

## 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 «



New **Cyber Hardened** version available

Multicarrier Application

200W  
P<sub>Lin</sub> 100W

GaN Tech Amplifier

3 Year Warranty

## 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.

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 IBUC $\mathcal{G}$ 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	WGS Version
-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	WGS Version
84 dB min	73 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
3 dB p-p max	4 dB p-p max
With AGC	1 dB p-p max

## RF Output

Interface	CPR-137G
VSWR	1.3:1 max

## Output Power

200W

	Band 1	Bands 2/3/4/5
at $P_{Sat}$ (typ)	53 dBm	52.5 dBm
at $P_{Lin}$ (min)	50 dBm	49.5 dBm
19 dB min of NPR (Noise Power Ratio) at:	47 dBm	46.5 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	$\pm 0.5$ dB
Output power detector range	Rated power to -20 dB
Power reading accuracy	$\pm 1.0$ dB max.

Spurious @ $P_{Lin}$	
In Band	-70 dBc
Out of Band	Complies with EN 301 443 & MIL-STD 188-164C
Harmonics @ $P_{Lin}$	-50 dBc max.

Output Noise Power Density

Tx < - 73 dBm/Hz
Rx < - 145 dBm/Hz

## SSB Phase Noise

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 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   50Hz / 60 Hz	
Power Consumption	Band 1	Bands 2/3/4/5
at $P_{Sat}$	950 VA	925 VA
at $P_{Lin}$	750 VA	875 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/) 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

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)

Specifications subject to change without notice.

Updated February 13th, 2025

## Questions? Contact Us

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Morgan Hill, CA 95037  
[www.TerrasatInc.com](http://www.TerrasatInc.com)

IBB	XXXXXX	-	X		X	A	200	Q	C	W		W	-	XXXX
							<b>Power Output</b>							<b>Optional Specs &amp; Features</b>
							200	200W					0000	Std Options and Std Specs
													0218	WGS Compatibility Option
						<b>Power Supply</b>						<b>Color</b>		
					A	AC Powered						W		Std Terrasat Inc Color (White)
												X		Other Colors (Please, Provide Color Specs)
						<b>IF Input Connector</b>								
				N	N-Type IF Input Connector									
				F	F-Type IF Input Connector									
						<b>Spectral Sense and 10MHz Reference</b>								
				0	Non-Inverting + External 10MHz									
				1	Inverting + External 10MHz									
				2	Non-Inverting + Internal 10MHz Std (30ppb stability)									
				3	Inverting + Internal 10MHz Std (30ppb stability)									
				4	Non-Inverting + Internal 10MHz High Stability (5ppb)									
				5	Inverting + Internal 10MHz High Stability (5ppb)									
						<b>RF Frequency Plan</b>								
058064						5.850-6.425 GHz (Std C-Band)								
058066						5.850-6.650 GHz (Ext C-Band)								
058067						5.850-6.725 GHz (Full C-Band)								
064067						6.425-6.725 GHz (Palapa C-Band)								
067070						6.725-7.025 GHz (Insat C-Band)								

### Std M&C Option Part Number

Example/Std Offer: IBR058064-3NA201WW-0919

IBR	XXXXXX	-	X	X	A	201	W	W	-	XXXX
						<b>Power Output</b>				<b>Optional Specs &amp; Features</b>
						201	200W			0919 Std (C-Band) unit with Multicarrier compatibility only
										1818 WGS Compatibility Option + Multicarrier
						<b>Power Supply</b>				<b>Color</b>
					A	AC Powered				W Std Terrasat Inc Color (White)
										X Other Colors (Please Provide Color Specs)
						<b>IF Input Connector</b>				
					N	N-Type IF Input Connector				
					F	F-Type IF Input Connector				
						<b>Spectral Sense and 10MHz Reference</b>				
					0	Non-Inverting + External 10MHz				
					1	Inverting + External 10MHz				
					2	Non-Inverting + Internal 10MHz Std (30ppb stability)				
					3	Inverting + Internal 10MHz Std (30ppb stability)				
					4	Non-Inverting + Internal 10MHz High Stability (5ppb)				
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Note: Consult Terrasat Communications Inc for more options.