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## APPLICATIONS

Test cells  
Nuclear accelerator control and monitoring  
General-purpose time sequence generation

# V645

## 8-channel Timing Pulse Generator



Generates an output timing sequence with up to 8 pulses

## FEATURES

- Eight independent outputs
- Self-contained crystal clock
- Provision for external clock
- Options for high-true or low-true output pulses
- Interrupt source bits associated with each output channel
- 8-bit interrupt mask register
- Clock rates from 1 Hz to 1 MHz in decade steps
- Ability to cycle through any number of channels from one to eight

### GENERAL DESCRIPTION

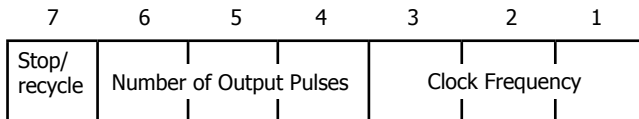
The V645 is a single-width, C-size, register-based, VXIbus module that contains a 16-bit counter and eight 16-bit set-point registers that are compared with the counter. The comparisons produce output pulses, and any of them can be used to either stop or clear the counter. The comparisons also produce interrupt source bits which can be individually enabled to produce interrupt requests.

A flag bit determines whether the counter stops with the last output pulse or whether it is cleared to produce repeated cycles of timing sequences. In the former mode of operation, additional pulse sequences are initiated either by a software command or by an external signal or contact closure.

The V645 provides its own crystal clock, and the input frequency to the counter is software-controlled for any decade from 1 Hz to 1 MHz. Input to the counter can also come from an external source.

Numbers in the eight registers (or fewer, if less than eight pulse sources are required) must be stored in increasing numerical order for proper timing of the output pulses.

A control register provides programmable control of the clock frequency (1 Hz to 1 MHz), the number of channels that generate a pulse (one to eight), and whether to stop or recycle after the last pulse. The bit assignments in the register are shown below:



Bits 1, 2, 3 = N, where clock frequency = 10N Hz (except N = 7 selects the external input.) Bits 4, 5, 6 = P, where P + 1 = number of channels that generate a pulse. Bit 7 = "1" to continuously cycle, "0" to cycle once and stop.

The V645 supports both static and dynamic configuration. Access to the data is through memory locations indicated by the Offset Register within the VXIbus Configuration Register set, using A24/A16, D16 data transfers.

Item	Specification
Number of Outputs	8
Output Pulse Width	200 ns
Clock Selection	1 Hz, 10 Hz, 100 Hz, 1 kHz, 10 kHz, 100 kHz, 1 MHz; external, TTL input
Internal Clock Source Overall stability	±0.01%, 0°C to +70°C
External Clock Source Maximum input frequency Minimum pulse width	25 MHz 20 ns
Maximum Set-point Value	65,535 (16 bits)
Output Connector Types	Single-pin LEMO receptacle, shell size 00
Mating Connectors	KineticSystems Model 5910-Z1A
Power Requirements +5V	2.6 A, typical
Environmental and Mechanical Temperature range Operational Storage Relative humidity Cooling requirements Dimensions Front-panel potential	0°C to +50°C -25°C to +75°C 0 to 85%, non-condensing to 40°C 10CFM 340 mm x 233.35 mm x 30.48 mm (C-sized VXIbus) Chassis ground

#### RELATED PRODUCTS

Model 5857-Axyz	Cable—1-contact LEMO to Unterminated
Model 5857-Bxyz	Cable—1-contact LEMO to 1-contact LEMO
Model 5857-Hxyz	Cable—1-contact LEMO to BNC shielded
Model 5910-Z1A	Connector—1-contact LEMO

#### ORDERING INFORMATION

MODEL	DESCRIPTION
V645-LA11	8-channel Timing Pulse Generator, High-true TTL outputs
V645-LB11	8-channel Timing Pulse Generator, Low-true TTL outputs

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