

RF SYNTHESIZERS



HSY Series

The HSY Series of multi-channel RF synthesizers utilize YIG-based technology to offer industry-low phase noise and excellent spectral purity. The instrument can be configured with 2 independently-controlled phase coherent channels in a compact 1U high chassis.

Quick Features

- Up to 2 independently controlled phase coherent channels
- Mix or match 3, 6, 12, and 20 GHz channels
- Compact 1U form factor
- 20 GHz Phase Noise: -118 dBc/Hz 10 kHz offset
- Ultra low phase noise (ULN) option available
- +18 dBm to -110 dBm



HSX Series

The HSX Series of multi-channel RF synthesizers utilize VCO-based technology to offer ultra-low phase noise and exceptional spectral purity. The instrument can be configured with 4 independently-controlled phase coherent channels in a compact 1U high chassis.

Quick Features

- Up to 4 independently controlled phase coherent channels
- Mix or match 3, 6, 12, 20, & 40 GHz channels
- Compact 1U form factor
- 40 GHz Phase Noise: -115 dBc/Hz 10 kHz offset (ULN option)
- Ultra low phase noise (ULN) option available
- +18 dBm to -110 dBm



HS9000 Series

The HS9000 Series of multi-channel RF synthesizers utilize proprietary non-PLL technology to offer the ultimate mix of fast switching speed and low phase noise. The instrument can be configured with 8 independently-controlled phase coherent channels in a compact 1U high chassis.

Quick Features

- Up to 8 independently controlled phase coherent channels
- Mix or match 1, 2, 3, 4, 6, 12, 18 GHz chs
- Compact 1U form factor
- 18 GHz Phase Noise: -106 dBc/Hz 10 kHz offset
- 6 μ frequency switching speed
- +18 dBm to -50 dBm
- 16 channel option available



HSM Series

The HSM Series of RF synthesizer modules utilize proprietary non-PLL technology to offer the ultimate mix of fast switching speed and low phase noise. The compact form factor and multiple control interfaces make the module ideal for system integration.

Quick Features

- Proprietary non-PLL architecture enables low phase noise and fast switching
- 1, 2, 3, 4, 6, 12, 18 GHz modules
- LAN, USB, and SPI control interfaces
- 18 GHz Phase Noise: -106 dBc/Hz 10 kHz offset
- 6 μ frequency switching speed
- +18 dBm to -50 dBm

PHASE NOISE ANALYZERS



HA7062C and HA7062D Phase Noise Analyzers

The HA7062C and HA7062D Real Time Phase Noise Analyzers offer a unique combination of accuracy, speed, flexibility and reliability in a compact form factor. Control is easy through an intuitive GUI or simple remote commands. This makes them ideal for use in the lab and production.

Quick Features

- DUT Input
HA7062C 10 MHz to 6 GHz
HA7062D 10 MHz to 26 GHz, opt 40 GHz
- Automated absolute and additive (residual) measurements
- Real-time cross correlation
- Measurement Bandwidth
HA7062C 0.1 Hz to 40 MHz
HA7062D 0.1 Hz to 100 MHz
- Only analyzers available that allow actual noise floor measurements
- Extremely fast measurement speeds

HA7063A 50 GHz Downconverter

The HA7063A is a heterodyne downconversion system that seamlessly integrates with Holzworth real time phase noise analysis products that results in a calibrated frequency extension. The HA7063A enables both absolute and residual (additive) measurements to 50 GHz, without the need for external mixers.

AMPLIFIERS



HX2400 and HX2600 Ultra Low Phase Noise RF Amplifiers

The HX2400 and HX2600 Ultra Low Phase Noise Amplifiers are ideal for applications requiring low additive phase noise and jitter. They require 12 VDC. Battery operation is recommended for the lowest noise requirements.

