



Up and Down Converter family



Rack Mount: 70M to L Band, L band to 70MHz



Our Frequency Converters offer a new best in class for the Industry. Not only for ease of operation, but lowest cost too. They embody embedded redundancy options and extensive monitor and control via: front panel, serial ports (EIA232/EIA485) and Ethernet. **RUC-Up Converter; RDC-Down Converter**
 There may be up to 4 converter modules in a single 1RU shelf, and they can be configured for various applications and bands. The reference with autosensing can lock to an external 5/10 MHz reference or utilize the built-in high stab, reference oscillator. Hot-swappable shelf redundancy option and extensive monitor and control via front panel, serial ports EIA232/EIA485 and Ethernet.

Order Examples: RUC-70M-L-ER10M-AC-IDU i13 Upconverter

Description : (Up Converter, 70MHz (IF) to L-Band, REF eg 10M ER, 10 MHz Voltage-AC or DC

RDC-L-70M-ER-AC-IDU.i13 Downconverter

(Down Converter, to L-Band to 70MHz (IF), REF eg 10M ER, 10 MHz Voltage-AC or DC

Key Features:

- Superior RF performance:
- Phase noise >8dB better than IESS308/309
- In-band Spurious < -60dBc
- Superior Gain flatness
- Very wide IF frequency band: 950 to 2150 MHz
- 5 or 10MHz external reference with Autosense.
- -48VDC power supply optional
- Synthesizer frequency step of 1kHz with optional 1 Hz step size
- Full featured M&C Interface via serial EIA485, EIA232 and Ethernet:
- 25dB Gain Control (30dB optional) dynamic range
- Input and output power detectors
- Automated level control (ALC) mode available
- Hitless redundancy switching
- 1:1 and 1:N Redundant ready
- Redundancy is supported with hot swappable converters and power supply
- 10MHz and DC injected into L-Band

Power Supply:		Mechanical		IF/RF Connectors:	
Input Voltage AC option	90 to 265VAC 50/60Hz PFC	Width	19" Rack	L band mon. (option)	BNC (other options available)
DC option	-48VDC	Height	1RU	IF mon. (option)	BNC (other options available)
Environmental:		Depth	20"	RF	N-type
Operating temp,	0 to 60 °C	Color	Light tan	10MHz Ref.	BNC (other options available)
Storage Temp.	-40 to +85 °C	Cooling	Forced air	IF	BNC (other options available)
Humidity 0 to 95% (non-condensing)					

Up and Down Converter Family

70M to L Band, L band to 70MHz (Rack mount)

70/140MHz TO L-Band Up/Down Converter

Specification:	Upconverter	Down converter	Monitor & Control Features	
Frequency Range:	IF Input	IF Output	Interfaces:	
70MHz IF	70MHz +/-18MHz		Serial - EIA485	DB9 Connector (rear panel)
140MHz IF	140MHz +/-36MHz		Serial - EIA232	RJ45 or DB9 (rear panel)
O/P Power @ P1dB	N/A	5dBm min	10/100 base-T Ethernet	RJ45 (rear panel)
			Alarm and Control	DB9 Connector rear panel
Max. Input Level	10dBm	N/A	Redund. prot. interface	DB15 Connector rear panel
Impedance	50 Ω / 75 Ω optional		Controls:	
Return Loss	-18dB max		Gain Control	Serial, Ethernet, Front panel
RF Characteristics	RF Output	RF Input	Uplink Freq Control	Serial, Ethernet, Front panel
Frequency Range:	950-2150MHz	950-2150MHz	Downlink Freq Control	Serial, Ethernet, Front panel
Frequency Step	1kHz/1Hz		Mute Control	Serial, Ethernet, Front panel, Red LED.
Output Power @P1dB	15dBm min	N/A	Local/Remote toggle	Serial (Ethernet) / Front panel toggle
2 tone IMD at 0dBm Pout	-40dBc max	N/A	Clear Alarm	Serial, Ethernet, Front panel
Gain Control	25dB range 0.1dB step		Indicators:	
10MHz Reference Out	Multiplexed at RF out port optional		Uplink Frequency	Serial, Ethernet, Front panel
DC Mux'd on L-Band	24VDC 2A	24VDC 0.5A	Downlink Frequency	Serial, Ethernet, Front panel
Impedance	50 Ω / 75 Ω optional		Gain Status	Serial, Ethernet, Front panel
Return Loss	1.5			
Max Input Level	N/A	Operational up to 0dBm		
	No Damage up to 10dBm		IF Power Detect	Serial, Ethernet, Front panel
Transfer Characteristics:			RF Power Detect	Serial, Ethernet, Front panel
Conversion Gain	30 dB (Optional 35 dB)		Temperature	Serial, Ethernet, Front panel
Gain Adjustment	25dB with 0.1dB step (Optional 30 dB)		Summary Alarm Status	Serial, Ethernet, Front panel, Red Int
Gain Flatness with 70MHz IF:	Over full L- band: ± 1.0 max. Over 36MHz: ± 0.5 max.		Mute Status	Serial, Ethernet, Front panel, Red Int
			Reference Frequency Stability	
LO Phase Noise			Aging (0.01PPB)	+/-100ppb per year
@ 100Hz	-70dBc		Reference Phase Noise, 10MHz, (5MHz option)	
@ 1kHz	-90dBc		@ 10Hz	-125dBc/Hz
@ 10kHz	-95dBc		@ 100Hz	-140dBc/Hz
@ 100kHz	-95dBc		@ 1kHz	-150dBc/Hz
@ 1MHz	-115dBc		@ 10kHz	-155dBc/Hz
In Band Spurious	<-60dBc		Power Level at L-Band Port	+5dBm+/-2dB Optional
Reference	10MHz	(5MHz Optional)	Int./Ext. Autosense	Int. clock locks on ext. ref.