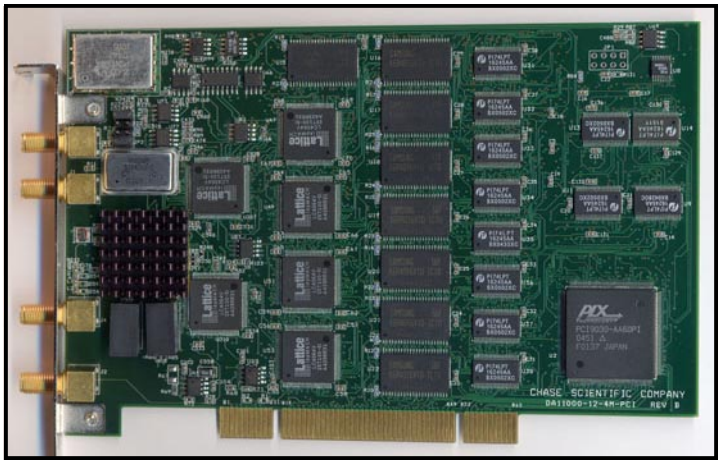
DA11000 - 1.0 GHz, 12-bit Arbitrary Waveform Generator

5/9/2005

Chase Scientific Company - *Innovators in Embedded Test & Measurement*

FEATURES

- 1.0 GS/s, 12-bit vertical resolution
- Single mid-sized PCI compliant card
- SFDR less than -50 dB, DC - 250 MHz, typ.
- Full scale Trise/Tfall = 370 psec typical
- Program up to 32K independent segments
- Program up to 16K loops/segment
- 4 MW memory standard
- 1 TTL marker outputs standard
- Synchronous trigger input
- Optional 8-bit Hardware interface for real-time segment jumping.
- Software Drivers for Windows 95, 98, NT, 2000, XP, and Linux (option 5).



APPLICATIONS

- Radar design and testing
- Optical and Magnetic Storage Testing
- Advanced Ultrasound Design
- Video design, test, and production
- Network analysis
- Communications
- RF signal generation

DESCRIPTION

The DA11000 is the fastest PCI based Arbitrary Waveform Generator in the world. The DA11000 incorporates advanced features such as programmable segment sizes, up to 32K programmable segments, and programmable loop counts from 1 - 64K plus continuous. The standard PCI architecture provides orders of magnitude faster data transfer rates than GPIB or serial ports.

Most Features Built-In

The DA11000 has the most popular features already built in. The DA11000 includes 4MEG memory and full segmentation control. The only options are the programmable attenuator and the Linux driver.

Memory

The DA11000 comes standard with 4 MW of sample memory on-board. Memory is accessed automatically when the user manipulates the data segments (user arrays) via the software drivers. Also, by allowing each segment the ability to loop independently, the effective amount of memory is many times the physical memory.

Software Drivers, User Interface

A universal DLL is available for Windows 95/98/NT/2000/XP and Linux (optional). Call Chase Scientific for drivers for other operating systems. A simple debug Graphical User Interface (GUI) software is included with the drivers.

