NEX-PROBETESTER2
Users Manual

Warranty Terms and License Agreement

For warranty terms, refer to the Terms and Conditions of Sale document that was included in the product shipment. The Software License Agreement is displayed during installation. A hardcopy of that agreement may be obtained from Nexus Technology. All Nexus Technology products to which this manual refers are subject to the Terms and Conditions of Sale document and the Software License Agreement, as appropriate.

Compliance with WEEE and RoHS Directives

This product is subject to European Union regulations on Waste Electrical and Electronics Equipment. Return to Nexus Technology for recycle at end of life. Costs associated with the return to Nexus Technology are the responsibility of the sender.

TABLE OF CONTENTS

TABLE OF FIGURES

TABLE OF TABLES

1.0 Overview

- References to 'TLA' refer to any Tektronix TLA600/700 series logic analyzer
- Clock/Qualifier channels on the NEX-PROBETESTER are referred to as the C/Q channels

The NEX-PROBETESTER allows for quick testing of a variety of Tektronix Logic Analyzer probes using the provided board and a TLA. The probe tester is capable of testing all 32 data channels of a probe along with both of its clock/qualifier (C/Q) lines. Depending on the probe tested, this requires connecting one or more probe inputs. The test itself drives the lower 16 data channels low and proceeds to walk a one up each channel while the upper 16 data channels are driven high and proceeds to walk a low up each channel. This allows for quick testing of both 17- and 34-channel probes. The C/Q lines are alternately driven High and Low in the center of the valid data time, with one C/Q signal going high while the other is low and vice versa.

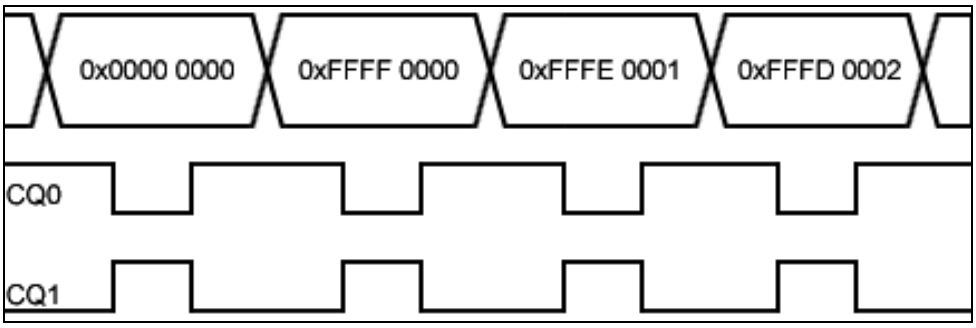


Figure 1- Timing Diagram

This allows for synchronous acquisition using both edges of either C/Q line when connected to a TLA external clock input. Asynchronous acquisition is also possible.

Also, note that all 32 data channels are driven low at the beginning of each cycle for easy triggering.

Two testing modes are provided. Activity Mode slows data transitioning down so that proper probe operation can be visually verified using the TLA Application Software's Activity Indicator window. Acquisition Mode is provided to allow verification of the probe by taking and analyzing a TLA acquisition.

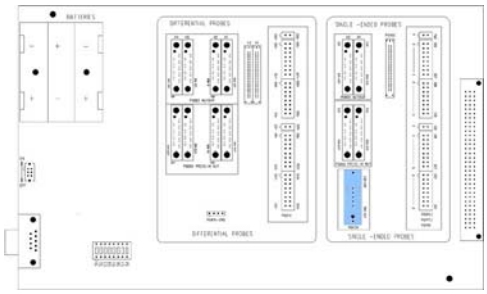
The NEX-PROBETESTER can properly test the following probes:

Tek Number	Description
P6434	34-channel Mictor probe
P6417	17-channel General Purpose probe
P6418	17-channel General Purpose probe
P6810	34-channel General Purpose probe used in either single-ended or differential mode
P6860	Single-ended Compression Probe
P6880	Differential Compression Probe
P6960	D-Max Single-ended High-Density Connectorless
P6980	D-Max Differential High-Density Connectorless

Table 1- Probes Supported

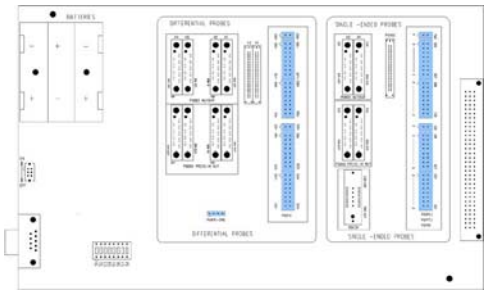
2.0 Connecting To The NEX-PROBETESTER

Mictor (P6434)



