

## 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 «

## Applications

When the requirement calls for a full-featured Intelligent Block UpConverter that is powered by the modem, the IBUC 2e is an excellent fit. The IBUC 2e draws less power from the modem ODU power supply than the IBUC 2 model. Auto-ranging DC input power is supplied via the IFL coaxial cable only. There is no need for an external power connector.

Compatibility with a specific model modem is based on the ODU power supply capacity of that modem. It is also important to take into consideration voltage drop over the IFL cable.

### Options

- 1+1 Transmit Redundancy
- High Stability Internal 10 MHz Reference with Auto-Detection
- Several Factory Select Bands
- Mounting Brackets
- Optional Type N, F-Type, or TNC Input Connectors
- Waveguide or Type N Output
- Handheld Terminal
- Cyber Hardened
- WGS (Wideband Global SATCOM) compatible

## C-Band IBUC 2e

Low Energy Consumption Model



New Cyber  
Hardened  
version  
available

Multicarrier  
Application

5W  
to  
20W

GaAs  
Tech  
Amplifier

3  
Year  
Warranty

**Note:** Since not all the optional features can be combined, please, contact our sales team for further info at: [Sales@Terrasatinc.com](mailto:Sales@Terrasatinc.com)

# C-Band IBUC 2e

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	Standard Version <sup>1</sup>	WGS Version <sup>2</sup>
Range Options:	-55 to -20 dBm	-35 to 0 dBm

## Gain

Small Signal Gain (L-band to RF) with attenuator set to 0 dB	Standard Version <sup>1</sup>	WGS Version <sup>2</sup>
5W	68 dB min	57 dB min
10W	71 dB min	60 dB min
15W	72.8 dB min	61.8 dB min
20W	74 dB min	63 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

	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

<sup>1</sup>Terrasat's Standard Version has higher gain to reduce the need for line amplifiers in long cable runs (IFL)

<sup>2</sup>The lower gain WGS Compatible Versions allow operations to drive the IF signal up to 0 dBm.

## RF Output

Interface	CPR-137G or N(f)
VSWR	1.5:1 max

## Output Power

	P <sub>1dB</sub>
5W	+37 dBm min
10W	+40 dBm min
15W	+41.8 dBm min
20W	+43 dBm min

P<sub>Lin</sub> is the maximum linear power as defined by MIL STD 188-164C

IMD3 (2 Carriers, 3 dB TOBO)	-26 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	-60 dBc
Out Band	Complies with EN 301 443 & MIL STD 188-164C
Harmonics	-50 dBc max
Output Noise Power Density	
	TX <- 84 dBm/Hz
	RX <- 145 dBm/Hz

## SSB Phase Noise

	External Reference	IBUC 2e
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: 10 MHz Level: -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	5W, 10W	18 to 75 VDC
	15W, 20W	48V ± 11V

DC via coax only

Power Consumption	DC
5W	50 W
10W	65 W
15W	100 W
20W	120 W

## Monitor & Control

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/](http://www.terrasatinc.com/products/)

## Environmental

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

## Mechanical

5W, 10W	10.5 x 6 x 3.8 in. 267 x 152 x 97 mm 9.3 lbs (4.2 kgs)
15W, 20W	10.5 x 6 x 5.2 in. 267 x 152 x 132 mm 10.8 lbs (4.9 kgs)

Specifications subject to change without notice.

Updated: September 25<sup>th</sup>, 2023