IBUC - High Power
X-Band Intelligent Block Upconverter

IBUC Advantages

Integrated BUC/SSPA for higher performance and reliability.

All models available with integral AC power supply or separate DC power supply.

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

NMS-friendly interfaces enable remote management of your earth station RF.

Embedded Web pages provide management for small networks using any Web browser.

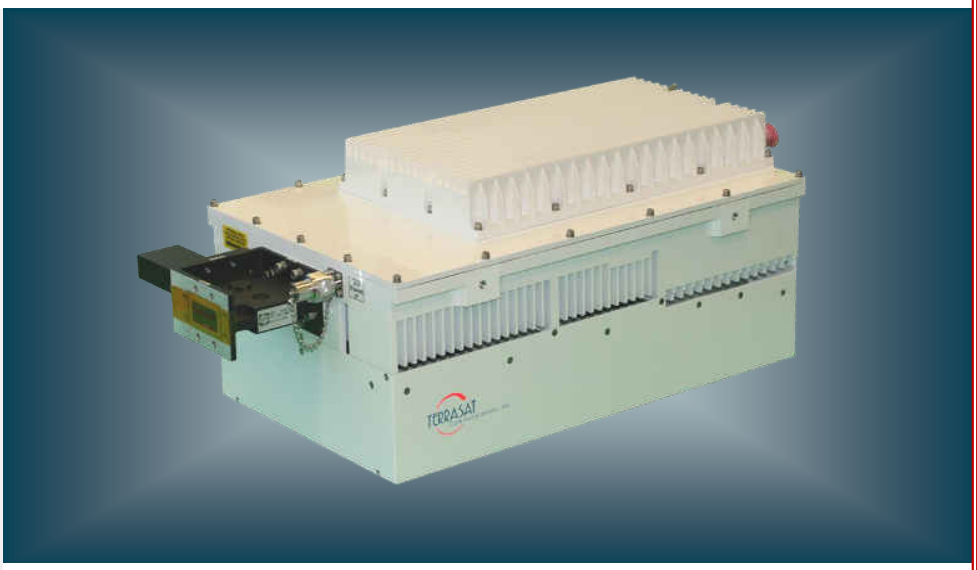
AGC or ALC circuits hold gain or output level constant.

16 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** has advanced features to take your network to new heights.

IBUC 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** 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.
315 Digital Drive, Morgan Hill, CA 95037 www.terrasatinc.com

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Frequency range	RF	IF
	7900 to 8400 MHz	950 to 1450 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	-55 to –20 dBm

Gain

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

100 W	81 dB min
125 W	82 dB min
150 W	83 dB min
175 W	83 dB min
Attenuator range	16 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	
Open loop	3 dB p-p max
With AGC	1 dB p-p max

RF Output

Interface	CPR-112G
VSWR	< 1.3:1 max
Rated output power (P1dB)	
100 W	+50 dBm min
125 W	+51 dBm min
150 W	+51.8 dBm min
175 W	+52.4 dBm min
IMD3 (2 carriers, 3 dB TOBO)	-27 dBc max
Level stability with ALC	±0.5 dB
Output power detector range	Rated power to –20 dB
Power reading accuracy	± 1.0 dB max.
Spurious In Band	-65 dBc
Out of Band	Complies with MIL-STD 188-164B
Harmonics	-60 dBc max.
Output Noise Power Density	
TX Band	< -75 dBm/Hz
RX Band (with RX reject filter)	< -165 dBm/Hz
Mute	-70 dBc max.
AM-PM Conversion	< 3.0 deg/dB @ rated power
Group Delay	
Linear	0.03 ns/MHz
Parabolic	0.003 ns/MHz^2
Ripple	1 ns p-p over any 36 MHz

SSB Phase Noise	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

External Reference (multiplexed on TX IFL)

Frequency	10 MHz
Level	-12 to +5 dBm

Internal Reference - optional

Local Oscillator Frequency 6950 MHz

Sense Non-inverting

IBUC Power Supply

Voltage	DC	42 V min, 60 V max
	AC	100 to 240 VAC , 100W to 125W
		200 to 240 VAC , 150W to 175W

Power Consumption	DC	AC
100 W	770 W	850 VA
125 W	880 W	950 VA
150 W	1100 W	1250 VA
175 W	1200 W	1300 VA

Monitor and Control

Ethernet (HTTP, Telnet, SNMP),

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	19.5x10x7.8 in.	
	495x254x198 mm	
Weight	32 lbs, 14.5 kg	DC powered
	33 lbs, 15 kg	AC powered

TERRASAT Communications, Inc.

315 Digital Drive, Morgan Hill, CA 95037
Tel. +1 408-782-5911 Fax +1 408-782-5912
www.terrasatinc.com