AWG2300

USB Multifunction

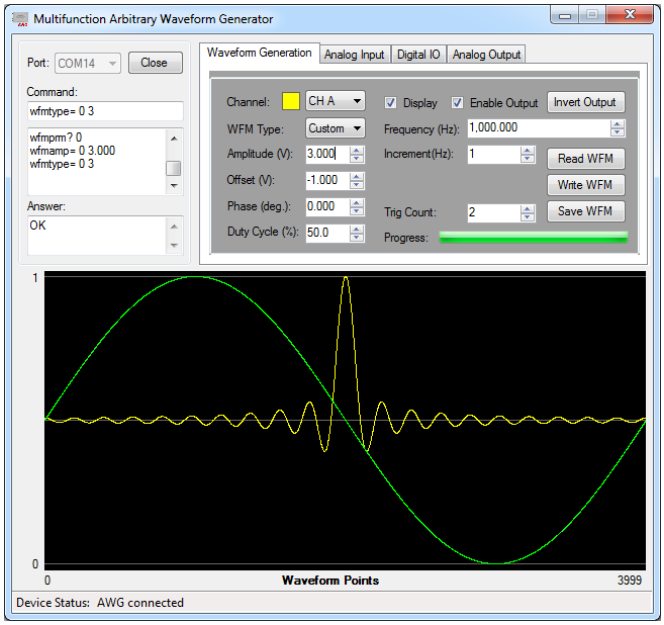
Arbitrary Waveform Generator

- Simultaneous dual channel waveform generation
- DC - 50 MHz output frequency range
- Waveform sampling rate: 300MS/s
- Waveform vertical resolution: 14-bit
- Analog input channels: 8
- Digital IO channels: 8
- Analog output channels: 4
- PC communication interface: USB COM port
- Pocket size: 108 mm (L) x 70 mm (W) x 11 mm (H)

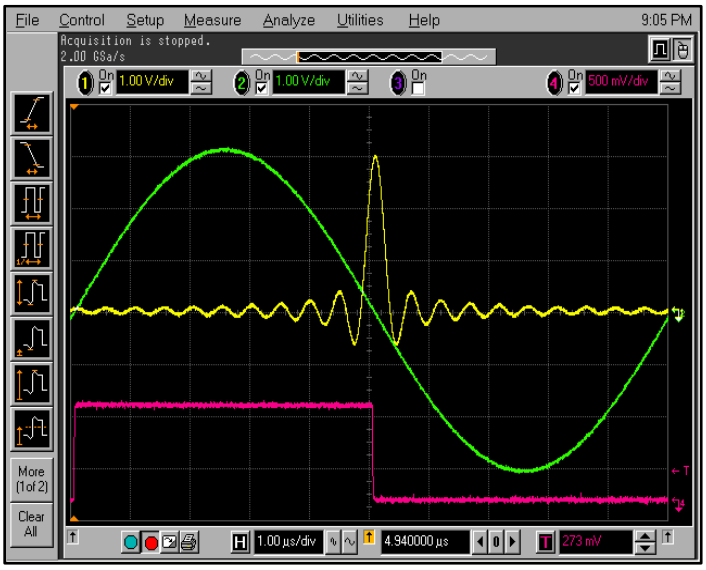
Function Descriptions

AWG2300 is a dual-channel, 14 bit, 300MS/s simultaneously sampling arbitrary waveform generator capable of generating waveforms from DC to 50MHz. The maximum output voltage is 7Vpp when driving 1M Ohm load, and 3.5Vpp when driving 50 Ohm load. When connected to a PC via a standard USB cable, the AWG appears as a virtual RS232 COM port that can accept data and instructions from the PC. Various waveform parameters including the frequency, amplitude, offset and phase of the output waveform are adjustable by the AWG control software running on the PC. The designed waveform data is downloaded to the AWG via the USB cable by the same control software. After being programmed, the AWG can run on a +5V DC power supply without the PC in stand-alone mode, or remain USB powered.

