

# THE MICRO PHASE COMMUNICATION MP-9214 Ku-BAND UPCONVERTER SPECIFICATIONS

## Input Characteristics

Frequency Range	70 ± 20MHz 140 ± 40MHz (optional)
Impedance	75Ω (50Ω optional)
Return Loss	>26dB

## Output Characteristics

Frequency Range	13,750 to 14,500MHz
Step Size	125kHz
Impedance	50Ω
Return Loss	>23dB

## Transfer Characteristics

Conversion Gain	30dB
Gain Flatness	±0.5dB (13,750 to 14,500MHz)
Amplitude Flatness	±0.25dB (70 ± 20MHz)
Amplitude Ripple	0.5dB p-p (70 ± 20MHz)
Attenuator Range	0 to 30dB (continuous)
Attenuator Resolution	0.1dB
Gain Stability:	
Over 24hrs at constant temp	±0.25dB
0 °C to +50 °C	±0.35dB

### Phase Noise (SSB)

100Hz	62dBc
1 kHz	75dBc
10kHz	85dBc
100kHz	97dBc

### Third Order Intermod Distortion:

Output (full gain)	-40dBc @ 0dBm output per cxx
Output 1dB Compression	+10dBm @ 30dB Gain

### Group Delay:

Linear	0.06ns/MHz
Parabolic	0.015ns/(MHz) <sup>2</sup>

### Spurious:

Carrier Dependent	-70dBc at full gain
Carrier Independent	-70dBm at full gain

### Image Rejection:

1st Mixer	-75dBc (out of band)
2nd Mixer	-75dBc (out of band)
3rd Mixer	-80dBc (in band)

Mute	-80dBc
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## Reference

Frequency	10MHz
Frequency Stability	5 x 10 <sup>-9</sup> from 0 to 50 °C
<u>Frequency Aging:</u>	±5 x 10 <sup>-10</sup> per day ±1 x 10 <sup>-7</sup> per year
Warmup	±1 x 10 <sup>-7</sup> after 2.5min @ 25 °C

## Front Panel

Display	LCD 2 x 40 Character (Backlit)
Data Entry	Keyboard
Indicators	Power, Alarm, Remote, Ext Ref
Monitor Points	RF (SMA Female) LO (BNC Female)

## Rear Panel

RF Output	Type N (SMA optional)
RF Input	BNC Female
Internal Reference Output	BNC Female
Ext Reference Input	BNC Female (5MHz or 10MHz)

### Remote Control:

RS232	9-pin D Male
RS485	9-pin D Male
Summary Alarm	9-pin D Female (Form-C Relay)

## Miscellaneous

Remote Control	All Front Panel Functions Full Status Reporting
<u>External Reference:</u>	5/10MHz auto detect and locking of Internal 10MHz Reference
	Lock Range ±5 x 10 <sup>-7</sup>

## General

Size	13.5" D x 19" W x 1.75" H
Weight	13lbs
Power Consumption	30W max
Voltage	100-240VAC 50/60Hz
Temperature	0 to 50 °C

## Related Products

MP-9201	L-Band Downconverter
MP-9202	L-Band Upconverter
MP-9240	C-Band Downconverter
MP-9260	C-Band Upconverter