

## 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 «

## Applications

The **IBUC G** is a full-featured Intelligent Block Upconverter with Gallium Nitride amplifier technology. GaN advantages include higher power in a smaller outdoor enclosure and low power consumption. Designed for long lifetime performance in demanding environments.

Multiple sensors & a new, high-capacity microprocessor provide tools to optimize remote terminal performance. The **IBUC G** is a popular choice for satcom uplinks for telecom, government, defense and other demanding applications.

### Options

- 1+1 Transmit Redundancy
- 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

## Ku-Band IBUC G

100W Compact GaN IBUC for multi-carrier application



New Cyber  
Hardened  
version  
available

Multicarrier  
Application

100W  
 $P_{Lin}$  50W

GaN  
Tech  
Amplifier

3  
Year  
Warranty

**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 G

Frequency Range	RF	IF
Band 1 Std Ku-Band	14.00 to 14.50 GHz	950 to 1450 MHz
Band 2 Full Ku-Band	13.75 to 14.50 GHz	950 to 1700 MHz
Band 3 Low Ku-Band	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>
100W (All Bands)	81 dB min	70 dB min

<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.

Attenuator Range	30 dB variable in 0.1 dB steps
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## Gain Flatness

Full Band	4 dB p-p Max
36 MHz	1.5 dB p-p Max
1 MHz	0.25 dB p-p

## Gain Variation Over Temperature

Open Loop	3 dB p-p max
With AGC	1 dB p-p max

## RF Output

Interface	WR75 Cover with Groove
VSWR	1.3:1 max

## Output Power

	All Bands 100W
P <sub>Sat</sub> (typ)	+50 dBm
P <sub>Lin</sub> (min)	+47 dBm

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

Two Tone measured at 5 MHz and 150 MHz spacing.

19 dB min of NPR (Noise Power Ratio) at 3 dB B.O from P<sub>Lin</sub>.

Level stability with ALC	± 0.5 dB
Output power detector range	Rated power to -20 dB
Power reading accuracy	± 1.0 dB max.

## Spurious @P<sub>Lin</sub>

In Band	-65 dBc
Out of Band	Complies with EN 301 428/430 & MIL-STD 188-164C

Harmonics @ P <sub>Lin</sub>	-60 dBc max.
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SSB Phase Noise	External Reference	IBUC G
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	AC	50 Hz / 60 Hz
	100 to 240 VAC	
Power Consumption	P <sub>Sat</sub> / P <sub>Lin</sub>	
100W (All Bands)	650VA / 550VA	

## 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](https://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 +55°C
Relative Humidity	100% Condensing
Altitude	10,000 ft (3,000 m) ASL

## Mechanical

Size	12.2 x 7.2 x 6.8 x in. 310 x 183 x 173 mm
Weight	19.5 lbs 8.8 kg

(Dimensions not including isolators)

Specifications subject to change without notice.

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## Questions? Contact Us

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