



# 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.

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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## IBUC G - GaN 400W X-Band Intelligent Block Upconverter

<b>Frequency range</b>	RF 7900 to 8400 MHz	IF 950 to 1450 MHz	<b>SSB Phase Noise</b>	External refer-	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
<b>Input</b>			<b>External Reference</b> (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		<b>Local Oscillator Frequency</b>	6950 MHz	
<b>Gain</b>			Sense	Non-Inverting	
Small Signal Gain (L-band to RF) with attenuator set to 0 dB	82 dB min		<b>IBUC Power Supply</b>	Voltage	AC 200 to 240 VAC
Attenuator range	30 dB variable in 0.1 dB steps		Power Consumption	at $P_{lin}$	1800 VA
Gain flatness				at $P_{sat}$	2200 VA
Full band	4 dB p-p max		<b>Monitor and Control</b>		
36 MHz	1.5 dB p-p max		<b>Ethernet</b> (HTTP, Telnet, SNMP) via RJ45 connector,		
1 MHz	0.25 dB p-p		<b>RS232/485, Hand-held Terminal</b> via MS-type connector,		
Gain variation over temperature			<b>FSK</b> multiplexed on TX IFL.		
Open loop	3 dB p-p max		<b>Environmental</b>	Operating temperature	-40°C to +55°C
With AGC	1 dB p-p max			Relative humidity	100% condensing
<b>RF Output</b>				Altitude	10,000 ft., (3,000 m) ASL
Interface	CPR-112G		<b>Mechanical</b>	Size	24 x 10 x 7.4 in. 610 x 254 x 188 mm
VSWR	1.3:1 max			Weight	40 lbs, 18 kg
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 <sup>2</sup>				
Ripple	1 ns p-p over any 36 MHz				

Specifications are subject to change without notice.

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



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