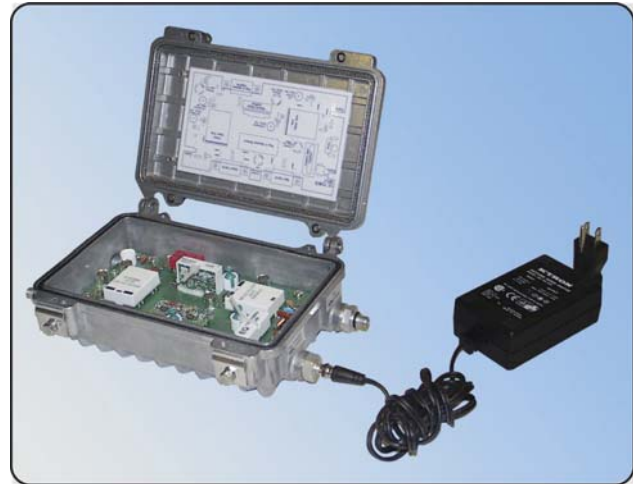
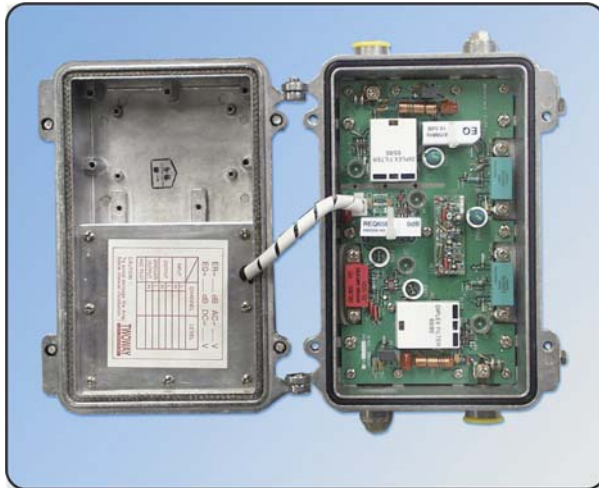


ALE 870 MHz 1 Output Line Extender Amplifiers



The ACI ALE line extender amplifier is a versatile platform for use in the fiber coax distribution architectures.

Features

- ◆ 870 MHz
- ◆ 40-90 VAC cable power or 90-240 VAC line power
- ◆ 20 dB directional test points at the input and output port and after the return signal amplifier
- ◆ 10 amp power passing
- ◆ Plug-in pads and equalizers instead of gain and slope controlled potentiometers
- ◆ Plug-in pads in .5 dB values
- ◆ Plug-in equalizers in 1.5 dB cable increments achieving 1.1 dB of value
- ◆ Attenuator pad & equalizer guides to aid in proper insertion of plug-ins
- ◆ Two-way operation
- ◆ Plug-in hybrids

ACI Communications, Inc.		1 Output Line Extender Amplifier ALE 870 MHz (Type 3M)			
STATION PARAMETERS:					
	CONDITIONS	UNITS	SPECIFICATION	NOTES	
Housing passband		MHz	5 - 1,000		
Input current capacity	Any port, worst case	Amperes	10		
Reverse loss port 1	Worst case	-dB	16		
Reverse loss port 3	Worst case	-dB	16		
Test Points					
Test point type	Directional coupler	N / A			
Test point levels		- dBc	20	Fwd & Rev	
Test point accuracy	Forward TP	+/- dB	0.5		
Frequency range	XX = Upper bandwidth frequency of split	MHz	5 - XX		
Test point accuracy	Reverse TP	+/- dB	1		
Test point accuracy	Reverse injection	+/- dB	1		
Temperature Range					
Operating temperature range		°C/°F	-40 to +60 / -40 to +140		
Station Gain					
Station passband	XX = Upper bandwidth frequency of split	MHz	XX - 870		
Station flatness - feeder out	Normalized w / 0 dB slope	+/- dB	0.75		
Gain	@ 870 MHz +0.5, -0	dB	34	Temperature stabilized	
Gain control type		N / A	Plug-in Pads		
Gain control range		dB	15		
Gain control steps	Pad value steps	dB	0.5		
Station Slope					
Slope control type	Cable equalizers	dB	Plug-in EQ's		
Slope control range	Includes cable equivalent	dB	-21 to +21		
Slope control Steps	Equalizer value steps	dB	1.5	Approx. 1.1 dB slope steps	
Operational Specifications					
Operational gain	@ 870 MHz		34		
Operational slope (with 10.5 dB EQ)	@ 55 / 550 / 870 MHz	dB	0 / 9 / 14.7		
Station Group Delay					
Group delay	Channel 2 (Std)	nSec / 3.58 MHz	30		
Group delay	Channel 3	nSec / 3.58 MHz	16		
Group delay	Channel 4	nSec / 3.58 MHz	10		
Group delay	Channel 5 & >	nSec / 3.58 MHz	4		

Confidential

Information contained in this document is subject to change without notice.