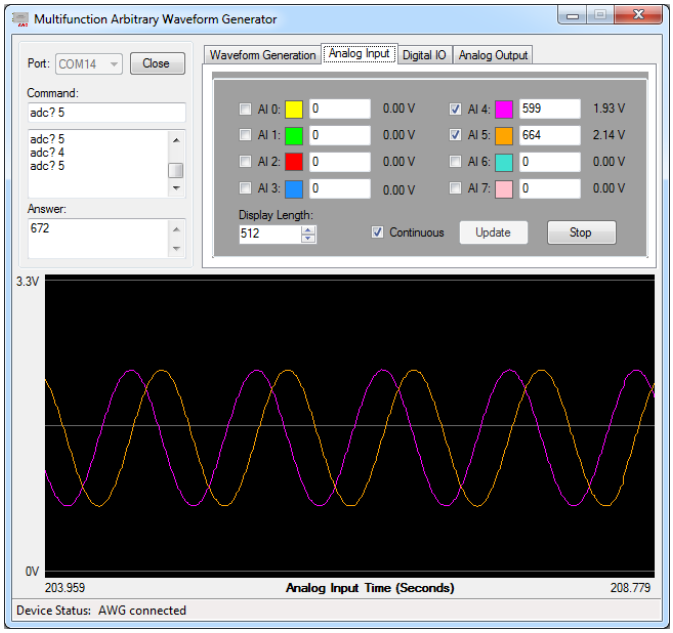
In addition to the two fast waveform output and synchronization channels, AWG2300 also provides 8 analog input channels, 8 digital IO channels, and 4 analog control voltage output channels. All user accessible signals are available on the three SMA connectors and two box-type extension connectors. The 8 digital IO channels can be configured individually as input or output, or be accessed as a group (1 byte). The analog input voltages across 8 analog input channels are measured at software controlled sampling rate. The 4 analog output channels generate analog control voltages at software defined values from 0V to 4.096V.



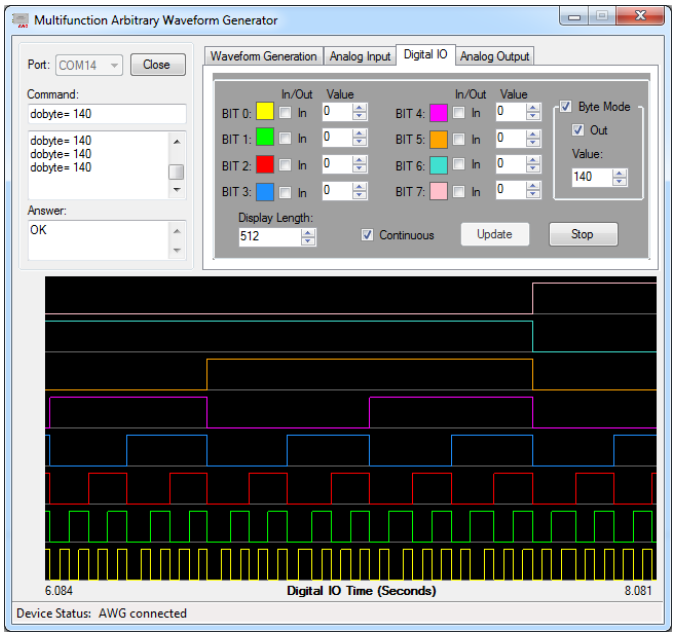
SCI AWG software user interface: arbitrary waveform generation. CH A and CH B are configured to output a sinc waveform and a sine waveform respectively, at 1kHz repetition rate.



Oscilloscope measurement results: CH A(Yellow), CH B (Green), SYNC (Red). All channels are 50 Ohm terminated



SCI AWG software user interface: analog input mode. AI4 and AI5 are sampling waveforms generated from CH A and CH B respectively.

