



# Ku-Band IBUC 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 available.

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

Low phase noise exceeds 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 the **IBUC**'s 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 **troubleshooting** of terminal faults

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 IBUC 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	-120 dBc/Hz	-35 dBc/Hz
Band 2 Full Ku	13.75 to 14.50 GHz	950 to 1700 MHz	100 Hz	-130 dBc/Hz	-65 dBc/Hz
Band 3 Low Ku	12.75 to 13.25 GHz	950 to 1450 MHz	1 kHz	-143 dBc/Hz	-75 dBc/Hz
VSWR / Impedance	1.5:1 max / 50 Ohm		10 kHz	-152 dBc/Hz	-85 dBc/Hz
Input Connector	Type N female (50 Ohm)		100 kHz	-155 dBc/Hz	-95 dBc/Hz
Input Connector options	Type F (75 Ohm), TNC (50 Ohm)		1 MHz	-155 dBc/Hz	-110 dBc/Hz
Input power detector	-55 to -20 dBm				

### Gain

Small Signal Gain (L-band to RF) with attenuator set to 0 dB

4 W	67 dB min	
8 W	70 dB min	
12 W	72 dB min	
16 W	73 dB min	
20 W	74 dB min	
25 W	75 dB min	
30 W	76 dB min	
40 W	77 dB min	
50 W	78 dB min	

Attenuator range 16 dB variable in 0.1 dB steps

Gain flatness	4 W to 25 W	30 W to 50 W
Full band	3 dB p-p max	4 dB p-p max
36 MHz	1 dB p-p max	1 dB p-p max
1 MHz	0.25 dB p-p	0.25 dB p-p

Gain variation over temperature

Open loop	3 dB p-p max	4 dB p-p max
With AGC	1 dB p-p max	1 dB p-p max

### RF Output

Interface WR75 UG cover with groove

VSWR 1.5:1 max

Rated output power (P1dB)

4 W	+36 dBm min
8 W	+39 dBm min
12 W	+40.8 dBm min
16 W	+42 dBm min
20 W	+43 dBm min
25 W	+44 dBm min
30 W	+44.8 dBm min
40 W	+46 dBm min
50 W	+47 dBm min

IMD3 (2 carriers, 3 dB TOBO) -25 dBc max

Level stability with ALC  $\pm 0.5$  dB

Output power detector range Rated power to -20 dB

Power reading accuracy  $\pm 1.0$  dB max.

Spurious In Band -65 dBc

Out of Band Complies with EN 301 428 and MIL-STD 188-164

Harmonics -50 dBc max.

Output Noise Power Density

TX < -82 dBm/Hz

RX < -145 dBm/Hz

### External Reference (multiplexed on TX IFL)

Frequency	10 MHz
Level	-12 to +5 dBm
Internal Reference - optional	

### Local Oscillator Frequency

Band 1	13050 MHz
Band 2	12800 MHz
Band 3	11800 MHz
Sense	Non-Inverting

IBUC Power Supply	DC	AC
Voltage	48 $\pm$ 11 VDC	100 to 240 VAC
Option for 4 W, 8 W:	24 $\pm$ 4 VDC	
	DC via coax available on 4 W - 16 W	

### Power Consumption

4 W	77 W	85 VA
8 W	110 W	132 VA
12 W	144 W	158 VA
16 W	168 W	200 VA
20 W	220 W	250 VA
25 W	270 W	297 VA
30 W	380 W	440 VA
40 W	400 W	456 VA
50 W	550 W	600 VA

### Monitor and Control

FSK (multiplexed on TX IFL), **RS232/485**

Hand-held Terminal, TCP / IP (HTTP, Telnet, SNMP)

Environmental	4 W to 25 W	30 W to 50 W
Operating temperature	-40°C to +60°C	-40°C to +55°C
Relative humidity	100% condensing	
Altitude	10,000 ft., (3,000 m) ASL	

Mechanical	DC powered	AC powered
4 W - 8 W	12.2x7.2x4.2 in. 13 lbs	12.2x7.2x4.5 in. 14 lbs
12 W - 25 W	12.2x7.2x6.2 in. 18 lbs	12.2x7.2x6.5 in. 19 lbs
30 W - 50 W	12.2x7.2x6.7 in. 18.5 lbs	12.2x7.2x7.0 in. 19.5 lbs

Specifications are subject to change without notice.

Ku-Band IBUC Data Sheet 08/06/10



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