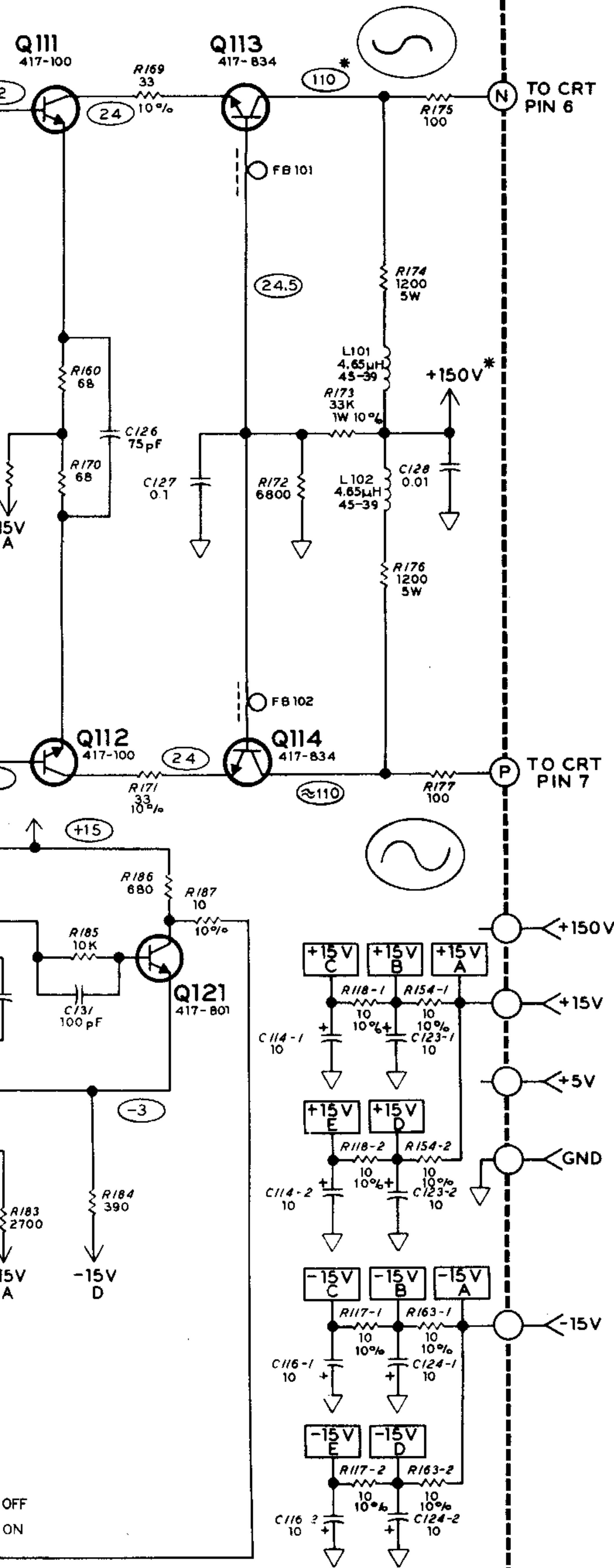


SCHEMATIC OF THE HEATHKIT® DUAL TRACE OSCILLOSCOPE MODEL 10-4550/SO-4550

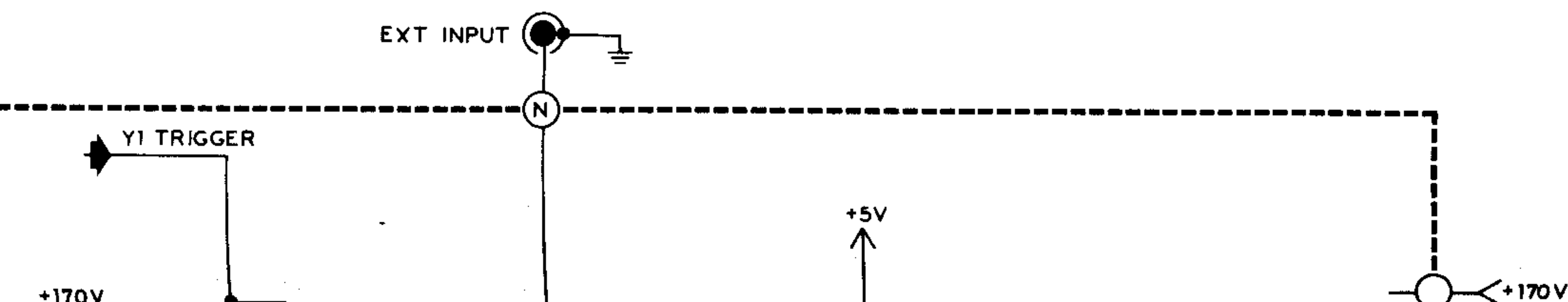
NOTES:

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:

