

## The IBUC Advantage

All IBUCs are equipped with cutting-edge intelligent technology:

- Highest quality & exacting performance guaranteed through individual unit testing over temperature
- Superior linearity for maximum useable output power
- Amplifier overdrive protection
- User-selectable AGC/ALC for optimal performance & compatibility with modem adaptive coding
- New high capacity microprocessor & extended M&C functions
- Weatherized RJ45 Ethernet interface for simplified connection

### ULTIMATE MANAGEMENT & CONTROL

- » Local Web Interface & NMS-Friendly SNMP «
- » 70+ User Configurable Thresholds & Alarms «
- » Upgraded Event Log with 1,000 Sensor Readings «
- » Performance Trend Analysis Tools & Statistical logs «
- » Embedded Web Pages for Universal Web Browser Access «

## Ku-Band IBUC 2e

Low Energy Consumption Model | 4W to 16W



New Cyber  
Hardened  
version  
available

Multicarrier  
Application

4W  
to  
16W

GaAs  
Tech  
Amplifier

3  
Year  
Warranty

## Applications

When the requirement calls for a full-featured Block Upconverter that is powered by the modem, the **IBUC 2e** is an excellent fit. The **IBUC 2e** draws less power from the modem ODU power supply than the **IBUC 2** model. Auto-ranging DC input power is supplied via the IFL coaxial cable only. There is no external power connector.

Compatibility with a specific model modem is based on the ODU power supply capacity of that modem. It is also important to take into consideration voltage drop over the IFL cable.

### Options

- 1+1 Transmit Redundancy with Eco-Mode
- High Stability Internal 10 MHz Reference with Auto-Detection
- Three Factory Select Bands (Low, Std, and Full Ku-Bands)
- Mounting Brackets
- Optional Type N, F-Type, or TNC Input Connectors
- Handheld Terminal
- Cyber Hardened Core M&C
- WGS (Wideband Global SATCOM) compatible

**Note:** Since not all the optional features can be combined, please, contact our sales team for further info at: [Sales@Terrasatinc.com](mailto:Sales@Terrasatinc.com)

# Ku-Band IBUC 2e

## 4W to 16W

Frequency Range	RF	IF
Band 1 Std Ku	14.0 to 14.50 GHz	950 to 1450 MHz
Band 2 Full Ku	13.75 to 14.50 GHz	950 to 1700 MHz
Band 3 Low Ku	12.75 to 13.25 GHz	950 to 1450 MHz

### Input

VSWR/ Impedance	1.5:1 / 50 Ohm	
Input Connector	Type N Female (50 Ohm)	
Input Connector Options	Type F (75 Ohm), TNC (50 Ohm)	
Input Power Detector	Standard Version <sup>1</sup>	WGS Version <sup>2</sup>
Range Options:	-55 to -20 dBm	-35 to 0 dBm

### Gain

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

	Standard Version <sup>1</sup>	WGS Version <sup>2</sup>
4W	67 dB min	56 dB min
8W	70 dB min	59 dB min
12W	72 dB min	61 dB min
16W	73 dB min	62 dB min

Attenuator Range 30 dB variable in 0.1 dB steps

<sup>1</sup>Terrasats Standard Version has a higher gain to reduce the need for line amplifiers in long cable runs (IFL).

<sup>2</sup>WGS Compatible Versions have lower gain allowing operations to drive the IF signal up to 0 dBm.

Gain Flatness	Bands 1 & 3	Band 2
Full Band	3 dB p-p max	4 dB p-p max
36 MHz	1 dB p-p max	1.5 dB p-p max
1 MHz	0.25 dB p-p max	0.25 dB p-p max

### 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 Cover with Groove
VSWR	1.5:1 max

### Output Power

	P <sub>1dB</sub>
4W	+36 dBm min
8W	+39 dBm min
12W	+40.8 dBm min
16W	+42 dBm min

P<sub>Lin</sub> is the maximum linear power as defined by MIL STD 188-164C

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 max
Spurious	
In Band	-65 dBc
Out Band	Complies with EN 301 428/430 & MIL STD 188-164C
Harmonics	-50 dBc max
Output Noise Power Density	
	TX <- 84 dBm/Hz
	RX <- 145 dBm/Hz

SSB Phase Noise	External Reference	IBUC 2e
10 Hz	-115 dBc/Hz	-50 dBc/Hz
100 Hz	-140 dBc/Hz	-75 dBc/Hz
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

### External Reference (Multiplexed on TX IFL)

Frequency: 10 MHz Level: -12 to +5 dBm

Internal Reference: Optional feature includes auto-detection of External Reference

### Local Oscillator Frequency

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

### IBUC Power Supply

Voltage	4W, 8W	18 to 75 VDC
	12W, 16W	37 to 60 VDC
		DC via coax only

### Power Consumption

4W	55 W
8W	65 W
12W	110 W
16W	120 W

### Monitor & Control

Ethernet (HTTP, Telnet, SNMPv2c) via RJ45 Connector

RS232/485, Handheld Terminal via MS-Type Connector

FSK multiplexed on TX IFL

### Monitor & Control - For Cyber Hardened Versions

Ethernet (HTTPS, SSHv2, SNMPv3 with USM and VACM) via RJ45 Connector

RS232 via MS-Type Connector

XSS (Cross Site Scripting)

Two NTP Servers Providing Redundancy

### FIPS 140-2 Compatible

The Cyber Hardened versions have embedded new high-end Cyber Security features, from hardware to software, including a new controller board and the new firmware.

For further details, refer to the Cyber Hardened IBUCs' datasheet at

[www.terrasatinc.com/products/](http://www.terrasatinc.com/products/) or at the [Cyber Hardened webpage](http://www.terrasatinc.com/terrasat-communications-launches-new-cyber-hardened-intelligent-bucs/) on <https://www.terrasatinc.com/terrasat-communications-launches-new-cyber-hardened-intelligent-bucs/>

### Environmental

Operating Temperature	-40°C to +60°C
Relative Humidity	100% Condensing
Altitude	10,000 ft (3,000 m) ASL

### Mechanical

4W, 8W	10.5 x 6 x 3.8 in. 267 x 152 x 97 mm 9.3 lbs (4.2 kgs)
12W, 16W	10.5 x 6 x 5.2 in. 267 x 152 x 132 mm 10.8 lbs (4.9 kgs)

Specifications subject to change without notice.

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