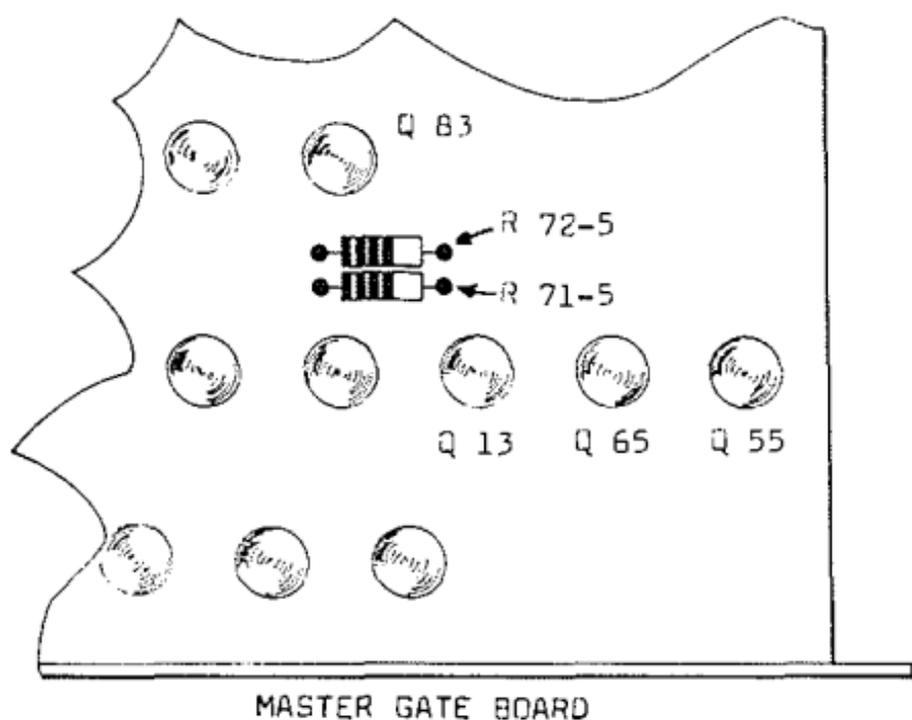
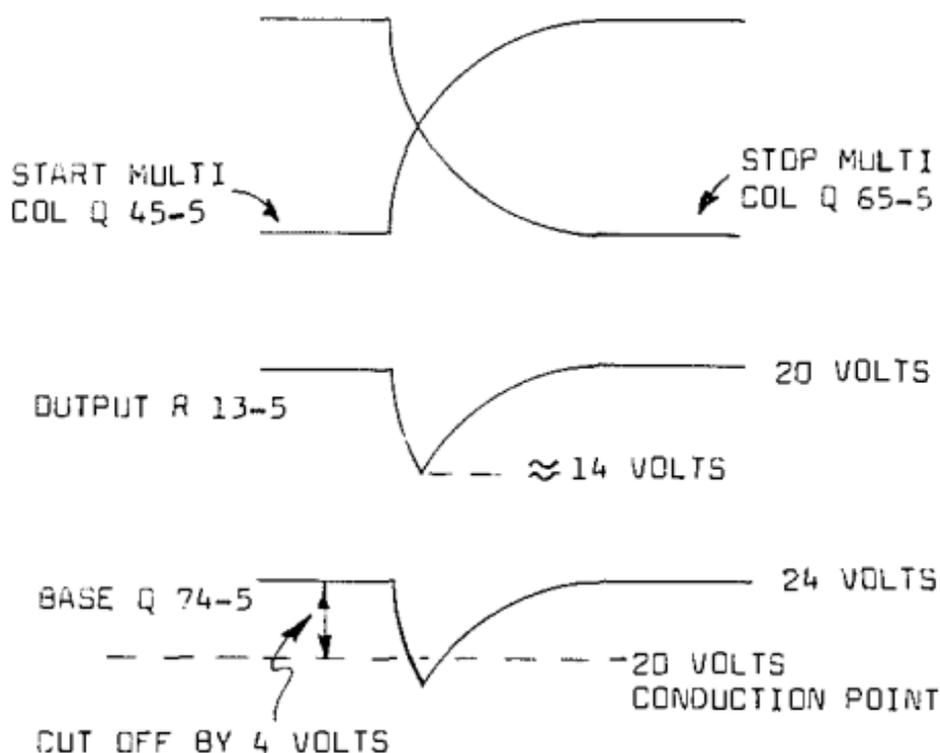


TYPE 6R1 DIGITAL UNIT —SPURIOUS COUNT



Type 6R1's employing a Model 2A, Series 5, Master Gate circuit board will produce a spurious (one extra) count during the reset phase of the Start and Stop multi-vibrators. This shows up when making voltage measurements with either a Type 3S76 Dual-Trace Sampling Unit or a Type 3S3 Sampling-Probe Dual-Trace Unit in the vertical plug-in compartment of the Type 567 Digital Readout Oscilloscope. It is most apparent when the MV/DIV control of these units is in any (except the most sensitive) "5" position.

To check for this problem, apply a waveform to the A or the B INPUT of the Type 3S76 (or Type 3S3) unit in the Type 567 and set the unit's MV/DIV control to a "5" position. Set the RESOLUTION control of the 6R1 to AVERAGE OF 10 SWEEPS — HI. Depending upon the INPUT (A or B) to which you applied the waveform, reverse the polarity of the A VOLTAGE or the B VOLTAGE switch of

the 6R1. The Nixie tubes should then read 0000 — if they do not, the Master Gate is producing a spurious count.

To correct this condition, — and we suggest here that you refer to the Master Gate schematic in the Type 6R1 manual — replace R72, a 1 meg, $\frac{1}{2}$ w, 5% resistor with a 470 k, $\frac{1}{2}$ w, 5% resistor (Tektronix part number 301-474).

This problem stems from the fact that

the Start multivibrator does not completely reset before the Stop multivibrator and produces a 6 volt negative pulse across the R13 resistor. The transistor Q74 is reverse biased by about 4 volts which is not enough to stop the 6 volt pulse. Changing the R72 resistor from 1 meg to 470 k raises the bias of Q74 to 9 volts enabling it to effectively block the 6 volt pulse and thus overcome the problem.