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M32136

For TEKTRONIX® 5L4N Spectrum Analyzers

Serial Numbers B010100 - B071703

This modification kit contains parts and instructions to provide the following:

- 1) Relocates the power transistors from the Vertical and Horizontal Interface circuit boards to the new rear panel to provide heat sinking for the transistors.
- 2) Adds steering diodes to the inputs of the + and - 38-volt power connections to allow the 5L4N to be operated in the left plug-in slots in the 5223 Digitizing Mainframes.

PARTS INCLUDED IN MODIFICATION KIT:

Ckt. No.	Quantity	Part Number	Description
Q695	1 ea		Assembly, rear panel, consisting of:
	1 ea	151-0334-00	Transistor, NPN, Si, MJE520
Q1260	2 ea	151-0335-00	Transistor, PNP, Si, MJE370
Q1265	3 ea	210-0586-00	Nut, Assem, Wa, 4-40 x 0.25
	3 ea	211-0097-00	Screw, 4-40 x 0.312 pan-head
	3 ea	342-0202-00	Plate, insulator, transistor, mica
	1 ea	386-3055-01	Panel, rear, 5L4N
	1 ea	198-4602-00	Wire kit, elec
C714	1 ea	281-0546-00	Capacitor, cer, 330pF 10% 500V
A1250	1 ea	670-3429-01	Circuit board, Horizontal Interface
A690	1 ea	670-3431-01	Circuit board, Vertical Interface

INSTRUCTIONS:

- () 1. Remove the left and right side electrical shields.
- () 2. Disconnect the three-wire ribbon cable from P63 on the A50 Hi-Lo Input Impedance circuit board.
- () 3. Remove the eight (four on the top and four on the bottom), 4-40 x 0.188 inch, 100°, flat-head screws that fasten the swing-out chassis to the top and bottom center frame sections.
- () 4. Remove the 2-56 x 0.188 inch, 82°, flat-head screw that fastens the top rear frame section to the spacer post at the top of the A690 Vertical Interface circuit board.
- () 5. Remove the three, 4-40 x 0.188 inch, 100° flat-head screws that fasten the top rear frame section to the center frame section.
- () 6. Remove the four, 6-20 x 0.313 inch, pan-head screws that fasten the rear panel to the top and bottom rear frame sections and remove the top rear frame section.
- () 7. Remove the 2-56 x 0.188 inch, pan-head screw that fastens the rear panel to the spacer post in the center of the Vertical Interface circuit board.
- () 8. Remove the two, 2-56 x 0.25 inch, pan-head screws that fasten the A1300 Transverse Interface circuit board to the rear panel and remove the rear panel.

NOTE

The screws are accessible from the inside.
Remove the top screw and then turn the
instrument over and remove the bottom screw.

- () 9. Disconnect the multi-wire ribbon cables from the A1250 Horizontal Interface circuit board and remove the Horizontal Interface circuit board.
- () 10. Remove the 2-56 x 0.188 inch, 82°, flat-head screw that fastens the bottom rear frame section to the spacer post at the bottom of the A690 Vertical Interface circuit board, and carefully unplug the Vertical Interface circuit board from the A1300 Transverse Interface circuit board.
- () 11. Install the new A690 Vertical Interface circuit board and reinstall the #2 screw removed in step 10.
- () 12. Connect one end of the following three-ribbon cables to the A1250 Horizontal Interface circuit board:

