



IBUC G

GaN, 400W

X-Band Intelligent Block Upconverter

IBUC Advantages

Integrated BUC/SSPA for higher performance and reliability.

Integral AC 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 10dB.

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 modem dynamic range.

Output sample port included.

Advanced user interfaces:

- TCP/IP HTTP with embedded Web pages via RJ45 user interface connector
- SNMP
- TELNET through TCP/IP
- FSK through TX IFL cable
- RS232/485 serial port
- Hand-held terminal



The revolutionary **IBUC G** has advanced features to take your network to new heights.

IBUC G 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 G** 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
			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
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 range	-50 to -15 dBm		Local Oscillator Frequency		
				6950 MHz	
			Sense	Non-Inverting	
			IBUC Power Supply		
			Voltage	AC	200 to 240 VAC
			Power Consumption		
				at P_{lin}	1800 VA
				at P_{sat}	2200 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		
			Size	24 x 10 x 7.4 in.	
				610 x 254 x 188 mm	
			Weight	40 lbs, 18 kg	
Gain					
Small Signal Gain (L-band to RF)					
with attenuator set to 0 dB			82 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	1.3:1 max				
Output power	400W				
P_{sat} (typ)	+56 dBm				
P_{lin} (min)	+53 dBm				
	P_{lin} is the maximum linear power as defined by MIL STD 188-164B				
Level stability with ALC	±0.5 dB				
Output power detector range	Rated power to -20 dB				
Power reading accuracy	± 1.0 dB max.				
Spurious @ P_{lin}					
In Band	-65 dBc				
Out of Band	Complies with MIL-STD 188-164B				
Harmonics @ P_{lin}	-60 dBc max.				
Output Noise Power Density					
TX	< -75 dBm/Hz				
RX (with RX reject filter)	< -165 dBm/Hz				
Mute	-70 dBc max.				
AM-PM Conversion	< 3.0 deg/dB @ P_{lin}				
Group Delay					
Linear	0.03 ns/MHz				
Parabolic	0.003 ns/MHz ²				
Ripple	1 ns p-p over any 36 MHz				

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