

Installation Manual

85012D Firmware Upgrade Kit for the 8530A Time Domain Upgrade



Agilent Technologies

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HP 8530A Time Domain Upgrade

HP 85012D

Installation Manual

SERIAL NUMBERS

This manual applies to all HP 8530A receivers, and to all HP 8510A, 8510B and 8510C network analyzers that have been converted to HP 8530As.



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Edition 1

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Installation

Introduction

With this upgrade installed, you can make antenna/RCS Time Domain measurements. Frequency domain measurements are converted mathematically to the time domain using the Chirp Z Fast Fourier Transform technique. If your HP 8530A has option 011, you can use an HP model 9000 series 200/300 computer with this upgraded analyzer to run the circuit modeling program. Option 011 provides HP 8510C operation.

Installation by a Hewlett-Packard customer engineer is included with the upgrade. Contact you HP representative to schedule installation.

Intended Audience

This installation manual is intended for use by Hewlett-Packard Customer Engineers.

Other Kits

Other kits that relate to the HP 8510 and 8530A are listed below:

HP 85395A converts an HP 8510A (serial number suffix lower than 03000) to an HP 8530A with HP 8510C capability. Option 111 deletes HP 8510C operation.

HP 85395B converts an HP 8510A (serial number suffix greater than 03000) *or* any HP 8510B to an HP 8530A (with HP 8510C capability). Option 111 deletes HP 8510C operation.

HP 85395C converts an HP 8510C to an HP 8530A (retains HP 8510C capability). Option 111 deletes HP 8510C operation.

HP 85396A adds HP 8510C capability to an HP 8530A.

Using this Document

Use the procedures in this document to install the HP 85012D firmware upgrade package. This package adds time domain operation to an HP 8530A.

Warranty Information

Installation of this upgrade does not affect the existing instrument warranty in any way. Specifically, it does not extend the current instrument warranty. Any parts supplied in this upgrade package carry a 90-day replacement part limited warranty.

Supplied Parts

Table 1-1.
HP 85012D Time Domain Upgrade
Package Contents

Item	Qty	HP Part Number
Time domain IC	1	85101-69268 ¹
Installation manual	1	85012-90011
Rear panel upgrade label	1	none

¹ Available only through Hewlett-Packard's rebuilt-exchange program. The original IC must be returned.

Required Tools and Equipment

You will need the following tools and equipment to perform the upgrade procedure.

Table 1-2. Equipment Required But Not Supplied

Item	HP Part or Model Number
Source	8350B with plug-in, 8340A/B, 8341A/B, or 8360-series
Frequency converter or test set	8511A/B, 85310A 8512A, 8513A, 8514A/B, 8515, 8516A, or 8517A
HP-IB cables	10833A
Static control table mat	9300-0797
Wrist strap	9300-1367
Wrist-strap-to-mat cord (5 ft)	9300-1980
#2 Pozidriv ¹	8710-0900
Torx driver (#15) ¹	8710-1622
For HP 85310A or 8511A Only	
Power splitter	5086-7408
Semi-rigid cable	08510-20005 ²
Semi-rigid cable	08510-20006 ²

¹ Used to remove the instrument top cover. Some units require a pozidriv, some require a torx driver.

² From HP 8510 service kit or HP 8511A test set

Installation Procedure

This procedure explains how to install the time domain upgrade.

Check the System

This procedure assumes the HP 8530A system is set up. If not, connect system components as shown in Figure 1-4, Figure 1-6, or Figure 1-5, as applicable. These figures are provided at the end of this manual.

1. Turn on the instruments in the following order:
 - a. The source (make sure the switch is turned to power on, not standby). Also turn on the LO source (if your system has one).
 - b. The test set or frequency converter.
 - c. The HP 85102 IF detector (HP 8530A bottom box).
 - d. The HP 85101 display processor (HP 8530A top box).
2. Make sure the receiver passes all self-tests.
 - a. If the instrument fails self-test it will display a blue screen with diagnostic information on it. Such a failure is an indication that the equipment setup is wrong (or worse). Do not perform the upgrade until the problem is corrected.
 - b. If a measurement screen appears, then the instrument has passed self tests. Continue with the procedure. Error messages (which appear in red letters on the measurement screen) are normal at this point, ignore them.