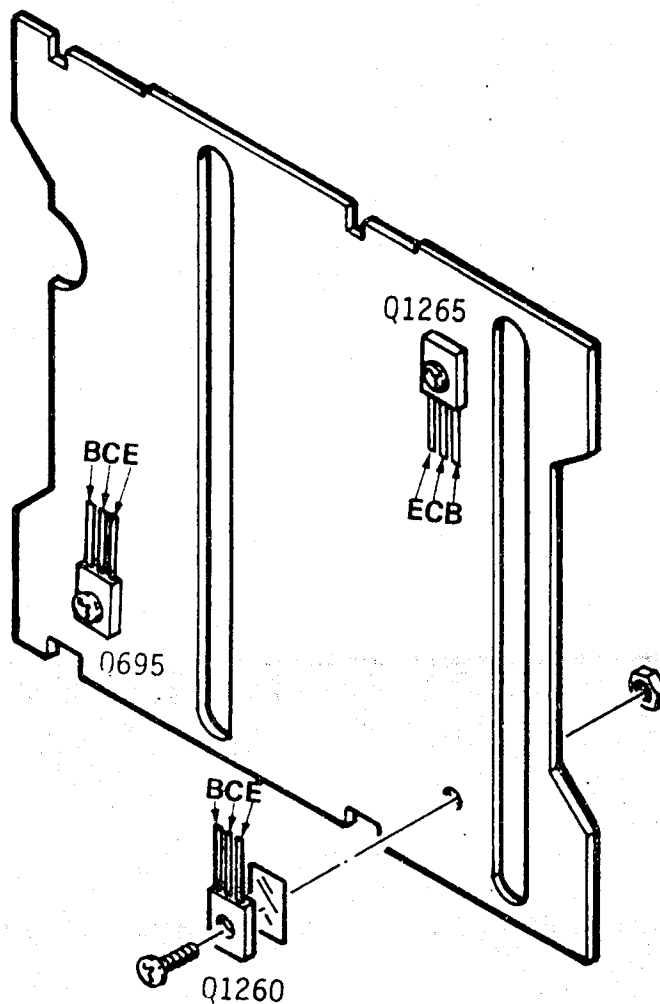
CAUTION

Be sure the arrow (pin 1) on the connector
connects to the arrow on the circuit board.

- () a. Three-wire ribbon cable with brown holder to P1265
- () b. Three-wire ribbon cable with red (pink) holder to P1261
- () c. Two-wire ribbon cable with black holder to P1264.
- () 13. Install the new A1250 Horizontal Interface circuit board and reconnect the ribbon cables disconnected in step 9.
- () 14. Run the other end of the two-wire ribbon cable connected to P1264 thru the hole in the A1150 Main Mother circuit board and connect it to P690 on the A690 Vertical Interface circuit board.

() 15. Connect the ribbon cables to the transistors on the rear panel as follows:

- () a. Cable from P1265 (closest to top of A1250) to Q1265 (bottom left) with the brown wire connected to the lead of Q1265 closest to the center of the rear panel.
- () b. Cable from P1261 to Q1260 with the brown wire to the lead of Q1260 closest to the left edge of the rear panel
- () c. Cable from P690 to Q695 with the brown wire connected to the lead of Q695 closest to the right side of the rear panel.



Partial - 386-3055-01 REAR PANEL

- () 16. Reinstall rear panel and top rear frame section as follows:
- () a. The two, 2-56 x 0.25 inch, pan-head screws that fasten the A1300 Transverse Interface circuit board to the rear panel.
 - () b. The 2-56 x 0.188 inch, pan-head screw that fastens the spacer post near the center of the Vertical Interface circuit board.
 - () c. The three, 4-40 x 0.188 inch, 100°, flat-head screws that fasten the top rear frame section to the center frame section.
 - () d. The four, 6-20 x 0.313 inch, pan-head screws that fasten the rear panel to the top and bottom frame sections.
 - () e. The 2-56 x 0.188 inch, 82°, flat-head screw that fastens the top rear spacer post on the Vertical Interface circuit board to the top rear frame section.
 - () f. The 2-56 x 0.188 inch, 82°, flat-head screw that fastens the bottom spacer post on the Vertical Interface circuit board to the bottom rear frame section.
- () 17. Reconnect the three-wire ribbon cable, disconnected in step 3, to P63 on the A50 Hi-Lo Input Impedance circuit board.
- () 18. Install C714, a 330pF ceramic capacitor, in parallel with R714 on the Sweep Generator circuit board. R714 is a 174k Ω resistor connected to S715, the MNL pushbutton and is located in line with S715.

Refer to the Calibration procedure in your Instruction Manual and Adjust the + and - 15-volt power supplies.

For future reference, fasten the Instruction Manual Modification Insert in your Instruction Manual.

JT:pa