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

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 2

Smaller, lighter models with RJ45 interface.

4W to 50W

GaAs Tech Amplifier

3 Year Warranty

Applications

The **IBUC 2** is a compact integrated BUC/GaAs SSPA designed for higher performance & reliability. Block Upconverters based on linear GaAs amplifier technology require minimal output power backoff. 24-48-hour environmental chamber testing guarantees $P_{1\,dB}$ output power over frequency.

Multiple sensors & a new, high-capacity microprocessor provide tools to optimize terminal performance. The **IBUC 2** is a popular choice for medium-high power Satcom terminals in telecom, defense, air traffic control, government & other demanding network applications.

Options

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

Ku-Band **IBUC 2**

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
Band 3 Low Ku	12.75 to 13.25 GHz	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

4W	67 dB min
8W	70 dB min
12W	72 dB min
16W	73 dB min
20W	74 dB min
25W	75 dB min
30W	76 dB min
40W	77 dB min
50W	78 dB min

Attenuator Range 30 dB variable in 0.1 dB steps

Gain Flatness	Bands 1 & 3	Band 2
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
With AGC	1 dB p-p max

RF Output

Interface	WR75 Cover with Groove	
VSWR	1.5:1 max (4W to 30W)	1.3:1 max (40W to 50W)

Rated Output Power

	P_{1dB}
4W	+36 dBm min
8W	+39 dBm min
12W	+40.8 dBm min
16W	+42 dBm min
20W	+43 dBm min
25W	+44 dBm min
30W	+44.8 dBm min
40W	+46 dBm min
50W	+47 dBm min

IMD3 (2 Carriers, 3 dB TOBO)	-25 dBc max
Level Stability with ALC	± 0.5 dB
Output Power Detector Range	Rated Power to -20 dB
Power Reading Accuracy	± 1.0 max

Spurious

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

Harmonics -50 dBc max

Output Noise Power Density

TX <- 78 dBm/Hz
RX <- 145 dBm/Hz

SSB Phase Noise	External Reference	**IBUC 2**
10 Hz	-115 dBc/Hz	-50 dBc/Hz
100 Hz	-140 dBc/Hz	-75 dBc/Hz
1 KHz	-150 dBc/Hz	-85 dBc/Hz
10 KHz	-155 dBc/Hz	-90 dBc/Hz
100 KHz	N/A	-95 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	Non-Inverting
Band 1	13050 MHz
Band 2	12800 MHz
Band 3	11800 MHz

IBUC Power Supply

Voltage	DC	48 ± 11 VDC
	AC	100 to 240 VAC
Options for 4W, 8W		24 ± 4 VDC

DC via coax available on 4W-16W

Power Consumption

4W	77W	85 VA
8W (Bands 1 & 2)	80W	115 VA
8W (Band 3)	115W	130 VA
12W	125W	158 VA
16W	168W	200 VA
20W	200W	225 VA
25W	250W	270 VA
30W	270W	300 VA
40W	280W	420 VA
50W	N/A	460 VA

Monitor & Control

Ethernet (HTTP, Telnet, SNMP) via RJ45 Connector

RS232/485, **Handheld Terminal** via MS-Type Connector, **FSK** multiplexed on TX IFL.

Environmental

	4W - 25W	30W - 50W
Operating Temperature	-40°C to +60°C	-40°C to +55°C
Relative Humidity	100% Condensing	
Altitude	10,000 ft (3,000 m) ASL	

Mechanical

	DC Powered	AC Powered
4W-8W	10.5 x 6 x 3.8 in.	10.5 x 6 x 4.2 in.
	267 x 152 x 97 mm	*267 x 15 x 107 mm*
	9.3 lbs (*4.2 kgs*)	10.5 lbs (*4.8 kgs*)
12W-20W	10.5 x 6 x 5.2 in.	10.5 x 6 x 5.6 in.
	267 x 152 x 132 mm	*267 x 152 x 142 mm*
	10.9 lbs (*5.0 kgs*)	11.9 lbs (*5.4 kgs*)
25W-50W	10.5 x 6 x 5.7 in.	10.5 x 6 x 6.1 in.
	267 x 152 x 145 mm	*267 x 152 x 155 mm*
	12.3 lbs (*5.6 kgs*)	13.5 lbs (*6.1 kgs*)

40W, 50W: Dimensions do not include isolators.

Specifications subject to change without notice.

Updated 11/18/2020