

Designed  
in the USA



## MAIN FEATURES:

- GaAs technology.
- 9-LH and 7-LH housing compatibility.
- Plug-in diplex filters.
- High current-passing capability.
- Two popular versions: 45/54 MHz and 65/85 MHz

## Line Extenders

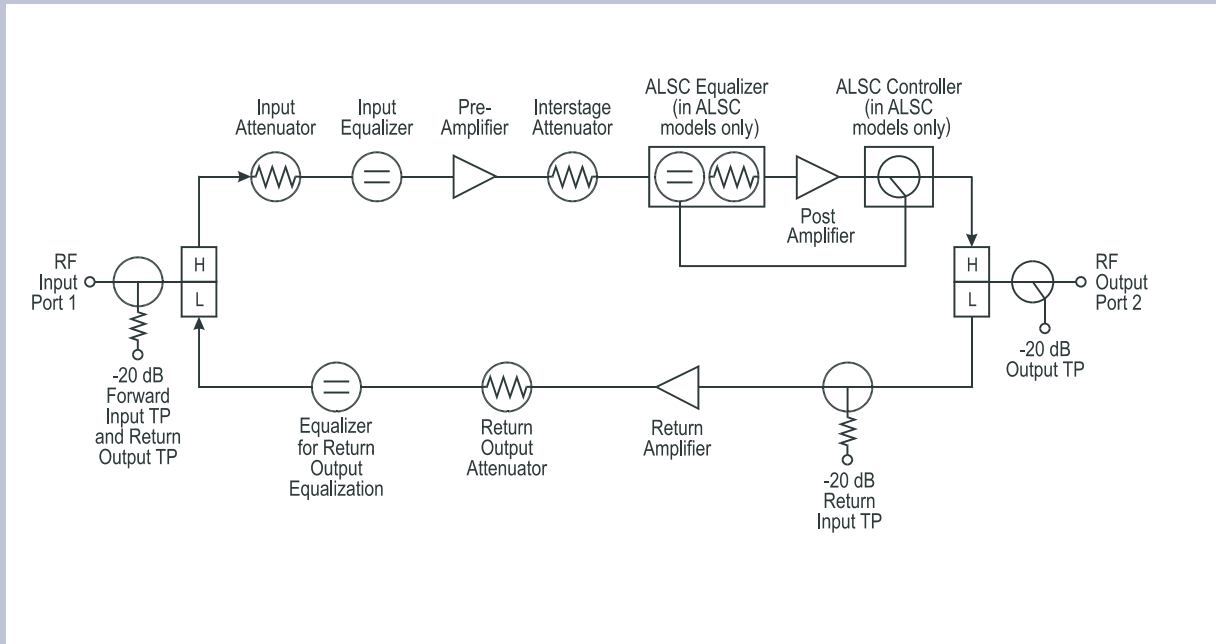
### Flex Max320\*

The Flex Max320 Line Extenders provide excellent forward and return path performance in a compact end-of-line solution. Flex Max320 Line Extenders amplify RF signals and provide slope and gain control for unity gain in both forward and return paths. The return path circuitry, installed on the PC board, uses a hybrid amplifier with an improved compression point and bit error rate (BER) for digitally loaded traffic over a discrete amplifier design.

## Features

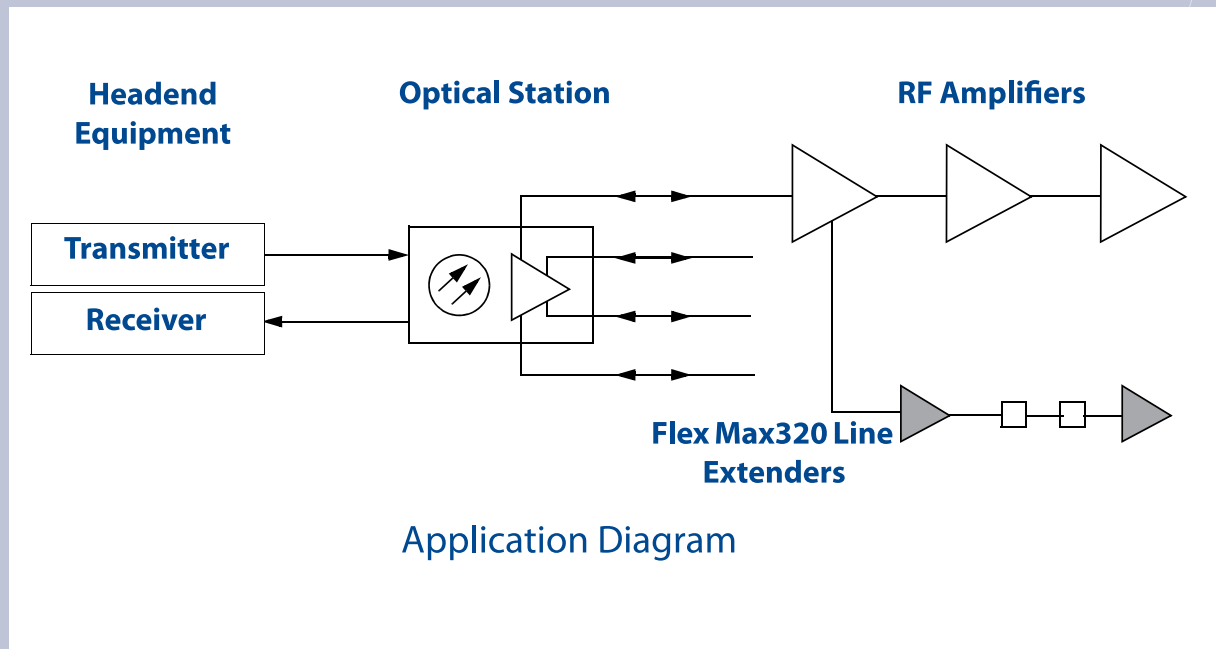
- 37dB model
- Manual Level control
- Operates while continuously passing 15A and can pass 25A for up to 2 hours
- Field-accessible plug-in equalizers and attenuators, installed during system setup, come with plastic covers that protect their components and help guide them easily into place
- Directional coupler output testpoint isolates forward output signal from the effects of reflections in the cable
- On the return output, an attenuator and an equalizer circuit controlled by a plug-in attenuator allow for accurate return path alignment (return test signals can be injected at the forward output testpoint)
- A crowbar plug-in circuit offers additional surge protection is optional
- Easy conversion from manual level control to thermal level control via plug-in PAD
- Gastube surge arrester is standard

