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Find the *Analogic DBS9900* at our website: *Click HERE*

DBS901/ 901HV/901LM

14-Bit, 100 MS/s Arbitrary Waveform Generator

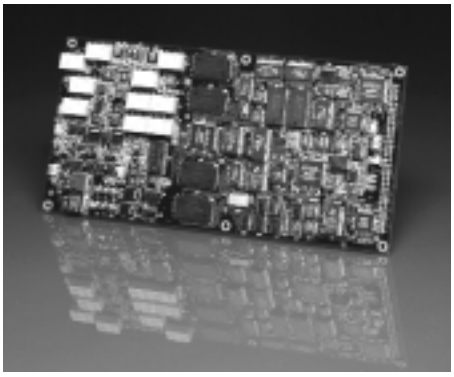
Plugs into the Analogic DBS9900 VXI C-Size Dual Instrument Carrier

The DBS901/901HV/901LM are high-speed (100 MHz), 14-bit, Arbitrary Waveform Generator modules that plug into the Analogic DBS9900 VXI C-size Dual Instrument Carrier. Up to two DBS901s can be installed in a single DBS9900. This mother/daughterboard concept allows a single VXI chassis slot to provide multiple functions, thereby maximizing VXI resources and decreasing the cost per slot. The DBS901 provides a combination of speed and resolution that, until now, was not available and continues the Analogic tradition of providing the highest possible state-of-the-art performance at the lowest price available.

The DBS901, when combined with the DBS9900 carrier module, provides extremely versatile clock and trigger sources via internal circuitry, front panel connectors, and VXI TTLTRG or ECLTRG lines. The internal clock can drive all plug-in function modules simultaneously so that clock skew and delays are reduced to an absolute minimum. This allows coherent operation with other plug-in modules in the DBS9XX series of digitizers and waveform generators as well as multiple DBS901s. Programmable trigger and clock thresholds are also provided for each plug-in function module.

On-board waveform memory is segmentable and has branching and looping capability, allowing generation of complex waveform sequences while minimizing the amount of memory required.

The VXI Plug & Play compliant software driver supports all functions of the DBS901 and provides automatic recognition and configuration for all plug-in modules that are installed in the DBS9900 carrier unit. Source code is included as well as .DLL files to allow easy porting to most popular programming environments. These drivers go beyond VXI Plug & Play requirements to ensure system integration and software development time are reduced to an absolute



Features

- 1 MS/8 MS Segmentable Waveform Memory with Branching and Looping
- Flexible Clock and Trigger Sources
- Programmable Trigger and Clock Thresholds
- Calibration Signal Port
- Self-Calibrating Gain & Offset
- Built-In Self-Test

Applications

- Semiconductor Device Testing
- Video Signal Simulation
- Digital Communications Signal Simulation
- Vibration Excitation
- Research & Development
- Ultrasound

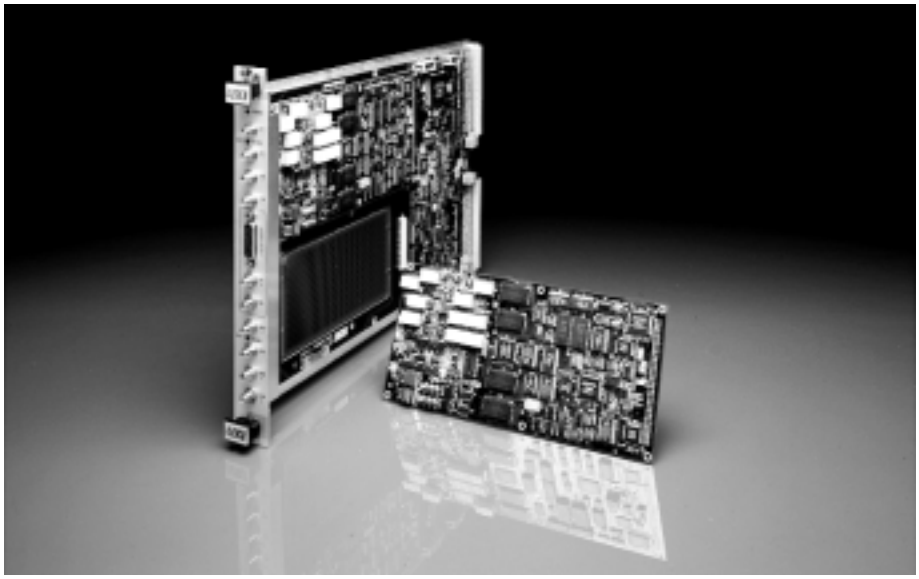


Figure 1. DBS9900 with Two DBS9XX Plug-in Modules (One Installed).

