

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 new 160W Ka-Band **IBUC G** delivers the highest output power in the product line for high data rate Ka-Band applications. Excellent linearity & phase noise performance support higher order modulation satellite links. Ideal for applications such as telecom & network hubs. Multiple sensors & a new, high-capacity microprocessor provide tools to optimize terminal performance.

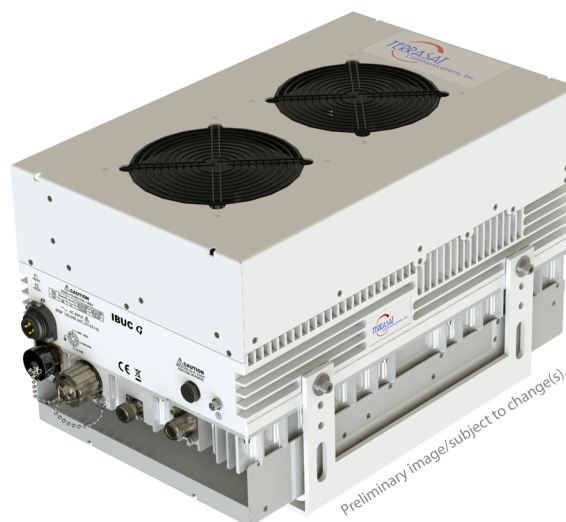
The Tri-Band version includes selectable multiband controls for multicarrier transmissions, deploying high versatility for your SATCOM terminals. Gallium Nitride amplifier technology enables smaller packaging for antenna mounting, eliminating losses in long waveguide runs. The greater power efficiency translates to an appreciable reduction in power consumption. The GaN **IBUC G** outperforms older TWTA's by providing the maximum linear output power, combining the best of solid-state reliability and advanced technology.

Options

- 1+1 Transmit Redundancy with Eco-Mode
- High Stability Internal 10 MHz Reference with Auto-Detection
- Mounting Brackets
- N-Type or F-Type Input Connectors
- Handheld Terminal
- WGS (Wideband Global SATCOM) compatible
- Cyber Hardened Core M&C

Ka-Band | Tri-Band **IBUC G**

125W & 160W GaN **IBUC** for
Multiband, Multi-Orbit, and Multicarrier application
Three Software Selectable Sub-Bands



Preliminary image/subject to change(s).

New **Cyber
Hardened
Core** version
available

Multiband
Selectable
RF + IF

Multicarrier
Application

125W
P_{1dB} 62.5W
160W
P_{1dB} 80W

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

Tri-Band Ka-Band 125W & 160W IBUC

For Multiband, Multicarrier Application

| Frequency Range | Software Selectable | Software Selectable |
|-------------------------------------|---------------------|---------------------|
| | RF | IF |
| Three Software Selectable Sub-Bands | 27.5 to 28.5 GHz | 1.0 to 2.0 GHz |
| | 28.25 to 29.25 GHz | |
| | 29.0 to 30.0 GHz | 950 to 1950 MHz |

Note: Any RF can be software selected with any IF

| Input | | |
|-------------------------|-------------------------------|--------------------------|
| VSWR/ Impedance | 1.5:1 / 50 Ohm | |
| Input Connector | Type N Female (50 Ohm) | |
| Input Connector Options | Type F (75 Ohm) | |
| Input Power Detector | Standard Version ¹ | WGS Version ² |
| 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 ¹ | WGS Version ² |
| 125W | 79 dB min | 71 dB min |
| 160W | 79 dB min | 72 dB min |

¹Terrasat's Standard Version has a higher gain to reduce the need for line amplifiers in long cable runs (IFL).

²The lower gain WGS Compatible Versions allow 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 | for any Sub-Band |
| 54 MHz | 2 dB p-p max | |


| Gain Variation Over Temperature | | |
|---------------------------------|--------------|------------------|
| Open Loop | 4 dB p-p max | for any Sub-Band |
| With AGC | 1 dB p-p max | |

| RF Output | | |
|-----------|---------------------------|--|
| Interface | WR28 UG Cover with Groove | |
| VSWR | 1.3:1 max | |

| Output Power | | | |
|--------------|-----------------|-----------------|--|
| | P_{sat} (typ) | P_{Lin} (min) | |
| 125W | +51 dBm | +48 dBm | |
| 160W | +52 dBm | +49 dBm | |

