

PARTS REPLACEMENT KIT

RF OSCILLATOR TUBE Y1506



For Tektronix Type 1L20
Spectrum Analyzers

Serial numbers 100-519

DESCRIPTION

RF Oscillator tube Y1641 (154-0506-00) replaces
RF Oscillator tube Y1506 (154-0499-00) offering
improved stability.

The Y1641 tubes used to replace the Y1506 tubes
have different filament voltage and current require-
ments, making the following additional changes
necessary.

- 1) Both the High and Low band oscillator tubes
must be replaced with the new type.
- 2) A 470Ω resistor is added in parallel with the
filament of each oscillator tube.
- 3) R49, the filament dropping resistor, must be
changed from 225Ω to 267Ω .

NOTE: If the serial number of your instrument
is above those listed, or if this kit has been
installed, disregard the instructions as PN
154-0506-00 is a direct replacement.

050-0348-00

Publication:
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050-0348-00

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PARTS LIST

Quantity	Part Number	Description
2 ea	154-0506-00	Tube, vacuum, Y1641
1 ea	210-0601-00	Eyelet, 0.190-0.183 OD
1 ea	211-0553-00	Screw, 6-32 x 1-1/2 RHS
1 ea	308-0440-00	Resistor, WW, 267 Ω 10W 5%
3 ea	315-0471-00	Resistor, comp, 470 Ω 1/4 W 5%

INSTRUCTIONS

- () 1. Disconnect the coax connectors and unsolder the four wires. See Fig.1 below.
- () 2. Remove the RF CENTER FREQUENCY knob, front panel bushing, the rear support bracket, and the RF Oscillator/Dial assembly from the plug-in.

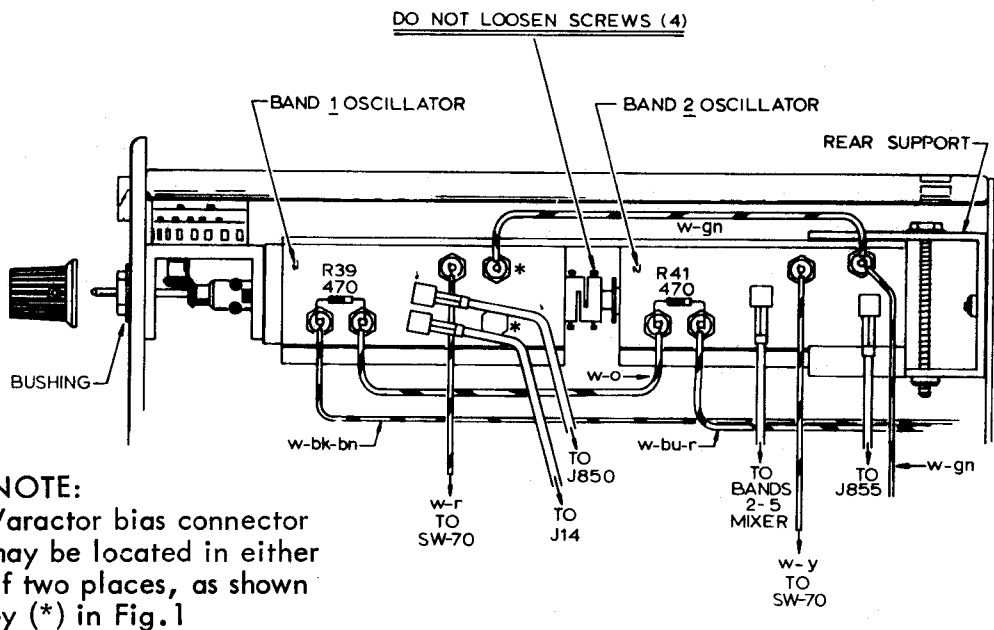


FIG. 1

INSTRUCTIONS (cont)

- () 3. Remove the oscillator assembly covers. See Fig. 2.

