



## Artisan Technology Group is your source for quality new and certified-used/pre-owned equipment

- FAST SHIPPING AND DELIVERY
- TENS OF THOUSANDS OF IN-STOCK ITEMS
- EQUIPMENT DEMOS
- HUNDREDS OF MANUFACTURERS SUPPORTED
- LEASING/MONTHLY RENTALS
- ITAR CERTIFIED SECURE ASSET SOLUTIONS

### SERVICE CENTER REPAIRS

Experienced engineers and technicians on staff at our full-service, in-house repair center

### *InstraView*<sup>SM</sup> REMOTE INSPECTION

Remotely inspect equipment before purchasing with our interactive website at [www.instraview.com](http://www.instraview.com) ↗

### WE BUY USED EQUIPMENT

Sell your excess, underutilized, and idle used equipment. We also offer credit for buy-backs and trade-ins. [www.artisanng.com/WeBuyEquipment](http://www.artisanng.com/WeBuyEquipment) ↗

### LOOKING FOR MORE INFORMATION?

Visit us on the web at [www.artisanng.com](http://www.artisanng.com) ↗ for more information on price quotations, drivers, technical specifications, manuals, and documentation

**Contact us:** (888) 88-SOURCE | [sales@artisanng.com](mailto:sales@artisanng.com) | [www.artisanng.com](http://www.artisanng.com)

[HOME](#)[about HTI](#)[products](#)[what's new](#)[ap notes](#)[contact us](#)[links](#)

## MODEL V680 VME 8-CHANNEL TIME-TO-DIGITAL CONVERTER



### FEATURES

- 8-channel, 48-bit, 48-picosecond resolution
- Measures events up to 6800 seconds before or after common trigger, or 0 to +13,700 seconds after trigger
- Adjustable trigger levels and edge polarity
- Usable as 9-channel independent time-stamper
- Fast readout available 200 ns after events
- Jitter typically below 40 ps RMS
- Ultrastable ovenized quartz crystal timebase
- Optional custom internal microengine

The V680 is an 8-channel time-to-digital converter used to record the time of occurrence of eight independent electrical pulse inputs, each measured relative to a single, common reference input. Each input channel can time its event "hit" with 48.82-picosecond resolution and 48-bit dynamic range.

The module has provisions for adjustable input logic levels, selectable input edge polarity, and selectable termination.

The V680 employs a highly linear interpolation technique which requires a minimum of adjustments. Data is available within 200 ns of the completion of the measured time intervals, and the module may be cleared and rearmed in less than one microsecond. All features are switch selectable.

### Model V680 VME Time-to-Digital Converter Specification

CONFORMANCE	ANSI/IEEE 1014-1987 VMEbus specification. VXIC specification, Rev. 1.4.
DEVICE TYPE	Register based slave: A16:D16:D08(E0).
PACKAGING	Single-width, 6U VME, B-size VXI module.
POWER REQUIRED	+5: 2.8A max; +12: 1.1A max at startup, 600mA max after warm-up; -12: 1.4A max at startup, 800mA after warm-up

INPUTS	<p>One common reference input (T8)  Eight individual event inputs (T0-T7)  One external input (GATE) enables event channels  Two inputs (AUX) support custom control logic  One clock I/O (CLK).</p>
INPUT LEVELS	<p>The thresholds of the event inputs are adjustable as a group in the range <math>\pm 2.5</math> V. Their impedance (high-Z or 50 ohms) and polarity (rising or falling edge) can also be selected individually.</p> <p>The GATE input has a separate threshold level adjustment. Its impedance (high-Z or 50 ohms) and polarity (high or low) are also selectable.</p> <p>The AUX inputs are TTL-compatible.</p>
OUTPUTS	AUX1 normally indicates module armed and ready to accept an event.
RESOLUTION	48.828125 ps, equivalent to 20.48 GHz clock
RANGE	48 bits ( $\pm 6871$ s) for bipolar mode.
JITTER	$<(75\text{ps} + 2 \text{ E-9} \times \text{delay})$ RMS
LINEARITY	$\pm 0.25$ LSB
TIMEBASE	Internal ovenized crystal oscillator. Accuracy 0.01 ppm/deg C; aging $< 1$ ppm/year. Internal phase-lock-loop allows utilization of an external 10 MHz timebase.
INDICATORS	LEDs indicate module access and acquisition/readout mode status.
CONNECTORS	Standard SMB; optional LEMO

*Highland Technology V680 8-channel VME Time-to-Digital Converter Data Sheet*

[home](#) | [products](#) | [contact us](#)



## Artisan Technology Group is your source for quality new and certified-used/pre-owned equipment

- FAST SHIPPING AND DELIVERY
- TENS OF THOUSANDS OF IN-STOCK ITEMS
- EQUIPMENT DEMOS
- HUNDREDS OF MANUFACTURERS SUPPORTED
- LEASING/MONTHLY RENTALS
- ITAR CERTIFIED SECURE ASSET SOLUTIONS

### SERVICE CENTER REPAIRS

Experienced engineers and technicians on staff at our full-service, in-house repair center

### *InstraView*<sup>SM</sup> REMOTE INSPECTION

Remotely inspect equipment before purchasing with our interactive website at [www.instraview.com](http://www.instraview.com) ↗

### WE BUY USED EQUIPMENT

Sell your excess, underutilized, and idle used equipment. We also offer credit for buy-backs and trade-ins. [www.artisanng.com/WeBuyEquipment](http://www.artisanng.com/WeBuyEquipment) ↗

### LOOKING FOR MORE INFORMATION?

Visit us on the web at [www.artisanng.com](http://www.artisanng.com) ↗ for more information on price quotations, drivers, technical specifications, manuals, and documentation

**Contact us:** (888) 88-SOURCE | [sales@artisanng.com](mailto:sales@artisanng.com) | [www.artisanng.com](http://www.artisanng.com)