



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 RF monitoring
- 48VDC isolated power supply

Features

- Superior RF performance:
 - Phase noise 8dB better than IESS308/309
 - In Band Spurious below -60dBc
 - Superior Gain flatness
- Available in all C-Band options—standard, extended, Palapa and Insat
- 5 / 10 MHz external reference Autosense
- 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
- 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 1kHz step
 - 20dB Gain Control
 - Input and output power detectors
 - Automated level control (ALC) mode optional
- External Redundant Interface for higher level redundancy capability

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IFC™ Series 70/140MHz to C-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 +/-36MHz		
Output Power @P1dB	N/A		5dBm min.		
Max Input Level	10dBm		N/A		
Impedance			50Ohm (Optional 75Ohm)		
Return Loss			-18dB max.		
RF Characteristics	RF Output		RF Input		
Frequency Range:					
Standard/Ext C	5.85-6.725GHz		3.4-4.2GHz		
Palapa/Insat	6.425-7.025GHz		4.5-4.8GHz		
Frequency Step			1kHz (Optional 1Hz)		
Output Power @P1dB	15dBm min.		N/A		
2 tone IMD @ 0dBm Pout	-40dBc max.		N/A		
Gain Control			20dB range 0.1dB step		
10MHz Ref Out (Optional)			Separate Connector		
Impedance			50Ohm (Optional 75Ohm)		
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	20dB with 0.1dB step (Optional 25dB)				
Gain Flatness 70MHz IF	+/-0.5dB				
Over full C-Band	+/-1.0 max.				
Over 36MHz	+/-0.5 max.				
Phase Noise	-68dBc/Hz @ 100Hz; -78dBc/Hz @ 1kHz; -88dBc/Hz @ 10kHz; -95dBc/Hz @ 100kHz; -115dBc/Hz @ 1MHz				
In Band Spurious	<-60dBc				
Reference					
Frequency	10MHz (Optional 5MHz)				
Int./Ext. Autosense	Int. clock locks on external reference				
Short Term Frequency Stability	0.01ppb				
Aging Frequency Stability	+/-100ppb per year				
Phase Noise	-125dBc/Hz @ 10Hz; -140dBc/Hz @ 100Hz; -150dBc/Hz @ 1kHz; -155dBc/Hz @ 10kHz				
Power at 10M out port	+/-5dBm (Optional +/-2dBm)				
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 Frequency Control	via Serial, Ethernet, Front Panel				
Mute Control	via Serial, Ethernet, Front Panel, Redundancy Interface				
A / B Redundant Toggle	via Serial, Ethernet, Front Panel				
Local / Remote Toggle	via Serial, Ethernet, Front Panel				
Auto / Manual 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				
Active / Standby Status	via Serial, Ethernet, Front Panel				
Switch Position	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 (Opt.)	BNC (other optional available)
Storage Temperature	-40 to +85 deg. C			RF Monitoring (Opt.)	N-type (other options available)
Humidity	0 to 95% (non-condensing)				