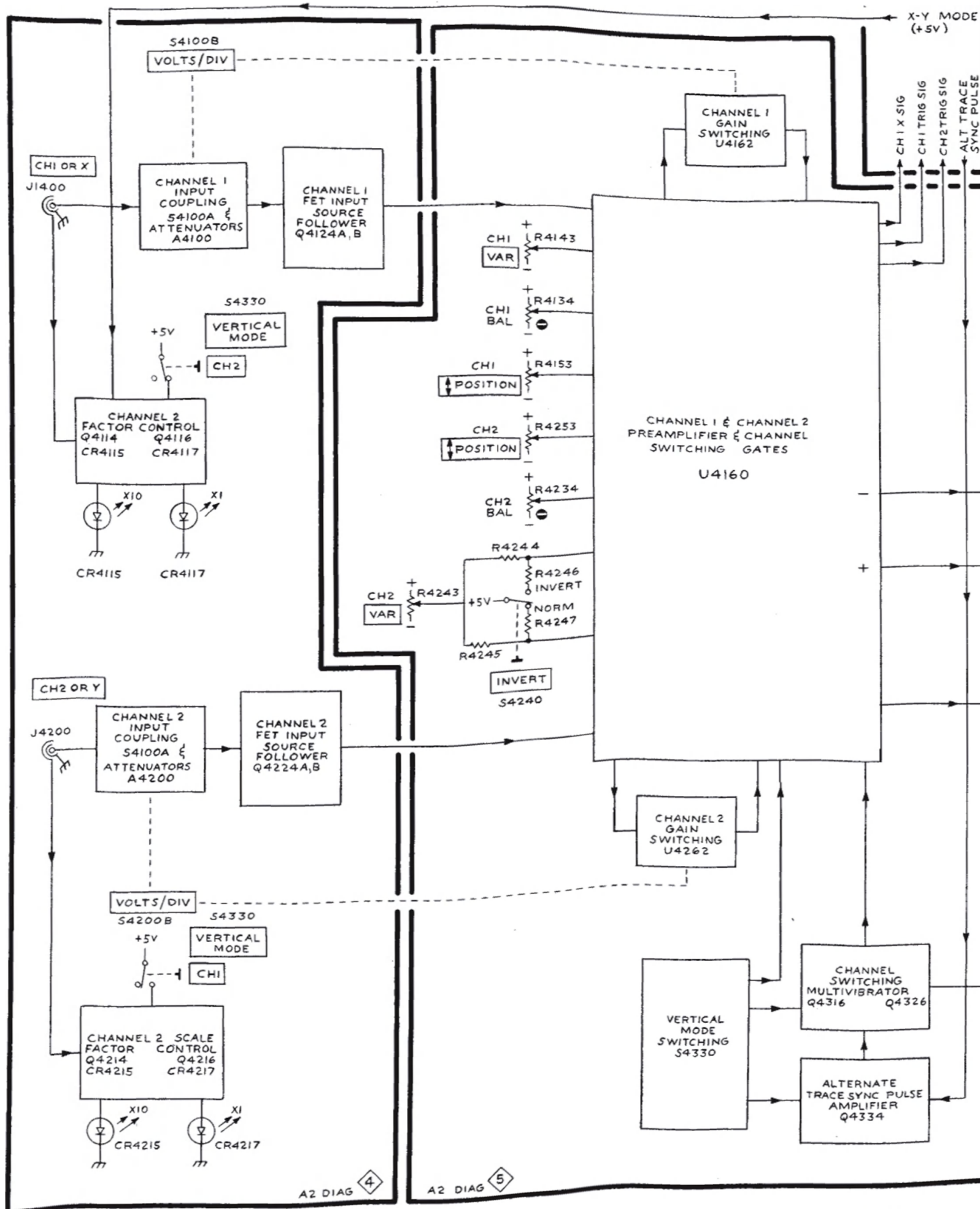
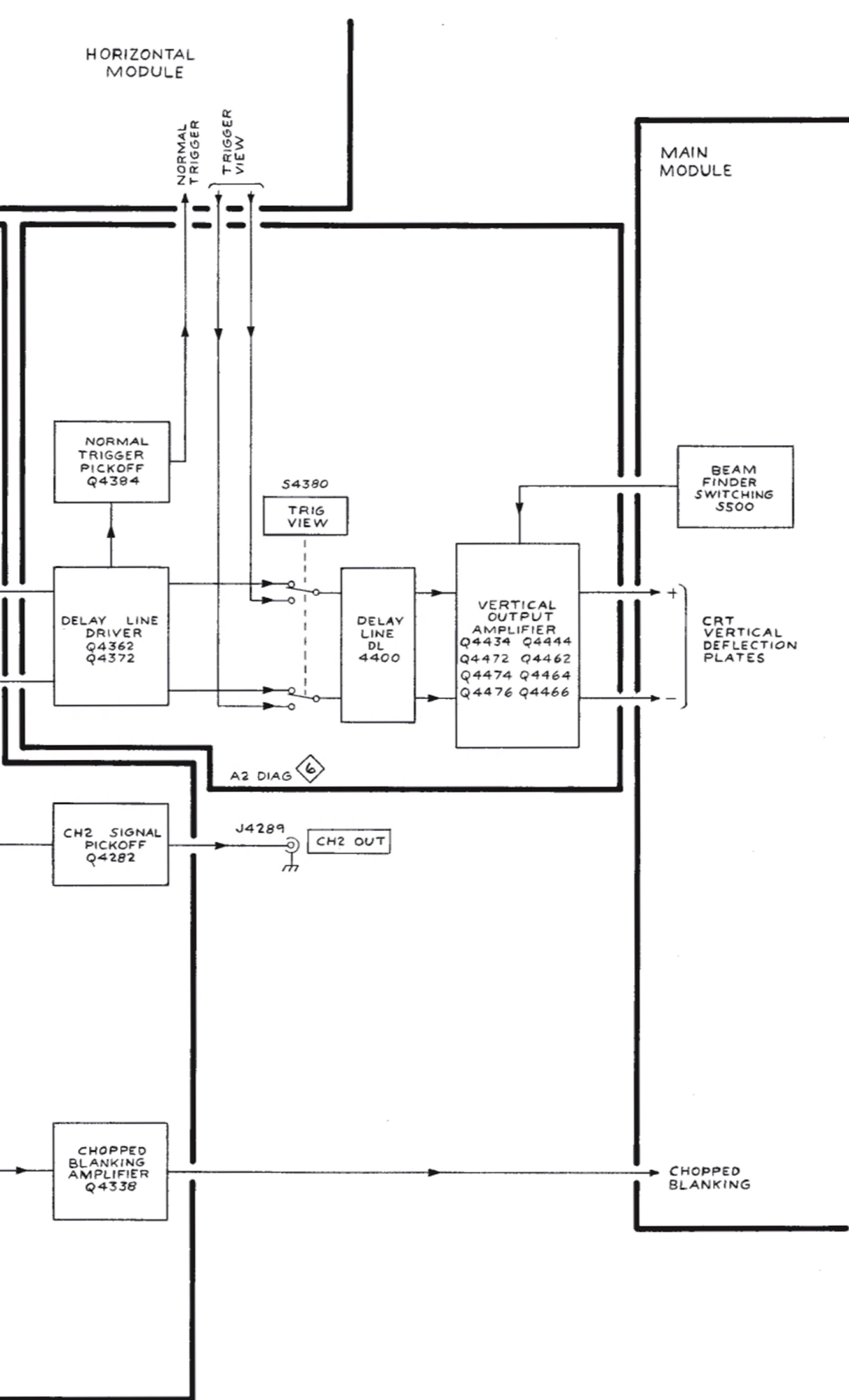


455/A2/B2
(455 MAIN MODULE)

