

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.

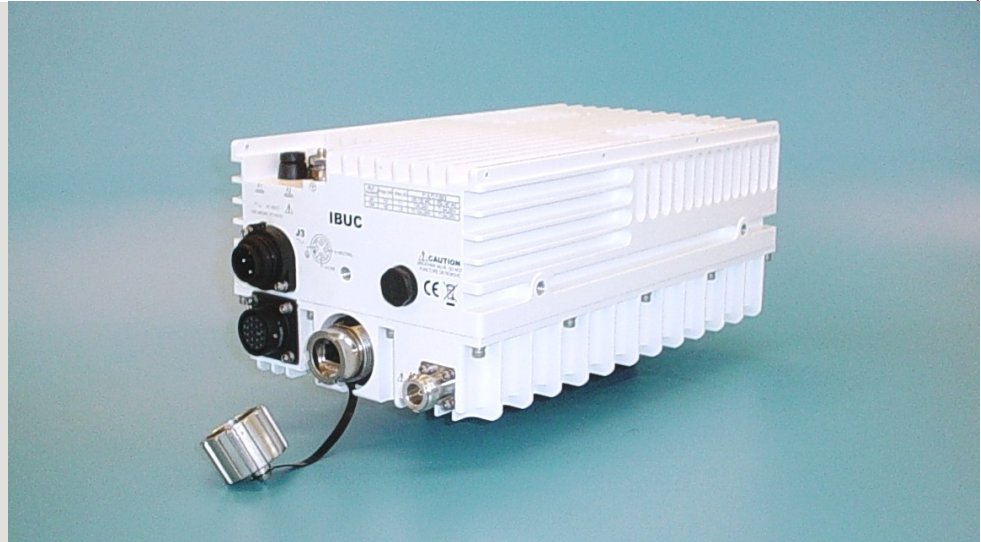
Embedded Web pages provide management for small networks using any Web browser.

AGC or ALC circuits hold gain or output level constant.

30 dB User-adjustable gain in 0.1 dB steps preserves 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** are internal AGC and ALC functions that satisfy demanding applications with stringent specifications.

IBUC 2

Ku-Band Intelligent Block Upconverter

Frequency range	RF	IF	SSB Phase Noise	External reference	IBUC
Band 1 Std Ku	14.00 to 14.50 GHz	950 to 1450 MHz	10 Hz	-115 dBc/Hz	-50 dBc/Hz
Band 2 Full Ku	13.75 to 14.50 GHz	950 to 1700 MHz	100 Hz	-140 dBc/Hz	-75 dBc/Hz
Band 3 Low Ku	12.75 to 13.25 GHz	950 to 1450 MHz	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
Input			External Reference (multiplexed on TX IFL)		
VSWR / Impedance	1.5:1 max / 50 Ohm		Frequency	10 MHz	
Input Connector	Type N female (50 Ohm)		Level	-12 to +5 dBm	
Input Connector options	Type F (75 Ohm), TNC (50 Ohm)		Internal Reference - optional		
Input power detector	-55 to -20 dBm		Local Oscillator Frequency		
Gain			Sense	Non-Inverting	
Small Signal Gain (L-band to RF) with attenuator set to 0 dB			Band 1	13050 MHz	
4 W	67 dB min		Band 2	12800 MHz	
8 W	70 dB min		Band 3	11800 MHz	
12 W	72 dB min		IBUC Power Supply		
16 W	73 dB min			DC	AC
20 W	74 dB min		Voltage	48 ± 11 VDC	100 to 240 VAC
25 W	75 dB min		Option for 4 W, 8 W:	24 ± 4 VDC	
30 W	76 dB min		DC via coax available on 4 W - 16 W		
40 W	77 dB min		Power Consumption		
Attenuator range			4 W	77 W	85 VA
30 dB variable in 0.1 dB steps			8 W	80 W	115 VA
Gain flatness			12 W	125 W	158 VA
	<u>Band 1 & 3</u>	<u>Band 2</u>	16 W	168 W	200 VA
Full band	3 dB p-p max	4 dB p-p max	20 W	200 W	225 VA
36 MHz	1 dB p-p max	1 dB p-p max	25 W	250 W	270 VA
1 MHz	0.25 dB p-p	0.25 dB p-p	30 W	270 W	300 VA
Gain variation over temperature			40 W	380 W	420 VA
Open loop	3 dB p-p max		Monitor and Control		
With AGC	1 dB p-p max		Ethernet (HTTP, Telnet, SNMP) via RJ-45 connector,		
RF Output			RS232/485, Hand-held Terminal via MS-type connector,		
Interface	WR75 cover with groove		FSK multiplexed on TX IFL.		
VSWR	1.5:1 max		Environmental		
Rated output power	P_{1dB}	P_{linear}	Operating temperature		
4 W	+36 dBm min	34.5 dBm	4W - 25W		
8 W	+39 dBm min	37.5 dBm	30W - 40W		
12 W	+40.8 dBm min	39.3 dBm	Relative humidity		
16 W	+42 dBm min	40.5 dBm	100% condensing		
20 W	+43 dBm min	41.5 dBm	Altitude		
25 W	+44 dBm min	42.5 dBm	10,000 ft., (3,000 m) ASL		
30 W	+44.8 dBm min	43.3 dBm	Mechanical		
40 W	+46 dBm min	44.5 dBm	DC powered		
P_{linear} is the maximum linear power as defined by MIL-STD-188-164B.			AC powered		
IMD3 (2 carriers, 3 dB TOBO)	-25 dBc max		4 W - 8 W		
Level stability with ALC	±0.5 dB		10.5 x 6 x 3.8 in.		
Output power detector range	Rated power to -20 dB		9.3 lbs		
Power reading accuracy	±1.0 dB max		12 W - 20 W		
Spurious	In Band	-65 dBc	10.5 x 6 x 5.2 in.		
	Out of Band	Complies with EN 301 428/430 and MIL-STD 188-164B	w/fan		
Harmonics	-50 dBc max		10.9 lbs		
Output Noise Power Density	TX < -79 dBm/Hz		25 W - 40 W		
	RX < -145 dBm/Hz		10.5 x 6 x 6.1 in.		
			w/fan		
			12.3 lbs		

Specifications are subject to change without notice.

IBUC 2 Ku-Band Data Sheet 9/29/14