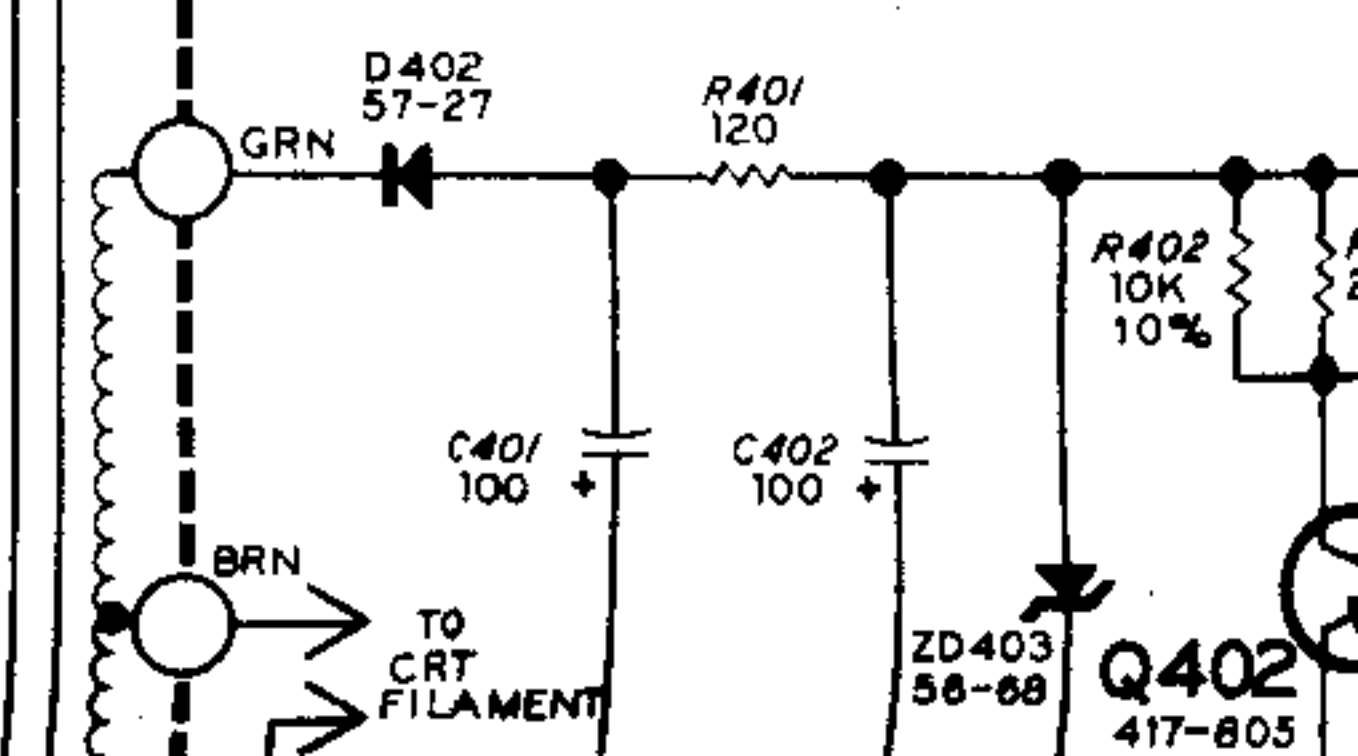
1 - 99	PARTS ON CHASSIS.
100 - 199	PARTS ON THE VERTICAL CIRCUIT BOARD.
200 - 299	PARTS ON THE HORIZONTAL CIRCUIT BOARD.
300 - 399	PARTS ON THE LOW VOLTAGE CIRCUIT BOARD.
400 - 499	PARTS ON THE HIGH VOLTAGE CIRCUIT BOARD.
 8. ○ INDICATES A DC VOLTAGE MEASURED FROM THE POINT INDICATED TO GROUND WITH THE VERTICAL AMPLIFIERS BALANCED, THE TIME/CM SWITCH IN THE EXT POSITION, AND THE HORIZONTAL POSITION CONTROL CENTERED. VOLTAGE MAY VARY $\pm 20\%$
 9. TRANSISTOR 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).

