

# 120 W / 200 W X-band Matchbox Block Upconverter



## Matchbox Block Upconverter MBB-XDS120/200

The X-band Matchbox Block Upconverter (BUC) takes high efficiency to a new level in solid-state power amplifiers. Through Wavestream's proprietary spatial power combining technology up to 100W linear power can be packed into a rugged 34 lb unit that can be mounted directly on the feed arm of medium aperture antennas, maximizing the power into the feed and further enhancing system-level efficiency.

The compact 15.75" L x 8" W x 8" H BUC provides the required linearity for X-band communications. It provides high reliability to minimize life cycle costs even in the most demanding applications and extreme environments (-40°C to +60°C).

### KEY FEATURES & BENEFITS

- ▶ 60 W or 100 W linear power for higher data rate capability
- ▶ Rugged 34 lb package
- ▶ Mounts on feed arm for simple integration
- ▶ High reliability lowers life cycle cost
- ▶ Redundancy options available
- ▶ Optional integrated filter and feed assembly



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## MBB-XDS120/200

### RF Specifications

	120W	200W
<b>Transmit Frequency</b>	79 - 8.4 GHz	79 - 8.4 GHz
<b>IF Frequency</b>	950 - 1450 MHz	950 - 1450 MHz
<b>Frequency Reference</b> (10 MHz on IF)	0 dBm +/-5 dBm	0 dBm +/-5 dBm
<b>Small Signal Gain</b>	63 dB nominal	63 dB nominal
<b>Saturated Power</b>	50.8 dBm	53 dBm
<b>Intermodulation</b> -25 dBc third order intermodulation product relative to combined power of two carriers at 3 dB total power backoff	47.8 dBm	50 dBm
<b>Spectral Regrowth</b> (typical) -30 dBc for QPSK at 1.5x and OQPSK at 1.0x symbol rate	48.8 dBm	51 dBm
<b>Output Spurious</b>	-60 dBc	-60 dBc
<b>AM/PM Conversion</b> (At Linear Output Power)	2 deg/dB	2 deg/dB
<b>Single-sideband Phase Noise</b>	-32 dBc at 10 Hz offset -62 dBc at 100 Hz offset -72 dBc at 1 kHz offset -82 dBc at 10 kHz offset -92 dBc at 100kHz offset -102 dBc at 1 MHz offset -112 dBc at >10 MHz offset	-32 dBc at 10 Hz offset -62 dBc at 100 Hz offset -72 dBc at 1 kHz offset -82 dBc at 10 kHz offset -92 dBc at 100kHz offset -102 dBc at 1 MHz offset -112 dBc at >10 MHz offset

### Power

<b>AC Power</b>	90 - 264 VAC, 50-60 Hz	90 - 264 VAC, 50-60 Hz
<b>AC Prime Draw</b> (Typical) (At Linear Power)	550 VA	1050 VA

### Interfaces

<b>IF Port Connector</b>	Type N Female	Type N Female
<b>IF Input Impedence</b>	50 ohms	50 ohms
<b>RF Port Connector</b>	CPR-112, grooved	CPR-112, grooved
<b>RF Power Monitor Port</b>	Type N Female	Type N Female
<b>AC Connector</b>	4-Pin Circular	4-Pin Circular
<b>M&amp;C Connector</b>	Mil. Circular	Mil. Circular

### Physical

<b>Size</b>	15.75" L x 8" W x 8" H	15.75" L x 8" W x 8" H
<b>Weight</b>	34 lbs	34 lbs.
<b>Operating Temperature</b> (Ambient Air)	-40°C to +60°C	-40°C to +60°C
<b>Humidity</b>	100% Condensing	100% Condensing

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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545 West Terrace Drive, San Dimas, CA 91773

Ph +1.909.599.9080 sales@wavestream.com

[www.wavestream.com](http://www.wavestream.com)

Specifications subject to change without notice.