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**TEK** PRODUCT  
MODIFICATION

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Part No. 050-2760-00  
Product Group 40

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M71709

# 050 KIT

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Power Supply  
Circuit Board  
Replacement

222      B010100 - B016225

A new Power Supply circuit board, pn 671-0061-01, replaces all previous versions of the Power Supply circuit board which are no longer available. R479, a 2.21 k $\Omega$  surface mount resistor, must be removed from the new Power Supply circuit board when using the new circuit board in an instrument below serial number B016226 and that has not had the Front Panel and CPU/Display Board Replacement kit installed.

## NOTE

*If the instrument serial number is greater than those listed above, or if this kit or 050-2700-XX has been installed previously, disregard the instructions and use pn 671-0061-01 as a direct replacement for the Power Supply circuit board.*

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**Kit Parts List:**

<b>Ckt. Number</b>	<b>Quantity</b>	<b>Part Number</b>	<b>Description</b>
A50A1	1 ea	671-0061-01	Circuit Board Assembly: Power Supply
	1 ea	-----	Label: kit identification

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**Instructions**

*Many components within this instrument are extremely susceptible to static-discharge damage. Service the instrument only in a static-free environment and always wear a grounded wrist and foot strap. Observe standard handling precautions for static-sensitive devices while installing this kit.*

**NOTE**

*These instructions assume a certain familiarity with the 222 Digital Storage Oscilloscope. If additional disassembly or assembly details are required, refer to the 222 Service Manual. Disassembly should only be attempted by qualified service personnel.*

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## Top Cabinet Removal

- Step 1:** Remove the six front panel knobs using a 1/16 inch Allen (hex) wrench.
- Step 2:** Open the battery compartment, then disconnect and remove the battery.
- Step 3:** Place the 222 on its top on a flat anti-static work surface.
- Step 4:** Remove the five screws (three long and two short) from the bottom cabinet using a T15 Torx-drive screwdriver.
- Step 5:** Remove the two hexagonal standoff posts from the RS-232 connector on the rear panel using a 3/16 inch open-end wrench or nutdriver.
- Step 6:** Turn the 222 over and set it down with the front panel facing you.
- Step 7:** Pull the bottom of the front panel assembly out until it clears the bottom cabinet half. Then, disengage the top of the front panel from the top cabinet half and pull the Front Panel assembly slightly away from the instrument (extending the connection cable only about an inch).
- Step 8:** Lift the top cabinet half off the instrument.

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## Power Supply Board Replacement

- Step 9:** Pull the probe cable retaining assembly out of the slots in the bottom cabinet half and push the probe cables back to provide more clearance.



*The crt is a high-vacuum component. Wear the proper eye protection when handling the crt. Use care not to place excessive strain on the neck or connector pins. Place the crt in a protected location while it is out of the instrument.*

- Step 10:** Pull up on the front of the Power Supply board to disconnect the Power Supply board from the connectors on the Main board, then lift the Power Supply board and crt out of the bottom cabinet half.
- Step 11:** Gently disconnect the crt socket from the crt and set the crt aside.
- Step 12:** Transfer the crt socket assembly from the old Power Supply board to the new Power Supply board included in this kit.

