



# IBUC

## Ku-Band Intelligent Block Upconverter

### IBUC Advantages

Integrated BUC/SSPA for higher performance and reliability.

DC power can be supplied via IFL coax or separate DC connector for 4 W through 16 W models.

All models available with integral AC power supply or separate DC power supply.

Internal 10MHz reference option automatically switches to internal reference when external reference is not detected.

Guaranteed rated output power across the entire operating temperature range and frequency band.

Low phase noise better than IESS308/309 requirements by a minimum of 5 dB.

Embedded Web pages provide management for small networks using any Web browser.

AGC or ALC circuits hold gain or output level constant.

16 dB User-adjustable gain in 0.1 dB steps preserves modem dynamic range.

Advanced user interfaces:

- TCP/IP HTTP with embedded Web pages
- SNMP
- TELNET through TCP/IP
- FSK through TX IFL cable
- RS232/485 serial port
- Hand-held terminal



The revolutionary **IBUC** has advanced features to take your network to new heights.

**IBUC** offers significant benefits:

- Low terminal cost
- Simple design and installation
- Superior RF performance
- Simplified 1+1 configuration

New interfaces connect you to extensive M&C facilities for network management or local access. This powerful new M&C enables:

- **Trouble-free commissioning** with easy, point-and-click installation/configuration
- Continuous **verification** of performance with time-stamped alarm history
- Simplified **monitoring** of terminal status

The **IBUC** comes with a complete set of diagnostic tools including:

- 10 MHz input detector
- Input voltage and current monitoring
- Transmit L-band input level detector
- Transmit RF output level detector
- User configurable thresholds and alarms

Unique to the **IBUC** are internal AGC and ALC functions that satisfy demanding applications with stringent specifications.

For additional information contact Terrasat Sales at +1 408-782-5911 or by Email: [Sales@Terrasatinc.com](mailto:Sales@Terrasatinc.com).  
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## Ku-Band Intelligent Block Upconverter

Frequency range	RF	IF	SSB Phase Noise	External refer-	IBUC
Band 1 Std Ku	14.00 to 14.50 GHz	950 to 1450 MHz	10 Hz	-115 dBc/Hz	-50 dBc/Hz
Band 2 Full Ku	13.75 to 14.50 GHz	950 to 1700 MHz	100 Hz	-140 dBc/Hz	-75 dBc/Hz
Band 3 Low Ku	12.75 to 13.25 GHz	950 to 1450 MHz	1 kHz	-150 dBc/Hz	-85 dBc/Hz
			10 kHz	-155 dBc/Hz	-90 dBc/Hz
			100 kHz	n/a	-95 dBc/Hz
			1 MHz	n/a	-110 dBc/Hz
<b>Input</b>			<b>External Reference</b> (multiplexed on TX IFL)		
VSWR / Impedance	1.5:1 max / 50 Ohm		Frequency	10 MHz	
Input Connector	Type N female (50 Ohm)		Level	-12 to +5 dBm	
Input Connector options	Type F (75 Ohm), TNC (50 Ohm)		Internal Reference - optional		
Input power detector	-55 to -20 dBm		<b>Local Oscillator Frequency</b>		
			Sense	Non-Inverting	
			Band 1	13050 MHz	
			Band 2	12800 MHz	
			Band 3	11800 MHz	
<b>Gain</b>			<b>IBUC Power Supply</b>	DC	AC
Small Signal Gain (L-band to RF) with attenuator set to 0 dB			Voltage	48 ± 11 VDC	100 to 240 VAC
4 W	67 dB min		Option for 4 W, 8 W:	24 ± 4 VDC	
8 W	70 dB min		DC via coax available on 4 W - 16 W		
12 W	72 dB min		Power Consumption		
16 W	73 dB min		4 W	77 W	85 VA
20 W	74 dB min		8 W	110 W	132 VA
25 W	75 dB min		12 W	144 W	158 VA
30 W	76 dB min		16 W	168 W	200 VA
40 W	77 dB min		20 W	220 W	250 VA
50 W	78 dB min		25 W	270 W	297 VA
Attenuator range	16 dB variable in 0.1 dB steps		30 W	380 W	440 VA
Gain flatness	<u>Band 1 &amp; 3</u>	<u>Band 2</u>	40 W	400 W	456 VA
Full band	3 dB p-p max	4 dB p-p max	50 W	550 W	600 VA
36 MHz	1 dB p-p max	1.5 dB p-p max			
1 MHz	0.25 dB p-p	0.25 dB p-p			
Gain variation over temperature			<b>Monitor and Control</b>		
Open loop	4 dB p-p max		<b>Ethernet</b> (HTTP, Telnet, SNMP),		
With AGC	1 dB p-p max		<b>RS232/485, Hand-held Terminal</b> via MS-type connector,		
			<b>FSK</b> multiplexed on TX IFL.		
<b>RF Output</b>			<b>Environmental</b>	<u>4 W to 25 W</u>	<u>30 W to 50 W</u>
Interface	WR75 cover with groove		Operating temperature	-40°C to +60°C	-40°C to +55°C
VSWR	1.5:1 max		Relative humidity	100% condensing	
Rated output power (P1dB)			Altitude	10,000 ft., (3,000 m) ASL	
4 W	+36 dBm min		<b>Mechanical</b>	DC powered	AC powered
8 W	+39 dBm min		4 W - 8 W	12.2x7.2x4.2 in.	12.2x7.2x4.5 in.
12 W	+40.8 dBm min			13 lbs	14 lbs
16 W	+42 dBm min		12 W - 25 W	12.2x7.2x6.2 in.	12.2x7.2x6.5 in.
20 W	+43 dBm min			18 lbs	19 lbs
25 W	+44 dBm min		30 W - 50 W	12.2x7.2x6.7 in.	12.2x7.2x7.0 in.
30 W	+44.8 dBm min			18.5 lbs	19.5 lbs
40 W	+46 dBm min				
50 W	+47 dBm min				
IMD3 (2 carriers, 3 dB TOBO)	-25 dBc max				
Level stability with ALC	±0.5 dB				
Output power detector range	Rated power to -20 dB				
Power reading accuracy	±1.0 dB max.				
Spurious	In Band	-65 dBc			
	Out of Band	Complies with EN 301 428/430 and MIL-STD 188-164B			
Harmonics	-50 dBc max.				
Output Noise Power Density					
	TX < -80 dBm/Hz				
	RX < -145 dBm/Hz				

Specifications are subject to change without notice.

IBUC Ku-Band Data Sheet 4/26/16



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