

## 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 G** is a full-featured Intelligent Block Upconverter with Gallium Nitride amplifier technology. GaN advantages include higher power in a smaller outdoor enclosure and low power consumption. Designed for long lifetime performance in demanding environments.

Multiple sensors & a new, high-capacity microprocessor provide tools to optimize remote terminal performance. The **IBUC G** is a popular choice for satcom uplinks for telecom, government, defense and other demanding applications.

### Options

- 1+1 Transmit Redundancy
- High Stability Internal 10 MHz Reference with Auto-Detection
- Three Factory Select Bands (Low, Std, and Full Ku-Bands)
- 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 G

100W Compact GaN IBUC for multi-carrier application



New **Cyber  
Hardened**  
version  
available

Multicarrier  
Application

100W  
 $P_{Lin}$  50W

GaN  
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 G 100W

| Frequency Range     | RF                 | IF              |
|---------------------|--------------------|-----------------|
| Band 1 Std Ku-Band  | 14.00 to 14.50 GHz | 950 to 1450 MHz |
| Band 2 Full Ku-Band | 13.75 to 14.50 GHz | 950 to 1700 MHz |
| Band 3 Low Ku-Band  | 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    | 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> |
| 100W (All Bands)                                             | 81 dB min                     | 70 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    |

## 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

|                        |           |
|------------------------|-----------|
|                        | All Bands |
|                        | 100W      |
| P <sub>Sat</sub> (typ) | +50 dBm   |
| P <sub>Lin</sub> (min) | +47 dBm   |

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

Two Tone measured at 5 MHz and 150 MHz spacing.

19 dB min of NPR (Noise Power Ratio) at 3 dB B.O from P<sub>Lin</sub>.

|                          |          |
|--------------------------|----------|
| Level stability with ALC | ± 0.5 dB |
|--------------------------|----------|

|                             |                       |
|-----------------------------|-----------------------|
| Output power detector range | Rated power to -20 dB |
|-----------------------------|-----------------------|

|                        |               |
|------------------------|---------------|
| Power reading accuracy | ± 1.0 dB max. |
|------------------------|---------------|

## Spurious @P<sub>Lin</sub>

|         |         |
|---------|---------|
| In Band | -65 dBc |
|---------|---------|

|             |                                                 |
|-------------|-------------------------------------------------|
| Out of Band | Complies with EN 301 428/430 & MIL-STD 188-164C |
|-------------|-------------------------------------------------|

|                              |              |
|------------------------------|--------------|
| Harmonics @ P <sub>Lin</sub> | -60 dBc max. |
|------------------------------|--------------|

## Output Noise Power Density

|                  |
|------------------|
| Tx < - 75 dBm/Hz |
|------------------|

|                   |
|-------------------|
| Rx < - 145 dBm/Hz |
|-------------------|

## SSB Phase Noise

| External Reference | IBUC G      |
|--------------------|-------------|
| 10 Hz              | -115 dBc/Hz |
| 100 Hz             | -140 dBc/Hz |
| 1 KHz              | -150 dBc/Hz |
| 10 KHz             | -155 dBc/Hz |
| 100 KHz            | N/A         |
| 1 MHz              | N/A         |

## 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           | AC                                  |
|                   | 100 to 240 VAC   50 Hz / 60 Hz      |
| Power Consumption | P <sub>Sat</sub> / P <sub>Lin</sub> |
| 100W (All Bands)  | 650VA / 550VA                       |

## 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/) or at the [Cyber Hardened webpage](https://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

|        |                                              |
|--------|----------------------------------------------|
| Size   | 12.2 x 7.2 x 6.8 x in.<br>310 x 183 x 173 mm |
| Weight | 19.5 lbs<br>8.8 kg                           |

(Dimensions not including isolators)

Specifications subject to change without notice.

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## Questions? Contact Us

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Note: Consult Terrasat Communications Inc for more options.