

INSTRUCTION MANUAL

**453A/R453A
OSCILLOSCOPE**



MANUFACTURERS OF CATHODE-RAY OSCILLOSCOPES

INSTRUCTION MANUAL

Serial Number _____

453A/R453A OSCILLOSCOPE

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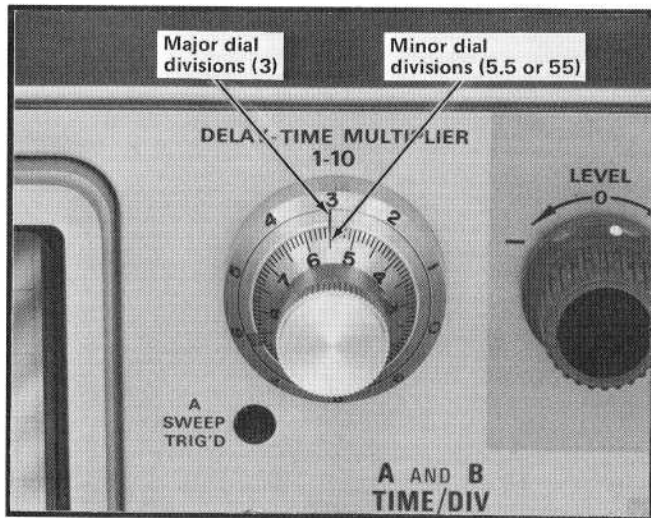


Fig. 2-14. DELAY-TIME MULTIPLIER dial. Reading shown: 3.55.

the sweep rate set by the B TIME/DIV switch. Fig. 2-15 illustrates a typical mixed sweep display.

B Sweep Mode. The B SWEEP MODE switch provides two modes of delayed sweep operation. Fig. 2-16 illustrates the difference between these two modes. In the B STARTS AFTER DELAY TIME position, the B sweep is presented immediately after the delay time (see Fig. 2-16A). The B sweep is triggered at a selected point on A sweep to provide the delay time (B sweep essentially free running). Since the delay time is the same for each sweep, the display appears stable. In the TRIGGERABLE AFTER DELAY TIME position, the B sweep operates only when it is triggered (by Trigger Circuits) after the selected delay time (see Fig.

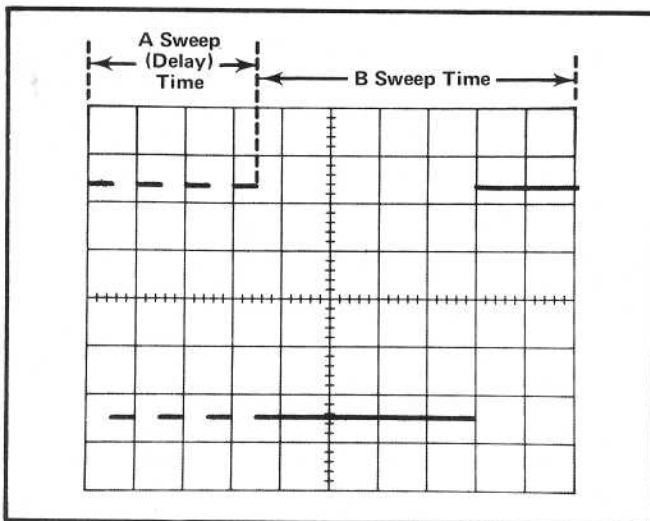


Fig. 2-15. A typical mixed sweep display (A TIME/DIV set to 1 ms, B TIME/DIV set to .1 ms, and the DELAY-TIME MULTIPLIER dial set to 3.55).

2-16B). The B Triggering controls operate as described in this section.

Delayed Sweep Operation. To obtain a delayed sweep display, use the following procedure.

1. Obtain a stable display with the HORIZ DISPLAY switch set to A.
2. Set the HORIZ DISPLAY switch to A INTEN DURING B.
3. Set the B SWEEP MODE switch to the desired setting. If TRIGGERABLE AFTER DELAY TIME is selected, correct B Triggering is also necessary.

4. Set the delay time with the A TIME/DIV switch and the DELAY-TIME MULTIPLIER dial.

5. Pull the DELAYED SWEEP (B TIME/DIV) knob out and set to the desired sweep rate.

6. If the TRIGGERABLE AFTER DELAY TIME position is used, check the display for an intensified portion. Absence of the intensified zone indicates that B sweep is not correctly triggered.

