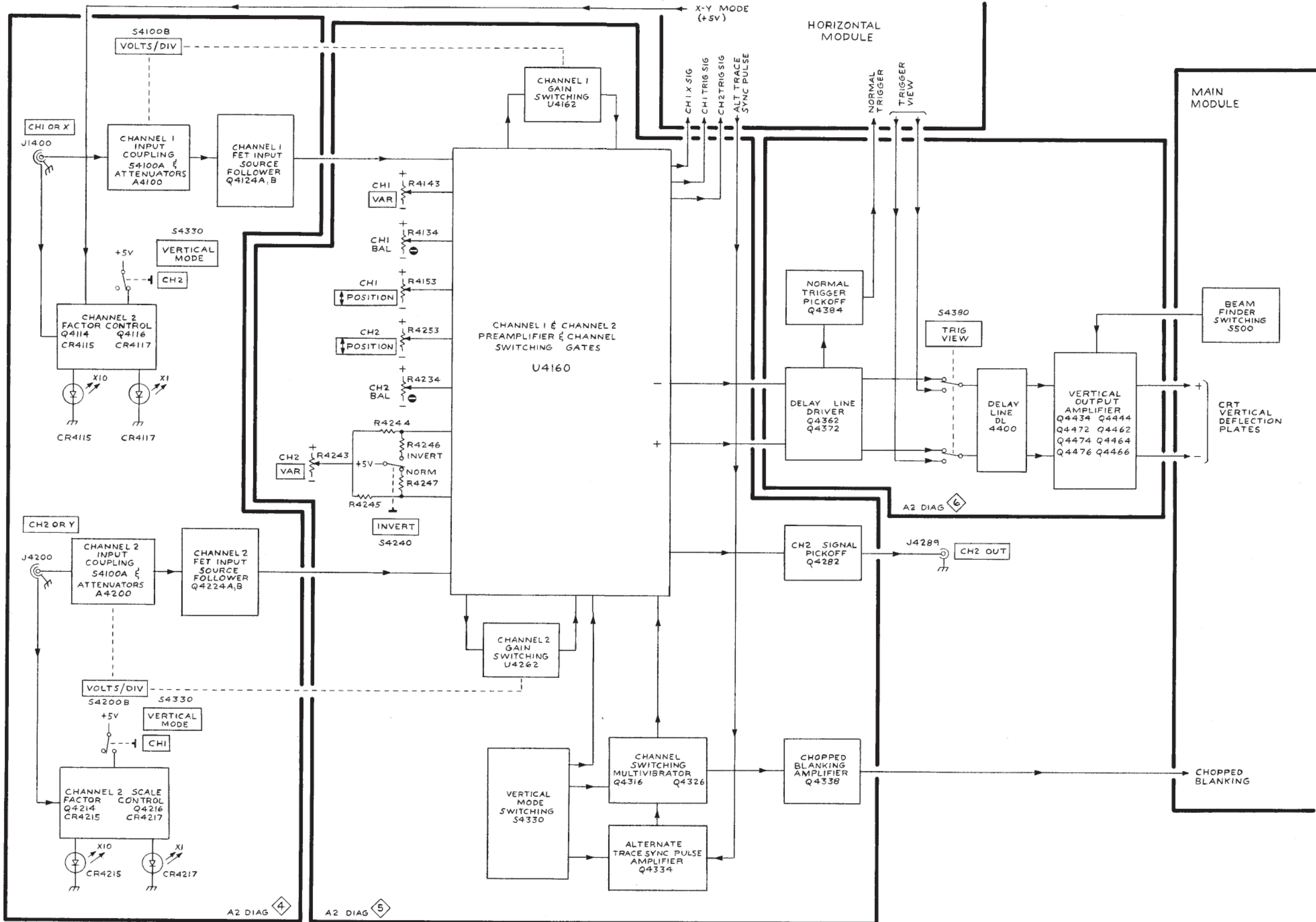
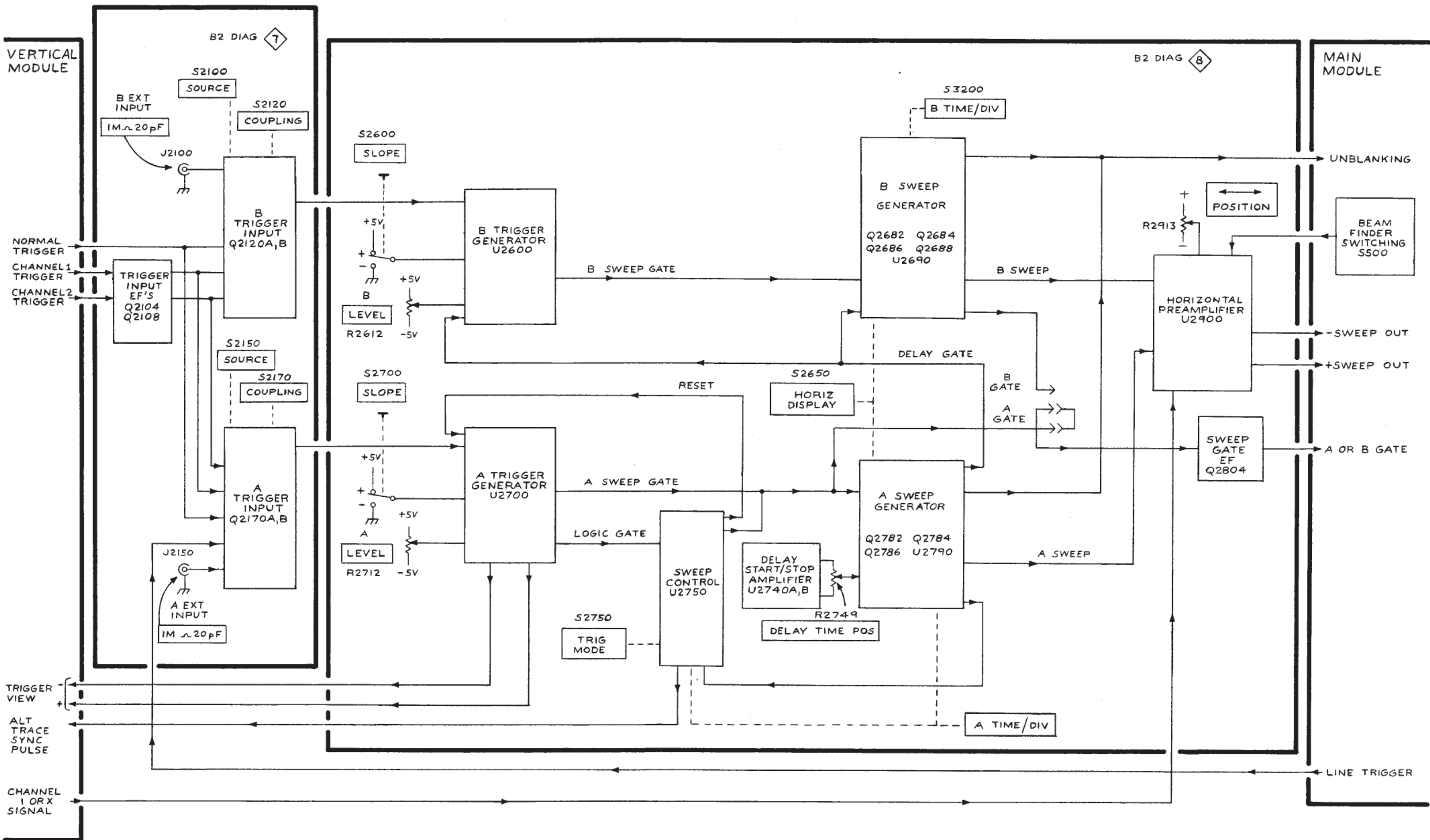


455/A2/B2  
(455 MAIN MODULE)

1907-97  
REV. B, NOV. 1977

455 MAIN MODULE BLOCK DIAGRAM





**VOLTAGE CONDITIONS**

Voltages shown on this schematic diagram were measured with a Tektronix DM 501 Digital Multimeter. Voltage measurements can vary as much as ±20%.

No signals were applied to the Vertical or Horizontal modules. The 455 INTENSITY control was set to midrange with the Horizontal module in the X-Y mode. The Horizontal POSITION control was set so that the horizontal deflection plates were at the same voltage level. The upper voltages shown on the + Gate circuit were measured with pin 13 of the (A) sweep IC (in horizontal module) grounded. Calibrator circuit voltages were measured with Q382 removed.

