

## 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

The **IBUC R** is an integrated Intelligent Block Upconverter/GaAs SSPA designed for higher performance & reliability. Block Upconverters based on GaAs amplifier technology deliver superior performance in terminals transmitting multiple carriers due to their inherent high linearity & minimal backoff requirements.

Multiple sensors & a new, high-capacity microprocessor provide tools to optimize terminal performance. The **IBUC R** is an excellent choice for higher power Satcom terminals in telecom, defense, maritime, broadcast, & other demanding applications.

### Options

- 1+1 Transmit Redundancy
- High Stability Internal 10 MHz Reference with Auto-Detection
- Several Factory Select Bands
- AC or DC Input Models
- Mounting Brackets
- Optional Type N,F-Type or TNC Input Connectors
- Waveguide or Type N Output
- Handheld Terminal
- Cyber Hardened

## C-Band IBUC R

Mid-High power multi-carrier IBUC unit.



New Cyber  
Hardened  
version  
available

Multicarrier  
Application

100W  
to  
400W

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 7

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 max/ 50 Ohm  
 Input Connector: Type N Female (50 Ohm)  
 Input Connector Options: Type F (75 Ohm), TNC (50 Ohm)

**Input Power Detector Range**

Range Options:	Standard Version <sup>1</sup>	WGS Version <sup>2</sup>
80W-200W	-55 to -20 dBm	-35 to 0 dBm
400W	-50 to -15 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>
100W	81 dB min	70 dB min
125W	82 dB min	71 dB min
150W	83 dB min	72 dB min
175W	83 dB min	72 dB min
200W	84 dB min	73 dB min
400W	82 dB min	76 dB min

**Attenuator Range**: 30 dB Variable in 0.1 dB Steps

**Gain Flatness**

	Bands 1/2/3/4/5
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**

	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 a 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
VSWR	1.3:1 max

**Output Power**

	P1dB
100W	+50 dBm min
125W	+51 dBm min
150W	+51.8 dBm min
175W	+52.4 dBm min
200W	+53 dBm min
400W	+56 dBm min

Note: Output Power in Bands 4 & 5 is reduced by 0.5 dB  
 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 (80W-200W)
	-25 dBc max (400W)

**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	-70 dBc
Out Band	Complies with EN 301 443 & MIL-STD 188-164C

**Harmonics**: -50 dBc max.

**Output Noise Power Density**

TX	<- 74 dBm/Hz
RX	<- 145 dBm/Hz

**SSB Phase Noise**

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	DC	AC
DC	42 V min, 60 V max	
AC	100 to 240 VAC 50Hz / 60Hz	100W, 125W
	200 to 240 VAC 50Hz / 60Hz	150W to 400W

**Power Consumption**

	DC	AC
100W	700 W	800 VA
125W	800 W	900 VA
150W	1056 W	1200 VA
175W	1100 W	1250 VA
200W	1150 W	1300 VA
400W	N/A	2350 VA

**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 +55°C
Relative Humidity	100% Condensing
Altitude	10,000 ft (3,000 m) ASL

**Mechanical**

	DC Powered	AC Powered
100W - 200W	16.2 x 10 x 7.4 in. 411 x 254 x 188 mm.	16.2 x 10 x 7.6 in. 411 x 254 x 193 mm.
	32 lbs 14.5 kgs	33 lbs 14.9 kgs
400W	N/A	29 x 15 x 10.1 in. 737 x 381 x 257 mm. 83 lbs 37.6 kgs

(Dimensions not including isolators for 100W to 200W models)

Specifications subject to change without notice. Updated: October 19th, 2023



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