product modification

050-0876-10

M30179

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CRT REPLACEMENT

For the following TEKTRONIX® instruments:

7623A	Serial Numbers	B010100 - B159999
R7623A	Serial Numbers	B010100 - B159999

Cathode-ray tube (crt), pn 154-0723-00, and several components are necessary to replace V1265 (crt). To compensate for the range of crt operating levels, the bistable operational amplifier circuitry requires modification to increase the adjustment range.

NOTE

If the oscilloscope serial number is greater than those listed above or if any version of this kit or Modification kit, pn 040-0833-XX, has been previously installed, disregard the instructions and use crt, pn 154-0723-00, as a direct replacement for V1265.

KIT PARTS LIST:

Ckt. Number	Quantity	Part Number	Description
Q1718	1 ea	151-0301-00	Transistor, pnp, Si, 2N2907A
Q1708 Q1711 Q1723 Q1828	4 ea	151-0624-00	Transistor, npn, Si
V1265	1 ea	154-0723-00	Electron tube, crt
C1713	1 ea	281-0661-00	Capacitor, cer, 0.8pF ±0.1pF, 500V
R1705	1 ea	315-0113-00	Resistor, cmpsn, 11kΩ, 5%, 0.25W
R1701	1 ea	315-0912-00	Resistor, cmpsn, 9.1kΩ, 5%, 0.25W
R1687	1 ea	321-0339-00	Resistor, film, 33.2kΩ, 1%, 0.125W
R1654	1 ea	321-0416-00	Resistor, film, 210Ω, 1%, 0.125W
	1 ea	----- -----	Label, 050-kit

INSTRUCTIONS:

WARNING

Before proceeding, ensure the mainframe power switch is in the off position, then disconnect the instrument from the power source.

WARNING

Use care when handling a crt. Protective clothing and safety glasses should be worn. Avoid striking the crt on any object which might cause it to crack or implode. Store a crt in a protective carton or face down in a protected location on a soft mat to protect the faceplate from scratches.

NOTE

These instructions assume a certain familiarity with the instrument. If greater details are required for assembly or disassembly, refer to the instrument Instruction Manual.

( ) 1. Remove all plug-in units (necessary for R7623A).

( ) 2. Remove the oscilloscopes covers -- two side covers for 7623A or top cover for R7623A.

CRT REPLACEMENT

( ) 3. Remove the attaching screws for the low voltage regulator subassembly and pull the subassembly out the rear of the instrument. It is not necessary to completely remove the subassembly or disconnect the wiring.

( ) 4. Disconnect the socket from the rear of the crt.

( ) 5. Loosen the crt ring clamp screws (one on each side of the crt) until the spring tension is released; then, press in on the screws to ensure the crt clamp is loose.

( ) 6. Disconnect the crt deflection plate leads, taking care not to bend the crt neck pins.

( ) 7. Disconnect the crt anode plug from the jack coming from the high voltage compartment. Ground these leads to the chassis to dissipate any stored charge.

( ) 8. Disconnect P1830, a 7-pin connector, from the Storage circuit board. P1830 is located near vertical center near the rear of the board. Removal of the Storage access cover on the R7623A oscilloscope will facilitate access to the Storage circuit board.

( ) 9. Remove the crt mask frame from the front of the crt.

( ) 10. Remove the four screws securing the crt bezel.

( ) 11. Remove the crt light filter, metal mask, bezel, implosion shield and plastic mask.

( ) 12. Hold one hand on the crt faceplate and push forward on the crt base (rear) with the other. As the crt starts to move out from the shield, grasp the crt firmly. Guide the anode lead and the Storage multi-pin connector through the cutout in the crt shield as the crt is being removed.

( ) 13. Insert the new crt into the shield, guiding the anode lead and the storage multi-pin connector (P1830) through the cutout in the crt shield.

( ) 14. Clean the crt faceplate, implosion shield and light filter with a soft, lint-free cloth dampened with alcohol (methyl, ethyl or isopropyl).

( ) 15. Ensure the graticule light reflector is in place, then install the plastic mask, implosion shield, bezel, metal mask and light filter.

( ) 16. Tighten the crt bezel screws.

( ) 17. Install the crt frame mask by pushing in until it snaps into place.

( ) 18. Connect the crt anode plug.

( ) 19. Push on the crt base to ensure the crt is as far forward as possible. Tighten the crt ring clamp screws until the springs are compressed. Tighten each screw a few turns at a time to evenly distribute the tension.

( ) 20. Connect the crt base socket.

( ) 21. Install the low voltage regulator subassembly.

( ) 22. Carefully connect the deflection plate connectors. After installing each connector, lightly pull on each lead to ensure the connector will remain in place.

STORAGE CIRCUIT BOARD MODIFICATION

( ) 23. Disconnect the multi-pin connectors from the Storage circuit board (A14). Note the color coding and location of the connectors for reassembly.

( ) 24. Remove the Storage circuit board attaching screws, then remove the board.

( ) 25. Replace the following components on the Storage circuit board with the indicated components from the kit (refer to Fig. 1 for component locations):

( ) a. C1713, a 1.8pF ceramic tubular-type capacitor near Q1810, with the 0.8pF tubular-type capacitor.

( ) b. R1701, a 15kΩ resistor between Q1701 and Q1708, with the 9.1kΩ, 0.25W composition resistor.

