
Agilent 33120A

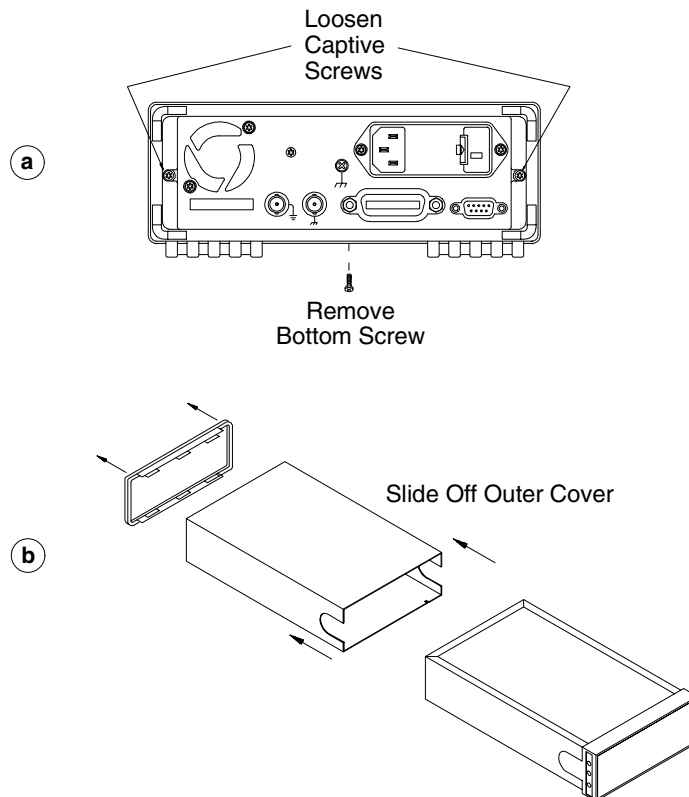
Option 001 Phase-Lock Assembly

Installation Instructions for 33120-80001 Retrofit Kit

This guide contains information to install the Phase-Lock assembly into the Agilent 33120A. This assembly can be installed only in instruments shipped after August 1994 with serial numbers US34004078 and above. Refer to the *Agilent 33120A / Option 001 User's and Service Guide* (included with the retrofit kit) for complete details on using the assembly.

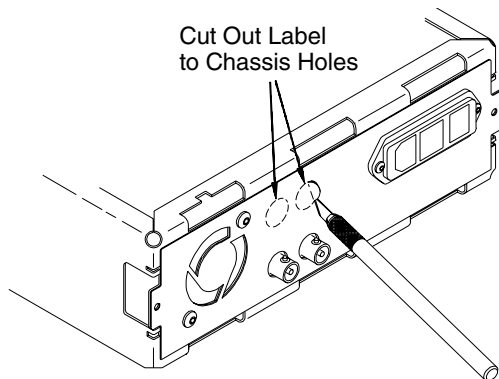
Installing the Phase-Lock Assembly

1 Remove the outer cover from the Agilent 33120A.



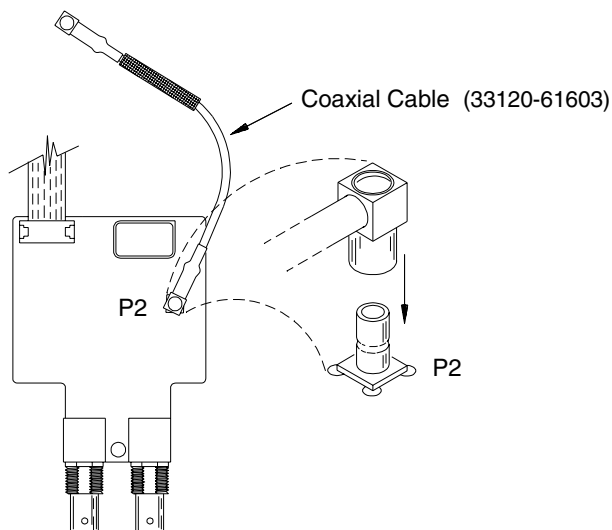
2 Carefully cut two holes in the rear-panel label.

The *Ref Out* and *Ext Ref In* terminals on the Phase-Lock assembly will extend through these holes in the 33120A rear-panel. Pierce the label in the center of the chassis holes and then cut to the outer edge of the holes. Then, let the chassis holes guide the knife around the edge of the hole.



3 Connect the coaxial cable to the Phase-Lock circuit board.

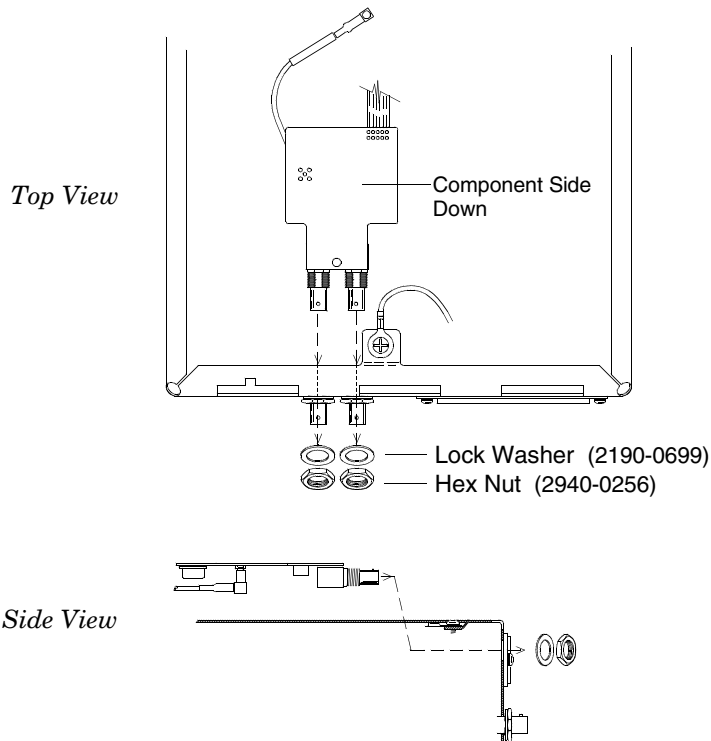
Connect one end of the coaxial cable (included with the retrofit kit) to the connector labeled **P2** on the Phase-Lock circuit board. Position the cable as shown.