Ignore all error messages until you complete steps 3, 4 and 5.

3. Press INSTRUMENT STATE **RECALL** and select **MORE FACTORY PRESET**.
4. Place the HP 8530 in step sweep mode by pressing **STIMULUS MENU STEP**.
5. Reduce source 1 power by pressing **POWER MENU POWER SOURCE 1 - 5 x1**.
6. All error messages should now be gone. If an error message still appears on the display, solve the problem before continuing. Do not perform the upgrade until the problem is corrected.

Install the IC

Caution



Perform these steps only at a static-safe workstation.

1. Unplug the HP 85101 display processor box (top box).
2. If upgrading a racked system, remove the HP 85101 display processor from the rack.
3. Refer to Figure 1-1. Remove the two rear panel bumper feet located at the top of the instrument.
4. Remove the top cover of the display processor.

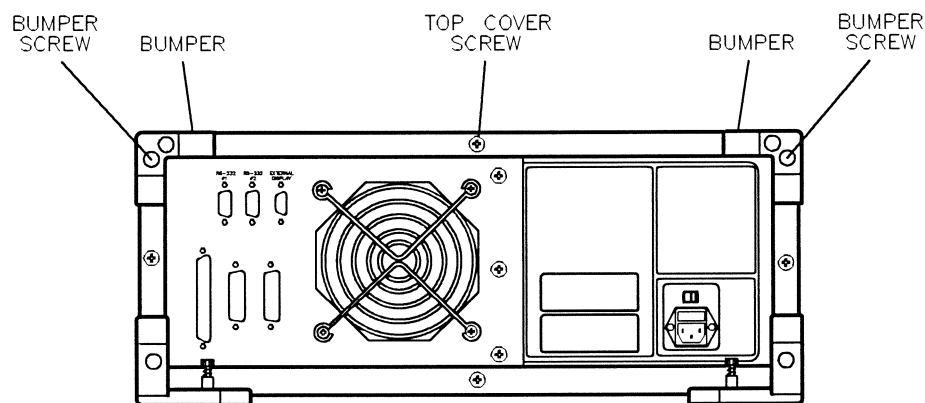


Figure 1-1. Bumper feet and top cover screw locations.

5. Refer to Figure 1-2. Pull the black knob on the A8 assembly directly outward. Remove the A8 assembly.
6. Place the supplied IC into any empty IC socket as explained in the following sub-steps:
 - a. Refer to Figure 1-3. Make sure the IC is oriented as shown in the figure.
 - b. If necessary, bend the IC pins inward a little so they will go into the socket.
 - c. Watch the IC pins closely as you insert the IC. Make sure all the pins go into the socket without bending.
7. Replace the A8 assembly and push in the black knob.
8. Replace the top cover and bumper feet.
9. Return the display processor to the system; reconnect all cables and AC power.