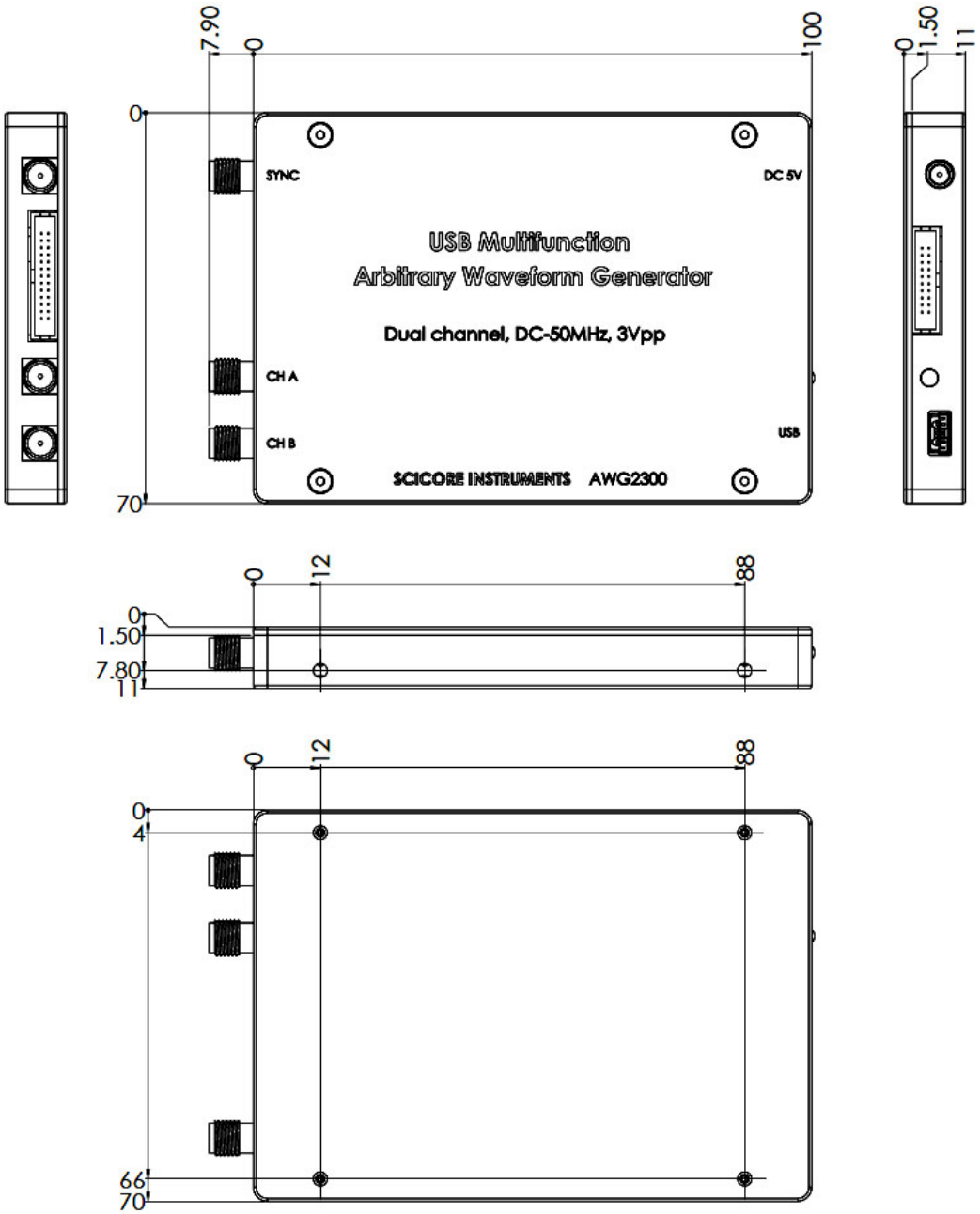


AWG control software user interface: digital output mode. All digital IO bits are configured as one byte to output simultaneously.

