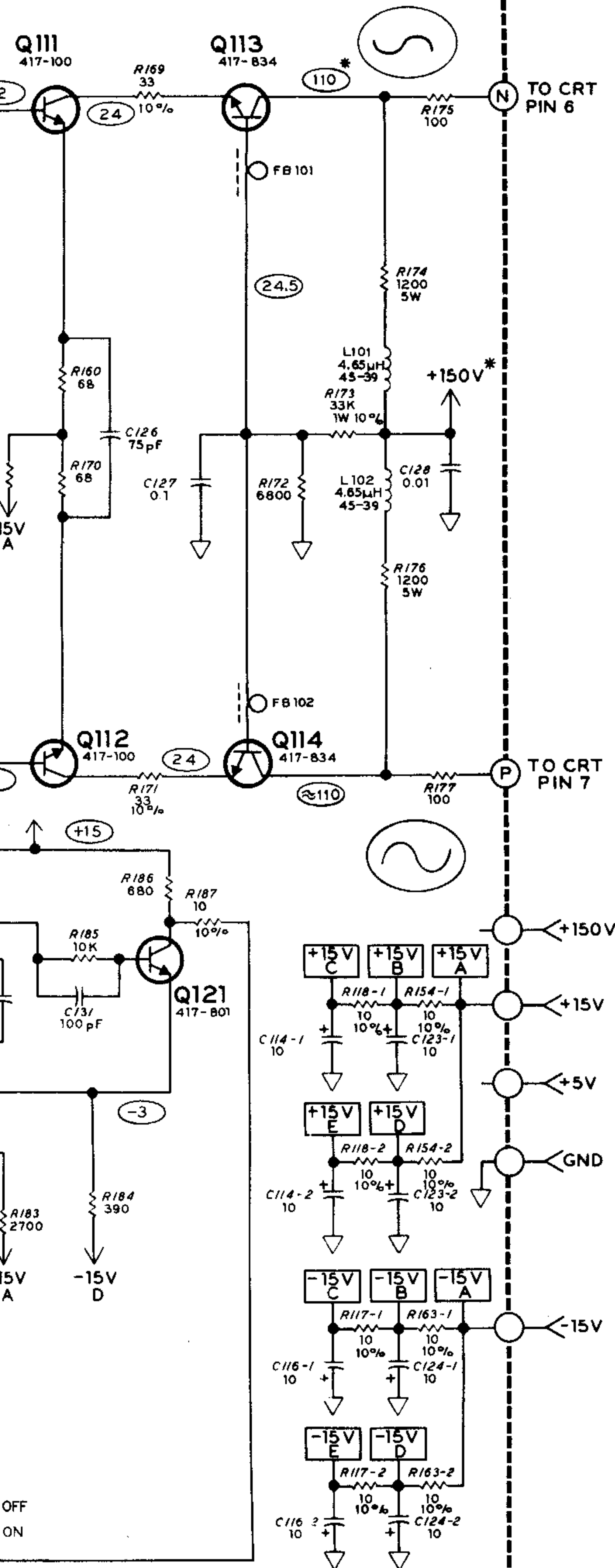


SCHEMATIC OF THE HEATHKIT® DUAL TRACE OSCILLOSCOPE MODEL 10-4550/SO-4550

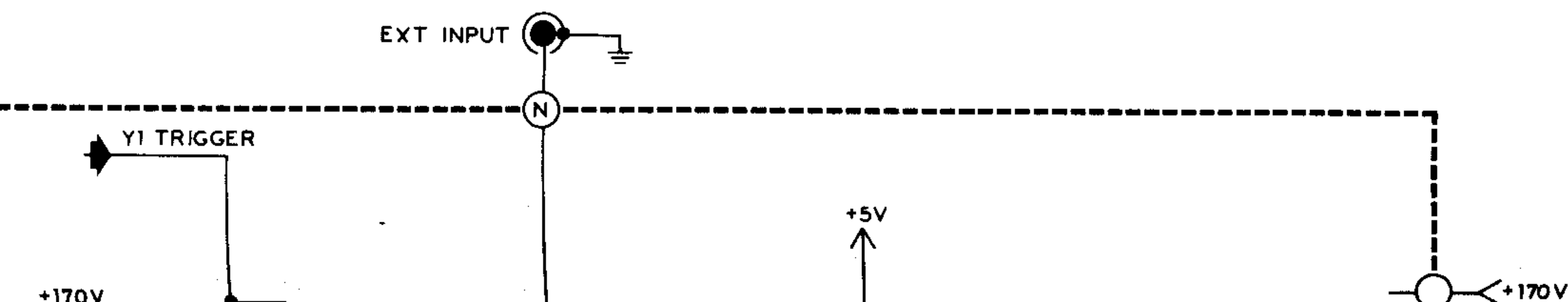
NOTES:

