

Instructions



050-3265-00

Low Pass Filter Replacement

ASG 100 and ASG 140 Audio Signal Generator

075-0153-00

Warning

The servicing instructions are for use by qualified personnel only. To avoid personal injury, do not perform any servicing unless you are qualified to do so. Refer to all safety summaries prior to performing service.

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Tektronix, Inc., P.O. Box 1000, Wilsonville, OR 97070-1000

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Service Safety Summary

Only qualified personnel should perform service procedures. Read this *Service Safety Summary* and the safety summaries in your product manual before performing any service procedures.

Do Not Service Alone. Do not perform internal service or adjustments of this product unless another person capable of rendering first aid and resuscitation is present.

Disconnect Power. To avoid electric shock, disconnect the main power by means of the power cord or, if provided, the power switch.

Use Care When Servicing With Power On. Dangerous voltages or currents may exist in this product. Disconnect power, remove battery (if applicable), and disconnect test leads before removing protective panels, soldering, or replacing components.

To avoid electric shock, do not touch exposed connections.

Kit Description

This kit includes parts and instructions to replace the FL2 and FL3 low pass filters on the A2 main circuit board assembly. This mod also requires that you replace two sets of resistors and remove one set of resistors to ensure that the new filters operate correctly. After completing the installation, you must perform the Gain adjustment to restore the instrument to proper operation.

This document supports Textronix modification: **84442**

Products

ASG 140 B019999 and below
ASG 100 B039999 and below

Minimum Tool and Equipment List

Required tools and equipment	Part number
1P Pozidriv® screwdriver	NA
Diagonal cutter	NA
Soldering iron, 15 watt	NA
Solder, no-wash flux	NA
RMS Meter ¹	Fluke 8506A or 8505A-09
XLR-female-to-triple-banana connector adapter cable	EZ-Hook® 5023F-24

¹ Use for Gain adjustment (1% accuracy, 5 digit resolution, balanced input)

Kit Parts List

Circuit/figure number	Quantity	Part number	Description
A2FL2 A2FL3	2	671-4081-00	Low pass filters
A2R23, A2R25	2	322-3201-00	1.21 K Ω 1%,0.2W
A2R20, A2R22	2	322-3176-00	665 Ω 1%,0.2W
—	1	—	Kit label
—	1	075-0153-00	Manual tech: instructions, 050-3265-00

Installation Instructions

These instructions are for personnel who are familiar with servicing the product. If you need further details for disassembling or reassembling the product, refer to the appropriate product manual. Contact your nearest Tektronix, Inc., Service Center or Tektronix Factory Service for installation assistance.



CAUTION *To prevent static discharge damage, service the product only in a static-free environment. Observe standard handling precautions for static-sensitive devices while installing this kit. Always wear a grounded wrist strap, grounded foot strap, and static resistant apparel while installing this kit.*

Remove

Complete the following steps to remove the top cover from the chassis.

1. Disconnect the power cord from the rear of the instrument.
2. Remove the six Pozidriv screws holding the top cover to the chassis. Do not remove the two screws that hold the small access plate on the left side.
3. Remove the cover from the instrument.

Install

Complete the following steps to replace the low pass filters and the accompanying components.

1. Refer to Figure 1 and locate R13 and R18 on the A2 main circuit board.
2. Use the diagonal cutters to remove both resistors from the circuit board.
3. Locate R20 and R22. Unsolder both resistors and replace them with the new 665 Ω resistors.
4. Locate the two low-pass filters (FL2 and FL3). Unsolder and replace the old low-pass filters with the new low-pass filters.

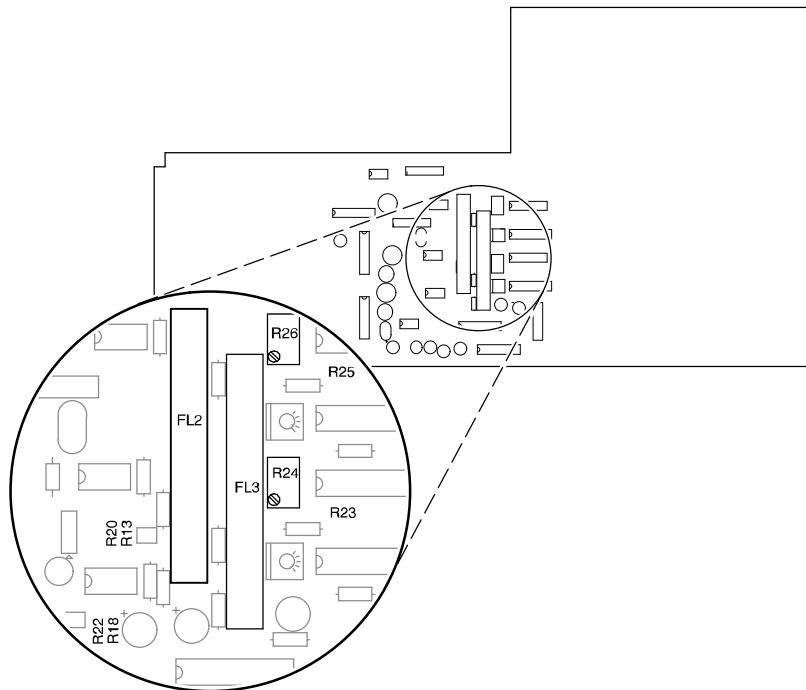


Figure 1: Component locations on the main circuit board

5. Locate R23 and R25 on the circuit board.
6. Unsolder and remove both resistors.

7. Refer to Figure 2 and solder one end of the new R23 to C94. Do not allow the resistor lead to touch the original hole in the circuit board.
8. Solder the other end of the new resistor to the other hole in the circuit board (the left-most hole).
9. Refer to Figure 2 and solder one end of the new R25 to C95. Do not allow the resistor lead to touch the original hole in the circuit board.
10. Solder the other end of the new resistor to the other hole in the circuit board (the left-most hole).
11. Verify that all connections are correct.
12. Clip off any access leads from the newly installed resistors.

