

# Operational Characteristics (rev 10.11.99)

## HP 85309A Options Std, 001, 002

### GENERAL DESCRIPTION

The HP 85309A is part of Distributed Frequency Converter system. The Frequency converter is complete when combined with the HP 85320A and 85320B Down Converter modules. The 85309A provides amplification for the L.O. Mixer drive signal and the down converted 20MHz I.F. signal.

### ABSOLUTE MAXIMUM RATING

LO Input Port (CW)	+23 dBm
Ref. Chan. I.F. Input Port (CW)	+13 dBm
Ref. Chan Detector Input	$\pm 20$ vdc
Pos. Z / Blanking Input	$\pm 10$ vdc
Storage Temperature	- 40 to +75 degree C
Operating Temperature	0 to +55 degree C

### Nominal Channel Performance

Frequency Range: 0.3 - 18 GHz

Input Power range, L.O. Input : (recommended)

0.3 - 3.0 GHz	6 - 10 dBm
2.0 - 18 GHz	0 - 6 dBm

Power Output, L.O. Ports :

Freq. Range	Minimum
0.3 – 1.0 GHz :	16 dBm
0.5 - 1.0 GHz :	20 dBm
1.0 - 6.0 GHz:	20 dBm
6.0 – 9.0 Ghz :	19 dBm
9.0 – 18 GHz :	17

I.F. Channel Small Signal Gain:

	Minimum	Maximum
20 MHz	21 dB	25 dB

Output Power Channel Tracking: (typ.)

0.3 - 3.0 GHz	$\pm 2$ dB
2.0 - 18 GHz	$\pm 2$ dB

Port Return Loss, 0.3 - 18 GHz (typ.)

