

KA-BAND DUAL FREQUENCY BLOCK UP CONVERTERS MILITARY / COMMERCIAL

30.0-31.0 GHz / 27.0-30.0 GHz



Jersey Microwave has taken their standard field proven line of single band L to Ka-Band high performance Frequency Block Converters and re-designed them to handle multiple bands within one outdoor enclosure.

Using high performance integrated Phase Locked oscillators and Dual-band block converters the Jersey DKABUCs Series cover multiple Ka frequency bands and can accommodate custom specifications. The unit can switch from the Military (30-31 GHz) band to any commercial band within 27.0 to 30 GHz (≤ 2500 MHz BW). Standard Up Converter units have superior phase noise (10 to 20 dB better than MIL-STD-188-164A) and are Phase Locked to 10 MHz, they have 20 dB gain, +10 dBm output (P1dB) and are AC powered (DC as an option) via the weatherized connectors. Higher output powers are available (up to 16 Watts P_{SAT}). Options include a high stability internal reference, Ethernet connectivity, Monitor Port, Mute Control, RS-422 or RS-485 control and attenuation control (0.1 dB resolution) up to 40 dB.

Features/Options

**Low Phase Noise exceeds
IESS308/309 & MIL-STD-188-164A**

Redundancy

**Auto-switchover of 5/10 MHz
external reference or manually
selectable internal reference**

**Electronic Adjustment
of Internal Reference**

90-260 VAC or 24-32 VDC

Ethernet Capability

RS-422/RS-485

Higher Output Power

Gain Control

Custom Frequencies

Monitor Ports

Mute Control

**Independent Contact Closure
Summary Alarm**

Slope Equalizer

Standard Frequency Bands

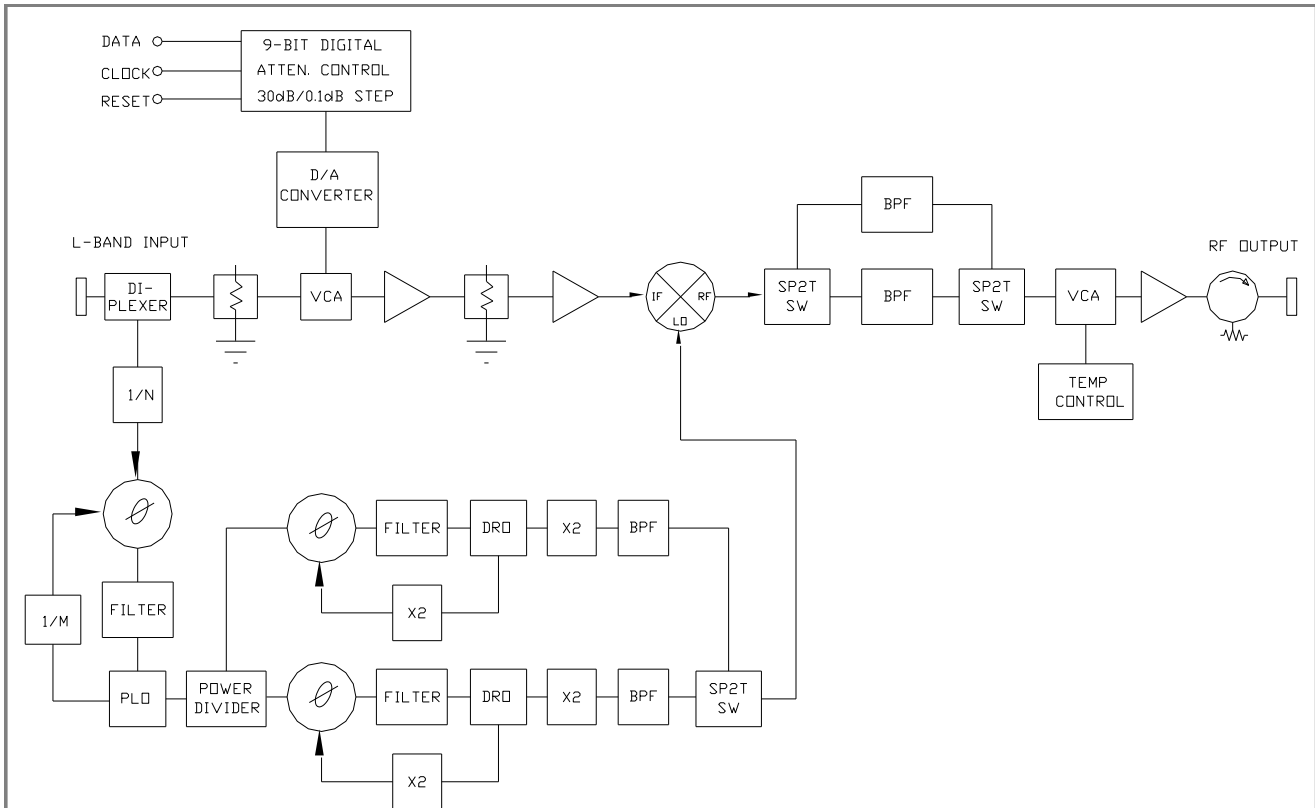
Dual Band Model Numbers

Model Number	Input Frequency	Output Frequency	LO Frequency
DKABUC-290310-2010-ODU	1000-2000 MHz	a) 29.00-30.00 GHz b) 30.00-31.00 GHz	28.00 GHz 29.00 GHz
DKABUC-300310-2010-ODU	950-1450 MHz	a) 30.00-30.50 GHz b) 30.50-31.00 GHz	29.05 GHz 29.55 GHz
DKABUC-290300-2010-ODU	950-1450 MHz	a) 29.00-29.50 GHz b) 29.50-30.00 GHz	28.05 GHz 28.55 GHz
DKABUC-275300-2010-ODU	950-2200 MHz	a) 27.50-28.75 GHz b) 28.75-30.00 GHz	26.55 GHz 27.80 GHz
DKABUC-295310-2010-ODU	950-1450 MHz 950-1950 MHz	a) 29.50-30.00 GHz b) 30.00-31.00 GHz	28.55 GHz 29.05 GHz
DKABUC-275291-2000-ODU	950-1950 MHz	a) 27.55-28.55 GHz b) 28.15-29.15 GHz	26.60 GHz 27.20 GHz
DKABUC-278300-2000-ODU	950-2050 MHz	a) 27.80-28.90 GHz b) 28.90-30.00 GHz	26.85 GHz 27.95 GHz

Note - Jersey Microwave can combine alternate Ka-Band segments from 27.0-31.0 GHz.
If you do not see the combination you desire above, please contact us.

**Custom bands and custom specifications can be provided.
Jersey Microwave does not publish all designs on our Sales Data Sheets.**

