

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 **IBUC 2G** delivers proven superior performance in high data rate, & higher order modulation satellite links. With its rugged, compact design, the Ka-band **IBUC 2G** is suitable for both mobile & long-term fixed satcom terminals.

Multiple sensors & a new, high-capacity microprocessor provide tools to optimize remote terminal performance. The **IBUC 2G** is a popular choice for satcom uplinks for telecom, government, defense and other demanding applications.

Options

- 1+1 Transmit Redundancy with Eco-Mode
- High Stability Internal 10 MHz Reference with Auto-Detection
- Three Factory Select Bands
- AC or DC Input Models
- 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 2G**

5W to 50W Compact GaN **IBUC** for multicarrier applications



New Cyber
Hardened
Core version
available

Multicarrier
Application

5W
to
50W

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

Ka-Band Single Band IBUC 2G for Multicarrier Application

Frequency Range Options	RF	IF
Band 1	29.0 to 30.0 GHz	1.0 to 2.0 GHz
Band 2	29.5 to 30.0 GHz	1.0 to 1.5 GHz
Band 3	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

Gain

Small Signal Gain (L-band to RF) with attenuator set to 0 dB

	Standard Version ¹	WGS Version ²
5W	68 dB min	57 dB min
10W	71 dB min	60 dB min
16W	73 dB min	62 dB min
20W	74 dB min	63 dB min
25W	75 dB min	64 dB min
40W	77 dB min	66 dB min
50W	78 dB min	67 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
------------------	--------------------------------

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)	19 dB min of NPR (Noise Power Ratio) at:
5W	+37 dBm	+34 dBm	+31 dBm
10W	+40 dBm	+37 dBm	+ 34 dBm
16W	+42 dBm	+39 dBm	+ 36 dBm
20W	+43 dBm	+40 dBm	+ 37 dBm
25W	+44 dBm	+41 dBm	+ 38 dBm
40W	+46 dBm	+43 dBm	+ 40 dBm
50W	+47 dBm	+44 dBm	+ 41 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.
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 < - 74 dBm/Hz

SSB Phase Noise	External Reference	IBUC 2G
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: 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	28.0 GHz
Band 2	28.5 GHz
Band 3	29.0 GHz

IBUC Power Supply

DC via coax available on 5W - 10W

	DC	AC
Voltage	48 ± 11 VDC	100 ± 240 VAC 50 Hz / 60 Hz
Power Consumption	@ P _{Lin} / P _{Sat}	@ P _{Lin} / P _{Sat}
5W	65/80 W	70/90 VA
10W	80/110 W	90/120 VA
16W	130/175 W	140/180 VA
20W	135/180 W	150/200 VA
25W	150/200 W	170/220 VA
40W	270/360 W	300/400 VA
50W	330/440 W	360/480 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/ 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

5 to 10 W -40°C to +60°C

16 to 50 W -40°C to +55°C

Relative Humidity 100% Condensing

Altitude 10,000 ft (3,000 m) ASL

Mechanical

	DC Powered	AC Powered
5W-10W	10.5 x 6 x 3.8 in. 267 x 152 x 97 mm	10.5 x 6 x 4.2 in. 267 x 152 x 107 mm
	9.5 lbs 4.3 kgs	10.5 lbs 4.8 kgs
16W-50W	10.5 x 6 x 5.7 in. 267 x 152 x 145 mm	10.5 x 6 x 6.1 in. 267 x 152 x 155 mm
	11.5 lbs 5.2 kgs	12.8 lbs 5.8 kgs

Specifications subject to change without notice.

Updated: Aug 16th, 2024

PART NUMBER CONFIGURATION | OPTIONS AVAILABLE FOR:

Ka-Band 5W to 50W GaAs IBUCs - Single Band / Single Conversion

Cyber Hardened Option Part Number

Example/Std Offer: IBB290300-2NA050DKWW-0000

IBB	XXXXXX	-	X	X	X	XXX	D	K	W	W	-	XXXX
						005 5W						0000 Std Options and Std Specs
						010 10W						0218 WGS Compatibility Option
						020 20W						
						025 25W				W		Std Terrasat Inc Color (White)
						040 40W				X		Other Colors (Please, Provide Color Specs)
						050 50W						
						A						AC Powered
						5						DC Powered, No Power Thru Coax, 48 ± 11 VDC
						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

Std M&C Option Part Number

Example/Std Offer: IBR290300-2NA051WW-0019

IBR	XXXXXX	-	X	X	X	XXX	W	W	-	XXXX
						006 5W				0019 Std (X-Band) unit with Multicarrier compatibility only
						011 10W				2018 WGS Compatibility Option + Multicarrier
						021 20W				
						026 25W		W		Std Terrasat Inc Color (White)
						041 40W		X		Other Colors (Please Provide Color Specs)
						051 50W				
						A				AC Powered
						5				DC Powered, No Power Thru Coax, 48 ± 11 VDC
						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
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

Note: Consult Terrasat Communications Inc for more options.