



## IBUC2 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.

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 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.

**IBUC2** 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

**IBUC2** 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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# 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>			<b>External Reference</b> (multiplexed on TX IFL)		
VSWR / Impedance	1.5:1 max / 50 Ohm		Frequency & Level	10 MHz	-12 to +5 dBm
Input Connector	Type N female (50 Ohm)		Internal Reference - optional		
Input Connector options	Type F (75 Ohm), TNC (50 Ohm)		<b>Local Oscillator Frequency</b>		
Input power detector	-55 to -20 dBm		Sense	Inverting	Non-inverting
<b>Gain</b>			Band 1	7375 MHz	4900 MHz
Small Signal Gain (L-band to RF) with attenuator set to 0 dB			Band 2	7700 MHz	n/a
5 W	68 dB min		Band 3	8175 MHz	n/a
10 W	71 dB min		Band 4	7600 MHz	4900 MHz
15 W	72.8 dB min		Band 5	7700 MHz	4900 MHz <small>(IF 950-1825 MHz)</small>
20 W	74 dB min		<b>IBUC Power Supply</b>	DC	AC
25 W	75 dB min		Voltage	48 ± 11 VDC	100 to 240 VAC
30 W	75.8 dB min		Option for 5W, 10W:	24 ± 4 VDC	
40 W	77 dB min		DC via coax available on 5 W - 25 W		
50 W	78 dB min		Power Consumption		
60 W	79 dB min		5 W	60 W	75 VA
Attenuator range	30 dB variable in 0.1 dB steps		10 W	85 W	120 VA
Gain flatness	<u>Bands 1/2/3</u>	<u>Bands 4/5</u>	15 W	125 W	150 VA
Full band	3 dB p-p max	4 dB p-p max	20 W	154 W	200 VA
36 MHz	1 dB p-p max	1.5 dB p-p max	25 W	168 W	210 VA
1 MHz	0.25 dB p-p	0.25 dB p-p	30 W	188 W	220 VA
Gain variation over temperature			40 W	300 W	330 VA
Open loop	3 dB p-p max	4 dB p-p max	50 W	320 W	350 VA
With AGC	1 dB p-p max	1 dB p-p max	60 W	360 W	400 VA
<b>RF Output</b>			<b>Monitor and Control</b>		
Interface	CPR-137G or N(f)		<b>Ethernet</b> (HTTP, Telnet, SNMP) via RJ-45 connector.		
VSWR	1.5:1 max		<b>RS232/485, Hand-held Terminal</b> via MS-type connector		
Rated output power	$P_{1dB}$	$P_{linear}$	<b>FSK</b> , multiplexed on TX IFL.		
5 W	+37 dBm min	36.5 dBm	<b>Environmental</b>		
10 W	+40 dBm min	39.5 dBm	Operating temperature:	5W-50W	60 W
15 W	+41.8 dBm min	41.3 dBm		-40°C to +60°C	-40°C to +55°C
20 W	+43 dBm min	42.5 dBm	Relative humidity	100% condensing	
25 W	+44 dBm min	43.5 dBm	Altitude	15,000 ft., (4,600 m) ASL	
30 W	+44.8 dBm min	44.3 dBm	<b>Mechanical</b>	DC powered	AC powered
40 W	+46 dBm min	45 dBm	5 W - 10 W	10.5x6x3.8 in. 9.3 lbs	10.5x6x4.2 in. 10.5 lbs
50 W	+47 dBm min	46 dBm	15 W - 30 W	10.5x6x5.2 in. 10.8 lbs	10.5x6x5.6 in. 11.7 lbs
60 W	+47.8 dBm min	46.8 dBm	40 W - 60 W	10.5x6x5.7 in. 11.5 lbs	10.5x6x6.1 in. 12.4 lbs
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	-60 dBc			
	Out of Band	Complies with EN 301 443 and MIL-STD 188-164B			
Harmonics	-50 dBc max.				
Output Noise Power Density					
	TX	< -79 dBm/Hz			
	RX	< -145 dBm/Hz			

Specifications are subject to change without notice.

IBUC 2 C-Band Data Sheet 2/29/16



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