

## Ku-Band Matchbox Mini Block Upconverter

16W/25W/40W

Interfaces	16W	25W	40W
IF Port Connector	Type N Female	Type N Female	Type N Female
IF Input Impedance	50 ohms	50 ohms	50 ohms
IF Input VSWR	2:1 maximum	2:1 maximum	2:1 maximum
RF Output Connector	WR-75	WR-75	WR-75
RF Output VSWR	1.25:1 maximum	1.25:1 maximum	1.25:1 maximum
DC Connector and Monitor & Control Connector	12-Pin Military Circular	12-Pin Military Circular	12-Pin Military Circular
Monitor & Control	Serial RS-485 (SA-bus), Forward Power Monitor, Step Attenuator	Serial RS-485 (SA-bus), Forward Power Monitor, Step Attenuator	Serial RS-485 (SA-bus), Forward Power Monitor, Step Attenuator
LED Indicators	Summary Fault, Loss of Lock	Summary Fault, Loss of Lock	Summary Fault, Loss of Lock

### Physical

Size	8.9"L x 5.4"W x 4.2"H	8.9"L x 5.4"W x 4.2"H	8.9"L x 5.4"W x 4.2"H
Weight	7.8 lbs	7.8 lbs	7.8 lbs
Operating Temperature (Ambient Air)	-40°C to +60°C	-40°C to +60°C	-40°C to +60°C
Relative Humidity	100% Condensing		
Shock & Vibration	Designed to withstand 20G at 11 ms ½ sine wave non-operating conditions, and MIL-STD-810E, method 514-4 transportation vibration		
Altitude	10,000 ft above sea level (operating)		

### Options

External Power Supply, AC/DC Converter, 100-240 VAC; DC Power - IFL Option (48V only at 40W)

Monitor & Control - Ethernet; RS-232

1:1 Redundancy Kit - to include waveguide, switch, cable connectors, and mounting hardware

Rack Mount Controller - 1U rack mount chassis to control any Wavestream amplifier in a 1:1 configuration with LCD display and key status LEDs

Indoor to outdoor cable assemblies - available in 25', 50' and 100' lengths.

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### FEATURES

- ▶ Smallest 40W BUC Available on the Market
- ▶ Low Power Draw, High MTBF
- ▶ Flexible, Modular Feed-Mount Design
- ▶ Holds Specs Over Temperature and Frequency
- ▶ 1:1 Redundancy Kits Available



### The Wavestream Advantage:

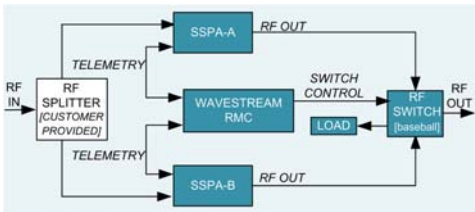
- Higher output power with less energy usage.
- Compact product footprint to meet critical space and weight limitations.
- Proven reliability and efficiency.
- Reduced lifecycle maintenance costs.



Wavestream's Ku-band Matchbox Mini Block Upconverter (BUC) offers unmatched efficiency and performance suitable for mobile SATCOM, flyaway and VSAT systems. The Ku-band Matchbox Mini BUC incorporates Wavestream's next generation Spatial advantEdge™ technology to provide higher output power in smaller, lighter weight packages that are more reliable and use less energy. The Ku-band Matchbox Mini is the smallest 40W P1db BUC on the market today and is field proven to withstand the most extreme environments. Every unit is thoroughly tested to guarantee performance over the full frequency band and over the full temperature range.

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 MTBF (Mean Time Between Failures) for greater reliability and lower lifecycle costs.

Optional 1:1 Redundancy Kits are available to provide an integrated solution for uninterrupted, reliable satellite transmissions. The 1:1 Redundancy Kit integrates the waveguide, switch and mounting hardware, and offers ease of installation and subsequent maintenance to accommodate outdoor mounts.



RF Specifications	16W	25W	40W
Transmit Frequency - Standard - Extended Band Option	14.0 - 14.5 GHz 13.75 - 14.5 GHz	14.0 - 14.5 GHz 13.75 - 14.5 GHz	14.0 - 14.5 GHz 13.75 - 14.5 GHz
IF Frequency - Standard - Extended Band Option	950 - 1450 MHz 950 - 1700 MHz	950 - 1450 MHz 950 - 1700 MHz	950 - 1450 MHz 950 - 1700 MHz
Frequency Reference (10 MHz on IF)	0 dBm ± 5 dB	0 dBm ± 5 dB	0 dBm ± 5 dB
Small Signal Gain	70 dB nominal	70 dB nominal	70 dB nominal
Gain Adjustment	20 dB, 2 dB steps nominal	20 dB, 2 dB steps nominal	20 dB, 2 dB steps nominal
Gain Variation (over frequency at fixed temperature)	0.5 dB over 36 MHz 3 dB over 500 MHz	0.5 dB over 36 MHz 3 dB over 500 MHz	0.5 dB over 36 MHz 3 dB over 500 MHz
Gain Variation (overtemperatureatfixedfrequency)	3dBp-poveroperatingrange	3dBp-poveroperatingrange	3dBp-poveroperatingrange
Saturated Output Power	42.5 dBm (nominal)	44.5 dBm (nominal)	46.5 dBm (nominal)
P <sub>1dB</sub> Output Power *	>42 dBm	>44 dBm	>46 dBm
Rated Output Power *	42 dBm	44 dBm	46 dBm
Intermodulation * (Thirdorderintermodulationproduct relative to combined power of two carriers at 3 dB total power back-off from Rated Output Power)	-25 dBc	-25 dBc	-25 dBc
Spectral Regrowth (For QPSK at 1.5x and for OQPSK at 1.0x symbol rate offset at 2 dB back-off from Rated Output Power)	-30 dBc	-30 dBc	-30 dBc
Phase Noise	Meets IESS-308	Meets IESS-308	Meets IESS-308
AM/PM Conversion (up to 2 dB below Rated Output Power)	2 deg/dB	2 deg/dB	2 deg/dB
Noise Power Density - Transmit	-70 dBW/4 kHz (maximum)	-70 dBW/4 kHz (maximum)	-70 dBW/4 kHz (maximum)
Noise Power Density - Receive	-150 dBW/4 kHz (maximum)	-150 dBW/4 kHz (maximum)	-150 dBW/4 kHz (maximum)
Output Spurious	-60 dBc	-60 dBc	-60 dBc

### Power

DC Power	24V, 28V, 48V	24V, 28V, 48V	24V, 28V, 48V
DC Power Draw (typical) (at Rated Output Power)	130W	205W	275W
DC Power Draw (at 3 dB Back-off from Rated Output Power)	115W	185W	240W

\*Guaranteed over temperature and frequency



**Digisat International Inc.**  
4195 W. New Haven Ave., Suite 15  
Melbourne, FL 32904  
USA  
+1-321-676-5250  
Email: sales@digisat.org  
<http://www.digisat.org>