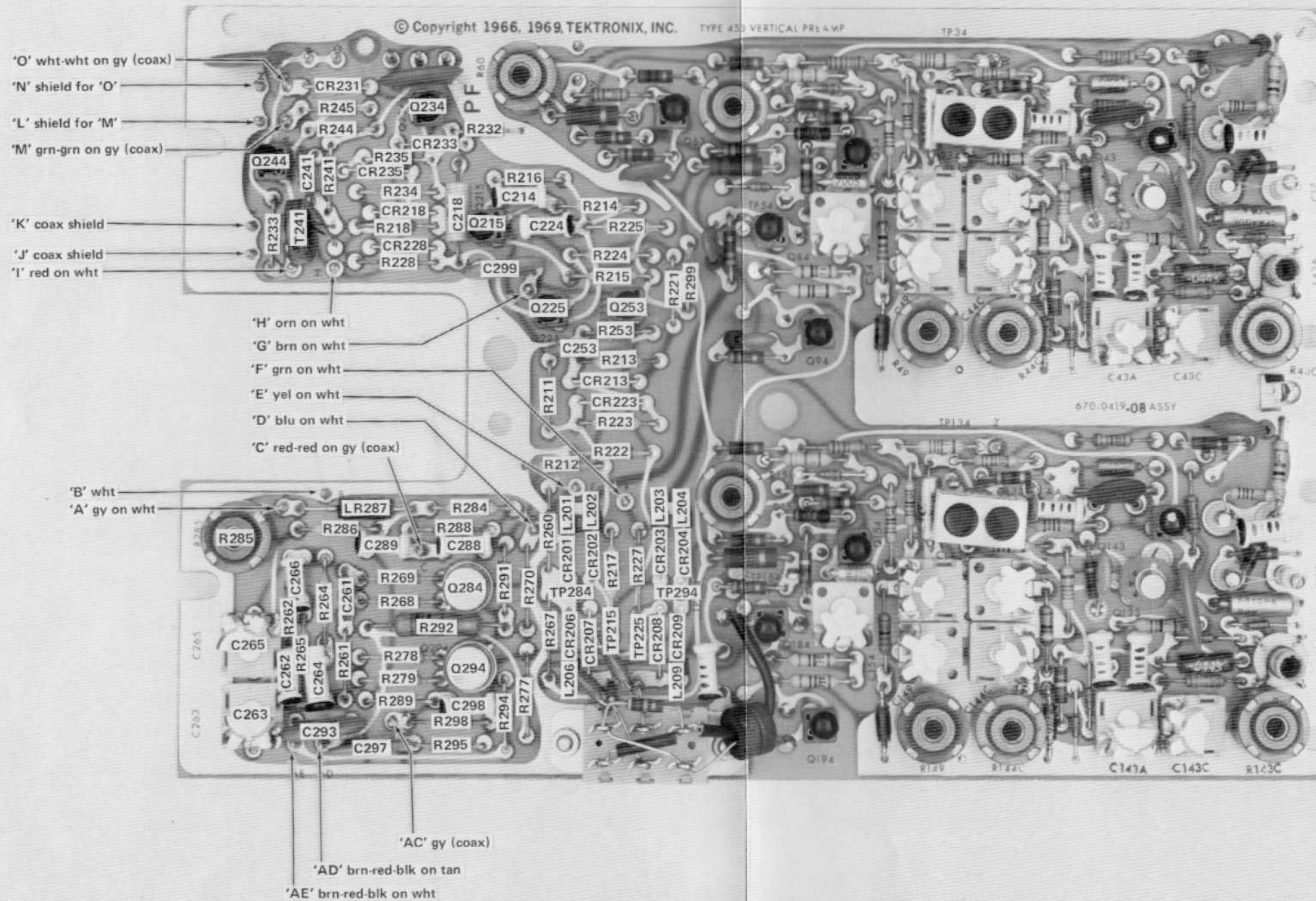
7. Set the HORIZ DISPLAY switch to B (DELAYED SWEEP). The intensified zone shown in the A INTEN DURING B position is now displayed at the sweep rate selected by the B TIME/DIV switch.

Several examples using the delayed sweep feature are given under Basic Applications in this section.

Mixed Sweep Operation. To obtain a mixed sweep display, use the following procedure:

1. Follow the procedure given above for Delayed Sweep Operation.
2. Set the HORIZ DISPLAY switch to MIXED. The first part of the display is at the sweep rate set by the A TIME/DIV switch. The last part is at the sweep rate of the B TIME/DIV switch. The DELAY-TIME MULTIPLIER dial determines the point that the sweep rate changes from A to B.

A Sweep Length. The A SWEEP LENGTH control is most useful when used with delayed sweep. As the control is rotated counterclockwise from the FULL position, the length of the A sweep decreases (sweep rate remains constant) until it is about four divisions long in the counter-



See Figs. 8-1 and 8-2 for location of parts not identified here.



Fig. 8-3. P/O A1. Partial Vertical Preamp circuit board.