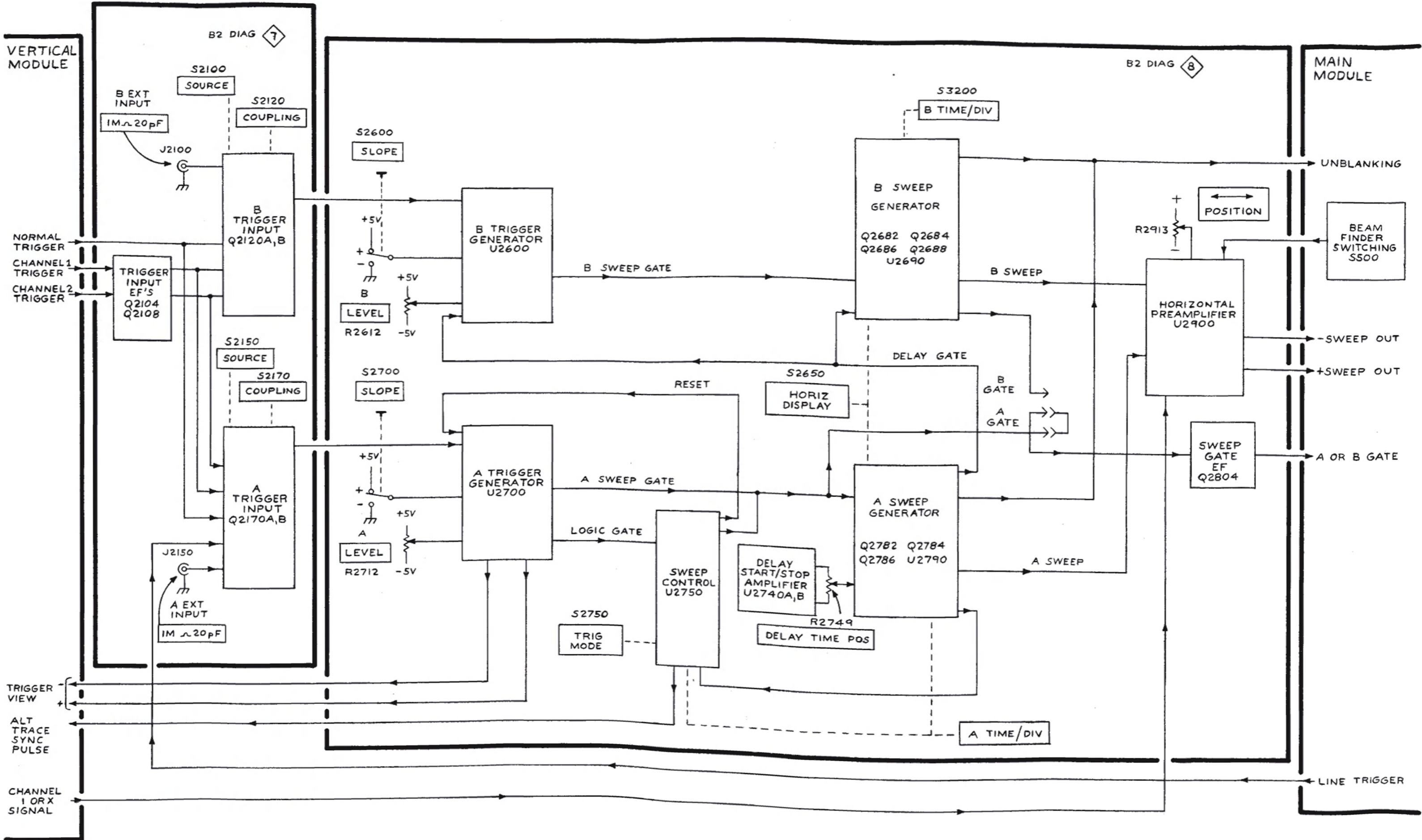
1907-97
REV. B, NOV. 1977

455 MAIN MODULE BLOCK DIAGRAM





A2 VERTICAL 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 $\pm 20\%$.

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.

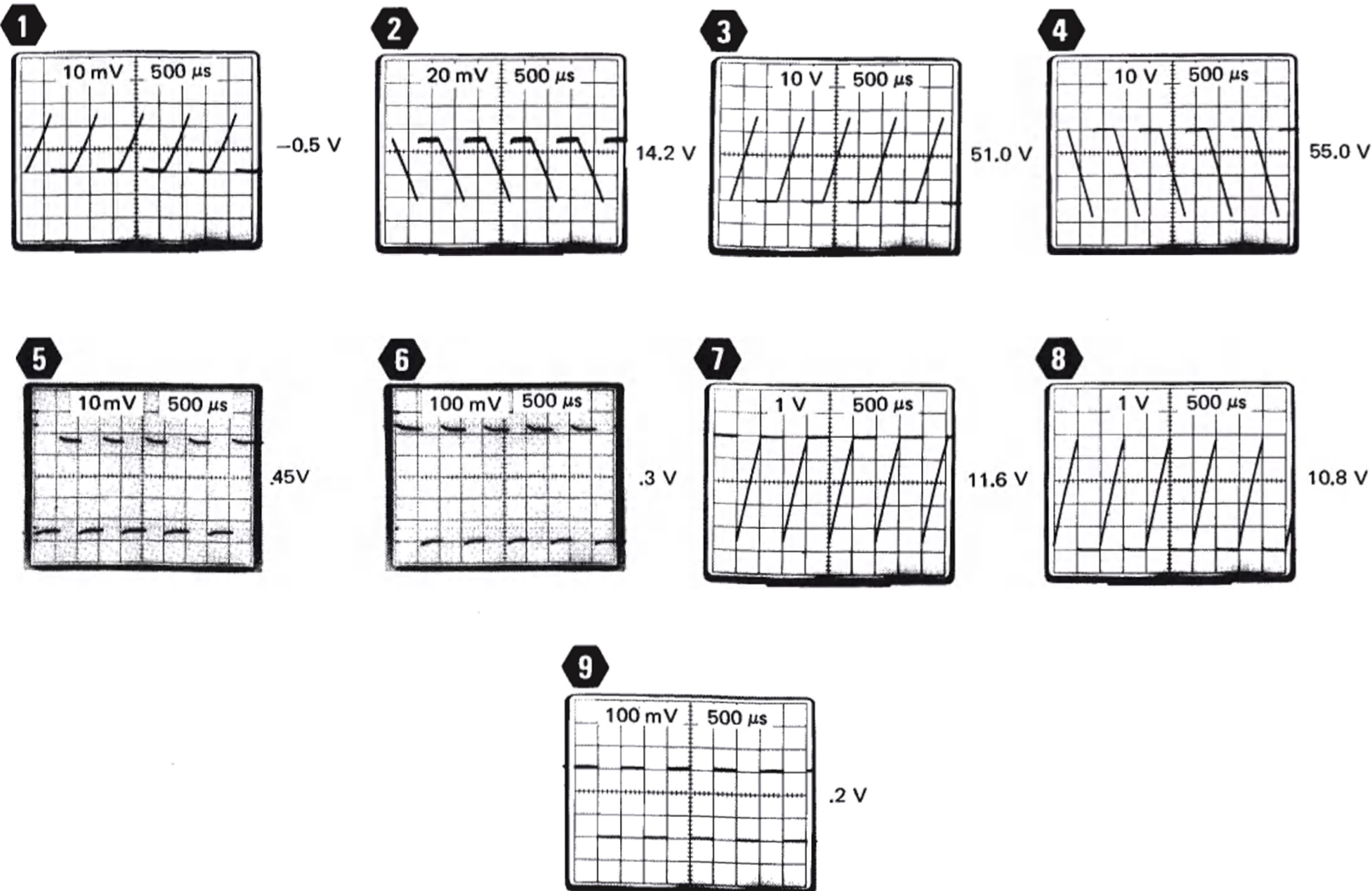
WAVEFORM CONDITIONS

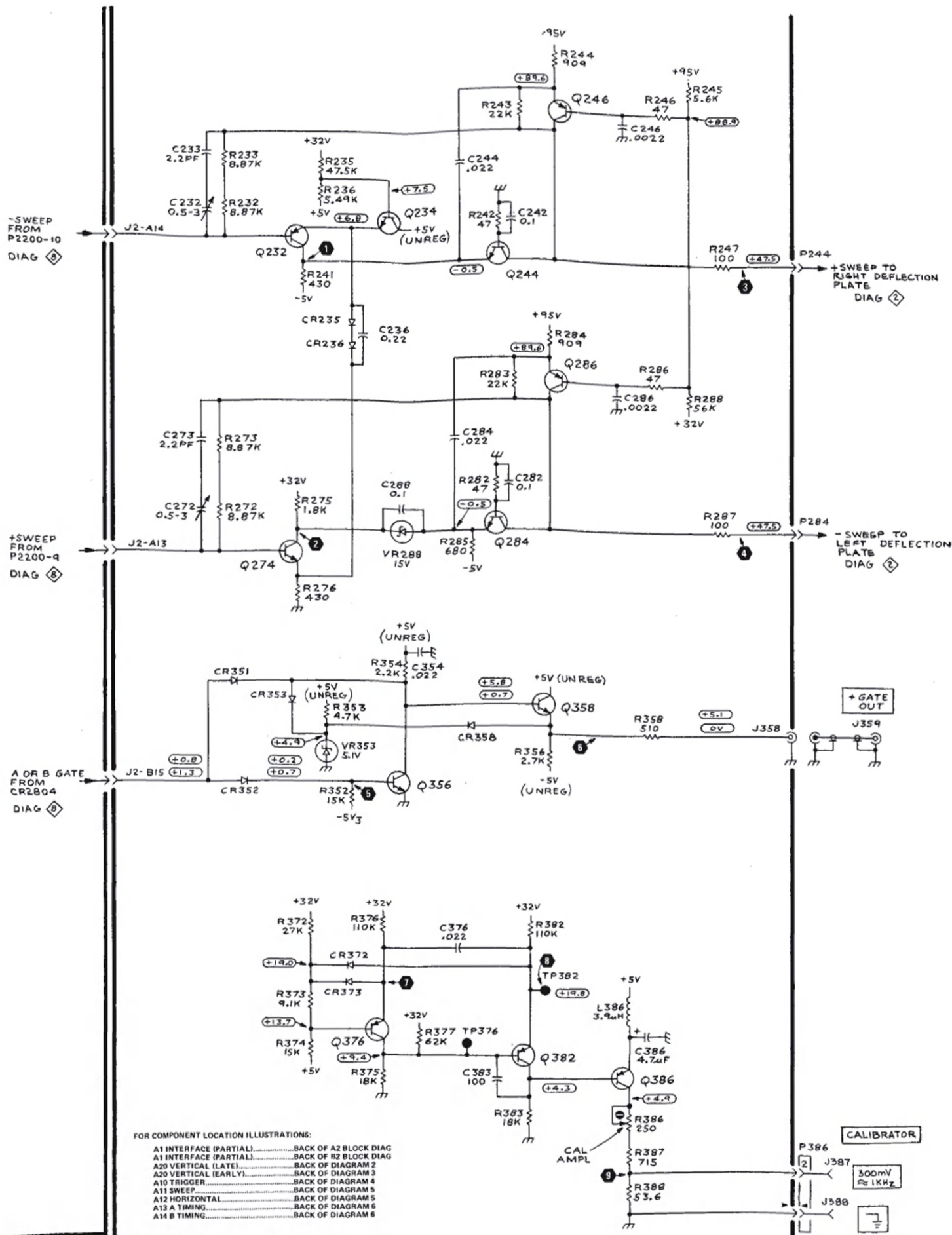
Waveforms below were taken from a Tektronix 7000-series oscilloscope equipped with readout, 7B series Time-Base, 7A13 Differential Comparator and a 10X probe. The offset voltages were read directly from the 7A13 in the dc coupled mode. If a different test oscilloscope system is used, the ac coupled mode 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 $\pm 20\%$.

