



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 «

X-Band IBUC 2G

100W Compact GaN IBUC



100W

GaN
Tech
Amplifier

3
Year
Warranty

Applications

The **IBUC 2G** is a full-featured Intelligent Block Upconverter with Gallium Nitride amplifier technology. GaN advantages include higher power in a smaller outdoor enclosure and low power consumption. Terrasat's unique implementation maximizes useable output power requiring only 2 dB of output power backoff from P_{Sat} to P_{Linear} . 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 perfect solution for mobile defense terminals operating in demanding environments.

Options

- 1+1 Transmit Redundancy
- High Stability Internal 10 MHz Reference with Auto-Detection
- Mounting Brackets
- Type N or F-Type Input Connectors
- Handheld Terminal

X-Band IBUC 2G

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 Range	-55 to -20 dBm

Gain

Small Signal Gain (L-band to RF) with attenuator set to 0 dB	
100W	81 dB min
Attenuator Range	30 dB variable in 0.1 dB steps

Gain Flatness	
Full Band	3 dB p-p max
36 MHz	1 dB p-p max
1 MHz	0.25 dB p-p max

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

	100W
P_{Sat} (typ)	+50 dBm
P_{Lin} (min)	+48 dBm

P_{Lin} is the maximum linear power as defined by MIL STD 188-164B

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 188-164B
Harmonics @ P_{Lin}	-60 dBc max.

Output Noise Power Density	
Tx < - 75 dBm/Hz	
Rx < - 77 dBm/Hz	Without Receive Reject Filter

SSB Phase Noise	External Reference	IBUC 2G
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 & Level	10 MHz	-12 to +5 dBm
Internal Reference- Optional		

Local Oscillator Frequency

	6950 MHz
Sense	Non-Inverting

IBUC Power Supply

Voltage	AC	100 to 240 VAC	
Power Consumption	P_{Sat}	P_{Lin}	
100W	520 VA	440 VA	

Monitor & Control

Ethernet (HTTP, Telnet, SNMPv2c) via RJ45 Connector
RS232/485, Handheld Terminal via MS-Type Connector
FSK multiplexed on TX IFL

Environmental

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

Mechanical

Size	10.5 x 6 x 6.1 x in. 267 x 152 x 155 mm
	13.5 lbs 6.1 kg

(Dimensions not including isolators)

Specifications subject to change without notice.

Updated 11/30/2020