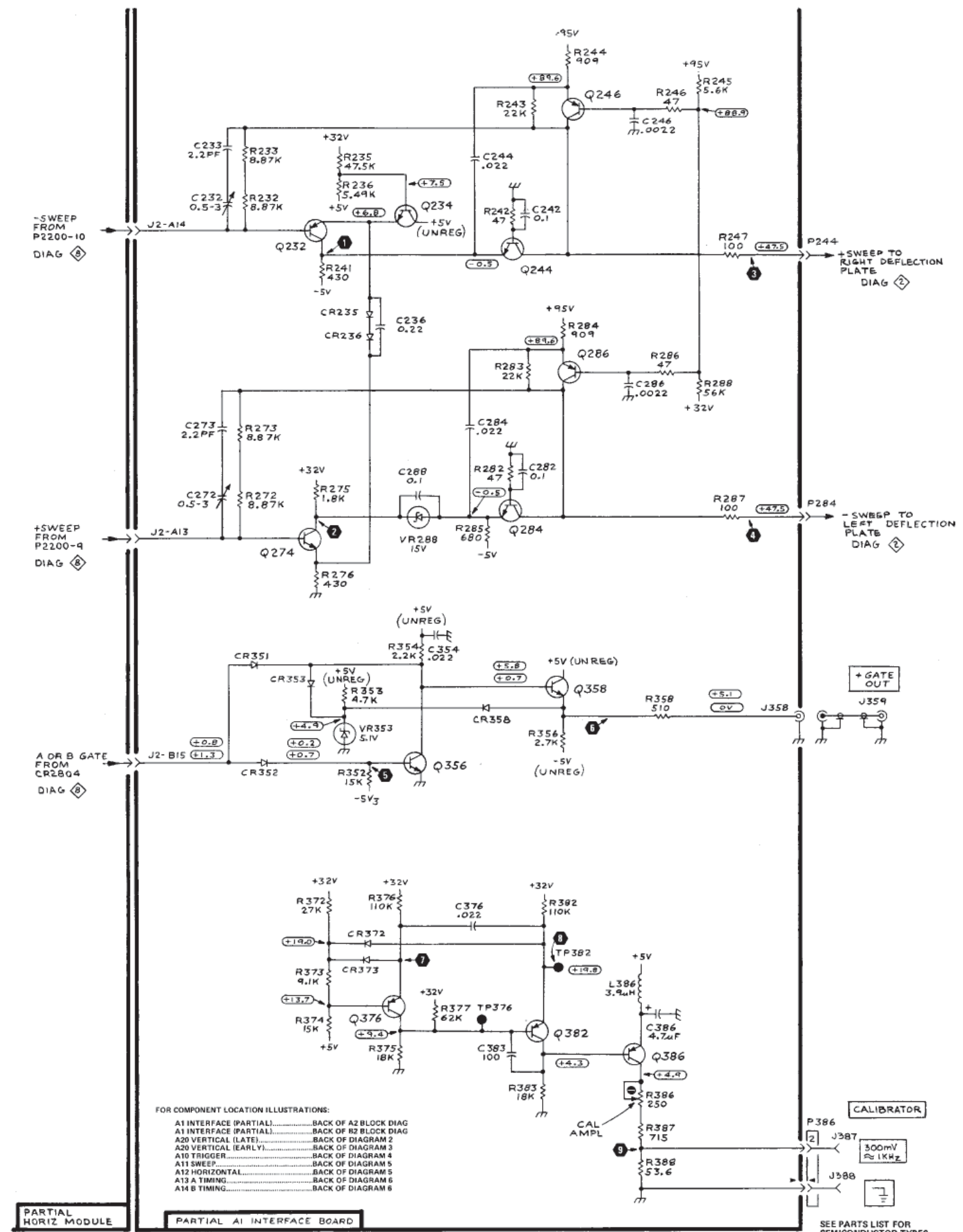
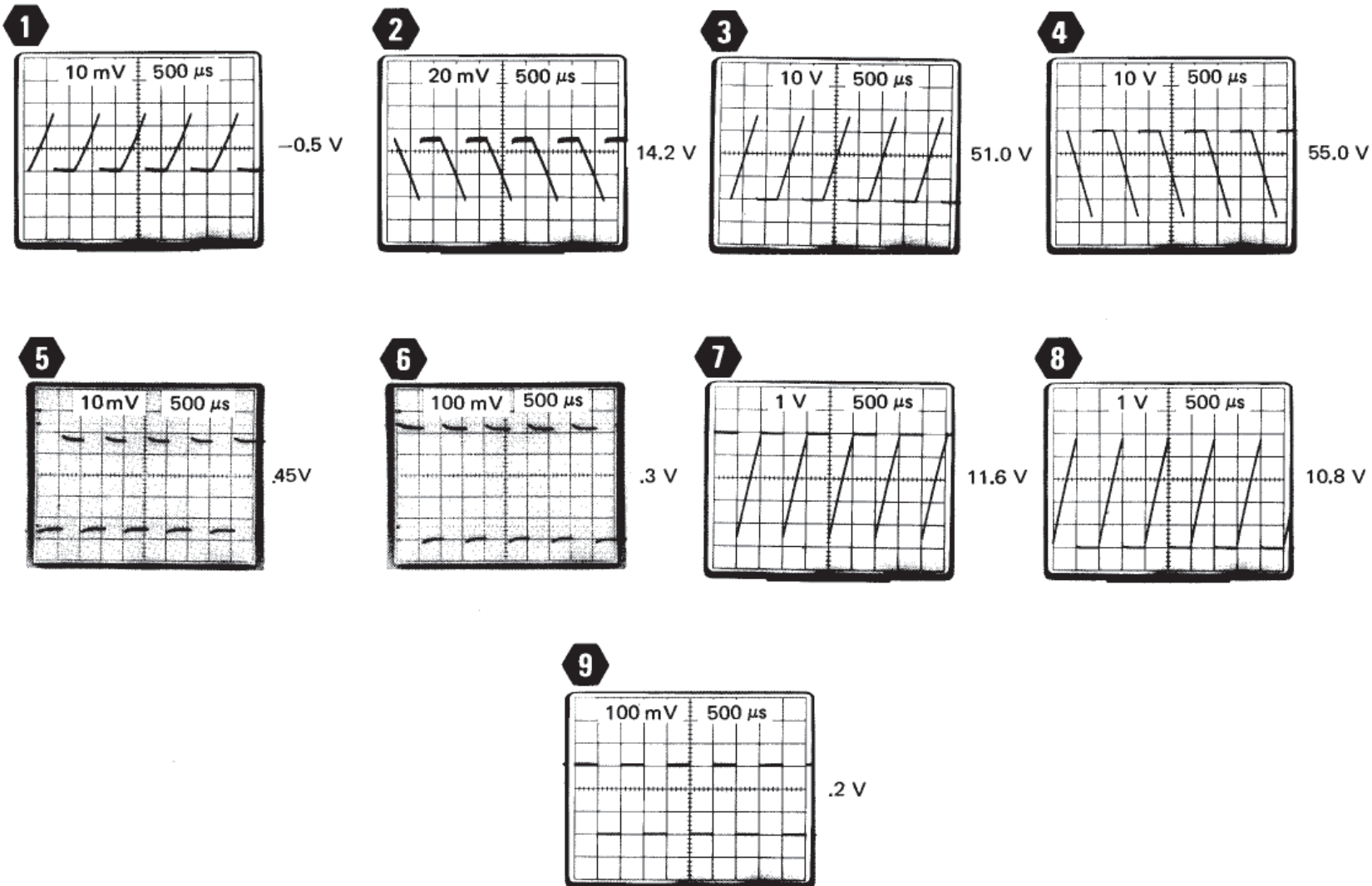
**WAVEFORM CONDITIONS**

Waveforms below were taken from a Tektronix 7000-series oscilloscope equipped with readout, 7B series Time-Base, 7A13 Differential Comparator and a 10X probe. The offset voltages were read directly from the 7A13 in the dc coupled mode. If a different test oscilloscope system is used, the ac coupled mode may have to be used due to high dc offset voltages. This can cause some waveforms to appear slightly different. Waveforms may vary as much as ±20%.

The 455 INTENSITY control was set to midrange. The Horizontal Module (A) sweep was free-running.

