

IBUC Advantages

X-Band IBUC power levels 2W through 80W.

2W-20W DC power can be supplied via IFL coax or separate DC connector.

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 built into IBUC eliminates expensive external controller.



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.

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X-Band IBUC Block Upconverter Specifications

L-Band Input

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

Gain

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

5W	68 dB min
10W	71 dB min
20W	74 dB min
25W	75 dB min
40W	77 dB min
50W	78 dB min
60W	79 dB min
80W	80 dB min

Attenuator range 16 dB variable in 0.1dB steps

Gain flatness	<u>5 W to 50 W</u>	<u>60W to 80W</u>
Full band	3 dB p-p max	4dB p-p max
36 MHz	1dB p-p max	1dB p-p max
1 MHz	0.25 dB p-p	0.25 dB p-p

Gain variation over temperature

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

Noise figure 10 dB max. @ min attenuation

RF Output

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

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

5W	+37 dBm min
10W	+40 dBm min
20W	+43 dBm min
25W	+44 dBm min
40W	+46 dBm min
50W	+47 dBm min
60W	+47.8 dBm min
80W	+49 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	< -80 dBm/Hz
RX band (with RX reject filter)	< -140 dBm/Hz
RX band (w/o RX reject filter)	< -80 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 reference	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

Multiplexed on TX IFL	2W, 5W, 10W, 20W		
Connector	ACS02E14S-6P(553) or equivalent		
Voltage / Current	+24 ± 4 VDC	+48 ± 11 VDC	
5W	3.0A @ 24VDC	1.5A @ 48VDC	72W
10W	4.0A @ 24VDC	2.0A @ 48VDC	96W
20W	na	3.5A @ 48VDC	168W
25W	na	4.0A @ 48VDC	192W
40W	na	8.0A @ 48VDC	384W
50W	na	8.5A @ 48VDC	408W
60W	na	10.0A @ 48VDC	480W
80W	na	12.0A @ 48VDC	576W

Monitor and Control

FSK (multiplexed on TX IFL)

RS232/485

Handheld Terminal

TCP / IP	Telnet, HTTP
UDP	SNMP

Environmental

	<u>5-40W</u>	<u>50-80W</u>
Operating temperature	-40°C to +60°C	-40°C to +55°C
Relative humidity	100% condensing	
Altitude	10,000 ft. ASL	

Mechanical (without receive reject filter)

	Size	Weight
5W, 10W	12.2"(L)x7.2"(W)x4.2"(H)	12 lbs
	310mm x 183mm x 107mm	5.4 kg
20-80W	12.2"(L)x7.2"(W)x7.0"(H)	17 lbs
	310mm x 183mm x 178mm	7.7 kg

Specifications are subject to change without notice



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