

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** supports multicarrier transmission across the full C-band spectrum and delivers the highest available output power, making it an ideal solution for high data rate multicarrier applications such as maritime, broadband, broadcast and network hubs.

Terrasat's technology uses Gallium Nitride amplifier to enable greater power efficiency which 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

- Cyber Hardened Core
- 1+1 Transmit Redundancy
- 2+1 Transmit Redundancy
- Load Switch Kit
- High Stability Internal 10 MHz Reference with Auto-Detection
- Mounting Brackets
- N-Type or F-Type Input Connectors
- Handheld Terminal
- WGS (Wideband Global SATCOM) compatible.

C-Band IBUC **G**

800W GaN **IBUC** for multicarrier application.



New **Cyber
Hardened**
version
available

Multicarrier
Application

800W
P_{Lin} 400W

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

C-Band 800W IBUC

for Multicarrier Application

Frequency Range	RF (MHz)	IF (MHz)	
Sense		Inverting	Non-Inverting
Band 1 Std C	5850 to 6425	950 to 1525	950 to 1525
Band 3 Insat	6725 to 7025	1150 to 1450	965 to 1265
Band 4 Ext C	5850 to 6650	950 to 1750	950 to 1750
Band 5 Full C	5850 to 6725	975 to 1850	950 to 1825

Input			
VSWR/ Impedance	1.5:1 / 50 Ohm		
Input Connector (std)	Type N Female (50 Ohm)		
Input Connector Options	Type F (75 Ohm)		
Input Power Detector	Standard Version	WGS Version	
Range options:	-50 to -15 dBm	-35 to 0 dBm	

Gain			
Small Signal Gain (L-band to RF) with attenuator set to 0 dB options:			
800W IBUC	Standard Version	WGS Version	
	85 dB min	79 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		
	<u>Bands 1/3</u>	<u>Bands 4/5</u>
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	CPR-137G	
VSWR	1.3:1 max	
Output Power	<u>800W</u>	
	Band 1	Bands 3/4/5
at P _{Sat} (typ)	59 dBm	58.3 dBm
at P _{Lin} (min)	56 dBm	55.3 dBm
19 dB min of NPR (Noise Power Ratio) at:	53 dBm	52.3 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 @P _{Lin}	
In Band	-70 dBc
Out of Band	Complies with EN 301 443
Harmonics @ P _{Lin}	-60 dBc max.

Output Noise Power Density	
	Tx < - 73 dBm/Hz
	Rx <- 156 dBm/Hz

SSB Phase Noise	External Reference	IBUC 
10 Hz	-115 dBc/Hz	-54 dBc/Hz
100 Hz	-140 dBc/Hz	-79 dBc/Hz
1 KHz	-150 dBc/Hz	-89 dBc/Hz
10 KHz	-155 dBc/Hz	-94 dBc/Hz
100 KHz	N/A	-100 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	Inverting	Non-Inverting
Band 1	7375 MHz	4900 MHz
Band 3	8175 MHz	5760 MHz
Band 4	7600 MHz	4900 MHz
Band 5	7700 MHz	4900 MHz

IBUC Power Supply			
Voltage	AC	200 to 240 VAC 50 Hz / 60 Hz	
Power Consumption	<u>Band 1</u>		Bands 3/4/5
	<u>800W</u>		<u>800W</u>
at P _{Sat}	3350 VA		3100 VA
at P _{Lin}	2600 VA		2400 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 Core Versions

Ethernet (HTTPS, SSHv2, SNMPv3 with USM and VACM) via RJ45 Connector

Network Protocols IPv4 and IPv6 compatible

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/

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 in.
	737 x 381 x 257 mm

Specifications subject to change without notice.

Updated: May 23 2025