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 (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

PARTIAL HORIZ MODULE

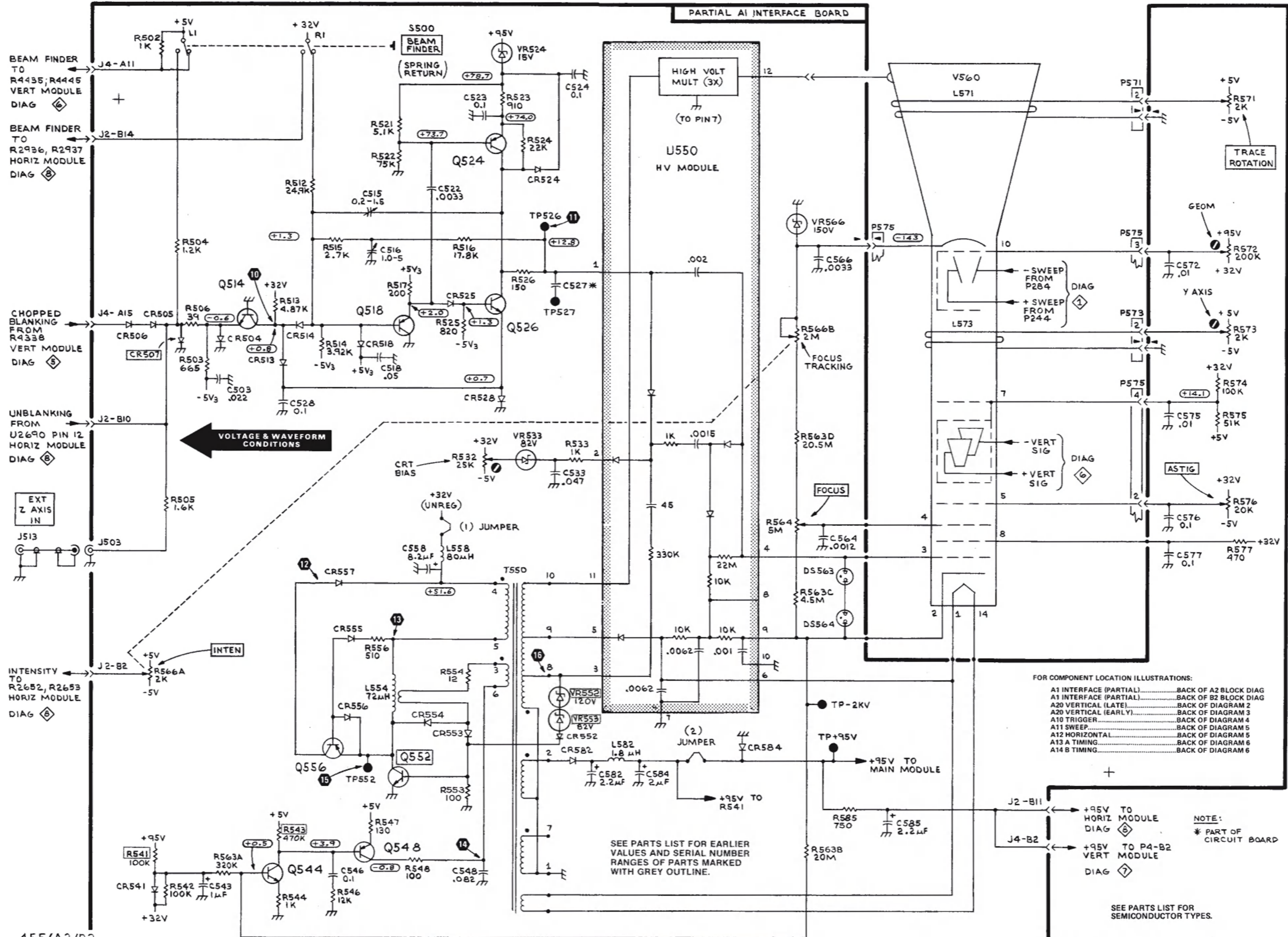
PARTIAL A1 INTERFACE BOARD

SEE PARTS LIST FOR SEMICONDUCTOR TYPES.

455/A2/B2
(455 MAIN MODULE)

1907-101
REV. B, NOV. 1977

HORIZONTAL AMPLIFIER, + GATE & CALIBRATOR



455/A2/B2
(455 MAIN MODULE)

1907-103
REV.D, MAY 1978

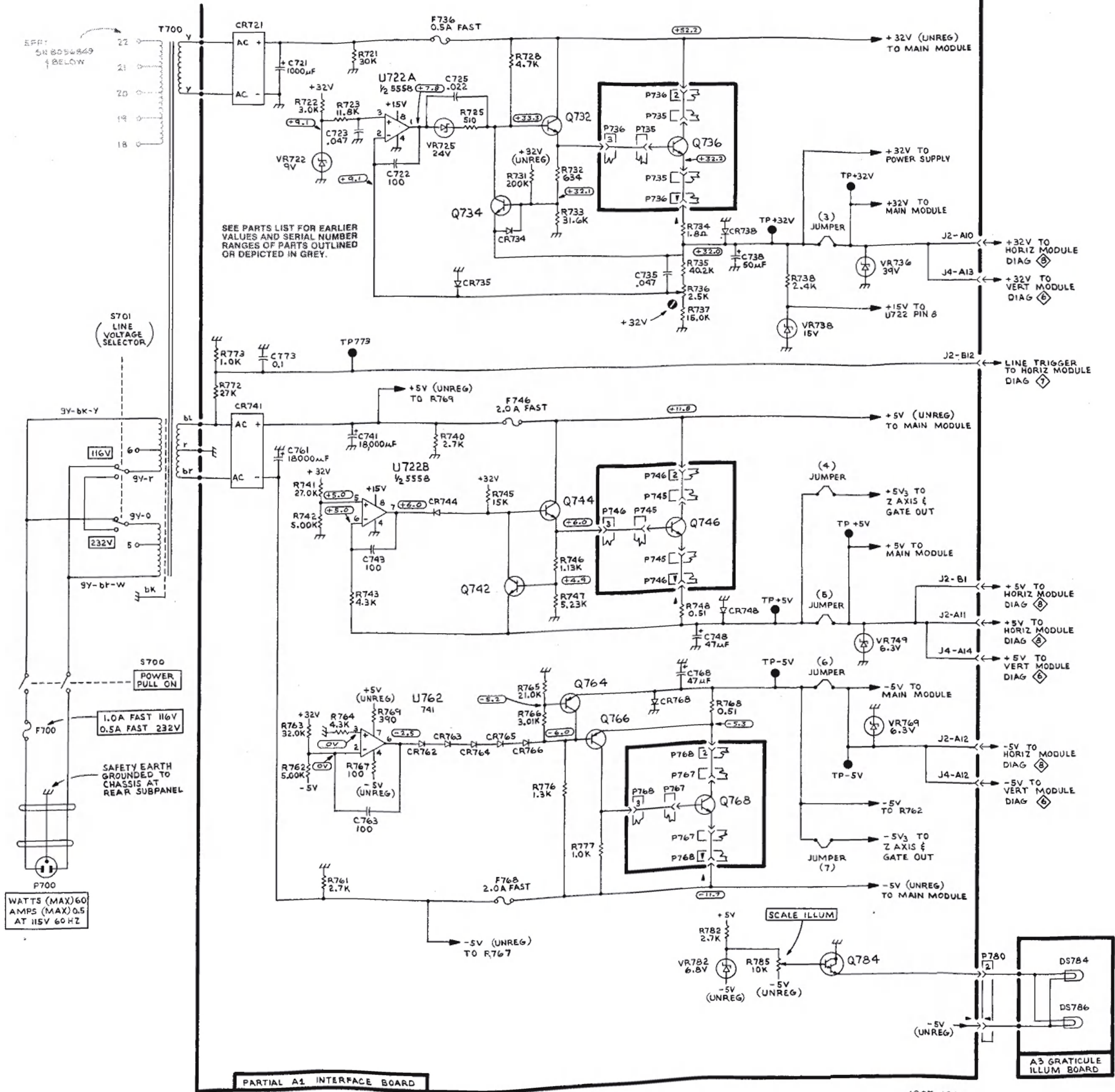
FOR COMPONENT LOCATION ILLUSTRATIONS:

