

## **IBUC 2** **Ku-Band Intelligent Block Upconverter**

### **IBUC Advantages**

Integrated BUC/SSPA for higher performance and reliability.

High linearity.

DC power can be supplied via IFL coax or separate DC connector for 4 W through 16 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.

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

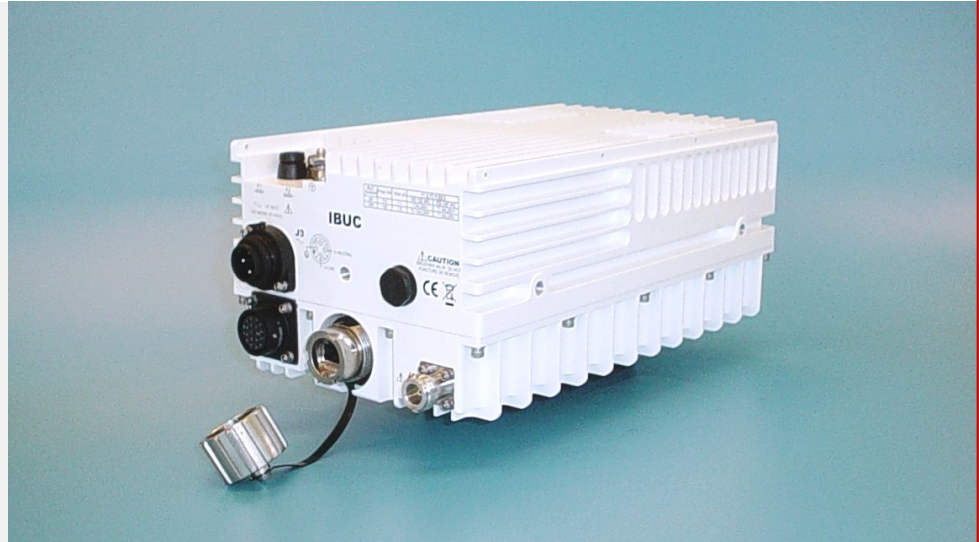
Embedded Web pages provide management for small networks using any Web browser.

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



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

## IBUC 2

### Ku-Band Intelligent Block Upconverter

Frequency range	RF	IF
Band 1 Std Ku	14.00 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 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

4 W	67 dB min
8 W	70 dB min
12 W	72 dB min
16 W	73 dB min
20 W	74 dB min
25 W	75 dB min
30 W	76 dB min
40 W	77 dB min

Attenuator range 30 dB variable in 0.1 dB steps

Gain flatness	Band 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	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	1.5:1 max	
Rated output power	P <sub>1dB</sub>	P <sub>linear</sub>
4 W	+36 dBm min	34.5 dBm
8 W	+39 dBm min	37.5 dBm
12 W	+40.8 dBm min	39.3 dBm
16 W	+42 dBm min	40.5 dBm
20 W	+43 dBm min	41.5 dBm
25 W	+44 dBm min	42.5 dBm
30 W	+44.8 dBm min	43.3 dBm
40 W	+46 dBm min	44.5 dBm

P<sub>linear</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 dB max
Spurious	In Band -65 dBc
	Out of Band Complies with EN 301 428/430 and MIL-STD 188-164B

Harmonics -50 dBc max

Output Noise Power Density

TX	< -79 dBm/Hz
RX	< -145 dBm/Hz

SSB Phase Noise	External refer-	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
Band 3	11800 MHz

IBUC Power Supply	DC	AC
Voltage	48 ± 11 VDC	100 to 240 VAC
Option for 4 W, 8 W:	24 ± 4 VDC	
DC via coax available on 4 W - 16 W		

Power Consumption

4 W	77 W	85 VA
8 W	80 W	115 VA
12 W	125 W	158 VA
16 W	168 W	200 VA
20 W	200 W	225 VA
25 W	250 W	270 VA
30 W	270 W	300 VA
40 W	380 W	420 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

4W - 25W	-40°C to +60°C
30W - 40W	-40°C to +55°C

Relative humidity 100% condensing

Altitude 10,000 ft., (3,000 m) ASL

Mechanical	DC powered	AC powered
4 W - 8 W	10.5 x 6 x 3.8 in. 9.3 lbs	10.5 x 6 x 4.2 in. 10.5 lbs
12 W - 20 W w/fan	10.5 x 6 x 5.2 in. 10.9 lbs	10.5 x 6 x 5.6 in. 11.9 lbs
25 W - 40 W w/fan	10.5 x 6 x 5.7 in. 12.3 lbs	10.5 x 6 x 6.1 in. 13.5 lbs

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