VXI bus

CE

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DBS901/ 901HV/901LM

Specifications[1]

ANALOG OUTPUT		
Parameter	*Conditions*	*Value*
Number of Channels	Single Ended	One
Impedance	Programmable	50Ω or 75Ω
Output Voltage Ranges 901/901LM	Un-terminated output. Offset DAC set to 0V	±0.5V, ±1.0V, ±2V, ±5.0V
901HV		±0.25V, ±0.5V, ±1.0V ±2.0V, ±4.0V and ±7.5V
Gain Accuracy	±0.5V range All other ranges (10 kHz to 50 MHz)	±1% of setting ±2% of setting
DC Offset Accuracy		±1% of setting ±10 mV
DC Offset Resolution		12 bits
DC Offset Range 901/901LM 901HV	Un-terminated output. High-speed DAC set to 0V	±5V ±15V max.
Gain Trim Adjust		0 to –8 dB
Gain Trim Resolution		12 bits of FSR
Amplitude Flatness	100 kHz to 50 MHz 0 to 10 MHz Full scale output, 0V offset. ±0.5V and ±1V ranges.	±1.5 dB ±0.2 dB
Short Circuit/Over-current Protection	10 ms response time	±200 mA min.
Reconstruction Filter	3rd order Bessel lowpass	None, 5 MHz or 20 MHz
SFDR	1 MHz output 10 MHz output Full scale output, 0V offset. ±0.5V and ±1V ranges. Harmonics excluded	80 dBc min. 70 dBc
Peak Harmonic Distortion	1 MHz signal @ ±0.5V with 0V offset.	74 dBc max.

TRIGGERS		
Parameter	*Conditions*	*Value*
Internal	Set softwarebit	
External	Via front panel inputs Via VXI TTLTRG lines Latency=11 clock periods	See DBS9900 specs. Per VXI Specification
Advance/Branch	Via front panel, TTL, falling edge	19 ns min. width

CLOCK		
Parameter	*Conditions*	*Value*
Internal	See DBS9900 carrier module specs.	96 Hz to 100 MHz
External	Also see DBS9900 carrier module specs.	0 to 100 MHz
External Reference Clock	Via front panel input Also see DBS9900 carrier module specs.	10 MHz

MARKERS		
Parameter	*Conditions*	*Value*
Output available	Via front panel connector and VXI TTLTRG	2
Width & position resolution	Programmable	One clock period min.

1. All specifications are for rev 3F and higher installed on DBS9900 VXI-C Dual Instrument Carrier and are subject to change without notice.
2. Modules not sold separately.
   Consult factory for available configurations
3. Refer to DBS9900 data sheet for power specifications.

STABILITY		
Parameter	*Conditions*	*Value*
Offset Tempco	±0.5V range	±1 mV/°C
Offset Gain Tempco		±250 ppm/°C of FSR
Waveform Gain Tempco	0V offset	±250 ppm/°C of FSR

WAVEFORM DATA MEMORY	
Parameter	*Value*
Coding & Format	Two's complement, 14 bit left justified
Size	1 MS for DBS901 & 901HV 8 MS for DBS901LM
Segment Length	10 samples to 64 ks
Number of Segments	1 to 43,687
Looping	1 to 64k repetitions or continuous

RELIABILITY		
Parameter	*Conditions*	*Value*
MTBF	Determined by the Generic Parts Count method of MIL-HDBK-217F for a Ground Benign environment at a temperature of 25°C	>45,000 Hours

ENVIRONMENTAL & MECHANICAL		
Parameter	*Conditions*	*Value*
Operating Temperature		+10°C to +40°C for rated accuracy
Non-Operating Temperature	Non-condensing	–20°C to +70°C
Cooling Air Flow	For 15°C Rise at 0.5 mm H_2O back pressure	4 litre/sec.
Operating Humidity	IEC 68-2-3 Test (Ca)	90% RH @ 40°C
Non Operating Vibration	IEC 68-2-6 Test (Fc)	<2G's
Non Operating Bump	IEC 68-2-29 Test (Eb)	10G
Non Operating Altitude	IEC 68-2-13 Test M	2 Hrs. @ 12,192M
Weight		5.0 oz (142g)
Size		8 in. x 4 in., (20.32 cm x 10.16 cm)

EMC & SAFETY AGENCY COMPLIANCE
Designed to meet all requirements for safety, RF emissions and immunity for marketing in the U.S., Canada and Europe.

Available Options

DBS901	1M sample memory, 20V p-p output
DBS901HV	1M sample memory, 30V p-p output
DBS901LM	8M sample memory, 20V p-p output

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