



SIDC-5007

VHF/UHF WIDEBAND TUNER/CONVERTER



FREQUENCY RANGE: 20 to 3000 MHz

- High Dynamic Range Enables the End User to Reject Blocking Signals Often Undetected by Less Sensitive Tuners
- High Dynamic Range Allows the End User to Reject High Powered Adjacent Channel Signals Improving Signal Of Interest Selectivity
- Fast Tuning, Bandwidth Helps Identify Short or Burst Transmissions Such as Those Used as RF Triggers in Remote Detonations and Operational Signaling
- Improve Operational Flexibility While Reducing Maintenance and Repair Costs
- Modular Architecture Provides for Lower Total Cost of Ownership
- Sweep and Scan Capability

FEATURES

RF CHAIN

- Seamless Tuning From 20 to 3000 MHz
- Ultra Wide Dynamic Range – 20 dBm Out of Band, 10 dBm In Band IP3
- 14 dB Noise Figure Typical
- Fast Tuning Synthesizer Provides Fast Tuning (Contact Factory, ITAR Restricted)
- Low Phase Noise Synthesizer, Less Than 0.5° RMS Integrated Phase Noise
- Less Than -110 dBm Internally Generated Spurious
- 10.7 MHz IF Output
- Spectral Display



LOCAL AND REMOTE INTERFACE

- Facilitates Real Time
- Large Graphical Color Display Provides User Friendly Interface
- Ethernet, RS232, RS422, RS485





SPECIFICATIONS AT 25°C

FREQUENCY

Frequency Range:	20 to 3000 MHz
Tuning Resolution:	10 Hz
Frequency Accuracy vs. Temp (Internal Ref):	< +/- 0.1 PPM
Long Term Aging (Internal Ref):	< 1 ppm / 10 Years
External Reference Input:	10 MHz at 0 +/- 3 dBm, Autoswitching
Phase Noise:	0.5° RMS Integrated from 100 Hz to 10 MHz (0.2° RMS with OPT 105)
Offset 100 Hz:	-70 dBc/Hz
Offset 1 KHz:	-85 dBc/Hz
Offset 10 KHz:	-95 dBc/Hz
Offset 100 KHz:	-105 dBc/Hz
Offset 1 MHz:	-125 dBc/Hz
Offset 10 MHz:	-145 dBc/Hz

SCAN AND SWEEP

Sweep Mode :	F1 to F2 at Selected Frequency Step
Scan Mode :	Up to 512 Channels
Tuning Speed:	3 milliseconds for any step size, typical
Dwell Time:	From 3 millisecond to 60 Seconds, or Stop on Detection
Adjustable Threshold:	1 dB Increment from -35 dBm to +5 dBm at IF output

RF SECTION

Input VSWR:	2.5 : 1
RF Preselector:	4 Bands: 20-108, 100-450, 400-1250, 1200-1300
Noise Figure:	15 dB max
RF Input Maximum Level:	20 dBm
RF Gain Variation:	+/- 2 dB vs. RF Input Frequency Range
IF Rejection:	80 dB Minimum
Internally Generated Spurious:	<-110 dBm equivalent RF Input

DYNAMIC RANGE

SFDR:	70 dB @ 0 dBm IF Output Level
Image Rejection:	80 dB
LO Re-Radiation:	< -95 dBm at RF Input



Out of Band Input IP3: +15 dBm typical, Two tones @-30 dBm, 10 MHz Spacing, placed outside the first IF BW
In Band Input IP3: +5 dBm Typical, Two tones @-30 dBm, 100 KHz Spacing, placed Inside the Analog IF Output

ANALOG IF OUTPUT

Center Frequency: 10.7 MHz
Bandwidth: 10 MHz
RF to IF Gain: 0 - 30 dB, 1 dB steps

BUILT IN TEST (BIT) CONTROL Power supply voltages, three phases lock alarm, Over Temp
Local Manual Control: All Functions, via Graphical Display Keyboard and Rotary Knob
Remote Programming: Ethernet 10/100 base-T , RS422/ RS485 and RS232 USB Remote

ENVIRONMENTAL

Operating Temp Range: 0° to +50°C
Non Operating: -30° to +85°C
Relative Humidity: Up to 95%, non condensing
Altitude: 10,000 Feet
EMI: Designed to Meet MIL-STD-461C, CE03 and RE02
Shock: MIL-STD-810E, Method 516.4, Procedure VI
Vibration: MIL- STD-810E, Method 514.4 Procedure I, Category 9, Figure 514.4-15
AC Power: 95 to 265 VAC, 47-63 Hz, 100 watts

MECHANICAL

Size: 19", 1U (1.75"H X 22"D X 17"W)
Weight: 20 Pounds

REAR PANEL CONNECTORS

Antenna Input: SMA F
RFLO Slave Input / Output: SMA F (OPTIONAL)
RFLO Master Output: SMA F (OPTIONAL)
External REF IN, Out: BNC – Female
Ethernet: RJ 45
Remote Interface: DE-9F
Summary Alarm: DE-9M



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ABOUT FEI-ELCOM TECH, Inc

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.

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