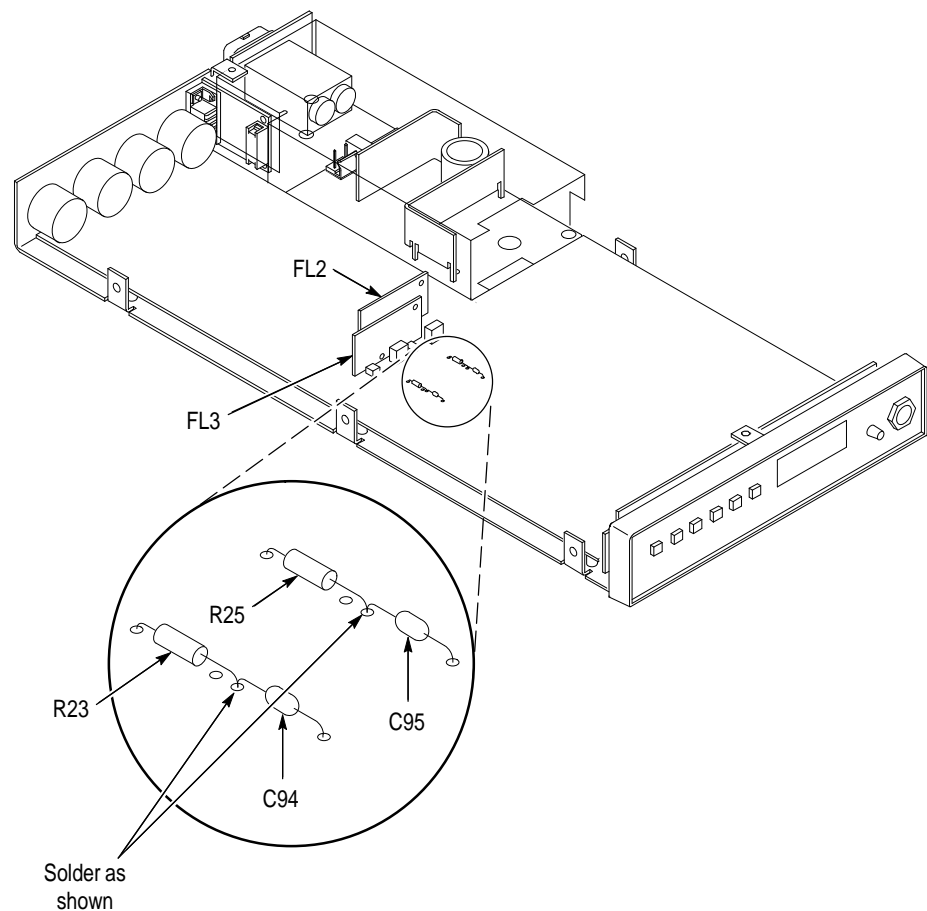


Figure 2: Installing and soldering R23 and R25

Calibrate

After completing the replacement procedures, you must perform the Gain adjustment to ensure proper operation. For complete adjustment procedures and performance verification procedures, refer to the *Verification and Adjustment* procedures in the *ASG140 Service Manual* or in the *ASG 100 Instruction Manual*.



WARNING *Dangerous potentials exist at several points within the power supply of this instrument. Do not touch any exposed connections or components when operating the instrument without the top cover.*

Prepare the Instrument

1. Set S1 switch section 8 (PROG7) to the up position.

The ASG front panel controls are enabled when the PROG7 switch is in the up position.

2. Connect the power cord to the instrument and turn on the power switch.
3. Check that DS1, near the power supply connector, turns on.

Adjust the Gain

1. Connect the AUDIO OUT RIGHT output of the ASG to the RMS meter through an XLR-female-to-banana connector adapter cable.

Pin 1 is ground, pin 2 is the + output, and pin 3 is the – output of the ASG instrument.

2. Set the RMS meter to measure rms voltage (unterminated).

Use either Auto Range or an appropriate range setting to measure the expected rms voltage.

3. Set the ASG as follows:

MANUAL	R Tone
AMPLITUDE	+14 dBu
FREQUENCY	1000 Hz
SIGNAL ON (ON LINE for ASG 100)	LED lit and OUTPUT \geq 775 mV(rms) LED flashes

4. Adjust the Right Channel Gain potentiometer, R24 (see Figure 1 on page 6 for location), for an output amplitude of 3.8822 volts.

5. Press SIGNAL ON (ON LINE for the ASG 100) to turn the test signal off (LED off).
6. Disconnect the XLR connector from the right channel and move it to the AUDIO OUT LEFT connector.
7. Set the ASG MANUAL test signal to L Tone and press SIGNAL ON (ON LINE for the ASG 100) to turn the test signal on.
8. Adjust the Left Channel Gain potentiometer, R26, for an output amplitude of 3.8822 volts.
9. Press SIGNAL ON (ON LINE for the ASG 100) to turn the test signal off (LED off).
10. Disconnect the test cable from the RMS meter.

Reassemble

Reinstall the top cover and the six screws.

Verify Operation

Connect the power cord to the rear on the instrument. Power-on the instrument and verify that the diagnostics pass.

■ End of document ■