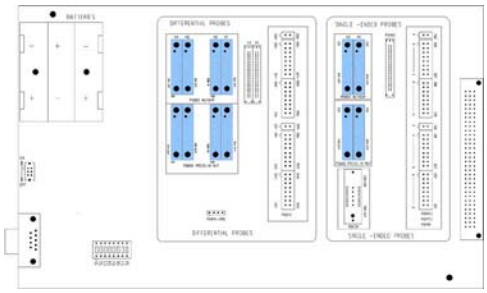
With a quick connection, all 32 data channels and both C/Q channels are tested. Also suitable for P6860 probes with Mictor-on-PCB to Compression adapters.

General Purpose (P6417, P6418, P6810)



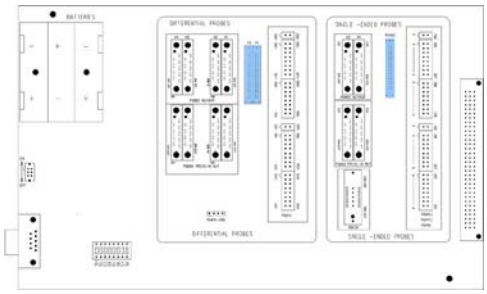
Single-ended: Probes or flying-leadsets can be tested using the headers found on the right side of the board. Up to 32 data channels and two C/Q lines can be tested. Suitable for any General Purpose probe.
Differential: Probes or flying-leadsets can be tested using the headers found in the center of the board. All 32 data channels and both C/Q channels are tested. This works only with P6810 probes and is not suitable for P6417 or P6418 probes.

Compression (P6860, P6880)



Single-ended compression pad footprints (P6860) can be found on the right side of the board. Differential pads (P6880) are located towards the center of the board. Note that connections are provided for both press-in-nut P68x0 probes and nutbar P68x0 configurations. This allows for easy testing of both types.

D-Max High-Density Connectorless
P6960, P6980



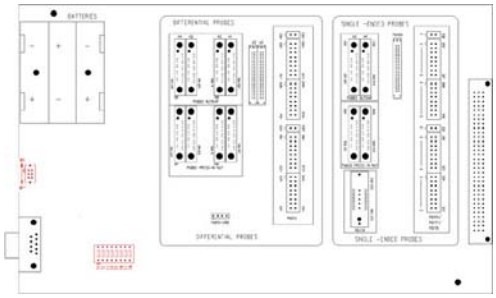
Single-ended P6960 can be found on the right side of the board. Differential pads (P6980) are located towards the center of the board.

3.0 Setting Up The TLA & NEX-PROBETESTER

3.1 NEX-PROBETESTER Setup

Connect your probe to its designated section on the probe tester as described in the previous section. Connect the other end of the probe to the TLA module. Take note which channels of the module the probe is connected to.

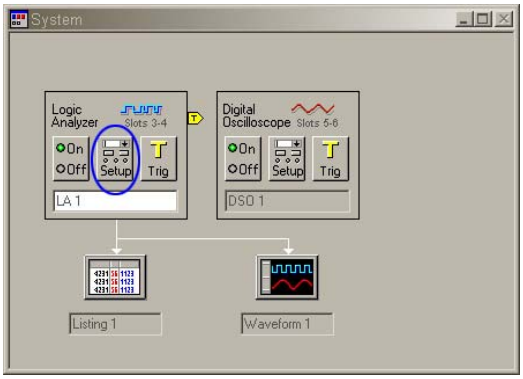
Turn on the probe tester board and wait about 3 seconds for the LED to stop blinking. Note the location of switch S1. When this switch is ON the probe tester runs in Activity Mode. When off, the probe tester runs in Acquisition Mode. Setup for each mode can be found in sections 3.3 and 3.4.