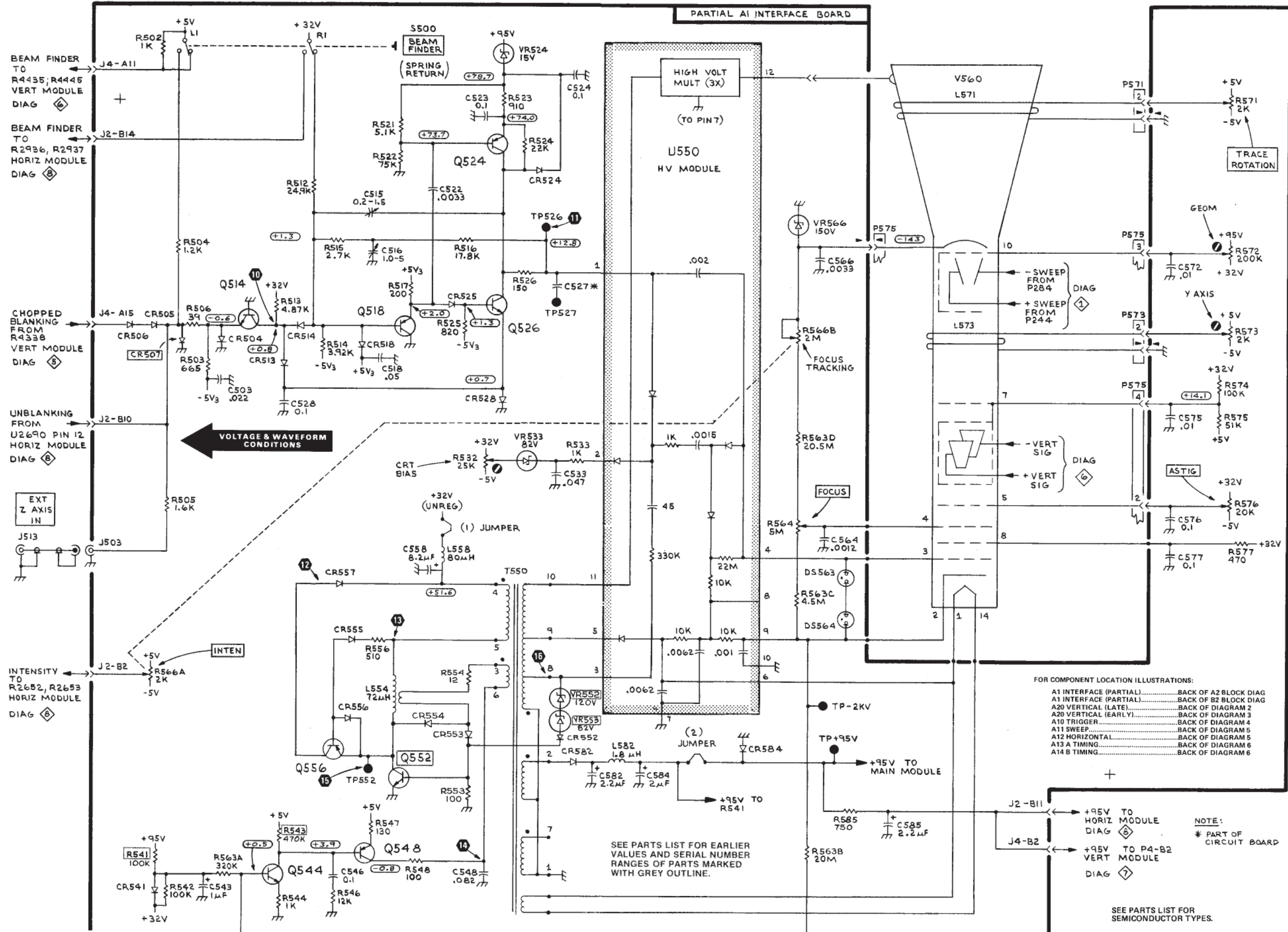
Waveforms 7, 8 and 9 were taken using calibrator signal to externally trigger the test oscilloscope.

Remove rear panel assembly to reach points 5 and 6. See Maintenance section for removal instructions.



FOR COMPONENT LOCATION ILLUSTRATIONS:

A1 INTERFACE (PARTIAL).....	BACK OF A2 BLOCK DIAG
A1 INTERFACE (PARTIAL).....	BACK OF B2 BLOCK DIAG
A20 VERTICAL (EARLY).....	BACK OF DIAGRAM 2
A10 TRIGGER.....	BACK OF DIAGRAM 4
A11 SWEEP.....	BACK OF DIAGRAM 5
A13 A TIMING.....	BACK OF DIAGRAM 6
A14 B TIMING.....	BACK OF DIAGRAM 8



455/A2/B2  
(455 MAIN MODULE)

