



# IBUC G

## GaN, 400W / 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.

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 / 400W+ C-Band Intelligent Block Upconverter

Frequency range	RF (MHz)	IF (MHz)		SSB Phase Noise	External reference	IBUC
Sense		Inverting	Non-Inverting	10 Hz	-115 dBc/Hz	-54 dBc/Hz
Band 1 Std C	5850 to 6425	950 to 1525	950 to 1525	100 Hz	-140 dBc/Hz	-79 dBc/Hz
Band 2 Palapa	6425 to 6725	975 to 1275	1125 to 1425	1 kHz	-150 dBc/Hz	-89 dBc/Hz
Band 3 INSAT	6725 to 7025	1150 to 1450	n/a	10 kHz	-155 dBc/Hz	-94 dBc/Hz
Band 4 Ext C	5850 to 6650	950 to 1750	950 to 1750	100 kHz	N/A	-100 dBc/Hz
Band 5 Full C	5850 to 6725	975 to 1850	950 to 1825	1 MHz	N/A	-110 dBc/Hz
<b>Input</b>						
VSWR / Impedance	1.5:1 max / 50 Ohm					
Input Connector	Type N female (50 Ohm)					
Input Connector options	Type F (75 Ohm), TNC (50 Ohm)					
Input power detector range	-50 to -15 dBm					
<b>Gain</b>						
Small Signal Gain (L-band to RF)	82 dB min					
with attenuator set to 0 dB						
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						
	Bands 1/2/3	Bands 4/5		200 to 240 VAC		
Open loop	3 dB p-p max	4 dB p-p max				
With AGC	1 dB p-p max	1 dB p-p max				
<b>RF Output</b>						
Interface	CPR-137G					
VSWR	1.3:1 max					
Output power	400W		400W+			
at P <sub>sat</sub> (min)	Band 1	Band 2/3/4/5	Band1	Band 2/3/4/5		
at P <sub>lin</sub> (typ)	+56 dBm	+55.5 dBm	+56 dBm	+55.5 dBm		
	+54 dBm	+53.5 dBm	+55 dBm	+54.5 dBm		
P <sub>lin</sub> 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 <sub>lin</sub>						
	In Band	-70 dBc				
	Out of Band	Complies with EN 301 443 and MIL-STD 188-164B				
Harmonics @ P <sub>lin</sub>	-50 dBc max.					
Output Noise Power Density						
	TX	< -76 dBm/Hz				
	RX	< -150 dBm/Hz				
<b>External Reference</b> (multiplexed on TX IFL)						
Frequency	10 MHz					
Level	-12 to +5 dBm					
Internal Reference - optional						
<b>Local Oscillator Frequency</b>						
Sense	Inverting	Non-inverting				
Band 1	7375 MHz	4900 MHz				
Band 2	7700MHz	5300 MHz				
Band 3	8175 MHz	n/a				
Band 4	7600 MHz	4900 MHz				
Band 5	7700 MHz	4900 MHz				
<b>IBUC Power Supply</b>						
Power Consumption	400W		400W+			
	at P <sub>lin</sub>	1850 VA	2050 VA			
	at P <sub>sat</sub>	2150 VA	2200 VA			
<b>Monitor and Control</b>						
<b>Ethernet</b> (HTTP, Telnet, SNMP) via RJ45 connector,						
<b>RS232/485, Hand-held Terminal</b> via MS-type connector,						
<b>FSK</b> multiplexed on TX IFL.						
<b>Environmental</b>						
Operating temperature	-40°C to +55°C					
Relative humidity	100% condensing					
Altitude	10,000 ft., (3,000 m) ASL					
<b>Mechanical</b>						
Size	24 x 10 x 7.4 in. 610 x 254 x 188 mm					
Weight	40 lbs, 18 kg					

Specifications are subject to change without notice.

IBUC G C-Band Data Sheet 400W//400W+ 11/9/17



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