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

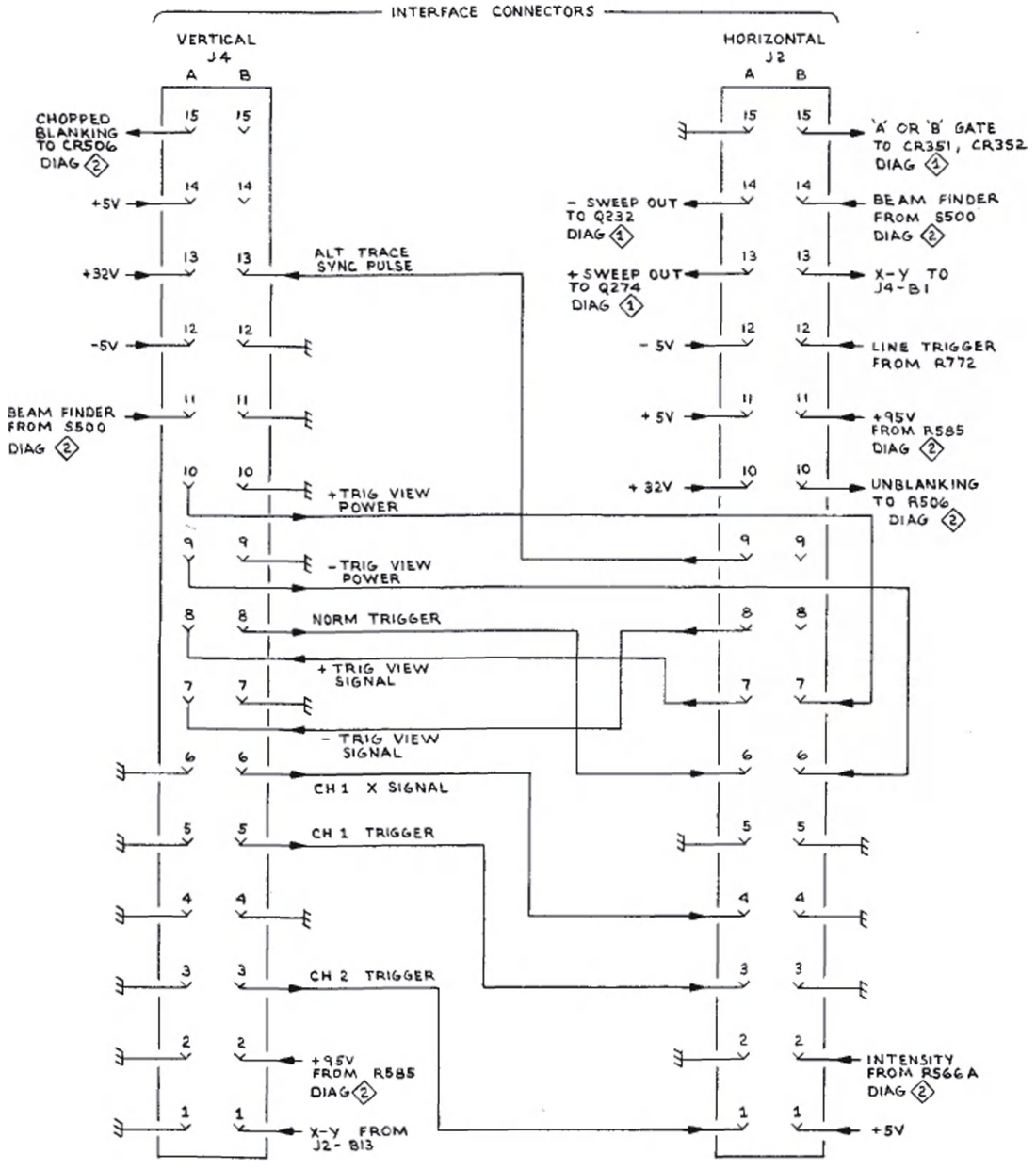
NOTE:
* PART OF CIRCUIT BOARD

SEE PARTS LIST FOR SEMICONDUCTOR TYPES.

CRT & Z AXIS



- 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

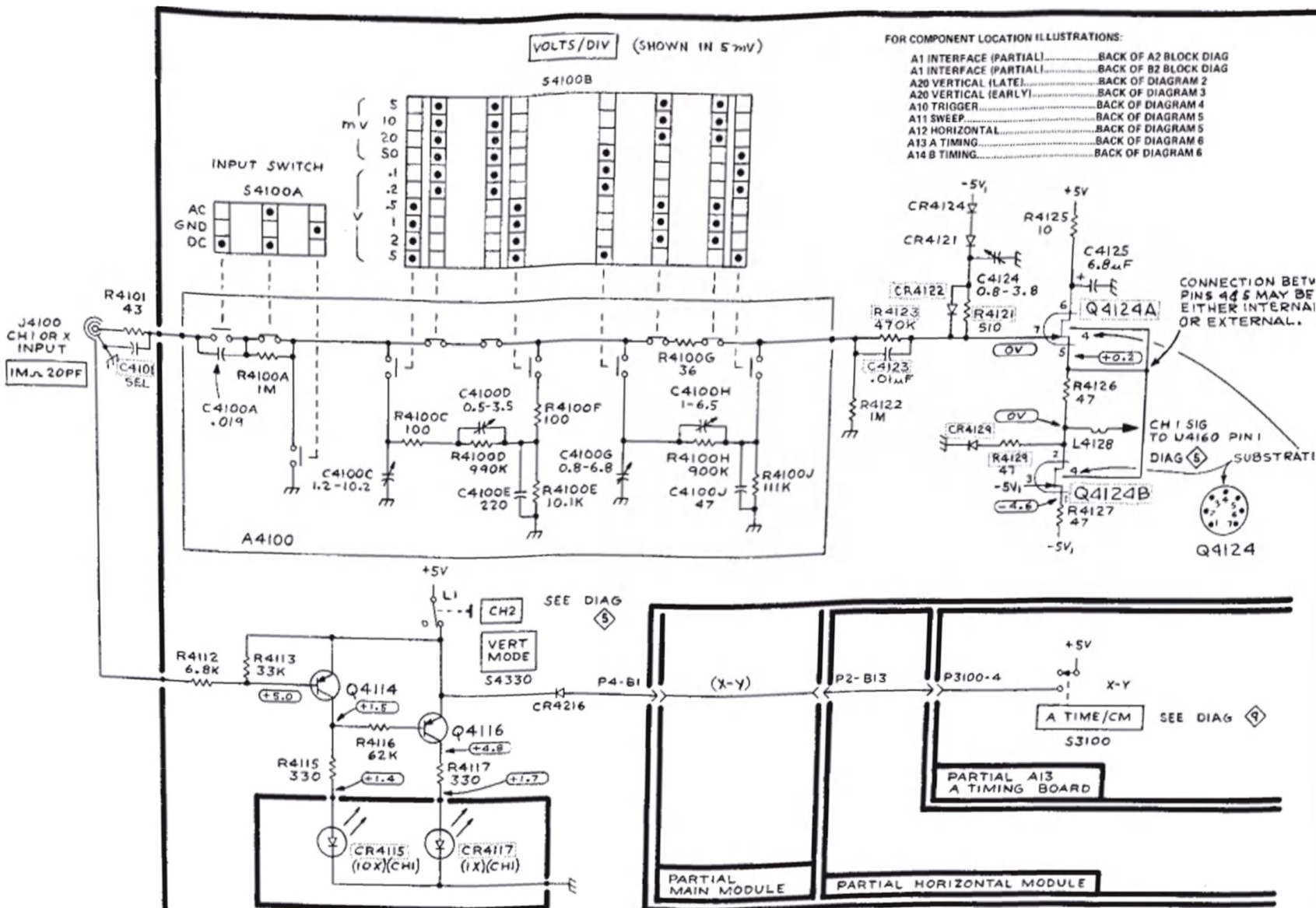
Voltages shown on this schematic diagram were measured with a Tektronix DM 501 Digital Multimeter. Voltage measurements can vary as much as $\pm 20\%$.

