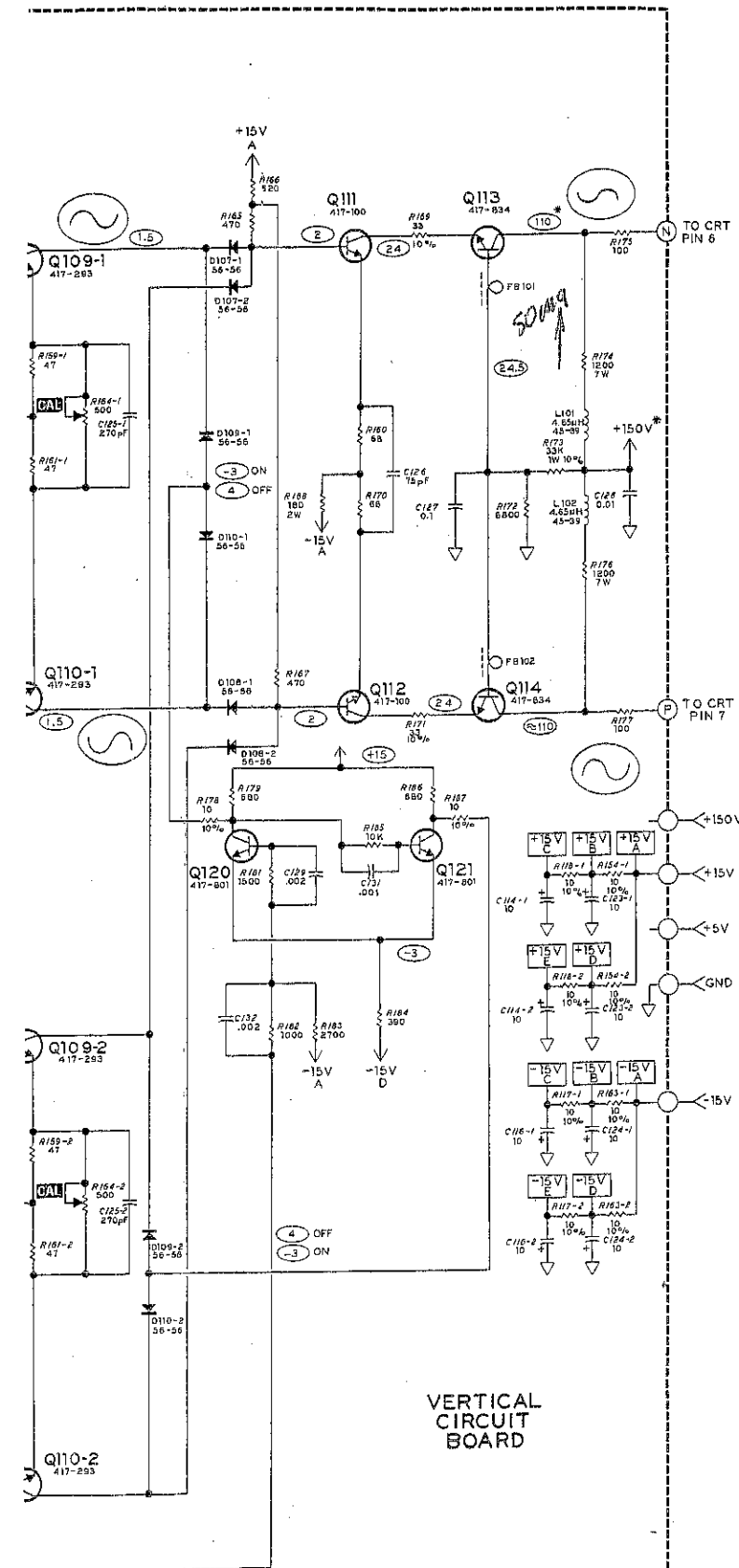
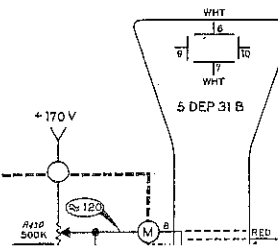


