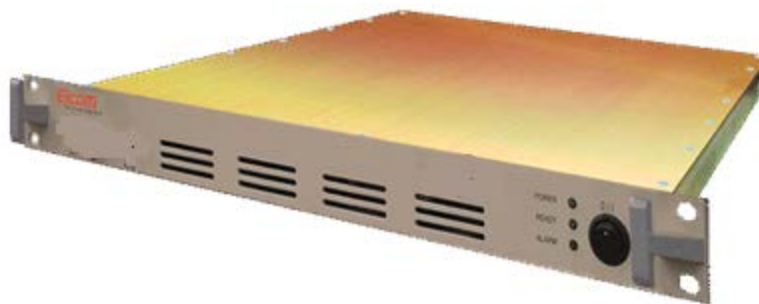




## SIDC-5009 Series

### 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 Up to 20 MHz 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
- 70 MHz IF Output



## 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, auto locking
External/Internal Ref Isolation:	> 60 dB
Phase Noise:	0.5° RMS Integrated from 100 Hz to 10 MHz
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
Noise Figure:	15 dB max, 14 dB Typical
RF Input Maximum Level:	20 dBm
RF Gain Variation:	+/- 2 dB vs. RF Input Frequency Range (+/- 3 dB for -10° to +55°C)
IF Rejection:	80 dB Minimum
Internally Generated Spurious:	< -110 dBm equivalent RF input

### DYNAMIC RANGE

Linear Dynamic Range:	85 dB typical (20 MHz IF BW)
SFDR:	60 dB min (20 MHz IF BW)
Image Rejection:	<90 dB
LO Re-Radiation:	< -95 dBm at RF Input
Sensitivity:	-87 dBm with 0dB SNR for 20 MHz BW



Out of Band Input IP3: +20 dBm typical, Two tones @-30 dBm, 10 MHz Spacing, placed outside the first IF BW  
In Band Input IP3: +10 dBm Typical, Two tones @-30 dBm, 100 KHz Spacing, placed Inside the Analog IF Output  
Output P1 dB: +15 dBm  
IP2: +40 dBm typical

## ANALOG IF OUTPUT

Center Frequency: 70 MHz  
Bandwidth: 20 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  
Remote Programming: Ethernet 10/100 base-T , RS422/ RS485 and RS232 USB Remote

## ENVIRONMENTAL

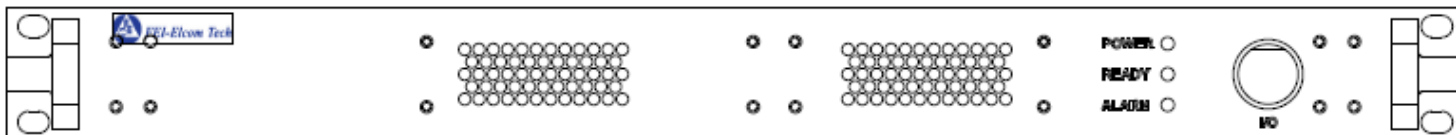
Operating Temp Range: -10° to +55°C  
Non Operating: -30° to +85°C  
Relative Humidity: Up to 95%, non condensing  
Altitude: 10,000 Feet  
EMI: Designed to Meet MIL-STD-461C, CE03 and RE02  
Shock: MIL-STD-810E, Method 516.4, Procedure VI  
Vibration: MIL- STD-810E, Method 514.4 Procedure I, Category 9, Figure 514.4-15  
AC Power: 95 to 265 VAC, 47-63 Hz, 100 watts

## MECHANICAL

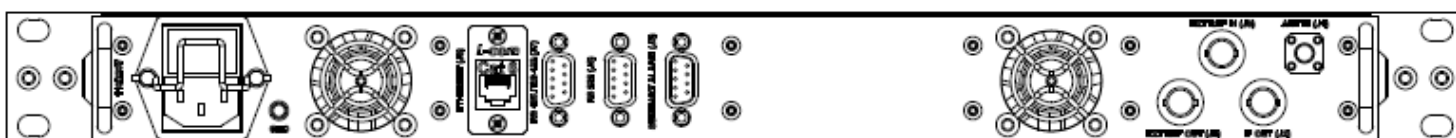
Size: 19", 1U (1.75"H X 22"D X 17"W)  
Weight: 20 Pounds

## 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



**UNIT FRONT VIEW**



**UNIT REAR VIEW**

## CONNECTORS

J1	SMA-F	ANTENNA INPUT
J2	BNC-F	IF OUTPUT
J3	SMA-F	EXTERNAL REFERENCE INPUT
J4	BNC-F	EXTERNAL REFERENCE OUTPUT
J11	DB-9,M	SUMMARY ALARM
J12	DB-9,F	RS 232
J13	DB-9,F	RS 485 / RS 422
J14	ETHERNET	ETHERNET 10/100
J15	POWER ENTRY MODULE	AC POWER INPUT



## **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.

### **FOR ADDITIONAL INFORMATION PLEASE CONTACT**

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