

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 2** is a compact integrated Intelligent BUC/GaAs SSPA designed for higher performance & reliability. Block Upconverters based on linear GaAs amplifier technology require minimal output power backoff. 24-48-hour environmental chamber testing guarantees $P_{1\text{dB}}$ output power over frequency.

Multiple sensors & a new, high-capacity microprocessor provide tools to optimize terminal performance. The **IBUC 2** is a popular choice for medium-high power Satcom terminals in telecom, defense, air traffic control, government & other demanding network 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)
- AC or DC Input Models
- 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 2

Smaller, lighter models with RJ45 interface.
4W to 50W



New Cyber
Hardened
version
available

Multicarrier
Application

4W
to
50W

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 2

4W to 50W

Frequency Range	RF	IF
Band 1 Std Ku	14.00 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
20W	74 dB min	63 dB min
25W	75 dB min	64 dB min
30W	76 dB min	65 dB min
40W	77 dB min	66 dB min
50W	78 dB min	67 dB min

¹Terrasat 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	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	
With AGC	1 dB p-p max	

RF Output		
Interface	WR75 Cover with Groove	
VSWR	1.5:1 max (4W to 30W)	1.3:1 max (40W to 50W)

Output Power	P _{1dB}
4W	+36 dBm min
8W	+39 dBm min
12W	+40.8 dBm min
16W	+42 dBm min
20W	+43 dBm min
25W	+44 dBm min
30W	+44.8 dBm min
40W	+46 dBm min
50W	+47 dBm min

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 <- 78 dBm/Hz
	RX <- 145 dBm/Hz

SSB Phase Noise	External Reference	IBUC 2
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	DC	48 ± 11 VDC
	AC	100 to 240 VAC 50 / 60 Hz
Options for 4W, 8W		24 ± 4 VDC
DC via coax available on 4W-16W		

Power Consumption	DC	AC
4W	77W	85 VA
8W	80W	115 VA
12W	125W	158 VA
16W	168W	200 VA
20W	200W	225 VA
25W	250W	270 VA
30W	270W	300 VA
40W	280W	420 VA
50W	N/A	460 VA

Monitor & Control

Ethernet (HTTP, Telnet, SNMP) via RJ45 Connector

RS232/485, Handheld Terminal via MS-Type Connector, FSK multiplexed on TX IFL.

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	4W - 25W	30W - 50W
Operating Temperature	-40°C to +60°C	-40°C to +55°C
Relative Humidity	100% Condensing	
Altitude	10,000 ft (3,000 m) ASL	

Mechanical	DC Powered	AC Powered
4W-8W	10.5 x 6 x 3.8 in. 267 x 152 x 97 mm 9.3 lbs (4.2 kgs)	10.5 x 6 x 4.2 in. 267 x 152 x 107 mm 10.5 lbs (4.8 kgs)
12W-20W	10.5 x 6 x 5.2 in. 267 x 152 x 132 mm 10.9 lbs (5.0 kgs)	10.5 x 6 x 5.6 in. 267 x 152 x 142 mm 11.9 lbs (5.4 kgs)
25W-50W	10.5 x 6 x 5.7 in. 267 x 152 x 145 mm 12.3 lbs (5.6 kgs)	10.5 x 6 x 6.1 in. 267 x 152 x 155 mm 13.5 lbs (6.1 kgs)

40W, 50W: Dimensions do not include isolators.

Specifications subject to change without notice. Updated: January 8th 2025



Questions? Contact Us
+1 (408) 782 5911
Sales@Terrasatinc.com

315 Digital Drive
Morgan Hill, CA 95037
www.Terrasatinc.com

PART NUMBER CONFIGURATION OPTIONS AVAILABLE FOR:																																																											
Ku-Band 4W to 50W GaAs IBUC 2																																																											
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