



IBUC **G** GaN

Ku-Band Intelligent Block Upconverter

IBUC Advantages

Integrated BUC/SSPA for higher performance and reliability.

Integral AC power supply.

Internal 10MHz reference option automatically switches to internal reference when external reference is not detected.

Low phase noise exceeds IESS308/309 requirements by a minimum of 5 dB.

NMS-friendly interfaces enable remote management of your earth station RF.

Embedded Web pages provide management for small networks using any Web browser.

AGC or ALC circuits hold gain or output level constant.

30 dB User-adjustable gain in 0.1 dB steps preserves modem dynamic range.

Output sample port included.

Advanced user interfaces:

- TCP/IP HTTP with embedded Web pages via RJ45 user interface connector
- SNMP
- TELNET through TCP/IP
- FSK through TX IFL cable
- RS232/485 serial port
- Hand-held terminal



The revolutionary **IBUC **G**** has advanced features to take your network to new heights.

IBUC **G** offers significant benefits:

- Low terminal cost
- Simple design and installation
- Superior RF performance
- Simplified 1+1 configuration

New interfaces connect you to extensive M&C facilities for network management or local access. This powerful new M&C enables:

- **Trouble-free commissioning** with easy, point-and-click installation/configuration
- Continuous **verification** of performance with time-stamped alarm history
- Simplified **monitoring** of terminal status

The **IBUC **G**** comes with a complete set of diagnostic tools including:

- 10 MHz input detector
- Input voltage and current monitoring
- Transmit L-band input level detector
- Transmit RF output level detector
- User configurable thresholds and alarms

Unique to the **IBUC** are internal AGC and ALC functions that satisfy demanding applications with stringent specifications.

For additional information contact Terrasat Sales at +1 408-782-5911 or by Email: Sales@Terrasatinc.com.
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Ku-Band Intelligent Block Upconverter

| 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 |

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 | -55 to -20 dBm |

Gain

| | |
|--|-----------|
| Small Signal Gain (L-band to RF) with attenuator set to 0 dB | |
| 150W / 200W | 83 dB min |

| | |
|------------------|--------------------------------|
| 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 | <u>150W</u> | <u>200W</u> |
| P _{sat} (typ) | +51.8 dBm | +53 dBm |
| P _{lin} (min) | +50 dBm | +51 dBm |

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

| | |
|-----------------------------|-----------------------|
| 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 | -65 dBc |
| Out of Band | Complies with EN 301 428/430 and MIL-STD 188-164B |

Harmonics @ P_{lin} -60 dBc max.

Output Noise Power Density

| | |
|----|---------------|
| TX | < -73 dBm/Hz |
| RX | < -145 dBm/Hz |

| SSB Phase Noise | External reference | IBUC |
|-----------------|--------------------|-------------|
| 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 |

Local Oscillator Frequency

| | |
|--------|---------------|
| Sense | Non-Inverting |
| Band 1 | 13050 MHz |
| Band 2 | 12800 MHz |

IBUC Power Supply

| | | |
|---------|----|----------------|
| Voltage | AC | 200 to 240 VAC |
|---------|----|----------------|

| | | |
|-------------------|---------------------|-------------|
| Power Consumption | <u>150W</u> | <u>200W</u> |
| | at P _{lin} | 1150 VA |
| | at P _{sat} | 1300 VA |
| | | 1500 VA |

Monitor and Control

Ethernet (HTTP, Telnet, SNMP) via RJ45 connector,
RS232/485, Hand-held Terminal via MS-type connector,
FSK multiplexed on TX IFL.

Environmental

| | |
|-----------------------|---------------------------|
| Operating temperature | -40°C to +55°C |
| Relative humidity | 100% condensing |
| Altitude | 10,000 ft., (3,000 m) ASL |

Mechanical

| | |
|--------|---|
| Size | 23 x 10 x 7.4 in. 584 x 254 x 188 mm |
| Weight | 37 lbs, 17 kg |

Specifications are subject to change without notice.

IBUC G Ku-Band Data Sheet 2/29/16



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