



## The IBUC Advantage

All IBUCs are equipped with cutting-edge intelligent technology:

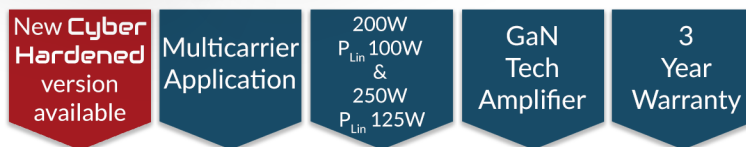
- Highest quality & exacting performance guaranteed through individual unit testing over temperature
- Superior linearity for maximum useable output power
- Amplifier overdrive protection
- User-selectable AGC/ALC for optimal performance & compatibility with modem adaptive coding
- New high capacity 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 «

## C-Band IBUC G

200W/250W GaN IBUC for multicarrier application.



## Applications

The new IBUC **G** now supports multicarrier transmission across the full C-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. The 200W model produces +50 dBm of linear output power, and the 250W model produces +51 dBm of linear output power.

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
- WGS (Wideband Global SATCOM) compatible.

**Note:** Since not all the optional features can be combined, please, contact our sales team for further info at: [Sales@Terrasatinc.com](mailto:Sales@Terrasatinc.com)

# C-Band 200W/250W IBUC G 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 2 Palapa	6425 to 6725	975 to 1275	1125 to 1425	
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	Type N Female (50 Ohm)
Input Connector Options	Type F (75 Ohm), TNC (50 Ohm)
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
200W	84 dB min
250W	85 dB min
200W	73 dB min
250W	74 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	
	Bands 1/2/3
	Bands 4/5
Open Loop	3 dB p-p max
With AGC	1 dB p-p max

RF Output	
Interface	CPR-137G
VSWR	1.3:1 max

Output Power	200W		250W	
	Band 1	Bands 2/3/4/5	Band 1	Bands 2/3/4/5
at P <sub>sat</sub> (typ)	+53 dBm	+52.5 dBm	+54 dBm	+53.5 dBm
at P <sub>lin</sub> (min)	+50 dBm	+49.5 dBm	+51 dBm	+50.5 dBm
19 dB min of NPR (Noise Power Ratio) at:	47 dBm	46.5 dBm	48 dBm	47.5 dBm

P<sub>lin</sub> 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 <sub>lin</sub>	
In Band	-70 dBc
Out of Band	Complies with EN 301 443 & MIL-STD 188-164C
Harmonics @ P <sub>lin</sub>	-50 dBc max.
Output Noise Power Density	
	Tx < - 73 dBm/Hz
	Rx < - 145 dBm/Hz

SSB Phase Noise	External Reference		IBUC G	
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
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Internal Reference- Optional

**Local Oscillator Frequency**

Sense	Inverting	Non-Inverting
Band 1	7375 MHz	4900 MHz
Band 2	7700 MHz	5300 MHz
Band 3	8175 MHz	5760 MHz
Band 4	7600 MHz	4900 MHz
Band 5	7700 MHz	4900 MHz

**IBUC Power Supply**

Voltage	100 to 240 VAC			
	Band 1		Bands 2/3/4/5	
Power Consumption	200W	250W	200W	250W
at P <sub>sat</sub>	950 VA	1050 VA	925 VA	1000 VA
at P <sub>lin</sub>	750 VA	825 VA	875 VA	775 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/](http://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	33 lbs
	14.9 kg
Size	16.2 x 10 x 7.6 in.
	411 x 254 x 193 mm

(Dimensions not including isolators)