



Ka-Band IBUC Intelligent Block Upconverter

IBUC Advantages

Integrated BUC/SSPA packaging for higher performance and reliability.

DC power can be supplied via IFL coax or separate DC connector for 5 W through 10 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 available.

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.

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

Advanced user interfaces:

- TCP/IP HTTP with embedded web pages.
- SNMP
- TELNET through TCP/IP
- FSK through TX IFL cable.
- RS232/485 serial port.
- Handheld 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 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 time-stamped alarm history.
- Simplified **troubleshooting** of terminal faults.

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

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Ka-Band IBUC Block Upconverter

Frequency range	RF	IF	SSB Phase Noise	External Reference	IBUC
Band 1	29.5 to 30.0 GHz	1.0 to 1.5 GHz	10 Hz	-105 dBc/Hz	-32 dBc/Hz
Band 2	30 to 31 GHz	1.0 to 2.0 GHz	100 Hz	-135 dBc/Hz	-62 dBc/Hz
		option 950 to 1950 MHz	1 kHz	-145 dBc/Hz	-72 dBc/Hz
			10 kHz	-155 dBc/Hz	-82 dBc/Hz
VSWR/Impedance	1.3:1 max / 50 Ohm		100 kHz	-155 dBc/Hz	-92 dBc/Hz
Input Connector	Type N female (50 Ohm)		1 MHz	-155 dBc/Hz	-102 dBc/Hz
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.

5 W	68 dB min.
10 W	71 dB min.
16 W	73 dB min.
20 W	74 dB min.
25 W	75 dB min.

Attenuator range 16 dB in 0.1 dB steps

Gain flatness	<u>Band 1</u>	<u>Band 2</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

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	WR28 UG cover w/ groove
VSWR	1.3:1 max

Rated output power (P1dB)

5 W	+37 dBm min.
10 W	+40 dBm min.
16 W	+42 dBm min.
20 W	+43 dBm min.
25 W (Band 1 only)	+44 dBm min.

IMD3 (2 carriers, 2 dB total BO from rated P1dB) -25 dBc max.

(relative to combined power in the two CW carriers)

Spectral Regrowth (@ 2 dB BO from P1dB) -30 dBc max.

(@ 1.0 x symbol rate offset from carrier for QPSK modulated carrier)

Level stability with ALC	± 0.5 dB
Output power detector range	Rated power to -20 dB
Power reading accuracy	± 1.0 dB max.
Spurious	-60 dBc
AM/PM Conversion	< 2 deg/dB @ 2 dB BO from rated P1dB
Output Noise Power Density, TX	< -85 dBm/Hz

External Reference (multiplexed on TX IFL)

Frequency	10 MHz
Level	-12 to +5 dBm

Internal Reference - optional

Local Oscillator Frequency

Band 1	28500 MHz
Band 2	29000 MHz (29050 MHz opt.)

Sense Non-inverting

IBUC Power Supply

	DC	AC
Voltage	48 \pm 11 VDC	100 to 240 VAC
	Option for 5 W: 24 \pm 4 VDC	

DC via coax available on 5 W and 10 W

Power Consumption

5 W	75 W	110 VA
10 W	150 W	180 VA
16 W	300 W	360 VA
20 W	350 W	400 VA
25 W	400 W	460 VA

Monitor and Control

FSK (multiplexed on TX IFL), RS232/485

Hand-held Terminal, TCP / IP (HTTP, Telnet, SNMP)

Environmental

Operating temperature	-40°C to +60°C
Relative humidity	100% condensing
Altitude	10,000 ft (3,000m) ASL

Mechanical

	DC powered	AC powered
5 W	12.2x7.2x4.2 in.	12.2x7.2x4.5 in.
	13 lbs	14 lbs
10 W - 25 W	12.2x7.2x6.2 in.	12.2x7.2x6.5 in.
	18 lbs	19 lbs

Specifications are subject to change without notice

Ka-Band IBUC Data Sheet 08/06/10



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