

## 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

### 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 «

## Ku-Band IBUC 2e

Low Energy Consumption Model



4W  
to  
16W

GaAs  
Tech  
Amplifier

3  
Year  
Warranty

## Applications

When the requirement calls for a full-featured Block Upconverter that is powered by the modem, the **IBUC 2e** is an excellent fit. The **IBUC 2e** draws less power from the modem ODU power supply than the **IBUC 2** model. Auto-ranging DC input power is supplied via the IFL coaxial cable only. There is no external power connector.

Compatibility with a specific model modem is based on the ODU power supply capacity of that modem. It is also important to take into consideration voltage drop over the IFL cable.

### Options

- High Stability Internal 10 MHz Reference with Auto-Detection
- Three Factory Select Bands
- Mounting Brackets
- Optional Type N or F-Type Input Connectors
- Handheld Terminal

# Ku-Band IBUC 2e

## Frequency Range

|                | RF                 | IF              |
|----------------|--------------------|-----------------|
| Band 1 Std Ku  | 14.0 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 / 50 Ohm                |
| Input Connector            | Type N Female (50 Ohm)        |
| Input Connector Options    | Type F (75 Ohm), TNC (50 Ohm) |
| Input Power Detector Range | -55 to -20 dBm                |

## Gain

Small Signal Gain (L-band to RF) with attenuator set to 0 dB

|     |           |
|-----|-----------|
| 4W  | 67 dB min |
| 8W  | 70 dB min |
| 12W | 72 dB min |
| 16W | 73 dB min |

Attenuator Range 30 dB variable in 0.1 dB steps

| Gain Flatness | Bands 1 & 3     | Band 2          |
|---------------|-----------------|-----------------|
| 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 max | 0.25 dB p-p max |

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 | WR75 Cover with Groove |
| VSWR      | 1.5:1 max              |

Rated Output Power

|     | P <sub>1dB</sub> |
|-----|------------------|
| 4W  | +36 dBm min      |
| 8W  | +39 dBm min      |
| 12W | +40.8 dBm min    |
| 16W | +42 dBm min      |

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

|                              |   |
|------------------------------|---|
| IMD3 (2 Carriers, 3 dB TOBO) | -25 dBc max   |
| Level Stability with ALC     | ± 0.5 dB  |
| Output Power Detector Range  | Rated Power to -20 dB                                     |
| Power Reading Accuracy       | ± 1.0 max   |
| Spurious                     |   |
|                              | In Band -65 dBc   |
|                              | Out Band Complies with EN 301 428/430 & MIL STD 188-164B. |
| Harmonics                    | -50 dBc max   |
| Output Noise Power Density   |   |
|                              | TX <- 84 dBm/Hz   |
|                              | RX <- 145 dBm/Hz  |

## SSB Phase Noise

|         | External Reference | IBUC 2e     |
|---------|--------------------|-------------|
| 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 & Level | 10 MHz | -12 to +5 dBm |
|-------------------|--------|---------------|

Internal Reference - Optional

## Local Oscillator Frequency

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

## IBUC Power Supply

|         |          |                  |
|---------|----------|------------------|
| Voltage | 4W, 8W   | 18 to 75 VDC     |
|         | 12W, 16W | 37 to 60 VDC     |
|         |          | DC via coax only |

Power Consumption

|     |       |
|-----|-------|
| 4W  | 55 W  |
| 8W  | 65 W  |
| 12W | 110 W |
| 16W | 120 W |

## Monitor & Control

Ethernet (HTTP, Telnet, SNMPv2c) via RJ45 Connector

RS232/485, Handheld Terminal via 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

|          |  |
|----------|--|
| 4W, 8W   | 10.5 x 6 x 3.8 in.<br>267 x 152 x 97 mm<br>9.3 lbs (4.2 kgs)   |
| 12W, 16W | 10.5 x 6 x 5.2 in.<br>267 x 152 x 132 mm<br>10.8 lbs (4.9 kgs) |

Specifications subject to change without notice.

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## Questions? Contact Us

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