( ) c. R1705, a 16kΩ resistor near Q1704, with the 11kΩ, 0.25W composition resistor.

( ) d. R1654, a 200kΩ resistor near R1689 (Bistable Op Level adjustment), with the 210kΩ, 0.125W metal film resistor.

( ) e. R1687, a 42.2kΩ resistor near Q1697, with the 33.2kΩ, 0.125W metal film resistor.

( ) f. Q1718, a pnp transistor (pn 151-0188-00) near the top edge of the board, with the 2N2907A transistor.

( ) g. Q1708, Q1711, Q1723 and Q1828, npn transistors (pn 151-0347-00), with the four, npn transistors (pn 151-0624-00).

( ) 26. Install the Storage circuit board and connect all multi-pin connectors, including P1830 from the crt.

( ) 27. Refer to the Performance Check/Calibration Section (5) of the Instruction Manual and check oscilloscope operation, making any necessary adjustments.

( ) 28. Install the covers.

( ) 29. Remove the protective backing from the 050-kit label, included in the kit, and apply it to a clean, dry area on the rear panel. The label indicates installation of this kit for future reference.

( ) 30. For future reference, correct the Replaceable Electrical Parts list and Calibrator & Storage schematic 10 to agree with the information included in the kit parts list (page 2).

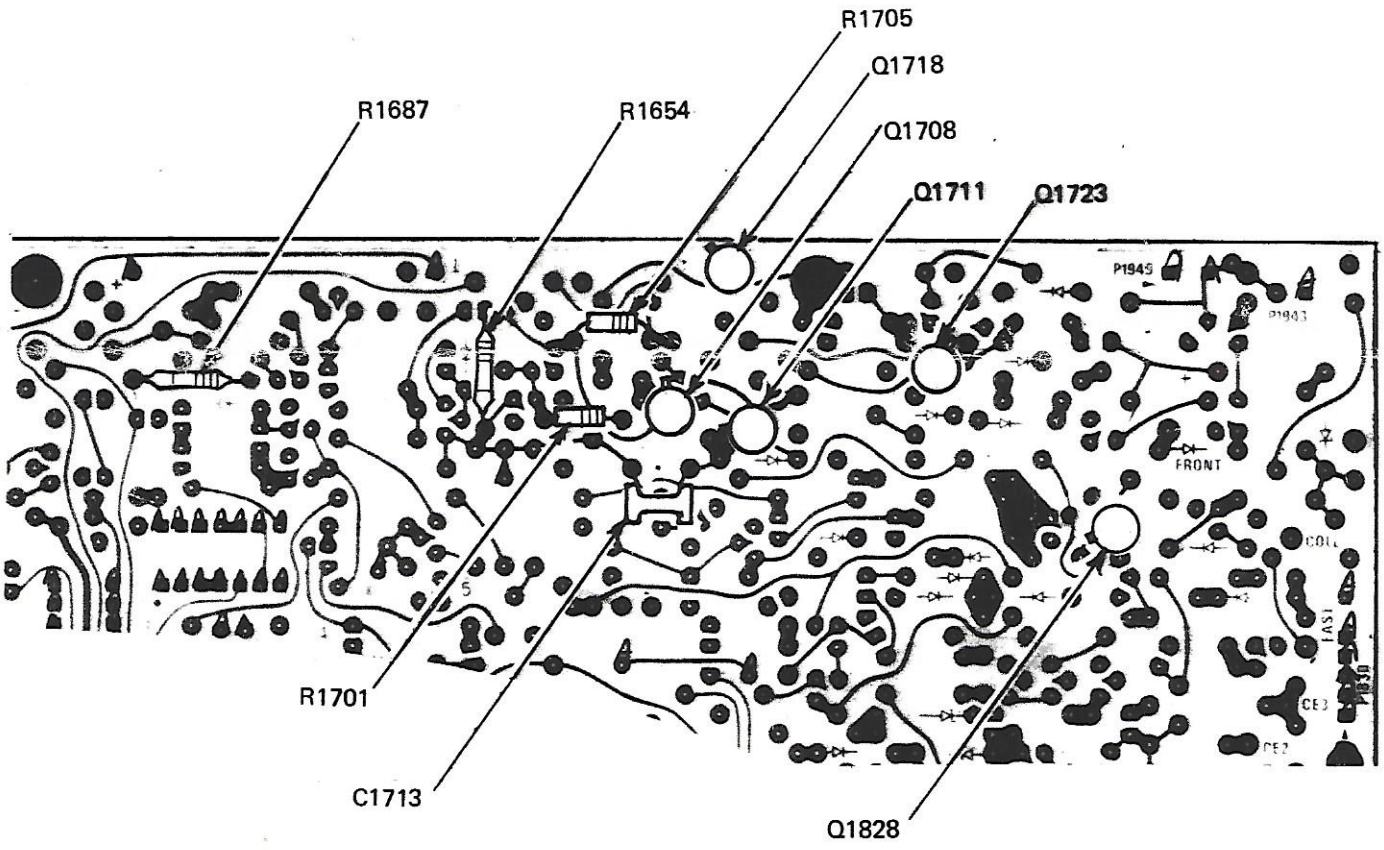

Fig. 1. Storage Circuit Board Component Locations.