

X-Band IBUC—High Power Intelligent Block Upconverter

IBUC Advantages

X-Band IBUC power levels 100W through 200W.

Integrated BUC/SSPA packaging for higher performance and reliability.

Guaranteed rated output power across the entire operating temperature range and frequency band.

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.

Customer-selectable gain makes it possible to compensate for cable and terminal losses.

Advanced customer interfaces:

- TCP/IP HTTP with embedded web pages.
- SNMP
- TELNET through TCP/IP
- FSK through TX IFL cable.
- RS232/485 serial port.
- Handheld terminal

1+1 switching logic and drivers built into the IBUC eliminate expensive external controller.

Output sample port included as standard.



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 the **IBUC**'s 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 alarm history.
- Simplified **troubleshooting** of terminal faults.

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
- Alarm history

Unique in the **IBUC** are internal AGC and ALC functions to satisfy demanding applications with stringent specifications.

For additional information contact Terrasat Sales at +1 408-782-5911 or by Email:
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X-Band IBUC - High Power Block Upconverter Specifications

L-Band Input

Frequency range	950 to 1450
VSWR / Impedance	1.5:1 max / 50 ohms
Connector	Type N female
Input power detector range	-55 to -20 dBm
Max. input power without	+10 dBm

Gain

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

100W	81 dB min
125W	82 dB min
150W	83 dB min
175W	83 dB min
200W	84 dB min

Attenuator range 16 dB variable in 0.1dB steps

Gain flatness

Full band	4 dB p-p max
36 MHz	1.5dB p-p max
1 MHz	0.25 dB p-p

Gain variation over temperature

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

Noise figure 10 dB max. @ min attenuation

RF Output

Frequency range	7900 to 8400
Interface	CPR-112G
VSWR	<1.3:1

Rated output power (P1dB across temperature and freq. range)

100W	+50 dBm min
125W	+51 dBm min
150W	+51.8 dBm min
175W	+52.4 dBm min
200W	+53 dBm min

IMD3 (2 carriers, 30 kHz apart, 9dB BO/carrier) -32 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.

Harmonics @ rated power -50 dBc max

Spurious @ rated power -65 dBc max

Output Noise Power

TX band	< -76 dBm/Hz
RX band (with RX reject)	< -136 dBm/Hz
RX band (w/o RX reject)	< -76 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

Offset	External refer-	IBUC
10Hz	-120 dBc/Hz	-35 dBc/Hz
100Hz	-130 dBc/Hz	-70 dBc/Hz
1 kHz	-143 dBc/Hz	-80 dBc/Hz
10 kHz	-152 dBc/Hz	-90 dBc/Hz
100kHz	-155 dBc/Hz	-100 dBc/Hz
1MHz	-155 dBc/Hz	-110 dBc/Hz

External Reference (multiplexed on TX IFL)

Frequency	10 MHz
Level	-12 to +5 dBm

Local Oscillator

LO Frequency	6950 MHz
Sense	Non-Inverting

IBUC DC Supply

Connector	ACS02E14S-6P(553) or equivalent	
Voltage / Current	+48DC nom. (42V min. / 60V max.)	
100W	14.6A @	700W
125W	16.7A @	800W
150W	20.8A @	1000W
175W	21.9A @	1050W
200W	22.9A @	1100W

Monitor and Control

FSK (multiplexed on TX)

RS232/485

Handheld Terminal

TCP / IP Telnet, HTTP

UDP SNMP

Environmental

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

Mechanical (without receive reject filter)

	Size	Weight
	19.5"(L)x10.0"(W)x8.4"(H)	32 lbs
	495mm x 254mm x 213mm	14.5 kg



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Specifications are subject to change without notice

X-Band Hi Pwr IBUC Data Sheet 06/30/08