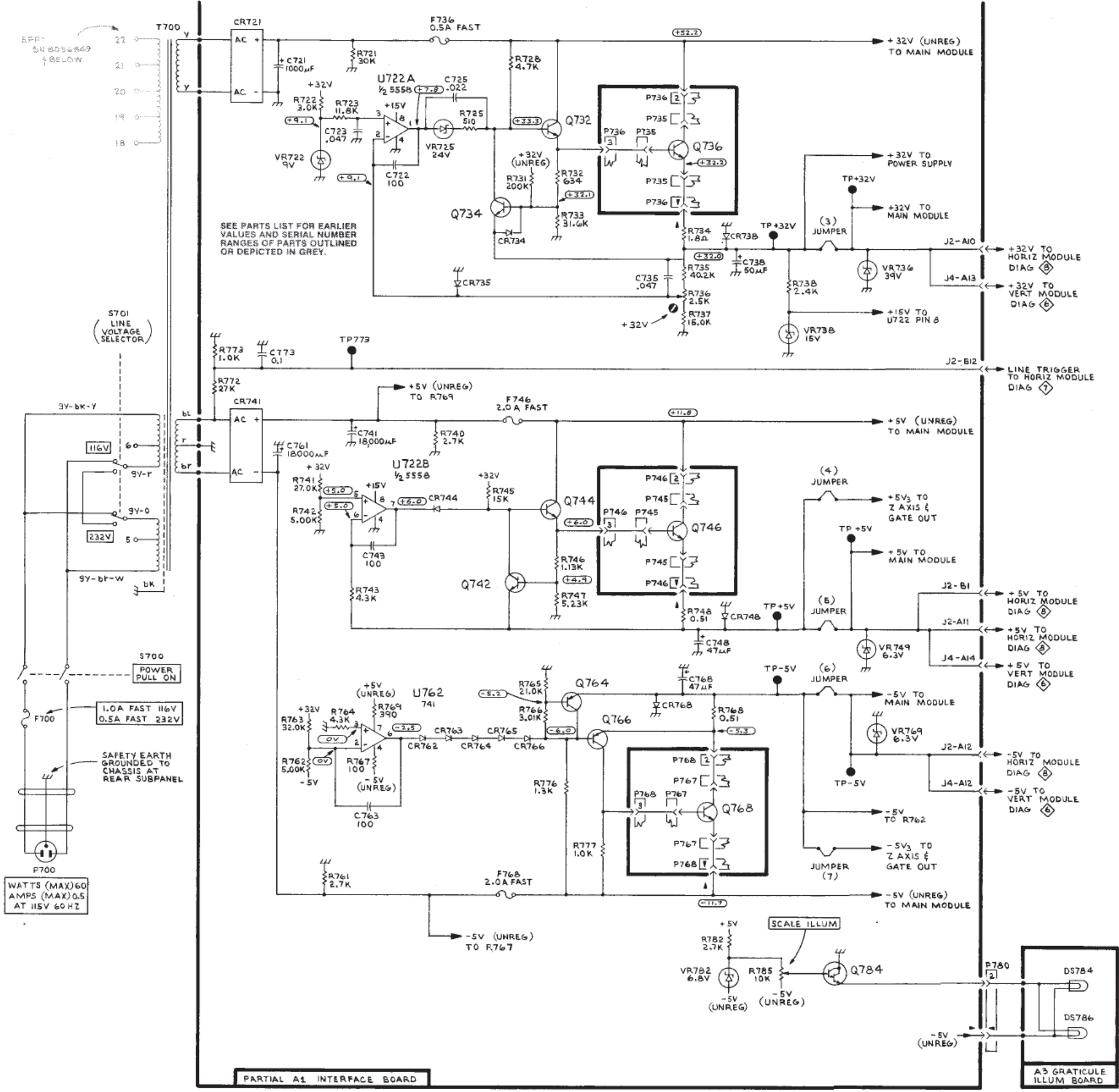
1907-103  
REV. D, MAY 1978

CRT & Z AXIS

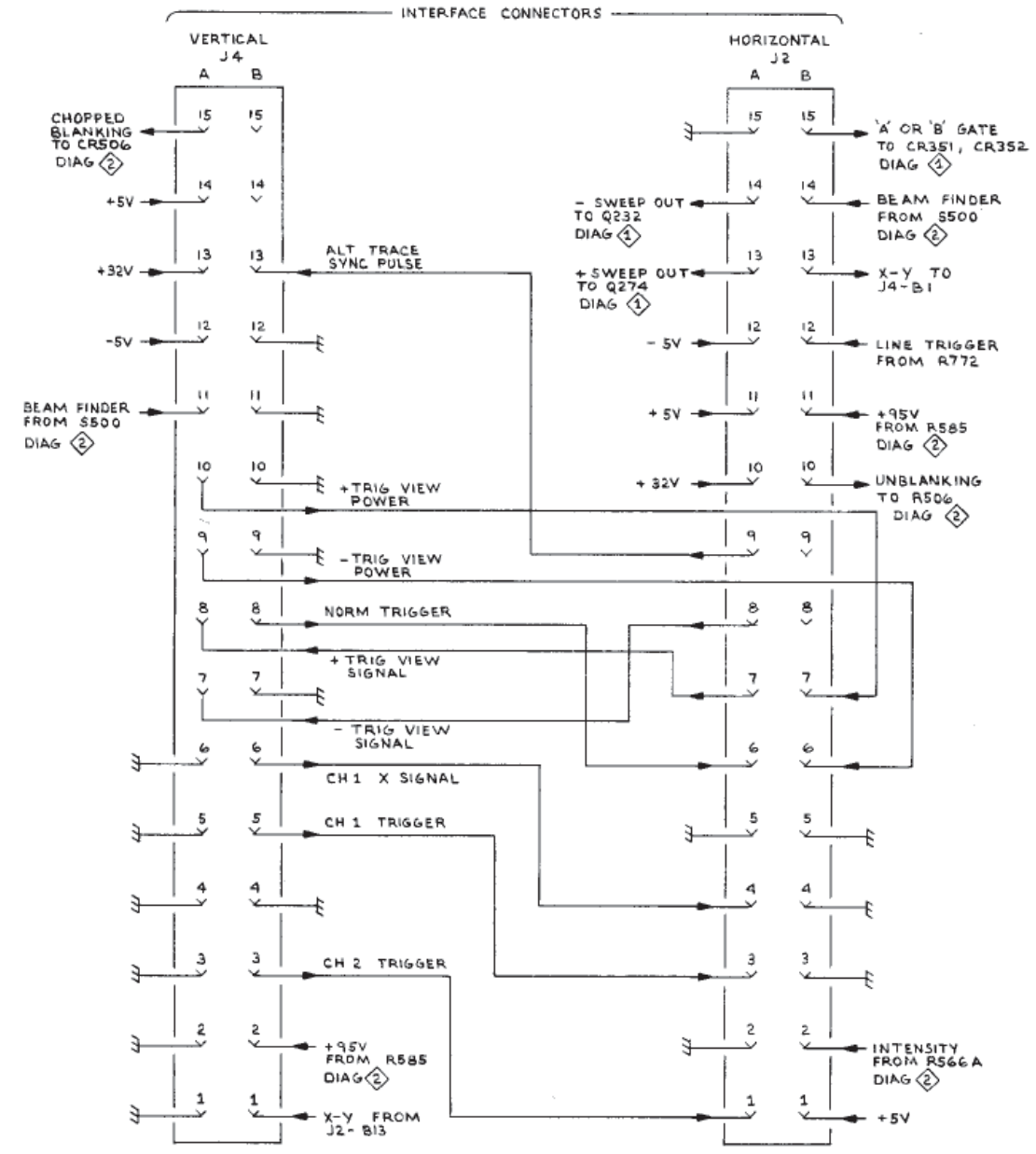
- FOR COMPONENT LOCATION ILLUSTRATIONS:
- A1 INTERFACE (PARTIAL).....BACK OF A2 BLOCK DIAG
  - A1 INTERFACE (PARTIAL).....BACK OF B2 BLOCK DIAG
  - A20 VERTICAL (LATE).....BACK OF DIAGRAM 2
  - A20 VERTICAL (EARLY).....BACK OF DIAGRAM 3
  - A10 TRIGGER.....BACK OF DIAGRAM 4
  - A11 SWEEP.....BACK OF DIAGRAM 5
  - A12 HORIZONTAL.....BACK OF DIAGRAM 6
  - A13 A TIMING.....BACK OF DIAGRAM 6
  - A14 B TIMING.....BACK OF DIAGRAM 6

NOTE:  
\* PART OF BOARD  
PART OF CIRCUIT BOARD

SEE PARTS LIST FOR SEMICONDUCTOR TYPES.



- A1 INTERFACE (PARTIAL) ..... BACK OF A2 BLOCK DIAG
- A1 INTERFACE (PARTIAL) ..... BACK OF B2 BLOCK DIAG
- A20 VERTICAL (LATE) ..... BACK OF DIAGRAM 2
- A20 VERTICAL (EARLY) ..... BACK OF DIAGRAM 3
- A10 TRIGGER ..... BACK OF DIAGRAM 4
- A11 SWEEP ..... BACK OF DIAGRAM 5
- A12 HORIZONTAL ..... BACK OF DIAGRAM 5
- A13 A TIMING ..... BACK OF DIAGRAM 6
- A14 B TIMING ..... BACK OF DIAGRAM 6



**VOLTAGE CONDITIONS**

Voltages shown on this schematic diagram were measured with a TEKTRONIX DM 501 Digital Multimeter. Voltage measurements can vary as much as ±20%. No signals were applied to the Vertical or Horizontal module.

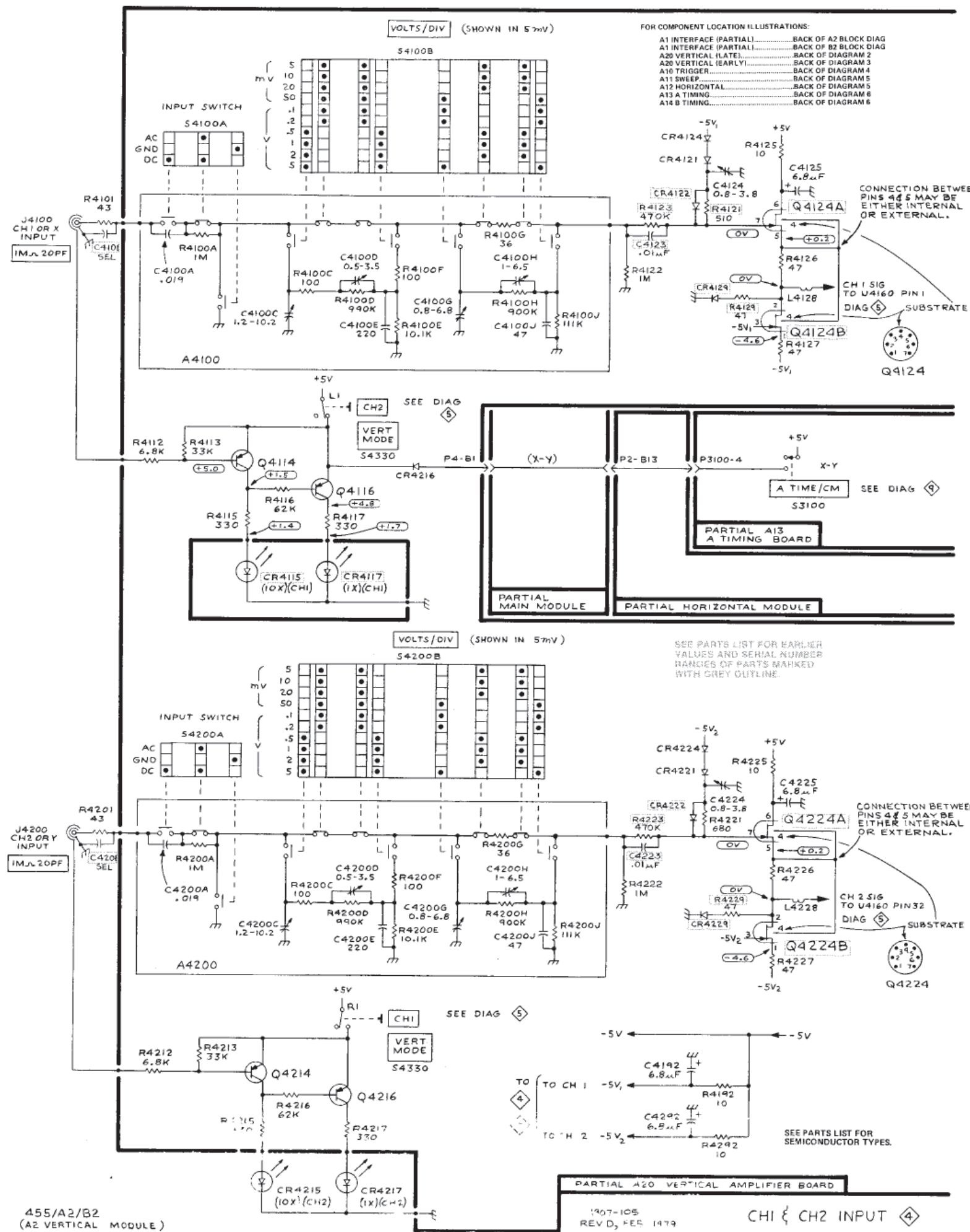
SEE PARTS LIST FOR SEMICONDUCTOR TYPES.

