

IBUC The Intelligent Block UpConverter

Superior RF Performance

Ultimate Reliability

Complete Feature Set Multiprotocol Management & Diagnostics

www.terrasatinc.com

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 «



200W GaN IBUC for multicarrier application.



New **Cyber Hardened** version available Multicarrier Application

200W P_{Lin} 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** \boldsymbol{G} delivers maximum linear output power with the reliability of solid state.

Options

- o 1+1 Transmit Redundancy with Eco-Mode
- High Stability Internal 10 MHz Reference with Auto-Detection
- Mounting Brackets
- o 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

C-Band 200W **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
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Input

VSWR/ Impedance 1.5:1 / 50 Ohm
Input Connector Type N Female (50 Ohm)
Input Connector Options Type F (75 Ohm), TNC (50 Ohn)

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

 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 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

 $P_{\rm Lin}$ 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 \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	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

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/ or at the Cyber Hardened webpage on

Environmental

Operating Temperature $-40^{\circ}\text{C to } +55^{\circ}\text{C}$ 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





IBUC

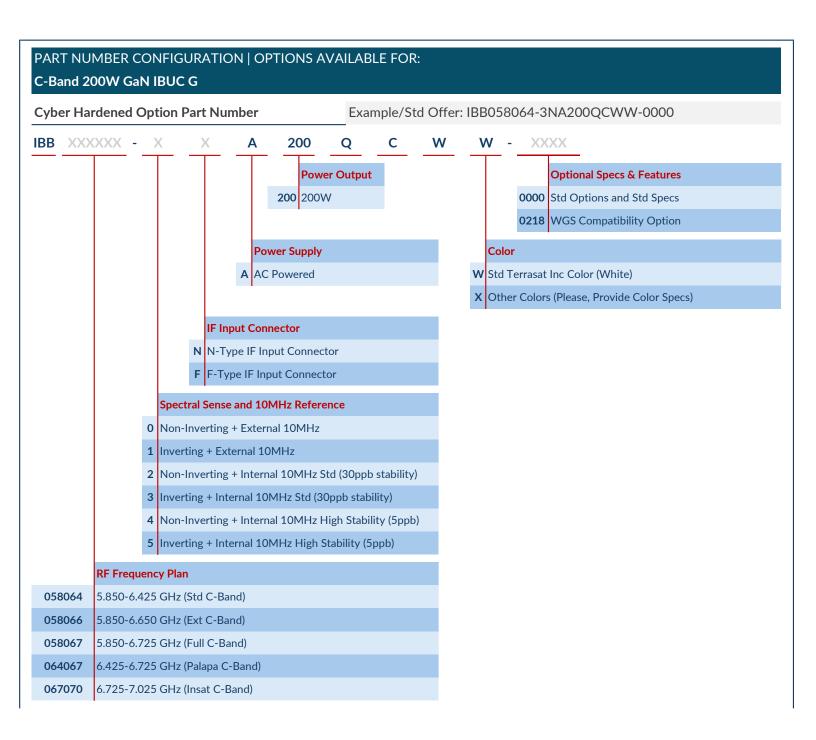
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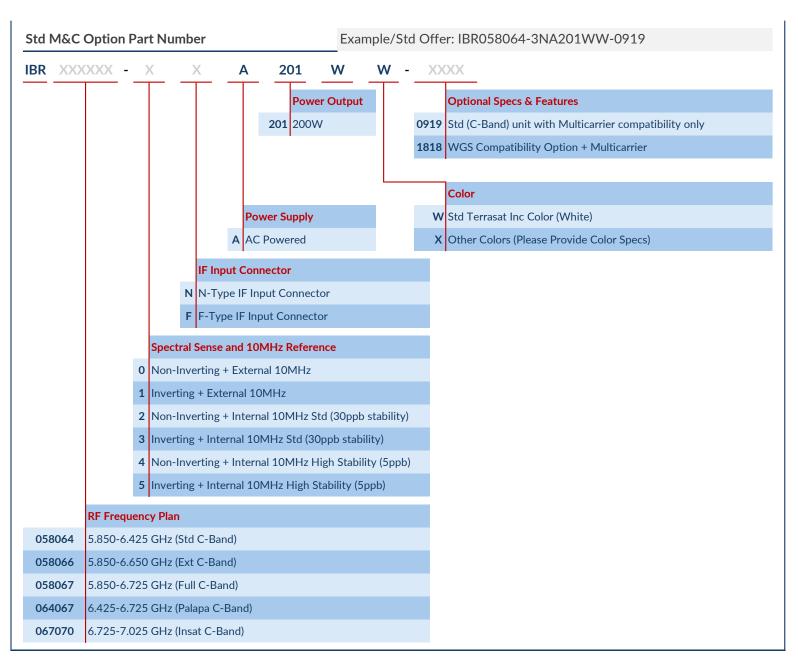


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Note: Consult Terrasat Communications Inc for more options.

