Tektronix TLA 700 Reference Guide

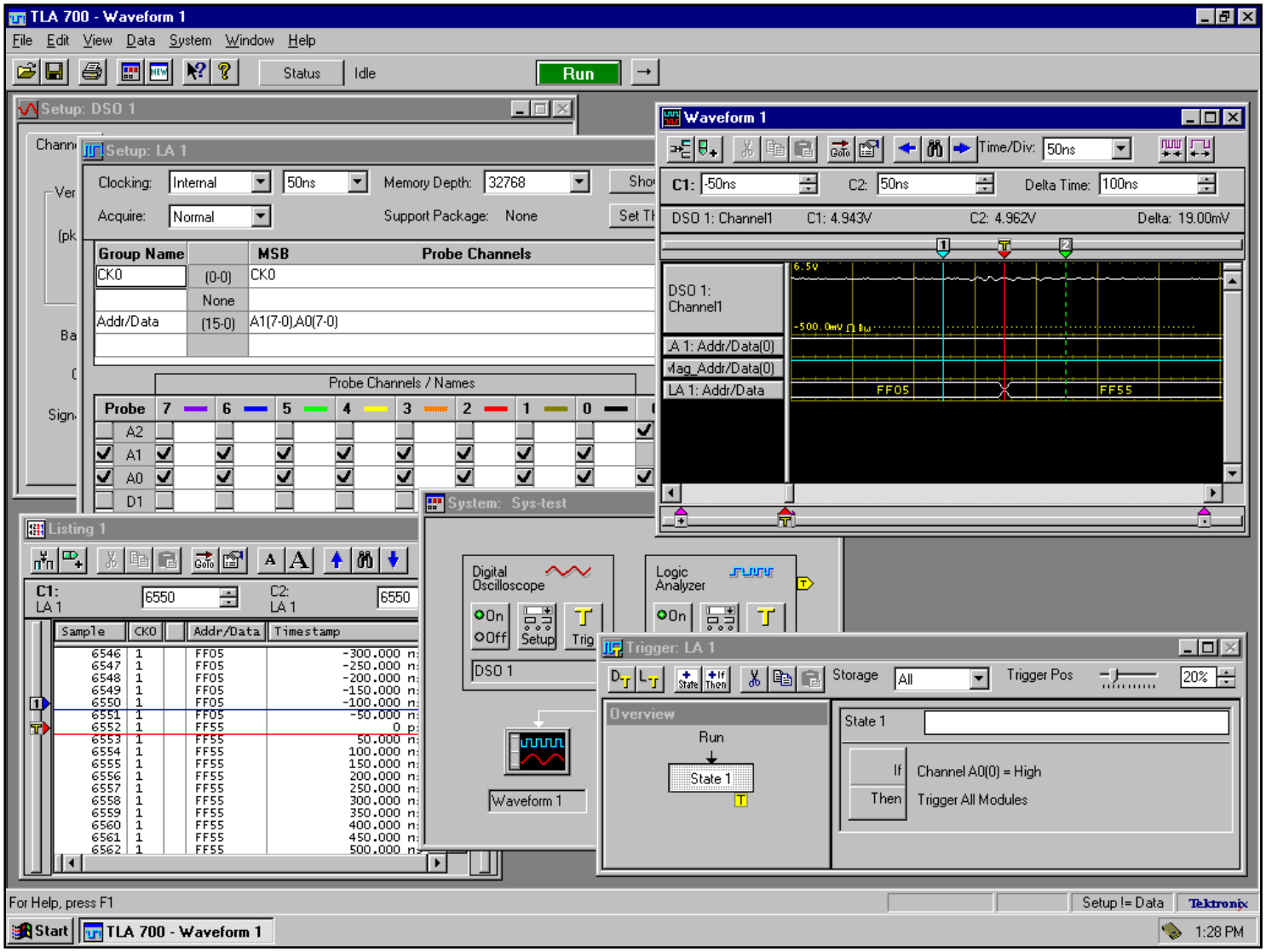
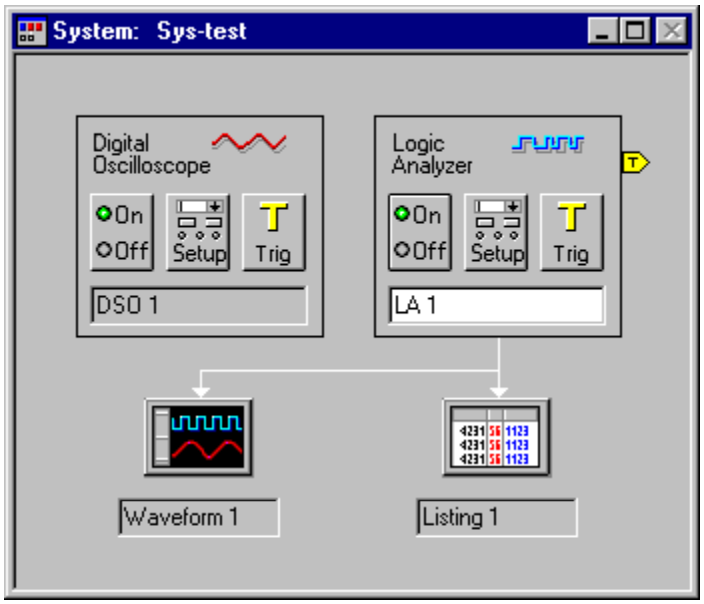


