

# Installation Note

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**83751A/B, 83752A/B Synthesized Sweepers**  
**Option 1E5 10 MHz Internal Time Base**  
**Retrofit Kit Number 83750-60094**



**Agilent Technologies**

Part Number 83750-90048

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## 83750-60094 Retrofit Kit

### 10 MHz Internal Timebase (Option 1E5)

This installation note provides the information required to retrofit 835x Synthesized Sweepers to Option 1E5, 10 MHz Internal Timebase.

Product Affected: .....	83751A/B, 83752A/B
Serial Numbers: .....	All
Options: .....	
Compatibilities: .....	
To Be Performed By: .....	(X) Personnel Qualified by Agilent (X) Customer

## Parts List

Quantity	Description	Part Number
1	Oscillator, 10 MHz	10811E
1	Cable (W6)	8120-5025
3	Spacer 0.375"L, 181 ID	0380-0006
3	Screw 4:40 0.250" PANHEAD	2200-0103
3	Washer, FL 0.125"ID	3050-0105
2	Grommet, Round	0400-0294
1	Shock Mount	1520-0270
1	Option 1E5 Label	9320-5806
1	Installation Note	83750-90048

## Tools Required

- ☐ #2 x 4 in. pozidrive screwdriver
- ☐ T-15 TORX screwdriver

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**WARNING** Before you disassemble the instrument, turn the power switch *off*, and unplug the instrument. Failure to unplug the instrument can result in personal injury.

**CAUTION** Electrostatic discharge (ESD) can damage or destroy electronic components. All work on electronic assemblies should be performed at a static-safe workstation.

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# Disassembling the Instrument

If you need more details than are provided in the following instructions, refer to the 83750x Service Guide, Chapter 4.

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**NOTE** Save all hardware that you remove. You will need it when you reassemble the instrument.

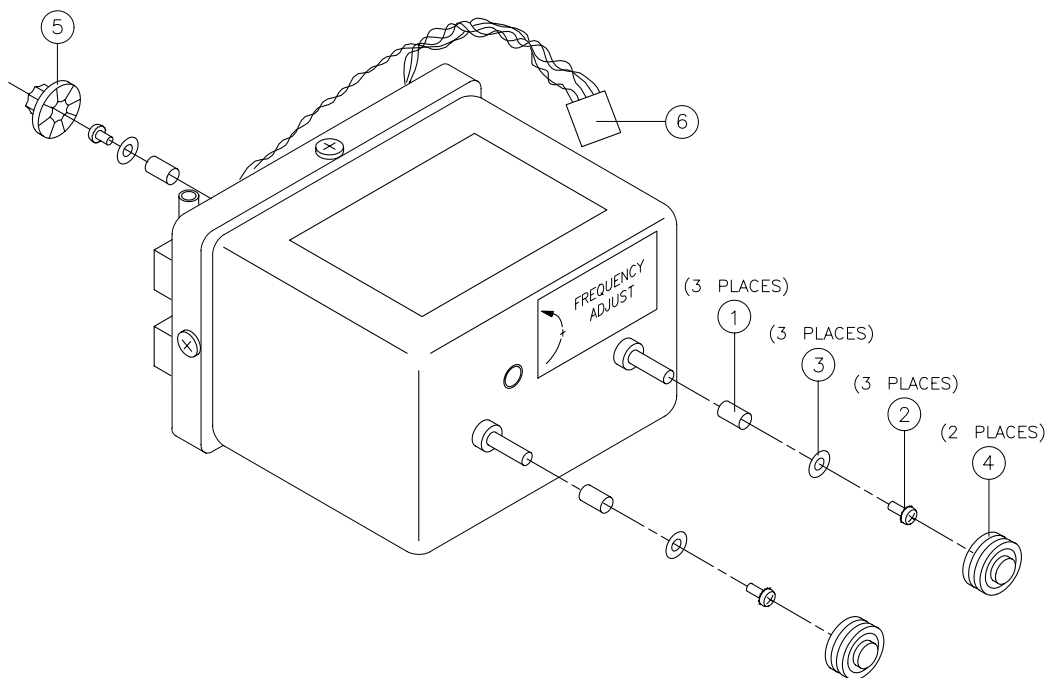
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1. Disconnect the ac power cord.
2. Using a T-15 TORX driver, remove the rear-panel standoffs.
3. Remove the top cover of the instrument.
4. Remove the card cage cover.
5. Remove the left side cover.
6. Remove the power supply wiring harness (A3W1) from the motherboard connector A14J3.

## Installing Option 1E5

1. There is a bracket behind the front panel that has one hole at the bottom, and two slotted holes at the top. Insert the shock mount (1520-0270) from this retrofit kit into the bottom hole.
2. Refer to Figure 2. On the 10 MHz standard (10811E) supplied in this retrofit, there are two threaded studs on one end, and one threaded stud on the other. Place a spacer (0380-0006) on the single threaded stud, and anchor it with one of the supplied 4:40 screws (2200-0103) and one of the supplied flat washers (3050-0105).
3. On each of the remaining two threaded studs:
  - a. Push a grommet (0400-0294) all the way on.
  - b. Put a spacer on.
  - c. Anchor with a screw and washer.

