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

DBS 901/ 901HV/901LM

VXI Arbitrary Waveform Generator Plug-In Module

Plugs into the Analogic DBS 9900 "C" size VXI Carrier Module

The DBS 901/901HV/901LM are high-speed (100 MHz), 14-bit, Arbitrary Waveform Generator modules that plug into the Analogic DBS 9900 "C" size VXI carrier module. Up to two DBS 901s can be installed in a single DBS 9900. 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 DBS 901 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 DBS 901, when combined with the DBS 9900 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 DBS 9XX series of digitizers and waveform generators as well as multiple DBS 901s. 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 DBS 901 and provides automatic recognition and configuration for all plug-in modules that are installed in the DBS 9900 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 minimum.

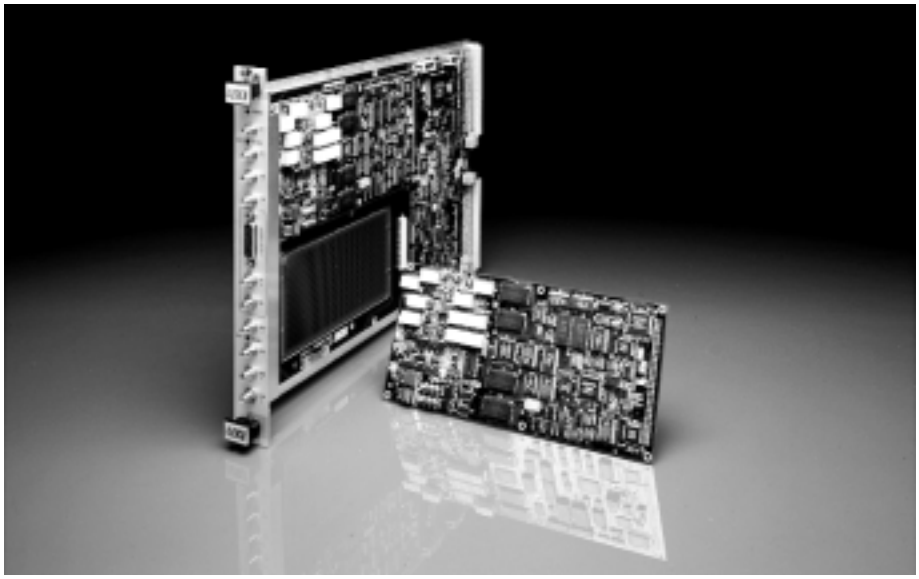
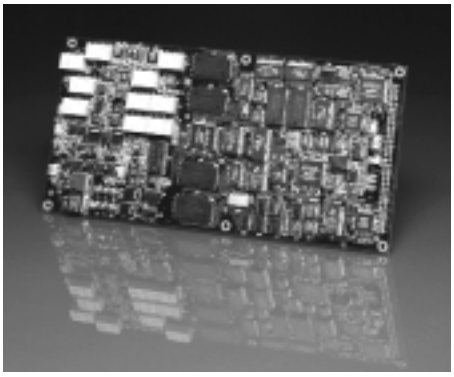


Figure 1. DBS 9900 with Two DBS 9XX Boards (One Installed).



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

VXI bus

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DBS 901/ 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	Terminated output. Open circuit range is 2X terminated range	±0.5V, ±1.0V, ±2V, ±5.0V
901HV		±0.25V, ±0.5V, ±1.0V ±2.0V, ±4.0V and ±7.5V
Crosstalk Rejection	Channel to Channel	>100 dB at 1 MHz
Absolute Amplitude Accuracy	±0.5V range All other ranges (10 kHz to 50 MHz)	>1% ±2%
Slew Rate	(100 MS/s Clock, 50 MHz Output Signal)	Not Slew Rate Limited
DC Offset Accuracy		1% worst case
DC Offset Resolution		12 bits
DC Offset Range 901/901LM 901HV	Terminated output. Open circuit range is 2X terminated range.	±2.5V Greater than full scale amplitude range ±5V 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. Slightly degraded for ±2V and ±5V 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. Slightly degraded for ±2V and ±5V ranges.	80 dBc min. 70 dBc
Peak Harmonic Distortion	1 MHz signal @ ±0.5V with 0V offset. Slightly degraded for ±2V & ±5V FSR.	74 dBc max.

TRIGGERS		
Parameter	*Conditions*	*Value*
Internal	Set softwarebit	
External	Via front panel inputs Via VXI TTLTRG lines Latency=11 clock periods	See DBS 9900 specs. Per VXI Specification
Advance/Branch	Via front panel, TTL, falling edge	19 ns min. width

CLOCK		
Parameter	*Conditions*	*Value*
Internal	See DBS 9900 carrier module specs.	95 Hz to 100 MHz
External	Also see DBS 9900 carrier module specs.	0 to 100 MHz
External Reference Clock	Via front panel input Also see DBS 9900 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.

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 DBS 901LM
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 30°C	>45,000 Hours

ENVIRONMENTAL & MECHANICAL		
Parameter	*Conditions*	*Value*
Ambient Operating Temperature Range		0°C to +40°C for rated spec.
Storage Temperature Range	Non-condensing	–25°C to +75°C
Cooling Air Flow	For 10°C Rise at 10 mm H_2O back pressure	4 litre/sec.
Relative Humidity	Non-condensing	90% max.
Vibration	Sinusoidal at 55 Hz	2G
Shock	11 ms half sine pulse	30G
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.

Notes

1. All specifications are for modules installed in DBS 9900 carrier module unless otherwise stated. Please refer to DBS9900 data sheet for power specifications.

Specifications subject to change without notice

Ordering Guide

DBS 901	1M sample memory, 20V p-p output
DBS 901HV	1M sample memory, 30V p-p output
DBS 901LM	8M sample memory, 20V p-p output

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