Table of Contents

1. System Configuration Window

The System Configuration Window is the main control panel for the TLA 704. The window contains two boxes, one for the DSO and one for the LA. Each box allows the user to turn on/off the unit and open the Setup, Trigger, Listing and Waveform Windows. The System Configuration Window also displays any interconnection between units (i.e. LA Data is being routed to both the Listing and Waveform Windows).



2. LA Setup Window

The LA Setup Window allows the user to configure the LA module.

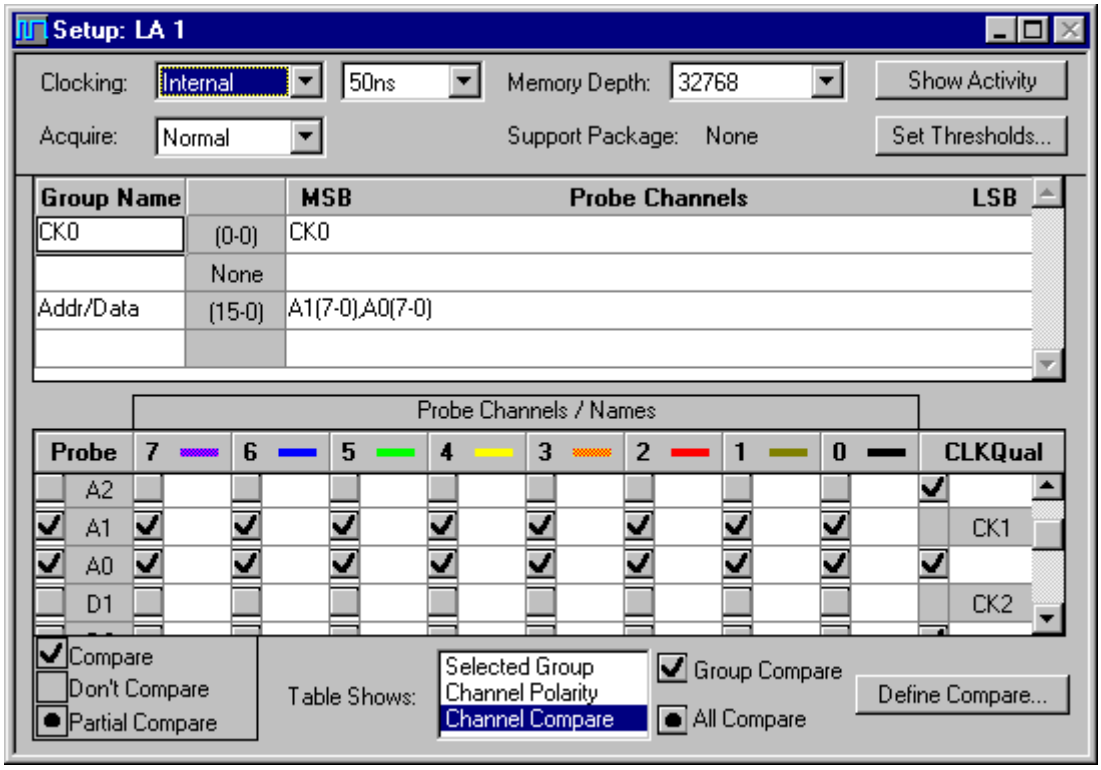
Clocking Mode
The clock used to sample the incoming signal can be either internally generated or provided by the system being measured. Unless the system being measured has a specific clock available it is advised to use the internal clock.