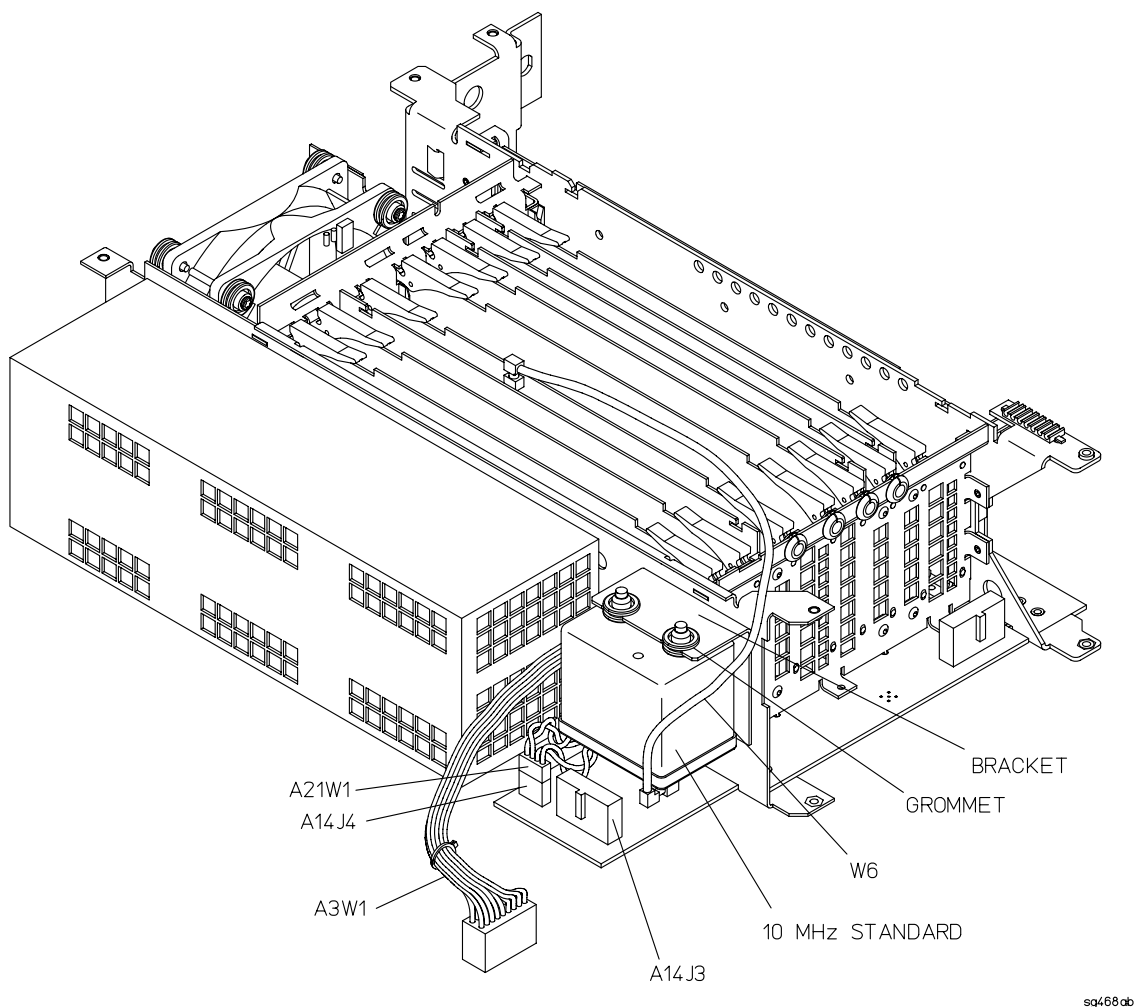
**Figure 1** 10 MHz Standard



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4. Guide the stud on the bottom of the 10 MHz standard into the shock mount on the bottom of the mounting bracket. Part of the grommet must be above the bracket, and part must be below, as shown in Figure 2.
5. Connect one end of the cable W6 (8120-5025) supplied in this retrofit kit to J1 on the 10 MHz standard.
6. Route the cable across the front of the instrument and into J3 on the A6 Reference assembly.
7. Connect the 10 MHz Standard wiring harness (A21W1) to the motherboard connector A14J4.

**Figure 2                      10 MHz Standard Mounting Orientation**



## Reassembling the Instrument for Adjustments

1. Reconnect the power supply wiring harness (A3W1) to the motherboard connector A14J3.
2. Reinstall the left side cover.

# Adjustments

Perform the following adjustments, referring to the 8375xA/B Service Guide for details.

## Activating Option 1E5

1. Press [Shift] [SPECIAL] [2] [0] [8] [ENTER].
2. If the instrument requests a password, enter the password (factory set password, model number 83751 or 83752), then press [ENTER].
3. Press the up-arrow key until the first OID register (0 through 6) with a zero value is displayed.
4. Change the current value (0), by pressing [ENTER] [4] [9] [6] [9] [5] [3], then press [ENTER] again.
5. Press [Shift] [SPECIAL] [207] then [ENTER].
6. Use the up-arrow key to locate OPTTime, then press [ENTER] [1], and [ENTER].
7. To save the calibration data, press [Shift] [SPECIAL] [2] [0] [9] [ENTER] and then [ENTER] again.

