

# THE MICRO PHASE COMMUNICATION MP-9301 L-BAND DOWNCONVERTER SPECIFICATIONS

## Input Characteristics

Frequency Range	950 to 2150MHz
Step Size	125kHz
Impedance	50Ω
Return Loss	>15dB

## Output Characteristics

Frequency Range	70 ± 20MHz or 140 ± 40MHz (Front Panel Selectable)
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Frequency Inversion	Front Panel Selectable
Impedance	50Ω
Return Loss	18dB

## Transfer Characteristics

Noise Figure	14dB (Full Gain)
Conversion Gain	50dB

Gain Flatness	±0.3dB ( 950 to 2150MHz)
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Amplitude Flatness	±0.35dB (70 ± 20MHz) ±0.45dB (140 ± 40MHz)
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Attenuator Range	0 to 40dB (continuous)
Attenuator Resolution	0.1db

Gain Stability: Over 24hrs at constant temp 0°C to +50°C	±0.25dB ±0.35dB
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### Phase Noise (SSB)

100Hz	75dBc
1 kHz	80dBc
10kHz	85dBc
100kHz	95dBc

<u>Synthesiser Spurious</u>	60dBc
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### Third Order Intermod Distortion:

Output (full gain)	-60dBc@ -10dBm output per cxx
Output 1dB Compression	+8dBm @ full Gain

### Group Delay:

Linear	0.05ns/MHz
Parabolic	0.015ns/(MHz) <sup>2</sup>

### Spurious:

Carrier Dependent	-60dBc at full gain
Carrier Independent	-60dBm at full gain

### Image Rejection:

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

## Reference

### High Stability Oven

Frequency Stability	5 x 10 <sup>-9</sup> from 0 to 50°C
Frequency Aging:	±5 x 10 <sup>-10</sup> per day ±5 x 10 <sup>-9</sup> per year ±1 x 10 <sup>-7</sup> after 4min @ 25°C
Warmup	

## Front Panel

Display	LCD 2 x 40 Character (Backlit)
Data Entry	Keyboard
Indicators	Power, Alarm, Remote, Ext Ref

Monitor Points	IF (BNC Female) none with opt (3) LO (BNC Female)
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## Rear Panel

RF Input	BNC Female (type N optional)
IF Output #1	BNC Female
IF Output #2	BNC Female

Internal Reference Output	BNC Female
Ext Reference Input	BNC Female (5MHz or 10MHz)

### Remote Control:

RS232	9-pin D Female
RS485	9-pin D Female
10/100BT Ethernet	RJ-45 ( <b>Option</b> )
Summary Alarm	9-pin D Female (Form-C Relay)

## Miscellaneous

Remote Control	All Front Panel Functions Full Status Reporting
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### External Reference:

	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	20W max
Voltage	100-240VAC 50/60Hz
Temperature	0 to 50°