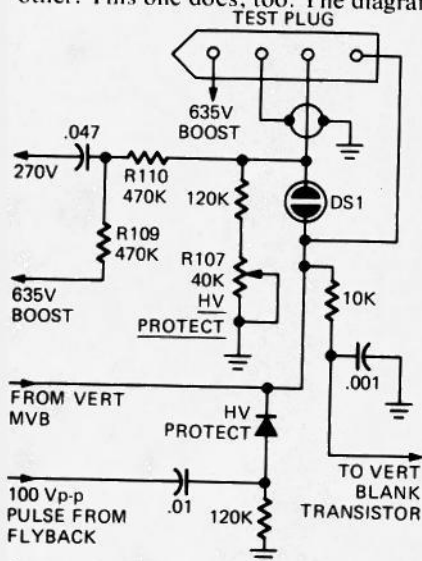


HV PROTECTION CIRCUIT

Hey; I'm in hot water again. This time it's an almost new RCA CTC-63XC with brightness problems. If I turn the brightness control or contrast control down, the raster will cut off. Won't come on again until I turn the set off and on. Everything I check seems normal; waveforms, etc. HALP!—C.C., Baton Rouge, La.

Well, you know what they say; stay in hot water long enough and you get pretty hard-boiled. Let's see. This sounds familiar.

Many late model sets have "protection circuits" built into them, to comply with some HEW regulation or other. This one does, too. The diagram



shows the high-voltage circuitry. RCA's service data says "With a synced picture, connect a 5-megohm precision resistor across R109-R110. The neon bulb DS1 should fire, and produce a blank or no-raster condition." The variable resistor, R107, is the control for this circuit, I'm almost certain. Seems to be able to set the threshold for the cutoff action (which cuts off the raster by biasing the video, through the vertical blanker).

Check this; if the neon lamp is firing, the circuit is getting just a little too eager about protecting you! You should be able to adjust it, with R107, to a point where it won't trigger on normal brightness or contrast changes. If not, the neon lamp may be defective; some of these will get erratic and fire at different voltages. Replace it. **R-E**