## 10 MHz Standard Adjustment

### Recommended Equipment

- 8345A Frequency counter
- 5061 Frequency Standard

### Setting Up the Equipment

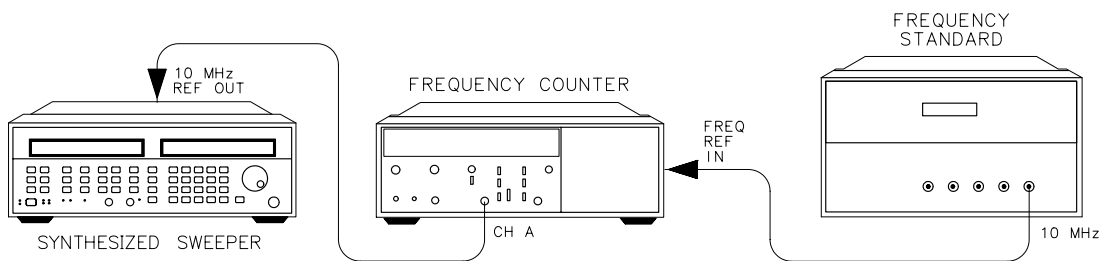
1. Allow the synthesized sweeper to warm up for 24 hours

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**NOTE** You can adjust the internal timebase after reconnecting ac power for 10 minutes, but for best accuracy, test again after the instrument has been on or in standby for 24 hours.

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2. Connect the equipment as shown in the following figure.



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3. On the frequency counter, set the following:

Function: Freq A  
Gate Time: 10 ms  
Level: Preset  
Slope: +  
Slope: 50 Ohm  
50Ω  
ATTEN: X1  
DC  
SEP

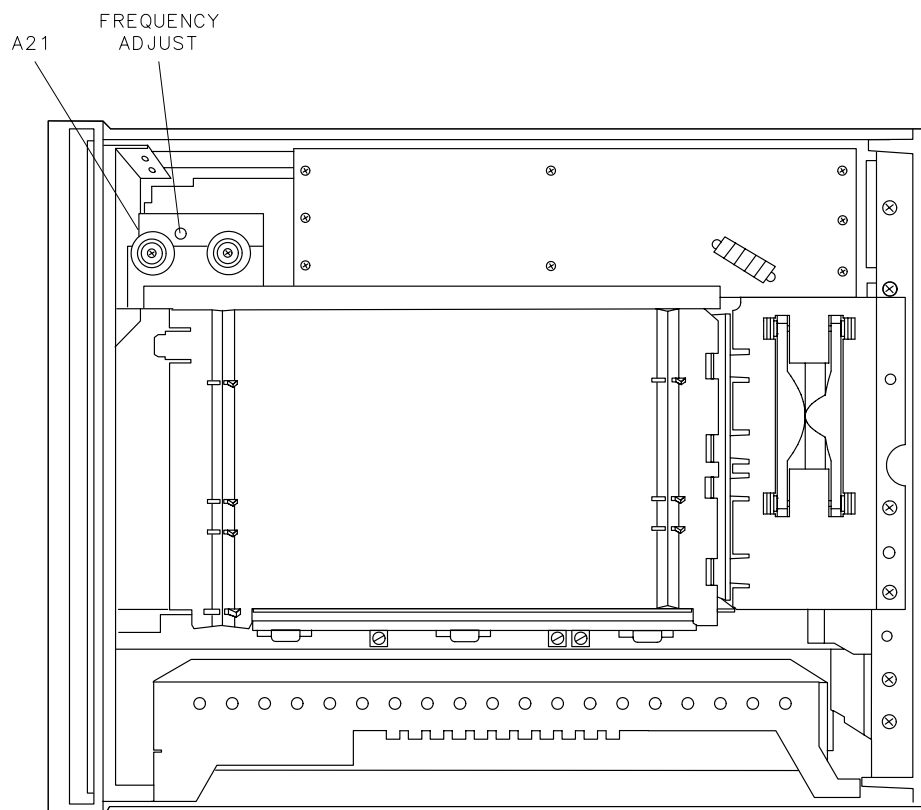
4. On the synthesized sweeper, press:

[Shift] [SPECIAL] [9] [Hz/s/ENTER].

5. The display should read: Rosc Src= INT. If it does not, use the up and down arrow keys to select Rosc Src= INT, then press [Hz/s/ENTER].

**Adjusting the 10 MHz Standard**

Refer to the following figure. Using a non-metallic tool, adjust the A21 frequency adjustment for a reading of  $10000000 \pm 1$  Hz



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## **Final Reassembly**

1. Replace the card cage cover.
2. Replace the top cover
3. Replace the stand-offs on the rear panel.
4. Place the printed Option 1E5 label supplied in this retrofit kit in the option field of the instrument's serial tag, located on the rear panel.

## **Performance Verification**

Refer to Chapter 3 in the Service Guide, and perform the Internal Timebase: Aging Rate test.