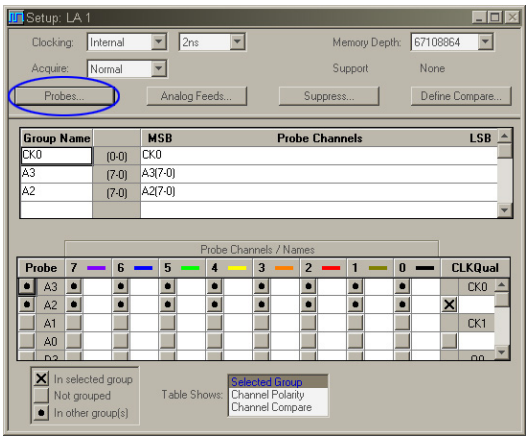
3.2 TLA Setup

Please note that all TLA Setup directions given below are for version 4.2.098 of the TLA Application Software. Finding the correct windows (Thresholds, Activity) for previous versions may be slightly different.

In the TLA Application Software click the **Setup** button for the module that will be used to test the probe. You can verify the correct module by comparing the slot numbers visible above the module (on the TLA) and in System Window description.

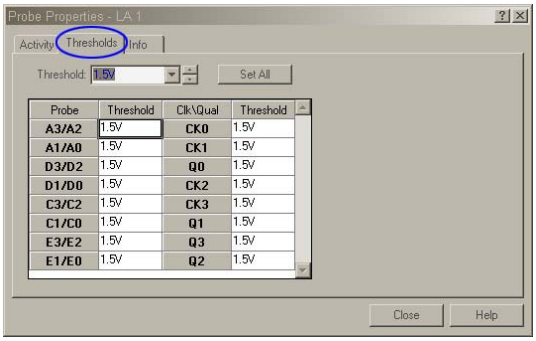


The correct threshold must be set, depending on whether the probe being tested is single-ended or differential. Single-ended probes must have a threshold setting of 1.5V. Differential probes must be set to 0V. Click the **Probes…** button in the Setup Window.



Click the **Thresholds** tab.
Probe Threshold Settings:

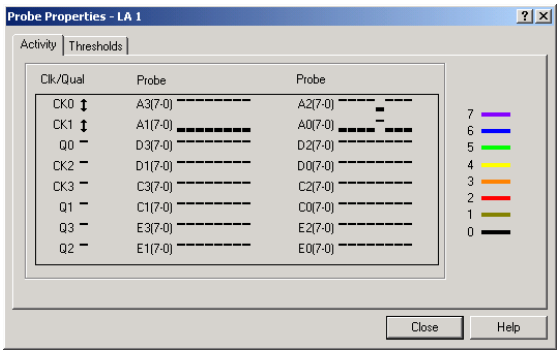
Probe	**Threshold**
P6434	1.5V
P6417	1.5V
P6418	1.5V
P6810 – Single-Ended	1.5V
P6810 – Differential	0V
P6860 P6960	Data Channels: 1.5V C/Q Channels: 0V
P6880 P6980	0V



3.3 Activity Mode

After following the steps in sections 3.1 and 3.2, return to the Probes window for the module – see section 3.2 to find the correct Probes window. Click the **Activity** tab.

Noting which channels the probe is connected to, a visual inspection of the activity should show low signals on all probe channels with a high walking up each channel. The appropriate C/Q lines should be alternating low and high. Verify that all other signals are low and that the walking high signal is valid on all channels. No channel of the probe should be stuck high, low, or stay transitioning (↕).



3.4 Acquisition Mode

Please refer to sections 3.1 and 3.2 for probe tester and basic TLA setup.