## Functional Block Diagram



## Application

Flex Max320s amplify and control forward feeder signals from a network amplifier or other line extender. Return path circuitry on the Flex Max320's PC board also amplifies return signals from the subscriber.



Application Diagram

## Flex Max320 Line Extender Specifications

	Forward		Return		Forward		Return	
<b>General</b>								
Bandwidth, MHz	54 to 870		5 to 42		85 to 870		5 to 65	
AC Current Passing, A	15		15		15		15	
<b>Typical Operating Conditions</b>								
	Manual	Thermal	ALSC		Manual	Thermal	ALSC	
Operational Gain, dB (Note 1)								
7-MMLE198/37	37	34	30	20	37	34	30	20
<b>Performance Specifications</b>								
79 NTSC Channels								
Composite Triple Beat, -dBc	76	74	72	84	76	74	72	84
Cross Modulation, -dBc	72	70	67	75	72	70	67	75
Composite Second Order, -dBc	73	71	70	88	73	71	70	88
96 NTSC Channels								
Composite Triple Beat, -dBc	72	70	67	84	72	70	67	84
Cross Modulation, -dBc	68	67	64	75	68	67	64	75
Composite Second Order, -dBc	64	63	61	88	64	63	61	88
112 NTSC Channels								
Composite Triple Beat, -dBc	66	64	62	84	66	64	62	84
Cross Modulation, -dBc	65	63	61	75	65	63	61	75
Composite Second Order (Fc=0.75 and 1.25MHz), -dBc	56	54	53	88	56	54	53	88
Operating Levels (recommended)								
Frequency, MHz	54/550/650/750/870			42	85/550/650/750/870			65
Output, dBmV	35.5/43.1/44.6/46.2/48.0			35	43.1/44.6/46.2/48.0			35
Noise Figure (54MHz/870MHz, add 1dB for equalizer), dB	7.5/8.5			7.5	7.5/8.5			7.5
Response Flatness manual option, dB (Note 2)	±0.8			±0.9	±0.8			±0.9
Return Loss (excluding guard bands) dB (Note 3)	16			16	16			16
Testpoints (forward and return), dB	-20			-20	-20			-20
Internal Tilt, dB	8				8			

### Powering Specifications

Hum Modulation @ 15A		
5 to 12MHz, dBc	-55	
12 to 42MHz, dBc	-65	
54 to 870MHz, dBc	-65	
AC Power Consumption		
Manual mode, W	23	
ALSC mode, W	24.5	

### Powering Specifications

Module Dimensions—excluding housing (W × H × D), cm	17.12 × 10.41 × 8.52	
Weight, approx., kg	3.6	
Operating Ambient Temperature, °C	-40 to 60	

#### Notes:

1. Spacing is at the highest frequency and includes 1 dB loss for equalizer.
2. The uppermost 2MHz of the return band may exceed this specification and roll off up to 0.75dB.
3. Return loss for all 75 Ohm ports from 5MHz to 7MHz may be as low as 13dB.
4. Specifications are for typical performance at 25°C (unless otherwise noted).

Specifications are subject to change without notice.



# DATA SHEET

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Issued February 2010.

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						I							2	3	4	5	6	
A	M	P	0	0	8	2	/	0	0	I	-	C	0	0	0	0	I	Version A
A	M	P	0	0	8	2	/	0	0	I	-	F	0	0	0	0	I	Version B

I	Flex Max320* Module	
2	37dB gain, 8dB internal tilt (54 to 870MHz), 7-MMLE198/37 module	a

a) 15A current passing capability.

2	Frequency Split	
C	42/54MHz	
F	65/85MHz	

3	Frequency Split	
0	0dB jumper	
I	3dB thermal attenuator (0707424-801)	a, b

a) Must choose "0" in #4 block ALSC

b) Converts manual level control to thermal level control

4	Level Control (single pilot)	
0	None (manual)	

a) Must choose "0" in #3 block Interstage Attenuator Type

5	Surge Protection	
0	Surge arrester (gas tube)	
I	Crowbar surge protector (premium protection)	

6	Housing Type	
0	None (module only)	a
I	9-LH (standard finish)	

a) Required when ordering module only.