



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** is a full-featured Intelligent Block Upconverter with Gallium Nitride amplifier technology. Its new versions now support multicarrier transmission across the entire Ku-band spectrum. GaN advantages include higher power in a smaller outdoor enclosure and low power consumption. Terrasat's unique implementation is designed for long lifetime performance in demanding environments.

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 (Low, Std, and Full Ku-Bands)
- Mounting Brackets
- N-Type, F-Type or TNC Input Connectors
- Handheld Terminal
- Cyber Hardened
- WGS (Wideband Global SATCOM) compatible.

Ku-Band **IBUC 2G**

50W | 60W | 80W Compact GaN IBUC for multicarrier application



New Cyber
Hardened
version
available

Multicarrier
Application

50W P_{1dB} 25W
60W P_{1dB} 30W
80W P_{1dB} 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

Ku-Band 50W | 60W | 80W IBUC 2G 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 Ohn)		
Input Power Detector Range options:			
	Standard Version -55 to -20 dBm	WGS Version -35 to 0 dBm	
Gain			
Small Signal Gain (L-band to RF) with attenuator set to 0 dB options:			
	Standard Version	WGS Version	
50W (Bands 1 & 2)	78 dB min	67 dB min	
60W (All Bands)	79 dB min	68 dB min	
80W (All Bands)	80 dB min	69 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		
1 MHz	0.25 dB p-p		
Gain Variation Over Temperature			
Open Loop	3 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	<u>50W</u>	<u>60W</u>	<u>80W</u>
	(Bands 1 & 2)	(All Bands)	(All Bands)
at P _{Sat} (typ)	47 dBm	48 dBm	49 dBm
at P _{Lin} (min)	44 dBm	45 dBm	46 dBm
	(25W)	(30W)	(40W)
19 dB min of NPR			
(Noise Power Ratio) at:	41 dBm	42 dBm	43 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		
Output power detector range	Rated power to -20 dB		
Power reading accuracy	± 1.0 dB max.		
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.		
Output Noise Power Density			
	Tx < - 76 dBm/Hz		

SSB Phase Noise	External Reference	IBUC 2G
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 & Level	10 MHz	-12 to +5 dBm
Internal Reference - Optional		
Local Oscillator Frequency		
Sense	Non-Inverting	
Band 1	13050 MHz	
Band 2	12800 MHz	
Band 3	11800 MHz	
IBUC Power Supply		
Voltage	DC	AC
	37 to 60 VDC	100 to 240 VAC
Power Consumption	at P_{Lin} / P_{Sat}	at P_{Lin} / P_{Sat}
50 W (Bands 1 & 2)	260 W / 300 W	290 VA / 325 VA
60 W (All Bands)	350 W / 420 W	375 VA / 450 VA
80 W (All Bands)	N/A	475 VA / 570 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 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	13.5 lbs	
	6.1 kg	
Size	10.5 x 6 x 6.1 x in.	
	267 x 152 x 155 mm	
(Dimensions not including isolators)		

Specifications subject to change without notice.

Updated: November 18th, 2024

PART NUMBER CONFIGURATION | OPTIONS AVAILABLE FOR:

Ku-Band 50W to 80W GaN IBUC 2G

Cyber Hardened Option Part Number

Example/Std Offer: IBB137145-2NA080DKWW-0000

IBB	XXXXXX	-	X	X	X	XXX	D	K	W		W	-	XXXX
							Power Output						Optional Specs & Features
						050	50W						0000 Std Options and Std Specs
						060	60W						0218 WGS Compatibility Option
						080	80W						
							Power Supply						Color
					A		AC Powered				W		Std Terrasat Inc Color (White)
					5		DC Powered (for 50W and 60W only)				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: IBR137145-2NA081WW-0019

IBR	XXXXXX	-	X		X		XXX	W		W	-	XXXX
							Power Output					Optional Specs & Features
							051	50W				0019 Std product with Multicarrier compatibility only
							061	60W				2018 WGS Compatibility Option + Multicarrier
							081	80W				
												Color
							Power Supply					W Std Terrasat Inc Color (White)
					A		AC Powered					X Other Colors (Please Provide Color Specs)
					5		DC Powered (for 50W and 60W only)					
							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.