

## Fast Switching Indirect Synthesizers

### Features

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- ◆ Wide bandwidth
- ◆ Low phase noise
- ◆ Switching speeds from 50 microseconds
- ◆ Step sizes from 1 Hz
- ◆ Low spurious
- ◆ Flexible programming
- ◆ Lock alarm
- ◆ High reliability
- ◆ Low sensitivity to microphonics
- ◆ Locks to external references

### Options

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- ◆ Reference out
- ◆ Harmonic filters
- ◆ Custom step sizes
- ◆ Custom frequency bands
- ◆ Low band 0.1 to 2 GHz
- ◆ High band 18 to 20.48 GHz

### Description

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Herley-CTI (HCTI) Series FSS, low noise microwave synthesizers are designed to deliver high performance in a compact package. The series FSS is ideally suited for Antenna measurement, ATE, EW and Radar system applications where wide frequency coverage, phase noise and fast switching speeds are critical parameters. To meet the demands of these applications the series FSS incorporates proven techniques for phase hit suppression and features low phase noise, typically -100 dBc/Hz at 100 kHz offset at 4.5 GHz. In addition,



tion, other features include switching speeds from 50 microseconds and frequency selection via Parallel TTL.

Herley-CTI can also custom configure the FSS for particular system requirements as well as military requirements. Contact the factory to discuss the specific details of your particular application and requirements.

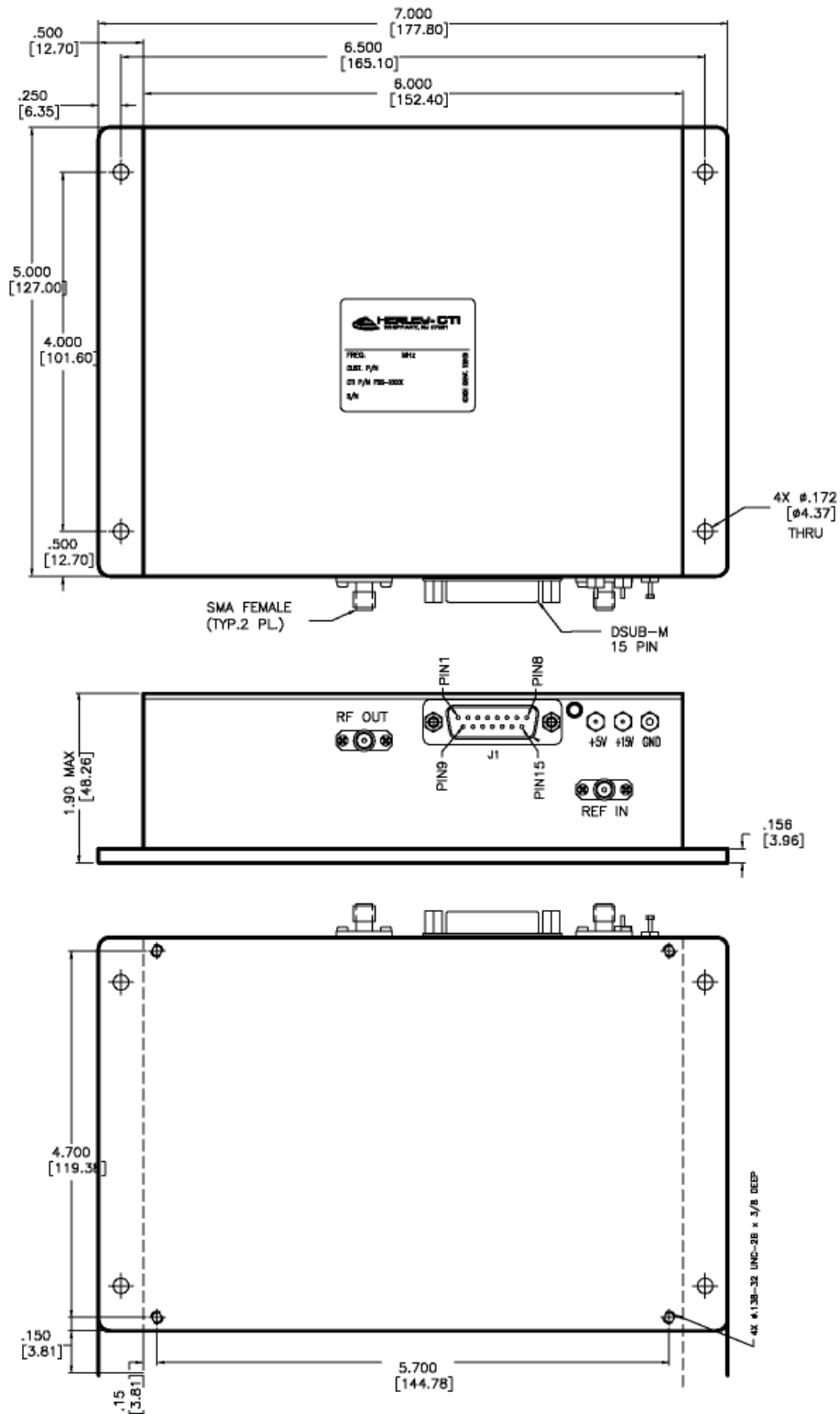
Indirect Synthesizers

## Typical Performance Specifications

Frequency Range	2 GHz to 18 GHz with a typical bandwidth of 2 GHz				
Custom Bandwidths	Typically 2 GHz				
Step Size	From 1 Hz				
Phase Noise Frequency Range (4.5 GHz)	100 Hz	1 kHz	10 kHz	100 kHz	1 MHz
-80	-90	-92	-100	-114	
Power	+13 dBm +/- 2 dBm nominal				
Spurious	-70 dBc				
Harmonics	-15 dBc, -50 dBc optional. Consult factory				
External Reference	Unit will lock to a 10 MHz external reference with +/- 1 ppm or better stability				
Lock Alarm	TTL Logic 1 Alarm				
Switching Speed	50 microseconds to within 5 degrees of nominal phase				
Supply Voltage	+15 Vdc @ 600 mA typical and +5 Vdc @ 600 mA typical				
Operating Temperature	0° C to +70° C; Consult factory for wider temperature ranges				
RF Connectors	SMA-F				
Dimensions	6" X 5" X 1.9" Typical 153.44 mm X 127 mm X 48.26 mm Typical				

Note: All specifications subject to change without notice.

Typical Outline Drawing



Dimensions are in Inches/mm. Tol. .xx = +/-0.02 .xxx = +/-0.005

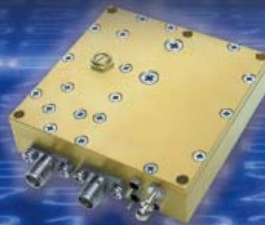
Indirect Synthesizers

# Microwave and MMwave Signal Generation Products for Commercial and Military Applications

Broad Band Fast Switching Direct Synthesizers  
Indirect Synthesizers · MMwave Down Converters  
Phase Locked DROs · Free Running Sources · Integrated Assemblies



MMwave  
Down Converter



Phase Locked DROs  
to 45 GHz



Low Noise X-B  
Synthesizer



Low Noise VSS  
Synthesizer



Broad Band  
Indirect Synthesizers



10 MHz - 20 GHz  
300 nsec Switching  
Direct Synthesizer

