FEI-Elcom Tech

IBS Series

SYNTHESIZER SPECIFICATION

FREQUENCY RANGE:

IBS-6 0.1 to 6 GHz
IBS-18 2 to 18 GHz

IBS-20 0.1 to 20 GHz

FEATURES

- Wide Frequency Bandwidth: 0.1 to 20 GHz
- Fast Switching Speed: 200 usec, Full Band
- Exceptionally Clean Signal: -60 dBc Spurious
- -50 dBc (0.1 to 0.5 GHz) Harmonics
- -55 dBc (0.5 to 20 GHz) Harmonics
- Low Phase Noise Floor: -153 dBc/Hz up to 6 GHz
- Low Phase Noise: -137 dBc/Hz, 20 KHz Offset at 1 GHz
- Ethernet Control
- Designed For High MTBF and Quick Service Time

OPTIONS

- Optional Bands: 0.1 to 6.0 GHz, 2.0 to 18 GHz
- Switching Speed: 100 usec
- Low Phase Noise Option
- Modulation Option: AM, FM, Pulse
- 110 dB Attenuator (10 dB steps)
- RS-232 Interface
- GPIB Interface
- BCD Interface

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APPLICATIONS

- ATE Chip Testers
- Semiconductor Testing
- Radar Cross Section Measurement
- EW Systems
- Antenna Testing

BENEFITS

- High Measurement Throughput
- Accurate, Highly Predictable, Spurious Free Results
- Ease of Imitation of Sophisticated Operational Scenarios

GENERAL DESCRIPTION

Elcom single loop VCO/PLL design approach realizes much faster switching speeds, superior resistance to microphonics and lower power consumption than traditional Yig-based products. This proprietary design architecture allows for switching speeds of 100 microseconds, combined with exceptionally low phase noise (-137 dBc/Hz, 20 KHz offset @ 1 GHz).

IBS series was designed with a special emphasis on high MTBF and modularity. This has achieved a dramatic decrease in parts count and reduction of operating temperature of MMICs and other components. The flexible modular design allows customization of frequency bands, modulation schemes and packaging.

•Typical Phase Noise (External Reference Depending)

Offset	Phase Noise (Typ.) @ 2 GHZ	Phase Noise (Typ.) @ 20 GHz
100 Hz	-85 dBc / Hz	-65 dBc / Hz
1 KHz	-95 dBc / Hz	-75 dBc / Hz
10 KHz	-105 dBc / Hz	-85 dBc / Hz
100 KHz	-115 dBc / Hz	-95 dBc / Hz
1 MHz	-122 dBc / Hz	-105 dBc / Hz

•OPT 108: (Low Noise)

Offset	Phase Noise (Typ.) @ 2 GHZ	Phase Noise (Typ.) @ 10 GHz
100 Hz	-95 dBc / Hz	-80 dBc / Hz
1 KHz	-120 dBc / Hz	-105 dBc / Hz
10 KHz	-130 dBc / Hz	-116 dBc / Hz
100 KHz	-132 dBc / Hz	-120 dBc / Hz
1 MHz	-136 dBc / Hz	-126 dBc / Hz

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Frequency Resolution:	1 to 8 Hz
Output Power:	+11 dBm
Flatness:	±1 dB
Frequency Accuracy/Stability:	$3x10^{-9}$/ deg C
Power:	90 to 264 VAC, 47-64 Hz, 50 Watts
Interface:	Ethernet
Environmental Conditions:	
Operating Temperature:	0° C to +55 ° C
Non-Operating	-20° C to +85° C
Size:	5.25" x 16.75" x 21" deep
Weight:	28 lbs

OPT-100	Pulse Modulation, On / Off Ratio 70 dB, 10 nanoseconds Rise / Fall time
OPT-101	AM Modulation, 60 dB depth, 100 KHz BW
OPT-102	Fast Output Attenuation 60 dB Range, 5 Microsecond Switch Time
OPT-103	Slow Step Attenuator 110 dB, 10 dB Step, 10 Milliseconds Switch Time
OPT-104	FM Modulation, 0.1 to 50 KHz (DDS Based)
OPT-105	Rack Slides
OPT-106	IEEE 488 / GPIB Interface
OPT-107	Custom Frequency Bands From 0.01 to 40 GHz
OPT-108	Low Phase Noise
OPT-109	RS-232 Interface

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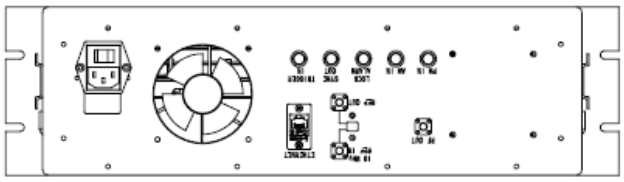
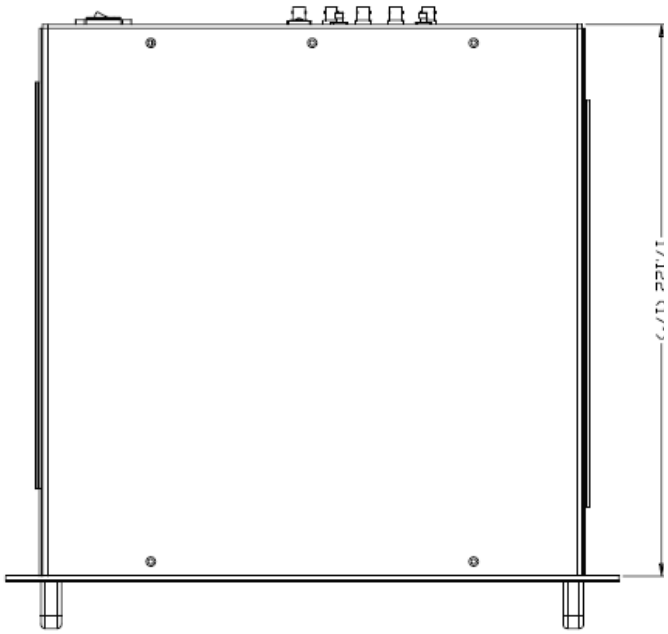
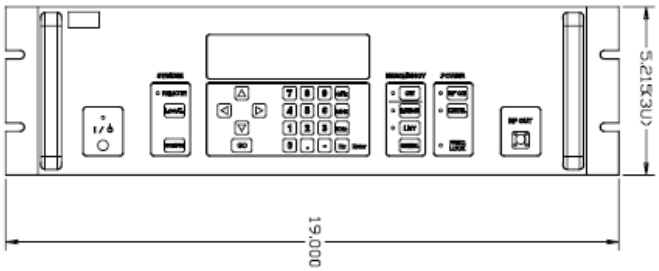


IBS Back Panel



IBS Outline



IBS Front Panel

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ABOUT ELCOM TECHNOLOGIES

Elcom designs and manufactures instruments and modules in the RF and Microwave frequency spectrum for broadband and narrow band applications in ATE, Aerospace/ Defense, SIGINT and commercial communications. Proprietary technologies include low phase noise fast switching direct analog synthesis, low noise indirect PLL designs, and RF DSP up to 40GHz.

FOR ADDITIONAL INFORMATION CONTACT

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