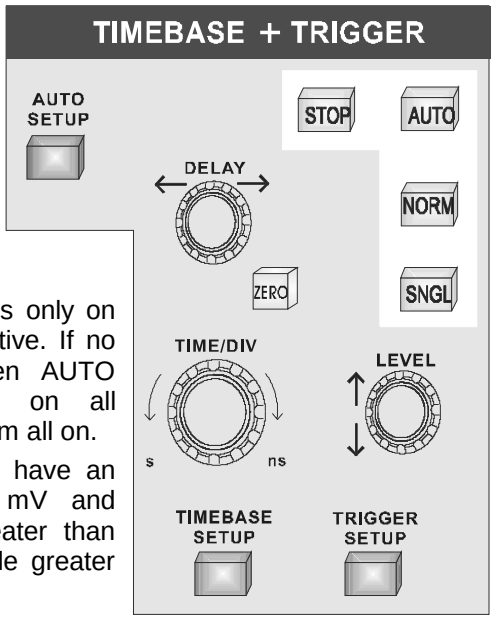
TIMEBASE + TRIGGER Controls

These controls allow direct adjustment of time/division, trigger level and delay, and access the "TIMEBASE" and "TRIGGER" menu groups.

AUTO SETUP



The blue button automatically scales the timebase, trigger level, offset, and volts/div to provide a stable display of repetitive signals.

AUTO SETUP operates only on channels which are active. If no channels are on, then AUTO SETUP will operate on all channels, switching them all on.

Signals detected must have an amplitude between 5 mV and 40 V, a frequency greater than 50 Hz, and a duty cycle greater than 0.1 %.

If signals are detected on several channels, the channel with the lowest number will determine the selection of the timebase and trigger source.

STOP

This button halts the acquisition in any of the three *re-arming* modes: Auto, Normal or Single.

Pressing the STOP button prevents the oscilloscope acquiring a new signal.

Press STOP while a single-shot (*see next chapter*) acquisition is under way and the last acquired signal will be kept.

Press STOP after an RIS acquisition has been started (*next chapter*) and the acquisition will be halted and a partial waveform reconstruction will be performed.

Press STOP when the acquisition is in Roll Mode (*see next chapter*) and the incomplete acquisition data will be shown as if a trigger had occurred.

In Sequence Mode (*next chapter*), the action will stop the timebase and show all new segments.

AUTO

Pressing this button places the instrument in Auto Mode: the scope automatically displays the signal if *no* trigger occurs within 60 ms.

If a trigger does occur within this time, the oscilloscope behaves as in Normal Mode.

Press AUTO in RIS Mode and the acquisition will be terminated and shown each second (some required segments may be missing).

Press the button in Roll Mode and the oscilloscope will sample the input signals continuously and indefinitely. The acquisition will have no trigger condition but can be stopped as desired.

Press AUTO in Sequence Mode and the acquisition will be terminated if the time between two consecutive triggers exceeds a timeout that can be selected. The next acquisition is then started from Segment 1.

NORM

Pressing this button will continuously update the screen as long as a valid trigger is present. If not, the last signal is preserved and the warning “SLOW TRIGGER” is displayed in the Trigger Status Field.

Press NORM in Roll Mode and the acquisition will be terminated when the last needed data after a trigger have been taken. The display will pause to show the entire waveform. It then goes back into Roll Mode while it waits for the next trigger.

Press this button in Sequence Mode and the acquisition will be terminated after the last segment is acquired. The next acquisition will start immediately. Sequence WRAP in Normal is the same as in Single-Shot Mode.

SNGL

Pressing this button places the scope in Single-Shot Mode, where it waits for a single trigger to occur, then displays the signal and stops acquiring. If no signal occurs, the button can be pressed again to show the signal being observed without a trigger.

Press SNGL when in RIS Mode and the instrument will wait for all the trigger events required to build up one signal on screen before it stops. This may require as many as 4000 trigger events.

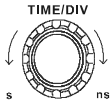
Single-Shot Roll Mode behavior is the same as standard Single-Shot but without the need to press the button a second time to show the signal.

DELAY

— is used to adjust the pre- or post-trigger delay. Pre-trigger adjustment is available from zero to 100 % of the full time-scale in steps of 1 %. The pre-trigger delay is illustrated by the vertical arrow symbol at the bottom of the grid. Post-trigger adjustment is available from 0 to 10 000 divisions in increments of 0.1 of a division. The post-trigger-delay value is labeled in seconds and is located in the on-screen Trigger Delay field.

ZERO

— sets the trigger delay at zero, the trigger instant at the left-hand edge of the grid.



TIME/DIV

— selects the time per division in a 1–2–5 sequence. The time/div setting is displayed in the Acquisition Summary field.

LEVEL

— adjusts the trigger threshold. The amplitude of trigger signals and the range of trigger levels is limited: ± 5 screen divisions with a channel as trigger source; ± 0.5 V with EXT as trigger source; ± 5 V with EXT/10 as trigger source; and Inactive with Line as trigger source. The trigger sensitivity is better than a third-of-a-screen division.

TIMEBASE SETUP — menu-entry button that calls up the “TIMEBASE” menus *described in the next chapter*.

TRIGGER SETUP — menu-entry button that calls up “TRIGGER SETUP” *detailed in Chapter 8*.