ELECTRICAL MEASUREMENT & MEASURING INSTRUMENTS

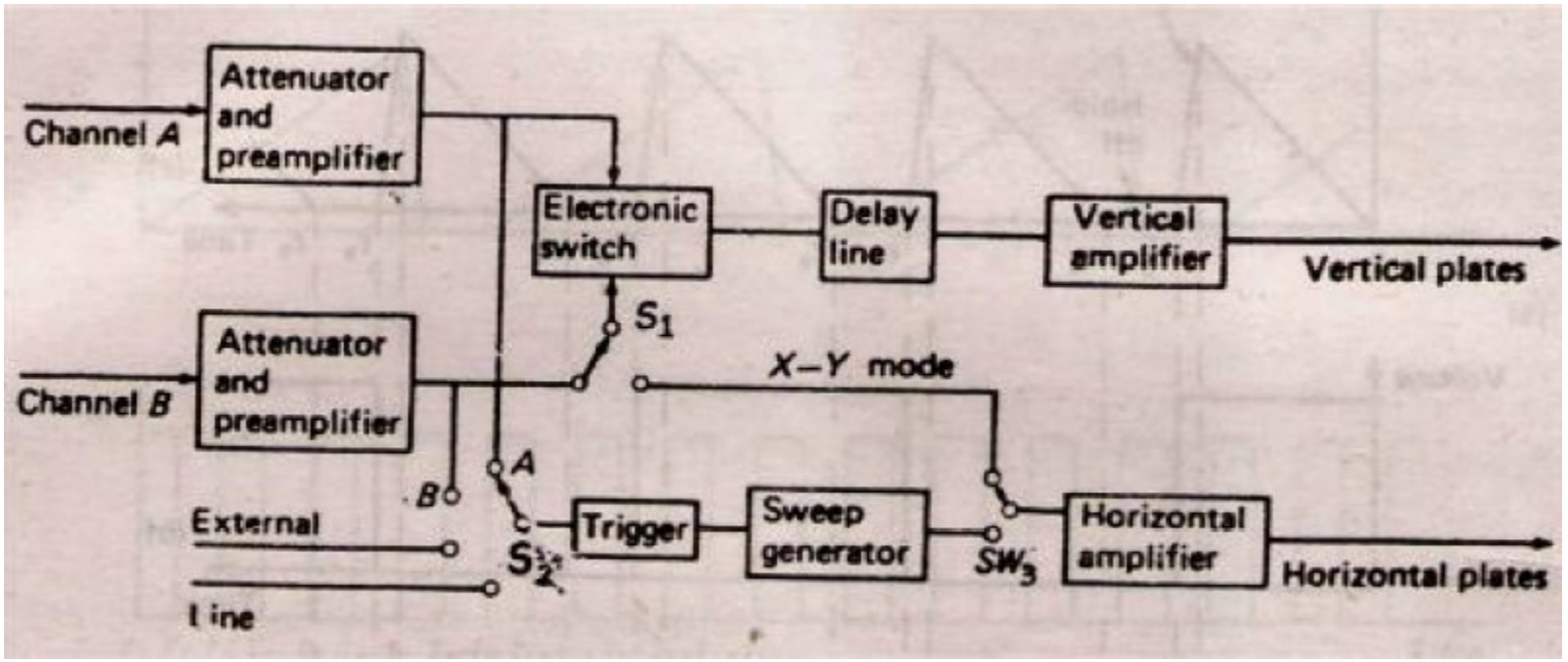
UNIT 5 Part (ii)

Cathode Ray Oscilloscope

Dual Trace Oscilloscopes

- There are two separate vertical input channels, A and B, and these use separate attenuator and preamplifier stages.
- Therefore the amplitude of each input, as viewed on the oscilloscope, can be individually controlled.
- After pre-amplification the two channels meet at an electronic switch.
- This has the ability to pass one channel at a time into the vertical amplifier, via the delay line.
- There are two common operating modes for the electronic switch, called alternate and chop, and these are selected from the instrument's front panel.

Block Diagram



Dual beam oscilloscope

- ***The dual trace oscilloscope cannot capture two fast transient events, as*** it cannot switch quickly enough between traces.
- The dual beam oscilloscope has two separate electron beams, and therefore two completely separate vertical channels.
- The two channels may have a common time base system, or they may have independent time base circuits. An independent time base allows different sweep rates for the two channels but increases the size and weight of the oscilloscope.