscilloscope model. See the section “To remove and replace the scope interface card and SVGA display card” for information you may need.
- 2** Remove the old Scope Interface card — P/N 54810-66502.
- 3** Install the new Scope Interface card — P/N 54810-66503 or P/N 54810-66523 with cable.

Step 7. Secure All Internal Connections

- 1** Verify that all cards are seated properly in their respective motherboard sockets.
- 2** Verify that all cable connectors are seated properly and that their locks are fully engaged. Pay close attention to both connectors of:
 - W8 — display-to-floppy disk drive cable
 - W11 — acquisition signal cable
 - W12 — probe power and control cable
 - W13 — probe interface cable
- 3** Secure the front panel keyboard cable (W16) to the scope interface card (A6) with the cable tie that is provided.
- 4** Replace any cable that could become disconnected during rough shipping and handling.

Step 8. Finish HP Infinium Hardware Changes

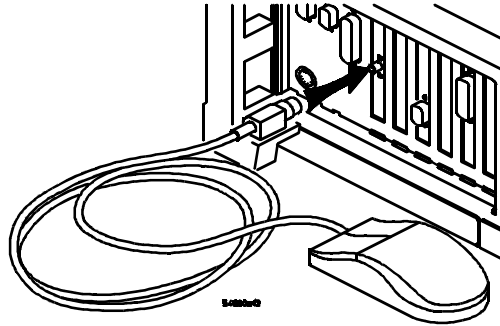
- 1** Re-install the oscilloscope's cabinet sleeve, sleeve screws, and rear feet. Tighten all screws to the HP specification of 2.4 Nm (21 in-lbs) of torque.
- 2** Inspect the side-handle screws. The old screws are silver-colored. Replace the old screws with the new black-oxide colored loosening-resistant screws.
- 3** If the screws are of the old type, remove them using a pair of long-nose pliers or the Torx-15 driver.
- 4** Using either the shaft of the pliers or the Torx driver, pry off the handle end caps. Then place the handle assembly on a flat surface with the end caps pointing upward. Place the pliers or Torx driver between the end caps and the handle plastic, and pry off the end caps.
- 5** Re-assemble the handle using the new black handle screws. Make sure that when the two-dimple side of the handle faces up, the screws are mounted into the bushing with the screw threads pointed down. Press the end caps firmly back onto the handle assembly.
- 6** Re-attach the black-screw-equipped side handle, and tighten both handle screws to the HP specification of 2.4 Nm (21 in-lbs) of torque.



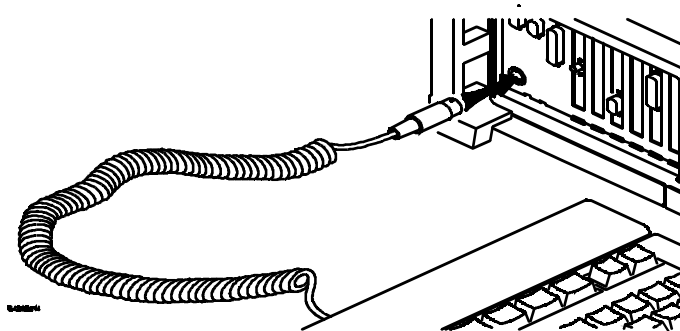
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Step 9. Install the Mouse and Keyboard

- 1 Connect the mouse as shown.



- 2 Connect the keyboard as shown.



Step 10. Run the LAN Setup Procedure

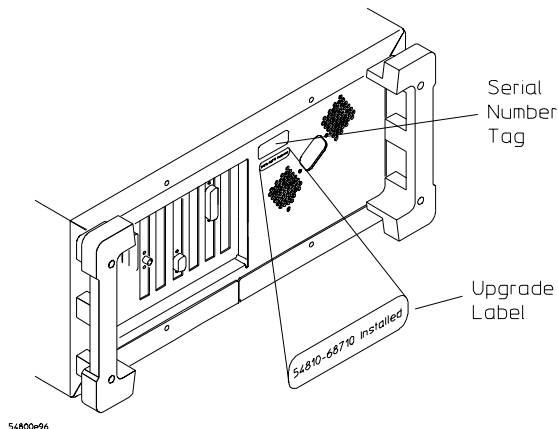
- 1 Refer to the HP E2650A Ethernet Adapter Installation Guide supplied in the LAN Upgrade Kit and locate the LAN setup procedure.
- 2 Follow instructions to run the LAN setup procedure. See Upgrade Note 3.

Step 11. Run Self-Tests Again

- 1 Enable the graphical interface.
- 2 Select Self Test from the Utilities menu.
- 3 Select Scope Self Test from the Self Test drop down list box.
- 4 Click the Start Test button and follow the instructions that appear on the screen.
- 5 Verify that all of the tests pass.
If the self-tests fail, you must correct the problem(s) before continuing. If necessary, refer to the appropriate HP Service Manual for more information.

Step 12. Attach the Upgrade Label

- 1 Write "54810-68710 Installed" on the label.
- 2 Locate the space below the serial number on the scope rear panel.
- 3 Attach the supplied upgrade label to this space.
- 4 Return the Infinium with the front panel cover installed.



Step 13. Return the Old Scope Interface Card to HP

- 1** Return the old scope interface card (P/N 54810-66502) to HP Electronic Measurements Division.

The old Scope Interface Card will be upgraded to 54810-66503.

Don't Delay in Returning the Old Scope Interface Card
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It is important that you return the old Scope Interface Cards directly to the HP factory in a timely manner. The remaining instructions tell you how.

- 2** Package the card(s) properly to prevent ESD and mechanical damage.
- 3** Express ship the old Scope Interface card(s) to:

Hewlett-Packard Company
Factory Repair Center
1900 Garden of the Gods Road
Colorado Springs, CO 80907
Attention: Mark Rowley

- 4** Bill HP Electronic Measurement Division for all parts required, and for 2 hours of labor.

What to do Next

The HP Infinium Demo upgrade is complete. This upgrade has added the key improvements which increase the reliability of this family of oscilloscopes. This upgrade will enable this Infinium to better withstand the high stress of the demonstration and loaner activity.

Notes in Upgrade Procedures

These notes are referenced in the upgrade procedures in this document.

Upgrade Notes	Description
Note 1	Copies of HP Infinium manuals are available over the world wide web at http://www.hp.com/info/infinium_support .
Note 2	Include the cost of the LAN upgrade kit in the billing to HP Electronic Measurements Division (HP EMD).
Note 3	<p>Adding LAN capability to an HP Demonstration Unit or HP Loaner Unit is not included as part of this HP Infinium Demo Upgrade Kit. For information about installing a LAN card, see the HP E2650A Ethernet Adapter Installation Guide (E2650-92001).</p> <p>Many HP Demonstration and HP Loaner units have already been upgraded with LAN capability. For units that have not been upgraded, HP EMD will accept the cost of adding LAN capability during this upgrade.</p>
Note 4	The 54810-66523 will replace the 54810-66503 in Summer 1998. This assembly will add a more durable connector.



HP Part Number 54810-92002
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