

**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.



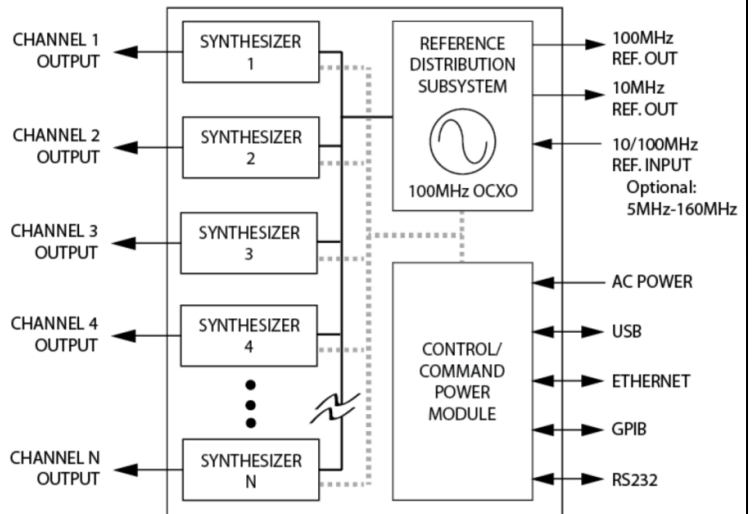
The HS9000 Series is a unique platform allowing the user to specify the configuration of a COTS product. Units are loaded with anywhere from 1 to 8 channel modules from Holzworth’s popular HSM Series RF Synthesizer Modules. This provides customers with the additional flexibility to specify the frequency 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	HS9001B	HS9002B	HS9003B	HS9004B	HS9005B	HS9006B	HS9007B	HS9008B

### 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
10MHz to 500MHz	OPT-CMOS1	OPT-CMOS2	OPT-CMOS3	OPT-CMOS4	OPT-CMOS5	OPT-CMOS6	OPT-CMOS7	OPT-CMOS8
10MHz to 1GHz	OPT-A1	OPT-A2	OPT-A3	OPT-A4	OPT-A5	OPT-A6	OPT-A7	OPT-A8
10MHz to 2GHz	OPT-B1	OPT-B2	OPT-B3	OPT-B4	OPT-B5	OPT-B6	OPT-B7	OPT-B8
10MHz to 3GHz	OPT-C1	OPT-C2	OPT-C3	OPT-C4	OPT-C5	OPT-C6	OPT-C7	OPT-C8
10MHz to 4GHz	OPT-D1	OPT-D2	OPT-D3	OPT-D4	OPT-D5	OPT-D6	OPT-D7	OPT-D8
10MHz to 6.4GHz	OPT-E1	OPT-E2	OPT-E3	OPT-E4	OPT-E5	OPT-E6	OPT-E7	OPT-E8
10MHz to 12.5GHz	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, 4, 5 or 6 (specify for up to 6 channels)
OPT-FIRM	Custom firmware. Application specific routines
OPT-OCXO	High Performance OCXO. 10dB Improved Phase Noise at close to the carrier
OPT-REFX	5MHz-160MHz Reference Input Capability (100kHz Increments)
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

### 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:  
Options:

**HS9007B**  
**OPT-C3**  
**OPT-E4**  
**OPT-OCXO**

**Description:**

7 ch, Multi-Channel RF Synthesizer  
 3x 3GHz Channels  
 4x 6.7GHz Channels  
 High Performance OCXO

**3 YEAR WARRANTY**