

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** now supports multicarrier transmission across the full X-band spectrum. The **IBUC G** 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.

Gallium Nitride amplifier technology enables smaller packaging for antenna mounting, eliminating the losses in long waveguide runs. And the greater power efficiency 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

- 1+1 Transmit Redundancy with Eco-Mode
- High Stability Internal 10 MHz Reference with Auto-Detection
- Mounting Brackets
- N-Type, F-Type, or TNC Input Connectors
- Handheld Terminal
- Cyber Hardened Core M&C
- WGS (Wideband Global SATCOM) compatible.
- External Waveguide Rx Reject Filter

X-Band IBUC **G**

400W GaN IBUC For Multicarrier Application



New Cyber
Hardened
version
available

Multicarrier
Application

400W
P_{Lin} 200W

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

X-Band 400W IBUC G - For Multicarrier Applications

Frequency Range	RF (MHz)	IF (MHz)
X-Band	7900 to 8400 MHz	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 options:		
	Standard Version ¹	WGS Version ²
	82 dB min	76 dB min
¹ Terrasats Standard Version has a higher gain to reduce the need for line amplifiers in long cable runs (IFL).		
² WGS 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	
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	CPR-112G	
VSWR	1.3:1 max	
Output Power		
at P _{Sat} (typ)	+56 dBm	
at P _{Lin} (min)	+53 dBm	
P _{Lin} is the maximum linear power as defined by MIL STD 188-164C		
Two-tone measured at 5MHz and 150 MHz spacing		
19 dB min of NPR (Noise Power Ratio) at +50 dBm.		
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	-65 dBc	
Out of Band	Complies with MIL-STD 188-164C	
Harmonics @ P _{Lin}	-60 dBc max.	
Output Noise Power Density		
	Transmit	Receive
Tx < - 75 dBm/Hz	Rx < - 75 dBm/Hz	(Without Receive Reject Filter)
	Rx < - 166 dBm/Hz	(With Optional Rx Reject Filter)
Mute	-70 dBc max	
AM-PM Conversion	< 3.0 deg/dB @P _{Lin}	
Group Delay		
Linear	0.03 ns/MHz	
Parabolic	0.003 ns/MHz ²	
Ripple	1 ns p-p Over Any 36 MHz	

SSB Phase Noise	External Reference	IBUC G
10 Hz	-115 dBc/Hz	-55 dBc/Hz
100 Hz	-140 dBc/Hz	-80 dBc/Hz
1 KHz	-150 dBc/Hz	-90 dBc/Hz
10 KHz	-155 dBc/Hz	-95 dBc/Hz
100 KHz	N/A	-100 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		
X-Band	6950 MHz	
Sense	Non-Inverting	
IBUC Power Supply		
Voltage	AC	200 to 240 VAC 50 Hz / 60 Hz
Power Consumption	P _{Lin}	P _{Sat}
400W	1800 VA	2200 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		
	Size	24 x 10 x 7.4 x in. 610 x 254 x 188 mm
	Weight	40 lbs 18 kg

Specifications are subject to change without notice.

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Questions? Contact Us

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