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 MegaSample memory standard
- 1 TTL marker outputs standard
- Synchronous trigger input
- Customization available, e.g. DC coupling, filters, amplifiers, etc.

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/Vista/Win7 and Linux (GPL or BSD License). Call Chase Scientific for drivers for other operating systems. A simple debug Graphical User Interface (GUI) software is included with the drivers for Windows.

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).
### SPECIFICATIONS

#### ANALOG OUTPUT:
- Single channel and complementary
- (T=25°C unless otherwise stated)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Conditions/other</th>
<th>Typical Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vertical Resolution</td>
<td>Fclk = 1.0GHz</td>
<td>12-Bit (1 out of 4096)</td>
</tr>
<tr>
<td>Output Impedance</td>
<td></td>
<td>50 ohms</td>
</tr>
<tr>
<td>Amplitude (See Attenuator Option for Programmability)</td>
<td>Fixed output Fclk = 1.0GHz</td>
<td>700mVpp typical AC coupled thru xformer into single-ended into 50 ohms (SMA connectors)</td>
</tr>
<tr>
<td>Offset</td>
<td></td>
<td>N/A (AC coupled)</td>
</tr>
<tr>
<td>Resolution</td>
<td></td>
<td>N/A (AC coupled)</td>
</tr>
<tr>
<td>Rise Time (10-90%, no filters)</td>
<td></td>
<td>370 psec typical into 50 ohms</td>
</tr>
<tr>
<td>Fall Time (10-90%, no filters)</td>
<td></td>
<td>370 psec typical into 50 ohms</td>
</tr>
<tr>
<td>Internal Clock Jitter</td>
<td></td>
<td>&lt;50 psec typical</td>
</tr>
<tr>
<td>Delay between trigger and output</td>
<td>TBD clock</td>
<td>+/- 1clk</td>
</tr>
<tr>
<td>SFDR (Spurious Free Dynamic Range)</td>
<td></td>
<td>&lt; -50 dB Typical</td>
</tr>
<tr>
<td>Internal Clock Rate Generator</td>
<td>Frequency range</td>
<td>1.0 GHz</td>
</tr>
<tr>
<td></td>
<td>Stability</td>
<td>+/- 0 – 70 deg C</td>
</tr>
<tr>
<td></td>
<td>Memory</td>
<td>4 MWords x 12-Bits</td>
</tr>
<tr>
<td></td>
<td>Waveform</td>
<td>4 MWords x 12-Bits</td>
</tr>
<tr>
<td></td>
<td>Memory</td>
<td>4 MWords x 12-Bits</td>
</tr>
<tr>
<td></td>
<td>Hardware Segment Control</td>
<td>8 Bit TTL inputs</td>
</tr>
<tr>
<td></td>
<td>Maximum Segment Loops</td>
<td>16K</td>
</tr>
<tr>
<td></td>
<td>TTL Marker</td>
<td>8-bit (1/16 waveform clk)</td>
</tr>
</tbody>
</table>

#### 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

### ENVIRONMENTAL (DA11000)
- Operating: 0 to 70 deg C Ambient
- Non-operating: -40 to 85 deg 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

### ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA11000-12-4M-PCI</td>
<td>1.0 GHz, 12-bit, 4 MEG Memory, PCI Card.</td>
</tr>
<tr>
<td>DA11000-12-16M-PCI</td>
<td>1.0 GHz, 12-bit, 16 MEG Memory, PCI Card.</td>
</tr>
</tbody>
</table>

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

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