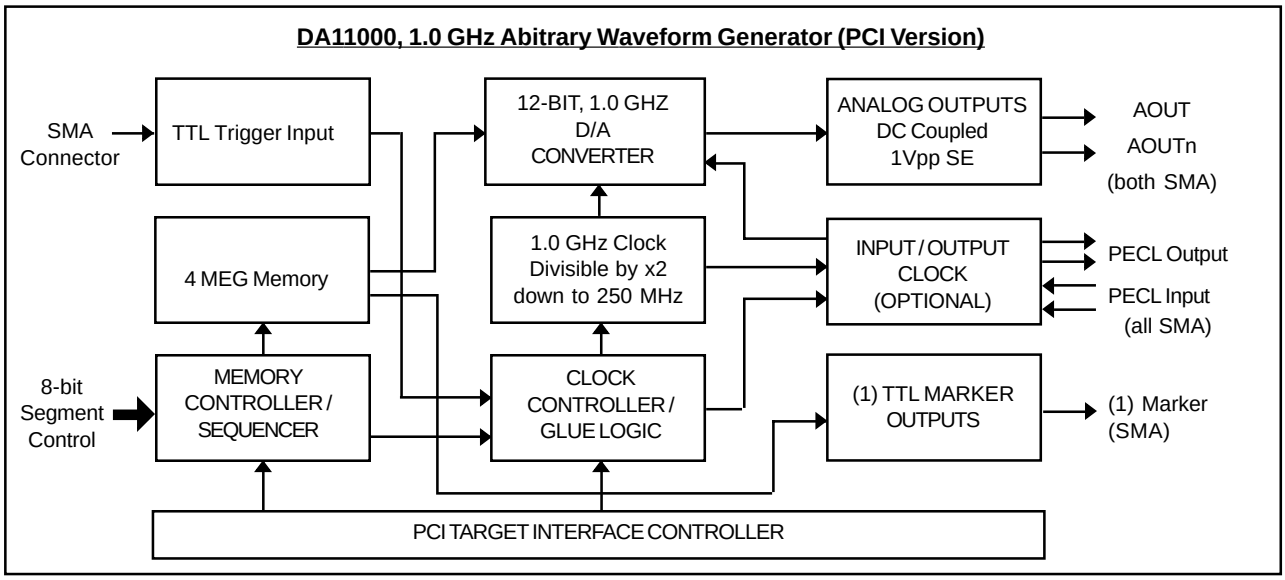
Ideal for Embedded Systems

The DA11000 is ideal for embedded applications where a stand-alone or bench-top unit is currently used. It provides OEMs and system builders a way to develop smaller, more efficient (faster transfer rates), and less expensive solutions than benchtop or ISA based products.

Customization

Call Chase Scientific for customized configurations and for porting the DA11000 design to other form factors. Chase can also provide an output filter on-board (call).

P.O. Box 1487, Langley, WA 98260 Tel: (360) 221-8455 Fax: (360) 221-8457 Email: sales@chase2000.com Web: www.chase2000.com



SPECIFICATIONS

ANALOG OUTPUT: Single channel and complementary

(T=25°C unless otherwise stated)

Parameter	Conditions/other	Typical Values
Vertical Resolution	Fclk = 1.0GHz	12-Bit (1 out of 4096)
Output Impedance		50 ohms
Amplitude (See Attenuator Option for Programmability)		
Fixed output	Fclk = 1.0GHz	450mVpp typical AC coupled thru xformer into single-ended into 50 ohms (SMA connectors)
Offset		
Range		+/- 300mV into 50 ohms
Resolution		1mV
Rise Time (10-90%, no filters)		370 psec typical into 50 ohms
Fall Time (10-90%, no filters)		370 psec typical into 50 ohms
Internal Clock Jitter		<50 psec typical
Delay between trigger and output		TBD output clocks +/- 1clk
SFDR (Spurious Free Dynamic Range)		
Fout < 200 MHz, Fclk = 1.00 GHz		< -50 dB Typical
Fout = 200 - 400 MHz, Fclk = 1.00 GHz		TBD
Internal Clock Rate Generator		
Frequency range		1.0 GHz
Stability	T = 0°C – 70°C	+/- 25 ppm
Memory		
Waveform	Standard	4 MWords x 12-Bits
# of User Segments		1 to 32K segments (max)
Segment Size Range		64 Words up to total memory, 16 word resolution
Hardware Segment Control		8 Bit TTL inputs
Maximum Segment Loops		16K
TTL Marker		8-bits (1/16 waveform clk)

DIGITAL OUTPUTS

(1) TTL Marker	Fclk/4 resolution

DIGITAL INPUTS

High Speed Clk Input	50 ohms SMA input: 1.0 GHz, 500 MHz, 250 MHz
TTL Trigger Input	Used to initiate memory sequence; One-shot, retriggerable, software programmable, SMA connector

PROGRAMMABLE ATTENUATOR (Option 3)

Parameter	Conditions	Typical (unless stated)
Frequency Range	-3dB BW	DC – 400 MHz
Amplitude		
Range		0 dBm to -31 dBm
Resolution		0.5dBm
Insertion Loss		1.7 dBm typical

ENVIRONMENTAL (DA11000)

Temperature	
Operating	0°C to 70°C Ambient
Non-operating	-40°C to 85°C
Humidity	
Operating	20% to 80% (no condensation)
Nonoperating	5% to 95% (no condensation)
Power	
+5V	500mA, 2.5 Watts (Typical using worst case waveform)
+3.3V	2.5 Amps, 8.4 Watts (Typical using worst case waveform)
+12V	216mA, 2.6 Watts (Typical using worst case waveform)
-12V	100mA, 1.2 Watts (Typical using worst case waveform)

Size

DA11000 Card	(1) Mid-size 32-bit std. PCI card

OPTION SUMMARY

Option 1	Programmable Attenuator (DC - 400 MHz)
Option 3	Software Drivers for Linux (Windows are Free)

ORDERING INFORMATION

Model Number	Description
DA11000-12-4M-PCI	1.0 GHz, 12-bit PCI ARB Card
Option 1	*Programmable Attenuator*
Option 3	*Drivers for Linux*

* Free Drivers for Win 95/98/NT/2000/XP

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