

INTEGRATED HSM SERIES SYNTHESIZER MODULES

Holzworth has refined its multi-channel platform in the form of the HS9000 Series for integration of the HSM Series Single Channel Synthesizers. The HS9000 series is designed to achieve optimal channel-to-channel stability via a conductively cooled (fan-less enclosure), giving specific attention to phase coherency between the independently controllable channels.



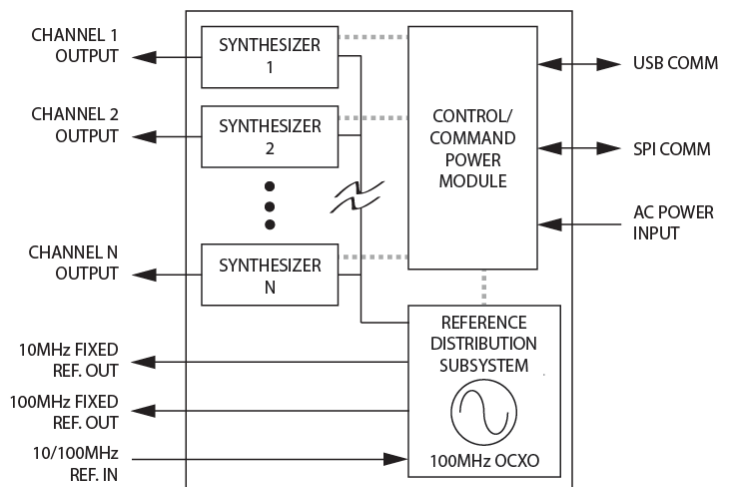
The HS9000 Series is a unique platform allowing the user to specify the configuration of a COTS product. Units are loaded with anywhere from 1 to 8 channels, with the additional flexibility to specify the frequency limit of each loaded channel. The result is a high performance, multi-channel synthesizer that is tailored to an application while optimizing the price point.

FULLY INDEPENDENT CHANNELS

No power dividers. Each RF output is driven by a separate, internally loaded synthesizer module. Up to 8 independently tunable synthesizers can be specified per 1U chassis allowing for the highest integrated channel density available in its class. With an average power dissipation of 7Watts per channel, the HS9000 series is highly efficient.

PHASE COHERENT CHANNELS

Holzworth Multi-channel RF Synthesizer modules offer the benefits of a proprietary NON-PLL based synthesis architecture. Coupling the NON-PLL architecture with a centralized reference distribution subsystem enables a truly phase coherent relationship across all integrated channels.



THE ULTIMATE IN CHANNEL-TO-CHANNEL STABILITY

Different from traditional PLL based synthesizers, Holzworth's proprietary architecture creates precisely synthesized signals that exhibit both instantaneous and long term stability. Temperature variations between the channels remain the only contribution to drift. The thermally optimized, fan-less chassis was specifically developed for maintaining the lowest possible thermal gradients from channel-to-channel.

REFER TO HSM SERIES SPECIFICATION FOR PERFORMANCE DETAILS

HS9000 CONFIGURATION GUIDE

STEP 1: SELECT TOTAL NUMBER OF CHANNELS

Select the base part number, strictly calling out the total number of channels to be loaded.

No. Channels	1	2	3	4	5	6	7	8
Part Number	HS9001A	HS9002A	HS9003A	HS9004A	HS9005A	HS9006A	HS9007A	HS9008A

STEP 2: SELECT CHANNEL FREQUENCY OPTIONS

Select any combination of channel frequency options. Note that the total number of channels specified here must equal the number of channels selected under STEP 1.

Frequency Range	Number of Channels per Frequency Range							
	1x	2x	3x	4x	5x	6x	7x	8x
5MHz to 200MHz	OPT-CMOS1	OPT-CMOS2	OPT-CMOS3	OPT-CMOS4	OPT-CMOS5	OPT-CMOS6	OPT-CMOS7	OPT-CMOS8
250kHz to 1GHz	OPT-A1	OPT-A2	OPT-A3	OPT-A4	OPT-A5	OPT-A6	OPT-A7	OPT-A8
250kHz to 2GHz	OPT-B1	OPT-B2	OPT-B3	OPT-B4	OPT-B5	OPT-B6	OPT-B7	OPT-B8
250kHz to 3GHz	OPT-C1	OPT-C2	OPT-C3	OPT-C4	OPT-C5	OPT-C6	OPT-C7	OPT-C8
250kHz to 4GHz	OPT-D1	OPT-D2	OPT-D3	OPT-D4	OPT-D5	OPT-D6	OPT-D7	OPT-D8
250kHz to 6.7GHz	OPT-E1	OPT-E2	OPT-E3	OPT-E4	OPT-E5	OPT-E6	OPT-E7	OPT-E8
10MHz to 12GHz	OPT-X1	OPT-X2	OPT-X3	OPT-X4	N/A	N/A	N/A	N/A
10MHz to 20GHz	OPT-F1	OPT-F2	OPT-F3	OPT-F4	N/A	N/A	N/A	N/A

STEP 3: SELECT ADDITIONAL OPTIONS

The options listed in this section are available for the multi-channel platform to comply with application specific requirements.

OPTION	Description
OPT-EXTMOD-x	Channel dedicated, external modulation input. x=1, 2, 3 or 4 (specify for up to 6 channels)
OPT-FIRM	Custom firmware. Application specific routines
OPT-INTGR	Enhanced base-10 frequency accuracy. DDS FTW rounding error correction
OPT-OCXO	High Performance OCXO. 10dB Improved Phase Noise at close to the carrier
OPT-PWR18-x	+20dBm maximum output power level. x=1, 2, 3 or 4 (specify for up to 4 channels)
RACK-1U	19" Rack Mount Bracket Kit for 1U chassis, 90deg rear bracket
RACK2-1U	19" Rack Mount Bracket Kit for 1U chassis, straight rear bracket
HCM5	Ethernet Communications Module for HS9000 Series

PART NUMBER EXAMPLE

Ordering a 7 channel synthesizer with 3x 3GHz channels, 4x 6.7GHz channels, and a high performance OCXO would result in the following configuration:

Part Number:	HS9007A	Description:	7 ch, Multi-Channel RF Synthesizer
Options:	OPT-C3		3x 3GHz Channels
	OPT-E4		4x 6.7GHz Channels
	OPT-OCXO		High Performance OCXO

2 YEAR WARRANTY