1. ALL CAPACITOR VALUES ARE IN μF UNLESS OTHERWISE SPECIFIED.
2. 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).
3. ○ INDICATES A LETTERED WIRE CONNECTION ON A CIRCUIT BOARD.
4. ≡ INDICATES CHASSIS GROUND.
5. ▽ INDICATES CIRCUIT BOARD GROUND.
6. ● INDICATES A PART MOUNTED ON THE CHASSIS, ALTHOUGH ITS LOCATION IN THE SCHEMATIC SUGGESTS ANOTHER LOCATION.
7. 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.
8. ○ 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 $\pm 20\%$
9. 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.
10. ◀ THIS SYMBOL INDICATES A LINE THAT CONTINUES. TO FIND THE CONTINUED PORTION, LAY A STRAIGHT EDGE ON THE LINE THAT THE SYMBOL IS ON.
11. CRT UNBLANKED - DEPENDS ON POSITION OF INTENSITY CONTROL.
12. CRT BLANKED.
13. ONLY IN DUAL TRACE CHOPPED MODE DURING SWEEP OR EXT-X DUAL TRACE OPERATION.
14. UNIT NOT SWEEPING. SPOT CENTERED HORIZONTALLY.

* DEPENDS ON LINE VOLTAGE.
HO = HOLD OFF (INCLUDES RETRACE).