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

VOLTS/DIV (SHOWN IN 5mV)

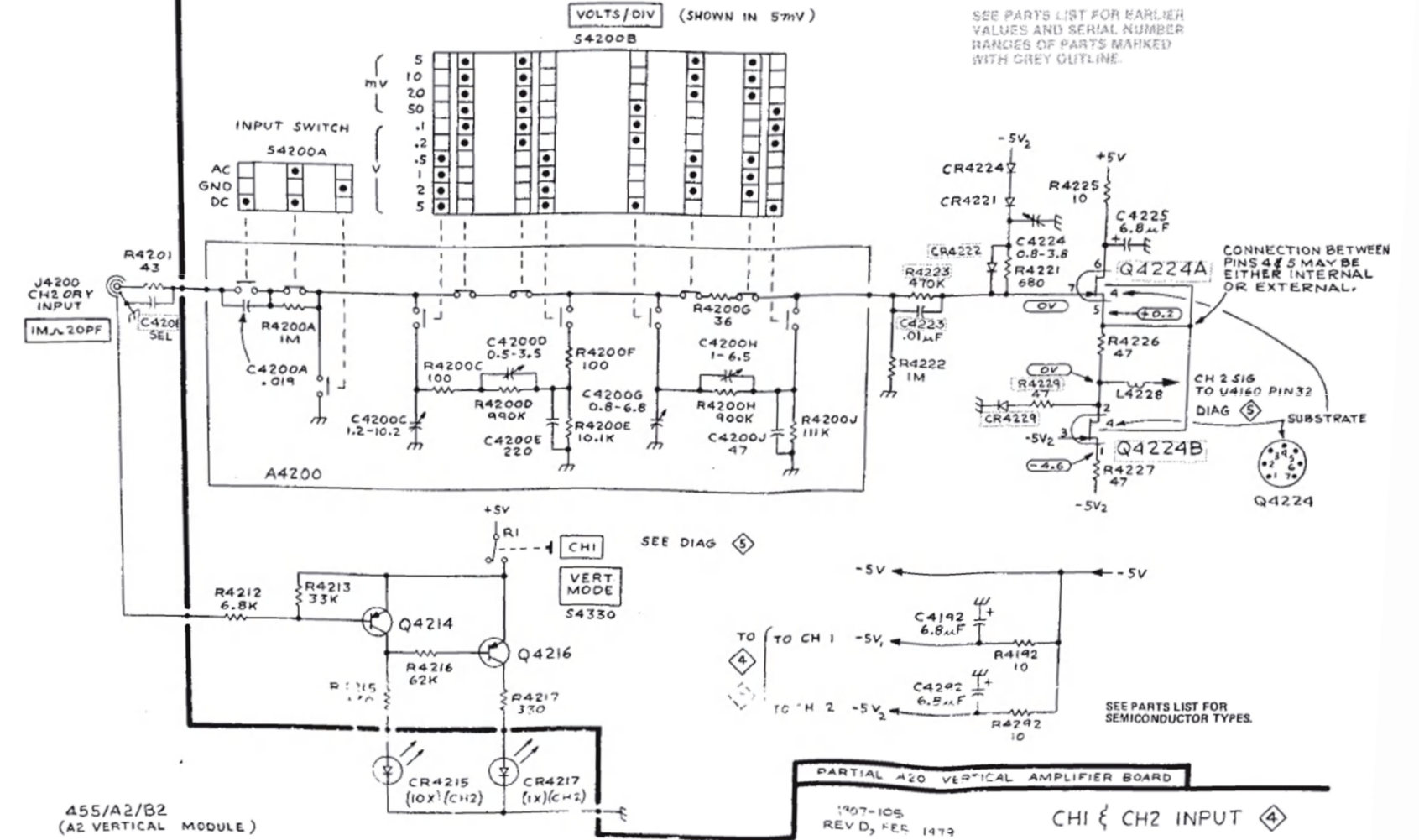
FOR COMPONENT LOCATION ILLUSTRATIONS:

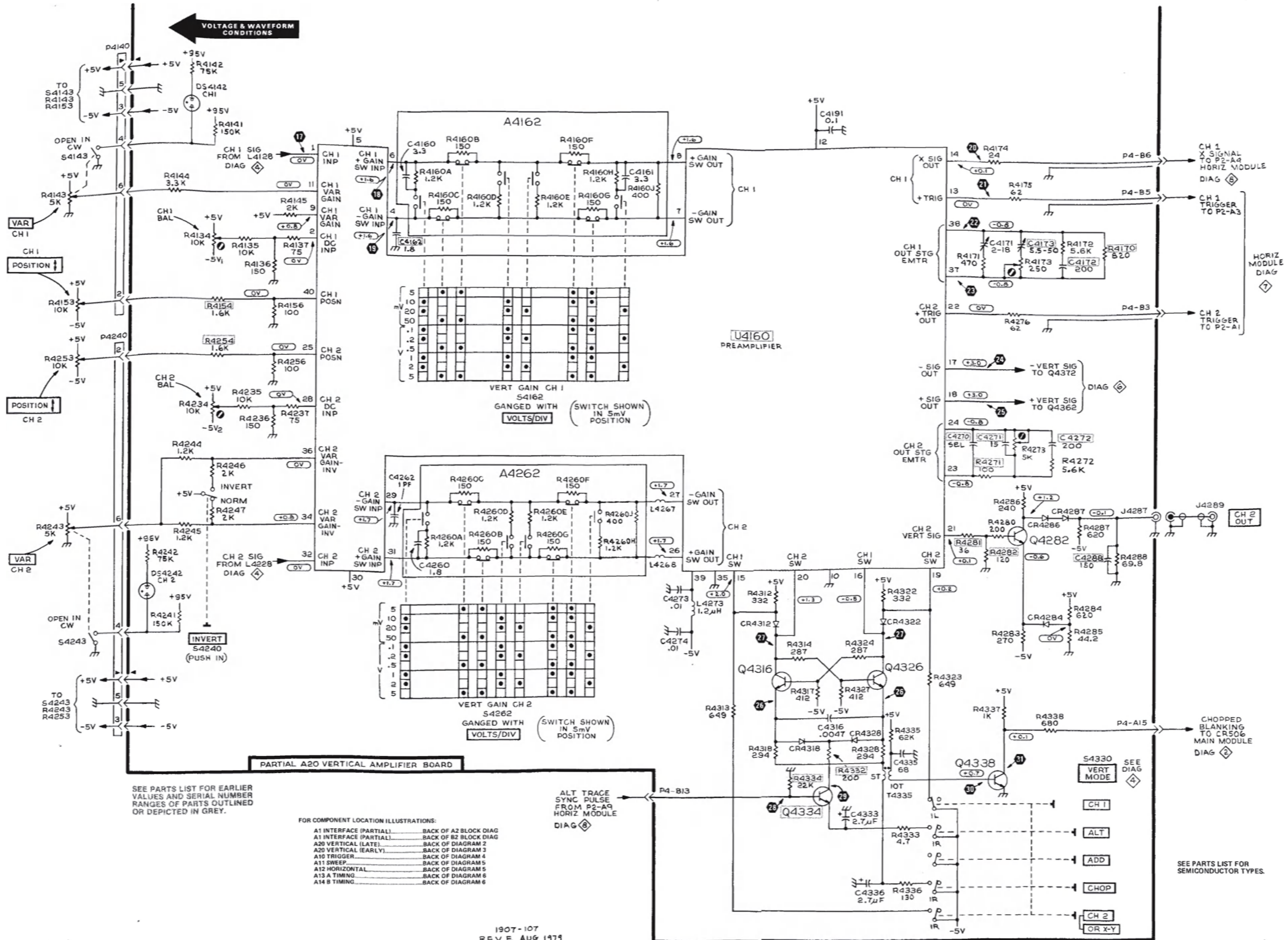
- A1 INTERFACE (PARTIAL).....BACK OF A2 BLOCK DIAG
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- A12 HORIZONTAL.....BACK OF DIAGRAM 5
- A13 A TIMING.....BACK OF DIAGRAM 6
- A14 B TIMING.....BACK OF DIAGRAM 6



VOLTS/DIV (SHOWN IN 5mV)

SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES OF PARTS MARKED WITH GREY OUTLINE.