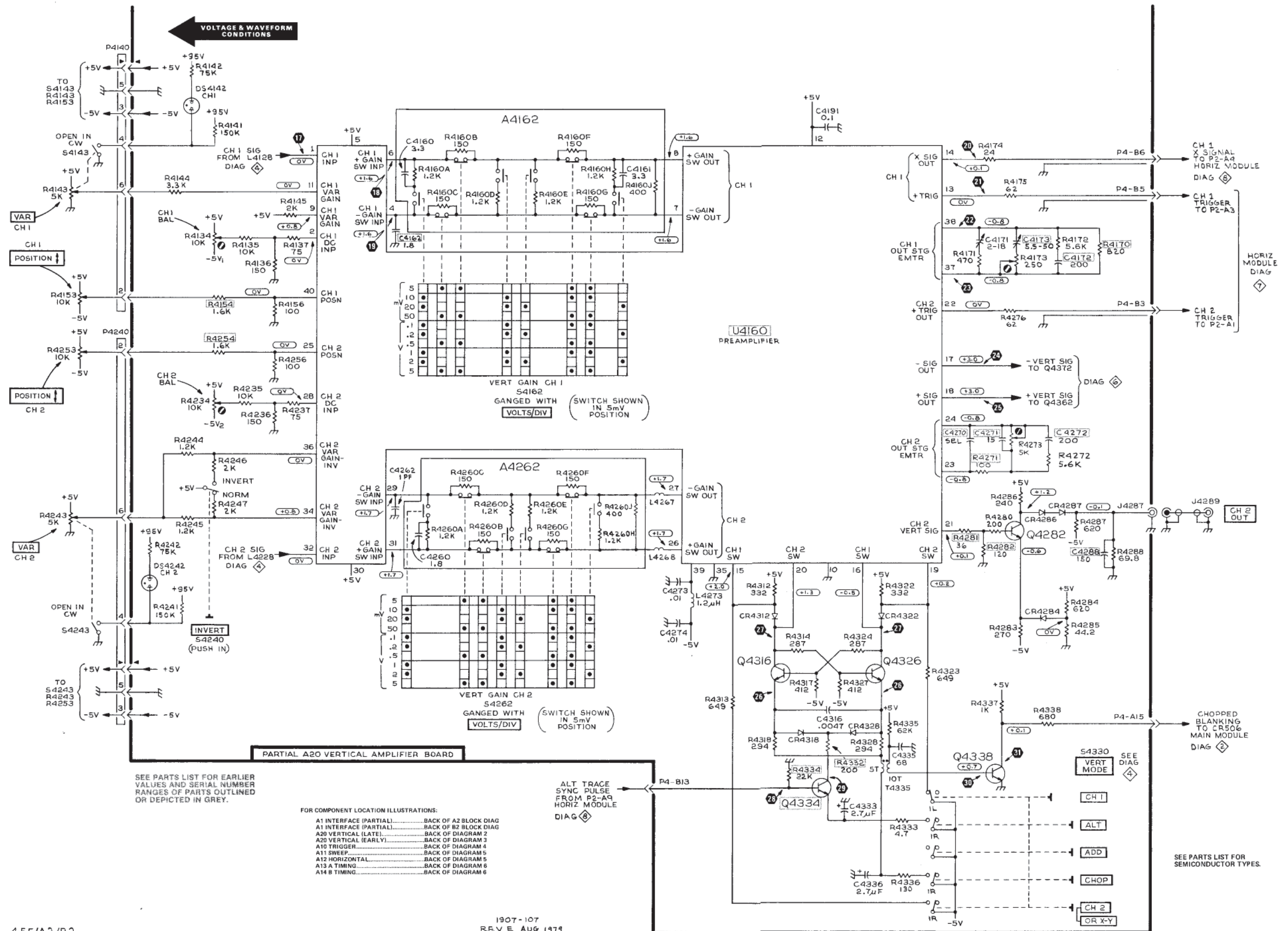
### VOLTAGE CONDITIONS

Voltages shown on this schematic diagram were measured with a Tektronix DM 501 Digital Multimeter. Voltage measurements can vary as much as  $\pm 20\%$ .

A2 controls were set as follows:

VERT MODE	CH 1
CH 1 & CH 2 AC-GND-DC	GND
CH 1 POSITION	Trace or spot centered





SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES OF PARTS OUTLINED OR DEPICTED IN GREY.

- FOR COMPONENT LOCATION ILLUSTRATIONS:
- A1 INTERFACE (PARTIAL).....BACK OF A2 BLOCK DIAG
  - A1 INTERFACE (PARTIAL).....BACK OF B2 BLOCK DIAG
  - A20 VERTICAL (LATE).....BACK OF DIAGRAM 2
  - A20 VERTICAL (EARLY).....BACK OF DIAGRAM 3
  - A10 TRIGGER.....BACK OF DIAGRAM 4
  - A11 SWEEP.....BACK OF DIAGRAM 5
  - A12 HORIZONTAL.....BACK OF DIAGRAM 5
  - A13 A TIMING.....BACK OF DIAGRAM 6
  - A14 B TIMING.....BACK OF DIAGRAM 6

