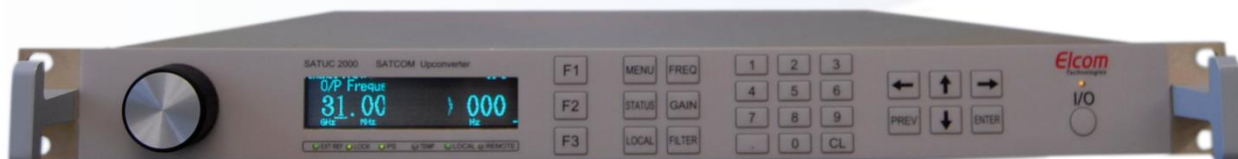


## **SATUC-2000**

### **KA BAND UPCONVERTER WIDE IF BANDWIDTH**



### **WIDE FREQUENCY RANGE: 27.5 to 31 GHz**

#### **FEATURES**

- Very High Dynamic Range
- Fast Switching Synthesizer with 1 KHz Max Tuning Resolution
- Excellent Phase Noise Performance:  $< 0.5^\circ$  RMS
- Up to 500 MHz Bandwidth 700MHz L band output
- 40 MHz Bandwidth 70 MHz Secondary IF Input
- Optional Manual Controlled Equalizer
- Advanced Front Panel Graphical Display
- Ethernet 10/100 BaseT, RS 232, RS422
- 1U 19" Rack Standard\*
- Optional DSP Based Demodulator (DSR)

#### **BENEFITS**

- ELINT
- Synthetic Instrumentation
- SATCOM
- Radar Warning Receivers (RWR)



## SPECIFICATIONS AT 25° C

### FREQUENCY

Frequency Range:	27.5 – 31 GHz
Tuning Resolution:	1 kHz Max
Synthesizer Tuning Speed:	1 millisecond (For faster tuning speed contact factory)
Frequency Accuracy vs. Temperature (Internal Ref):	< +/- 0.1 PPM
Long Term Aging (Internal Ref):	< 1 PPM per Year.
Phase Noise (Typical):	0.5° RMS Integrated from 100 Hz to 10 MHz.
Offset 1 Hz:	-25 dBc/Hz
Offset 10 Hz:	-55 dBc/Hz
Offset 100 Hz:	-75 dBc/Hz
Offset 1 KHz:	-85 dBc/Hz
Offset 10 KHz:	-88 dBc/Hz
Offset 100 KHz:	-90 dBc/Hz
Offset 300 KHz:	-90 dBc/Hz
Offset 1 MHz:	-120 dBc/Hz
Offset 10 MHz:	-130 dBc/Hz

### RF SECTION

Output RL:	18 dB
Tx Noise	-129 dBm/Hz Max @ all Gain
Conversion Sense:	Inverting / Non Inverting for L Band and 70 MHz

### DYNAMIC RANGE

Spurious @ Min Gain:	Carrier Dependent: -60 dBc Min @ RF input = 0 dBm Carrier Independent: -80 dBm
Output IP3:	+23 dBm @ Max Attenuation
Output P1 dB:	+13 dBm @ Max Attenuation



## WIDEBAND L BAND INPUT

Center Frequency:	700 MHz (Optional 1-3 GHz)
Bandwidth ( 3dB):	250 MHz (Optional 500 MHz)
IF to RF Gain:	30 dB / 0.5 dB Steps
Gain Flatness Over IF BW:	1.25 dB Max Over 250 MHz
Group Delay Variation:	1 nsec Max @ 200 MHz
Manual Gain Control:	Programmed 31 dB, 0.5 dB Resolution
IF Signal Monitor:	-20 dBc
Impedance:	50 ohms
Input RL:	20 dB

## IF INPUT

Center Frequency :	70 MHz
Bandwidth (3 dB):	40 MHz
IF to RF Gain:	30 dB / 0.5 dB Steps
Gain Flatness:	1.25 dB Max Over 40 MHz
Group Delay Variation:	3 nsec Max @ 32 MHz
Manual Gain Control (MGC):	Programmed 31 dB , 0.5 dB Resolution
IF Signal Monitor:	-20 dBc
IF Output Impedance:	50 ohm
Input RL:	20 dB

**PHASE COHERENT for DF APPLICATIONS (OPT- 117):**

Each converter could be configured as master LO or slave (Using External LO) by hardware jumper and software settings. The master receiver/ converter will provide LO output to slave receiver/converter. Slave receiver/converter will accept external LO and provide LO output for next Slave. In Slave Mode, Internal RFLO will be disabled.

**BUILT IN TEST (BIT)** Power Supply Voltages, Three Phase Lock Alarm, Over Temp.

**CONTROL**

Local Manual Control: All Functions, via Graphical Display Keyboard and Rotary Knob  
 Remote Programming: Ethernet 10/100 base T , RS 422/ RS 485 and RS232

**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)  
 Optional Packages: 8.5", 2U (3.5" H X 22"D X 8.5" W), VME 6U  
 Weight: 20 Pounds

**REAR PANEL CONNECTORS**

27.5 to 31 GHz RF Output: K-Connector  
 RF Monitor: Super SMA-F  
 L Input: BNC F  
 L Monitor: BNC F  
 VHF Input: BNC F  
 VHF Monitor: BNC F  
 LO Monitor: SMA F  
 Ethernet: RJ 45  
 Remote Interface: DEM – 9S  
 Summary Alarm: DE – 9D

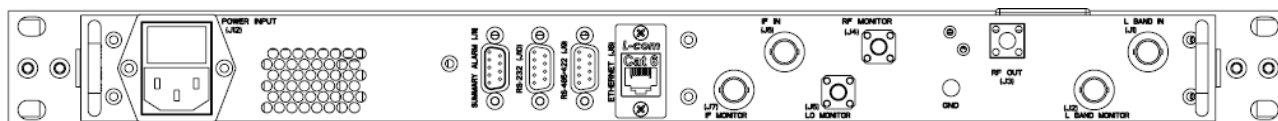


## OPTIONS

OPT-109	1 GHz L-band Out put
OPT-110*	8.5", 2U (3.5" H X 22"D X 8.5" W)
OPT-112	Operating Temp Range (-20°C to +60°C)
OPT-117	Phase Coherent LO in/out
OPT-126	Aircraft Power Supply: 115 VAC, +/- TBD%, 400 Hz, 100 Watts
OPT-130	+28V +/-4 Vdc Input Power

\* Contact factory

Specifications are subject to change without notice.



## SATDC-2000 - REAR PANEL

\* Subject to modifications

## ABOUT FEI-ELCOM TECH

FEI- 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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