

# MODEL 2816

300Mb/s, 16-Channels  
Digital Signal Amplifier/POD



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- 16 Digital Data Channels
- Data Rate of 2.5Mb/s to 300Mb/s
- Dedicated pattern memory of 128k/channel or up to 4M shared Arbitrary Memory
- Programmable amplitude and offset control
- <200ps Initial skew between bits with  $\pm 2$ ns skew control and 5ps resolution
- Up to 4Vp-p into 50 $\Omega$ , double into open circuit
- Transition Times < 2ns
- Auxiliary clock output

The 2816 is a data generator pod that operates only in conjunction with one of the following Tabor generators: WW2571A and WW2572A, PM8571A and PM8572A. Combined they become a fully featured, high performance, 300Mb/s 16 Channels Digital Data Generator that provides a flexible and innovative solution answering the needs of today's digital designers in performing characterization, validation, verification or debugging of circuits.

### Pattern Memory

The Data Generator combo offers two pattern memory options: the data can be stored on a dedicated 128k per channel pattern memory or alternatively for longer patterns the arbitrary memory of up to 4M can be used, allowing the user to work in parallel with arbitrary waveforms.

### Independent Level Control

As standard, the generator comes with a rear-panel connector that feeds 16 LVDS data channels into matching 100 loads. The 2816 pod converts the LVDS levels from the waveform generator output to any level within a 4Vp-p amplitude window into 50 ohms. Each channel has its own controls, so it is possible to create unique levels for a single or groups of data channels, extending the use of the standard generators to a vast array of digital design applications.

### Digital and Analog Channels Simultaneously

While the digital data can be generated through the 2816, analog waveforms can be generated simultaneously from the front panel of the Tabor Generator. Users can either generate analog waveforms and their digital representation, or using the 2-channel Tabor generator to create 16-bits of digital data from channel 1 and independent analog waveforms from channel 2.

### Pattern Editing and Sequencing

The 2816 provides an ideal solution for applications that require characterization of a circuit or device timing as well as amplitude margins. Using the Pattern Composer, which is included with the ArbConnection software, any complex data pattern can be designed quickly and easily. Using the sequencer enables insertion of infrequent faults and glitches into the data patterns to verify device or circuit recovery.

### Target Applications

Target applications include parallel communication test between devices, characterize device timing, characterize and verify Asic, FPGA and DACs, D/A communication for cell phones and digital TV, create complex data patterns using the sequencer, test LCD display drivers, and more.

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## Specification

### DATA OUTPUTS CHARACTERISTICS

<b>Channels:</b>	16
<b>Type:</b>	Single-ended
<b>Connector:</b>	SMB
<b>Impedance:</b>	50Ω, ±1%
<b>Skew Control Between bits</b>	
Control	Independent for each bit
Initial Skew	200ps max
Range	-2ns to +2ns
Resolution	5ps
Accuracy	±(10% of setting +20ps)
<b>Data Rate:</b>	2.5Mb/s to 300Mb/s
<b>VOH:</b>	-1.8V to +2.0V into 50Ω
<b>VOL:</b>	-2.0V to +1.8V into 50Ω
<b>Resolution:</b>	0.2V
<b>Maximum Swing:</b>	4Vp-p into 50Ωv double into high impedance
<b>Minimum Swing:</b>	1Vp-p into 50Ω double into high impedance
<b>Rise/Fall time:</b>	<2ns

### SAMPLE CLOCK OUTPUT

<b>Connector:</b>	Front panel SMB
<b>Sampling Rate:</b>	2.5MHz to 250MHz (300MHz, typ.)
<b>Resolution:</b>	9 digits
<b>Level:</b>	500mVp-p into 50Ω double into high impedance
<b>Rise/Fall Time:</b>	<1 ns into 50Ω
<b>Impedance:</b>	50Ω, ±1%

### DIGITAL DATA INPUT

<b>Connector:</b>	Rear panel SCSI-2 type 68-pin VHDC
<b>Pattern Width:</b>	16-bits, differential
<b>Level:</b>	LVDS
<b>Pattern Source:</b>	Programmed by 257XA/857X
<b>Pattern Length:</b>	
Dedicated	128k per channel
Arbitrary	Up to 4M

### CONTROL LINE INPUTS

<b>DATA</b>	
<b>Connector:</b>	Rear panel SMB
<b>Impedance:</b>	1MΩ
<b>Input:</b>	COUPLE IN of 257XA/857XA

### STRB

<b>Connector:</b>	Rear panel SMB
<b>Impedance:</b>	1MΩ
<b>Input:</b>	COUPLE OUT of 257XA/857XA

### CLK

<b>Connector:</b>	Rear panel SMB
<b>Impedance:</b>	1MΩ
<b>Input:</b>	SCLK IN of 257XA/857XA

### SCLK

<b>Connector:</b>	Rear panel SMB
<b>Impedance:</b>	10kΩ
<b>Input:</b>	SCLK OUT of 257XA/857XA

### GENERAL

<b>Voltage Ranges:</b>	85 to 265 Vac
<b>Frequency Range:</b>	47Hz to 63Hz
<b>Maximum Current:</b>	3 A
<b>Dimensions:</b>	
With Feet	315 x 102 x 395 mm (WxHxD)
Without Feet	315 x 88 x 395 mm (WxHxD)
<b>Weight:</b>	
Without Package	3.5kg
Shipping Weight	4kg
<b>Temperature:</b>	
Operating	0°C to 50°C
Storage	-40°C to 70°C
<b>Humidity:</b>	80% RH, non condensing
<b>Safety:</b>	CE Marked, IEC61010-1
<b>Calibration:</b>	1 years
<b>Warranty (1):</b>	3 years standard

### ORDERING INFORMATION

MODEL	DESCRIPTION
2816	300Mb/s, 16-Channels Digital Signal Amplifier/POD

(1) Standard warranty in India is 1 year.