



Up Down Converter IF to L Band
 IF(70 or 140M) to LBand(950-1950M)
 RUC-IF(70Mor140M) to LBand(950-1750M)-i13



Code-i13

Key Features

- Superior RF performance:
 - o Phase noise 8dB better than IESS308/309
 - o In Band Spurious below -60dBc
 - o Superior Gain flatness
- Super wide frequency band 950 to 2150 MHz
- Synthesizer frequency step of 1kHz
- User Friendly front panel with menu driven OLED graphical display
- 5 /10MHz external reference Autosense.
- Full featured M&C Interface via serial EIA485, EIA232 and Ethernet:
 - o 30dB Gain Control dynamic range
 - o Input and output power detectors
 - o Automated level control (ALC) mode available
- 10MHz and DC injected into L-Band ports
- 1:1 and 1:N Redundant ready
- Redundancy is supported by hot swappable converter/power supply/10MHz modules
- -48VDC power supply optional



The Raditek frequency converters shape the next-generation satellite transmission with its breakthrough leading edge technology, state of the art design, and unprecedented reliability.

Features Best in Class RF characteristic, embedded shelf redundancy options and Extensive monitor and control via front panel, serial ports EIA232/EIA485 and Ethernet.

Raditek frequency converters may combine up to 4 converters modules in single 1RU shelf, and can be configured for various applications and bands. Flexible reference with autosensing can lock to external 5/10 MHz reference or utilize built-in high stability reference oscillator.

Order Examples: RUC-IF (70-140)-L(950/1950M)-i13

Description: [Up Converter, IF(70MHz or 140MHz) to LBand(950-1950MHz)]

Power Supply						
Input Voltage	90 to 265VAC 50/60Hz PFC [-48VDC (Optional)]					
Environmental						
Operating temperature	0°C to +60°C			Storage temperature: -55 to +85 °C		
Relative Humidity	up to 95% (Non-condensing)					
Mechanical						
Dimension	Width	Height	Depth	Cooling	Color	
	19" Rack	1RU	16 inches	Force air	Silver Grey	

Up Converter IF to L Band IF(70MHz or 140MHz) to LBand(950-1750M)

Parameters		Specification Upconverter	Downconverter
IF Characteristics		RF Input	RF Output
Frequency Range	70MHz IF 140MHz IF	70MHz ± 18 MHz 140± 36 MHz	
Output Power @P1dB		N/A	5dB min
Impedance		50Ohm/75Ohm optional	
Insertion loss		-18dB max	
RF Characteristics		RF Output	RF Input
Frequency Range:		950-1950MHz	950-2150MHz
Frequency Step		1kHz	
Output Power @P1dB		10dB min	N/A
2 tone IMD at 0dBm Pout		-40dBc max	N/A
Gain Control		30dB range 0.5db step	
10MHz Reference Out		Multiplexed at RF out port optional	
DC Multiplexed at L-Band	Port	24VDC 2A	24VDC 0.5A
	Impedance	50Ohm/75Ohm optional	
	Return Loss	-16dB max	
RF Characteristics			
Conversion Gain		-10 to 30 dB	
Gain Adjustment		40dB with 0.1dB step/0.5dB step	
Gain Flatness 70MHz IF:			
Over full L- band		±1.0 max	
Over 72MHz		1 dB p-p max	
Phase noise	@ 100Hz	-65dBc	
	@ 1kHz	-80dBc	
	@ 10kHz	-90dBc	
	@ 100kHz	-95dBc	
	@ 1MHz	-115dBc	
Reference			
Frequency		10MHz	5MHz Option
Int./Ext. Autosense		Int. clock locks on external reference	
Frequency Stability	Short term	0.01ppb	
	Aging	±100ppb per year	
Phase Noise		@10 Hz <-125dBc/Hz	@1kHz <-150dBc/Hz
		@100 Hz <-140dBc/Hz	@10kHz <-155dBc/Hz
Power Level at L-Band Port		+5dBm ±2dB Optional	
Output Power @P1dB		10dB min	N/A
2 tone IMD at 0dBm Pout		-40dBc max	N/A
Monitor & Control Features			
Interface	Serial - EIA485	DSUB Connector rear panel	
	Serial - EIA232	USB Front Panel	
	Ethernet	DSUB Connector rear panel	
	Redundant protection interface	DSUB Connector rear panel	
Controls:	IF Gain Control	via Serial, Ethernet, Front panel	
	Uplink Freq Control	via Serial, Ethernet, Front panel	
	Downlink Freq Control	via Serial, Ethernet, Front panel	
	Mute Control	via Serial, Ethernet, Front panel red Int	
Local/Remote toggle		Serial(Ethernet)/Front panel toggle	
Clear Alarm		via Serial, Ethernet, Front panel	
Indicators	Uplink Frequency	via Serial, Ethernet, Front panel	
	Downlink Frequency	via Serial, Ethernet, Front panel	
	IF Gain Status	via Serial, Ethernet, Front panel	
	RF Gain Status	via Serial, Ethernet, Front panel	
	RF Power Detect	via Serial, Ethernet, Front panel	
	Temperature	via Serial, Ethernet, Front panel	
	Summary Alarm Status	via Serial, Ethernet, Front panel, Red Int	
	Mute Status	via Serial, Ethernet, Front panel, Red Int	