IBUC 2
C-Band Intelligent Block Upconverter

IBUC Advantages

Integrated BUC/SSPA for higher performance and reliability.

High linearity.

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

Most 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 better than IESS308/309 requirements by a minimum of 10 dB.

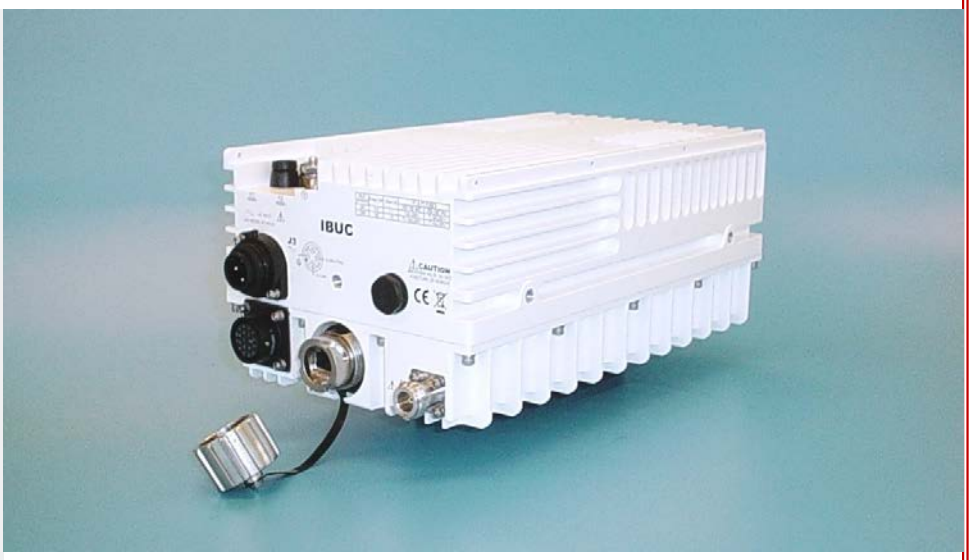
Embedded Web pages provide management for small networks using any Web browser.

AGC or ALC circuits hold gain or output level constant.

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

Advanced user interfaces:

- TCP/IP HTTP with embedded Web pages via RJ-45 connector.
- SNMP
- TELNET through TCP/IP
- FSK through TX IFL cable
- RS232/485 serial port
- Hand-held terminal



The latest evolution of the **IBUC** has all of the advanced features and reliability of the original **IBUC** in a new, more compact package.

IBUC 2 offers significant benefits:

- High performance in a compact, cost effective package
- Simple design and installation
- Simplified 1+1 configuration

New interfaces connect you to extensive M&C facilities for network management or local access. This powerful 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

IBUC 2 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.
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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	965 to 1265
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

5 W	68 dB min
10 W	71 dB min
15 W	72.8 dB min
20 W	74 dB min
25 W	75 dB min
30 W	75.8 dB min
40 W	77 dB min
50 W	78 dB min
60 W	79 dB min
80 W	80 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 or N(f)
VSWR	1.5:1 max

Rated output power	P_{1dB}	P_{linear}
5 W	+37 dBm min	35.5 dBm
10 W	+40 dBm min	38.5 dBm
15 W	+41.8 dBm min	40.3 dBm
20 W	+43 dBm min	41.5 dBm
25 W	+44 dBm min	42.5 dBm
30 W	+44.8 dBm min	43.3 dBm
40 W	+46 dBm min	44.5 dBm
50 W	+47 dBm min	45.5 dBm
60 W	+47.8 dBm min	46.3 dBm
80 W	+49 dBm min	47.5 dBm

Note: for 40 W and above, output power in bands 4 & 5 is reduced by 0.5 dB.

P_{linear} 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	-65 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 reference	**IBUC 2**
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 & Level	10 MHz	-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	5760 MHz
Band 4	7600 MHz	4900 MHz
Band 5	7700 MHz	4900 MHz

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

Power Consumption

5 W	60 W	75 VA
10 W	85 W	120 VA
15 W	125 W	150 VA
20 W	154 W	200 VA
25 W	168 W	210 VA
30 W	188 W	220 VA
40 W	300 W	330 VA
50 W	320 W	350 VA
60 W	360 W	400 VA
80 W	N/A	540 VA

Monitor and Control

Ethernet (HTTP, Telnet, SNMP) via RJ-45 connector.

RS232/485, Hand-held Terminal via MS-type connector

FSK, multiplexed on TX IFL.

Environmental

	5W-50W	60 W / 80 W
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	10.5x6x3.8 in.	10.5x6x4.2 in.
	9.3 lbs	10.5 lbs
15 W - 30 W	10.5x6x5.2 in.	10.5x6x5.6 in.
w/fan	10.8 lbs	11.7 lbs
40 W - 80 W	10.5x6x5.7 in.	10.5x6x6.1 in.
w/fan	11.5 lbs	12.4 lbs

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