L.O. Input	9 dB
L.O. Output	7 dB

## **HP 85301B System Cable Length Configurations** (For HP 85309A)

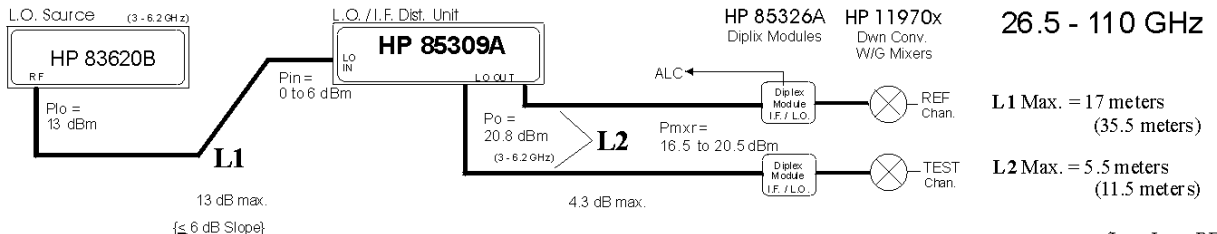
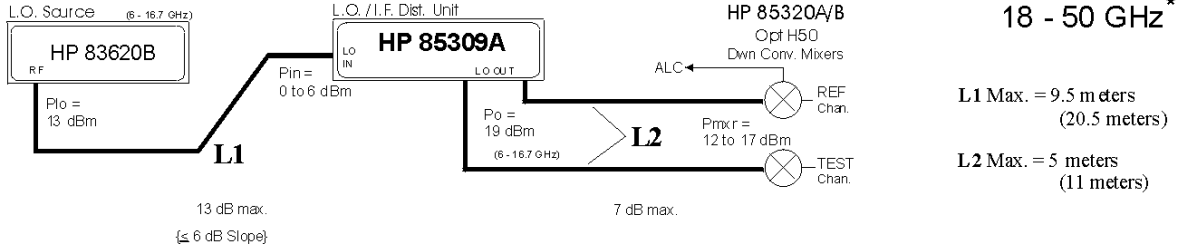
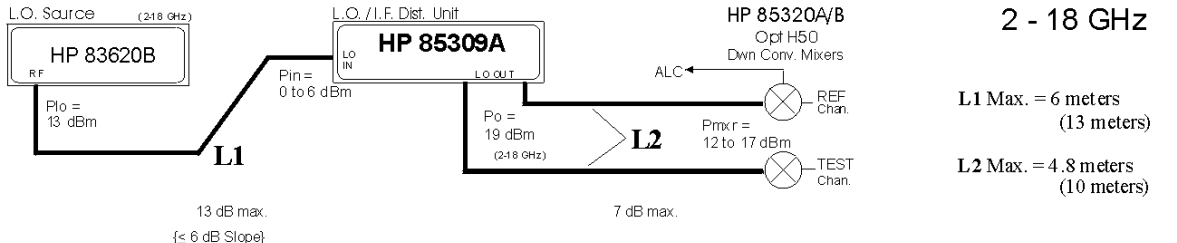
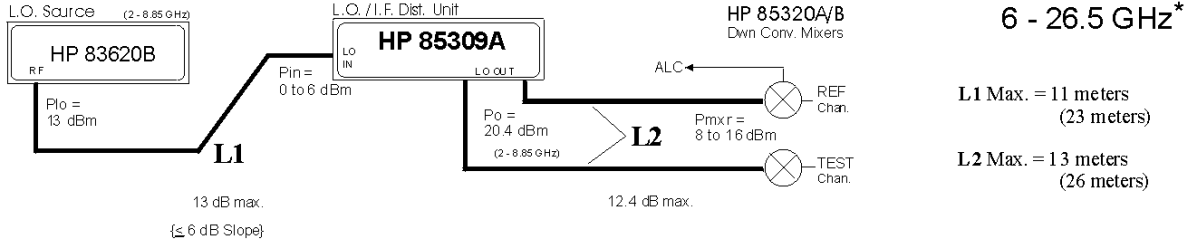
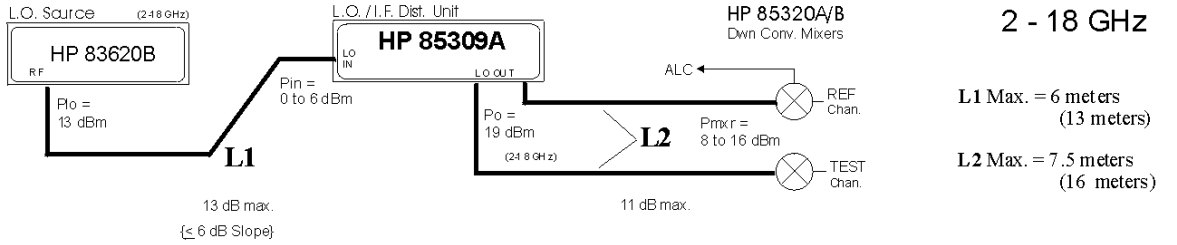
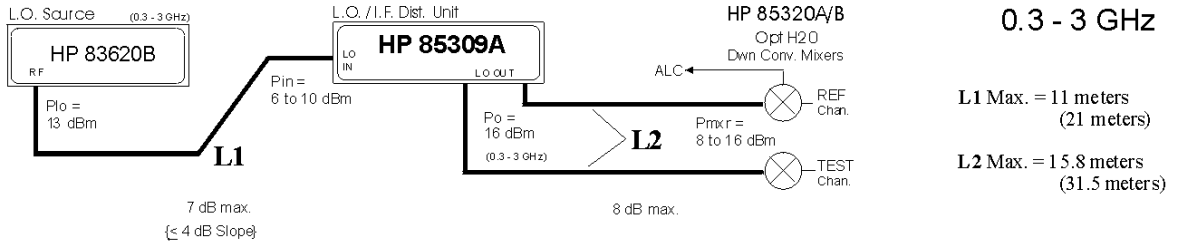
The attached figures regard maximum system Cable Lengths. They should be used in place of the information noted in the recently published 'HP 85301B/C Antenna Measurement Systems, Configuration Guide.

HOW TO USE THE CONFIGURATION FIGURE THAT FOLLOW:

1. Determine the mixer type you plan want to use.
2. Determine the frequency band of operation for that mixer type.
3. On the Left side, under the frequency band is the Max. Cable lengths:
  - Length given are for the HP 85381A RF cable type and the (length) is for the Low Loss cable type.

NOTE: Currently the Low Loss RF cables are MicroCoax UFB311A cable type.

# HP 85309A External Mixer Configurations



\* Mixers are operated in the 3rd Harmonic Mode.

(Low Loss RF Cable)