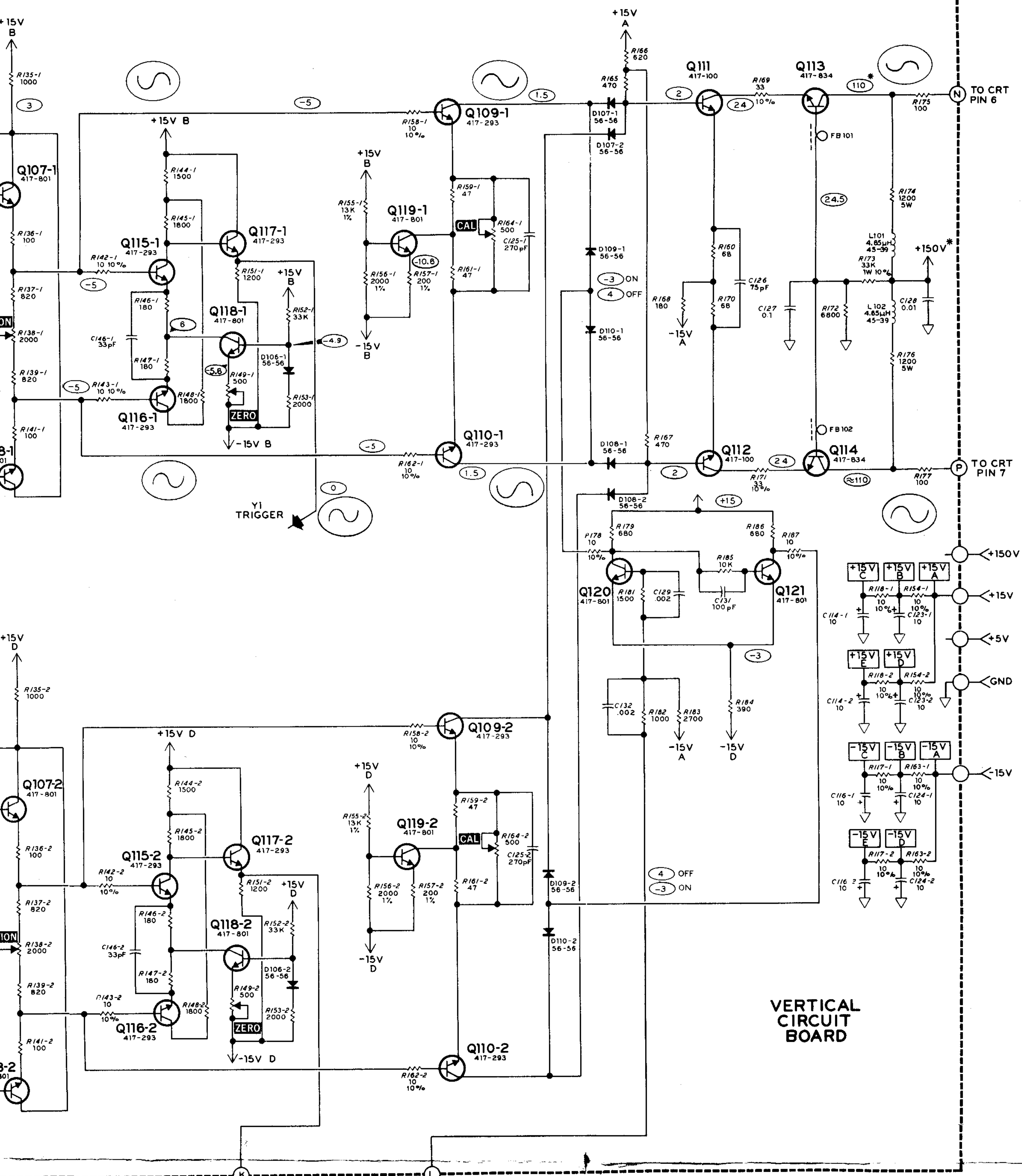


**VERTICAL
CIRCUIT
BOARD**



**HIGH VOLTAGE
CIRCUIT BOARD**

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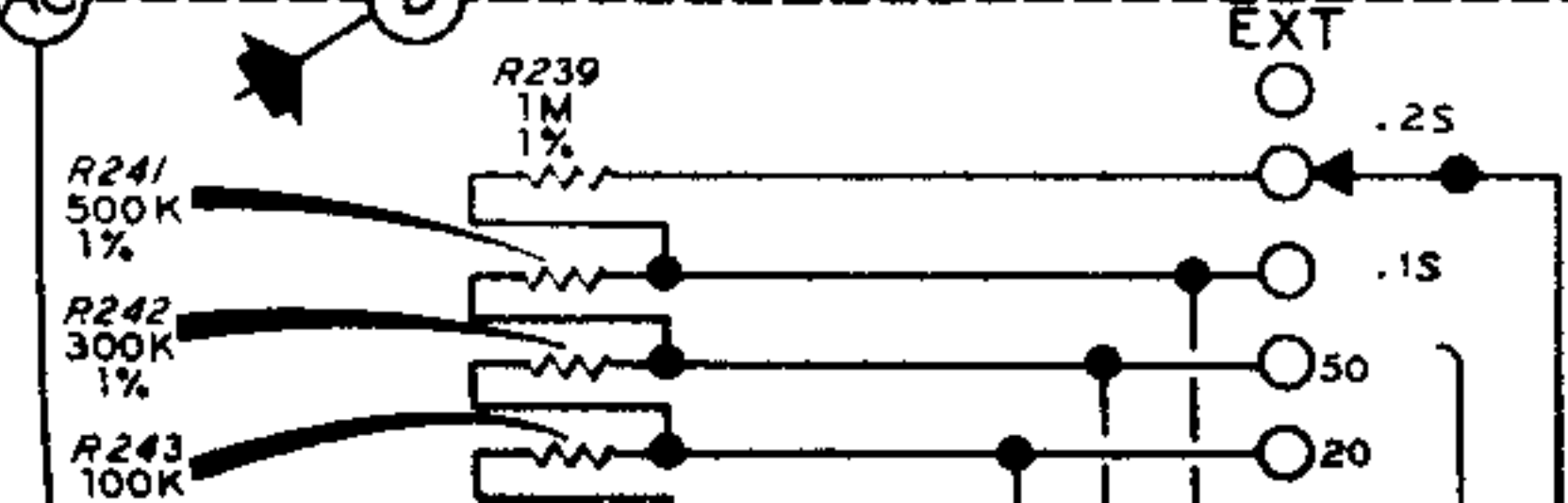
**VERTICAL
CIRCUIT
BOARD**

