

## 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 new Ka-Band **IBUC G** delivers high output power for high data rate Ka-Band applications. Excellent linearity & phase noise performance support higher order modulation satellite links. Ideal for applications such as telecom & network hubs. Multiple sensors & a new, high-capacity microprocessor provide tools to optimize terminal performance.

The Dual-Band version includes selectable multiband controls for multicarrier transmissions, deploying high versatility for your SATCOM terminals. Gallium Nitride amplifier technology enables smaller packaging for antenna mounting, eliminating losses in long waveguide runs. The greater power efficiency translates to an appreciable reduction in power consumption. The GaN **IBUC G** outperforms older TWTA's by providing the maximum linear output power, combining the best of solid-state reliability and advanced technology.

### Options

- 1+1 Transmit Redundancy with Eco-Mode
- High Stability Internal 10 MHz Reference with Auto-Detection
- Mounting Brackets
- N-Type or F-Type Input Connectors
- Handheld Terminal
- WGS (Wideband Global SATCOM) compatible
- Cyber Hardened Core M&C

## Ka-Band | Dual-Band IBUC G

80W & 100W GaN **IBUC** for  
Multiband, Multi-Orbit, and Multicarrier application  
Two Software Selectable Sub-Bands



New Cyber  
Hardened  
Core version  
available

Multiband  
Selectable  
RF + IF

Multicarrier  
Application

100W  
 $P_{lin}$  50W  
80W  
 $P_{lin}$  40W

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)

# Dual-Band Ka-Band 80W & 100W IBUC G

## For Multiband, Multicarrier Application

### Frequency Range

	Software Selectable	Software Selectable
	RF	IF
Two Software Selectable Sub-Bands	29.0 to 30.0 GHz	950 to 1950 MHz
	30.0 to 31.0 GHz	1.0 to 2.0 GHz

Note: Any RF can be software selected with any IF

### Input

VSWR/ Impedance	1.5:1 / 50 Ohm	
Input Connector	Type N Female (50 Ohm)	
Input Connector Options	Type F (75 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>
80W	79 dB min	69 dB min
100W	79 dB min	70 dB min

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

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

Attenuator Range	30 dB variable in 0.1 dB steps	
Gain Flatness		
Full Band	4 dB p-p max	for any Sub-Band
54 MHz	2 dB p-p max	

### Gain Variation Over Temperature

Open Loop	4 dB p-p max
With AGC	1 dB p-p max

### RF Output

Interface	WR28 UG Cover with Groove
VSWR	1.3:1 max

### Output Power

	$P_{sat}$ (typ)	$P_{Lin}$ (min)
80W	+49 dBm	+46 dBm
100W	+50 dBm	+47 dBm

$P_{Lin}$  is the maximum linear power as defined by MIL STD 188-164C

Level stability with ALC	± 0.5 dB
Output power detector range	Rated power to -20 dB
Power reading accuracy	± 1.0 dB max.
Spurious @ $P_{Lin}$	
In Band	-60 dBc
Out of Band	-60 dBc
	Complies with ETSI EN 301 428/430 & MIL-STD 188-164C
AM/PM Conversion	<2 Deg/dB @ $P_{Linear}$
Output Noise Power Density	Tx < -73 dBm/Hz

### SSB Phase Noise

	External Reference	IBUC G
10 Hz	-125 dBc/Hz	-43 dBc/Hz
100 Hz	-150 dBc/Hz	-63 dBc/Hz
1 KHz	-160 dBc/Hz	-73 dBc/Hz
10 KHz	-165 dBc/Hz	-83 dBc/Hz
100 KHz	-165 dBc/Hz	-93 dBc/Hz
1 MHz	N/A	-103 dBc/Hz

### External Reference (Multiplexed on TX IFL)

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

Internal Reference is an optional feature that includes auto-detection of External Reference

### Local Oscillator Frequency

Sense	Non-Inverting
Sub-Band 1	28.0 GHz
Sub-Band 2	29.0 GHz

### IBUC Power Supply

	AC
Voltage	100 to 240 VAC
	50Hz/60Hz
Power Consumption	@ $P_{Lin}$ / $P_{Sat}$
80W	600/850 VA
100W	700/950 VA

### Monitor & Control - For Standard Units

Ethernet (HTTP, Telnet, SNMPv2c) via RJ45 Connector

RS232/485, Handheld Terminal via MS-Type Connector

### Monitor & Control - For Cyber Hardened Core Versions (Optional)

Ethernet (HTTPS, SSHv2, Selectable SNMP V1, V2, V3 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.https://terrasatinc.com/terrasat-communications-launches-new-cyber-hardened-intel-ligent-bucs/](https://terrasatinc.com/terrasat-communications-launches-new-cyber-hardened-intel-ligent-bucs/)

### Environmental

#### Operating Temperature

80W & 100 W	-40°C to +55°C
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#### Relative Humidity

100% Condensing

#### Altitude

10,000 ft (3,000 m) ASL

### Mechanical

	AC Powered
80W & 100W	12.2 x 7.2 x 6.8 in.
	310 x 183 x 173 mm
	19.5 lbs
	8.8 kgs

Specifications subject to change without notice.

Updated: March 13th, 2024