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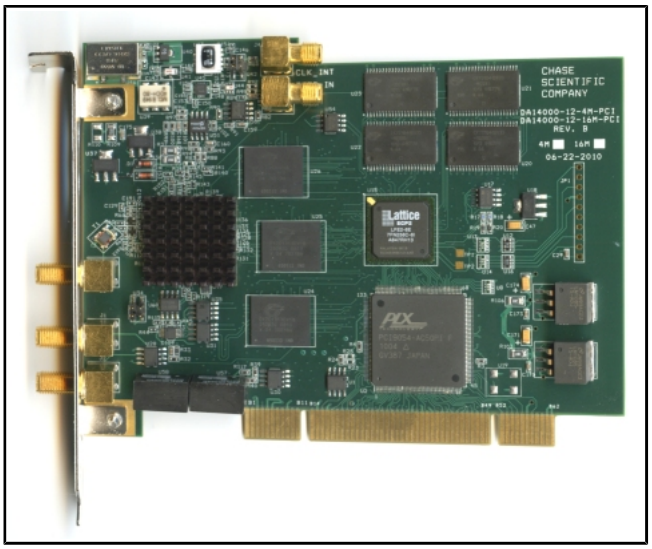
DA14000 - 1CH, 4.0 GS/sec, 12-Bit PCI Arbitrary Waveform Generator

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

Last Updated 10/19/2012

FEATURES

- (1) Chan, 4.0 GS/sec/chan, 12-Bit D/A resolution
- 4/16 MegaSamples Versions Standard
- Single mid-sized PCI card
- SFDR > 40dBc @ 4 MHz - 1200 MHz (typ)
- Full scale Trise/Tfall = 160 picoseconds (typ)
- Internal/External Master Clock, Trigger
- Programmable segmentation size, trig, looping, etc.
- (2) TTL marker outputs
- Software Drivers for Windows 98, NT, 2000, XP, Vista, Windows 7, and Linux (TBD).



APPLICATIONS

- Radar Signal Generation and Testing
- Telecom / Data Communications
- Optical and Magnetic Storage Testing
- Arbitrary RF Signal Generation
- Wireless Communications Testing
- Real World Simulations
- Network Analysis
- Pulse Generation

DESCRIPTION

General

The DA14000 PCI card is one of the fastest PCI based Arbitrary Waveform Generator in the world and incorporates many advanced features such as programmable segment sizes, looping, and individual segment triggering. Since the data uploaded to the card can be arbitrary, almost any waveform that the user can imagine can be created. Whether it be random noise, a custom shaped pulse, a pure sine wave, a modulated subcarrier, or an encoded radar signature, the DA14000 will faithfully reproduce it.

Master Clock

The high speed D/A converter (DAC) is clocked by an internal 4.0 GHz master or optional external clock provided by the customer (a jumper selection/adjustment is required for frequencies other than 4 GHz).

Triggering

The DA14000 board is designed to be triggered by TTL input, pulsed PECL, or software command. For convenience looping can be set to automatic, in which case the a single segment waveform repeats indefinitely.