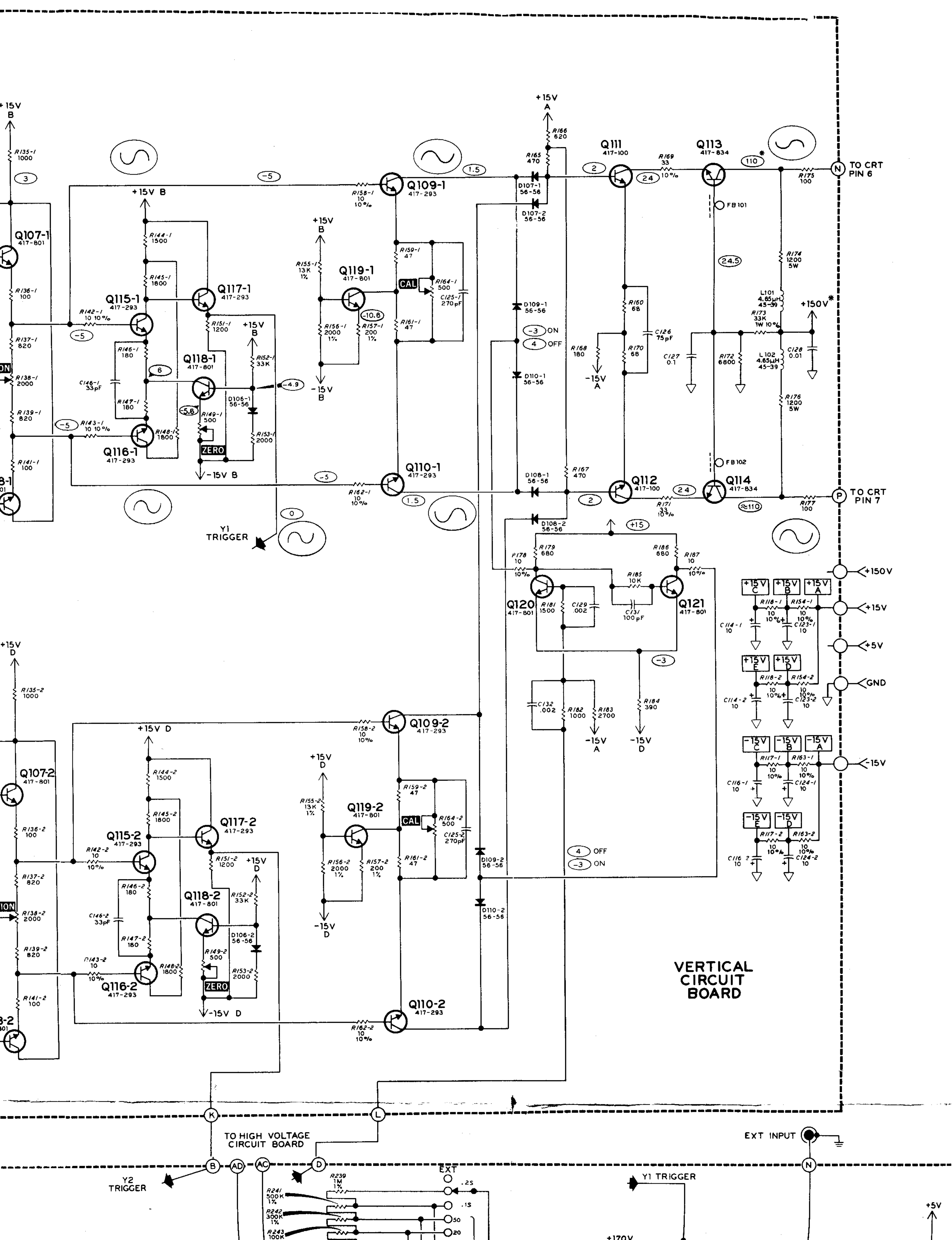


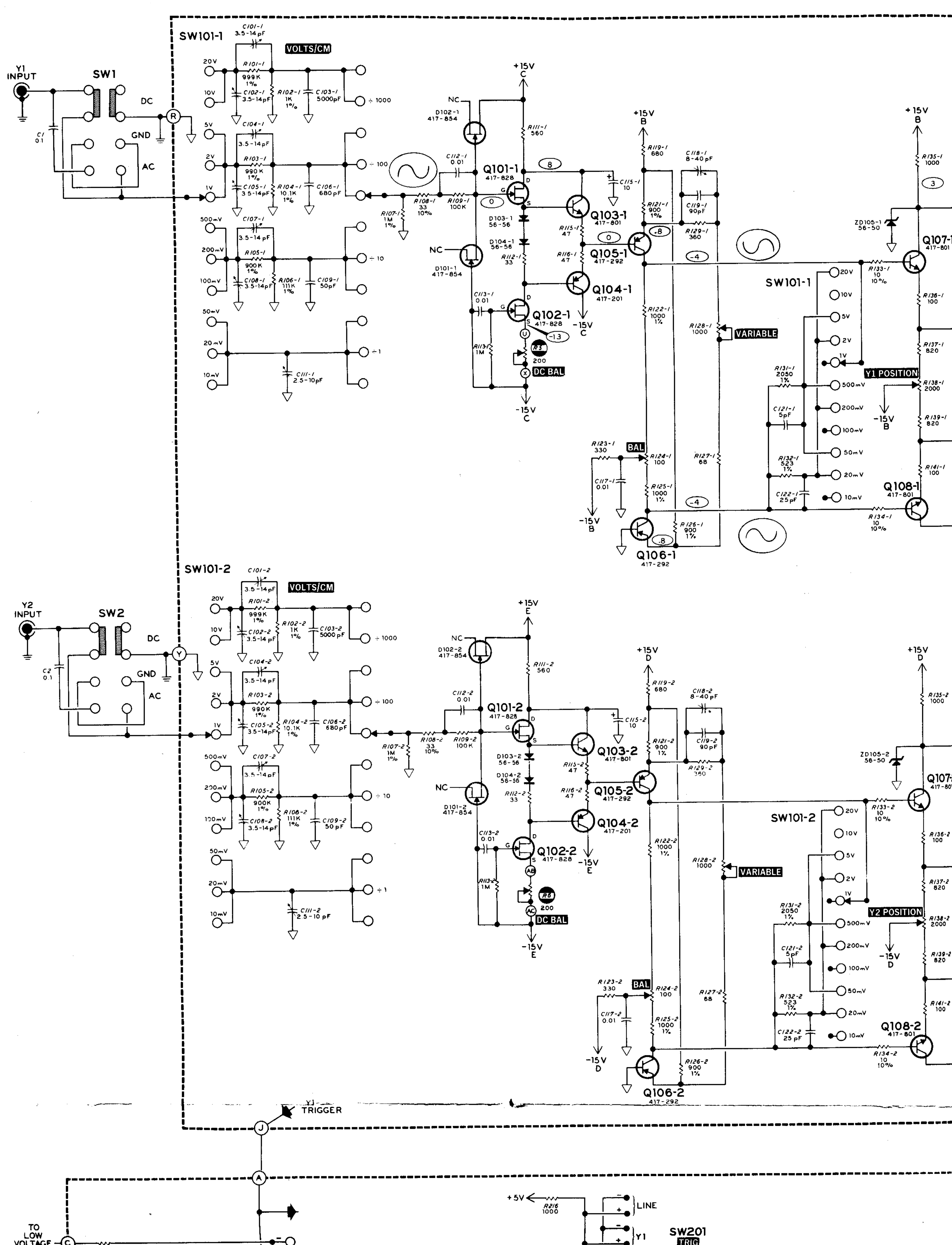
**VERTICAL
CIRCUIT
BOARD**



**HIGH VOLTAGE
CIRCUIT BOARD**

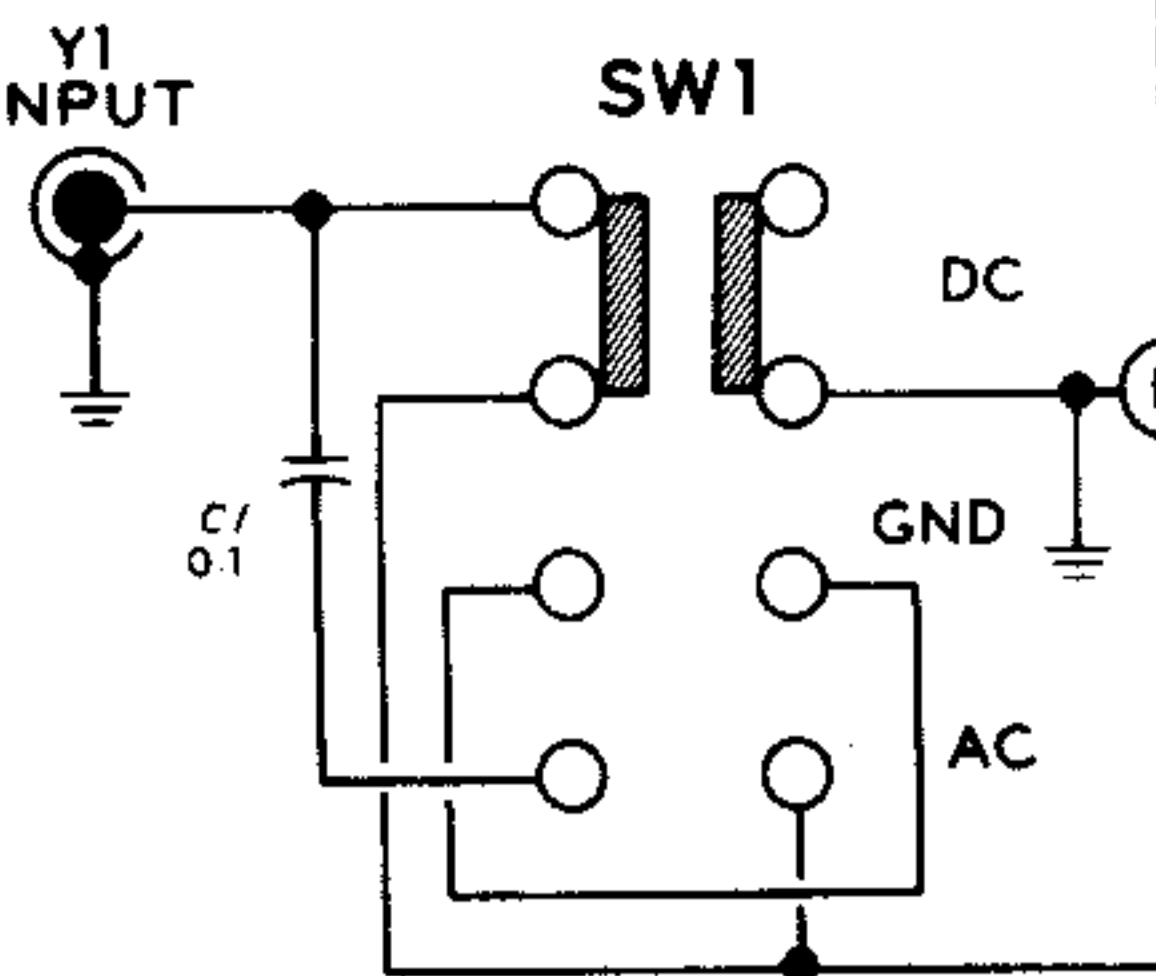