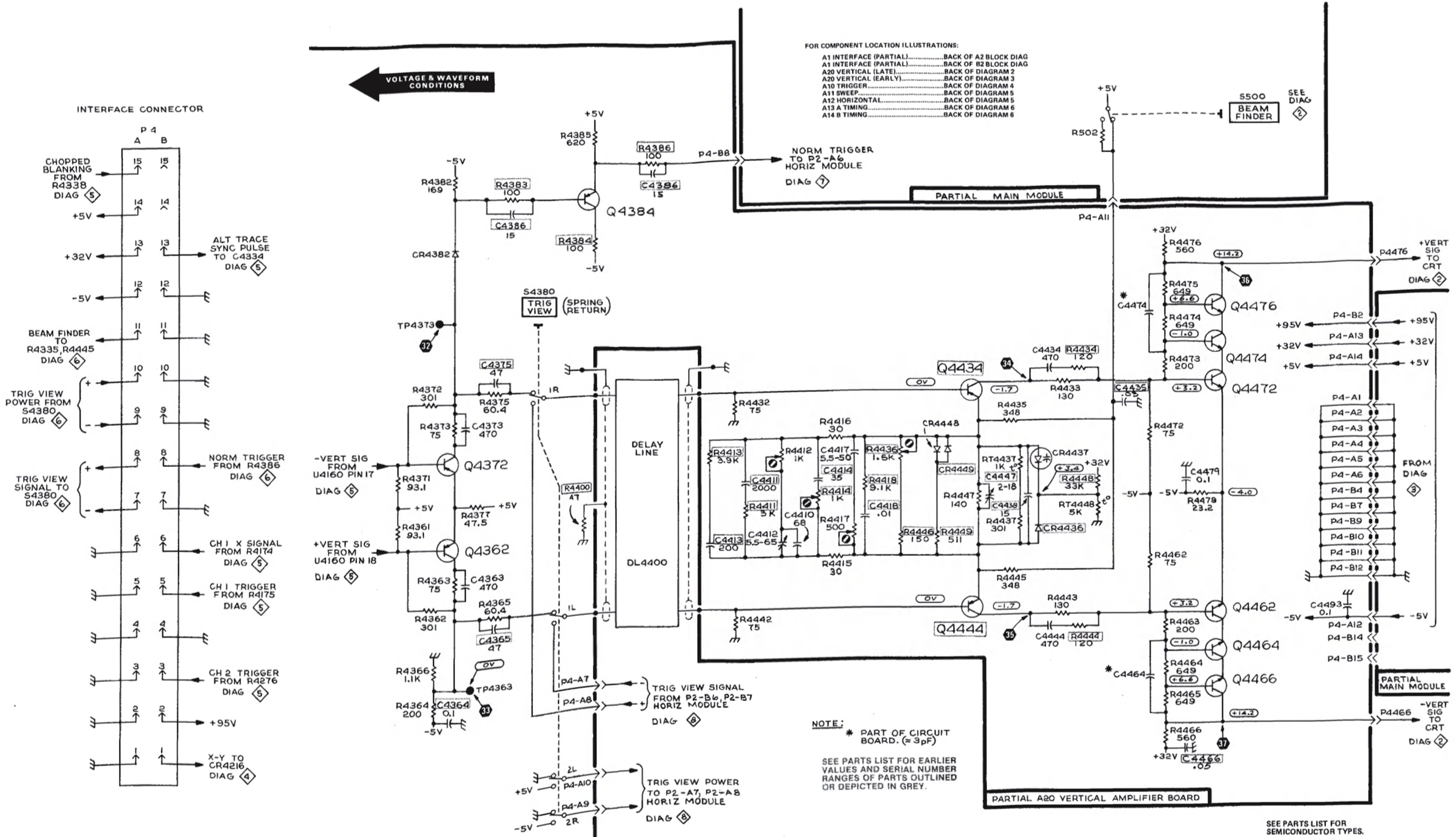




SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES OF PARTS OUTLINED OR DEPICTED IN GREY.

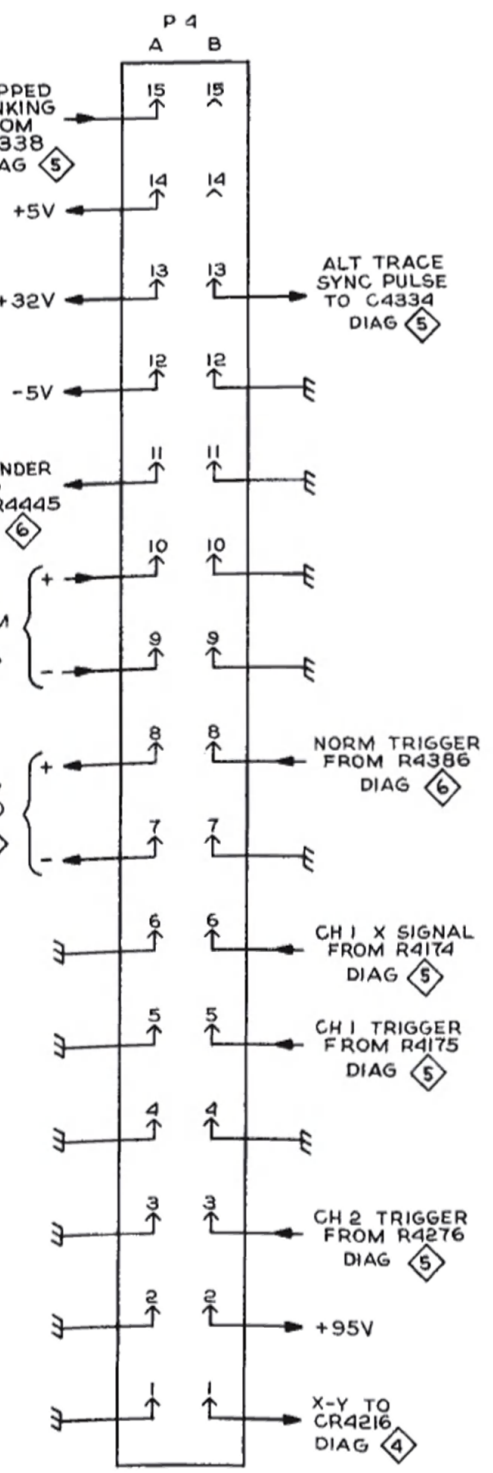
- FOR COMPONENT LOCATION ILLUSTRATIONS:
- A1 INTERFACE (PARTIAL)..... BACK OF A2 BLOCK DIAG
 - A1 INTERFACE (PARTIAL)..... BACK OF B2 BLOCK DIAG
 - A20 VERTICAL (LATE)..... BACK OF DIAGRAM 2
 - A20 VERTICAL (EARLY)..... BACK OF DIAGRAM 3
 - A10 TRIGGER..... BACK OF DIAGRAM 4
 - A11 SWEEP..... BACK OF 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

