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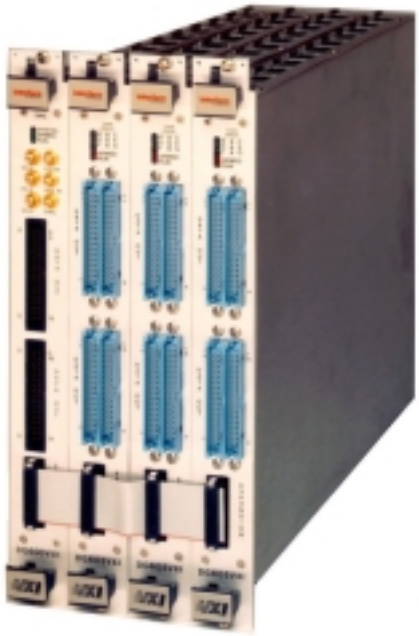
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Find the *Interface Technology DG600* at our website: *Click HERE*

DG600 / DG605

VXI Digital Word Generator

25/50 MHz



- 16 to 112 Channels at 50 MHz with 16K Memory Depth
- 32 to 224 Channels at 25 MHz with 8K Memory Depth
- Independent Word Timing From 20 ns to 85 Seconds
- Internal Clock Rates From 1 Hz to 50 MHz, Up to 1 Hz Resolution
- Up to 255 Data Tables With 3 Level Nested Table Sequencing
- Clock-by-Clock Tristate Control For Each Channel
- IEEE-488.2 Common Commands and High Level VXI Bus Command Language

The DG600 is a message-based digital pattern generator implemented within a single slot, C-size module. It is capable of generating complex patterns at speeds up to 50 MHz while taking advantage of memory saving features such as three level looping and data tabling. There are 32 data channels available at speeds up to 25 MHz, and 16 of those channels will operate at speeds up to 50 MHz.

Up to three DG605 expansion modules can be used with the DG600. Depending on the number of DG605 units installed, the number of channels available in the 50 MHz operating mode is 16 to 112, in 32 channel increments. In the 25 MHz operating mode, 32 to 224 channels are available in 64 channel increments.

The DG600 and the DG605 provide tristate control for individual channels on a clock-by-clock basis, a feature essential for testing bidirectional busses often found in memory devices and microprocessor applications.

The DG600 implements the IEEE 488.2 common commands as a subset of a comprehensive, dedicated digital word generator command language. Sophisticated commands like "increment memory fills" allow quick set up of test conditions and data vectors. This saves time and cost by simplifying VXI software programming.

Timing of data output is supplied by a Phase-Locked-Loop (PLL) source, which allows selection of exact test frequencies from 1 Hz to 50 MHz with 1 Hz resolution. The PLL can be locked to either the 10 MHz VXI signal (CLK10), or to an external clock input. Triggering can be accomplished by either a user selected VXI trigger line or by providing an external trigger input. To efficiently provide mixed timing signals, the DG600 timing generator mode provides the exact time duration required for each word output, rather than running at a fixed clock speed which would otherwise require large amounts of memory.

When test vectors have an iterative nature, such as HDTV or Focal Plane Array testing, the DG600 uses data tables for optimum memory utilization. Data may be defined in up to 255 unique tables, which may be output in sequence as specified by the user. The data tables can be sequenced with up to three levels of nested looping.

The DG600 is equipped with a variety of clock outputs for synchronizing devices connected to the word generator. The ungated clock supplies a free running output based on the master clock source. The symmetrical clock output is a 50% duty cycle clock whose period matches the output word's time period. The gated symmetrical clock may be enabled or disabled on a word-by-word basis, making it useful as a data strobe for the UUT or as a sample clock for a data acquisition system.

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*DG600/DG605 SPECIFICATIONS**

System Configuration	Speed MHz	No. of Channels	Memory Depth
DG600 only	50/25	16/32	16K/8K
w/1 DG605	50/25	48/96	16K/8K
w/2 DG605	50/25	80/160	16K/8K
w/3 DG605	50/25	112/224	16K/8K

Internal Clock:

Range	20 ns to 1.3 ms (50 MHz mode) 40 ns to 85 sec (25 MHz mode)
Resolution	1 Hz to 5 kHz
Frequency Stability	± 0.1%
Phase Lock	CLK10 or Ext. 10 MHz
Sym. Clk. Duty Cycle	50% ± 1 ungated clock cycle

External Clock:

Range	0 to 50 MHz
Minimum Pulse Width	10 ns
Active Edge	Rising or falling
Input Voltage	20 V p-p max., ± 10 V range
Input Threshold	Programmable ± 5.0 V, 20 mV resolution

External Trigger:

Minimum Pulse Width	10 ns
Active Edge	Rising or falling
Input Voltage	20 V p-p max., ± 10 V range
Input Threshold	Programmable ± 5.0 V, 20 mV resolution

Channel to Channel Skew (typical values):

Same Module	Less than 2 ns
DG600 to DG605	Less than 6 ns
DG605 to DG605	Less than 4 ns

Fixed Delays (typical values):

Sym. Clk. to Data Out	11 ns
Sym. Clk. to Sync	Less than 2 ns
Ext. Clk. to Sym. Clk	30 ns
Ext. Trig. to Sym. Clk	34 ns + 1 to 2 Clk
VXI Trig. to Sym. Clk	31 ns + 1 to 2 Clk

Tables and Looping:

Max. Active Tables	255
Min. Table Duration	80 ns
Major Loops	1 to 65,535 or continuous
Middle Loops	1 to 65,535 or continuous
Minor Loops	1 to 65,535 or continuous

Outputs:

Type	FTTL (74F125)
Source	12 mA minimum
Sink	64 mA minimum

VXI Specifications

Interface Compatibility:

Type	Message-based, servant-only
Configuration	Static or dynamic
Revision	1.3 and 1.4
Size	C-size, single slot
Interrupt Level	Programmable 1-7
Memory	A24/D16 only
Triggers	TTLTRG 0-7

Power Requirements:

	DG600		DG605	
+5.0 V	8.2 A	41 W	4.0 A	20 W
-5.2 V	50 mA	.26 W	- n/a -	- n/a -
+24.0 V	20 mA	.48 W	- n/a -	- n/a -
-24.0 V	10 mA	.24 W	- n/a -	- n/a -
-2.0 V	25 mA	.05 W	- n/a -	- n/a -
		--------		-------
Total Power		42.03 W		20 W

Cooling Requirements:

Per-Slot Average	42 W (DG600) 20 W (DG605)
Airflow, DG600	3L/sec @ 0.3 mm water pressure for 10º C temperature rise (typ)
Airflow, DG605	2L/sec @ 0.3 mm water pressure for 10º C temperature rise (typ)

Environmental Specifications:

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

Software Drivers:

National Instruments	LabWindows/CVI

* Specifications subject to change without notice.

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