



# X-Band IBUC – High Power Intelligent Block Upconverter

## IBUC Advantages

Integrated BUC/SSPA for higher performance and reliability.

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 available.

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

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

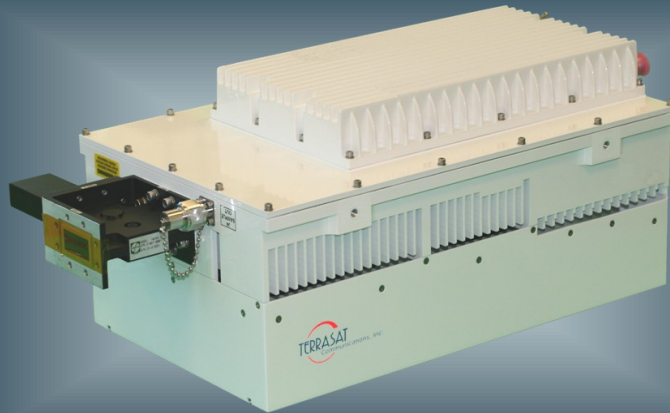
AGC or ALC circuits hold gain or output level constant.

16 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
- SNMP
- TELNET through TCP/IP
- FSK through TX IFL cable
- RS232/485 serial port
- Hand-held terminal



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

**IBUC** offers significant benefits:

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

New interfaces connect you to the **IBUC**'s 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 **troubleshooting** of terminal faults

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.

For additional information contact Terrasat Sales at +1 408-782-5911 or by Email: [Sales@Terrasatinc.com](mailto:Sales@Terrasatinc.com).  
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## X-Band IBUC High Power Block Upconverter

<b>Frequency range</b>	RF	IF	<b>SSB Phase Noise</b>	External reference	IBUC
	7900 to 8400 MHz	950 to 1450 MHz	10 Hz	-120 dBc/Hz	-40 dBc/Hz
			100 Hz	-130 dBc/Hz	-70 dBc/Hz
VSWR / Impedance	1.5:1 max / 50 Ohm		1 kHz	-143 dBc/Hz	-80 dBc/Hz
Input Connector	Type N female (50 Ohm)		10 kHz	-152 dBc/Hz	-90 dBc/Hz
Input Connector options	Type F (75 Ohm), TNC (50 Ohm)		100 kHz	-155 dBc/Hz	-100 dBc/Hz
Input power detector range		-55 to -20 dBm	1 MHz	-155 dBc/Hz	-110 dBc/Hz
Max. input power without damage		+10 dBm			
<b>Gain</b>					
Small Signal Gain (L-band to RF) with attenuator set to 0 dB					
100 W	81 dB min		<b>External Reference</b> (multiplexed on TX IFL)		
125 W	82 dB min		Frequency	10 MHz	
150 W	83 dB min		Level	-12 to +5 dBm	
175 W	83 dB min		Internal Reference - optional		
Attenuator range	16 dB variable in 0.1 dB steps		<b>Local Oscillator Frequency</b> 6950 MHz		
Gain flatness			Sense	Non-inverting	
Full band	4 dB p-p max		<b>IBUC Power Supply</b>		
36 MHz	1.5 dB p-p max		Voltage	DC	±42 V min, 60 V max
1 MHz	0.25 dB p-p			AC	100 to 240 VAC , 100W to 125W
Gain variation over temperature					200 to 240 VAC , 150W to 175W
Open loop	4 dB p-p max		Power Consumption	DC	AC
With AGC	1 dB p-p max		100 W	770 W	850 VA
Noise figure	10 dB max. @ min attenuation		125 W	880 W	950 VA
			150 W	1100 W	1250 VA
			175 W	1200 W	1300 VA
<b>RF Output</b>					
Interface	CPR-112G		<b>Monitor and Control</b>		
VSWR	< 1.3:1		<b>FSK</b> (multiplexed on TX IFL), <b>RS232/485</b>		
Rated output power (P1dB)			<b>Hand-held Terminal, TCP / IP (HTTP, Telnet, SNMP)</b>		
100 W	+50 dBm min		<b>Environmental</b>		
125 W	+51 dBm min		Operating temperature	-40°C to +55°C	
150 W	+51.8 dBm min		Relative humidity	100% condensing	
175 W	+52.4 dBm min		Altitude	10,000 ft., (3,000 m) ASL	
IMD3 (2 carriers, 3 dB TOBO)	-27 dBc max		<b>Mechanical</b>		
Level stability with ALC	±0.5 dB		Size	19.5x10x7.8 in.	
Output power detector range	Rated power to -20 dB			495x254x198 mm	
Power reading accuracy	± 1.0 dB max.		Weight	32 lbs, 14.5 kg	DC powered
Spurious	In Band	-65 dBc		33 lbs, 15 kg	AC powered
	Out of Band	Complies with MIL-STD 188-164			
Harmonics	-50 dBc max.				
Output Noise Power Density					
	TX Band	< -76 dBm/Hz			
	RX Band (with RX reject filter)	< -166 dBm/Hz			
	RX Band (w/o RX reject filter)	< -76 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 <sup>2</sup>				
Ripple	1 ns p-p over any 36 MHz				

Specifications are subject to change without notice.

X-Band Hi Power IBUC Data Sheet 10/28/10



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