



# Low Profile Ku-Band IBUC Intelligent Block Upconverter

## IBUC Advantages

12 W through 50 W models available.

Low profile ideal for mounting on vehicles.

Integrated BUC/SSPA for higher performance and reliability.

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 modern 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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## Low Profile 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
			1 kHz	-143 dBc/Hz	-75 dBc/Hz
VSWR / Impedance	1.5:1 max / 50 Ohm		10 kHz	-152 dBc/Hz	-85 dBc/Hz
Connector	Type N female (50 Ohm)		100 kHz	-155 dBc/Hz	-95 dBc/Hz
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

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	<u>12 W to 25 W</u>	<u>30 W to 50 W</u>
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)

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 ±0.5 dB

Output power detector range Rated power to -20 dB

Power reading accuracy ± 1.0 dB max.

Spurious	In Band	Out of Band
	-65 dBc	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
Sense	Non-Inverting

### IBUC Power Supply

Voltage 48 ± 11 VDC

Power Consumption

12 W	144 W
16 W	168 W
20 W	220 W
25 W	270 W
30 W	380 W
40 W	400 W
50 W	550 W

### Monitor and Control

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

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

**Environmental** 12 W to 25 W 30 W to 50 W

Operating temperature -40°C to +55°C -40°C to +50°C

Relative humidity 100% condensing

Altitude 10,000 ft., (3,000 m) ASL

### Mechanical

16.0x14.1x2.9 in.	26 lbs
406x359x74 mm	12 kg

Specifications are subject to change without notice.

Low Profile Ku-Band IBUC Data Sheet 08/06/10



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