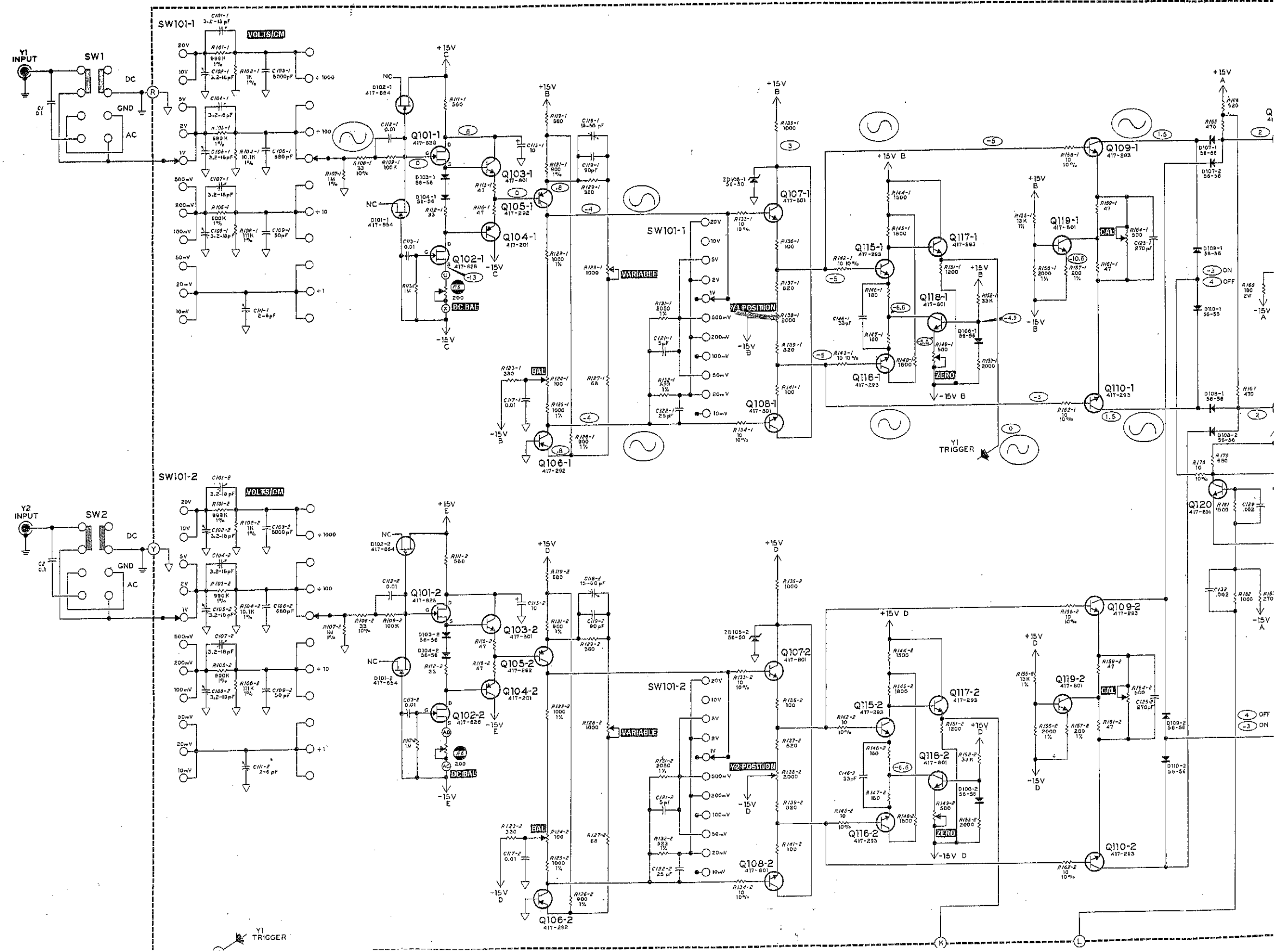
SCHEMATIC OF THE HEATHKIT® DUAL TRACE OSCILLOSCOPE MODEL 10-4550/SO-4550

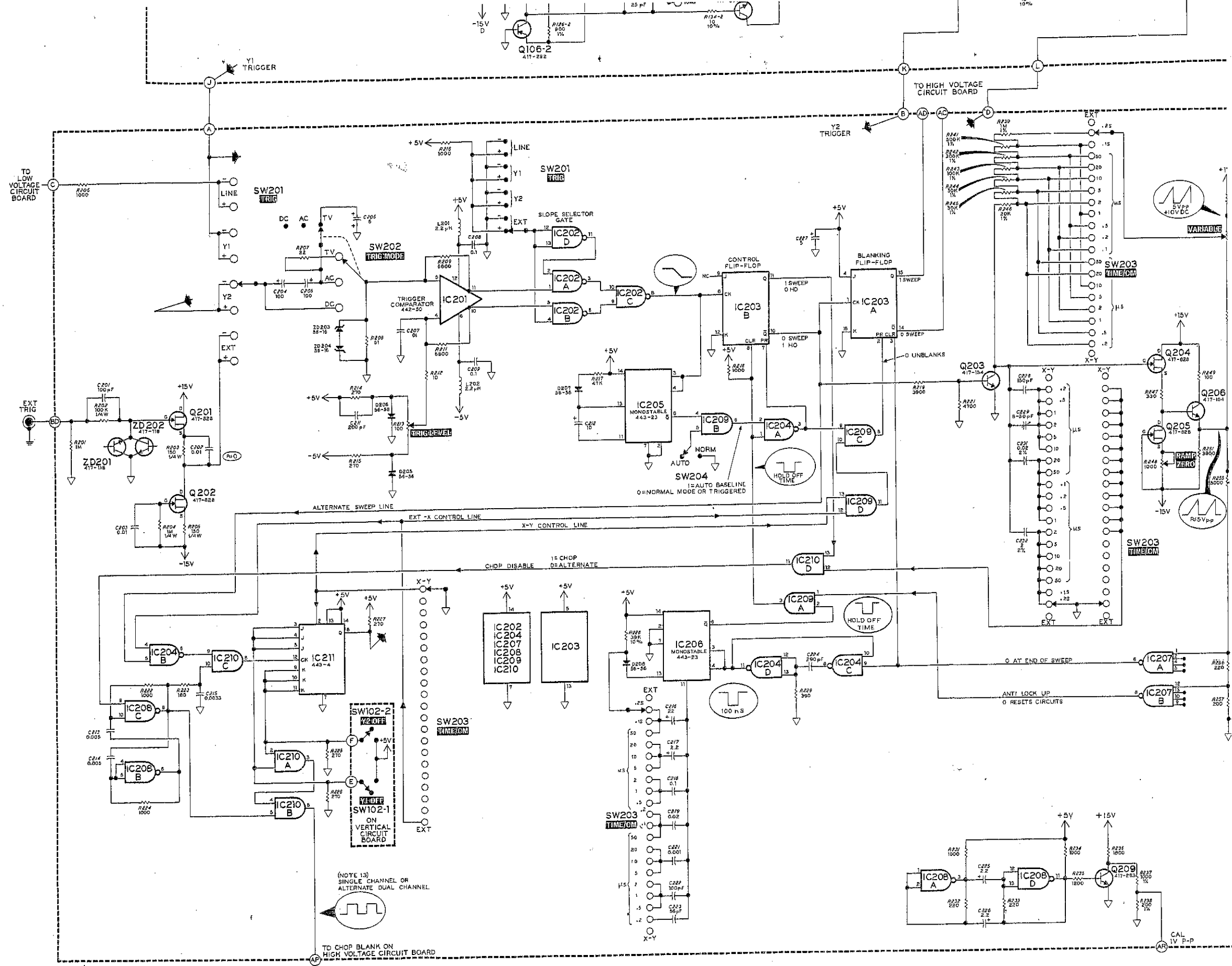
NOTES:

- ALL CAPACITOR VALUES ARE IN μ F UNLESS OTHERWISE SPECIFIED.
 - ON THE VERTICAL CIRCUIT BOARD, THE WATTAGE VALUES OF 1/8-WATT AND 1/4-WATT RESISTORS ARE NOT MARKED. ALL OTHER RESISTORS ARE 1/2 WATT, 5% UNLESS MARKED OTHERWISE. RESISTOR VALUES ARE IN OHMS (K=1,000; M=1,000,000).
 - INDICATES A LETTERED WIRE CONNECTION ON A CIRCUIT BOARD.
 - ≡ INDICATES CHASSIS GROUND.
 - ▽ INDICATES CIRCUIT BOARD GROUND.
 - INDICATES A PART MOUNTED ON THE CHASSIS, ALTHOUGH ITS LOCATION IN THE SCHEMATIC SUGGESTS ANOTHER LOCATION.
 - CIRCUIT COMPONENT NUMBERS ARE IN THE FOLLOWING GROUPS:
 - 1 - 99 PARTS ON CHASSIS.
 - 100 - 199 PARTS ON THE VERTICAL CIRCUIT BOARD.
 - 200 - 299 PARTS ON THE HORIZONTAL CIRCUIT BOARD.
 - 300 - 399 PARTS ON THE LOW VOLTAGE CIRCUIT BOARD.
