



Communications, Inc.

Terrasat **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.

Terrasat IBUC

Ku-Band Intelligent Block Upconverter

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

Specifications are subject to change without notice.

IBUC Ku-Band Data Sheet 12/5/13

