

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 2G

100/125W Compact GaN IBUC



100W P_{Lin} 63W
&
125W P_{Lin} 80W

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 & low power consumption. Terrasat's unique implementation maximizes useable output power. The **IBUC 2G** requires 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 popular choice for satcom uplinks for telecom, government, defense and other demanding applications.

Options

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

C-Band IBUC 2G

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	-55 to -20 dBm

Gain

Small Signal Gain (L-band to RF) with attenuator set to 0 dB

100W	81 dB min
125W	82 dB min

Attenuator Range 30 dB variable in 0.1 dB steps

Gain Flatness	Bands 1/2/3	Bands 4/5
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

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

	Bands 1/2/4/5		Band 3	
	100W	125W	100W	125W
P _{Sat} (typ)	+50 dBm	+51 dBm	+49.5 dBm	+50.5 dBm
P _{Lin} (min)	+48 dBm	+49 dBm	+47.5 dBm	+48.5 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 EN 301 443 & MIL-STD 188-164B

Harmonics @ P_{Lin} -50 dBc max.

Output Noise Power Density

Tx < - 76 dBm/Hz
Rx < - 145 dBm/Hz

SSB Phase Noise

External Reference	IBUC 2G
10 Hz	-115 dBc/Hz
100 Hz	-140 dBc/Hz
1 KHz	-150 dBc/Hz
10 KHz	-155 dBc/Hz
100 KHz	N/A
1 MHz	N/A

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	AC	100 to 240 VAC
Power Consumption	P _{Sat}	P _{Lin}
100W	520 VA	450 VA
125W	560 VA	490 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
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Weight	13.5 lbs 6.1 kg
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(Dimensions not including isolators)

Specifications subject to change without notice.

Updated 11/30/2020