Quick Features

	HX2400	HX2600
• Frequency:	8 MHz to 4 GHz	10 MHz to 6 GHz
• Gain:	11 to 15 dB	11 dB
• P1dB Output:	+18 dBm	+15 dBm
• Phase Noise:	-172 dBc/Hz at 10 kHz	-175 dBc/Hz at 10 kHz
• Power Supply:	6 to 12 VDC (80 mA)	6 to 12 VDC (50 mA)

with an Integrated Ultra Low Noise Bias Network

HX2410 CW to CMOS Conversion Amplifier

The HX2410 CW to CMOS Conversion Amplifier is intended for use as a peripheral component in precision oscilloscope measurement applications. The HX2410 minimizes trigger induced jitter that is caused by the low slew rate of low frequency sinusoidal (CW) trigger signals, ultimately resulting in inaccurate oscilloscope measurements. The proprietary architecture maintains the integrity of an ultra low phase noise sinusoidal (CW) signal while converting it to ultra low CMOS Logic levels.

Quick Features

- Converts Sinusoid (CW) to CMOS Logic
- Reduces Effects of Trigger Jitter on Oscilloscope Measurements
- Trigger Frequency: 5 MHz to 500 MHz
- Integrated Ultra Low Noise Bias Network

PHASE DETECTORS



HX3100 and HX3400 Phase Detectors

The HX3100 and HX3400 Phase Detectors are ideal for making phase noise measurements and for use in analog phase-locked-loops where performance is a priority. The phase detectors employ a proprietary IF circuitry that maintains optimal signal to noise ratio, improving the performance over standard phase detectors by 3dB to 6dB, typically.

Quick Features

	HX3100	HX3400
• Frequency:	8 MHz to 1.2 GHz	10 MHz to 6.4 GHz
• Phase Noise:	-175 dBc/Hz at 10 kHz	-165 dBc/Hz at 10 kHz
• LO Power	+13 dBm	
• Proprietary IF Circuitry Delivers Optimal Signal to Noise Ratios		
• Provides High Carrier Suppression		

PHASE SHIFTERS



HX5100 Series

The HX5100 Series Electronic Phase Shifters are sold individually but are designed to be used in pairs with the Holzworth HA7000 Series Phase Noise Analyzers. These phase shifters are frequency specific and allow for full automation of additive/residual phase noise measurements with the Holzworth test systems.

Quick Features

- Many Frequency Bands Available from 10 MHz to 24 GHz
- Additive Phase Noise -175 dBc/Hz at 10 kHz (typical)
- Phase Shift Range 0 to > 180 Deg

FREQUENCY DIVIDERS**HX4920 4 GHz to 24 GHz Frequency Divider**

The HX4920 Frequency Divider employs a digital divide-by-4 architecture covering input signals from 4 GHz to 24 GHz while maintaining signal integrity. The HX4920 also incorporates a low phase noise amplification circuit to maintain the input power level at the output with low additive phase noise, typically -136 dBc/Hz at 10 GHz, 10 kHz offset.

Quick Features

- Digital Divide-by-4 Architecture
- 4 GHz to 24 GHz Input Range
- Input Power +4 to +10 dBm
- Maintains Input Power Levels at Output
- Additive Phase Noise -136 dBc/Hz (typ, 10 GHz)
- Power Supply 9 VDC to 15 VDC (not included)
- Integrated Low Noise Bias Network

**HX4210 100 MHz 10x Frequency Divider**

The HX4210 100MHz 10x Frequency Divider converts a 100 MHz to 10 MHz while maintaining signal integrity. The HX4210 also incorporates a low phase noise amplification circuit to maintain the input power level at the output with low additive phase noise, -170 dBc/Hz (typical) .

Quick Features

- 100 MHz Input, 10 MHz Output
- Input Power +4 to +10 dBm
- Maintains Input Power Levels at Output
- Additive Phase Noise -170 dBc/Hz (typical)
- Power Supply 9 VDC to 15 VDC (not included)
- Integrated Low Noise Bias Network

Wireless Telecom Group Inc.

25 Eastmans Rd
Parsippany, NJ
United States
Tel: +1 973 386 9696
Fax: +1 973 386 9191
holzworth.com

© Copyright 2023
All rights reserved.

H/HSM Series/0623/EN

Note: Specifications, terms and conditions are subject to change without prior notice.