

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 Tri-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, F-Type, or TNC Input Connectors
- Handheld Terminal
- WGS (Wideband Global SATCOM) compatible
- Cyber Hardened Core M&C

Ka-Band | Tri-Band **IBUC G**

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



Preliminary image/subject to change(s).

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

Tri-Band Ka-Band 80W & 100W IBUC G For Multiband, Multicarrier Application

	Software Selectable	Software Selectable
Frequency Range	RF	IF
	27.5 to 28.5 GHz	950 to 1950 MHz
Three Software Selectable Sub-Bands	28.25 to 29.25 GHz	1.0 to 2.0 GHz
	29.0 to 30.0 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), TNC (50 Ohm)	
Input Power Detector	Standard Version ¹	WGS Version ²
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 ¹	WGS Version ²
80W	79 dB min	69 dB min
100W	79 dB min	70 dB min

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

²The 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 301 360
	- ETSI EN 301 459
	- 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	-115 dBc/Hz	-43 dBc/Hz
100 Hz	-140 dBc/Hz	-63 dBc/Hz
1 KHz	-150 dBc/Hz	-73 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: 10 MHz **Level:** -12 to +5 dBm

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

Local Oscillator Frequency

	Sense	Non-Inverting	Non-Inverting
		IF: 1.0 to 2.0 GHz	IF: 950 to 1950 MHz
Sub-Band 1		26.50 GHz	26.55 GHz
Sub-Band 2		27.25 GHz	27.30 GHz
Sub-Band 3		28.00 GHz	28.05 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 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

Relative Humidity

100% Condensing

Altitude

10,000 ft (3,000 m) ASL

Mechanical

	AC Powered
80W & 100W	16.2 x 10 x 10.2 in.
	411 x 254 x 259 mm
	45 lbs 20 kgs

Specifications subject to change without notice.

Updated: July 30th, 2024



PART NUMBER CONFIGURATION | OPTIONS AVAILABLE FOR:

Ka-Band 80W to 160W GaN IBUCs - Multiband, Tri-Band, Dual Band / Software Selectable Conversion

Cyber Hardened Option Part Number Example/Std Offer: IBI290310-2NA160QKWW-0000

Std M&C Option Part Number Example/Std Offer: IBE290310-2NA160QKWW-0000

IB	X	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					
		275300					Tri-Band: Software Selectable RF+IF → RF: 27.5 to 30.0 GHz {(27.5-28.5GHz)+(28.25-29.25GHz)+(29.0-30.0GHz)} IF: 1.0-2.0 GHz or 950-1950 MHz					
		290310					Dual-Band: Software Selectable RF+IF → RF: 29.0 to 31.0 GHz {(29.0-30.0GHz)+(30.0-31.0GHz)} IF: 1.0-2.0 GHz or 950-1950 MHz					
	I	Cyber Hardened Core M&C										
	E	Standard Terrasat Inc M&C										

Note: Consult Terrasat Communications Inc for more options.