P_{Lin} is the maximum linear power as defined by MIL STD 188-164C

| | | |
|-----------------------------|-----------------------|--|
| 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_{Lin} | | |
| In Band | -60 dBc | |
| Out of Band | -60 dBc | |
| | Complies with: | |
| | - ETSI EN 301 360 | |
| | - ETSI EN 301 459 | |
| | - MIL-STD 188-164C | |
| Output Noise Power Density | Tx < - 73 dBm/Hz | |

| SSB Phase Noise | External Reference | IBUC  |
|-----------------|--------------------|-----------------------------------------------------------------------------------------|
| 10 Hz | -125 dBc/Hz | -43 dBc/Hz |
| 100 Hz | -150 dBc/Hz | -63 dBc/Hz |
| 1 KHz | -160 dBc/Hz | -73 dBc/Hz |
| 10 KHz | -165 dBc/Hz | -83 dBc/Hz |
| 100 KHz | -165 dBc/Hz | -93 dBc/Hz |
| 1 MHz | N/A | -103 dBc/Hz |

External Reference (Multiplexed on TX IFL)

Frequency: 10 MHz Level: -12 to +5 dBm

Internal Reference is an optional feature that includes auto-detection of External Reference

| Local Oscillator Frequency | | |
|----------------------------|--------------------|---------------------|
| Sense | Non-Inverting | Non-Inverting |
| | IF: 1.0 to 2.0 GHz | IF: 950 to 1950 MHz |
| Sub-Band 1 | 26.50 GHz | 26.55 GHz |
| Sub-Band 2 | 27.25 GHz | 27.30 GHz |
| Sub-Band 3 | 28.00 GHz | 28.05 GHz |

| IBUC Power Supply | |
|-------------------|-----------------------------|
| | AC |
| Voltage | 100 to 240 VAC 50Hz/60Hz |
| Power Consumption | @ P_{Lin} / P_{Sat} |
| 125W | 800/1050 VA |
| 160W | 900/1150 VA |

Monitor & Control - For Standard Units

Ethernet (HTTP, Telnet, SNMPv2c) via RJ45 Connector

RS232/485, Handheld Terminal via MS-Type Connector

Monitor & Control - For Cyber Hardened Core Versions (Optional)

Ethernet (HTTPS, SSHv2, Selectable SNMP V1, V2, V3 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.https://terrasatinc.com/terrasat-communications-launches-new-cyber-hardened-intel-ligent-bucs/](https://terrasatinc.com/terrasat-communications-launches-new-cyber-hardened-intel-ligent-bucs/)

Environmental

| | |
|-----------------------|-------------------------|
| Operating Temperature | |
| 125W & 160 W | -40°C to +55°C |
| Relative Humidity | 100% Condensing |
| Altitude | 10,000 ft (3,000 m) ASL |

Mechanical

| | |
|-------------|----------------------|
| | AC Powered |
| 125W & 160W | 16.2 x 10 x 10.2 in. |
| | 411 x 254 x 259 mm |
| | 45 lbs 20 kgs |

Specifications subject to change without notice.

Updated: July 25th, 2024



PART NUMBER CONFIGURATION | OPTIONS AVAILABLE FOR:

Ka-Band 80W to 160W GaN IBUCs - Multiband, Tri-Band, Dual Band / Software Selectable Conversion

Cyber Hardened Option Part Number Example/Std Offer: IBI290310-2NA160QKWW-0000

Std M&C Option Part Number Example/Std Offer: IBE290310-2NA160QKWW-0000

| IB | X | XXXXXX | - | X | X | A | XXXX | K | W | W | - | XXXX |
|----|---|---------------------------|---|---|---|---|--------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|--------------------------------------------|
| | | | | | | | 080U 80W | | | | | 0000 Std Options and Std Specs |
| | | | | | | | 100U 100W | | | | | 0218 WGS Compatibility Option |
| | | | | | | | 125Q 125W | | | | | |
| | | | | | | | 160Q 150W | | | | | |
| | | | | | | A | AC Powered | | | | | |
| | | | | | | N | N-Type IF Input Connector | | | W | | Std Terrasat Inc Color (White) |
| | | | | | | F | F-Type IF Input Connector | | | X | | Other Colors (Please, Provide Color Specs) |
| | | | | | | 0 | Non-Inverting + External 10MHz | | | | | |
| | | | | | | 2 | Non-Inverting + Internal 10MHz | | | | | |
| | | 275300 | | | | | Tri-Band: Software Selectable RF+IF → RF: 27.5 to 30.0 GHz {(27.5-28.5GHz)+(28.25-29.25GHz)+(29.0-30.0GHz)} IF: 1.0-2.0 GHz or 950-1950 MHz | | | | | |
| | | 290310 | | | | | Dual-Band: Software Selectable RF+IF → RF: 29.0 to 31.0 GHz {(29.0-30.0GHz)+(30.0-31.0GHz)} IF: 1.0-2.0 GHz or 950-1950 MHz | | | | | |
| | I | Cyber Hardened Core M&C | | | | | | | | | | |
| | E | Standard Terrasat Inc M&C | | | | | | | | | | |

Note: Consult Terrasat Communications Inc for more options.