



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!

Features patent pending hot-swappable power supply and converter module shelf redundancy with embedded switch controller, embedded input and output switches and extensive monitor & 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 L-Band monitoring
- 10MHz and DC injected into L-Band ports
- 48VDC isolated power supply

Features

- Super wide frequency band 950-2150 MHz
- Synthesizer frequency step of 1 kHz with optional 1Hz step size
- True RMS power detector for both IF and RF power
- Superior RF performance:
 - Phase noise 15dB better than IESS308/309
 - In Band Spurious below -60dBc
 - Superior Gain flatness

- 1:1 Redundant patent pending real hot swappable in 1RU chassis with no need for additional external 1RU switch controller and external input / output switches
- Seamless redundancy switching
- 5 / 10 MHz external reference Autosense
- 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

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IFC™ Series 70/140MHz to L-Band Up/Down Converter 1:1 Redundancy 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	20"	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)				