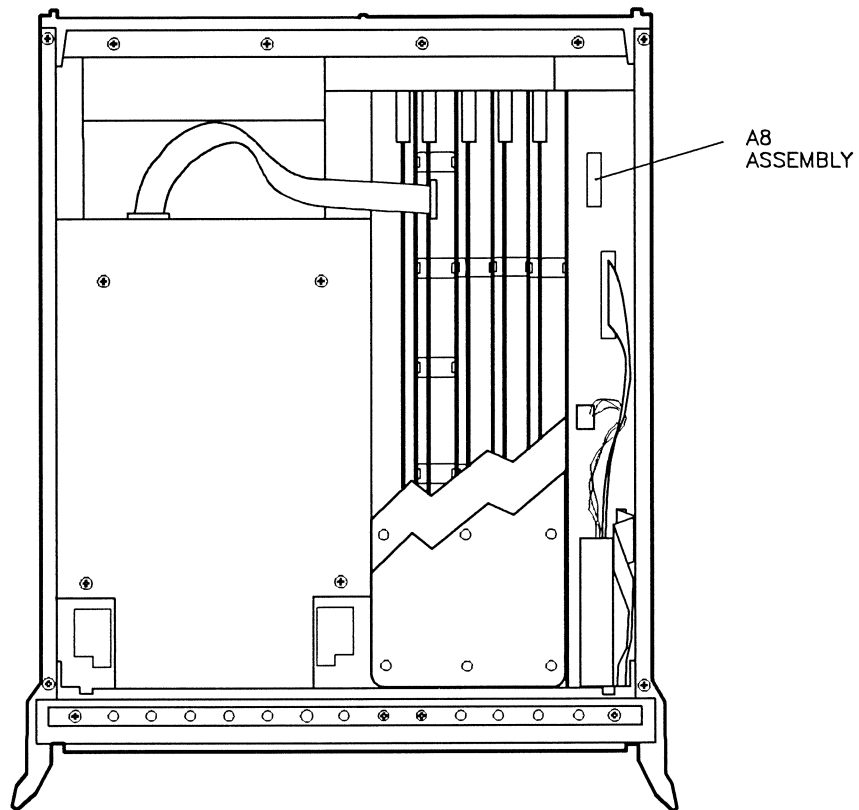


Figure 1-2. A8 Assembly Location

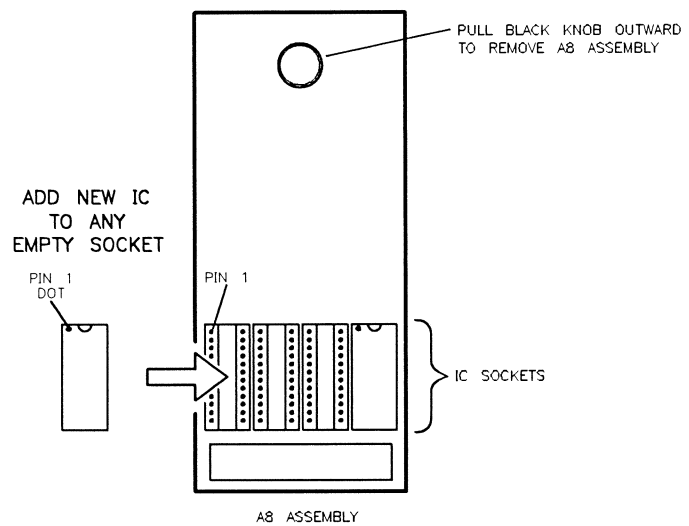


Figure 1-3. IC Installation and Orientation

Apply Label

Apply the rear panel upgrade label on the top box, to the right of the fan. Place in an area where there is no rear panel text. Write today's date on the label as follows: MONTH/DAY/YEAR. The order you write the date is important! This is how the date will be interpreted for warranty coverage.

Check Time Domain Operation

Check that the time domain feature has been installed on your system:

1. Turn on the instruments in the sequence explained earlier.
2. Press INSTRUMENT STATE **RECALL** and select **MORE FACTORY PRESET**.
3. Place the HP 8530A in step sweep mode by pressing STIMULUS **MENU STEP**.
4. Press **DOMAIN** and select **TIME BAND PASS**.

If the upgrade is working properly, the instrument will now display the time domain band pass menu.

If this does not occur, recheck the installation of the IC.

