

### IBUC Advantages

Integrated BUC/SSPA packaging for higher performance and reliability.

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

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

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.

16dB User-adjustable gain in 0.1 dB steps preserves modem dynamic range.

Advanced customer interfaces:

- TCP/IP HTTP with embedded web pages.
- TELNET through TCP/IP
- FSK through TX IFL cable.
- RS232/485 serial port.
- Handheld terminal

1+1 switching logic and drivers built into the IBUC eliminate expensive external switching controller.

Extensive diagnostics displayed as web pages for faster setup and troubleshooting.



The revolutionary IBUC has advanced features to take your network to new heights.

Compared to traditional 70 MHz solutions, the IBUC offers significant benefits:

- Lower terminal cost
- Simpler design and installation
- Superior RF performance
- Simplified 1+1 configuration

New interfaces connect you to the IBUC's 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 alarm history.
- Simplified **troubleshooting** of terminal faults.

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
- Alarm history

As always, the IBUC carries Terrasat's guarantee of rated output power across the operating band and specified temperature range. Unique in the IBUC are internal AGC and ALC functions to satisfy demanding applications with stringent specifications.

The IBUC is manufactured in our modern Morgan Hill, CA facility to the same exacting quality processes as our PowerPlus series and OEM microwave products. Each unit undergoes rigorous testing, burn-in at elevated temperature, BER, and final testing over

## C-Band IBUC Block Upconverter Specifications

<b>L-Band Input</b>			<b>External Reference</b> (multiplexed on TX IFL)		
Frequency range			Frequency	10 MHz	
Band 1	950 to 1525 MHz		Level	-8 to +3 dBm	
Bands 2 & 3	1150 to 1450 MHz		<b>Local Oscillator</b>		
Band 4	950 to 1750 MHz		LO Frequency		
VSWR / Impedance	1.5:1 max / 50 ohms		Band 1	7375 MHz	
Connector	Type N female		Band 2	7875 MHz	
Input power detector range	-55 to -20 dBm		Band 3	8175 MHz	
<b>Gain</b>			Band 4	7900 MHz	
Small Signal Gain (L-band to RF) with attenuator set to 0 dB			Sense	Inverting	
5W	68 dB min		<b>IBUC DC Supply</b>		
10W	71 dB min		Multiplexed on TX IFL	5W, 10W	
20W	74 dB min		Connector	MS3102R14S-6P	
25W	75 dB min		Voltage / Current		
40W	77 dB min			+24 ± 4 VDC	+48 ± 11 VDC
60W	79 dB min		5W	3.0A @ 24VDC	1.5A @ 48VDC
80W	80 dB min		10W	4.5A @ 24VDC	2.5A @ 48VDC
Attenuator range	16 dB variable in 0.1 dB steps		20W	na	4.0A @ 48VDC
Gain flatness	<u>5W to 40W</u>	<u>60W to 80W</u>	25W	na	5.0A @ 48VDC
Full band	3 dB p-p max		40W	na	7.5A @ 48VDC
36 MHz	1dB p-p max	1.5 dB p-p max	60W	na	9.5A @ 48VDC
1 MHz	0.25 dB p-p	0.25 dB p-p	80W	na	11.5A @ 48VDC
Gain variation over temperature			<b>Monitor and Control</b>		
Open loop	3 dB p-p max	4 dB p-p max	<b>PSK</b> (multiplexed on TX IFL)		
With AGC	1 dB p-p max	1 dB p-p max	Transmitter		
<b>RF Output</b>			Frequency	650 kHz ± 5%	
Frequency range			Deviation	± 60 kHz	
Band 1 Standard C-Band	5850 to 6425 MHz		Output Level	-5 to -15 dBm (50 ohms)	
Band 2 Palapa-ST-1	6425 to 6725 MHz		Receiver		
Band 3 Insat	6725 to 7025 MHz		Nominal frequency	650 kHz	
Band 4 Extended C-Band	5850 to 6650 MHz		Locking range	± 32.5 kHz	
Interface	CPR-1370 or N female, 50 ohm		Input sensitivity	-15 dBm	
VSWR	1.5:1 max		Interfaces (RS232, RS485, TCP/IP and Handheld Terminal)		
Rated output power (F1dB across temperature range and freq. band)			Connector	MS3112B-14-19S	
5W	+37 dBm min		<b>RS232/485</b>		
10W	+40 dBm min		Data Rate	Selectable 1.2 to 115.2 kbps	
20W	+43 dBm min		Data Format	8 bits, no parity, 1 stop bit, ASCII	
25W	+44 dBm min		<b>Handheld Terminal data rate</b>		
40W	+46 dBm min		9600 bps		
60W	+47.8 dBm min		<b>TCP / IP</b>		
80W	+49 dBm min		Telnet, HTTP		
IMD3 (2 carriers, 30 kHz apart, 9dB BC/carrier)	-30 dBc max		<b>Environmental</b>		
Level stability with ALC	± 0.5 dB		Operating temperature	-40°C to +60°C    -40°C to +55°C	
Output power detector range	Rated power to -20 dB		Relative humidity	100% condensing	
Power reading accuracy	+/- 1.0 dB max		Altitude	15,000 ft., (5,000m) ASL	
Spurious	Complies with EN 301 443		<b>Mechanical</b>		
SSB Phase Noise				Size	Weight
Offset	External reference IBUC		5W, 10W	12.2"(L)x7.2"(W)x4.2"(H)	12 lbs
10Hz	-120 dBc/Hz	-35 dBc/Hz		310mm x 183mm x 107mm	5.5 kg
100Hz	-130 dBc/Hz	-70 dBc/Hz	20-80W	12.2"(L)x7.2"(W)x8.4"(H)	17 lbs
1 kHz	-143 dBc/Hz	-80 dBc/Hz		310mm x 183mm x 214mm	7.7 kg
10 kHz	-152 dBc/Hz	-90 dBc/Hz			
100kHz	-155 dBc/Hz	-100 dBc/Hz			
1MHz	-155 dBc/Hz	-110 dBc/Hz			

Specifications are subject to change without notice



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