

Model 2361 Trigger Controller

OVERVIEW

TRIGGER CONTROLLER: Provides control of trigger pulses among up to six instruments. The manner in which the trigger signals are modified is programmable over the IEEE-488 bus. Includes 8-bit digital I/O port.

FUNCTION: Can be used to synchronize triggers from different instruments in a measurement system. A simple trigger programming language provides the flexibility to control instrument operation in a variety of ways.

TRIGGER I/O PROGRAM: Up to six input-output relations constitute the program which resides in internal memory. Non-volatile storage of up to three trigger I/O programs.

TRIGGER INPUT EXPRESSIONS: Specify what combinations of trigger inputs will cause a trigger output. Two operators are used in trigger input expressions:

+ Same as the Boolean "OR" operator.

* "Cumulative AND" operator. The input expression evaluates true when the triggers on both sides of all operators have been received.

TRIGGER OUTPUT EXPRESSIONS: Specify what combination of trigger outputs will occur after its input expression has evaluated true.

SIGNALS

CONFIGURATION:

Six trigger inputs, TTL compatible.

Six trigger outputs, TTL compatible.

One 8-bit digital input port, TTL compatible.

One 8-bit digital output port, TTL compatible.

TRIGGER CHANNELS:

Input: May be programmed to detect rising or falling edges.

Output: Active low pulse, maximum pulse width 110 μ s.

DIGITAL I/O:

Input: May be programmed to detect level or edges (either rising or falling).

Output: Specified level appears on digital output lines.

IEEE-488 BUS IMPLEMENTATION

MULTILINE COMMANDS: DCL, SDC, UNT, UNL, SPE, SPD.

UNILINE COMMANDS: IFC, REN, EOI, SRQ, ATN.

INTERFACE FUNCTIONS: SH1, AH1, T6, TE0, L4, LE0, SR1, RL2, PP0, DC1, DT0, C0, E1.

SRQ OPTIONS: SRQ on any of the following events: Trigger input detected, digital input detected, ready for IEEE-488 command, error.

PROGRAMMABLE FUNCTIONS: Trigger I/O programming, trigger I/O program initialization, trigger I/O program storage and retrieval, trigger input edge polarity, trigger response enable/disable, trigger latch initialization, trigger output generation, digital output specification, digital input edge polarity, SRQ masking, IEEE-488 holdoff, IEEE-488 output terminator, system status readback, factory default reset.

IEEE-488 address is set manually from the rear panel.

EXECUTION SPEED

INPUT PULSE WIDTH: 50ns minimum, unlimited maximum.

CHANNEL SYNCHRONIZATION (typical): Output pulses are synchronized to within 5ns.

TRIGGER PROPAGATION DELAY (IEEE-488 inactive): 350 μ s maximum, 100 μ s typical (TOD0, only one trigger I/O relation evaluates true).

PULSE RECOGNITION RATE: 2kHz maximum at any trigger input.

RESPONSE TO IEEE-488 COMMAND:

Trigger Control Commands: 2.5ms maximum.

Trigger I/O Program: 25ms maximum.

GENERAL

CONNECTORS:

Trigger Input, Output: Six BNC connectors each on rear panel.

Digital I/O: 20 pin card edge.

ENVIRONMENT: Operating: 0 $^{\circ}$ -50 $^{\circ}$ C; 0-70% R.H.

Storage: -25 $^{\circ}$ C to 65 $^{\circ}$ C.

POWER: 90-125 or 180-250V AC (internal switch selectable); 50-60 Hz. 10VA max.

DIMENSIONS, WEIGHT: 425mm wide \times 45mm high \times 309mm deep (16 $\frac{1}{4}$ in. \times 1 $\frac{3}{4}$ in. \times 12 in.). Net weight 2.7 kg. (6.2 lbs.).

ACCESSORIES SUPPLIED:

7051-2 BNC Interconnect Cable, 0.6m (2 ft.)

Specifications subject to change without notice.