



RACK-MOUNTED BLOCK UPCONVERTERS

For Satellite Communications



FEATURES

- High frequency stability
- Low intermodulation distortion
- Low phase noise contribution
- Summary alarm
- Automatic 5/10 MHz and internal/external reference selection

This equipment is designed for applications where frequency translation is needed from L-band to transmit frequencies.

OPTIONS

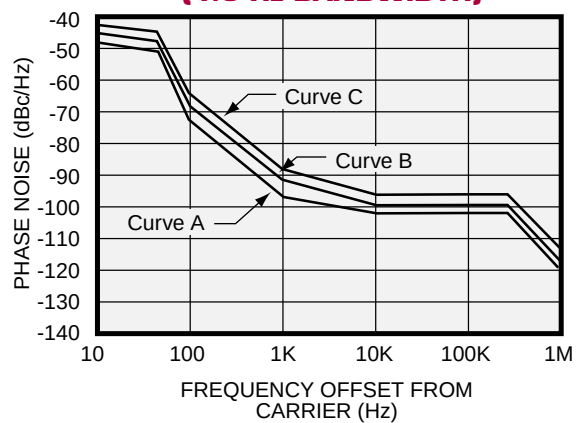
- Higher frequency stability

UPCONVERTER SPECIFICATIONS

Model Number	RF Input (GHz)	LO Frequency (GHz)	RF Output (GHz)	Frequency Inversion	Phase Noise Curve
UPB-6.1S	0.95 – 1.525	7.375	5.85 – 6.425	YES	A
UPB-6.9S	0.95 – 1.35	5.75	6.7 – 7.1	NO	A
UPB-8.15S	0.95 – 1.45	6.95	7.9 – 8.4	NO	A
UPB-13S	0.95 – 1.45	11.8	12.75 – 13.25	NO	B
UPB-14.125S	0.95 – 1.7	12.8	13.75 – 14.5	NO	B
UPB-14.25S	0.95 – 1.45	13.05	14.0 – 14.5	NO	B
UPB-17.7S	0.95 – 1.75	16.35	17.3 – 18.1	NO	C
UPB-18.25S	0.95 – 1.25	17.15	18.1 – 18.4	NO	C

PHASE NOISE

**TYPICAL
PHASE NOISE CHARACTERISTICS
(1.0 Hz BANDWIDTH)**



SPECIFICATIONS

FUNCTIONAL

Gain.....	30 dB minimum
Amplitude response.....	±0.5 dB over any 40 MHz, ±1 dB over output frequency band
Input return loss.....	14 dB minimum
Output return loss.....	20 dB minimum
Frequency stability	±2 x 10 ⁻⁸ , 0 to 50°C (higher stability options available), ±5 x 10 ⁻⁹ /day typical (fixed temperature after 24 hour on time)
Intermodulation distortion	With two inband output signals at 0 dBm, third order intermodulation products are less than 60 dBc
Input/output isolation	60 dB minimum
Noise figure	15 dB maximum
Power output	+20 dBm minimum at 1 dB compression point
Image rejection.....	60 dB minimum
Spurious outputs (inband)	
Signal related	60 dBc minimum for up to -20 dBm input
Signal independent.....	-60 dBm maximum
Level stability.....	±0.25 dB/day at constant temperature
Upconverter mute.....	60 dB minimum
Phase noise.....	See curves
External reference input	5 MHz or 10 MHz, +4 ±3 dBm. Unit will automatically switch to the internal reference for external reference input levels below +1 dBm nominal.
Alarms and indicators	
LO out-of-lock.....	Red LED (front panel)
Internal reference	Amber LED (front panel)
Summary alarm	Contact closure status for DC power, local oscillator, and internal/external reference.
Redundant switch.....	Contact closure/open for DC power and local oscillator status.

PRIMARY POWER REQUIREMENTS

Voltage	90–250 VAC
Frequency	47–63 Hz
Power consumption.....	50 W typical

PHYSICAL

Weight	20 pounds nominal
Overall dimensions.....	19" x 1.75" panel height x 20" maximum
Connectors (rear panel)	
L band input.....	N female
RF output.....	SMA female
External reference input	BNC female
Summary alarm	DE-9P
Redundancy alarm	DE-9P
Test points	
DC voltage.....	Jack (internal)
LO frequency/power monitor	SMA female (front panel)

ENVIRONMENTAL

Operating	
Ambient temperature.....	0 to 50°C
Relative humidity	Up to 95% at 30°C
Atmospheric pressure	Up to 10,000 feet
Nonoperating	
Ambient temperature.....	-50 to +70°C
Relative humidity	Up to 95% at 40°C
Atmospheric pressure	Up to 40,000 feet
Shock and vibration.....	Normal handling by commercial carriers

RACK-MOUNTED BLOCK UPCONVERTERS

OPTIONS

- 10.** Higher frequency stability reference.
- A.** $\pm 1 \times 10^{-8}$, 0 to 50°C,
5 x 10⁻⁹/day typical (fixed temperature after 24 hour on time).
 - B.** $\pm 5 \times 10^{-9}$, 0 to 50°C,
1 x 10⁻⁹/day typical (fixed temperature after 24 hour on time).
 - C.** $\pm 2 \times 10^{-9}$, 0 to 50°C,
1 x 10⁻⁹/day typical (fixed temperature after 24 hour on time).

Note: Missing option numbers are not applicable for this product.



100 Davids Drive, Hauppauge, NY 11788
TEL.: (631) 436-7400 • FAX: (631) 436-7431/436-7430
www.miteq.com