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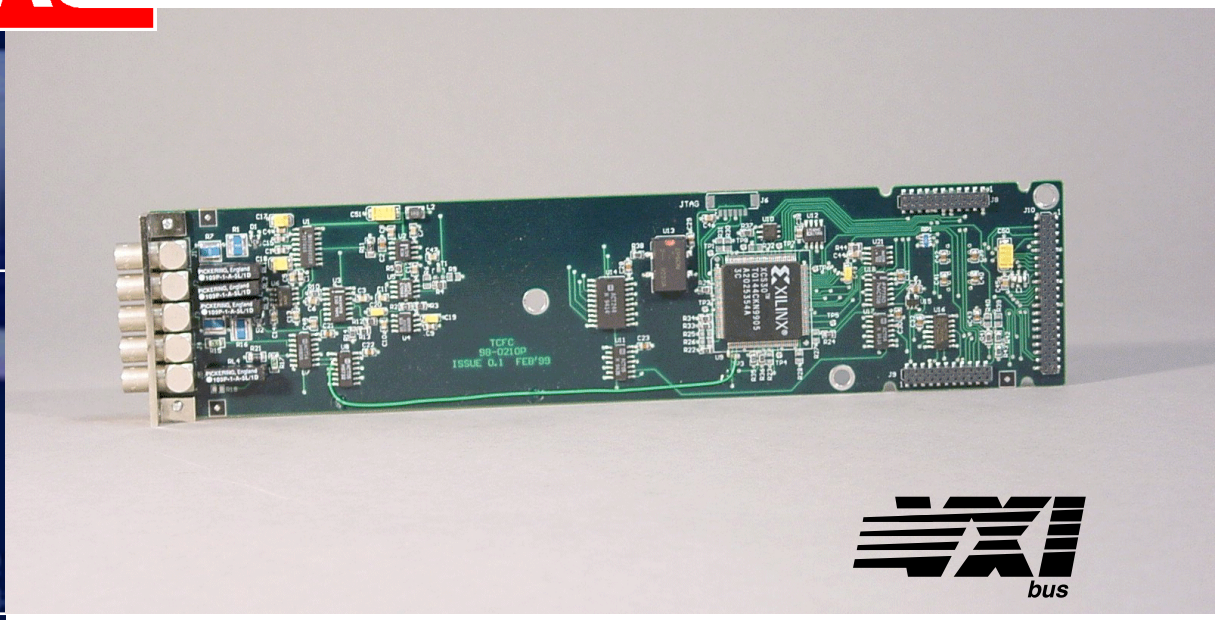
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ProDAQ

ADVANCED VXI DATA ACQUISITION SYSTEMS



3451

TRIGGER CLOCK FUNCTION CARD

- Control/Synchronization for 3450 Transient Recorder Cards
- Internal or External Sampling Clock
- Input Signal Trigger Distribution from/to 3450 Transient Recorder Cards or External Trigger
- Dual Timebase Operation with Internal Clock, Near/Far Post Trigger Selection
- Trigger Address Memory
- ”Between-Segments” Time Measurement

POWER

The ProDAQ 3451 Trigger Clock Function Card is designed to control and synchronize multiple ProDAQ 3450 Transient Recorder Function Cards. These cards can be located in the same ProDAQ Motherboard or spread across several motherboards. It operates either through the VXI backplane or optional external cables.

The ProDAQ 3451 Trigger/Clock Function Card can either generate an internal clock/trigger or receive an external clock/trigger. No matter what the clock/trigger source is, the TCFC sends it to all 3450 Transient Recorder Function Cards through either the VXI backplane or optional external cables. Using the VXI backplane to distribute clock and trigger to the different Transient Recorder Cards reduces the cable connections.

When using an on-board sampling clock the ProDAQ 3451 Trigger/Clock Function Card allows the dual timebase mode to be set. This means that the sampling clock rate can be changed during post-trigger phase to acquire the more interesting part of the waveform with high sampling frequency and the less interesting part of the waveform with low sampling frequency. The dual timebase mode is only available when working with internal clock and is disabled for external clock.

