



## 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 BUC/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 with Eco-Mode
- High Stability Internal 10 MHz Reference with Auto-Detection
- Three Factory Select Bands (Low, Std, and Full Ku-Bands)
- AC or DC Input Models
- Mounting Brackets
- Optional Type N, F-Type, or TNC Input Connectors
- Handheld Terminal
- Cyber Hardened Core M&C
- WGS (Wideband Global SATCOM) compatible

## Ku-Band **IBUC R**

Mid-High power multi-carrier IBUC unit | 60W to 200W



New Cyber  
Hardened  
version  
available

Multicarrier  
Application

60W  
to  
200W

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)

# Ku-Band IBUC 7 60W to 200W

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 max/ 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>
60W	79 dB min	68 dB min
80W	80 dB min	69 dB min
100W	81 dB min	70 dB min
125W (band 3)	82 dB min	71 dB min
200W	83 dB min	73 dB min

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

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

**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	1.3:1 max

## Output Power (P1dB)

	Band 1 & 3	Band 2
60W	+47.8 dBm min	+47.5 dBm min
80W	+49.0 dBm min	+48.5 dBm min
100W	+50.0 dBm min	+49.5 dBm min
125W (Band 3)	+51.0 dBm min	
200W	+53 dBm min	+52.5 dBm min

**IMD3 (2 Carriers, 3 dB TOBO)** -24 dBc max

**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 Band	Complies with EN 301 428/430 & MIL-STD 188-164C

**Harmonics** -50 dBc Max

**Output Noise Power Density** TX <- 73 dBm/Hz  
RX <- 145 dBm/Hz

SSB Phase Noise	External Reference	IBUC 7
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: 10 MHz Level: -12 to +5 dBm

Internal Reference: Optional feature includes auto-detection of External Reference

## Local Oscillator Frequency

Sense	Non-Inverting
Band 1	13050 MHz
Band 2	12800 MHz
Band 3	11800 MHz

## IBUC Power Supply

Voltage		Power Consumption	
		DC	AC
DC	42 V min, 60 V max	60W	600 VA
	100 to 240 VAC	80W	850VA
AC	200 to 240 VAC	100W (Band 3)	900 VA
		100W (Bands 1 & 2)	1150 VA
		125W (Band 3)	900 VA
		200W	1900 VA

## Monitor & Control

Ethernet (HTTP, Telnet, SNMP) 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 Redundacy

## 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/) or at the [Cyber Hardened webpage](http://www.terrasatinc.com/terrasat-communications-launches-new-cyber-hardened-intelligent-bucs/) on <https://www.terrasatinc.com/terrasat-communications-launches-new-cyber-hardened-intelligent-bucs/>

## 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
60 W	12.2 x 7.2 x 6.5 in. 310 x 183 x 165 mm. 18.5 lbs 8.4 kgs	12.2 x 7.2 x 6.8 in. 310 x 183 x 173 mm. 19.5 lbs 8.8 kgs
80 W	16.2 x 10 x 7.4 in.	16.2 x 10 x 7.6 in.
100 W (Band 3)	411 x 254 x 188 mm. 32 lbs 14.5 kgs	411 x 254 x 193 mm. 33 lbs 15 kgs
100 W (Bands 1 & 2) & 125 W (Band 3)		23 x 10 x 7.4 in. 584 x 254 x 188 mm. 37 lbs 16.8 kgs
200 W		29 x 15 x 10.1 in. 737 x 381 x 257 mm. 83 lbs 38 kgs

Dimensions not including isolators for 60W & 80W (all bands) & 100W (band 3)

Specifications subject to change without notice.

Updated: April 9th 2024

**PART NUMBER CONFIGURATION | OPTIONS AVAILABLE FOR:**

**Ku-Band 60W to 200W GaAs IBUC ㉔**

Cyber Hardened Option Part Number

Example/Std Offer: IBB137145-2NC200NSWW-0000

IBB	XXXXXX	-	X	X	X	XXXX	S	W	W	-	XXXX	
							<b>Power Output</b>				<b>Optional Specs &amp; Features</b>	
							060U	60W			0000	Std Options and Std Specs
							080Q	80W			0218	WGS Compatibility Option
							100Q	100W (For Low Ku-Band only)				
							100C	100W (For Std and Full Bands)				<b>Color</b>
							125C	125W (For Low Ku-Band only)	W			Std Terrasat Inc Color (White)
							200N	200W	X			Other Colors (Please, Provide Color Specs)
							<b>Power Supply</b>					
							A	AC Powered, 100 to 240 VAC (Valid for 60W to 125W IBUCs only)				
							C	AC Powered, 200 to 240 VAC (Valid for 200W IBUCs only)				
							5	DC Powered (Valid for 60W to 80W IBUCs, and Low Ku-Band 100W IBUCs only)				
							<b>IF Input Connector</b>					
							N	N-Type IF Input Connector				
							F	F-Type IF Input Connector				
							<b>Spectral Sense and 10MHz Reference</b>					
							0	Non-Inverting + External 10MHz				
							2	Non-Inverting + Internal 10MHz Std (30ppb stability)				
							4	Non-Inverting + Internal 10MHz High Stability (5ppb)				
							<b>RF Frequency Plan</b>					
140145								14.000-14.500 GHz (Std Ku-Band)				
137145								13.750-14.500 GHz (Full Ku-Band)				
127132								12.750-13.250 GHz (Low Ku-Band)				

Std M&C Option Part Number

Example/Std Offer: IBR137145-2NC200WW-0019

IBR	XXXXXX	-	X	X	X	XXX	W	W	-	XXXX		
							<b>Power Output</b>			<b>Optional Specs &amp; Features</b>		
							062	60W		0019	Std product with Multicarrier compatibility only	
							080	80W		2018	WGS Compatibility Option + Multicarrier	
							100	100W				
							125	125W			<b>Color</b>	
							200	200W	W		Std Terrasat Inc Color (White)	
									X		Other Colors (Please Provide Color Specs)	
							<b>Power Supply</b>					
							A	AC Powered, 100 to 240 VAC (Valid for 60W to 125W IBUCs only)				
							C	AC Powered, 200 to 240 VAC (Valid for 200W IBUCs only)				
							5	DC Powered (Valid for 60W to 80W IBUCs, and Low Ku-Band 100W IBUCs only)				
							<b>IF Input Connector</b>					
							N	N-Type IF Input Connector				
							F	F-Type IF Input Connector				
							<b>Spectral Sense and 10MHz Reference</b>					
							0	Non-Inverting + External 10MHz				
							2	Non-Inverting + Internal 10MHz Std (30ppb stability)				
							4	Non-Inverting + Internal 10MHz High Stability (5ppb)				
							<b>RF Frequency Plan</b>					
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Note: Consult Terrasat Communications Inc for more options.