

# 12W Ka-Band Matchbox BUC

WAVESTREAM MBB-KAM012

## Field-Proven Performance

Wavestream's Ka-band Matchbox Block Upconverter (BUC) leads the industry in providing maximum output power in the most lightweight, compact and efficient feed-mount package for mobile, flyaway and VSAT terminals. The Ka-band Matchbox BUC has the same mounting points as Wavestream's 16W/25W/40W Kuband Matchbox BUC, providing a truly modular approach for dual-band mobile systems.

## Features

- Rugged, Lightweight Package
- Efficient 160W Power Draw
- Identical Mounting to Ku-band Matchbox for Easy Conversion

## Wavestream Advantages

What sets Wavestream products apart from traditional amplifier solutions is the innovative Spatial advantEdge™ technology. This unique patented technology allows generation of higher output power in lighter, more compact product packages that use less energy and are more reliable. Wavestream products are biased for Class AB operation, drawing less power when backed off to help save valuable energy resources. They generate less heat, ensuring a higher Mean Time Between Failures (MTBF) for greater reliability and lower lifecycle maintenance costs.



## Benefits

- Higher output power with less energy usage
- Proven reliability and efficiency
- Reduced lifecycle maintenance costs
- Compact footprint to meet critical space and weight limitations



## Technical Specifications

### RF Specifications

- **Transmit Frequency:** 30.0 GHz - 31.0 GHz
- **IF Frequency:** 1000 - 2000 MHz
- **Frequency Reference (10 MHz on IF):** 0 dBm  $\pm$  5 dB
- **Small Signal Gain:** 50 dB (nominal)
- **Gain Adjustment:** 30 dB in 0.25 dB steps (nominal)
- **Gain Variation:**
  - **Over frequency at fixed temp:** 3 dB p-p over 1000 MHz
  - **Over temp at fixed frequency:** 3 dB p-p over operating range
- **Saturated Output Power:** 41 dBm (nominal)
- **Linear Output Power, defined by MIL-STD-188-164 (for -40°C to +45°C):**
  - **Spectral Regrowth (for QPSK at 1.5x and OQPSK at 1.0x rate offset at -30dB down):** 36 dBm (derates to 35 dBm at +60°C)
- **Phase Noise:**
  - 10 Hz: -32 dBc/Hz
  - 100 Hz: -62 dBc/Hz
  - 1 kHz: -72 dBc/Hz
  - 10 kHz: -82 dBc/Hz
  - 100 kHz: -92 dBc/Hz
  - 1 MHz: -102 dBc/Hz
  - 10 MHz: -112 dBc/Hz
- **Noise Power Density Transmit:** -65 dBm/Hz (maximum)
- **Noise Power Density Receive:** -156 dBm/Hz (maximum)
- **Output Spurious:** -60 dBc

### Interfaces

- **IF Input Connector:** Type N Female
- **IF Input Impedance:** 50 Ohms
- **IF Input VSWR:** 2:1 maximum
- **RF Output Connector:** WR-28
- **RF Output VSWR:** 1.5:1 maximum
- **DC Connector and M&C Connector:** 12-Pin MIL Circular
- **M&C Protocol:** Serial RS-485 (SA-bus)

### Power

- **DC Power:** 24V, 28V, 48V
- **DC Power Draw:**
  - 160W (typical) (at Linear Output Power)

### Physical

- **Size:** 10.4" L x 5.4" W x 5.1" H (26.4 x 13.7 x 13 cm)
- **Weight:** 9.4 lbs (4.3 kg)
- **Operating Temperature (Ambient Air):** -40°F to +140°F (-40°C to +60°C)
- **Relative Humidity:** 100% Condensing
- **Shock & Vibration:** MIL-STD-810E, method 514-4
- **Altitude:** 10,000 ft above sea level (operating)

### Options

- **External Power Supply:** AC-DC Converter, 90-264 VAC, 50-60 Hz
- **M&C Protocol:** Serial RS-232, Ethernet

### Base Model

- **MBB-KAM012-xxxx**



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