

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 **IBUC G** now supports multicarrier transmission across the entire Ku-band spectrum. The **IBUC G** delivers the highest available output power, making it an ideal solution for high data rate applications such as maritime, broadcast and network hubs. Terrasat's unique implementation is designed for long lifetime performance in demanding environments.

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 (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

300W & 400W GaN IBUC for multicarrier application



New Cyber
Hardened
version
available

Multicarrier
Application

300W P_{Lin} 150W
&
400W P_{Lin} 200W

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

Ku-Band 300W | 400W IBUC

for Multicarrier Application

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 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 options:

	Standard Version ¹	WGS Version ²
300W	83 dB min	75 dB min
400W	83 dB min	76 dB min

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.

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	4 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

	300W	400W
at P _{Sat} (typ)	54.8 dBm	56.0 dBm
at P _{Lin} (min)	51.8 dBm	53.0 dBm
	(150W)	(200W)

19 dB min of NPR (Noise Power Ratio) at: 48.8 dBm 50.0 dBm

P_{Lin} is the maximum linear power as defined by MIL STD 188-164C
Two-tone measured at 5MHz and 150 MHz spacing .

Level stability with ALC	± 0.5 dB
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Output power detector range	Rated power to -20 dB
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Power reading accuracy	± 1.0 dB max.
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Spurious at P_{Lin}

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

Harmonics at P _{Lin}	-60 dBc max.
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Output Noise Power Density

Tx <-	-73 dBm/Hz
Rx <-	-145 dBm/Hz

SSB Phase Noise

	External Reference	IBUC
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 200 to 240 VAC | 50 Hz / 60 Hz

Power Consumption	300W	400W
at P _{Sat}	2750 VA	3100 VA
at P _{Lin}	2250 VA	2500 VA

Monitor & Control - For Standard Versions

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/ or at the [Cyber Hardened webpage](http://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

Weight	83 lbs
	38 kg
Size	29 x 15 x 10.1 x in.
	737 x 381 x 257 mm

Specifications subject to change without notice.

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Questions? Contact Us

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PART NUMBER CONFIGURATION | OPTIONS AVAILABLE FOR:

Ku-Band 300W & 400W GaN IBUC G

Cyber Hardened Option Part Number

Example/Std Offer: IBB137145-2NC400NKWW-0000

IBB XXXXXX - X X C XXX N K W W - XXXX

					Power Output						Optional Specs & Features
					300 300W						0000 Std Options and Std Specs
					400 400W						0218 WGS Compatibility Option
					Power Supply					Color	
				C	AC Powered					W	Std Terrasat Inc Color (White)
										X	Other Colors (Please, Provide Color Specs)
					IF Input Connector						
				N	N-Type IF Input Connector						
				F	F-Type IF Input Connector						
					Spectral Sense and 10MHz Reference						
				0	Non-Inverting + External 10MHz						
				2	Non-Inverting + Internal 10MHz Std (30ppb stability)						
				4	Non-Inverting + Internal 10MHz High Stability (5ppb)						
					RF Frequency Plan						
140145					14.000-14.500 GHz (Std Ku-Band)						
137145					13.750-14.500 GHz (Full Ku-Band)						
127132					12.750-13.250 GHz (Low Ku-Band)						

Std M&C Option Part Number

Example/Std Offer: IBR137145-2NA401WW-0019

IBR XXXXXX - X X C XXX W W - XXXX

					Power Output						Optional Specs & Features
					301 300W						0019 Std product with Multicarrier compatibility only
					401 400W						2018 WGS Compatibility Option + Multicarrier
					Power Supply					Color	
				C	AC Powered					W	Std Terrasat Inc Color (White)
										X	Other Colors (Please Provide Color Specs)
					IF Input Connector						
				N	N-Type IF Input Connector						
				F	F-Type IF Input Connector						
					Spectral Sense and 10MHz Reference						
				0	Non-Inverting + External 10MHz						
				2	Non-Inverting + Internal 10MHz Std (30ppb stability)						
				4	Non-Inverting + Internal 10MHz High Stability (5ppb)						
					RF Frequency Plan						
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Note: Consult Terrasat Communications Inc for more options.