TO HIGH VOLTAGE
CIRCUIT BOARD

EXT INPUT

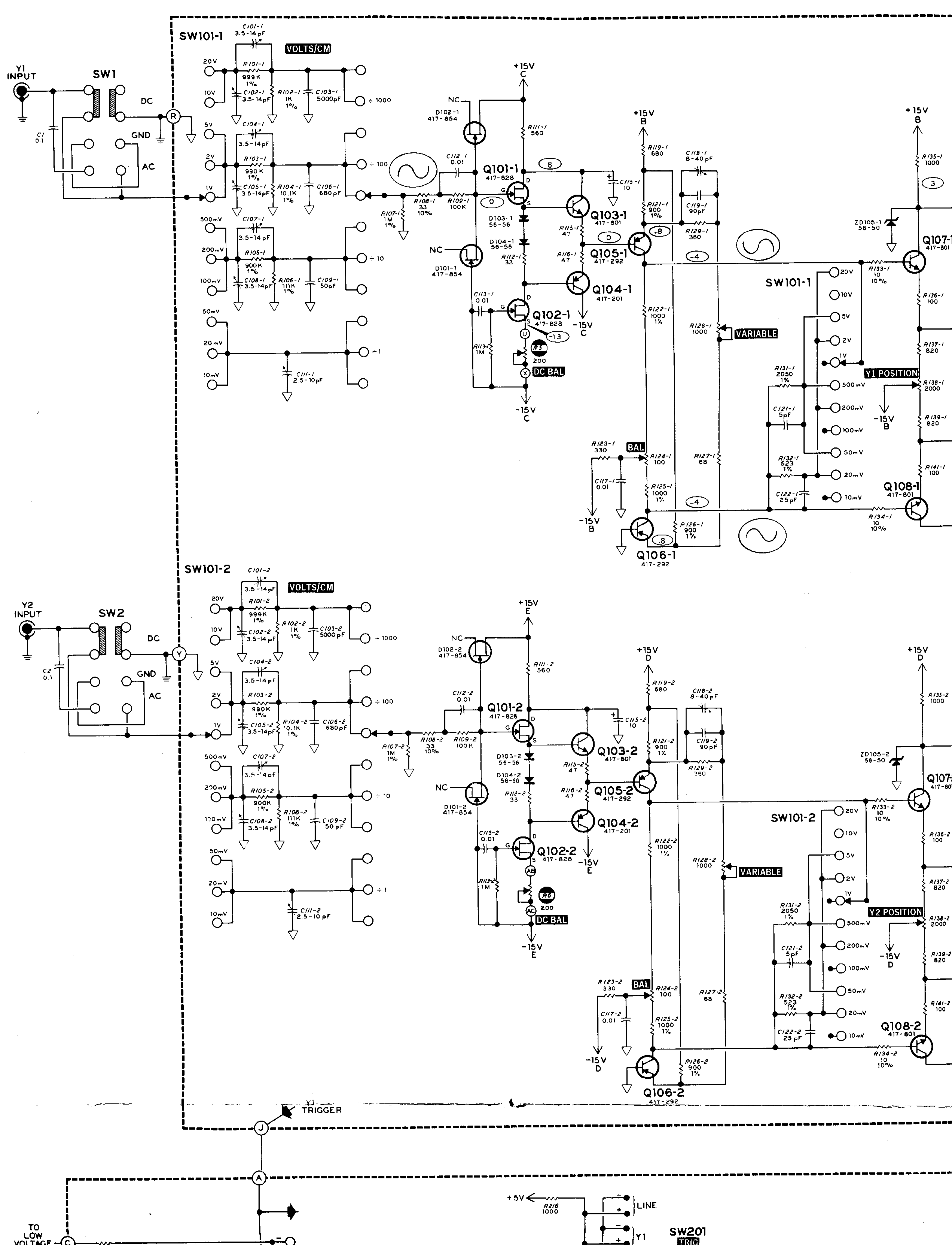
Y2 TRIGGER

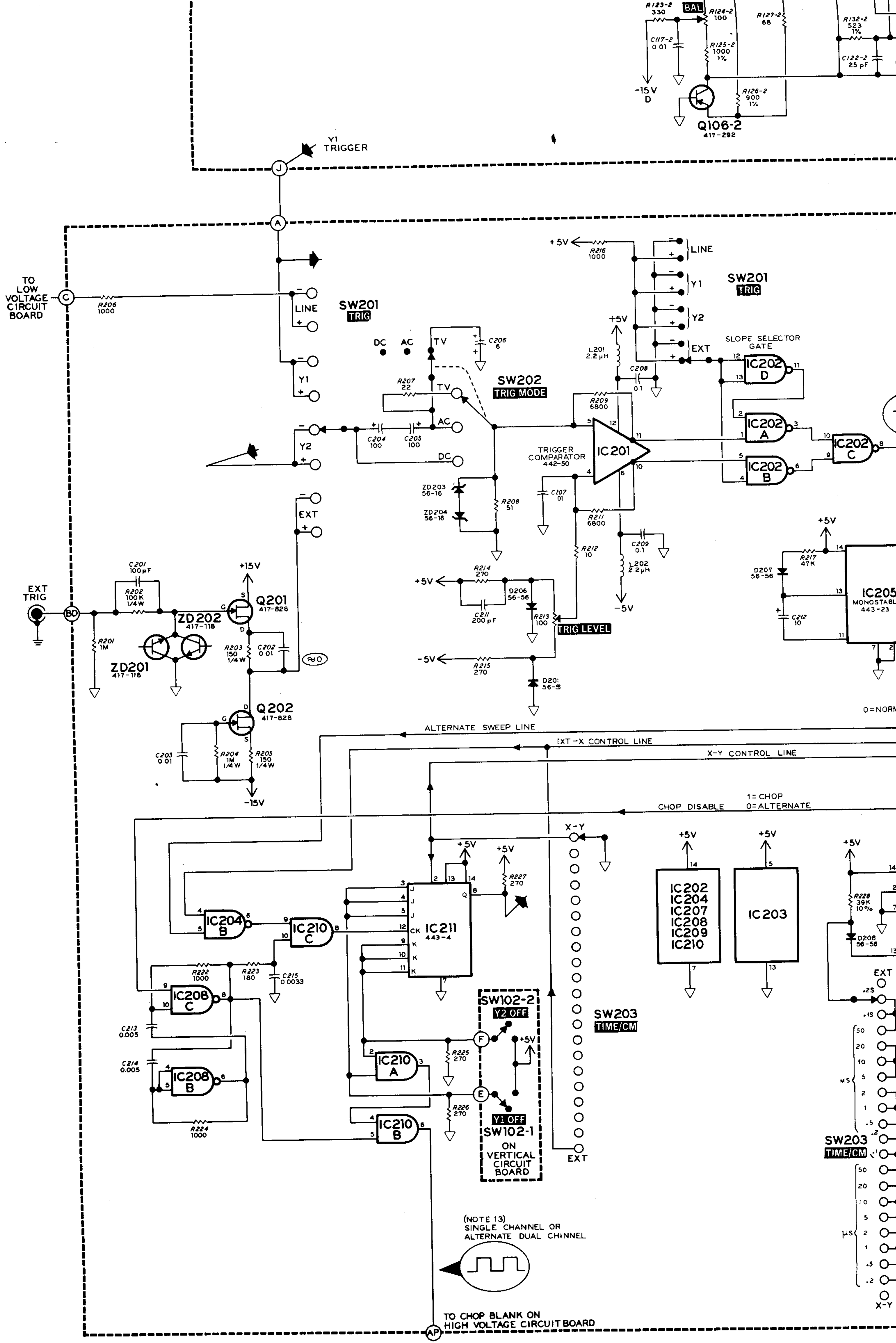
Y1 TRIGGER

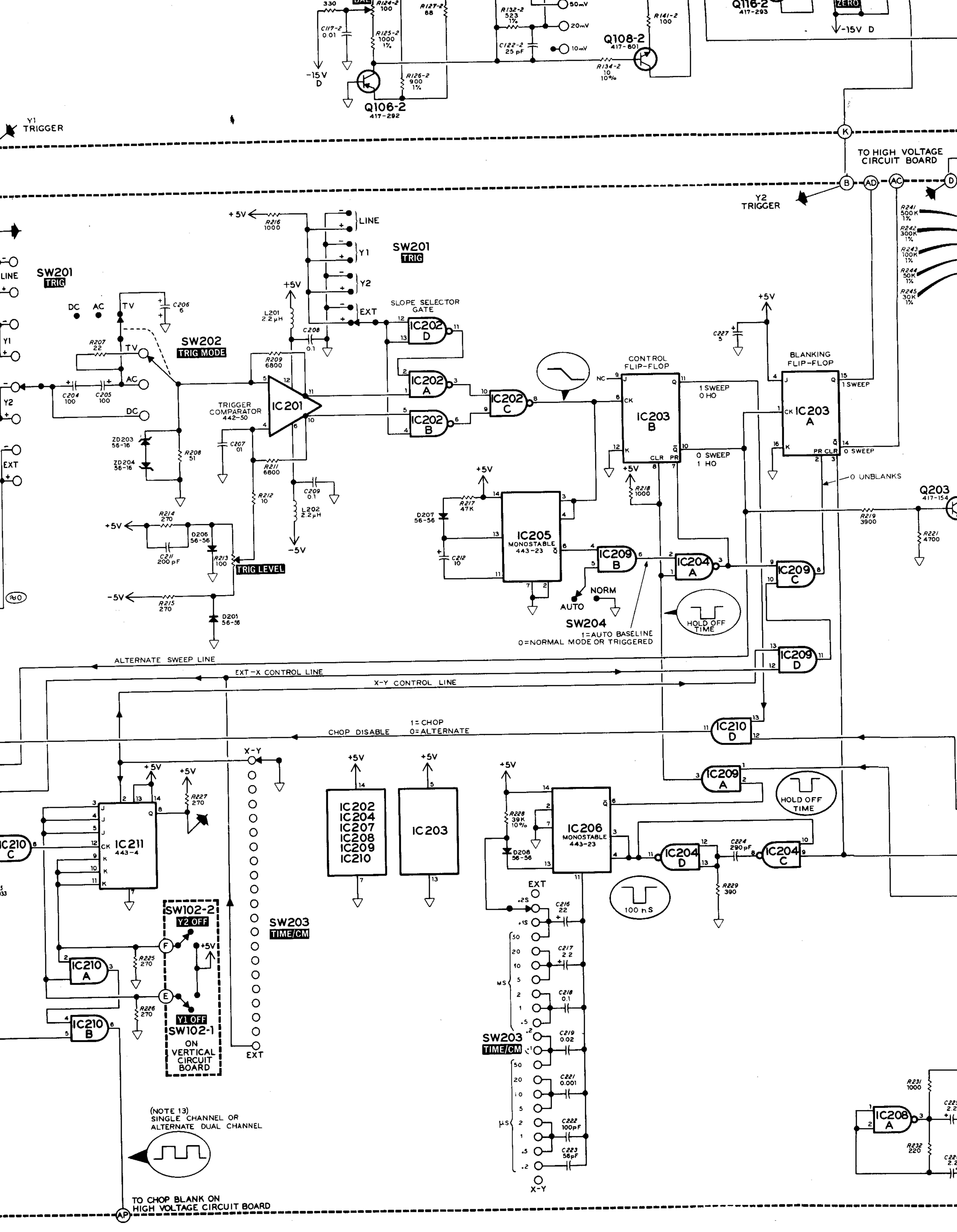


+5V

+170V