1907-107  
REV E AUG 1974

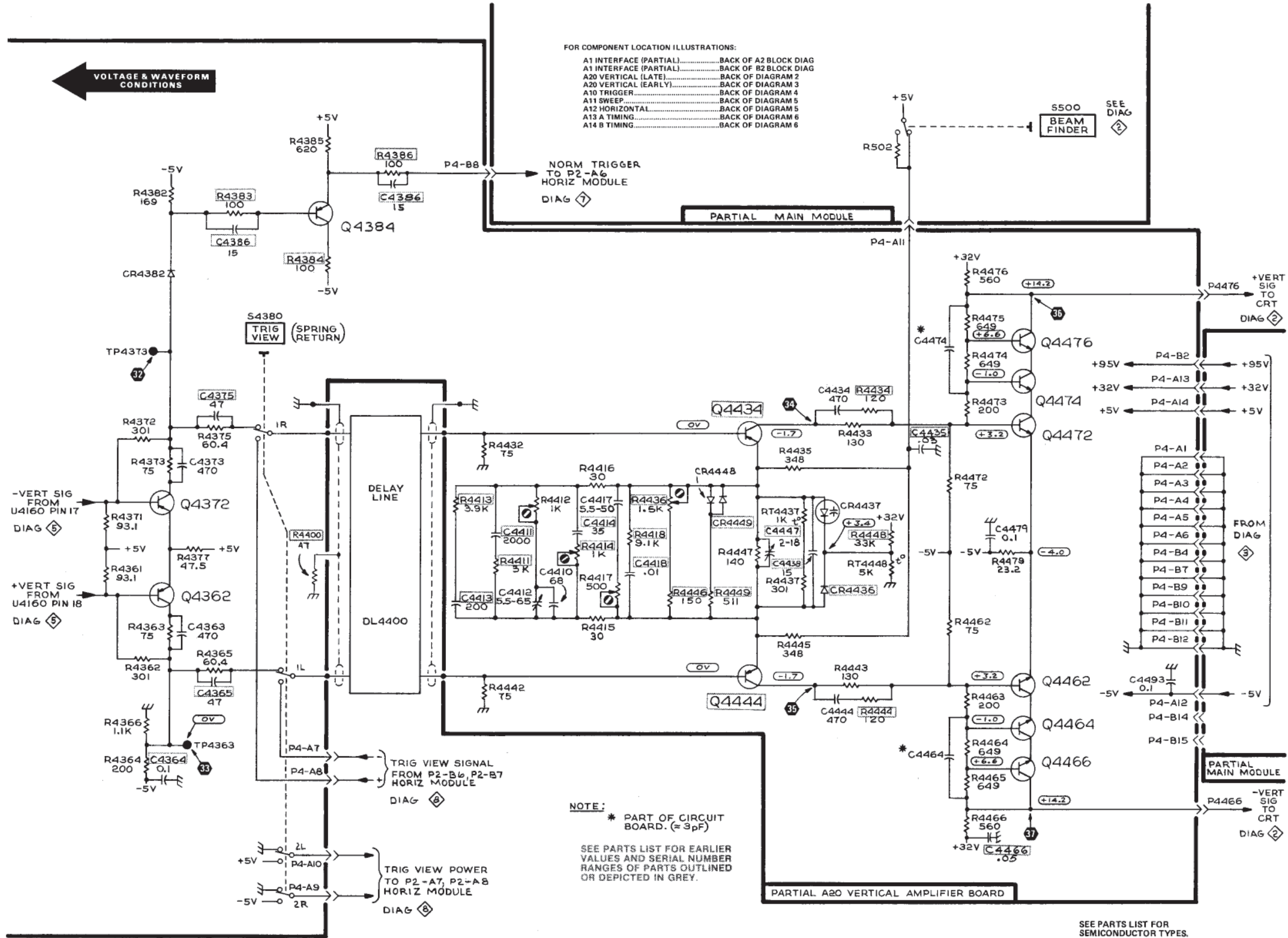
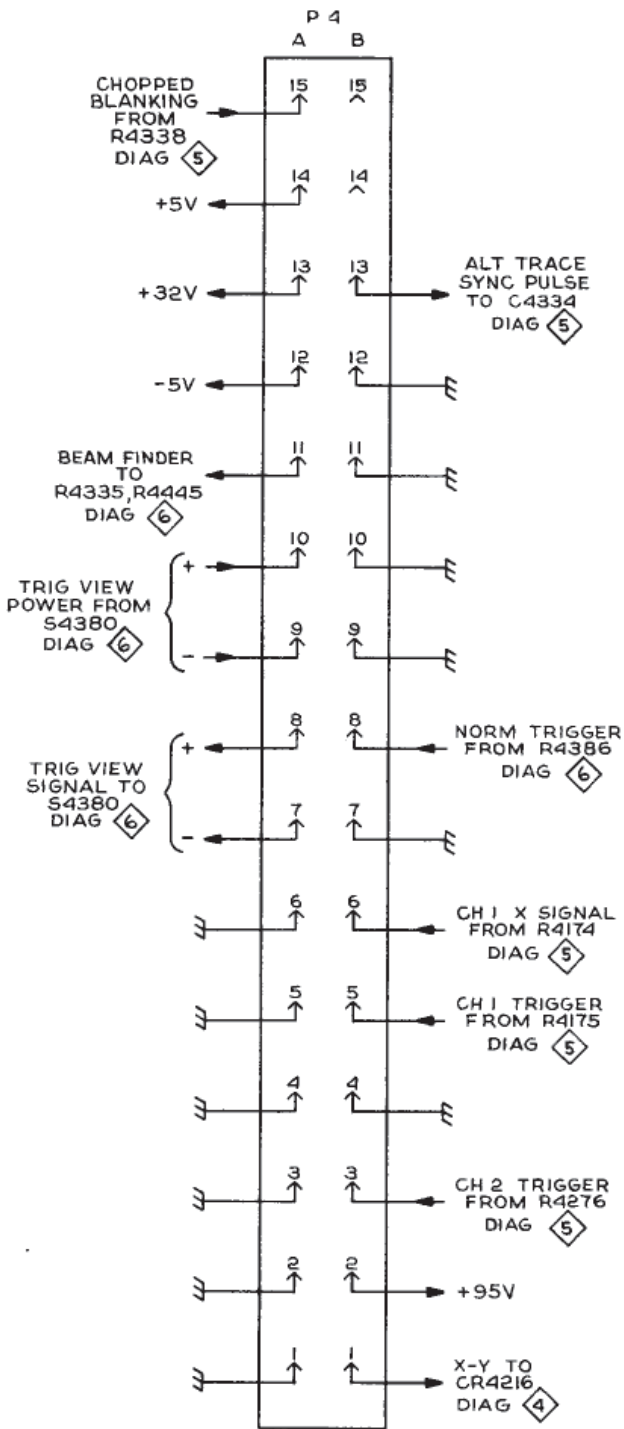


VOLTAGE & WAVEFORM CONDITIONS

FOR COMPONENT LOCATION ILLUSTRATIONS:

- A1 INTERFACE (PARTIAL).....BACK OF A2 BLOCK DIAG
- A1 INTERFACE (PARTIAL).....BACK OF B2 BLOCK DIAG
- A20 VERTICAL (LATE).....BACK OF DIAGRAM 2
- A20 VERTICAL (EARLY).....BACK OF DIAGRAM 3
- A10 TRIGGER.....BACK OF DIAGRAM 4
- A11 SWEEP.....BACK OF DIAGRAM 5
- A12 HORIZONTAL.....BACK OF DIAGRAM 5
- A13 A TIMING.....BACK OF DIAGRAM 6
- A14 B TIMING.....BACK OF DIAGRAM 6

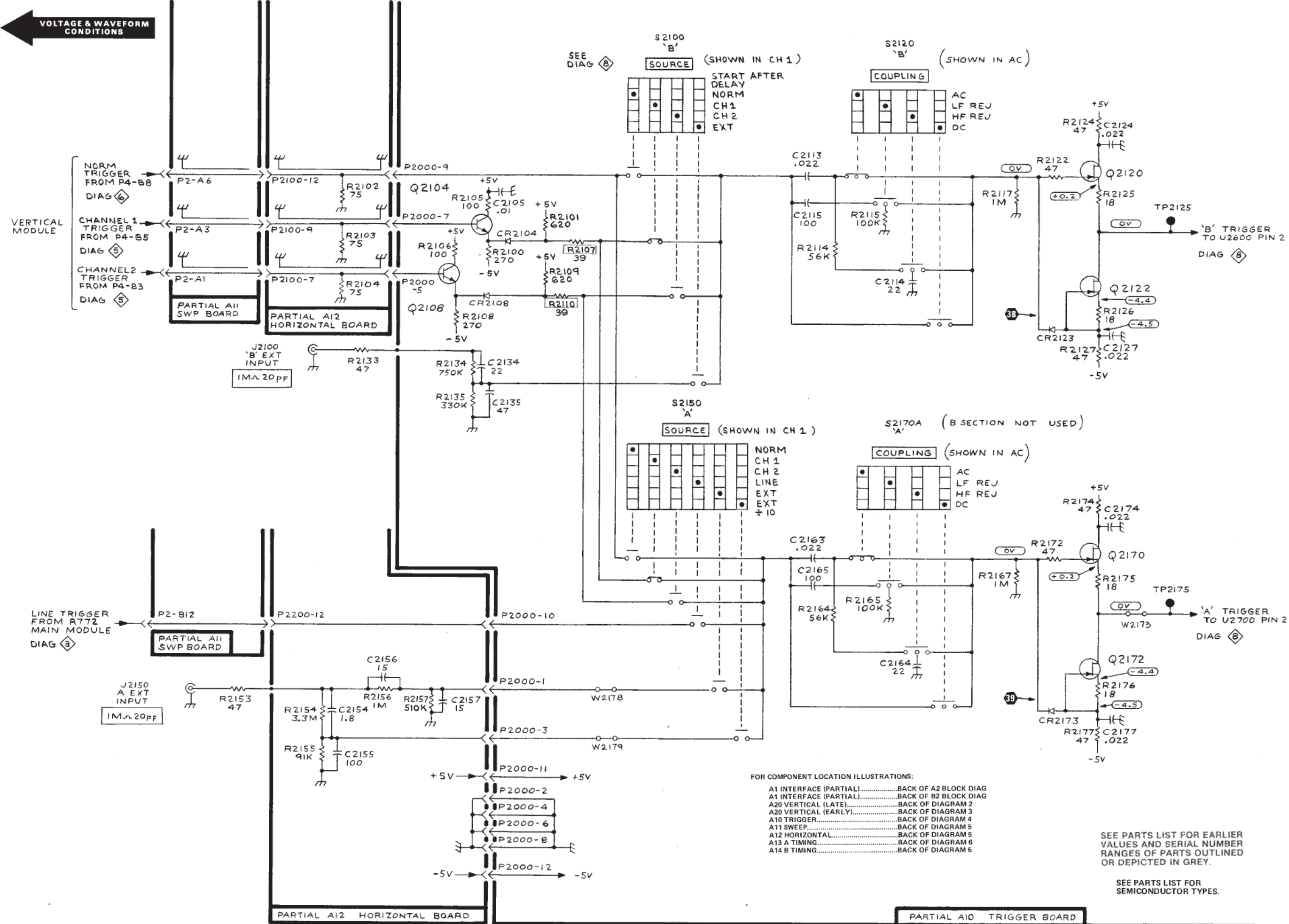
INTERFACE CONNECTOR



NOTE:  
\* PART OF CIRCUIT BOARD. (≈ 3pF)  
SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES OF PARTS OUTLINED OR DEPICTED IN GREY.