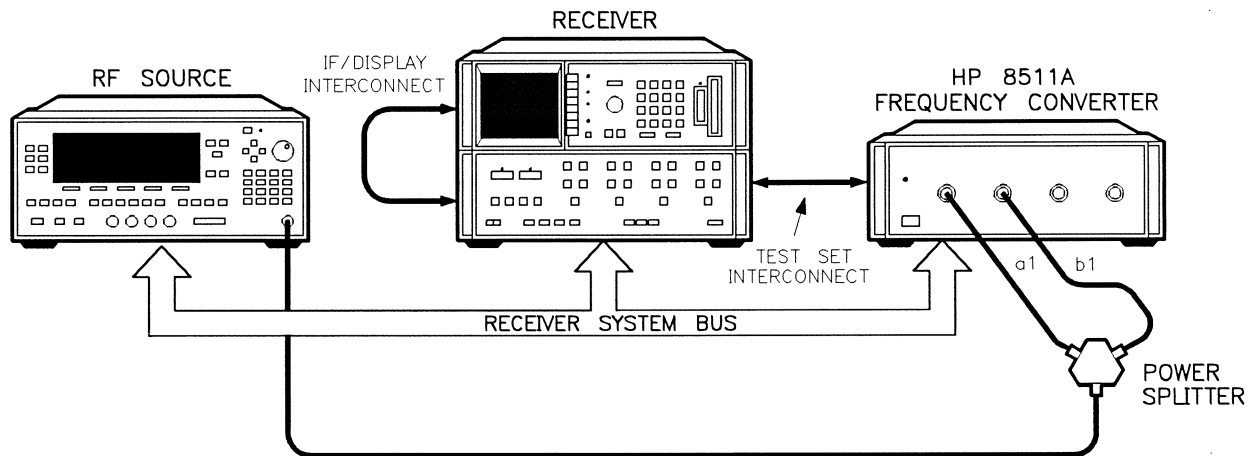


Figure 1-4. Temporary Equipment Setup Using an HP 8511A Frequency Converter

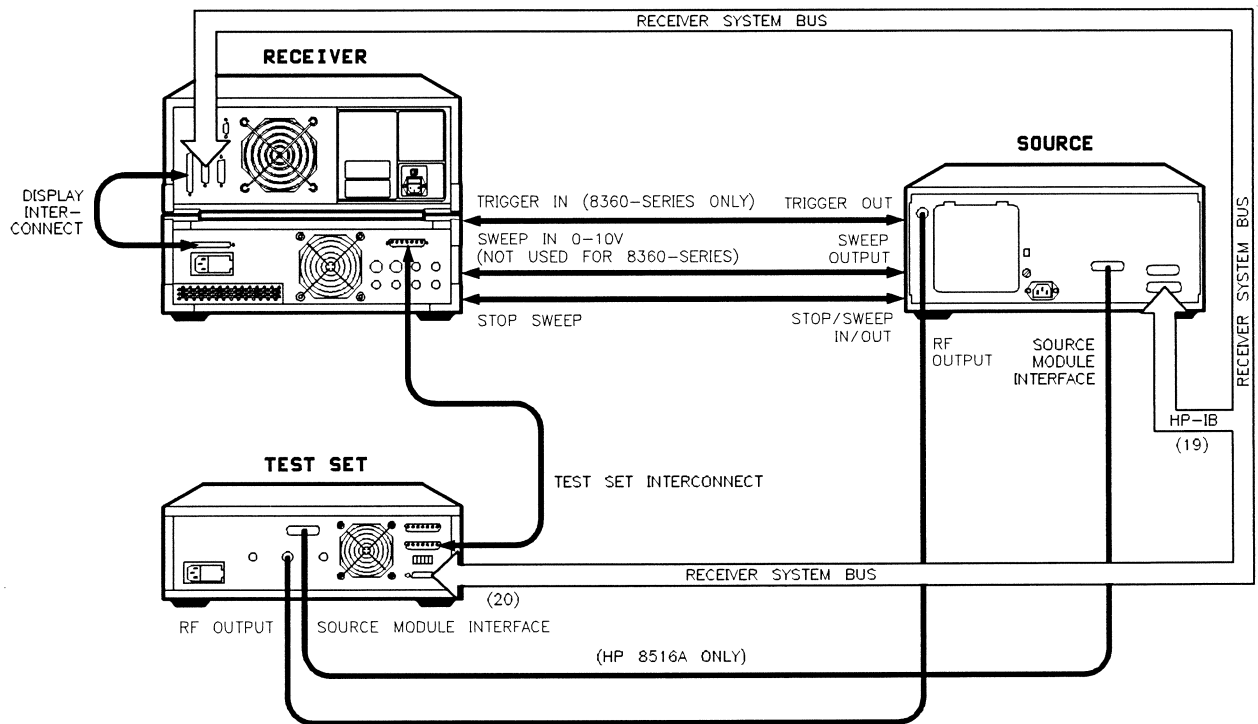


Figure 1-5. Temporary Equipment Setup Using a Test Set