Sample Period
The Sample Period may be set between 4us and 50ms. Using a smaller Sample Period allows the signal to be shown with more precision, but the acquired data will span a shorter amount of time. Using a longer Sample Period allows for less precision of event timings, but the acquired data will span a longer amount of time. Thus it is important to choose your Sample Period well, based upon knowledge of the system being measured.

Memory depth
The number of samples stored for an acquisition is called the memory depth. A maximum of 32768 samples can be stored.

Show Activity
The Show Activity button open a window which displays the current value of each of the LA inputs. Slow logic changes may be monitored here.

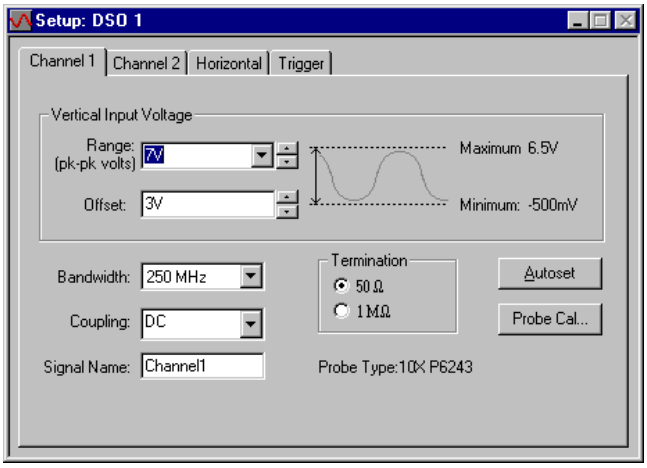
Set Thresholds
Clicking the Set Thresholds button opens a window which allows the user to define the logic comparison threshold level. The user may choose a family of logic (thus automatically setting the threshold value) or a enter a specific threshold voltage level.



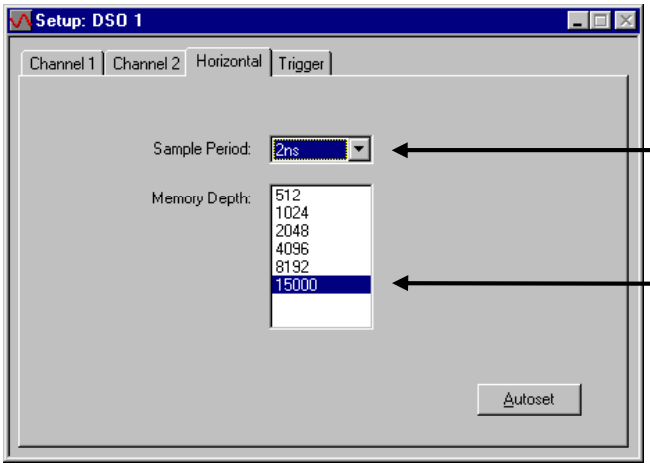
Probe Channel Select
This table allows the user to select which input signals will be captured. This table also allows the user to rename specific input lines for viewing ease.

3. DSO Setup Window

This Setup Window allows the user to configure the DSO. The window contains four tabs, allowing the user to configure each channel, the horizontal sampling rate, and Trigger Event.

