



IBUC 2 X-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 5 W through 20 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.

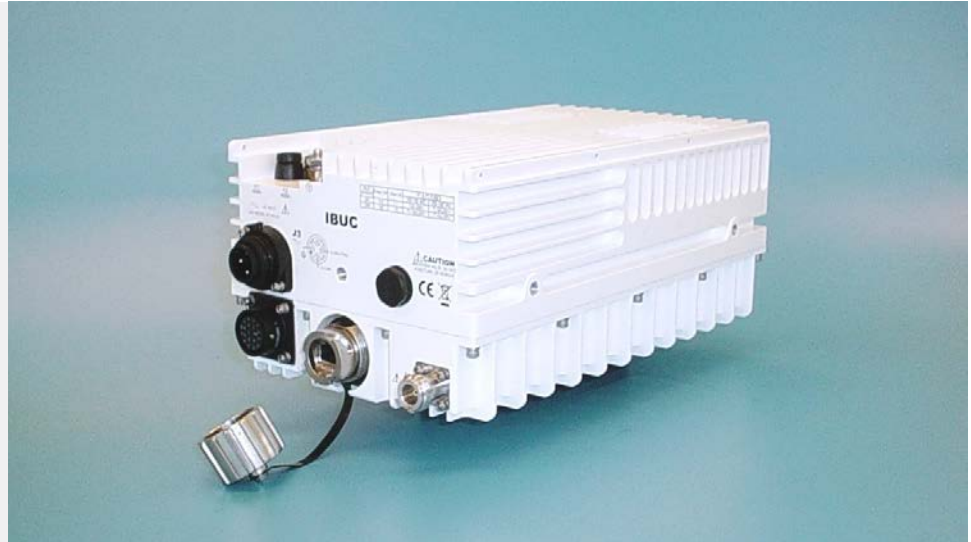
Embedded Web pages provide management for small networks using any Web browser.

AGC or ALC circuits hold gain or output level constant.

30 dB User-adjustable gain in 0.1 dB steps preserves 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

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	SSB Phase Noise	External refer-	IBUC
	7900 to 8400 MHz	950 to 1450 MHz	10 Hz	-115 dBc/Hz	-55 dBc/Hz
Input			100 Hz	-140 dBc/Hz	-80 dBc/Hz
VSWR / Impedance	1.5:1 max / 50 Ohm		1 kHz	-150 dBc/Hz	-90 dBc/Hz
Input Connector	Type N female (50 Ohm)		10 kHz	-155 dBc/Hz	-95 dBc/Hz
Input Connector options	Type F (75 Ohm), TNC (50 Ohm)		100 kHz	N/A	-100 dBc/Hz
Input power detector	-55 to -20 dBm		1 MHz	N/A	-110 dBc/Hz
Gain			External Reference (multiplexed on TX IFL)		
Small Signal Gain (L-band to RF) with attenuator set to 0 dB			Frequency	10 MHz	
5 W	68 dB min		Level	-12 to +5 dBm	
10 W	71 dB min		Internal Reference - optional		
20 W	74 dB min		Local Oscillator Frequency 6950 MHz		
25 W	75 dB min		Sense	Non-Inverting	
40 W	77 dB min		IBUC Power Supply		
50 W	78 dB min		Voltage	DC	AC
60 W	79 dB min		Option for 5W, 10W:	48 ± 11 VDC	100 to 240 VAC
Attenuator range	30 dB variable in 0.1 dB steps		DC via coax available on 5 W - 20 W	24 ± 4 VDC	
Gain flatness			Power Consumption		
Full band	3 dB p-p max		5 W	60 W	75 VA
36 MHz	1 dB p-p max		10 W	90 W	130 VA
1 MHz	0.25 dB p-p		20 W	160 W	200 VA
Gain variation over temperature			25 W	175 W	220 VA
Open loop	3 dB p-p max		40 W	300 W	350 VA
With AGC	1 dB p-p max		50 W	350W	400 VA
			60 W	400 W	430 VA
RF Output			Monitor and Control		
Interface	CPR-112G		Ethernet (HTTP, Telnet, SNMP) via RJ-45 connector,		
VSWR	1.5:1 max		RS232/485, Hand-held Terminal via MS-type connector,		
Rated output power P_{1dB}		P_{linear}	FSK , multiplexed on TX IFL.		
5 W	+37 dBm min	36.5 dBm	Environmental		
10 W	+40 dBm min	39.5 dBm	Operating temperature:		
20 W	+43 dBm min	42.5 dBm	5 W-40 W	-40°C to +60°C	
25 W	+44 dBm min	43.5 dBm	50 W-60 W	-40°C to +55°C	
40 W	+46 dBm min	45 dBm	Relative humidity	100% condensing	
50W	+47 dBm min	46 dBm	Altitude	10,000 ft., (3,000 m) ASL	
60 W	+47.8 dBm min	46.8 dBm	Mechanical		
P_{linear} is the maximum linear power as defined by MIL-STD-188-164B.			DC powered	AC powered	
IMD3 (2 carriers, 3 dB TOBO)	-27 dBc max		5 W - 10 W	10.5x6x3.8 in.	10.5x6x4.2 in.
Level stability with ALC	±0.5 dB			9.3 lbs	10.5 lbs
Output power detector range	Rated power to -20 dB		20 W - 25 W	10.5x6x5.2 in.	10.5x6x5.6 in.
Power reading accuracy	± 1.0 dB max.			10.8 lbs	11.7 lbs
Spurious In Band	-65 dBc		40 W - 60 W	10.5x6x5.7 in.	10.5x6x6.1 in.
Out of Band	Complies with MIL-STD 188-164B			11.5 lbs	12.4 lbs
Harmonics	-60 dBc max.		267x152x145 5.2kg 267x152x155 5.6		
Output Noise Power Density					
TX Band	< -79 dBm/Hz				
RX Band w/o RX reject filter	< -79 dBm/Hz				
Mute	-70 dBc max.				
AM-PM Conversion	< 3.0 deg/dB @ rated power				
Group Delay					
Linear	0.03 ns/MHz				
Parabolic	0.003 ns/MHz ²				
Ripple	1 ns p-p over any 36 MHz				

Specifications are subject to change without notice.

IBUC 2 X-Band Data Sheet 2/29/16



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