SEE PARTS LIST FOR SEMICONDUCTOR TYPES.

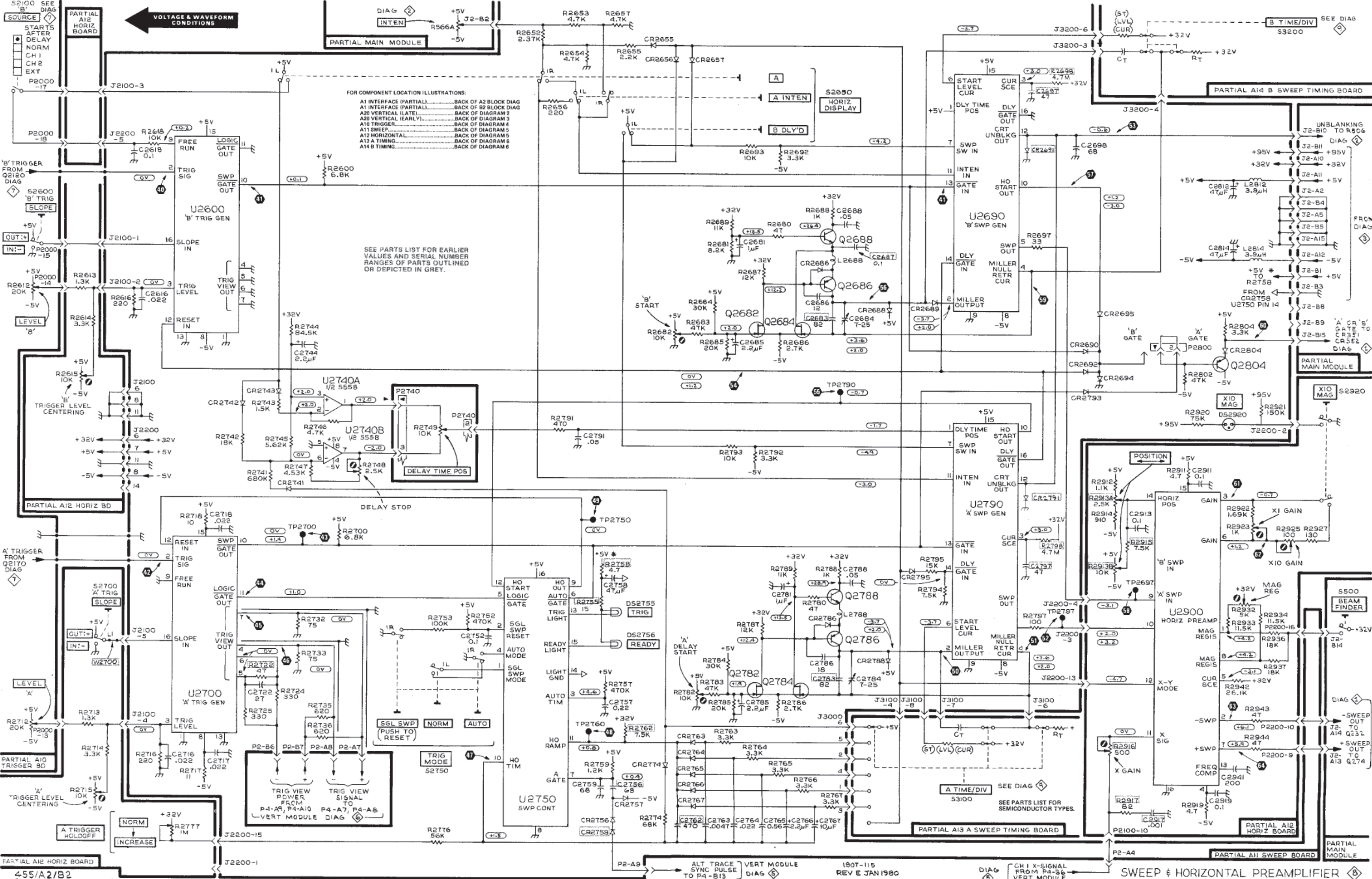
VOLTAGE & WAVEFORM CONDITIONS



- FOR COMPONENT LOCATION ILLUSTRATIONS:
- A1 INTERFACE (PARTIAL).....BACK OF A2 BLOCK DIAG
  - A1 INTERFACE (PARTIAL).....BACK OF B2 BLOCK DIAG
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  - A11 SWEEP.....BACK OF DIAGRAM 5
  - A12 HORIZONTAL.....BACK OF DIAGRAM 5
  - A13 A TIMING.....BACK OF DIAGRAM 6
  - A14 B TIMING.....BACK OF DIAGRAM 6

SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES OF PARTS OUTLINED OR DEPICTED IN GREY.