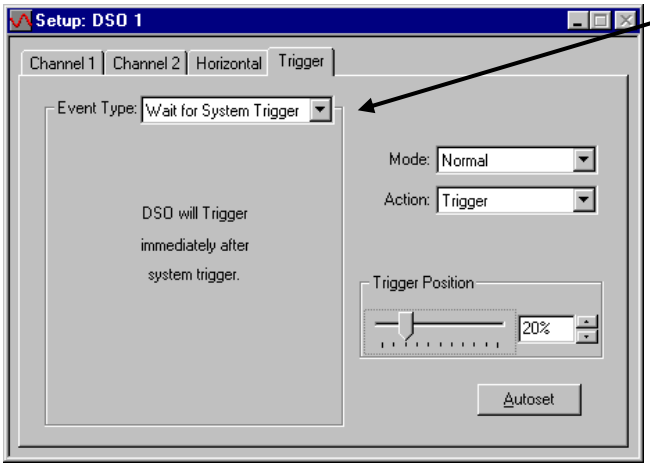


Voltage Input
The input voltage range may be selected by logic family type (automatically set) or by entering specific voltage values.



Sample Period
The Sample Period for the DSO may be set between 400ps and 200ms. Using a faster Sample Period allows the signal to be shown with more precision, but the acquired data will span a shorter amount of time. Using a longer Sample Period allows for less precision in viewing signal changes, but the acquired data will span a longer amount of time. To accurately record input data, use a fairly fast Sample Period (i.e. 2ns).

Memory depth
The number of samples stored for an acquisition is called the memory depth. A maximum of 15000 samples can be stored.



Event Type
The Trigger Event determines when the DSO will begin to store the acquired data (relative to the Trigger Position). The user may select one of several different types of Trigger Events. "Wait for System Trigger" is used to cause the DSO to trigger immediately after the LA triggers.

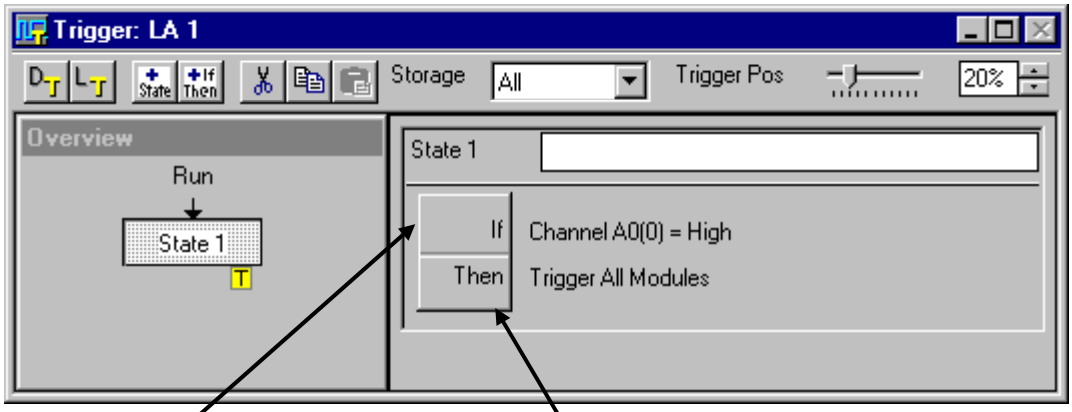
Trigger Position
The Trigger Position slider gives the user the ability to define the time at which the acquired data will start with respect to the trigger time. For example, setting the slider to 20% will cause 20% of the data to be acquired before the Trigger Event and 80% after the Trigger Event.

4. Trigger Window

The Trigger Window is used to define the LA Trigger Event (i.e., when the LA (relative to the Trigger Position) will store acquired data). The Trigger Event may be one or some of many possibilities (i.e., a particular input line transitioning to the high state, a certain hex value appearing on 8 input lines, a combination of several logical events, etc).

Overview
The Overview Window simply displays the logical state diagram of the events causing the trigger.

Trigger Position
The Trigger Position slider gives the user the ability to define the time at which the acquired data will start with respect to the trigger time. For example, setting the slider to 20% will cause 20% of the data to be acquired before the Trigger Event and 80% after the Trigger Event.

