

IBUC π **X-Band Intelligent Block Upconverter**

IBUC Advantages

Integrated BUC/SSPA for higher performance and reliability.

Upgraded with a weatherized RJ45 M&C interface connector for simplified cable installation.

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.

NMS-friendly interfaces enable remote management of your earth station RF.

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.

Output sample port included.

Advanced user interfaces:

- TCP/IP HTTP with embedded Web pages
- SNMP
- TELNET through TCP/IP
- FSK through TX IFL cable
- RS232/485 serial port
- Hand-held terminal



The **IBUC π** has all of the advanced **IBUC** features and the upgraded RJ45 M&C connector.

IBUC offers significant benefits:

- Low terminal cost
- Simple design and installation
- Superior RF performance
- Simplified 1+1 configuration

New interfaces connect you to extensive M&C facilities for network management or local access. This powerful new 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** 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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X-Band Intelligent Block Upconverter

Frequency range		RF	IF
		7900 to 8400 MHz	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 range	-55 to -20 dBm		
Gain			
Small Signal Gain (L-band to RF) with attenuator set to 0 dB			
80W	80 dB min		
100 W	81 dB min		
125 W	82 dB min		
150 W	83 dB min		
175 W	83 dB min		
Attenuator range	30 dB variable in 0.1 dB steps		
Gain flatness			
Full band	4 dB p-p max		
36 MHz	1.5 dB p-p max		
1 MHz	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	CPR-112G		
VSWR	1.5:1 max		
Rated output power (P1dB)			
80 W	+49 dBm min		
100 W	+50 dBm min		
125 W	+51 dBm min		
150 W	+51.8 dBm min		
175 W	+52.4 dBm min		
IMD3 (2 carriers, 3 dB TOBO)	-27 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 MIL-STD 188-164B	
Harmonics	-60 dBc max.		
Output Noise Power Density			
	TX Band	< -75 dBm/Hz	
	RX Band (with RX reject filter)	< -165 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		

SSB Phase Noise		External reference	IBUC
10 Hz		-115 dBc/Hz	-55 dBc/Hz
100 Hz		-140 dBc/Hz	-80 dBc/Hz
1 kHz		-150 dBc/Hz	-90 dBc/Hz
10 kHz		-155 dBc/Hz	-95 dBc/Hz
100 kHz		N/A	-100 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		6950 MHz	
Sense	Non-inverting		
IBUC Power Supply			
Voltage	DC	42 V min, 60 V max	
	AC	100 to 240 VAC , 100W to 125W	
		200 to 240 VAC , 150W to 175W	
Power Consumption		DC	AC
80 W		576 W	656 W
100 W		770 W	850 VA
125 W		880 W	950 VA
150 W		1100 W	1250 VA
175 W		1200 W	1300 VA
Monitor and Control			
Ethernet (HTTP, Telnet, SNMP), via RJ45 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
80W		12.2x7.2x6.5 in.	12.2x7.2x6.8 in.
		18.5 lbs	19.5 lbs
100W-175W		16.2x10x7.2 in.	16.2x10x7.4 in.
		32 lbs	33 lbs
(dimensions not including isolators)			

Specifications are subject to change without notice.

IBUC Hi Power X-Band Data Sheet 7/4/15

