



## IBUC<sup>2</sup> 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.

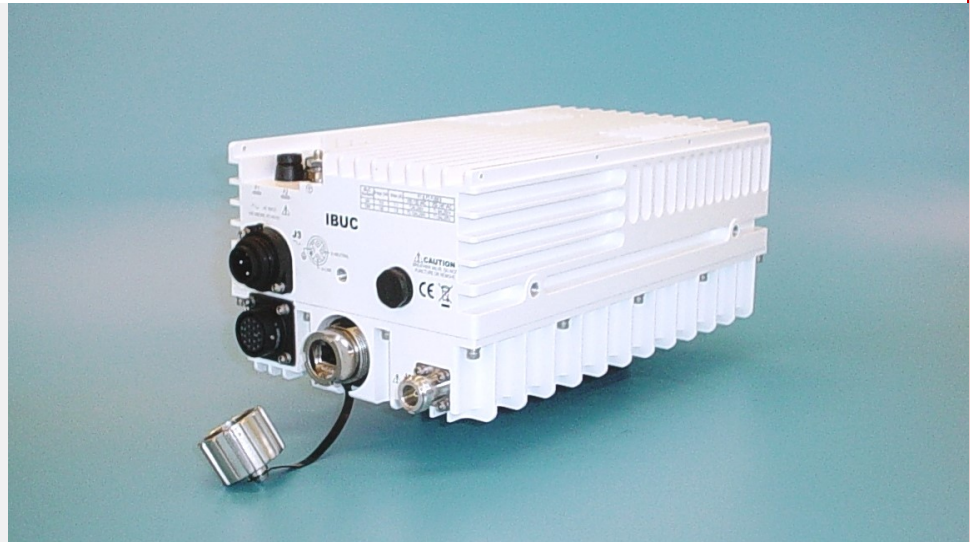
Embedded Web pages provide management for small networks using any Web browser.

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<sup>2</sup>** 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<sup>2</sup>** 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.

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# IBUC2

## C-Band Intelligent Block Upconverter

Frequency range		RF	IF	SSB Phase Noise	External reference	IBUC
Band 1 Std C	5850 to 6425 MHz	950 to 1525 MHz	10 Hz	-115 dBc/Hz	-54 dBc/Hz	
Band 2 Palapa	6425 to 6725 MHz	975 to 1275 MHz	100 Hz	-140 dBc/Hz	-79 dBc/Hz	
Band 3 INSAT	6725 to 7025 MHz	1150 to 1450 MHz	1 kHz	-150 dBc/Hz	-89 dBc/Hz	
Band 4 Ext. C	5850 to 6650 MHz	950 to 1750 MHz	10 kHz	-155 dBc/Hz	-94 dBc/Hz	
Band 5 Full C	5850 to 6725 MHz	975 to 1850 MHz	100 kHz	N/A	-100 dBc/Hz	
			1 MHz	N/A	-110 dBc/Hz	
<b>Input</b>						
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					
<b>Gain</b>						
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	<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			
<b>RF Output</b>						
Interface	CPR-137G or N(f)					
VSWR	1.5:1 max					
Rated output power	$P_{1dB}$	$P_{linear}$				
5 W	+37 dBm min	36.5 dBm				
10 W	+40 dBm min	39.5 dBm				
15 W	+41.8 dBm min	41.3 dBm				
20 W	+43 dBm min	42.5 dBm				
25 W	+44 dBm min	43.5 dBm				
30 W	+44.8 dBm min	44.3 dBm				
40 W	+46 dBm min	45 dBm				
50 W	+47 dBm min	46 dBm				
60 W	+47.8 dBm min	46.8 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	$\pm 0.5$ dB					
Output power detector range	Rated power to -20 dB					
Power reading accuracy	$\pm 1.0$ dB max.					
Spurious	In Band	-60 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				
<b>External Reference</b> (multiplexed on TX IFL)				Frequency & Level	10 MHz	-12 to +5 dBm
Internal Reference - optional						
<b>Local Oscillator Frequency</b>						
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>				
<b>IBUC Power Supply</b>				DC	AC	
Voltage	48 $\pm$ 11 VDC	100 to 240 VAC				
	Option for 5W, 10W:	24 $\pm$ 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				
<b>Monitor and Control</b>						
<b>Ethernet</b> (HTTP, Telnet, SNMP) via RJ-45 connector.						
<b>RS232/485, Hand-held Terminal</b> via MS-type connector						
<b>FSK</b> , multiplexed on TX IFL.						
<b>Environmental</b>						
Operating temperature:	5W-50W	60 W / 80 W				
	-40°C to +60°C	-40°C to +55°C				
Relative humidity	100% condensing					
Altitude	15,000 ft., (4,600 m) ASL					
<b>Mechanical</b>				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				

Specifications are subject to change without notice.

IBUC 2 C-Band Data Sheet 8/25/17



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