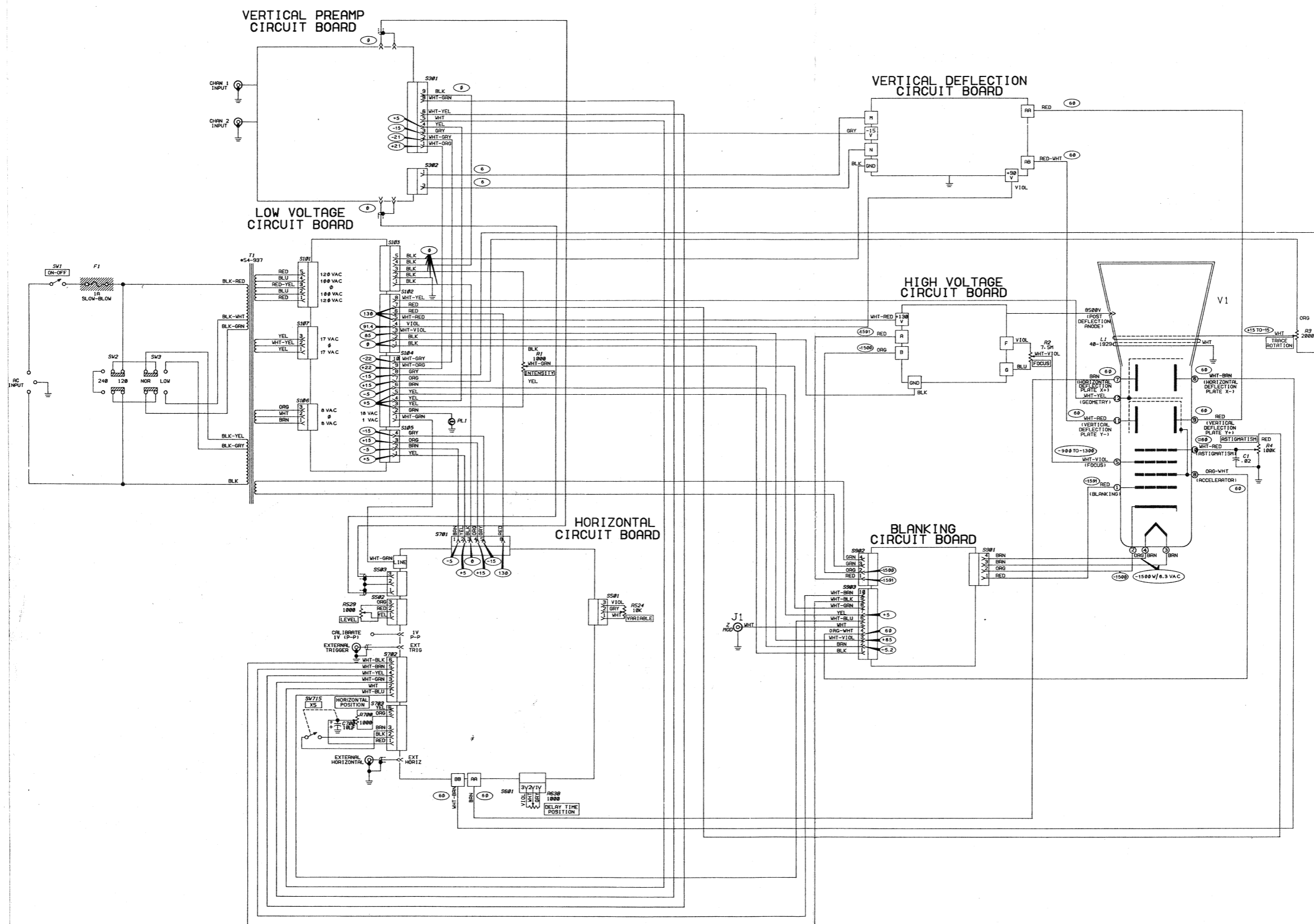
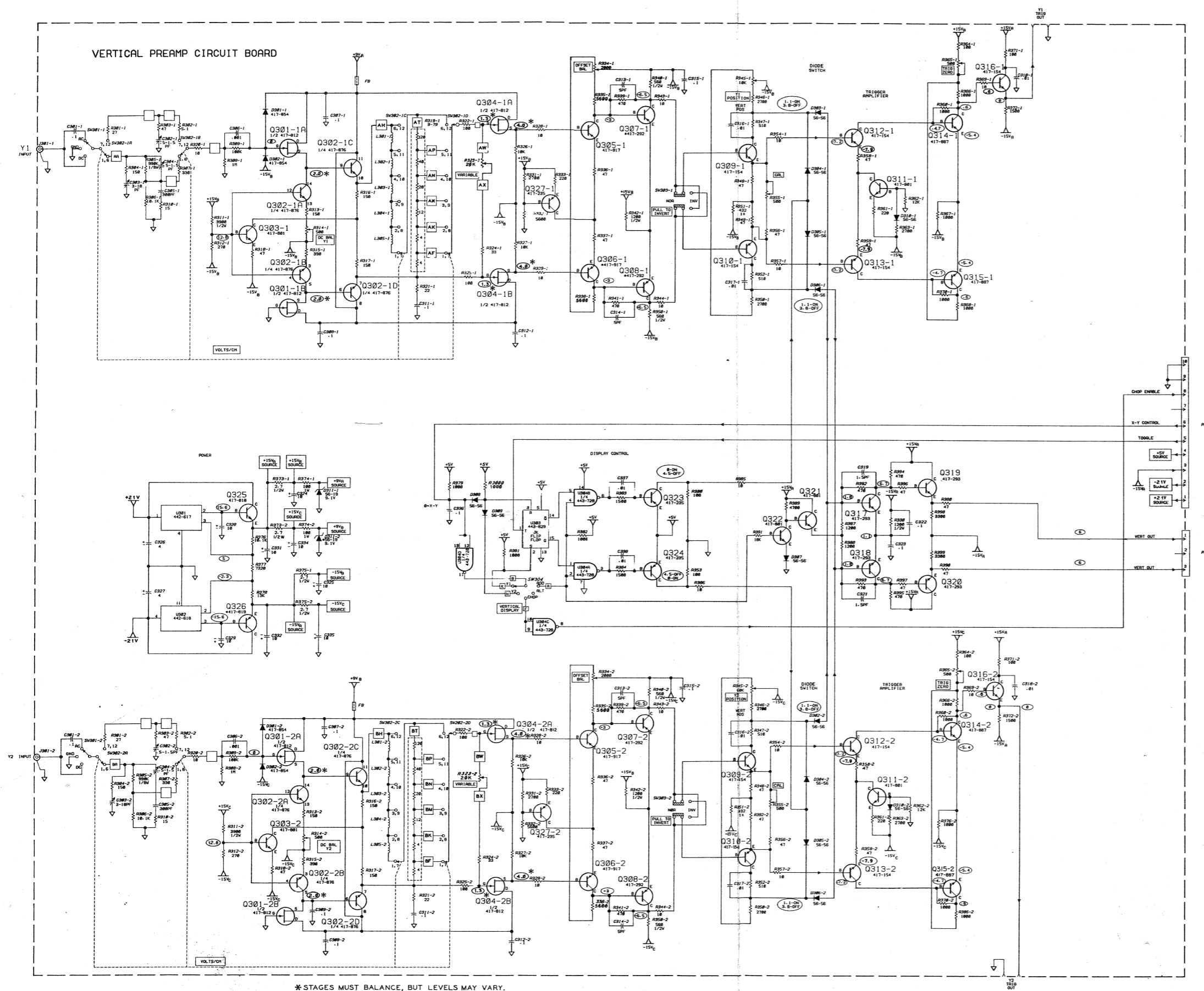