Y1 TRIGGER

TO HIGH VOLTAGE CIRCUIT BOARD

Y2 TRIGGER

SW201 TRIG

SW202 TRIG MODE

SW201 TRIG

TRIGGER COMPARATOR 442-50

TRIG LEVEL

SLOPE SELECTOR GATE

CONTROL FLIP-FLOP

BLANKING FLIP-FLOP

IC205 MONOSTABLE 443-23

SW204
1=AUTO BASELINE
0=NORMAL MODE OR TRIGGERED

CHOP DISABLE
1=CHOP
0=ALTERNATE

SW102-2 Y2 OFF

SW102-1 Y1 OFF

SW203 TIME/CM

SW203 TIME/CM

(NOTE 13)
SINGLE CHANNEL OR ALTERNATE DUAL CHANNEL

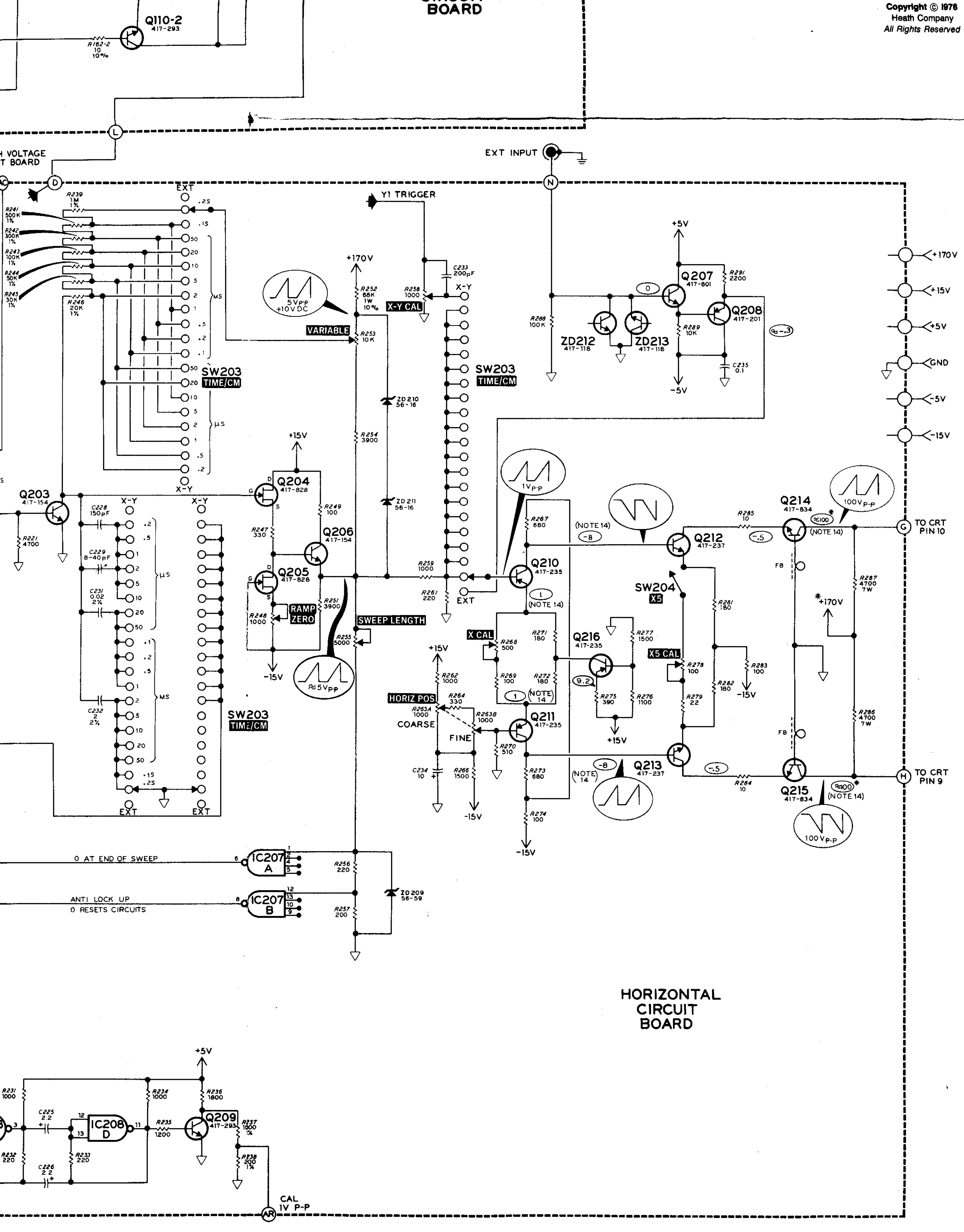
TO CHOP BLANK ON HIGH VOLTAGE CIRCUIT BOARD

R241 500K 1%
R242 300K 1%
R243 100K 1%
R244 50K 1%
R245 30K 1%

Q203 417-154

R231 1000
R232 220
R233 2.2

BOARD



HORIZONTAL
CIRCUIT
BOARD