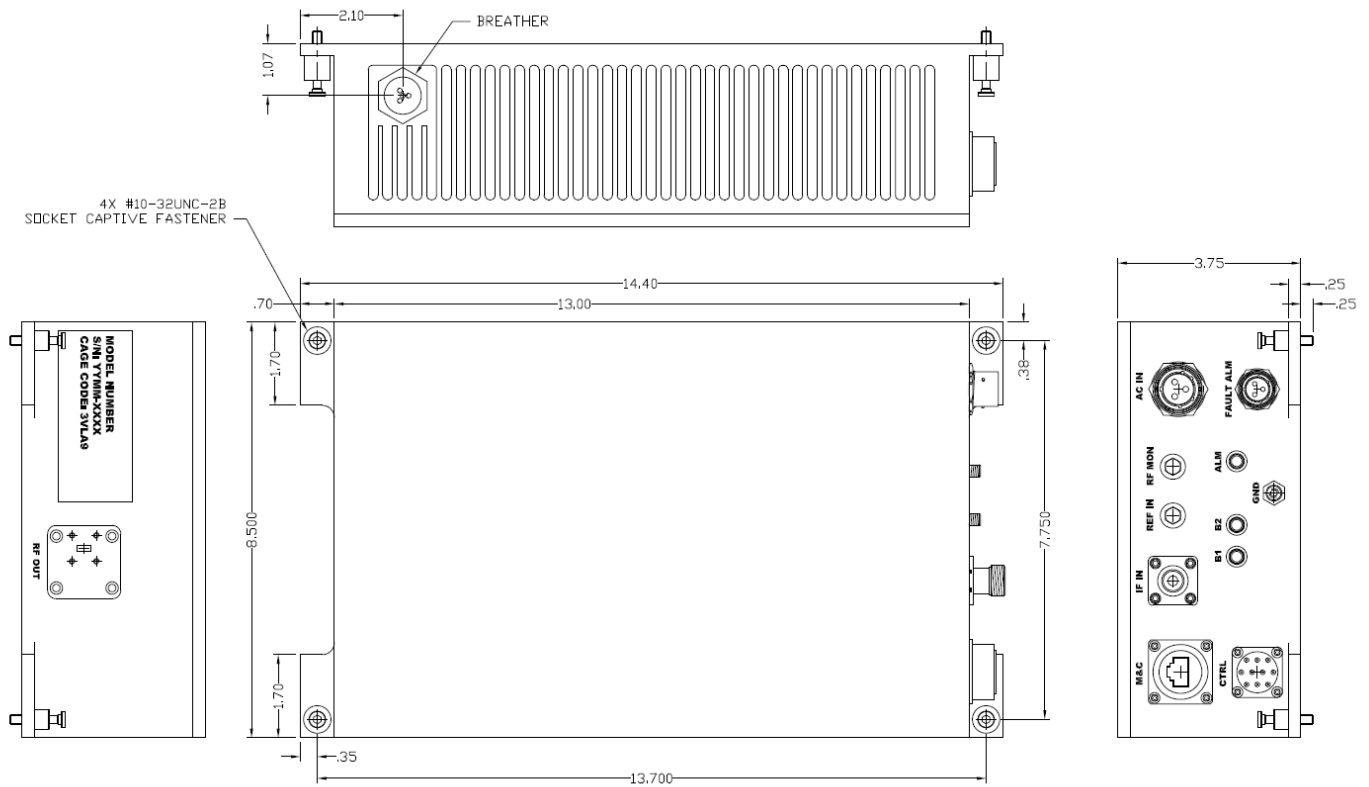
Dual Band Block Diagram



Electrical Specification		Band #1 or Band #2	
Gain @ minimum attenuation	20 dB \pm 2 dB		
Gain Flatness @ max Gain -Over RF Band -Over any 125 MHz Segment -Over any 40 MHz Segment	1 GHz BW: \pm 1.0 dB max. \pm 0.50 dB max. \pm 0.25 dB max.		
Gain Stability	\pm 0.35 dB / day max. at constant temperature \pm 1.25 dB over -20°C to +60°C \pm 1.75 dB over -30°C to +70°C		
Gain Control (at L-Band Input)	30 dB		
Step Size (Digital 9-bit)	0.1 dB		
Output Power Po (1dB)	+10 dBm min.		
OIP3 (With two output carriers @ 0 dBm total output power)	-40 dBc max.		
Output Spurious (In-Band): - Signal Dependent (Po = 0 dBm) - Signal Independent - LO Leakage @ RF	-60 dBc max. -70 dBm max. -70 dBm max.		
2IF + LO @ 0 dBm	-60 dBc max.		
Output Noise Density	-130 dBm/Hz max.		
Return Loss: - Input - Output	18 dB min. 18 dB min.		
Reference Input Frequency	10 MHz		
Reference Input Level	0 dBm to \pm 10 dBm		
Frequency Stability Internal Reference option (after 72 hours of operation)	\pm 2 x 10 ⁻⁹ per day @ fixed temperature \pm 5 x 10 ⁻⁸ over temperature -40°C to + 70°C		
