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Find the *Interface Technology DDG200-V* at our website: ***Click HERE***

DDG200-V

Table Driven Digital Delay Generator



- Table Driven with up to 500,000 User Programmed Pulse Delay/ Width Entries per Channel
- 2 Independent Channels
- 1 nsec Pulse Width / Delay Resolution
- ± 2 nsec of Trigger to Output Jitter
- Wide Delay Range From 270 nsec To 4 msec
- Wide Pulse Range From 50 nsec To 1 msec
- Programmable Pulse Amplitude Up To 5.0 V In 10 mV Steps
- Pulse Trigger Range of 100 Hz to 1 MHz
- Ovenized 10 MHz Crystal Oscillator With 0.25 ppm Accuracy
- Adjustable Trigger Threshold Input Levels
- 6U VME Card With GUI control

The DDG200-V Digital Delay Generator is a 6U, VME-based instrument with programmable delay and width parameter memory behind each channel. The instrument provides two output pulses with variable delay and width, and programmable pulse amplitude. Pulses can be used to gate an RF synthesizer to control the delay and width of RF pulses, or it can be used for precise sequence timing of experiments, tests, and similar applications. Pulse and delay parameters are programmable with 1 ns resolution over a wide range of values. Both internal and external pulse-triggering modes are provided. The two individual pulse outputs are controlled by a user programmable "***scenario table***", containing individual delay and width parameters for each output channel. The scenario table is capable of containing up to 500,000 individual delay/width settings per channel. All internal timing is derived from a highly stable, ovenized 10MHz crystal oscillator reference.

The DDG200-V can be triggered either internally by a 100 Hz to 1 MHz programmable clock or from an external trigging source. The delay from trigger to pulse output is programmable from 270 ns to 4 ms while pulse width is programmable from 50 nsec to 1 msec. Pulse amplitude is programmable from -2 to +5 Vdc into 50 ohms. The DDG200-V is a new class of instrument specifically designed to provide test engineers with a flexible timing tool to aid in the generation of complex radar pulse simulations. When combined with an IF or RF source, the DDG200-V can be used to control the timing of pulses to a radar receiver, simulating target movement or terrain variations. Multiple timing channels allow the DDG200-V to control the simulation of multiple signals, useful for simulating multiple targets or in Electronic Counter-Measure (ECM) simulation.

Other features of the DDG200-V include independent asynchronous triggering and timing parameters for each channel. The DDG200-V comes standard with a Windows-based Graphical User Interface to aid in the development and debug of timing scenarios.

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*DDG200-V Specifications**

Clock, Internal:

PLL Oscillator Frequency	1 GHz, fixed
PLL Reference, Internal	10 MHz, temperature stabilized
Reference Accuracy	0.25 ppm
Jitter	<10 psec

Clock, External:

PLL Reference, External	10 MHz
Input Level	1 Vp:p to 5 Vp:p
Coupling	Capacitive
Input Termination	Unterminated
Connector	SMB

Channels (Electrically/ Functionally Independent Outputs):

Pulse Outputs	2 standard

Pulse Output Characteristics:

Output Levels:	
V_{OL}	-2 V to 0.99 V into 50 ohms
V_{OH}	-2 V to 5 V into 50 ohms
Resolution	10 mV
Rise/Fall Time	5 nsec at 5.0 Vp:p
Programmable	Yes
Level Accuracy	±2%

Delay Characteristics:

Insertion Delay	270 nsec
Programmable Range	
Minimum	0 nsec (+ insertion delay)
Maximum	4 msec (+ insertion delay)
Resolution	1 nsec
Accuracy	±2 nsec
Max Jitter, trigger to output	±2 nsec

Pulse Characteristics:

Width	50 nsec to 1msec
Width Control Resolution	1 nsec
Width Control Accuracy	±2 nsec

Pulse Trigger (per channel):

Internal Trigger Generator (one per system)	Programmable
Range	100 Hz to 1 MHz
External:	
Max. Input Range	-2 V to +6 V
Threshold Range	-2 V to +5 V
Threshold Resolution	10 mV
Input Impedance	50 ohms or 10k ohms, selectable
Min. Trigger Width	20 nsec
Polarity	Rising/falling, selectable

Table Memory (per channel):

Size	500,000 entries
Scan Rate	100 Hz to 1 MHz
Table Trigger	
Internal Trigger Gen:	Programmable (one per channel)
Range	100 Hz to 1 MHz
External:	
Max. Input Range	-2 V to +6 V
Threshold Range	-2 V to +5 V
Threshold Resolution	10 mV
Input Impedance	50 ohms or 10K ohms, selectable
Min. Trigger Width	20 nsec
Polarity	Rising/falling, selectable

Front Panel:

Inputs:
10 MHz Ref In, Pulse Trigger (Ch1-2), Table Trigger (Ch1-2),

Outputs:
10 MHz Ref Out, Pulse (Ch 1-2),

LED Indicators:
Power, Access,
Ch1-2: Armed, Pulse Active

Connectors: SMB

VME Specifications

Interface Compatibility:

Size	6U, single slot
Type	A16/D8(EO), D16, A32/D32
Interrupt Level	Programmable 1-7

Power Requirements:

+5.0 Volts	6.4 A	32.0 W
+12.0 Volts	1.0 A	12.0 W
-12.0 Volts	0.7 A	8.4 W

Total Power		52.4 W

Cooling Requirements:

Per Slot Average	52 W
Airflow	4L/sec for 10° C temperature rise (typ)

Environmental Specifications:

Temperature	Storage = -40° C to +75° C
	Operating = 0° C to 45° C
Humidity	5% to 95% relative, noncondensing

User Interface:

Windows-Based Graphical User Interface

* Specifications subject to change without notice.

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