**SCHEMATIC OF THE  
HEATHKIT®  
35 MHz DUAL TRACE OSCILLOSCOPE  
MODEL IO-4235/SO-4235**



- NOTES:
- ALL CAPACITOR VALUES ARE IN  $\mu\text{F}$  UNLESS OTHERWISE SPECIFIED.
  - ALL RESISTORS ARE 1/4 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 THE CHASSIS.
    - 101-199 PARTS ON THE LOW VOLTAGE CIRCUIT BOARD.
    - 201-299 PARTS ON THE HIGH VOLTAGE CIRCUIT BOARD.
    - 301-399 PARTS ON THE VERT PREAMP CIRCUIT BOARD.
    - 401-499 PARTS ON THE VERTICAL DEFLECTION CIRCUIT BOARD.
    - 501-599 PARTS ON THE A TIME BASE CIRCUIT BOARD.
    - 601-699 PARTS ON THE B TIME BASE CIRCUIT BOARD.
    - 701-899 PARTS ON THE HORIZONTAL CIRCUIT BOARD.
    - 901-999 PARTS ON THE BLANKING CIRCUIT BOARD.
  - INDICATES A DC VOLTAGE MEASURED FROM THE POINT INDICATED TO GROUND WITH THE VERTICAL AMPLIFIERS BALANCED AND THE HORIZONTAL POSITION CONTROL CENTERED. VOLTAGE MAY VARY  $\pm 20\%$ . OTHER SWITCHES ARE SET AS FOLLOWS:
    - VERTICAL DISPLAY - Y1
    - HORIZONTAL DISPLAY - EXT HORIZ
    - TRIGGER MODE - NORM
    - TRIG COUPLING - AC
    - TRIGGER SELECT - LINE, +
  - ALL WAVEFORMS ARE MEASURED FROM THE POINT INDICATED TO GROUND. THE FRONT PANEL CONTROLS ARE SET AS FOLLOWS:
    - HORIZONTAL POSITION - FOR TRACE TO START AT LEFT EDGE OF SCREEN.
    - HORIZONTAL DISPLAY - A INTEN BY B.
    - TRIGGER MODE - AUTO
    - TRIGGER COUPLING - AC
    - TRIGGER SELECT - Y1+
  - 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. A LOGIC 0 CONTROLS SET/RESETS.
  - ECL LEVELS ARE AS FOLLOWS: A LOGIC 0, OR LOW, IS -1.6 VOLTS. A LOGIC 1, OR HIGH, IS -0.9 VOLT. A LOGIC 1 CONTROLS SET/RESETS.
  - ONLY IN CHOP MODE.

VERTICAL PREAMP CIRCUIT BOARD



IO-4235 595-2246-01  
 SO-4235 595-2237  
 TWO OF FOUR

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