

# Ka-BAND BLOCK CONVERTER MODULES



The **Jersey Microwave** Block Converter Module series are specially designed to translate a block of L-Band frequencies into Ka-Band frequencies, or vice versa, for transmit or receive applications. The design represents an accomplishment in dense packaging. It incorporates a wide variety of proprietary techniques developed after years of providing high performance converter products. The result is the smallest, lightest and highest performing Ka-Band Block Converter on the market, suitable for both commercial and military communication applications. **Jersey Microwave** components can be tailored to meet your company's specific needs.

## Features/Options

**Low Phase Noise –  
MIL-STD 188-164A compliant**

**Locks To External 5, 10 or 50  
MHz References**

**Internal Reference –  
Standard or High Stability**

**Auto Switch-Over from  
External to Internal REF**

**Alternate Gain Options**

**Attenuator Option —  
Digital or Analog**

**Lower Power Consumption**

**Light & Compact**

**High Reliability & Low Cost**

## Standard Frequency Bands

### Ka-Band Block Up Converters — Series

Model Number	Input Frequency	Output Frequency	LO Frequency
KABUC-247252-2515	950-1450 MHz	24.75-25.25 GHz	23.8 GHz
KABUC-275285-2515	950-1950 MHz	27.50-28.50 GHz	26.6 GHz
KABUC-276291-2515	950-2450 MHz	27.60-29.10 GHz	26.6 GHz
KABUC-283300-2515	950-2600 MHz	28.35-30.00 GHz	27.4 GHz
KABUC-285295-2515	1000-2000 MHz	28.50-29.50 GHz	27.5 GHz
KABUC-288296-2515	975-1725 MHz	28.875-29.625 GHz	27.9 GHz
KABUC-291293-2515	1300-1500 MHz	29.10-29.30 GHz	27.8 GHz
KABUC-290295-2515	1000-1500 MHz	29.00-29.50 GHz	28.0 GHz
KABUC-292300-2515	1000-1800 MHz	29.20-30.00 GHz	28.2 GHz
KABUC-295300-2515	1100-1600 MHz	29.50-30.00 GHz	28.4 GHz
KABUC-290300-2515	1000-2000 MHz	29.00-30.00 GHz	28.0 GHz
KABUC-295305-2515	1000-2000 MHz	29.50-30.50 GHz	28.5 GHz
KABUC-300308-2515	1000-1800 MHz	30.00-30.80 GHz	29.0 GHz
KABUC-300310-2515	1000-2000 MHz	30.00-31.00 GHz	29.0 GHz

### Ka-Band Block Down Converters — Series\*

\*Most models are available with 950 MHz output—starting frequency

Model Number	Input Frequency	Output Frequency	LO Frequency
KABDC-178193-2010	17.80-19.30 GHz	1000-2500 MHz	16.8 GHz
KABDC-183188-2010	18.30-18.80 GHz	1000-1500 MHz	17.3 GHz
KABDC-188193-2010	18.80-19.30 GHz	1000-1500 MHz	17.8 GHz
KABDC-193198-2010	19.30-19.80 GHz	1000-1500 MHz	18.3 GHz
KABDC-194196-2010	19.40-19.60 GHz	1300-1500 MHz	18.1 GHz
KABDC-198203-2010	19.80-20.30 GHz	1000-1500 MHz	18.8 GHz
KABDC-195202-2010	19.50-20.20 GHz	1000-1700 MHz	18.5 GHz
KABDC-202212-2010	20.20-21.20 GHz	1000-2000 MHz	19.2 GHz

Custom bands and custom specifications can be provided.

Electrical Specification	Up Converter	Down Converter
Gain	25 dB min.	30 dB min.
Gain Flatness: Over RF Band	1 GHz BW: $\pm 0.75$ dB max. / 500 MHz BW: $\pm 0.50$ dB max.	
Over any 125 MHz Segment	$\pm 0.50$ dB max.	
Gain Stability	$\pm 0.50$ dB / day max. at constant temperature	
	+1.5 dB over -20°C to +60°C	
	+2.0 dB over -30°C to +70°C	
Gain Control (at L-Band Input) Option		
Range	30 dB	20 dB
Step Size	0.25 dB	
Control Interface	Serial three wire	
Output Power Po (1dB)	+17 dBm typical / +15 dBm min.	+18 dBm typical / +15 dBm min.
Intermodulation Distortion (With two output carriers at 0 dBm per)	-45 dBc max.	-50 dBc max.
In-Band Spurious		
Signal Dependent @Po = 0 dBm	-60 dBm max.	
Signal Independent	-65 dBc max.	
LO Leakage	-70 dBm max	
Rejection at Receive Band	-70 dBc max.	N/A
2 IF + LO (Po = 0 dBm)	-60 dBc max.	N/A
Image Rejection	N/A	70 dB min.
Noise @ 25°C	Output Noise Density	Noise Figure
	-125 dBm/Hz max.	15 dB max.
Return Loss: Input	15 dB min.	18 dB min.
Output	18 dB min.	18 dB min.
Reference Input Frequency	10 MHz	
Reference Input Level	0 dBm $\pm$ 10 dB	
LO Alarm: TTL	"H" = Locked / "L" = Unlocked	
SSB Phase Noise		
10 Hz	-35 dBc/Hz	-35 dBc/Hz
100 Hz	-68 dBc/Hz	-70 dBc/Hz
1 KHz	-90 dBc/Hz	-90 dBc/Hz
10 KHz	-95 dBc/Hz	-98 dBc/Hz
100 KHz	-100 dBc/Hz	-102 dBc/Hz
1 MHz	-115 dBc/Hz	-115 dBc/Hz
Supply Voltage	+12 Vdc, +/-0.5 V @ 1.2 A max. (1.5A surge)	+12 Vdc, +/-0.5 V @ 0.8 A max.
Operating Temperature Range	-30° to +70° C	
Humidity	0-95% Non condensing	
Connectors: Input	N-Female (SMA female Option)	2.92 mm Female
Output	2.92 mm Female	N-Female
Reference Input	Via L-Band Connector (Diplexer)	
Supply Voltage/Alarm	D type	
Package Size (L x W x H)	4.61" x 3.30" x 1.35"	3.30" x 3.20" x 1.08"

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

DS-205-01