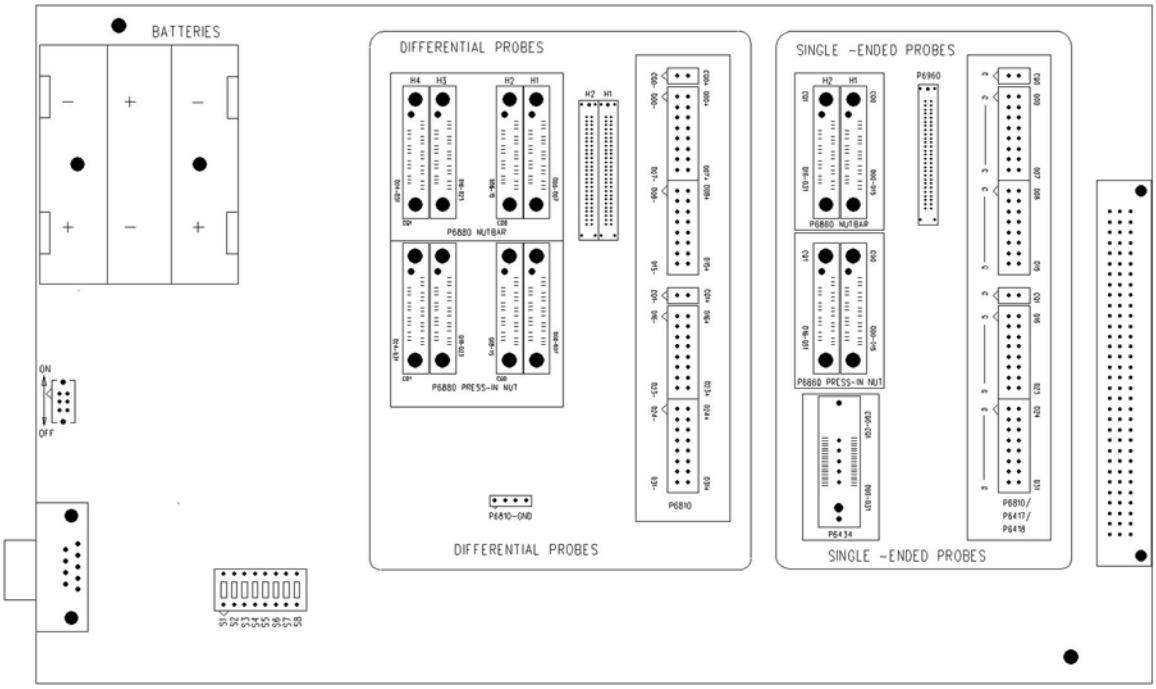
Correct channel groupings, threshold settings, memory depth, acquisition mode, and triggering must all be set up correctly to acquire data from the probe tester. Due to the many different types of modules and TLA Application versions, only an outline of the correct setup will be given.

If data is to be acquired synchronously then the probe being tested must be connected to at least one clock channel. Ensure that all probe connections into the module are in the correct order so that data is correctly aligned and C/Q lines are going to valid channels.

From the setup window define a data group, a CQ0 group and a CQ1 group. Select the appropriate channels for each group. From the same window, set the clocking to external to acquire off the rising or falling edge of the appropriate clock channel. Set the memory depth to 256. Click the **Probes…** button and, in the Probes window, click the Threshold tab. Set the appropriate channels to 1.5V for a single-ended probe (P6434, P6417, or P6418) and 0V for a differential probe (P6880). Note that the P6860 probe has single-ended data and differential clock/qualifier lines. The data channels for the P6860 probe must be set to 1.5V and the two clock/qualifier lines must be set to 0V. Also note that the P6810 probe can be used in either Single-Ended or Differential mode, and the thresholds should be set according to the type of test that is to be run. The TLA should now be correctly setup.

Set the trigger for that module to trigger on all lows (zeroes) and set the storage to ‘All’. Turn off all other modules that may be present. Take an acquisition by clicking the green **Run** button and view the data in a Listing Window. It may be easier to verify the walking one if the data group radix is set to binary. It is recommended that this System Setup be saved for future use.

Appendix A- Silkscreen



Appendix B- Probes Supported

Tek Number	Description
P6434	34-channel Mictor probe
P6417	17-channel General Purpose probe
P6418	17-channel General Purpose probe
P6810	34-channel General Purpose probe used in either single-ended or differential mode
P6860	Single-ended Compression Probe
P6880	Differential Compression Probe
P6960	D-Max Single-ended High-Density Connectorless
P6980	D-Max Differential High-Density Connectorless

Appendix C- Support

About Nexus Technology, Inc.

Established in 1991, Nexus Technology, Inc. is dedicated to developing, marketing, and supporting Bus Analysis applications for Tektronix Logic Analyzers.

We can be reached at:

Nexus Technology, Inc.
78 Northeastern Blvd. #2
Nashua, NH 03062

TEL: 877-595-8116
FAX: 877-595-8118

Web site: http://**www.nexustechnology.com**

Support Contact Information

Technical Support	**techsupport@nexustechnology.com**
General Information	**support@nexustechnology.com**
Quote Requests	**quotes@nexustechnology.com**

We will try to respond within one business day.

If Problems Are Found

Document the problem and e-mail the information to us. If at all possible please forward a Saved System Setup (with acquired data) that shows the problem. Do not send a text listing alone as that does not contain enough data for analysis. To prevent corruption during the mailing process it is strongly suggested that the Setup be zipped before transmission.