

## 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 80W Ka-Band IBUC **G** delivers the highest output power in the product line for high data rate Ka-Band applications. Excellent linearity & phase noise performance support higher order modulation satellite links. A good choice for applications such as telecom & network hubs. Multiple sensors & a new, high-capacity microprocessor provide tools to optimize terminal performance.

Gallium Nitride amplifier technology enables smaller packaging for antenna mounting, eliminating the losses in long waveguide runs. And the greater power efficiency translates to an appreciable reduction in power consumption. Comparing favorably with earlier technology TWTAs, the GaN IBUC **G** delivers maximum linear output power with the reliability of solid state.

### Options

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

## Ka-Band IBUC **G**

80W Compact GaN IBUC for multi-carrier application



New Cyber  
Hardened  
version  
available

Multicarrier  
Application

80W  
P<sub>Lin</sub> 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)

# Ka-Band IBUC G For Multicarrier Application

<b>Frequency Range</b>	RF	IF
	29.0 to 30.0 GHz	1.0 to 2.0 GHz
	29.5 to 30.0 GHz	1.0 to 1.5 GHz
	30.0 to 31.0 GHz	1.0 to 2.0 GHz
<b>Input</b>		
<b>VSWR/ Impedance</b>	1.5:1 / 50 Ohm	
<b>Input Connector</b>	Type N Female (50 Ohm)	
<b>Input Connector Options</b>	Type F (75 Ohm), TNC (50 Ohm)	
<b>Input Power Detector</b>	<b>Standard Version<sup>1</sup></b>	<b>WGS Version<sup>2</sup></b>
Range Options:	-55 to -20 dBm	-35 to 0 dBm
<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.		
<b>Gain</b>		
<b>Small Signal Gain</b> (L-band to RF) with attenuator set to 0 dB	<b>Standard Version<sup>1</sup></b>	<b>WGS Version<sup>2</sup></b>
80W	77 dB min	69 dB min
<b>Attenuator Range</b>	30 dB variable in 0.1 dB steps	
<b>Gain Flatness</b>		
Full Band	4 dB p-p max	
36 MHz	1.5 dB p-p max	
<b>Gain Variation Over Temperature</b>		
Open Loop	4 dB p-p max	
With AGC	1 dB p-p max	
<b>RF Output</b>		
Interface	WR28 UG Cover with Groove	
VSWR	1.3:1 max	
<b>Output Power</b>		
	$P_{sat}$ (typ)	$P_{Lin}$ (min)
80W	+49 dBm	+46 dBm
		19 dB min of NPR (Noise Power Ratio) at: +43 dBm
$P_{Lin}$ is the maximum linear power as defined by MIL STD 188-164C		
Two tone measured at 5 MHz and 150 Mhz spacing		
Level stability with ALC	± 0.5 dB	
Output power detector range	Rated power to -20 dB	
Power reading accuracy	± 1.0 dB max.	
<b>Spurious @<math>P_{Lin}</math></b>		
In Band	-60 dBc	
Out of Band	-60 dBc Complies with EN 301 428/430 & MIL-STD 188-164C	
AM/PM Conversion	<2 Deg/dB @ $P_{Linear}$	
<b>Output Noise Power Density</b>		
	Tx < - 75 dBm/Hz	

<b>SSB Phase Noise</b>	External Reference	<b>IBUC G</b>
10 Hz	-115 dBc/Hz	-43 dBc/Hz
100 Hz	-140 dBc/Hz	-68 dBc/Hz
1 KHz	-150 dBc/Hz	-78 dBc/Hz
10 KHz	-155 dBc/Hz	-83 dBc/Hz
100 KHz	N/A	-92 dBc/Hz
1 MHz	N/A	-102 dBc/Hz

### External Reference (Multiplexed on TX IFL)

Frequency & Level	10 MHz	-12 to +5 dBm
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**Internal Reference:** Optional feature includes auto-detection of External Reference

### Local Oscillator Frequency

Sense	Non-Inverting
Band 1	28000 MHz
Band 2	28500 MHz
Band 3	29000 MHz

### IBUC Power Supply

	AC
Voltage	100 to 240 VAC   50 Hz / 60 Hz
Power Consumption	@ $P_{Lin}$ / $P_{Sat}$
80W	550/700 VA

### 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	80 W -40°C to +55°C
Relative Humidity	100% Condensing
Altitude	10,000 ft (3,000 m) ASL

### Mechanical

	AC Powered
80W	16.2 x 10 x 7.4 x in. 411 x 254 x 188 mm
	33 lbs 15 kgs

Specifications subject to change without notice.

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## Questions? Contact Us

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