

8 W / 12 W / 16 W Fanless Ku-band Matchbox Block Upconverter



Matchbox Fanless Block Upconverter

MFB-KUS008/012/016

MFB-KUE008/012/016

The Matchbox family of outdoor Ku-band BUCs provides unmatched efficiency and performance. Within a 5.4" x 4.3" x 8.9" package, Wavestream proprietary spatial power combining provides the smallest, lightest fanless BUC available for highest reliability in challenging SATCOM environments.

This Fanless Matchbox is available in three power levels (8/12/16 W), two frequency bands (14.0-14.5 GHz and 13.75-14.5 GHz), two prime DC power levels, offers forward power monitoring, serial RS-485 or optional Ethernet Control interface, 20 dB of step attenuation and choice of IF and prime power connector locations for optimal flexibility in silent flyaways and install-and-forget VSAT terminals.

KEY FEATURES & BENEFITS

- ▶ 16 W P1dB output in 9 lb fanless package
- ▶ Industry-leading efficiency with 130 W power draw
- ▶ Flexible package for ease of mounting, range of options
- ▶ Same mounting configuration as standard Matchbox
- ▶ Standard and Extended L-band inputs available

W A V E S T R E A M

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RF Specifications

	8W	12W	16W
Transmit Frequency	14.0-14.5 GHz or 13.75-14.5 GHz	14.0-14.5 GHz or 13.75-14.5 GHz	14.0-14.5 GHz or 13.75-14.5 GHz
IF Frequency (Extended Band Option)	950-1450 MHz 950-1700 MHz	950-1450 MHz 950-1700 MHz	950-1450 MHz 950-1700 MHz
Frequency Reference	External 10 MHz	External 10 MHz	External 10 MHz
P1dB Output Power	>39 dBm	>41 dBm	>42 dBm
Rated Power	39 dBm	41 dBm	42 dBm
Small Signal Gain	70 dB nominal	70 dB nominal	70 dB nominal
Intermodulation two equal carriers at 3 dB total power backoff from rated power	-25 dBc	-25 dBc	-25 dBc
Spectral Regrowth (typical) At 2 dB below rated output power at 1.0x symbol rate offset for OQPSK or QPSK	-30 dBc	-30 dBc	-30 dBc
Noise Power , maximum Receive Band	-150 dBW/4 kHz	-150 dBW/4 kHz	-150 dBW/4 kHz
Phase Noise	Meets IESS-308	Meets IESS-308	Meets IESS-308
Output Spurious	-55 dBc	-55 dBc	-55 dBc
AM/PM Conversion Up to rated power	2 deg/dB	2 deg/dB	2 deg/dB
DC Power			
DC Power (At rated output)	80 W	95 W	130 W
At 3dB back-off from rated output pwr	74 W	85 W	115 W
Prime Power	28 V, 48 V, IFL option	28 V, 48 V, IFL option	28 V, 48 V, IFL option
Interfaces			
IF Port Connector	Type N Female	Type N Female	Type N Female
IF Input Impedence	50 ohms	50 ohms	50 ohms
IF Input VSWR	2:1 max	2:1 max	2:1 max
RF Port Connector	WR-75	WR-75	WR-75
RF Output VSWR	1.25:1 max	1.25:1 max	1.25:1 max
DC & M&C Connector	32 Pin Military Circular	32 Pin Military Circular	32 Pin Military Circular
Monitor and Control	RS-485 (SA-bus), Forward Power Monitor, Ethernet Option	RS-485 (SA-bus), Forward Power Monitor, Step Attenuator, Ethernet Option	RS-485 (SA-bus), Forward Power Monitor, Step Attenuator, Ethernet Option
LED Indicators	Summary Fault (RED) Loss of Lock (YEL)	Summary Fault (RED) Loss of Lock (YEL)	Summary Fault (RED) Loss of Lock (YEL)

Physical

Size (includes Connectors)	8.9" L x 5.4" W x 4.3" H	8.9" L x 5.4" W x 4.3" H	8.9" L x 5.4" W x 4.3" H
Weight	9.2 lbs	9.2 lbs	9.4 lbs
Operating Temperature ¹	-40° C to +60° C	-40° C to +60° C	-40° C to +55° C

Options

AC/DC Converter, 90-264 VAC

Power from IFL

¹ Not intended for use in a Radome environment without adequate air circulation



Wavestream develops and manufactures high-power solid-state amplifiers which meet the evolving needs of modern mobile and fixed communications systems. Wavestream's proprietary spatial power combining technologies enable higher amplifier output powers in smaller packages with greater efficiency and lower cost than competing solutions. Wavestream offers Ka-band, Ku-band, C-band and X-band SSPAs or BUCs for satellite uplink and tropospheric communications. Using Wavestream technology solid-state amplifiers are now a preferred choice to tubes in the low to moderate power segment of tube usage. With the introduction of its products Wavestream has become the industry-leading provider of a new generation of highly reliable solid-state amplifier solutions for commercial, defense and homeland security systems.



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Specifications subject to change without notice.