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.

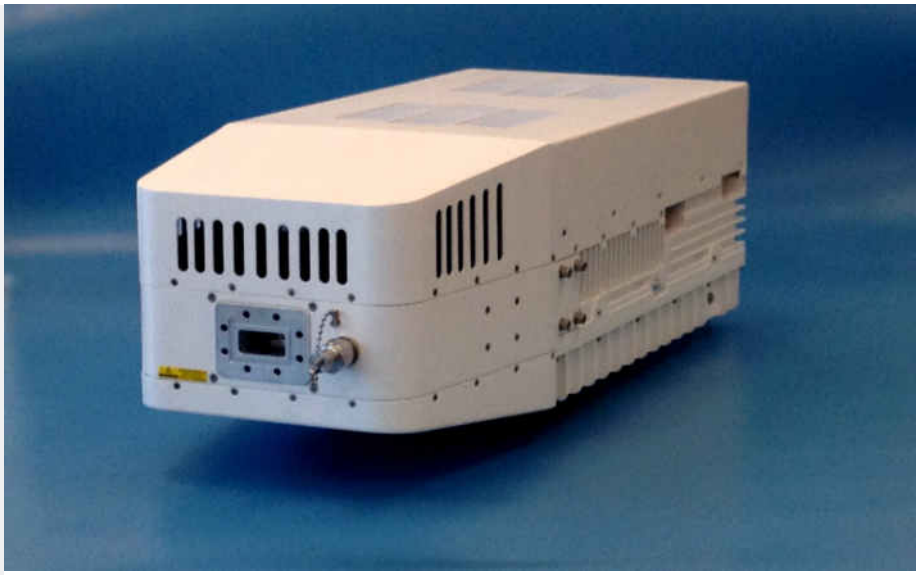
AGC or ALC circuits hold gain or output level constant.

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.

For additional information contact Terrasat Sales at +1 408-782-5911 or by Email: Sales@Terrasatinc.com.
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IBUC *G* - GaN
400W C-Band Intelligent Block Upconverter

Frequency range	RF	IF
Band 1 Std C-Band	5850 to 6425 MHz	950 to 1525 MHz
Band 2 Palapa/ST1	6425 to 6725 MHz	975 to 1275 MHz
Band 3 INSAT Band	6725 to 7025 MHz	1150 to 1450 MHz
Band 4 Ext C-Band	5850 to 6650 MHz	950 to 1750 MHz
Band 5 Full C-Band	5850 to 6725 MHz	975 to 1850 MHz

Input

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

Gain

Small Signal Gain (L-band to RF)
with attenuator set to 0 dB — 82 dB min

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
Open loop	3 dB p-p max	4 dB p-p max
With AGC	1 dB p-p max	1 dB p-p max

RF Output

Interface	CPR-137G
VSWR	1.3:1 max

Output power 400W	Band 1	Band 2/3/4/5
P_{sat} (typ)	+56 dBm	+55.5 dBm
P_{lin} (min)	+54 dBm	+53.5 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 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

SSB Phase Noise	External reference	IBUC
10 Hz	-115 dBc/Hz	-54 dBc/Hz
100 Hz	-140 dBc/Hz	-79 dBc/Hz
1 kHz	-150 dBc/Hz	-89 dBc/Hz
10 kHz	-155 dBc/Hz	-94 dBc/Hz
100 kHz	N/A	-100 dBc/Hz
1 MHz	N/A	-110 dBc/Hz

External Reference (multiplexed on TX IFL)

Frequency	10 MHz
Level	-12 to +5 dBm

Internal Reference - optional

Local Oscillator Frequency

Sense	Inverting	Non-inverting
Band 1	7375 MHz	4900 MHz
Band 2	7700MHz	n/a
Band 3	8175 MHz	n/a
Band 4	7600 MHz	4900 MHz
Band 5	7700 MHz	4900 MHz (IF 950-1825 MHz)

IBUC Power Supply

Voltage AC — 200 to 240 VAC

Power Consumption

at P_{lin}	1700 VA
at P_{sat}	2000 VA

Monitor and Control

Ethernet (HTTP, Telnet, SNMP) via RJ45 connector, **RS232/485, Hand-held Terminal** via MS-type connector, **FSK** multiplexed on TX IFL.

Environmental

Operating temperature	-40°C to +55°C
Relative humidity	100% condensing
Altitude	10,000 ft., (3,000 m) ASL

Mechanical

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.

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