

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 & 100W 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 | Single Band IBUC **G**

80W & 100W GaN IBUC for multicarrier application



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

Ka-Band 80W & 100W IBUC \mathcal{G}

For Multicarrier Application

Frequency Range Options	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

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 ¹	WGS Version ²
Range Options:	-55 to -20 dBm	-35 to 0 dBm

¹Terrasats Standard Version has a higher gain to reduce the need for line amplifiers in long cable runs (IFL).
²WGS Compatible Versions have lower gain allowing operations to drive the IF signal up to 0 dBm.

Gain

Small Signal Gain (L-band to RF) with attenuator set to 0 dB		
	Standard Version ¹	WGS Version ²
80W	79 dB min	69 dB min
100W	79 dB min	70 dB min
Attenuator Range	30 dB variable in 0.1 dB steps	

Gain Flatness

Full Band	4 dB p-p max
36 MHz	1.5 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 301 360
 - ETSI EN 301 459
 - MIL-STD 188-164C

AM/PM Conversion	<2 Deg/dB @ P_{Linear}
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Output Noise Power Density	Tx < -73 dBm/Hz
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SSB Phase Noise	External Reference	IBUC \mathcal{G}
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	450/575 VA
100W	500/600 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 Redundacy

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/ 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

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

Specifications subject to change without notice.

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Questions? Contact Us

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PART NUMBER CONFIGURATION | OPTIONS AVAILABLE FOR:
Ka-Band 80W to 160W GaN IBUCs - Single Band / Single Conversion

Cyber Hardened Option Part Number Example/Std Offer: IBB300310-2NA160QKWW-0000

IBB	XXXXXX	-	X	X	A	XXXX	K	W	W	-	XXXX	
						080U	80W				0000	Std Options and Std Specs
						100U	100W				0218	WGS Compatibility Option
						125Q	125W					
						160Q	150W					
					A	AC Powered						
					N	N-Type IF Input Connector					W	Std Terrasat Inc Color (White)
					F	F-Type IF Input Connector					X	Other Colors (Please, Provide Color Specs)
					0	Non-Inverting + External 10MHz						
					2	Non-Inverting + Internal 10MHz						
290300	RF: 29.0-30.0 GHz IF: 1.0-2.0 GHz											
295300	RF: 29.5-30.0 GHz IF: 1.0-1.5 GHz											
300310	RF: 30.0-31.0 GHz IF: 1.0-2.0 GHz											
275300	RF: 27.5-30.0 GHz IF: 1.25-3.75 GHz (Wide Conversion)											

Std M&C Option Part Number Example/Std Offer: IBR290300-2NA161WW-0019

IBR	XXXXXX	-	X	X	X	XXX	W	W	-	XXXX	
						081	80W			0019	Std (X-Band) unit with Multicarrier compatibility only
						101	100W			2018	WGS Compatibility Option + Multicarrier
						126	125W				
						161	150W				
					A	AC Powered				W	Std Terrasat Inc Color (White)
					5	DC Powered				X	Other Colors (Please Provide Color Specs)
					N	N-Type IF Input Connector					
					F	F-Type IF Input Connector					
					0	Non-Inverting + External 10MHz					
					2	Non-Inverting + Internal 10MHz					
290300	RF: 29.0-30.0 GHz IF: 1.0-2.0 GHz or 950-1950 MHz										
295300	RF: 29.5-30.0 GHz IF: 1.0-1.5 GHz										
300310	RF: 30.0-31.0 GHz IF: 1.0-2.0 GHz or 950-1950 MHz										
275300	RF: 27.5-30.0 GHz IF: 1.25-3.75 GHz (Wide Conversion)										

Note: Consult Terrasat Communications Inc for more options.