

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 2G** now supports multicarrier transmission across the full C-band spectrum. The product is a full-featured Intelligent Block Upconverter with Gallium Nitride amplifier technology. GaN advantages include higher power in a smaller outdoor enclosure & low power consumption. Designed for long lifetime performance in demanding environments.

Multiple sensors & a new, high-capacity microprocessor provide tools to optimize remote terminal performance. The **IBUC 2G** is a popular choice for satcom uplinks for telecom, government, defense and other demanding applications.

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.
- Several Factory Select Bands

C-Band IBUC 2G

100W Compact GaN IBUC for multicarrier application.



New Cyber
Hardened
version
available

Multicarrier
Application

100W
P_{Lin} 50W

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 100W IBUC 2G 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	Standard Version	WGS Version
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:

100W	Standard Version 81 dB min	WGS Version 70 dB min
Attenuator Range	30 dB variable in 0.1 dB steps	
Gain Flatness		
	<u>Bands 1/2/3</u>	<u>Bands 4/5</u>
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

	<u>Bands 1/2/3</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>100W</u>	
	<u>Bands 1/2/4/5</u>	<u>Band 3</u>
at P _{Sat} (typ)	50 dBm	49.5 dBm
at P _{Lin} (min)	47 dBm	46.5 dBm
19 dB min of NPR (Noise Power Ratio) at:	44 dBm	43.5 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	± 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 EN 301 443 & MIL-STD 188-164C
Harmonics @ P _{Lin}	-50 dBc max.

Output Noise Power Density

Tx < - 77 dBm/Hz
Rx <- 145 dBm/Hz

SSB Phase Noise	External Reference	IBUC 2G
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	AC	100 to 240 VAC 50 Hz / 60 Hz
Power Consumption		
		<u>100W</u>
P _{Sat}		510 VA
P _{Lin}		420 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/

Environmental

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

Mechanical

Weight	13.5 lbs
	6.1 kg
Size	10.5 x 6.0 x 6.1 in.
	267 x 152 x 155 mm

(Dimensions not including isolators)

Specifications subject to change without notice.

Updated: September 4th, 2024

[illegible]

Std M&C Option Part Number

Example/Std Offer: IBR058064-3NA101WW-0919

IBR	XXXXXX	-	X	X	A	101	W	W	-	XXXX
						Power Output				Optional Specs & Features
						101	100W			0919 Std (C-Band) unit with Multicarrier compatibility only
										1818 WGS Compatibility Option + Multicarrier
						Power Supply				Color
					A	AC Powered			W	Std Terrasat Inc Color (White)
									X	Other Colors (Please Provide Color Specs)
						IF Input Connector				
					N	N-Type IF Input Connector				
					F	F-Type IF Input Connector				
						Spectral Sense and 10MHz Reference				
					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)				
						RF Frequency Plan				
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)									

Note: Consult Terrasat Communications Inc for more options.