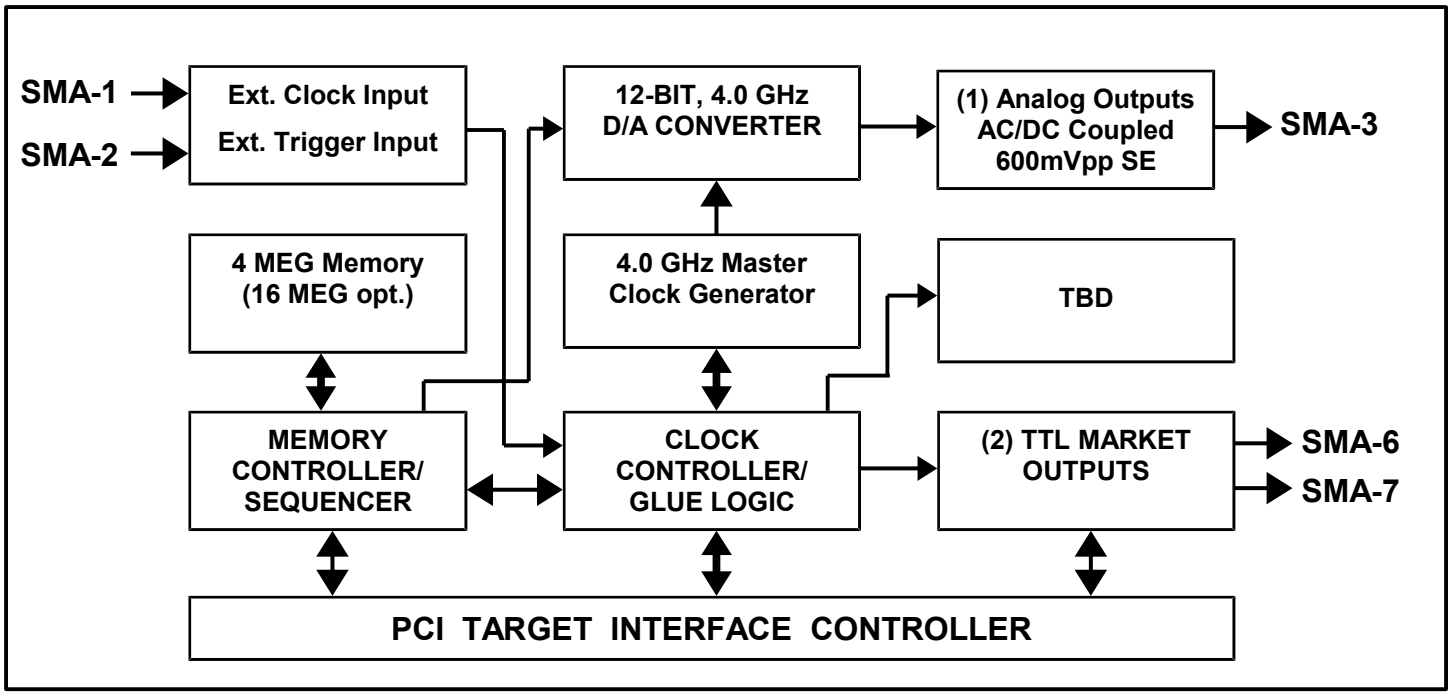
Memory

The DA14000 comes standard with 4 or 16 Mega-Samples of memory per channel.

Software Drivers, User Interface

A universal DLL and system drivers are available for Windows 98, NT, 2000, XP, Vista, and Windows 7. Linux drivers are TBD for Kernels 2.4.xx and 2.6.xx. A simple debug Graphical User Interface (GUI) software for windows is included with the drivers for quick driver install verification and simple testing.

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



AD14000 BLOCK DIAGRAM

SPECIFICATIONS

ANALOG OUTPUT: **Single Channel**
(T=25°C unless otherwise stated)

Parameter	Conditions/other	Typical Values
Vertical Resolution	**Fclk = 4.0GHz**	**12-Bit (1 out of 4096)**
Output Impedance		**50 ohms**
Amplitude (See Attenuator Option for Programmability)		
Fixed output	Fclk = 4.0GHz	600 mVpp typical single-ended into 50 ohms (SMA connectors)
Rise Time (10-90%, no filters)		160 psec typical into 50 ohms
Fall Time (10-90%, no filters)		160 psec typical into 50 ohms
Internal Clock Jitter		<1 psec typical
Delay between trigger and output		TBD output clocks +/- 1clk
SFDR (Spurious Free Dynamic Range)		
4 MHz < Fout < 1200 MHz, Fclk = 4.00 GHz		> 40 dB Typical
Internal Clock Rate Generator		
Frequency range		Fixed at 4.0 GHz
Resolution		N/A
Stability	T = 0°C – 70°C	+/- 100 ppm
Memory		
Waveform	Base Model	4 MWords x 12-Bits
	Maximum RAM	16 MWords x 12-Bits
# of User Segments		**1 to 64K segments (max)**
Segment Size Range		**64 Words up to total memory,**
Segment Resolution		**64 word resolution**
Maximum Segment Loops		**16K**

DIGITAL OUTPUTS:

(2) TTL Marker	Fclk/4 resolution, 50 ohms output impedance

DIGITAL INPUTS:

High Speed Clk Input	50 ohms SMA inputs: 500 MHz, 1.0 GHz, 2.0 GHz, and 4.0 GHz, AC coupled.
TTL Trigger Input	Rising Edge Retriggerable SMA connector, DC coupled TTL/PECL.

ENVIRONMENTAL (DA14000)

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	**TBD**
+3.3V	**TBD @ 4 MWords**
	TBD @ 16 MWords
Size	
DA14000 Card	**(1) Half Size 32-bit Standard PCI card**

ORDER INFORMATION

Model Number	*Description*
DA14000-12-4M-PCI	1-Ch, 4.0 GSPS AWG PCI card with 4 MEG Memory
DA14000-12-16M-PCI	Same as above with 16 MEG Memory

* Free Drivers for Win98/NT/XP/Vista/7 & Linux(TBD)

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