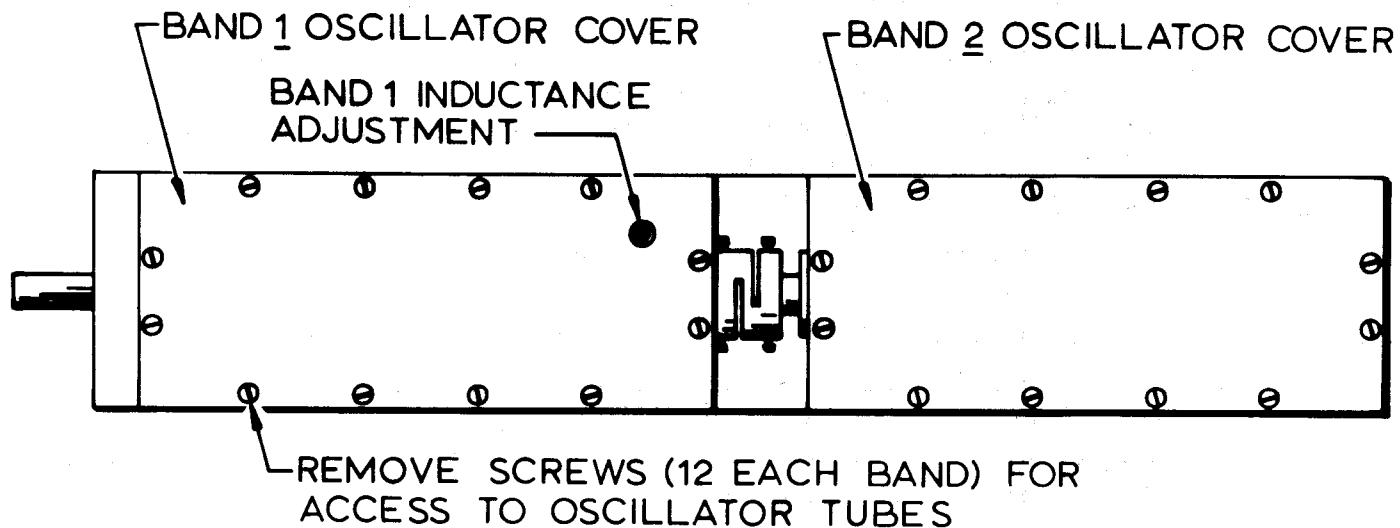


FIG. 2

- () 4. Replace the 0.27 pF capacitor, located between the cathode of the Band 2 Oscillator tube and ground, with a 470Ω 1/4W 5% resistor from the kit. See Fig. 3.

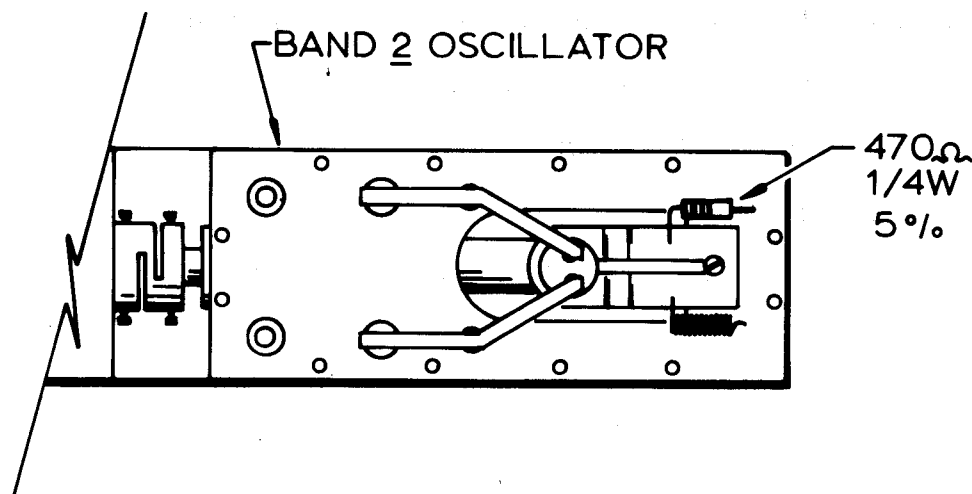


FIG. 3

INSTRUCTIONS (cont)

5. Fig. 4 shows the installation detail of the Band 1 and Band 2 oscillator tubes.

() REPLACE BOTH BAND 1 AND BAND 2 OSCILLATOR TUBES.

EXTREME CARE must be taken when replacing the ceramic triodes to prevent springing the contacts out of alignment, and to prevent damaging the cathode connection to the tube. Using a small screwdriver, carefully push the tubes out of the sockets, and install the new tubes as follows:

DO NOT FORCE TUBE INTO SOCKET

- () a) Use a small screwdriver to hold the filament contacts up to allow the tube to be installed.
- () b) Holding the tube vertically, insert the grid ring into the slots in the socket.
- () c) Continue installing, and make sure the cathode slot aligns with the cathode contact slot on the tube, and push in all the way.
- () d) Rotate the tube to align the filament connections with the contacts, and remove the screwdriver used to hold contacts up.
- () e) Replace the covers.
- () 6. Reconnect the coax connectors, resolder the wires removed in step 1, and install R39 and R41, two 470Ω 1/4W 5% resistor (from kit), as shown in Fig.1 on page 5.
- () 7. Replace R49, a 225Ω 10W chassis-mounted resistor located on the rear panel, with the 267Ω 10W resistor from the kit. Use the new eyelet and 6-32 screw from the kit.
- () 8. Refer to your Instruction Manual and recalibrate as necessary.
- () 9. Reverse the procedure of step 2, and install the Oscillator/Dial assembly.

THIS COMPLETES THE INSTALLATION.

- () Check wiring for accuracy.
- () Fasten the insert pages in your Instruction Manual.

