TERRASAT Communications, Inc.

IBUC
Ku-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 4 W through 16 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 better than IESS308/309 requirements by a minimum of 5 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 Servsat Sales at +1 770-757-1767 by Email: Sales@servsat.com.
www.servsat.com

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Frequency range	RF	IF
Band 1 Std Ku	14.00 to 14.50 GHz	950 to 1450 MHz
Band 2 Full Ku	13.75 to 14.50 GHz	950 to 1700 MHz
Band 3 Low Ku	12.75 to 13.25 GHz	950 to 1450 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

4 W	67 dB min
8 W	70 dB min
12 W	72 dB min
16 W	73 dB min
20 W	74 dB min
25 W	75 dB min
30 W	76 dB min
40 W	77 dB min
50 W	78 dB min

Attenuator range	16 dB variable in 0.1 dB steps	
Gain flatness	Band 1 & 3	Band 2
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	4 dB p-p max	
With AGC	1 dB p-p max	

RF Output

Interface	WR75 cover with groove
VSWR	1.5:1 max
Rated output power (P1dB)	
4 W	+36 dBm min
8 W	+39 dBm min
12 W	+40.8 dBm min
16 W	+42 dBm min
20 W	+43 dBm min
25 W	+44 dBm min
30 W	+44.8 dBm min
40 W	+46 dBm min
50 W	+47 dBm min
IMD3 (2 carriers, 3 dB TOBO)	-25 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 301 428/430 and MIL-STD 188-164B
Harmonics	-50 dBc max.
Output Noise Power Density	
	TX < -80 dBm/Hz
	RX < -145 dBm/Hz

SSB Phase Noise	External refer-	IBUC
10 Hz	-115 dBc/Hz	-50 dBc/Hz
100 Hz	-140 dBc/Hz	-75 dBc/Hz
1 kHz	-150 dBc/Hz	-85 dBc/Hz
10 kHz	-155 dBc/Hz	-90 dBc/Hz
100 kHz	n/a	-95 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	Non-Inverting
Band 1	13050 MHz
Band 2	12800 MHz
Band 3	11800 MHz

IBUC Power Supply	DC	AC
Voltage	48 ± 11 VDC	100 to 240 VAC
Option for 4 W, 8 W:	24 ± 4 VDC	
DC via coax available on 4 W - 16 W		
Power Consumption		
4 W	77 W	85 VA
8 W	110 W	132 VA
12 W	144 W	158 VA
16 W	168 W	200 VA
20 W	220 W	250 VA
25 W	270 W	297 VA
30 W	380 W	440 VA
40 W	400 W	456 VA
50 W	550 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	4 W to 25 W	30 W to 50 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
4 W - 8 W	12.2x7.2x4.2 in. 13 lbs	12.2x7.2x4.5 in. 14 lbs
12 W - 25 W	12.2x7.2x6.2 in. 18 lbs	12.2x7.2x6.5 in. 19 lbs
30 W - 50 W	12.2x7.2x6.7 in. 18.5 lbs	12.2x7.2x7.0 in. 19.5 lbs

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