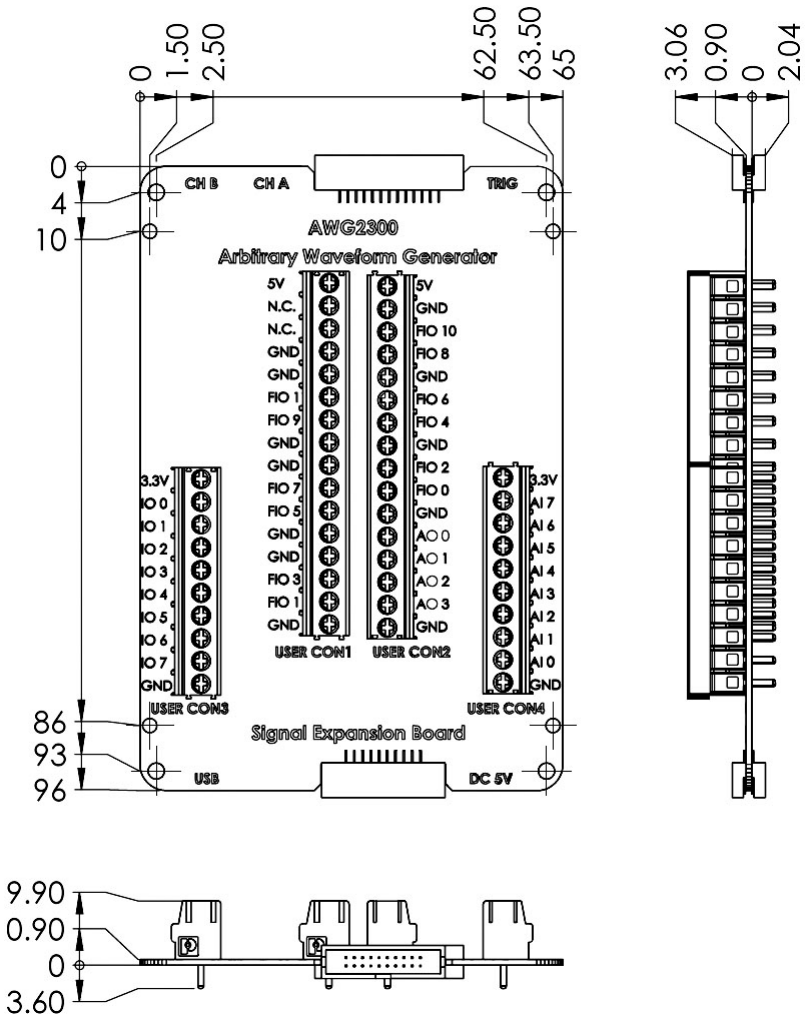
Specifications

Waveform Generation	
Channels	2
Frequency Range	DC - 50MHz
Sample Rate	300 MS/s
Vertical Resolution	14 bit
Waveform Length	4,096 samples/ channel
Amplitude	6.0 Vpp (into 1M Ohm), 3.0 Vpp (into 50 Ohm)
Output Current	50 mA
Output Connector	SMA (Female)
Standard Waveforms	Sine, Square, Ramp, Pulse, Sinc, ECG
Resolution	1 mHz
Analog Input	
Channels	8
Input Range	0 V - 3.3 V
A/D Resolution	10 bit
A/D Conversion Rate	Software controlled
Digital IO	
Channels	8
Voltage Level	0 V - 3.3V
Update Rate	Software controlled
Analog Output	
Channels	4
Voltage	0 V - 4.096 V
D/A Resolution	12 bit
D/A Conversion Rate	Software controlled
PC Communication Interface	
Control Interfaces	USB
Communication Protocol	Virtual COM port (RS232)
PC Operating System	Windows 7, Windows 8, 64 bit
Power and Environment	
Power Supply Voltage	DC 5V
Power Consumption	1.5 W
Mechanical Dimensions (L x W x H)	108 mm x 70 mm x 11 mm
Net Weight	90 g

AWG2300 Dimensions (unit: mm)



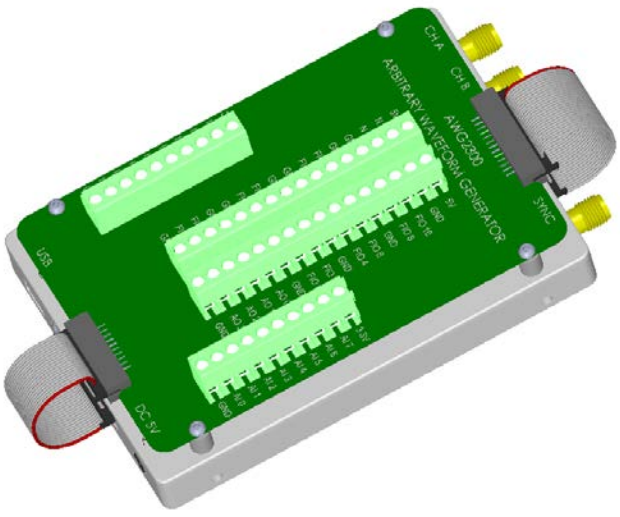
Signal Expansion Board Dimensions (unit: mm)



Application Example

The signal expansion board can be mounted on the AWG2300 with two flat cables connecting to the AWG2300.

Besides outputting the two waveforms from the SMA connectors, the AWG2300 provides other functional signals include analog input, analog output and digital IO lines accessible to the user on the screw type terminal blocks installed on the signal expansion board.



Ordering Information

Part number	Description
AWG2300	Arbitrary waveform generator, 2 channel, 14 bit, 300 MS/s
AWG2300-SEB1	AWG2300 signal expansion board and accessories

Contact Information
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