 - 400 - 499 PARTS ON THE HIGH VOLTAGE CIRCUIT BOARD.
 - INDICATES A DC VOLTAGE MEASURED FROM THE POINT INDICATED TO GROUND WITH THE VERTICAL AMPLIFIERS BALANCED, THE TIME/CM SWITCH IN THE EXT POSITION, AND THE HORIZONTAL POSITION CONTROL CENTERED. VOLTAGE MAY VARY $\pm 20\%$.
 - TRANSISTOR TRANSISTOR LOGIC (TTL) LEVELS ARE AS FOLLOWS: A LOGIC 0, OR LOW, IS < 0.8 VOLTS. A LOGIC 1, OR HIGH, IS > 2.0 VOLTS BUT < 5.5 VOLTS.
 - THIS SYMBOL INDICATES A LINE THAT CONTINUES. TO FIND THE CONTINUED PORTION, LAY A STRAIGHT EDGE ON THE LINE THAT THE SYMBOL IS ON.
 - CRT UNBLANKED - DEPENDS ON POSITION OF INTENSITY CONTROL.
 - CRT BLANKED.
 - ONLY IN DUAL TRACE CHOPPED MODE DURING SWEEP OR EXT-X DUAL TRACE OPERATION.
 - UNIT NOT SWEEPING. SPOT CENTERED HORIZONTALLY.
- * DEPENDS ON LINE VOLTAGE.
HD - HOLD OFF (INCLUDES RETRACE).

HIGH VOLTAGE CIRCUIT BOARD









LOW VOLTAGE
CIRCUIT BOARD