TERRASAT Communications, Inc.
Engineered to Endure

IBUC

The Intelligent Block UpConverter

Superior RF Performance | Ultimate Reliability | Complete Feature Set | Multiprotocol Management & Diagnostics

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 «

Ku-Band

IBUC 3G

Compact Size Without the Compromise

25W to 40W | GaN Tech Amplifier | 3 Year Warranty

Applications

Gallium Nitride amplifier technology facilitates higher power in a smaller outdoor enclosure – just what is needed for the IBUC 3G. Specially designed for mobility, the IBUC 3G is a full-featured IBUC in a new, smaller & lighter package. An excellent fit with very small aperture or flat panel antennas where size & weight are key considerations.

Yet, all of the IBUC performance & manageability advantages remain. The included web interface enables terminal optimization during installation & provides a suite of trouble-shooting tools. An auto-ranging DC power supply is accessed via external power connector or IFL cable.

Options

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

Ku-Band **IBUC 3G**

Frequency Range	RF	IF
Band 1 Std Ku	14.00 to 14.50 GHz	950 to 1450 MHz
Band 2 Full Ku	13.75 to 14.50 GHz	950 to 1700 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

25W	75 dB min
40W	77 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 max

Gain Variation Over Temperature

Open Loop	3 dB p-p max
With AGC	1 dB p-p max

RF Output

Interface	WR75 Cover with Groove
VSWR	1.5:1 max

Rated Output Power	P_{Sat} (Typ)	P_{Lin} (min)
25W	+44 dBm	+41 dBm
40W	+46 dBm	+43 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

In Band	-65 dBc
Out of Band	Complies with EN 301 428/430 & MIL-STD 188-164B

Harmonics @ P_{Lin}	-50 dBc max.

Output Noise Power Density

Tx < - 79 dBm/Hz

Rx <- 145 dBm/Hz

SSB Phase Noise	External Reference	IBUC 3G
10 Hz	-125 dBC/Hz	-45 dBc/Hz
100 Hz	-145 dBc/Hz	-65 dBc/Hz
1 KHz	-160 dBc/Hz	-80 dBc/Hz
10 KHz	-165 dBc/Hz	-85 dBc/Hz
100 KHz	N/A	-90 dBc/Hz
1 MHz	N/A	-115 dBc/Hz

External Reference (Multiplexed on TX IFL)

Frequency & Level	10 MHz	-12 to +5 dBm

Internal Reference - Optional

Local Oscillator Frequency

Sense	Non-Inverting
Band 1	13050 MHz
Band 2	12800 MHz

IBUC Power Supply

Voltage	25W, 40W	38 to 76 VDC

Power Consumption	@P_{Lin}/P_{Sat}
25W	130W/175W
40W	205W/265W

Monitor & Control

Ethernet (HTTP, Telnet, SNMP) 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

40W	7 x 5 x 4 in. *178 x 127 x 102 mm.*
	6.5 lbs *3 kgs*

Specifications subject to change without notice.

Updated 11/30/2020