



IBUC 2G **100W GaN** **C-Band Intelligent Block Upconverter**

IBUC Advantages

Integrated BUC/SSPA for higher performance and reliability.

GaN amplifier technology enables compact size and high efficiency.

Integral AC power supply.

Internal 10MHz reference option automatically switches to internal reference when external reference is not detected.

Low phase noise exceeds IESS308/309 requirements by a minimum of 10 dB.

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



The revolutionary **IBUC 2G** has advanced features and a Gallium Nitride (GaN) amplifier for increased efficiency. **IBUC 2G** offers significant benefits:

- Low terminal cost
- Simple design and installation
- Superior RF performance
- Simplified 1+1 configuration
- Compact, light-weight package

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 2G** 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.
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IBUC 2G - 100W GaN C-Band Intelligent Block Upconverter

Frequency range		RF	IF	SSB Phase Noise	External refer-	IBUC
Band 1 Std C-Band		5850 to 6425 MHz	950 to 1525 MHz	10 Hz	-115 dBc/Hz	-54 dBc/Hz
Band 2 Palapa/ST1		6425 to 6725 MHz	975 to 1275 MHz	100 Hz	-140 dBc/Hz	-79 dBc/Hz
Band 3 Insat		6725 to 7025 MHz	1150 to 1450 MHz	1 kHz	-150 dBc/Hz	-89 dBc/Hz
Band 4 Ext. C-Band		5850 to 6650 MHz	950 to 1750 MHz	10 kHz	-155 dBc/Hz	-94 dBc/Hz
Band 5 Full C-Band		5850 to 6725 MHz	975 to 1850 MHz	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		-55 to -20 dBm		Local Oscillator Frequency		
Gain				Sense	Inverting	Non-inverting
Small Signal Gain (L-band to RF) with attenuator set to 0 dB				Band 1	7375 MHz	4900 MHz
100W		81 dB min		Band 2	7700 MHz	n/a
Attenuator range		30 dB variable in 0.1 dB steps		Band 3	8175 MHz	n/a
Gain flatness		<u>Bands 1/2/3</u>	<u>Bands 4/5</u>	Band 4	7600 MHz	4900 MHz
Full band		3 dB p-p max	4 dB p-p max	Band 5	7700 MHz	4900 MHz
36 MHz		1 dB p-p max	1.5 dB p-p max			(IF 950-1825 MHz)
1 MHz		0.25 dB p-p	0.25 dB p-p	IBUC Power Supply		
Gain variation over temperature				Voltage	AC	100 to 240 VAC
Open loop		3 dB p-p max	4 dB p-p max	Power Consumption	P _{sat}	P _{lin}
With AGC		1 dB p-p max	1 dB p-p max	100 W	480 VA	440 VA
RF Output				Monitor and Control		
Interface		CPR-137G		Ethernet (HTTP, Telnet, SNMP), via RJ45 connector,		
VSWR		1.3:1 max		RS232/485, Hand-held Terminal via MS-type connector,		
Output power 100W		Band 1	Band 2/3/4/5	FSK multiplexed on TX IFL.		
P _{sat} (typ)		+50 dBm	+49.5 dBm	Environmental		
P _{lin} (min)		+49 dBm	+48.0 dBm	Operating temperature	-40°C to +55°C	
P _{lin} is the maximum linear power as defined by MIL STD 188-164B				Relative humidity	100% condensing	
Level stability with ALC		±0.5 dB		Altitude	10,000 ft., (3,000 m) ASL	
Output power detector range		Rated power to -20 dB		Mechanical		
Power reading accuracy		± 1.0 dB max.		Size	10.5 x 6 x 6.1 in. (not including isolator)	
Spurious @ P _{lin}					267 x 152 x 155 mm	
In Band		-65 dBc		Weight	13.5 lbs, 6.1 kg	
Out of Band		Complies with EN 301 443 and MIL-STD 188-164B				
Harmonics @ P _{lin}		-50 dBc max.				
Output Noise Power Density						
TX		< -77 dBm/Hz				
RX		< -145 dBm/Hz				

Specifications are subject to change without notice.

IBUC 2G 100W C-Band Data Sheet 5/20/16



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