

IBUC \mathcal{R} **C-Band Intelligent Block Upconverter**

IBUC Advantages

Integrated BUC/SSPA for higher performance and reliability.

Upgraded with a weatherized RJ45 M&C interface connector for simplified cable installation.

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.

Low phase noise exceeds IESS308/309 requirements by a minimum of 10 dB.

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

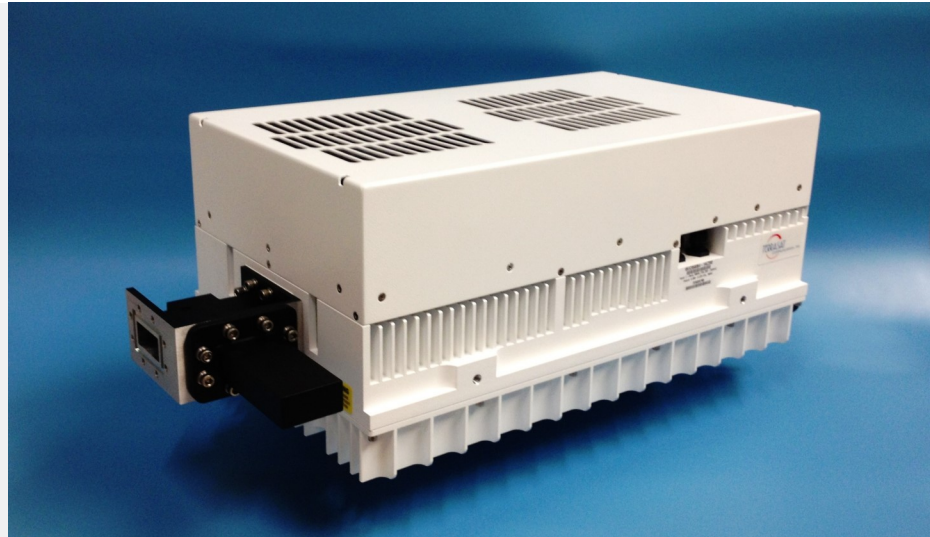
Embedded Web pages provide management for small networks using any Web browser.

AGC or ALC circuits hold gain or output level constant.

30 dB User-adjustable gain in 0.1 dB steps preserves modem dynamic range.

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 **IBUC \mathcal{R}** has all of the advanced **IBUC** features and the upgraded RJ45 M&C connector.

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.

IBUC *R*

C-Band Intelligent Block Upconverter

Frequency range	RF (MHz)	IF (MHz)	
Sense		Inverting	Non-Inverting
Band 1 Std C	5850 to 6425	950 to 1525	950 to 1525
Band 2 Palapa	6425 to 6725	975 to 1275	1125 to 1425
Band 3 INSAT	6725 to 7025	1150 to 1450	n/a
Band 4 Ext C	5850 to 6650	950 to 1750	950 to 1750
Band 5 Full C	5850 to 6725	975 to 1850	950 to 1825

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

80W	80 dB min
100W	81 dB min
125W	82 dB min
150W	83 dB min
175W	83 dB min
200W	84 dB min
Attenuator range	30 dB variable in 0.1 dB steps
Gain flatness	Bands 1/2/3 Bands 4/5
Full band	3 dB p-p max 4 dB p-p max
36 MHz	1 dB p-p max 1.5 dB 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

RF Output

Interface	CPR-137G	
VSWR	1.5:1 max (80W)	1.3:1 max (100-200W)
Rated output power	P1dB	PLin
80W	+49 dBm min	+47.5 dBm min
100 W	+50 dBm min	+48.5 dBm min
125 W	+51 dBm min	+49.5 dBm min
150 W	+51.8 dBm min	+50.3 dBm min
175 W	+52.4 dBm min	+50.9 dBm min
200 W	+53 dBm min	+51.5 dBm min

Note: output power in bands 4 & 5 is reduced by 0.5 dB.

P_{lin} is the maximum linear power as defined by MIL STD 188-164B

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 -70 dBc
	Out of Band Complies with EN 301 443 and MIL-STD 188-164B
Harmonics	-50 dBc max.
Output Noise Power Density	
	TX < -74 dBm/Hz
	RX < -145 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	7700 MHz	5300 MHz
Band 3	8175 MHz	n/a
Band 4	7600 MHz	4900 MHz
Band 5	7700 MHz	4900 MHz

IBUC Power Supply

Voltage	DC	42 V min, 60 V max
	AC	100 to 240 VAC , 80W to 125W
		200 to 240 VAC , 150W to 200W
Power Consumption	DC	AC
80W	552 W	600 VA
100 W	700 W	800 VA
125 W	800 W	900 VA
150 W	1056 W	1200 VA
175 W	1100 W	1250 VA
200 W	1150 W	1300 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

	DC powered	AC powered
80W	12.2x7.2x6.5 in.	12.2x7.2x6.8 in
	18.5 lbs	19.5 lbs
100W - 200W	16.2x10x7.2 in.	16.2x10x7.4 in.
	32 lbs	33 lbs

(dimensions not including isolators)

Specifications are subject to change without notice.

IBUC R C-Band Data Sheet 11/9/17



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