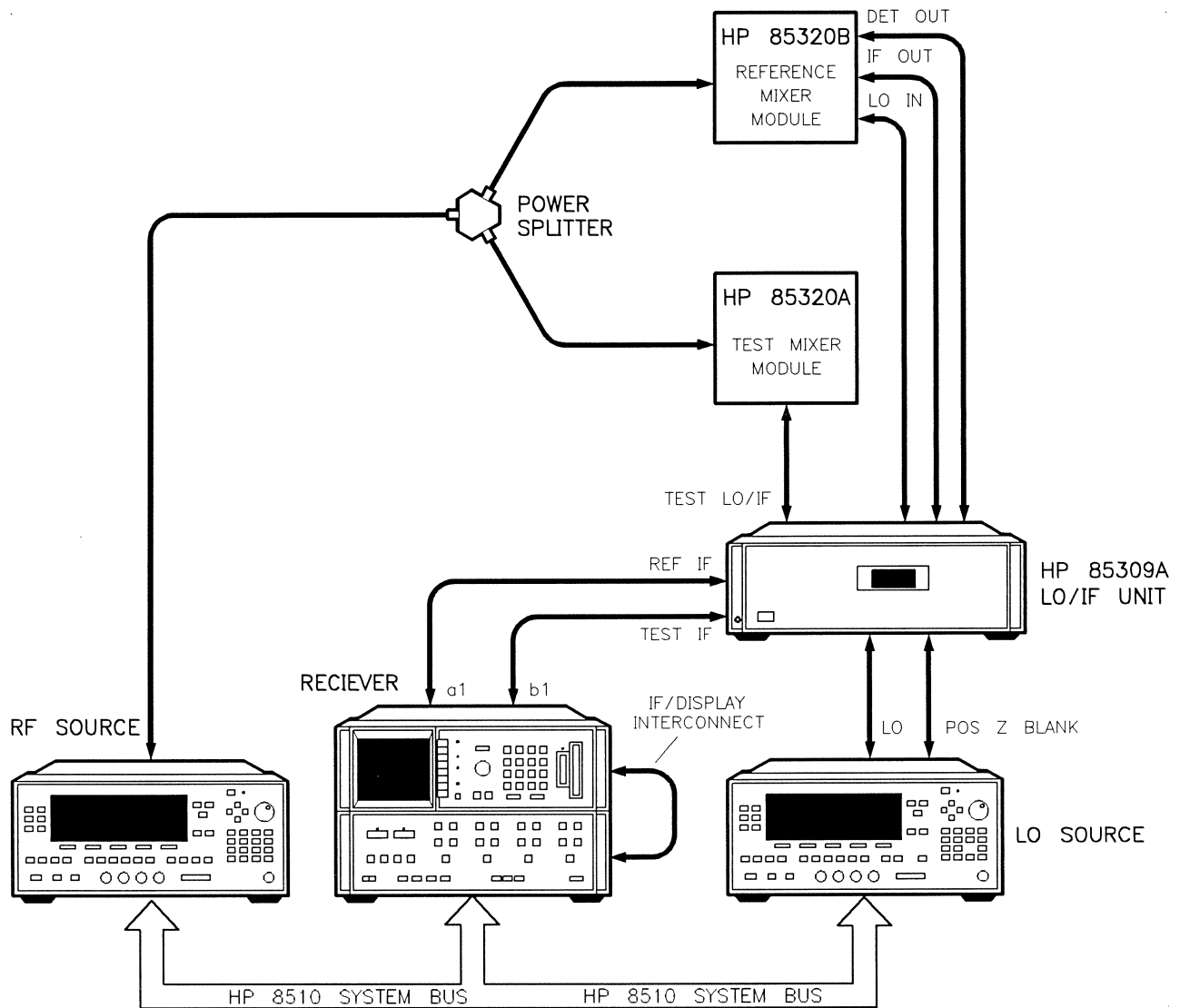


Figure 1-6. Temporary Equipment Setup Using an HP 85310A Frequency Converter

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