4 Install the Phase-Lock assembly in the Agilent 33120A chassis.

Before installing the Phase-Lock assembly, make sure that the red and black wires for the instrument fan are clear of the rear-panel holes.

With the Phase-Lock assembly positioned *component side down*, insert the two BNC connectors through the holes previously cut in the rear-panel label.

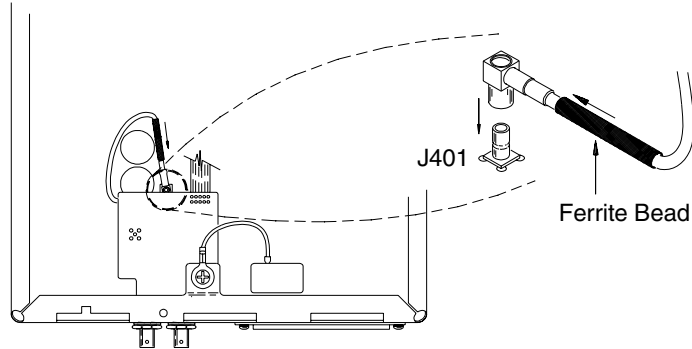


5 Secure the Phase-Lock assembly in place.

As shown above, place one lock washer and one hex nut (included with the retrofit kit) on each of the two BNC connectors. *To prevent cross-threading, be sure to hand-tighten the hex nuts at least one turn before using a tool.*

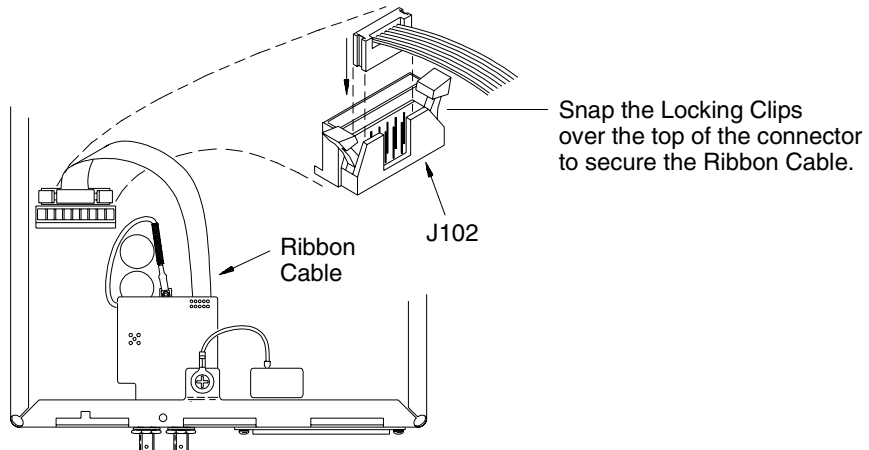
6 Connect the coaxial cable to Agilent 33120A circuit board.

First, slide the black ferrite bead to the end of the coaxial cable as shown. Then, connect the coaxial cable to connector **J401** on the 33120A circuit board. Be sure to position the cable away from the heatsinks on the circuit board.



7 Connect the ribbon cable to the Agilent 33120A circuit board.

Connect the loose end of the grey ribbon cable to connector **J102** on the 33120A circuit board. Press down firmly on the ribbon cable connector and secure the cable in place with the locking clips.



Calibration/Adjustment Procedure

After installing the Phase-Lock assembly, perform the frequency adjustment procedure (CAL:SETup 86) on page 69 in the *Agilent 33120A Service Guide*. Be sure to make the 10 MHz frequency measurement with an accuracy of at least 8 digits (0.01 ppm). It may be necessary to perform up to **three iterations** of the frequency adjustment following the initial installation of the Phase-Lock assembly.

Installation of the Phase-Lock assembly requires that you perform **only** the frequency adjustment (CAL:SETup 86) as outlined above, no further calibration steps are required.

For complete details on performing a calibration, see chapter 4 in the Agilent 33120A Service Guide.

If you intend to perform an entire calibration at the time you install the Phase-Lock assembly or in the future, CAL:SETup 86 should replace CAL:SETup 00 as the first step. You will have to manually change from setup 00 to setup 86 for this. With "SETUP ^00" displayed on the front panel, press the "Enter Number" key, the "8" key, the "6" key, and then press the "Enter" key.

Note that while the instrument automatically steps through setup numbers as you perform calibration steps, it *does not* automatically step from setup 86 to setup 01 (the next calibration step). Therefore, after performing the frequency calibration adjustment, the instrument will display "SETUP ^86". At this point, press the "Enter Number" key, the "0" key, the "1" key, and then press the "Enter" key. This will return you to the normal setup sequence starting with "SETUP ^01".



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Retrofit Instructions

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