Frequency Stability (external reference)	Same as reference		
Type / Frequency Sense	Single Conversion / No Inversion		
Power Requirements			
Voltage Standard	90 - 260 VAC, Single Phase		
Frequency	47 - 63 Hz		
Power	30 Watts max.		
DC Voltage (Option)	20 - 48VDC		
Mechanical Configuration			
Weight	15 lbs. max.		
RF Connectors	WR-28 Flat		
IF Connectors	N Female		
Reference Connector	SMA Female		
AC Power Connector	PT07C12-3P (027)		
M & C Control Connector	PT02E-12-10P (025)		
Ethernet (Option)	RJ45 Female (RJF2SA1B)		
Environmental			
	Operating		Non-Operating
Temperature	-40°C to +70°C		-40°C to +85°C
Altitude	Up to 10,000 feet		Up to 50,000 feet
Humidity	Up to 100% Condensation		
Vibration	Normal Commercial Carrier Handling		

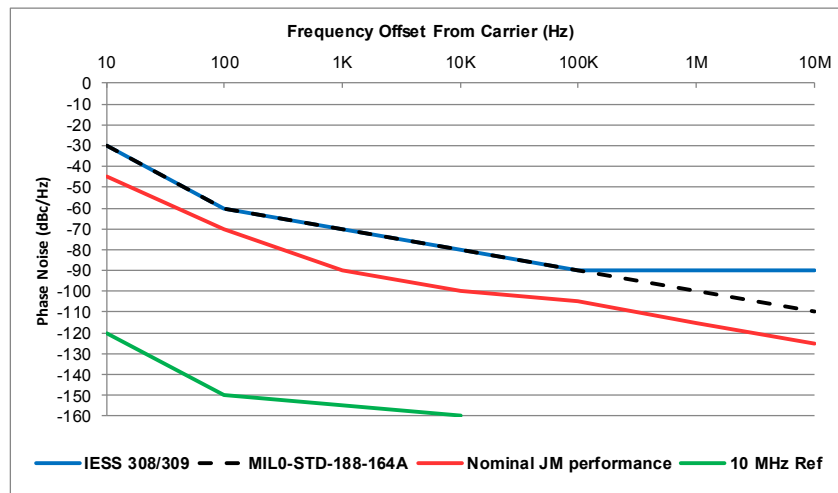
Note - Specifications may change without notice, please consult the factory for your specific needs.

Standard Mechanical Outlines



Note: Dimensions are in inches.

Phase Noise Characteristics (1.0 Hz Bandwidth)



DS-106-04