



Terrasat **IBUC 2e**

C-Band Intelligent Block Upconverter

Low Energy Consumption Model

IBUC Advantages

Integrated BUC/SSPA for higher performance and reliability.

Low energy consumption for use with Modems equipped with limited capacity BUC power supplies. DC power supplied via IFL coax.

High linearity.

Low phase noise better than IESS308/309 requirements by a minimum of 10 dB.

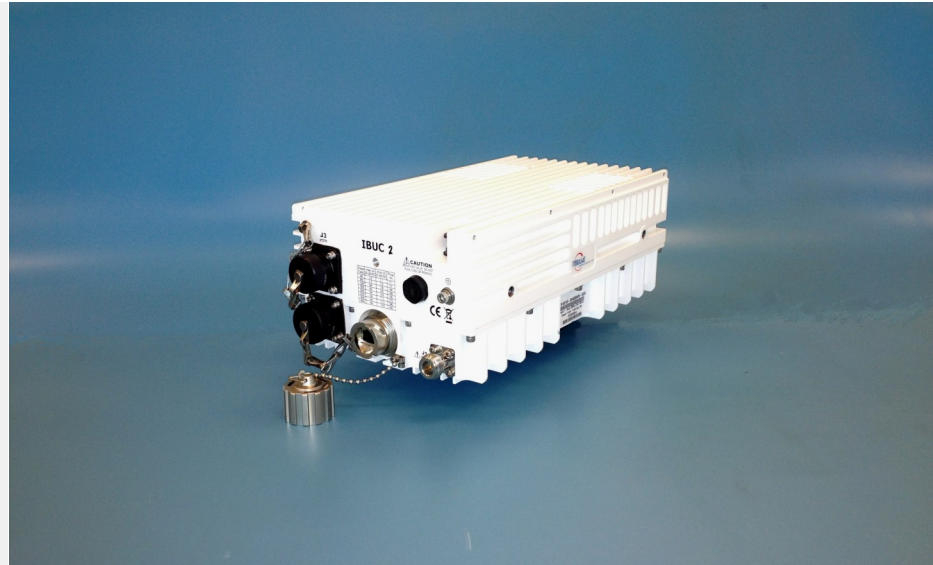
Embedded Web pages provide management for small networks using any Web browser.

AGC or ALC circuits hold gain or output level constant.

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

Advanced user interfaces:

- TCP/IP HTTP with embedded Web pages via RJ-45 connector
- SNMP
- TELNET through TCP/IP
- FSK through TX IFL cable
- RS232/485 serial port
- Hand-held terminal



IBUC 2 offers significant benefits:

- High performance in a compact, cost effective package
- Simple design and installation
- Simplified 1+1 configuration

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

IBUC 2 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.

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| Frequency range | RF | IF |
|-------------------|------------------|------------------|
| Band 1 Std C | 5850 to 6425 MHz | 950 to 1525 MHz |
| Band 2 Palapa/STI | 6425 to 6725 MHz | 975 to 1275 MHz |
| Band 3 INSAT | 6725 to 7025 MHz | 1150 to 1450 MHz |
| Band 4 Ext. C | 5850 to 6650 MHz | 950 to 1750 MHz |
| Band 5 Full C | 5850 to 6725 MHz | 975 to 1850 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

| | |
|------|-----------|
| 5 W | 68 dB min |
| 10 W | 71 dB min |
| 15 W | 73 dB min |
| 20 W | 74 dB min |

| | | |
|------------------|--------------------------------|------------------|
| Attenuator range | 30 dB variable in 0.1 dB steps | |
| Gain flatness | <u>Bands 1/2/3</u> | <u>Bands 4/5</u> |
| Full band | 3 dB p-p max | 4 dB p-p max |
| 36 MHz | 1 dB p-p max | 1.5 dB p-p max |
| 1 MHz | 0.25 dB p-p | 0.25 dB p-p |

Gain variation over temperature

| | | |
|-----------|--------------|--------------|
| Open loop | 3 dB p-p max | 4 dB p-p max |
| With AGC | 1 dB p-p max | 1 dB p-p max |

RF Output

| | |
|--------------------|------------------|
| Interface | CPR-137G or N(f) |
| VSWR | 1.5:1 max |
| Rated output power | P_{1dB} |
| 5 W | +37 dBm min |
| 10 W | +40 dBm min |
| 15 W | +41.8 dBm min |
| 20 W | +43 dBm min |

| | |
|------------------------------|---|
| IMD3 (2 carriers, 3 dB TOBO) | -27 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 -70 dBc |
| | Out of Band Complies with EN 301 443 and MIL-STD 188-164B |

Harmonics -50 dBc max

Output Noise Power Density

| | |
|----|---------------|
| TX | < -83 dBm/Hz |
| RX | < -145 dBm/Hz |

| SSB Phase Noise | External refer- | IBUC |
|-----------------|-----------------|-------------|
| 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 | n/a |
| Band 3 | 8175 MHz | n/a |
| Band 4 | 7600 MHz | 4900 MHz |
| Band 5 | 7700 MHz | 4900 MHz (IF 950-1825 MHz) |

IBUC Power Supply

| | | |
|---------|----------|------------------|
| Voltage | 5W, 10W | 18 to 75 VDC |
| | 15W, 20W | 48V \pm 11V |
| | | DC via coax only |

Power Consumption

| | |
|------|-------|
| 5 W | 50 W |
| 10 W | 65 W |
| 15 W | 100 W |
| 20 W | 120 W |

Monitor and Control

Ethernet (HTTP, Telnet, SNMP) via RJ-45 connector,
RS232/485, Hand-held Terminal, MS-type connector,
FSK multiplexed on TX IFL.

Environmental

| | |
|-----------------------|---------------------------|
| Operating temperature | -40°C to +60°C |
| Relative humidity | 100% condensing |
| Altitude | 10,000 ft., (3,000 m) ASL |

Mechanical

| | |
|----------|--------------------------------|
| 5W,10W | 10.5 x 6 x 3.8 in. 9.3 lbs |
| 15W, 20W | 10.5 x 6 x 5.2 in. 10.8 lbs |

Specifications are subject to change without notice.

