IFC™ Series 70/140MHz to L-Band Rack Mount Up/Down Converter

The SpacePath Communications Intelligent Frequency Converters (IFC™) shape the next-generation satellite transmission with its breakthrough leading edge technology, state of the art design, and unprecedented reliability with 3 years warrant for this product line!

The SpacePath Communications IFC™ series may combine up to 4 embedded converters in a single 1RU shelf with extensive monitor and control via front panel, serial ports EIA232/EIA485 and Ethernet

Features Best in Class RF characteristics, Flexible reference with autosensing can lock to external 5/10 MHz reference or utilize built-in high stability reference oscillator.

Options

- IF and RF monitoring
- 10MHz and DC injected into L-Band ports
- 48VDC isolated power supply
- Built in BUC DC via IF power supply

Features

- Super wide frequency band 950-2150 MHz
- Synthesizer frequency step of 1 kHz with optional 1Hz step size
- Superior RF performance:
  - Phase noise 15dB better than IESS308/309
  - In Band Spurious below –60dBc
  - Superior Gain flatness
- True RMS power detector for both IF and RF power
- 5 / 10 MHz external reference Autosense
- Single, dual, triple and quad band frequency converters in a single 1RU chassis (4.4cms H x 48cm W x 48cm D
- User Friendly front panel with menu driven display
- Full featured M&C Interface via RS-232 serial console, packet protocol RS-485 and user friendly HTTP based GUI and SNMP:
  - Frequency control with 1 kHz step
  - 25dB Gain Control (Optional 30dB)
  - Input and output power detectors
  - Automated level control (ALC) mode optional
- 1:N Redundant ready

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IFC™ Series 70/140MHz to L-Band Up/Down Converter Rack Mount System Specification

Parameter	Up-Converter	Down-Converter
IF Characteristics	**IF Input**	**IF Output**
Frequency Range		
70MHz IF	70MHz +/- 18MHz	
140MHz IF	140MHz +/- 60MHz	
Output Power @P1dB	N/A	5dBm min
Max Input Level	10dBm	N/A
Impedance	50 Ohm / 75 Ohm optional	
Return Loss	-18dB max	
RF Characteristics	**RF Output**	**RF Input**
Frequency Range	950-2150MHz	
Frequency Step	1kHz/1Hz	
Output Power @P1dB	15dBm min	N/A
2 tone IMD at 0dBm Pout	-40dBc max	N/A
Gain Control	25dB range 0.1dB step	
10MHz Reference Out	Multiplexed at RF out port optional	
Impedance	50 Ohm / 75 Ohm optional	
Return Loss	1.5	
Max Input Level	N/A	Operational up to 0dBm
	No Damage up to 10dBm	
Transfer Characteristics		
Conversion Gain	30dB (Optional 35dB)	
Gain Adjustment	25dB with 0.1dB step (Optional 30dB)	
Gain Flatness 70MHz IF	+/- 1dB max over full band; +/-0.5dB max over any 36MHz	
Phase Noise	-70dBc @ 100Hz; -90dBc @ 1kHz; -95dBc @ 10kHz; -95dBc @ 100kHz; -115dBc @ 1MHz	
In Band Spurious	<-60dBc	
Reference		
Frequency	10MHz (Optional 5MHz)	
Int./Ext. Autosense	Int. clock locks on external reference	
Frequency Stability	Short Term - 0.01ppb; Aging - +/-100ppb per year	
Phase noise	-125dBc/Hz @ 10Hz; -140dBc/Hz @ 100Hz; -150dBc/Hz @ 1kHz; -155dBc/Hz @ 10kHz	
Power Level at L-Band Port	+5dBm (Optional +/-2dB)	
Monitor & Control Features		
Interfaces:		
Serial – EIA485	DB9 Connector rear panel	
Serial – EIA232	RJ45 or DB9 Connector rear panel	
10/100 base-T Ethernet	RJ45 Connector rear panel	
Alarm and Control	DB9 Connector rear panel	
Redundant protection interface	HD15 Connector rear panel	
Controls:		
Gain Control	via Serial, Ethernet, Front Panel	
Uplink / Downlink Freq Control	via Serial, Ethernet, Front Panel	
Mute Control	via Serial, Ethernet, Front Panel, Redundancy Interface	
Local / Remote Toggle	via Serial, Ethernet, Front Panel	
Clear Alarm	Via Serial, Ethernet, Front Panel	
Indicators:		
Uplink / Downlink Frequency	Via Serial, Ethernet, Front Panel	
Gain Status	Via Serial, Ethernet, Front Panel	
IF & RF Power Detect	Via Serial, Ethernet, Front Panel	
Temperature	Via Serial, Ethernet, Front Panel	
Summary Alarm Status	Via Serial, Ethernet, Front Panel, Redundancy Interface	
Mute Status	Via Serial, Ethernet, Front Panel, Redundancy Interface	

Power Supply		**Mechanical**		**IF/RF Connectors**	
Input Voltage	90-265VAC 50/60Hz PFC	Width	19” Rack	IF	BNC (other options available)
	48VDC Isolated Optional	Height	1RU	RF	N-type (other options available)
Environmental		Depth	19”	10MHz Ref In / Out	BNC (other options available)
Operating Temperature	0 to 60 deg. C	Cooling	Forced air	IF Monitoring (Optional)	BNC (other options available)
Storage Temperature	-40 to +85 deg. C			L-Band Monitoring (Optional)	N-type (other options available)
Humidity	0 to 95% (non-condensing)				