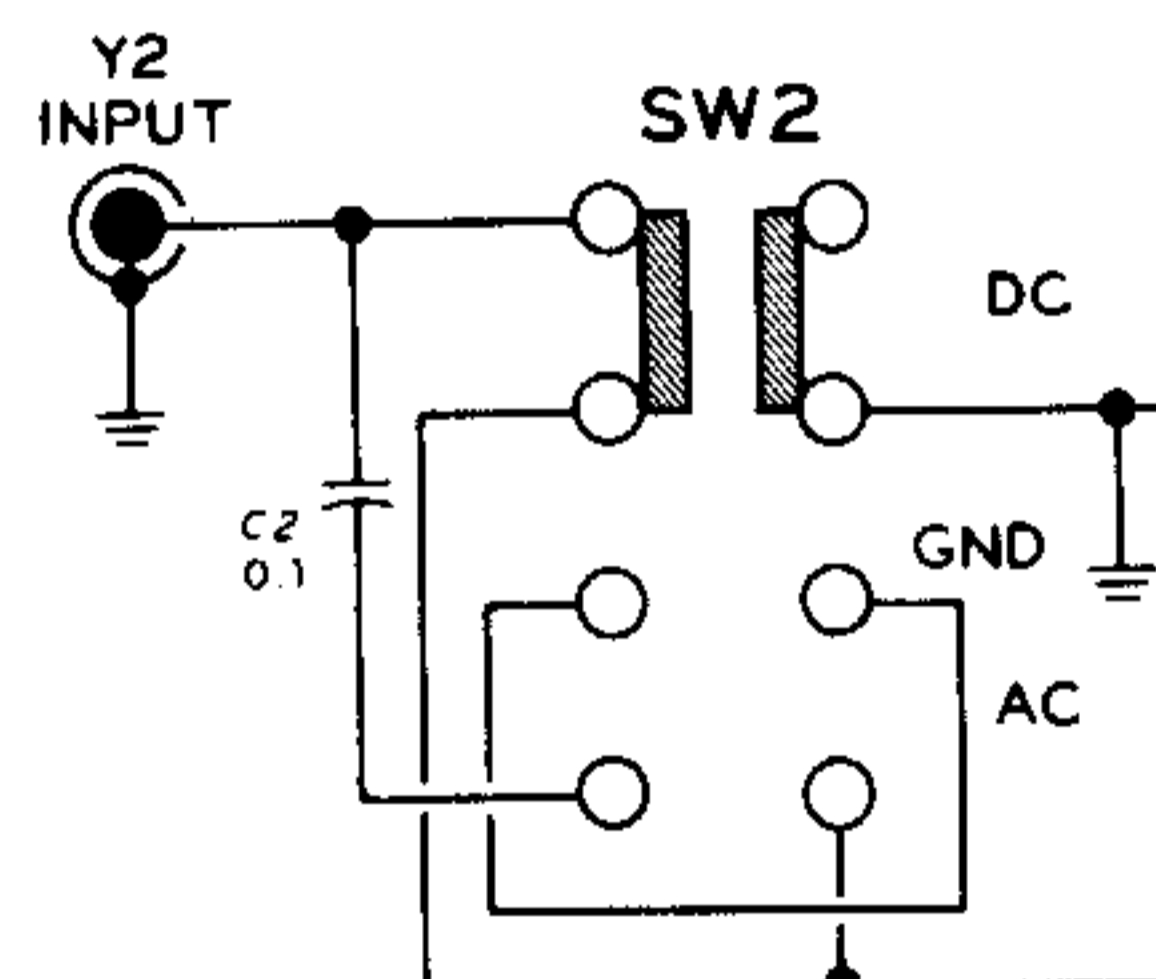
SW101-1

VOLTS/CM



SW101-2

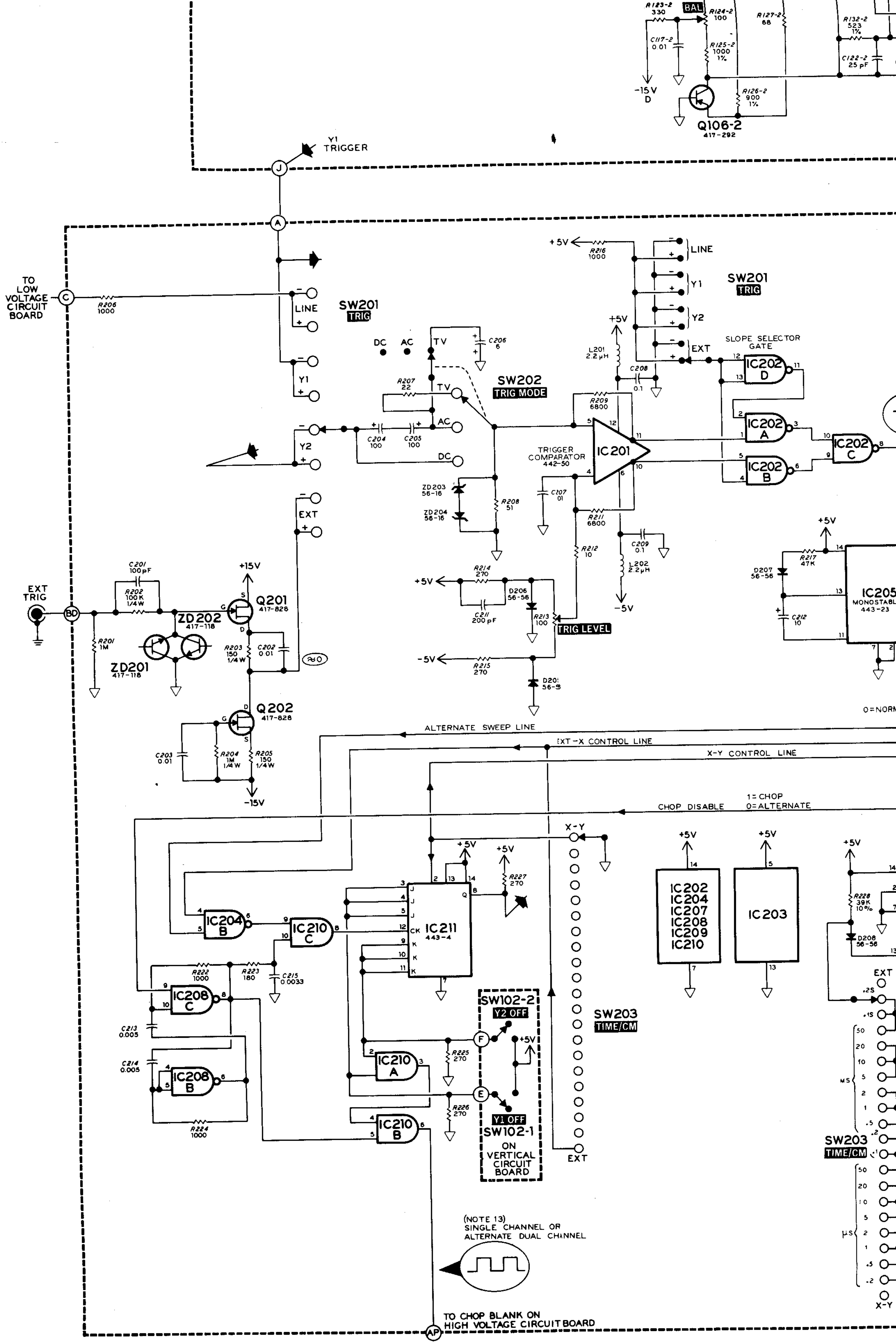
VOLTS/CM

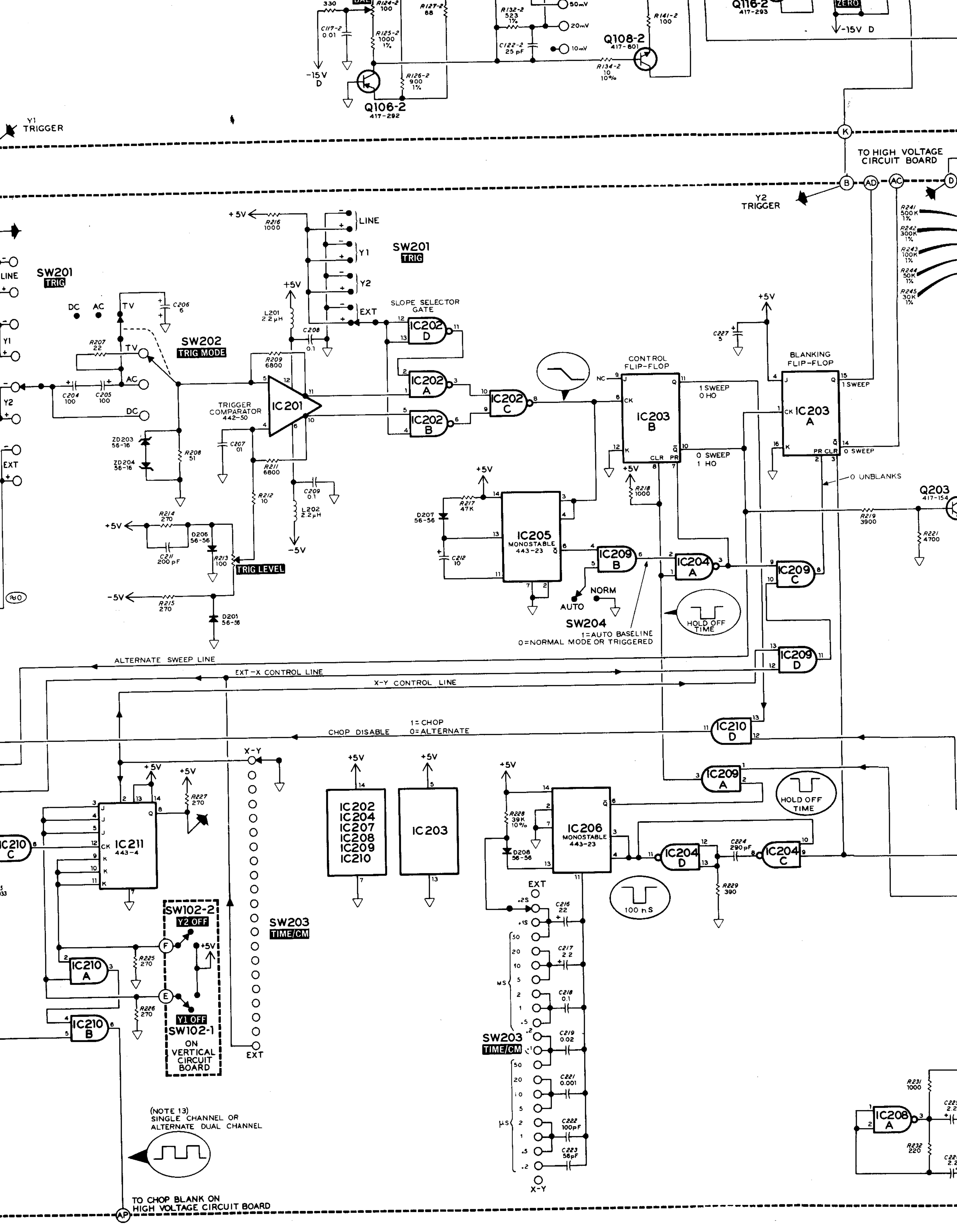