INTERFACE CONNECTOR



-VERT SIG FROM U4160 PIN 17 DIAG 5

+VERT SIG FROM U4160 PIN 18 DIAG 5

TRIG VIEW SIGNAL FROM P2-B6, P2-B7 HORIZ MODULE DIAG 8

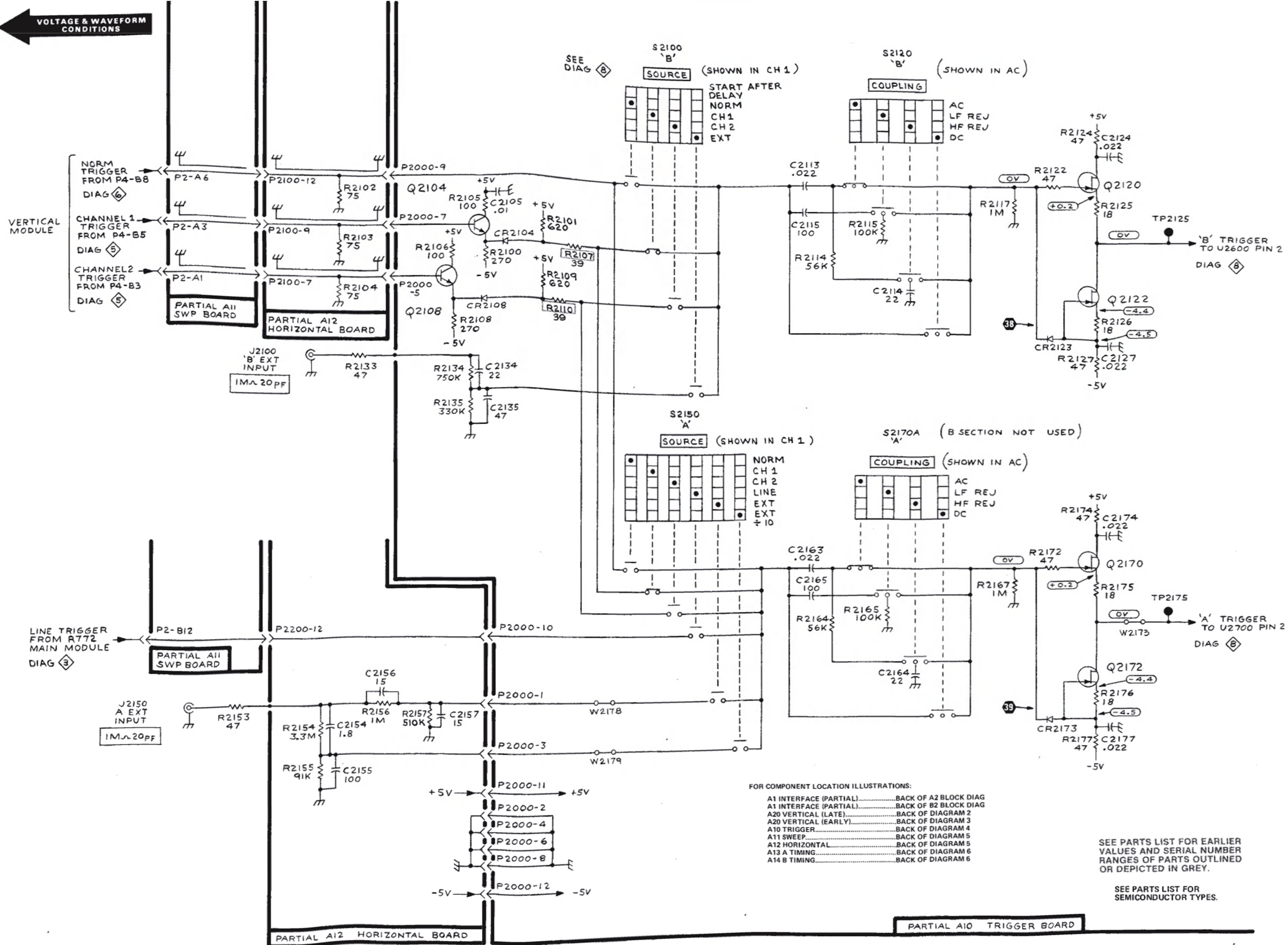
TRIG VIEW POWER TO P2-A7, P2-A8 HORIZ MODULE DIAG 8

1907-109
REV F AUG 1979

VERTICAL OUTPUT AMPLIFIER & INTERFACE CONNECTOR 6

455/A2/B2
(A2 VERTICAL MODULE)

SEE PARTS LIST FOR SEMICONDUCTOR TYPES.

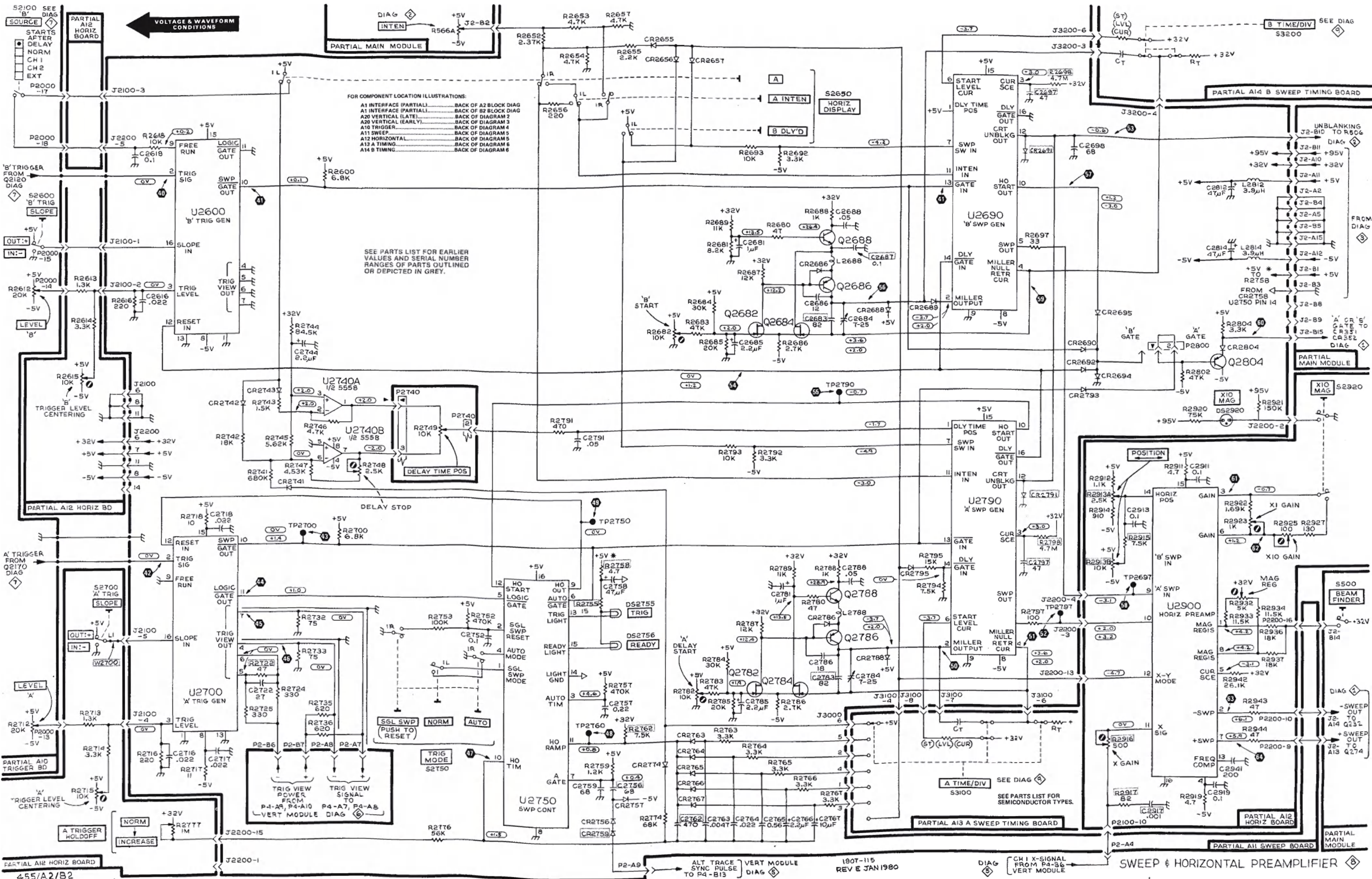


FOR COMPONENT LOCATION ILLUSTRATIONS:

A1 INTERFACE (PARTIAL).....	BACK OF A2 BLOCK DIAG
A1 INTERFACE (PARTIAL).....	BACK OF B2 BLOCK DIAG
A20 VERTICAL (LATE).....	BACK OF DIAGRAM 2
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

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 (EARLY)	BACK OF DIAGRAM 2
A10 TRIGGER	BACK OF DIAGRAM 3
A11 SWEEP	BACK OF DIAGRAM 4
A12 HORIZONTAL	BACK OF DIAGRAM 5
A13 A TIMING	BACK OF DIAGRAM 6
A14 B TIMING	BACK OF DIAGRAM 6

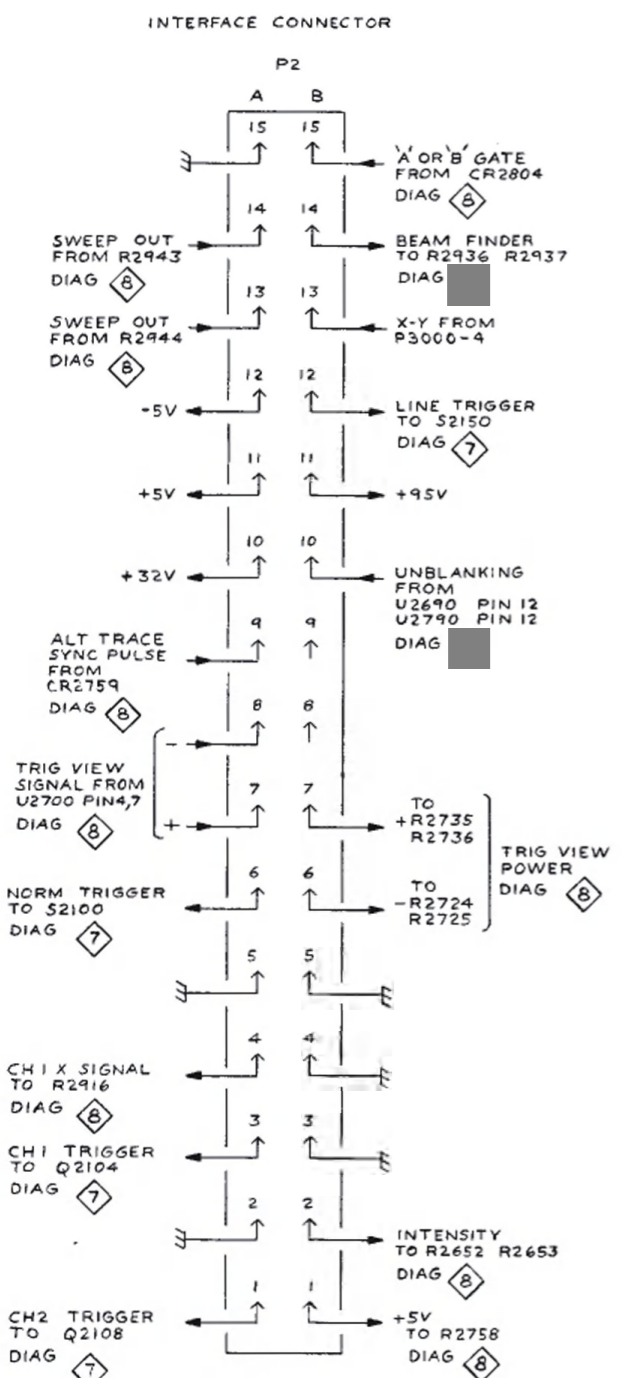
SEE PARTS LIST FOR EARLIER VALUES AND SERIAL NUMBER RANGES OF PARTS OUTLINED OR DEPICTED IN GREY.

