HIGHLAND TECHNOLOGY

MODEL V951 6-CHANNEL DIGITAL DELAY GENERATOR VXI MODULE

more VME/VXI

FEATURES

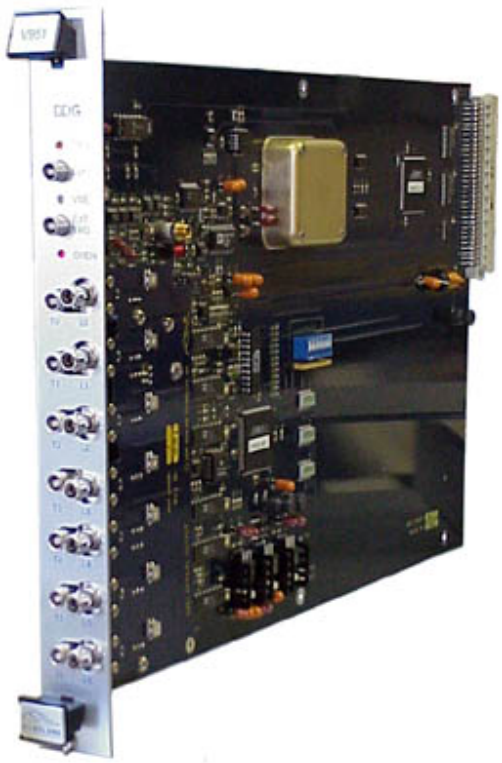
- Delay and width modes.
- 40 (39.0625) picosecond LSB resolution with 32-bit (167.8 ms) full-scale delay range.
- <25 ps RMS jitter typical.
- Adjustable trigger threshold and output levels.
- Insertion delay of 25 ns.
- Optional NIM level outputs for all delay channels.
- Optional optical outputs for all delay channels.

The V951 is a C-size VXI digital delay generator that accepts a single trigger input and generates six separately programmable delay outputs. The six channel delays may be combined in sequences to create three delay-and-width outputs. The module features a 32-bit dynamic range, 40-ps resolution, low jitter, and high rep-rate capability.

All channels are triggered simultaneously, and the module generates a "T0" edge 25 ns after the trigger, and six following delays, each programmable from 0 to 167.8 ms.

The outputs can also be configured to generate widths. This mode uses two channels, 1 and 2, to generate a pulse whose incidence is determined by channel 1's timing value and whose termination is determined by channel 2's timing value. Similarly, channels 3 and 4 , and 5 and 6 can be combined to operate in the width mode.

The V951 delay parameters may be programmed on-the-fly at VMEbus speeds without any generation of erroneous delays. All delay channels can be updated coherently.



The V956 option adds seven optical outputs. The standard version uses 850 nm lasers with ST connectors, and will couple a minimum of 250 microwatts into a 50/125 or 62/125 micron multimode fiber. The outputs are DC coupled and follow the corresponding T0 through T6 electrical outputs. User-accessible switches are provided to set the output polarity of each channel to positive, negative, or off.

P400 Benchtop DDG

V951 VXI Digital Delay Generator Specifications

CONFORMANCE	ANSI/IEEE 1014-1987 VMEbus specification. VXIC specification, Rev 1.4.
DEVICE TYPE	Register based slave: A16:D16:D08(EO).
POWER REQUIRED	+5: 3.0A max; +12: 1.5A max at startup, 825mA max after warm-up; -12: 1.1A max at start-up, 550mA after warm-up.
PACKAGING	Single-width, C-size VXI module.
TIMING CHANNELS	Six timing channels (1-6). In DELAY mode, the V951 produces six independent delays. In WIDTH mode, channels 1 and 2 (as well as 3 and 4 and 5 and 6) allow the generation of pulses with programmable delay and duration.
REP RATE	Up to 2.5 MHz.
INSERTION DELAY	25ns
RESOLUTION	39.0625 ps LSB (equivalent to a clock rate of 25.6 GHz).
RANGE	32 bits allows a full scale range of 167.7722 ms on all channels.
JITTER	Less than (50 ps + 1E-9 x programmed delay) RMS.
ACCURACY	+- (500 ps + timebase stability).
TIMEBASE	Ovenized oscillator. Temperature coefficient<10 ppB/deg C; aging below 1ppM/year. Oscillator may be phase locked to a 10 MHz external reference via the front panel CLOCK I/O connector.

INPUTS	EXT TRG: Adjustable threshold level +-2.5V, slope, and termination (Hi-Z, 50 ohms to ground).
OUTPUTS	One fixed position marker (T0) and six delay (1-6) outputs. In the DELAY mode, a given timing channel is routed to the similarly numbered output. In the WIDTH mode, the width waveform generated timing channels 1 and 2, are routed to output 2, with 3 and 4 routed to output 4, and 5 and 6 routed to 6. All outputs are commonly adjustable for a baseline of 0 to -2.5 volts and amplitude of 0 to +5 volts. The slew rates are better than 2V/nSec.
CONNECTORS	Std: SMB, Options: LEMO; LEMO with independent NIM outputs, Optical outputs.

Highland Technology Model V951 VXI Digital Delay Generator Data Sheet

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