JT:ls

INSTRUCTIONS (cont)

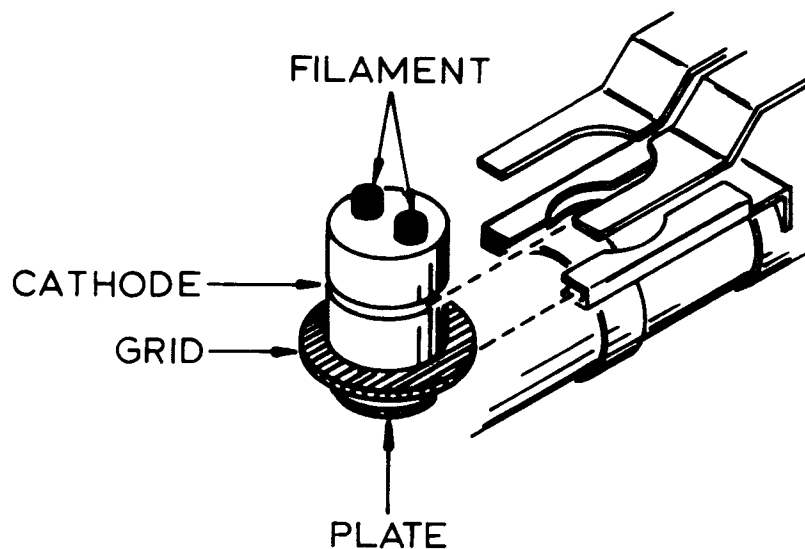


FIG. 4

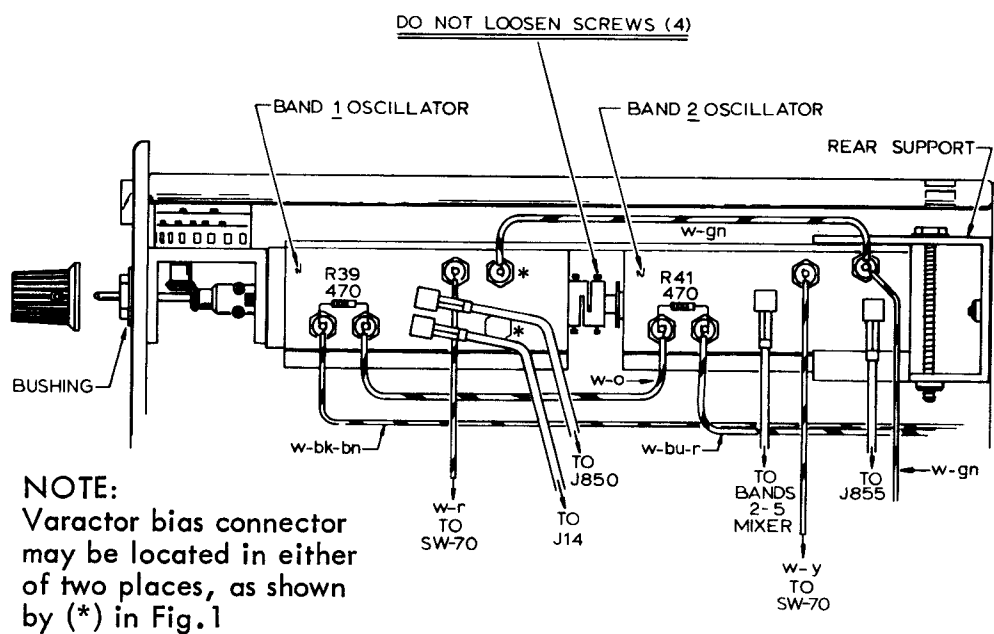


FIG. 1

(same as Fig.1 on page 2)

RF OSCILLATOR TUBE Y1506

Type 1L20 -- SN 101-519

Installed in Type 1L20 SN _____ Date _____

GENERAL INFORMATION

RF Oscillator tube Y1641 (154-0506-00) replaces RF Oscillator tube Y1506 (154-0499-00) offering improved stability.

The Y1641 tubes, used to replace the Y1506 tubes, have different filament voltage and current requirements, making the following addition changes necessary:

- 1) Both oscillator tubes must be replaced at the same time.
- 2) A 470 Ω resistor is added in parallel with the filament of each of the oscillator tubes.
- 3) R49, the filament dropping resistor, must be changed from 225 Ω to 267 Ω .

ELECTRICAL PARTS LIST

Only new or changed parts listed.

RESISTORS

Resistors are 1/4 W 5% composition unless otherwise indicated.

Ckt.No.	Part Number	Description
R39	315-0471-00	470 Ω
R41	315-0471-00	470 Ω

TUBES

V40	154-0506-00	Y1641	vacuum
V41	154-0506-00	Y1641	vacuum

RESISTORS

Ckt.No.	Part Number	Description
R49	308-0440-00	267 Ω 10W WW 5%

SCHEMATICS

