

Low Profile Ku-Band IBUC Intelligent Block Upconverter

IBUC Advantages

12W through 50W models available.

Low profile ideal for mounting on vehicles.

Integrated BUC/SSPA packaging for higher performance and reliability.

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

Low phase noise exceeds IESS308/309 requirements by a minimum of 10dB.

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

AGC or ALC circuits hold gain or output level constant.

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

Advanced customer interfaces:

- TCP/IP HTTP with embedded web pages.
- SNMP
- TELNET through TCP/IP
- FSK through TX IFL cable.
- RS232/485 serial port.
- Handheld terminal

1+1 switching logic built into IBUC eliminates expensive external controller.



Compared to traditional 70 MHz solutions, the **IBUC** offers significant benefits:

- Lower terminal cost
- Simpler 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 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
- Alarm history

As always, the **IBUC** carries Terrasat's guarantee of rated output power across the operating band and specified temperature range. Unique in the **IBUC** are internal AGC and ALC functions to satisfy demanding applications with stringent specifications.

The **IBUC** is manufactured in our modern Morgan Hill, CA facility to exacting quality standards. Each unit undergoes rigorous testing, burn-in at elevated temperature, BER, and final testing over temperature so that you are assured of a high quality, reliable product.

Ku-Band IBUC *Low Profile* Block Upconverter

L-Band Input

Frequency range	
Band 1	950 to 1450 MHz
Band 2	950 to 1700 MHz
VSWR / Impedance	1.5:1 max / 50 ohms
Connector	Type N female
Input power detector range	-55 to -20 dBm

Gain

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

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

Attenuator range 16 dB in 0.1dB steps

Gain flatness	<u>12W to 25W</u>	<u>30W to 50W</u>
Full band	3 dB p-p max	4dB p-p max
36 MHz	1dB p-p max	1dB 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

Frequency range	
Band 1	14.00 to 14.50 MHz
Band 2	13.75 to 14.50 MHz
Interface	WR75 UG cover with groove
VSWR	1.5:1 max

Rated output power (P1dB across temp. and freq.)

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

IMD3 (2 carriers, 30 kHz apart, 9dB BO/carrier) -30 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	Complies with EN 301 428
Harmonics	-50 dBc max.

SSB Phase Noise

Offset	External refer-	IBUC
10Hz	-120 dBc/Hz	-35 dBc/Hz
100Hz	-130 dBc/Hz	-65 dBc/Hz
1 kHz	-143 dBc/Hz	-75 dBc/Hz
10 kHz	-152 dBc/Hz	-85 dBc/Hz
100kHz	-155 dBc/Hz	-95 dBc/Hz
1MHz	-155 dBc/Hz	-110 dBc/Hz

External Reference (multiplexed on TX IFL)

Frequency	10 MHz
Level	-12 to +5 dBm

Local Oscillator

LO Frequency	
Band 1	13050 MHz
Band 2	12800 MHz
Sense	Non-inverting

IBUC DC Supply

Multiplexed on TX IFL	12W, 16W
Connector	ACS02E14S-6P(553)
Voltage / Current	+ or - 48 VDC
12W	3.0A @ 48VDC 144W
16W	3.5A @ 48VDC 168W
20W	6.0A @ 48VDC 288W
25W	6.5A @ 48VDC 312W
30W	9.5A @ 48VDC 456W
40W	11A @ 48VDC 528W
50W	12A @ 48VDC 576W

Monitor and Control

M & C Connector PT02E-14-19S(027)

Interfaces:

FSK (multiplexed on TX IFL)

RS485

RS232

TCP / IP Telnet, HTTP

SNMP

Handheld Terminal

Environmental

	<u>12W to 25W</u>	<u>30W to 50W</u>
Operating temperature	-40°C to +55°C	-40°C to +50°C
Relative humidity	100% condensing	
Altitude	10,000 ft	ASL

Mechanical

	Weight
16.0"(L)x14.1"(W)x2.9"(H)	23 lb.
406mm x 359mm x 74mm	10 kg



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Specifications are subject to change without notice