



Terrasat **IBUC G** GaN, 400W 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 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 and a Gallium Nitride (GaN) amplifier for increased efficiency.

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.

Terrasat IBUC G - GaN

400W C-Band Intelligent Block Upconverter

Frequency range	RF	IF	SSB Phase Noise	External reference	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 Band	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 range	-50 to -15 dBm		Local Oscillator Frequency		
Gain			Sense	Inverting	Non-inverting
Small Signal Gain (L-band to RF)	82 dB min		Band 1	7375 MHz	4900 MHz
with attenuator set to 0 dB			Band 2	7700MHz	n/a
Attenuator range	30 dB variable in 0.1 dB steps		Band 3	8175 MHz	n/a
Gain flatness			Band 4	7600 MHz	4900 MHz
Full band	4 dB p-p max		Band 5	7700 MHz	4900 MHz <small>(IF 950-1825 MHz)</small>
36 MHz	1.5 dB p-p max		IBUC Power Supply		
1 MHz	0.25 dB p-p		Voltage	AC	200 to 240 VAC
Gain variation over temperature			Power Consumption		
Open loop	Bands 1/2/3	Bands 4/5	at P _{lin} 1600 VA		
With AGC	3 dB p-p max	4 dB p-p max	at P _{sat} 1900 VA		
With AGC	1 dB p-p max	1 dB p-p max	Monitor and Control		
RF Output			Ethernet (HTTP, Telnet, SNMP) via RJ45 connector,		
Interface	CPR-137G		RS232/485, Hand-held Terminal via MS-type connector,		
VSWR	1.3:1 max		FSK multiplexed on TX IFL.		
Output power	400W	<u>Band 1</u>	Environmental		
P _{sat} (typ)		+56 dBm	Operating temperature		
P _{lin} (min)		+53 dBm	-40°C to +55°C		
		+55.5 dBm	Relative humidity		
		+52.5 dBm	100% condensing		
			Altitude		
			10,000 ft., (3,000 m) ASL		
P _{lin} is the maximum linear power as defined by MIL STD 188-164B					
Level stability with ALC	±0.5 dB		Mechanical		
Output power detector range	Rated power to -20 dB		Size	24 x 10 x 7.4 in.	
Power reading accuracy	± 1.0 dB max.			610 x 254 x 188 mm	
Spurious @ P _{lin}			Weight	40 lbs, 18 kg	
In Band	-65 dBc				
Out of Band	Complies with EN 301 443 and MIL-STD 188-164B				
Harmonics @ P _{lin}	-50 dBc max.				
Output Noise Power Density					
TX	< -75 dBm/Hz				
RX	< -150 dBm/Hz				

Specifications are subject to change without notice.

IBUC G C-Band Data Sheet 1/25/16

