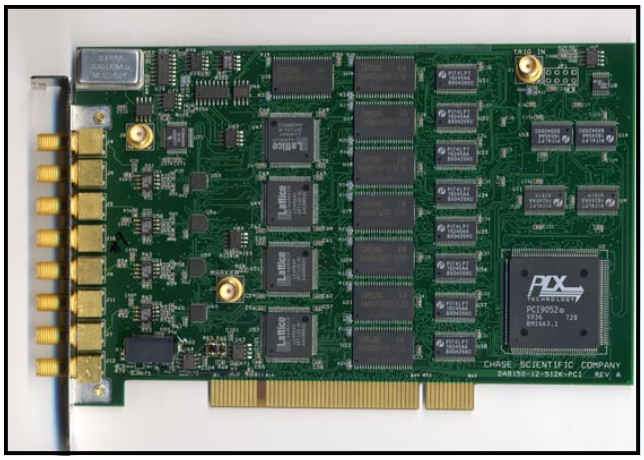
150 MSPS, 8-Ch, 12-bit, PCI Arbitrary Waveform Generator

Chase Scientific Company - *Innovators in Embedded Test & Measurement* 01/29/2005

FEATURES

- 150 MS/s, 12-bit vertical resolution
- (8) analog outputs at 2Vpp
- Single mid-sized PCI compliant card
- SFDR less than -50 dB at 50 MHz
- Full scale Trise/Tfall = 5ns typical
- Program up to 32K independent segments
- Program up to 16K loops/segment
- 500 K memory standard on each channel
- (1) TTL marker outputs standard
- (1) TTL trigger input
- (1) External Clock input
- SMA Connectors on all signals
- Software Drivers for Windows 95, 98, NT, 2000, Linux 2.2x/2.4x/2.6x.



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 DA8150 is the fastest PCI based Arbitrary Waveform Generator in the world with 4 analog output channels. The DA8150 incorporates advanced features such as programmable segment sizes, up to 32K programmable segments, and programmable loop counts from 1 to 64K (plus continuous). It also includes 1 MegWord of memory behind each channel. Using the standard PCI architecture, the DA8150 provides orders of magnitude faster upload rates than GPIB.

Extendible

Although the DA8150 is feature rich, you can extend this card by using a super stable and programmable external clock source such as the CG400 with 0.2 Hz resolution and 1PPM stability, or simply add up to (4) cards to a PC and get 32 high speed channels, all synchronized. Also, you can call Chase Scientific for customized configurations and for porting the DA8150 design to other form factors.

Memory

The DA8150 comes standard with 500K Words of sample memory on-board. Memory is accessed automatically when the user creates their data arrays and calls a simple software function provided by Chase. The DA8150 driver software manipulates the data segments (user arrays) and uploads them automatically to the card. Also, by allowing each segment the ability to loop independently, the effective amount of memory can be 1000's of times the physical memory.