TO LOW VOLTAGE

+5V

SW201 TRIG





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

SW204
1=AUTO BASELINE
0=NORMAL MODE OR TRIGGERED

ALTERNATE SWEEP LINE

EXT-X CONTROL LINE

X-Y CONTROL LINE

CHOP DISABLE
1=CHOP
0=ALTERNATE

SW102-2
Y2 OFF

SW102-1
Y1 OFF
ON VERTICAL CIRCUIT BOARD

SW203 TIME/CM

(NOTE 13)
SINGLE CHANNEL OR ALTERNATE DUAL CHANNEL

TO CHOP BLANK ON HIGH VOLTAGE CIRCUIT BOARD

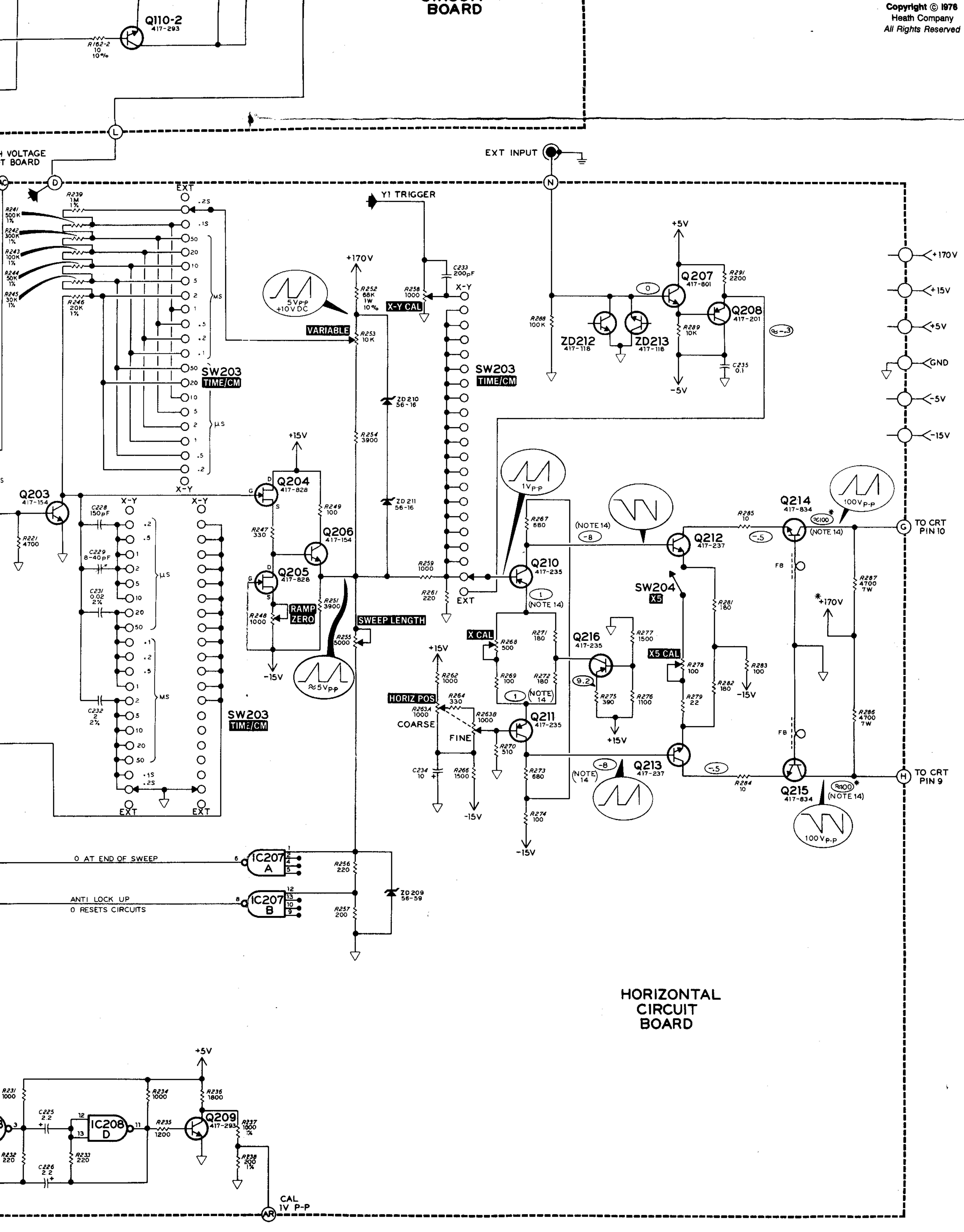
R241 500K 1%
R242 300K 1%
R243 100K 1%
R244 50K 1%
R245 30K 1%

