

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

When the requirement calls for a full-featured Block UpConverter that is powered by the modem, the **IBUC 2e** is an excellent fit. The **IBUC 2e** draws less power from the modem ODU power supply than the **IBUC 2** model. Auto-ranging DC input power is supplied via the IFL coaxial cable only. There is no external power connector.

Compatibility with a specific model modem is based on the ODU power supply capacity of that modem. It is also important to take into consideration voltage drop over the IFL cable.

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 2e

Low Energy Consumption Model | 4W to 16W



New Cyber
Hardened
version
available

Multicarrier
Application

4W
to
16W

GaAs
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 IBUC 2e

4W to 16W

Frequency Range	RF	IF
Band 1 Std Ku	14.0 to 14.50 GHz	950 to 1450 MHz
Band 2 Full Ku	13.75 to 14.50 GHz	950 to 1700 MHz
Band 3 Low Ku	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

	Standard Version ¹	WGS Version ²
4W	67 dB min	56 dB min
8W	70 dB min	59 dB min
12W	72 dB min	61 dB min
16W	73 dB min	62 dB min

Attenuator Range 30 dB variable in 0.1 dB steps

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 Flatness	Bands 1 & 3	Band 2
Full Band	3 dB p-p max	4 dB p-p max
36 MHz	1 dB p-p max	1.5 dB p-p max
1 MHz	0.25 dB p-p max	0.25 dB p-p max

Gain Variation Over Temperature

Open Loop	3 dB p-p max	4 dB p-p max
With AGC	1 dB p-p max	1 dB p-p max

RF Output

Interface	WR75 Cover with Groove
VSWR	1.5:1 max

Output Power

	P _{1dB}
4W	+36 dBm min
8W	+39 dBm min
12W	+40.8 dBm min
16W	+42 dBm min

P_{Lin} is the maximum linear power as defined by MIL STD 188-164C

IMD3 (2 Carriers, 3 dB TOBO)	-25 dBc max
Level Stability with ALC	± 0.5 dB
Output Power Detector Range	Rated Power to -20 dB
Power Reading Accuracy	± 1.0 max
Spurious	

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

Harmonics -50 dBc max

Output Noise Power Density	
	TX <- 84 dBm/Hz
	RX <- 145 dBm/Hz

SSB Phase Noise	External Reference	IBUC 2e
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	4W, 8W	18 to 75 VDC
	12W, 16W	37 to 60 VDC
		DC via coax only

Power Consumption

4W	55 W
8W	65 W
12W	110 W
16W	120 W

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 on](http://www.terrasatinc.com/terrasat-communications-launches-new-cyber-hardened-intelligent-bucs/)

<https://www.terrasatinc.com/terrasat-communications-launches-new-cyber-hardened-intelligent-bucs/>

Environmental

Operating Temperature	-40°C to +60°C
Relative Humidity	100% Condensing
Altitude	10,000 ft (3,000 m) ASL

Mechanical

4W, 8W	10.5 x 6 x 3.8 in. 267 x 152 x 97 mm 9.3 lbs (4.2 kgs)
12W, 16W	10.5 x 6 x 5.2 in. 267 x 152 x 132 mm 10.8 lbs (4.9 kgs)

Specifications subject to change without notice.

Updated: November 15th, 2024



PART NUMBER CONFIGURATION OPTIONS AVAILABLE FOR:												
Ku-Band 4W to 16W GaAs IBUC 2 ₀ Low consumption - Power Through Coax												
Cyber Hardened Option Part Number					Example/Std Offer: IBB137145-2N7016DSWW-0000							
IBB	XXXXXX	-	X	X	X	XXX	D	S	W	W	-	XXXX
						Power Output						Optional Specs & Features
						004 4W						0402 Std Options and Std Specs
						008 8W						0218 WGS Compatibility Option
						012 12W						
						016 16W						
												Color
												W Std Terrasat Inc Color (White)
												X Other Colors (Please, Provide Color Specs)
												Power Supply
						6 DC Powered, With Power Thru Coax, 24V/48V (18 to 75 VDC wide range) - Valid for 4W and 8W IBUCs only						
						7 DC Powered, With Power Thru Coax, 48 ± 11 VDC (37 to 60 VDC) - Valid for 12W and 16W IBUCs 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
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: IBR137145-2N7016WW-0402										
IBR	XXXXXX	-	X	X	X	XXX	W	W	-	XXXX
						Power Output				Optional Specs & Features
						004 4W				0402 Std product with Multicarrier compatibility only
						008 8W				2018 WGS Compatibility Option + Multicarrier
						012 12W				
						016 16W				
										Color
										W Std Terrasat Inc Color (White)
										X Other Colors (Please Provide Color Specs)
										Power Supply
						6 DC Powered, With Power Thru Coax, 24V/48V (18 to 75 VDC wide range) - Valid for 4W and 8W IBUCs only				
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Note: Consult Terrasat Communications Inc for more options.