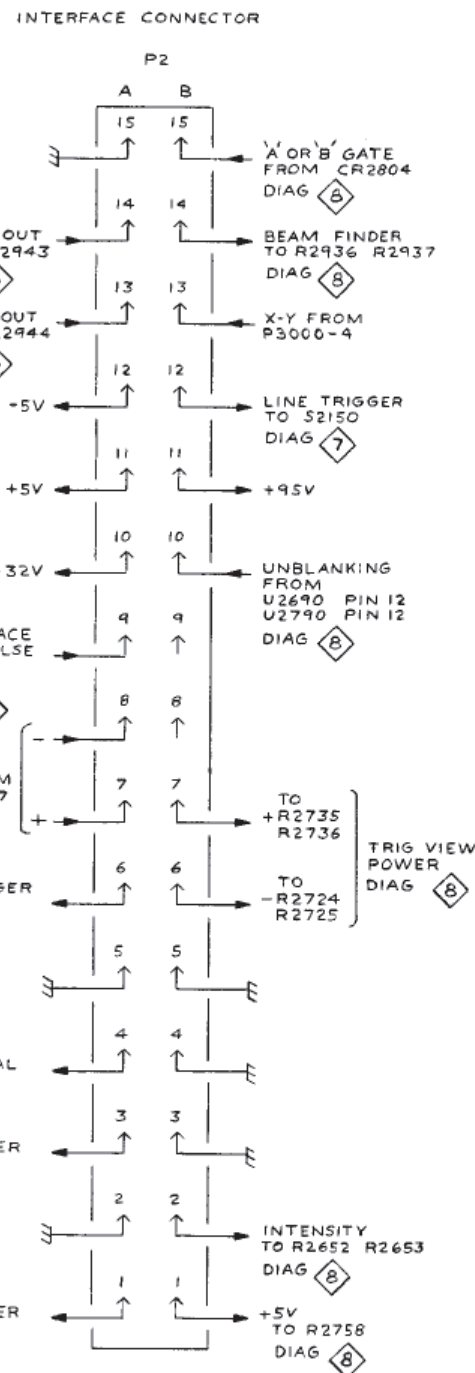
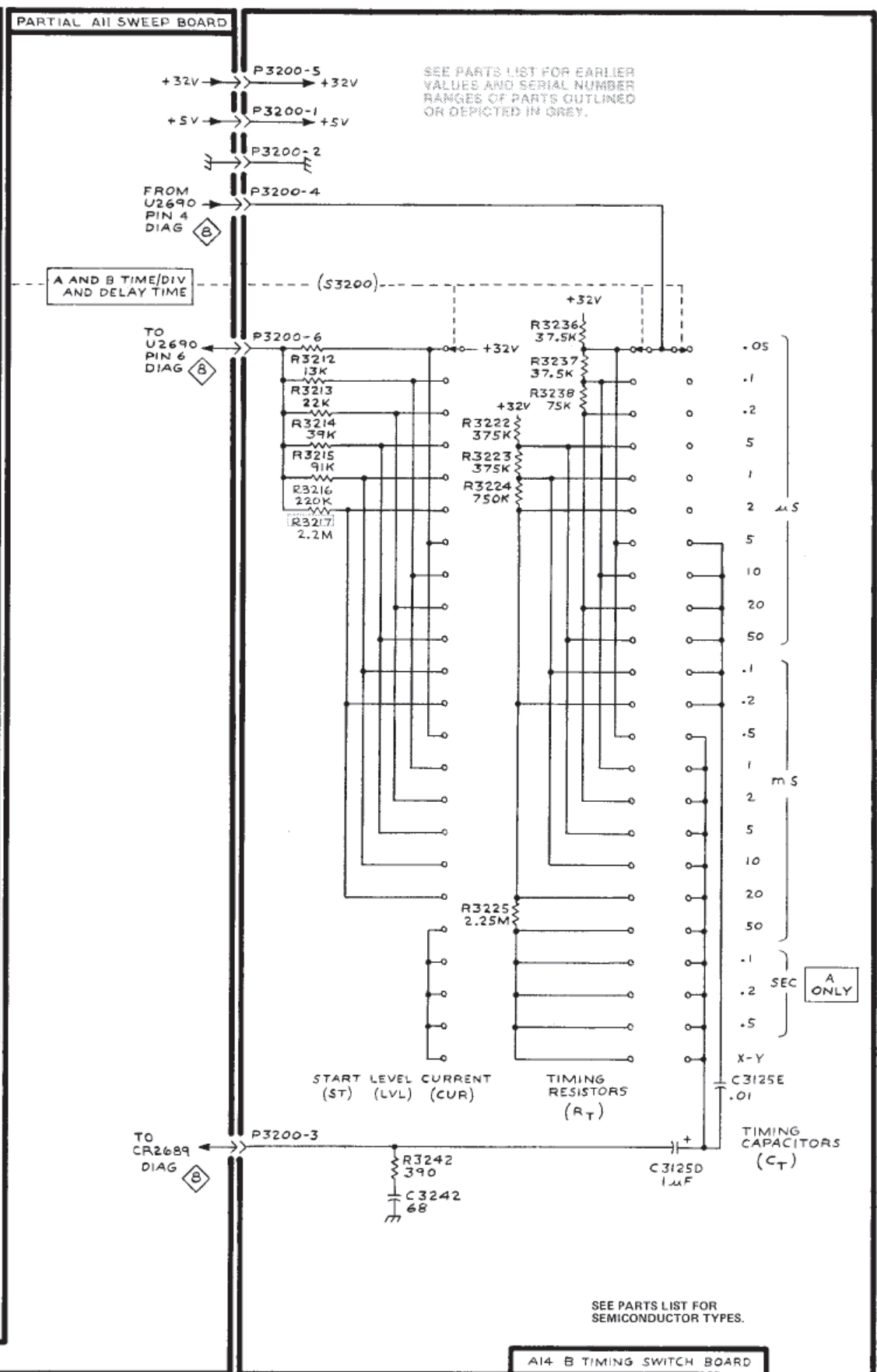
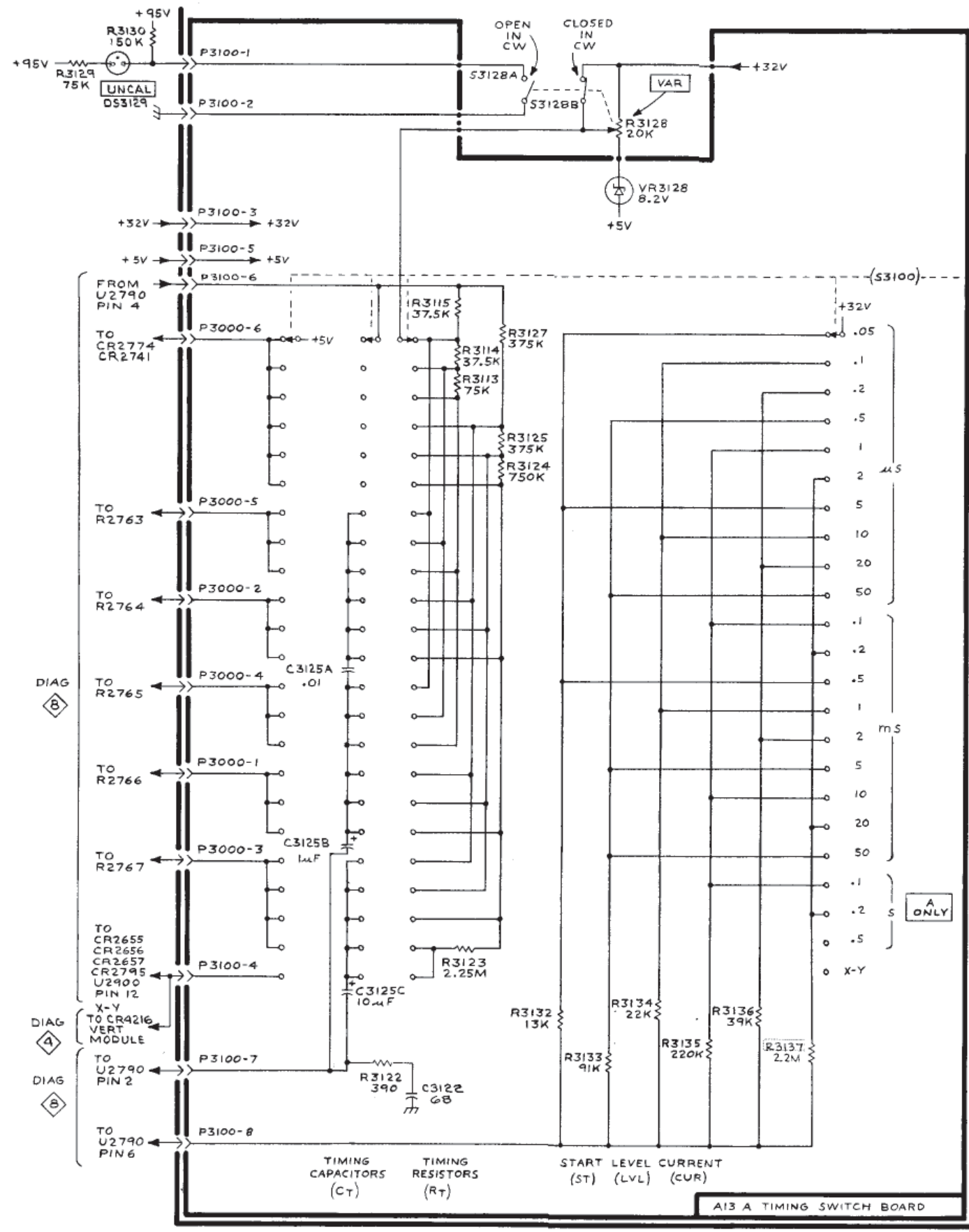
SEE PARTS LIST FOR SEMICONDUCTOR TYPES.



FOR COMPONENT LOCATION ILLUSTRATIONS:

A1 INTERFACE (PARTIAL)	BACK OF A2 BLOCK DIAG
A1 INTERFACE (PARTIAL)	BACK OF B2 BLOCK DIAG
A20 VERTICAL (LATE)	BACK OF DIAGRAM 2
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A11 SWEEP	BACK OF DIAGRAM 5
A12 HORIZONTAL	BACK OF DIAGRAM 6
A13 A TIMING	BACK OF DIAGRAM 6
A14 B TIMING	BACK OF DIAGRAM 6

SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES OF PARTS OUTLINED OR DEPICTED IN GREY.



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 A1 INTERFACE (PARTIAL).....BACK OF A2 BLOCK DIAG  
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 A10 TRIGGER.....BACK OF DIAGRAM 4  
 A11 SWEEP.....BACK OF DIAGRAM 5  
 A12 HORIZONTAL.....BACK OF DIAGRAM 5  
 A13 A TIMING.....BACK OF DIAGRAM 6  
 A14 B TIMING.....BACK OF DIAGRAM 6

455/A2/B2  
 (B2 HORIZONTAL MODULE)

1907-116  
 REV E, FEB 1979

A&B TIMING SWITCH & INTERFACE CONNECTOR