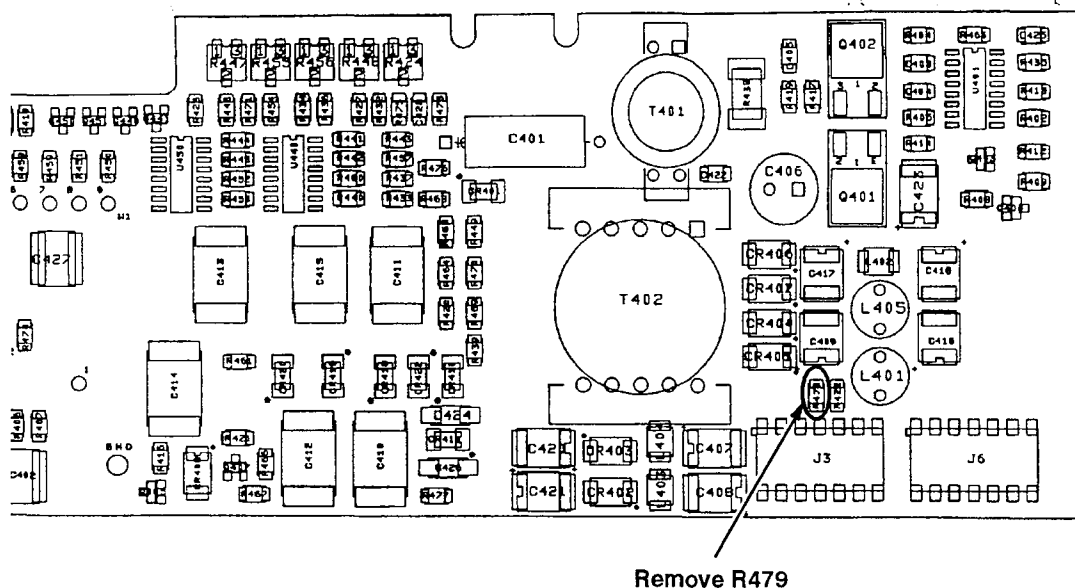


Figure 1: Location of R479 on the New Power Supply Board

- Step 13:** Unsolder and remove R479, the 2.21 k $\Omega$  surface mount resistor located directly above J3 on the new Power Supply circuit board. Refer to Figure 1.
- Step 14:** Plug the crt into the crt socket.

## Assembly

- Step 15:** Position the crt and Power Supply board assembly into the bottom cabinet half.
- Step 16:** Align the intensity potentiometer shaft with the hole through the rear of the bottom cabinet half, and align the two connectors near the front of the Power Supply board with the pins on the Main board.
- Step 17:** Press down on the Power Supply board to mate the connector pins.
- Step 18:** Transfer the INTENSITY knob extension from the old Power Supply board to the intensity potentiometer shaft on the new Power Supply board.
- Step 19:** Align the neck support bracket with the guide post in the bottom cabinet half, the slots on the Power Supply and CPU/Display boards, and the square holes on the Acquisition board housing, then lower the crt into place.
- Step 20:** Insert the probe retaining assembly into the slot in the bottom cabinet half.

- Step 21:** Refer to the Adjustment Procedure in the 222 Service Manual and recalibrate as required.
- Step 22:** Ensure the probe leads and the circuit boards are all positioned correctly for installation of the top cabinet half.
- Step 23:** Position the top cabinet half on the bottom cabinet half and carefully align the two halves.

**NOTE**

*Be sure the strap handle is properly captured between the top and bottom clips in the cabinet halves.*

- Step 24:** Hold the two halves of the cabinet together and turn it over.
- Step 25:** Install the three long screws at the rear and center of the cabinet. Do not overtighten.
- Step 26:** Guide the pot shafts through the Front Panel board with the top of the Front Panel assembly angled toward the top cabinet half. The five slots on the top of the Front Panel assembly must catch on the five tabs on the top cabinet half.
- Step 27:** With the top of the Front Panel assembly caught, press the bottom of the Front Panel assembly over the front edge of the bottom cabinet half.
- Step 28:** Install the two short screws that hold the Front Panel assembly to the bottom cabinet half.

**CAUTION**

*Do not overtighten the hexagonal standoff posts when installing them in the RS-232 connector. The recommended torque is 3.5 in/lbs.*

- Step 29:** Install the two hexagonal standoff posts in the RS-232 connector on the rear panel. Tighten only until snug.
- Step 30:** Install the battery and press the power ON button to ensure the instrument powers on.
- Step 31:** Turn off the oscilloscope and close the battery compartment cover.

- Step 32:** Install the three larger Front Panel knobs. Leave enough space between the large knobs and the Front Panel so that positive switching occurs when the knobs are turned.

**NOTE**

*Do not overtighten the set screws in the knobs. Excessive pressure can burr the shafts and make them difficult to remove.*

- Step 33:** Install the three smaller Front Panel knobs. Leave enough space between the large knobs and the smaller knobs so that positive switching occurs when the knobs are pressed in.
- Step 34:** Remove the protective backing from the kit identification label, included in this kit, and place the label on a clean, flat surface of the bottom cabinet. The label indicates this kit has been installed.
- Step 35:** For future reference, update the Replaceable Parts list in the 222 Service Manual with the information provided in the parts list of this kit.