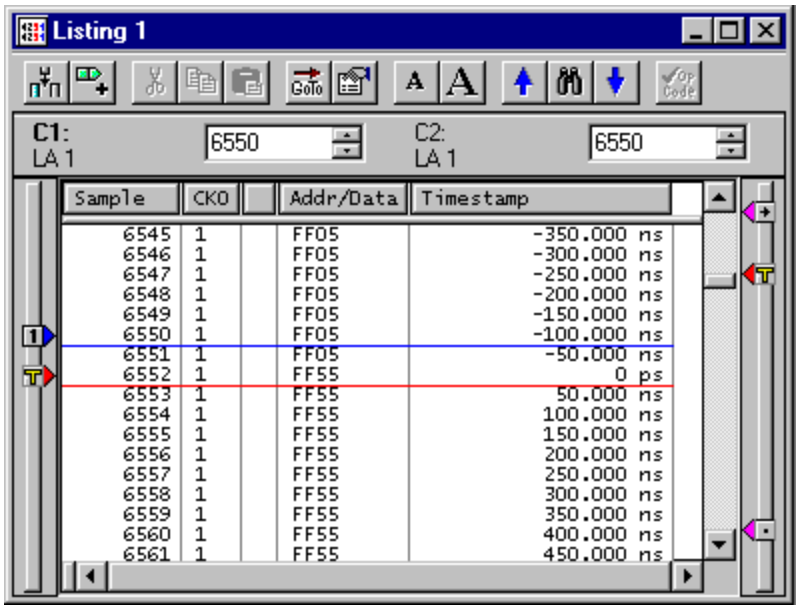


If
The If button opens a window which allows the user to define the event that will cause the trigger to occur.

Then
The Then button opens a window allowing the user to define which modules will be triggered at the time of the event.

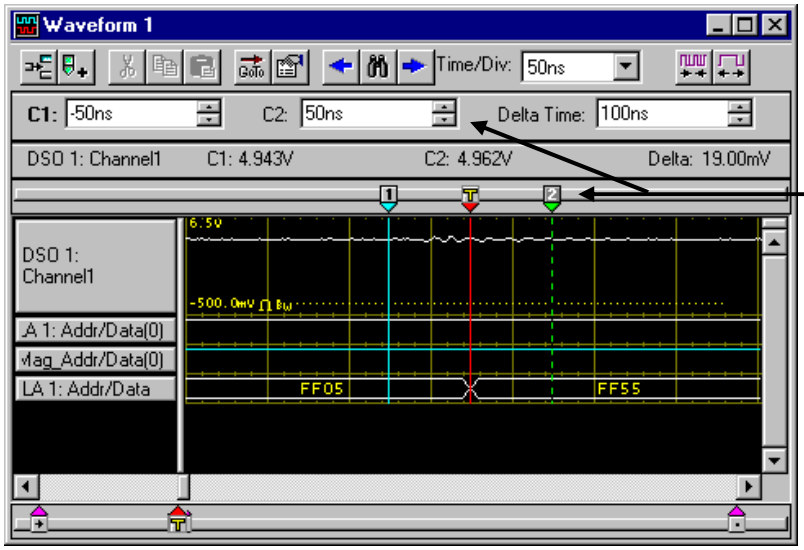
5. Listing Window

The Listing Window display the logic levels and sampling times of the acquired LA data. The sample number is displayed in the first column, the hex equivalent of the input data is shown in the middle columns, and the timestamp (the time that the sample was taken) is shown in the last column. The Event Trigger is shown by a 'T' on the left hand side of the window. Notice that the timestamp is shown as negative before the Trigger Event and positive after the Trigger Event.



6. Waveform Window

The Waveform Window displays the DSO data and the logic levels of the LA data with respect to time. The Trigger Event is indicated by the T marker, and other markers may be added to measure event timing.



The waveforms to be displayed may be selected by right-clicking on the left-hand column.

The time markers C1 and C2 may be moved along the timeline. The times corresponding to their positions are displayed.