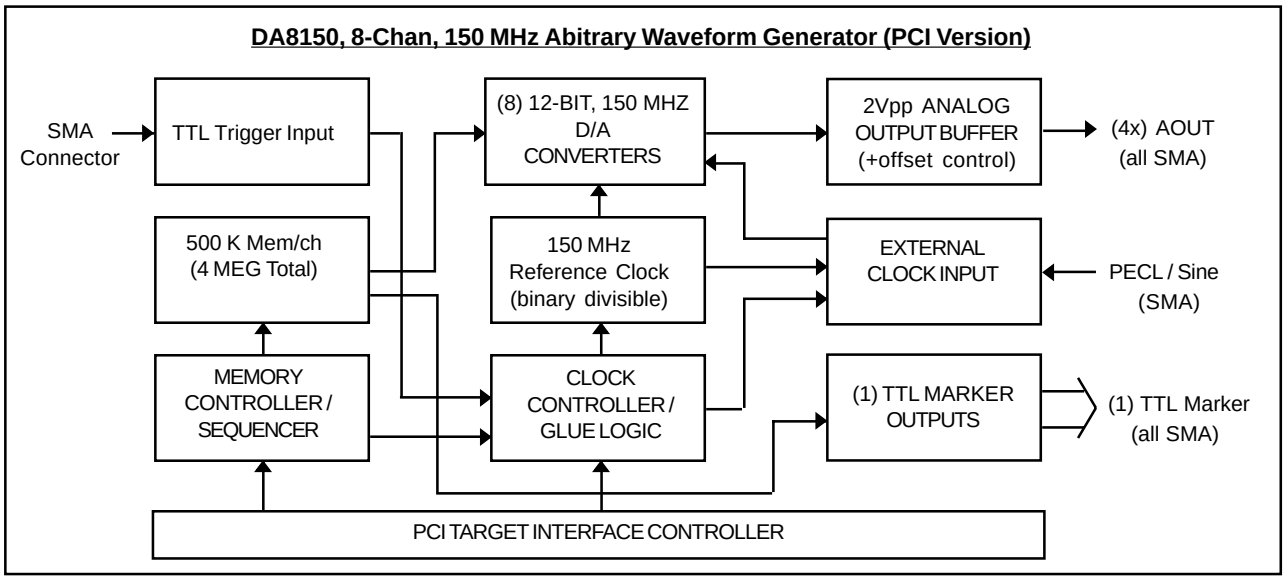
Software Drivers, User Interface

A universal DLL is available for Windows 95/98/NT/2000 /XP and Linux. Linux has grown in popularity and Chase has committed to this open platform. A simple debug Graphical User Interface (GUI) software is included with the drivers. Call Chase Scientific for drivers for other operating systems.

Ideal for Embedded Systems

The AD8150 is ideal for embedded applications where a benchtop instrument simply won't fit the space desired or will bust the budget for the project. It provides OEMs and system builders a way to develop smaller, more efficient (faster transfer rates), and less expensive solutions than any benchtop or tethered products using GPIB.

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: (4) Analog Output Channels

(T=25°C unless otherwise stated)

Parameter	Conditions/other	Typical Values
Vertical Resolution	0.23Hz≤Fclk≤150MHz	12-Bit (1 out of 4096)
Output Impedance		50 ohms
Amplitude (See Attenuator Option for Programmability)		
Fixed output	1MHz ≤ Fclk ≤ 150Mhz	2.0Vpp typical single-ended into 50 ohms (SMA connectors)
Offset		
Range		N/A
Resolution		N/A
Rise Time (10-90%, no filters)		5 nsec typical into 50 ohms
Fall Time (10-90%, no filters)		5 nsec typical into 50 ohms
Internal Clock Jitter		< 2 psec typical @ 1 sigma
Delay between trigger and output		20 output clocks +/- 1clk
SFDR (Spurious Free Dynamic Range)		
Fout < 50 MHz, Fclk = 150 MHz		< -50 dB Typical
Fout < 50 MHz, Fclk = 150 MHz		< -60 dB Typical (2MHz Span)
Internal Clock Source		
Reference Frequency		150.00 MHz
Software Selectable		150 MHz, 75MHz, 37.5MHz
Stability	T = 0°C – 70°C	+/- 20 ppm
Memory		
Waveform		525288 Samples x 12-Bits
# of User Segments		1 to 32K segments (max)
Segment Size Range		64 Words up to total memory, 16 word resolution
Maximum Segment Loops		16K

DIGITAL OUTPUT Markers

Number	1 TTL output
Timing Resolution	Fclk/4
Impedance Output	50 ohm

DIGITAL INPUTS

High Speed Clk Input	50 ohms SMA input: 1MHz to 150 MHz (sine/square 0dDm-6dBm)
TTL Trigger Input	Used to initiate memory sequence; One-shot, retriggerable, software programmable, SMA connector

PROGRAMMABLE ATTENUATOR (Option 1)

Parameter	Conditions	Typical (unless stated)
Frequency Range	-3dB BW	DC – 500 MHz
Amplitude		
Range		0 dBm to -30 dBm in 64 steps
Resolution		0.5 dBm
Insertion Loss		1.3 dBm typical

ENVIRONMENTAL (DA8150)

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	2.5 W*
+3.3V	8.4 W*
+12V	2.6 W*
-12V	1.2 W*

Total = 14.65 Watts. (*using worst case waveform on all channels)

Size

DA8150 Card	(1) Mid-size 32-bit std. PCI card

ORDERING INFORMATION

Model Number	Description
DA8150-12-500K-PCI	8-ch, 150 MSPS,12-bit AWG
Option 1	*Call for Avail.*
Option 2	*Custom Amplitude Range*
Option 3	*Linux Drivers (2.2x, 2.4x, 2.6x)*

The information herein is subject to change without notice from Chase Scientific Company.

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