

# IFC™ SERIES IF-TO KU-BAND UP/DOWN CONVERTER RACK MOUNT SYSTEM



The IRT Technologies 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 warranty for this product line!

IRT Technologies 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 characteristic, Flexible reference with autosensing can lock to external 5/10 MHz reference or utilize built-in high stability reference oscillator.

## KEY FEATURES

- Superior RF performance:
  - Phase noise 8dB better than IESS308/309
  - In Band Spurious below -60dBc
  - Superior Gain flatness
- Only two frequency options covering full Ku-Band (receive or transmit)
- User Friendly front panel with menu driven display
- 5 /10MHz external reference Autosense
- Up to four frequency converters in a single 1RU chassis (1.75" H x 19" W x 19" D)
- Full featured M&C Interface via serial EIA485, EIA232 and Ethernet HTTP based GUI and SNMP:
  - Frequency control with 1kHz step
  - 20dB Gain Control
  - Input and output power detectors
  - Automated level control (ALC) mode optional
- 1:N Redundant ready
- IF and RF monitoring optional
- 48VDC isolated power supply optional

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## IFC™ SERIES IF- TO KU-BAND UP/DOWN CONVERTER RACK MOUNT SYSTEM SPECIFICATION

	UPCONVERTER	DOWNCONVERTER
<b>IF CHARACTERISTICS</b>	<b>IF Input</b>	<b>IF Output</b>
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/75Ohm optional	
Return Loss	-18dB max	
<b>RF CHARACTERISTICS</b>	<b>RF Output</b>	<b>RF Input</b>
Frequency Range: Opt. 1	14-14.5GHz	10.7-11.7GHz
Opt. 2	13.75-14.5GHz	11.7-12.75GHz
Opt. 3	N/A	10.7-12.75GHz
Frequency Step	1kHz/1Hz	
Output Power @P1dB	15dBm min	N/A
2 tone IMD at 0dBm Pout	-36dBc max	N/A
Gain Control	20dB range 0.1dB step	
10MHz Ref Out (Optional)	Separate Connector	
Impedance	50Ohm/75Ohm optional	
Return Loss	1.5	
Max Input Level	N/A	Operational up to 0dBm
	No Damage up to 10dBm	
<b>TRANSFER CHARACTERISTICS</b>		
Conversion Gain	30 dB (Optional 35 dB)	
Gain Adjustment	20dB with 0.1dB step(Optional 25 dB)	
Gain Flatness 70MHz IF:	+/-0.5dB	
over full C- band:	+/-1.0 max	
over 36MHz:	+/-0.5 max	
Phase noise: @ 100Hz	-68dBc	
@ 1kHz	-78dBc	
@ 10kHz	-88dBc	
@ 100kHz	-95dBc	
@ 1MHz	-115dBc	
In Band Spurious	<-60dBc	
<b>REFERENCE</b>		
Frequency	10MHz	5MHz Optional
Int./Ext. Autosense	Int. clock locks on external reference	
Frequency Stability		
Short term	0.01 ppb	
Aging	+/-100ppb per year	
Phase Noise @ 10Hz	-125dBc/Hz	
@ 100Hz	-140dBc/Hz	
@ 1kHz	-150dBc/Hz	
@ 10kHz	-155dBc/Hz	
Power at 10M out port	+5dBm+/-2dB Optional	

<b>MONITOR &amp; CONTROL FEATURES</b>		
<b>Interfaces:</b>		
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	
<b>Controls:</b>		
Gain Control	via Serial, Ethernet, Front panel	
Uplink/Downlink Freq Control	via Serial, Ethernet, Front panel	
Mute Control	via Serial, Ethernet, Fr. panel, Red Int.	
Local/Remote toggle	Serial(Ethernet)/Front panel toggle	
Clear Alarm	via Serial, Ethernet, Front panel	
<b>Indicators:</b>		
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	
<b>POWER SUPPLY</b>		
Input Voltage	90 to 265VAC 50/60Hz PFC	
	48VDC Isolated Optional	
<b>MECHANICAL</b>		
Width	19" Rack	
Height	1RU	
Depth	20"	
Color	Metallic	
Cooling	Forced air	
<b>IF/RF CONNECTORS</b>		
	IF	BNC (other options available)
	RF	N-type (other options available)
10MHz Ref In/Out		BNC (other options available)
IF Monitoring (Optional)		BNC (other options available)
Ku-Band Monitoring (Optional)		N-type (other options available)
<b>ENVIRONMENTAL</b>		
Operating temperature	0 to 60 deg.C	
Storage Temperature	-40 to +85 deg.C	
Humidity	0 to 95% (non-condensing)	

\*Contact us for detailed ordering information at [sales@irttechnologies.com](mailto:sales@irttechnologies.com)

Rev.05

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