The dual timebase option enables the user to divide the post-trigger section into ”near post-trigger” section and ”far post-trigger” section. This allows the sampling frequency to be switched twice. The near post-trigger can be set from 8 samples to full post-trigger size.

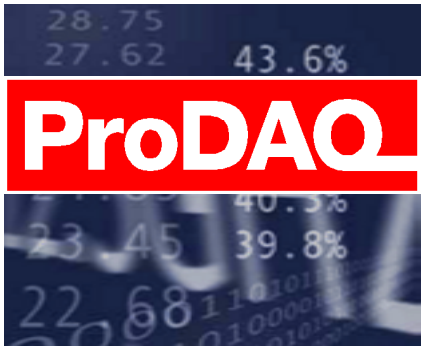
The ProDAQ 3451 Trigger/Clock Function Card controls multiple segments data acquisition and measures time between segment triggers to allow reconstruction of waveform. The clock for that purpose can vary so that the time range can be easily extended. Each trigger-to-trigger timing measurement is then stored in the memory.

This feature allows the reconstruction of the global timing of the multiple waveforms stored in separate segments. The total range of time measurement depends on the chosen clock divider value and can vary from 14min to 1h 52min. The timing information is stored in a memory and can be read out after completion of the recording process. A dedicated register stores an overflow information about the second revolution of the timing counter.

The ProDAQ 3451 Trigger Clock Function Card is supplied with VXI*plug&play* drivers, that can be used with all popular software packages. The driver automatically detects and initializes all the function cards installed in one of the ProDAQ motherboard modules, removing any possibility of configuration errors.

The ProDAQ modules allow the user to safely and simply expand their existing hardware and software systems.

bustec



Internal Sampling Clock	
Sample Rates	1kHz - 3MHz
Stability	±100ppm
Steps	1 - 2 - 3 - 5 - 7.5
Internal Sample Clock Modes	
Single Timebase Mode	Constant sampling frequency
Dual Timebase Mode	Near, Far, Near & Far sampling frequency switching
External Sampling Clock	
Frequency Range	1kHz - 2 MHz
Duty Cycle	45% to 55%
Standard Levels	ECL, ECL shifted to 0V, TTL
Threshold Levels	-1.3V, +0.7V, +1.5V
Termination	50Ω to -2V, 50Ω to Ground, None
Sampling Clock Output	
Level	ECL (without pulldown resistor)
Trigger Input	
Level	TTL
Termination	50Ω to GND, None
Minimal Pulse Duration	50ns
Active Edge	positive
Trigger Output	
Level	TTL
Multi-Crate System Trigger I/O	
Level	TTL, open collector, bidirectional
Post Trigger	Variable from 8 samples to full memory in steps of 8 samples.
Time Stamp Range	14 min. @ 0.2μs resolution 28 min. @ 0.4μs resolution 56 min. @ 0.8μs resolution 112 min. @ 1.6μs resolution
Between-Segment Dead Time	1.6 μs
Maximum Current Consumption	Voltage (V) Current (mA) +5 TBD -5.2 TBD -2 TBD
Power Consumption	< TBD
Connectors	LEMO type, ELP.00.250.NTN
Dimensions	230mm x 52.6mm
Weight	< 80g
Operating Temperature	0° C to 50° C
Storage Temperature	-40° C to 70° C
Warm-up Time	< 30 minutes
Software Support	VXI*plug&play* driver for the WIN95 and WINNT frameworks
Configuration	Cards can be factory installed or field installed by user
Warranty Period	12 month standard; extended periods available at additional cost.

Ordering Information:

3451-AA Trigger Clock Function Card

Related Products:

3120-AA Standard Motherboard
3150-AA High-Performance Motherboard
3450-AA 2-Ch., 3MHz Transient Recorder

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