

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.

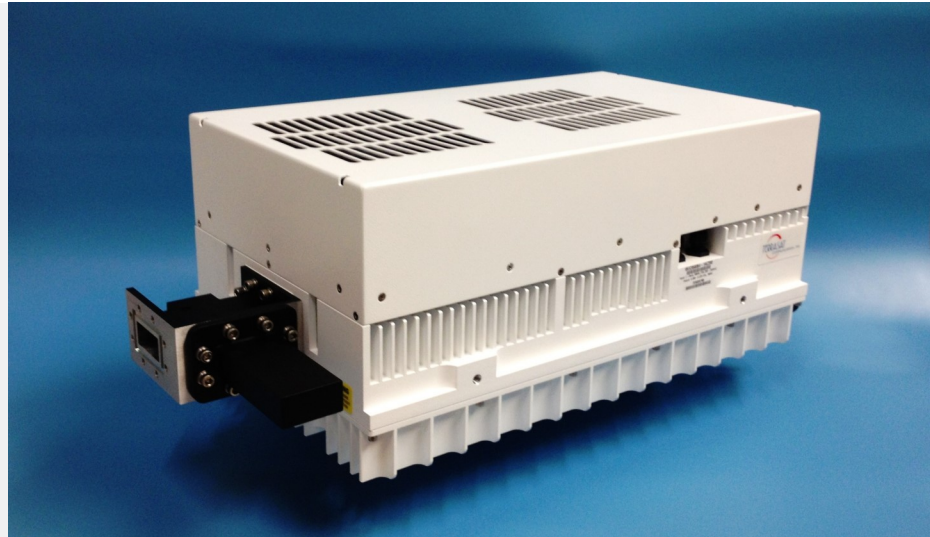
Embedded Web pages provide management for small networks using any Web browser.

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

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/ST-1	6425 to 6725 MHz	975 to 1275 MHz
Band 3 Insat	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	-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	<u>Bands 1/2/3</u>	<u>Bands 4/5</u>
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

Rated output power (P1dB)

80W	+49 dBm min
100 W	+50 dBm min
125 W	+51 dBm min
150 W	+51.8 dBm min
175 W	+52.4 dBm min
200 W	+53 dBm min

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

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 refer-	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	n/a
Band 3	8175 MHz	n/a
Band 4	7600 MHz	4900 MHz
Band 5	7700 MHz	4900 MHz <small>(IF 950-1825 MHz)</small>

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. 18.5 lbs	12.2x7.2x6.8 in. 19.5 lbs
100W - 200W	16.2x10x7.2 in. 32 lbs	16.2x10x7.4 in. 33 lbs

(dimensions not including isolators)

Specifications are subject to change without notice.

IBUC R C-Band Data Sheet 1/25/16