1907-115 REV E JAN 1980

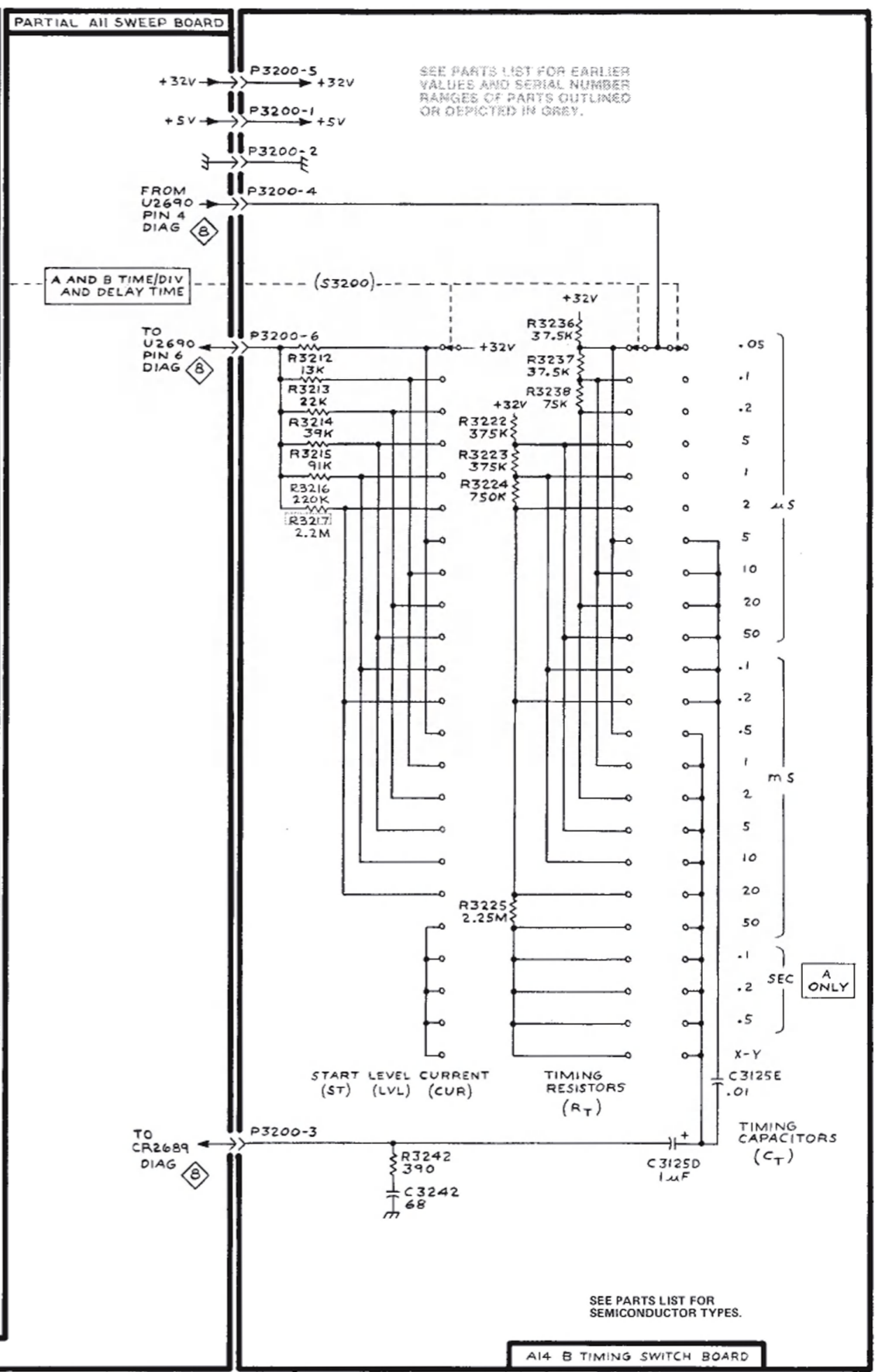
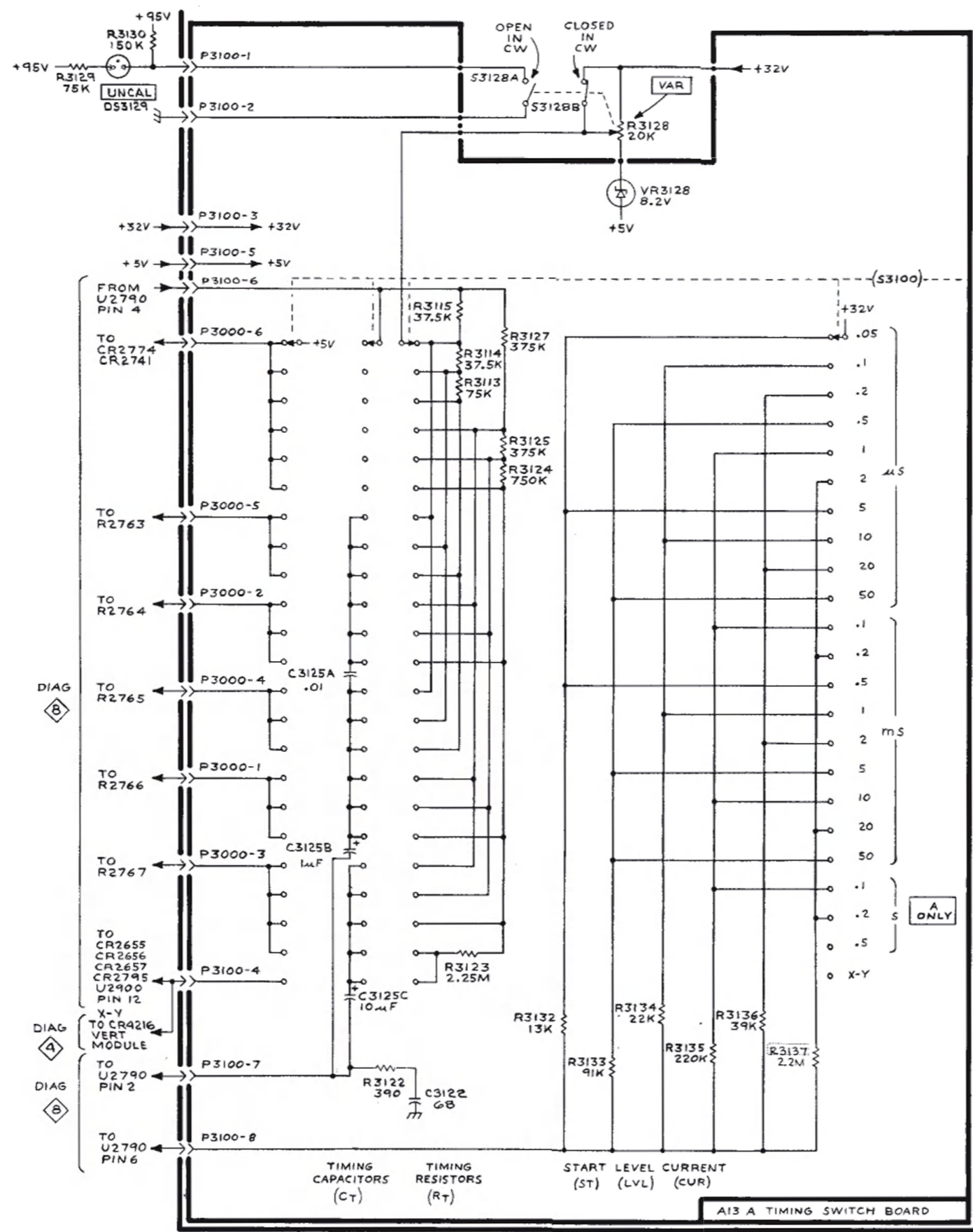
DIAG 5 CH1 X-SIGNAL FROM PA-36 VERT MODULE

SWEEP & HORIZONTAL PREAMPLIFIER

455/A2/B2 (B2 HORIZONTAL MODULE)



- 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 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