

IBUC 2 **DBS-Band Intelligent Block Upconverter**

IBUC Advantages

Integrated BUC/SSPA for higher performance and reliability.

DC power can be supplied via IFL coax or separate DC connector for 5 W through 8 W models.

All models available with integral AC power supply or separate DC power supply.

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

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 modern 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



The latest evolution of the **IBUC** has all of the advanced features and reliability of the original **IBUC** in a new, more compact package.

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

The **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 2** are internal AGC and ALC functions that satisfy demanding applications with stringent specifications.

IBUC 2 DBS-Band Intelligent Block Upconverter

| Frequency range | RF | IF |
|-----------------|------------------|------------------|
| Band 1 | 17.3 to 18.1 GHz | 950 to 1750 MHz |
| Band 2 | 18.1 to 18.4 GHz | 1150 to 1450 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

| | |
|------|-----------|
| 3 W | 66 dB min |
| 5 W | 68 dB min |
| 8 W | 70 dB min |
| 10 W | 71 dB min |
| 20 W | 74 dB min |
| 25 W | 75 dB min |

Attenuator range 30 dB variable in 0.1 dB steps

| Gain flatness | Band 1 | Band 2 |
|---------------|--------------|--------------|
| Full band | 4 dB p-p max | 3 dB p-p max |
| 36 MHz | 1 dB p-p max | 1 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 |
| With AGC | 1 dB p-p max |

RF Output

| | |
|-----------|------------------------|
| Interface | WR62 cover with groove |
| VSWR | 1.5:1 max |

Rated output power (P_{1dB})

| | |
|------|---------------|
| 3 W | +34.8 dBm min |
| 5 W | +37 dBm min |
| 8 W | +39 dBm min |
| 10 W | +40 dBm min |
| 20 W | +43 dBm min |
| 25 W | +44 dBm min |

| | |
|------------------------------|-----------------------|
| IMD3 (2 carriers, 3 dB TOBO) | -23 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 | -60 dBc max. |
| Harmonics | -50 dBc max |
| Output Noise Power Density | |
| TX | < -81 dBm/Hz |
| RX | < -150 dBm/Hz |

| SSB Phase Noise | External refer- | IBUC |
|-----------------|-----------------|-------------|
| 10 Hz | -115 dBc/Hz | -47 dBc/Hz |
| 100 Hz | -140 dBc/Hz | -72 dBc/Hz |
| 1 kHz | -150 dBc/Hz | -82 dBc/Hz |
| 10 kHz | -155 dBc/Hz | -87 dBc/Hz |
| 100 kHz | n/a | -92 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 | 16350 MHz |
| Band 2 | 16950 MHz |

IBUC Power Supply

| | DC | AC |
|---------|-------------|----------------|
| Voltage | 48 ± 11 VDC | 100 to 240 VAC |

DC via coax available on 5 W and 8 W

Power Consumption

| | | |
|------|-------|--------|
| 3 W | 60 W | 75 VA |
| 5 W | 95 W | 120VA |
| 8 W | 130 W | 150 VA |
| 10 W | 150 W | 170 VA |
| 20 W | 280 W | 320 VA |
| 25 W | 310 W | 350 VA |

Monitor and Control

Ethernet (HTTP, Telnet, SNMP) via RJ-45 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 | DC powered | AC powered |
|------------|--------------------------------|--------------------------------|
| 3 W - 5 W | 10.5 x 6 x 3.8 in. 9.3 lbs | 10.5 x 6 x 4.2 in. 10.5 lbs |
| 8 W - 20 W | 10.5 x 6 x 5.2 in. 10.9 lbs | 10.5 x 6 x 5.6 in. 11.9 lbs |
| 25 W | 10.5 x 6 x 5.7 in. 10.9 lbs | 10.5 x 6 x 6.1 in. 11.9 lbs |

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