



# IBUC

## C-Band Intelligent Block Upconverter

### IBUC Advantages

Integrated BUC/SSPA for higher performance and reliability.

DC power can be supplied via IFL coax or separate DC connector for 5 W through 25 W models.

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.

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

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

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.

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](mailto:Sales@Terrasatinc.com).  
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# 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

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

Attenuator range	16 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 or N(f)
VSWR	1.5:1 max

Rated output power (P1dB)

5 W	+37 dBm min
10 W	+40 dBm min
20 W	+43 dBm min
25 W	+44 dBm min
40 W	+46 dBm min
50 W	+47 dBm min
60 W	+47.8 dBm min
80 W	+49 dBm min

Note: for 40 W and above, 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 < -78 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
Band 1	7375 MHz
Band 2	7700 MHz
Band 3	8175 MHz
Band 4	7600 MHz
Band 5	7700 MHz

### IBUC Power Supply

	DC	AC
Voltage	48 ± 11 VDC	100 to 240 VAC
Option for 5 W, 10 W:	24 ± 4 VDC	
	DC via coax available on 5 W - 25 W	

Power Consumption

5 W	72 W	85 VA
10 W	96 W	120 VA
20 W	154 W	200 VA
25 W	168 W	211 VA
40 W	330 W	363 VA
50 W	360 W	400 VA
60 W	432 W	490 VA
80 W	552 W	600 VA

### Monitor and Control

**Ethernet** (HTTP, Telnet, SNMP),  
**RS232/485, Hand-held Terminal** via MS-type connector,  
**FSK** (multiplexed on TX IFL).

Environmental	<u>5 W to 40 W</u>	<u>50 W to 80 W</u>
Operating temperature	-40°C to +60°C	-40°C to +55°C
Relative humidity	100% condensing	
Altitude	10,000 ft., (3,000 m) ASL	

Mechanical	DC powered	AC powered
5 W - 10 W	12.2x7.2x4.2 in. 13 lbs	12.2x7.2x4.5 in. 14 lbs
20 W - 50 W	12.2x7.2x6.2 in. 18 lbs	12.2x7.2x6.5 in. 19 lbs
60 W - 80 W	12.2x7.2x6.7 in. 18.5 lbs	12.2x7.2x7.0 in. 19.5 lbs

Specifications are subject to change without notice.

IBUC C-Band Data Sheet 2/29/16



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