Q203 417-154

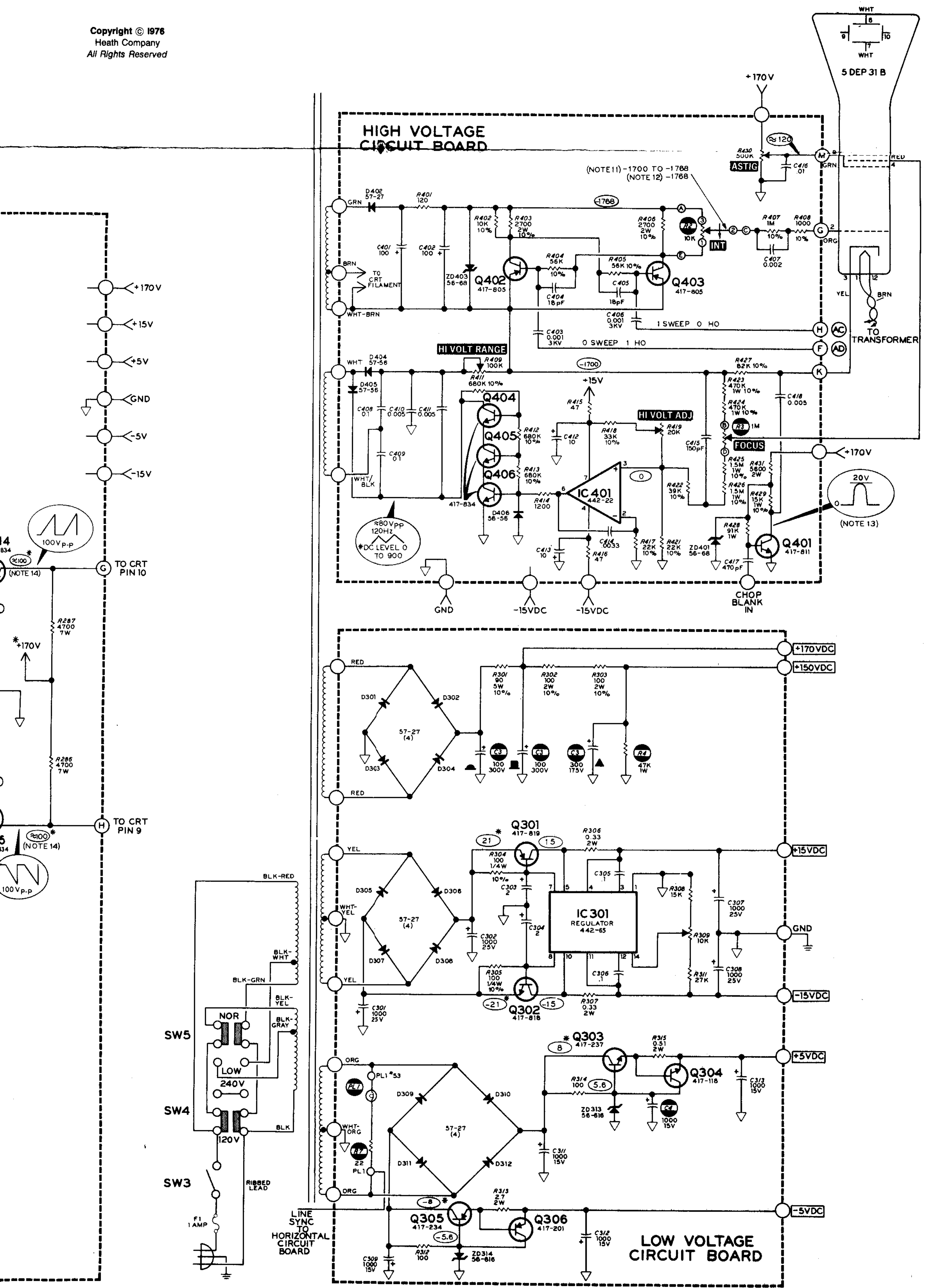
SW203 TIME/CM

IC208 A

BOARD



HORIZONTAL
CIRCUIT
BOARD



HIGH VOLTAGE CIRCUIT BOARD

(NOTE 11) -1700 TO -1768
 (NOTE 12) -1768

HI VOLT RANGE

HI VOLT ADJ

FOCUS

CHOP BLANK IN

LOW VOLTAGE CIRCUIT BOARD

(NOTE 13)

14 834 * 100V p-p (NOTE 14)

5 834 * 100V p-p (NOTE 14)

SW5

SW4

SW3

LINE SYNC TO HORIZONTAL CIRCUIT BOARD

5 DEP 31 B

+170V

+170V

+15V

+5V

GND

-5V

-15V

+170V

20V

(NOTE 13)

+170VDC

+150VDC

+15VDC

-15VDC

+5VDC

-5VDC

F1 1 AMP

RIBBED LEAD