Revision date: 03/23/05

ACI Communications, Inc.		1 Output Line Extender Amplifier ALE 870 MHz (Type 3M)			
550 MHz analog channel loading, 77 channels +200 MHz digital channel loading, 33 channels 6 MHz wide, typical 64 QAM, at -6dBc relative to its associated visual carrier					
Station Output Levels					
Levels out	@ 55 / 550 / 750 MHz	dBmV	36.3 / 45.3 / 51.0		
Output stability	w/ input level change of +4 / -3 dB	+/- dB	0.5		
Station Noise Figure					
Noise figure (without EQ)	Typical within specified bandwidth	dB	7.9		
Station Distortions (Worst Case)					
Composite Triple Beat (CTB)		- dBc	67		
Cross Modulation (XMOD)		- dBc	64		
Composite Second Order (CSO-)	(Vc + 0.75 & -1.25 MHz only)	- dBc	73		
Composite Second Order (CSO+)	(Vc + 1.25 MHz only)	- dBc	70		
650 MHz analog channel loading, 94 channels +100 MHz digital channel loading, 16 channels 6 MHz wide, typical 64 QAM, at -6dBc relative to its associated visual carrier					
Station Output Levels					
Levels out	@ 55 / 650 / 870 MHz	dBmV	36.3 / 45.3 / 51.0		
Output stability	w/ input level change of +4 / -3 dB	+/- dB	0.5		
Station Noise Figure					
Noise figure (without EQ)	Typical within specified bandwidth	dB	7.9		
Station Distortions (Worst Case)					
Composite Triple Beat (CTB)		- dBc	63		
Cross Modulation (XMOD)		- dBc	60		
Composite Second Order (CSO-)	(Vc + 0.75 & -1.25 MHz only)	- dBc	70		
Composite Second Order (CSO+)	(Vc + 1.25 MHz only)	- dBc	68		
750 MHz analog channel loading, 110 channels +120 MHz digital channel loading, 22 channels 6 MHz wide, typical 64 QAM, at -6dBc relative to its associated visual carrier					
Station Output Levels					
Levels out	@ 55 / 750 / 870 MHz	dBmV	36.3 / 45.3 / 51.0		
Output stability	w / input level change of +4 / -3 dB	+/- dB	0.5		
Station Noise Figure					
Noise figure (without EQ)	Typical within specified bandwidth	dB	7.9		
Station Distortions (Worst Case)					
Composite Triple Beat (CTB)		- dBc	54		
Cross Modulation (XMOD)		- dBc	51		
Composite Second Order (CSO-)	(Vc + 0.75 & -1.25 MHz only)	- dBc	64		
Composite Second Order (CSO+)	(Vc + 1.25 MHz only)	- dBc	65		

Note: Correction factor for PAL CG & PAL 1: CTB + 1 dBc, CSO no change, XMOD + 1 dBc

Confidential

Information contained in this document is subject to change without notice.

Revision date: 03/23/05

ACI Communications, Inc.		1 Oputput Line Extender Amplifier ALE 870 MHz (Type 3M)			
REVERSE SPECTRUM:					
Reverse Channel Loading					
	Typically 23 each, 1.5 MHz wide QPSK channels.				
Reverse General		CONDITIONS	UNITS	SPECIFICATION	NOTES
Station passband	XX = Lower bandwidth frequency of split	MHz	5 - XX		
Station flatness	Normalized w/0 dB slope	+/- dB	0.5		
Reverse Station Gain					
Gain	Minimum @ 40MHz	dB	19	Temperature stabilized	
Gain control type		N / A	Plug -in pads		
Gain control range		dB	12		
Gain control steps	Pad value steps	dB	0.5		
Reverse Station Slope					
Slope control type	Cable equalizers	N / A	Plug-in EQ's		
Slope control range		dB	0 - 15		
Slope control steps	Equalizer value steps	dB	1.5	Approx.1.0 dB slope steps	
Reverse Station Output Levels					
@ forward trunk input port	Average	dBmv	35		
Output stability	w/input change of +/- 2 dB	+/- dB	TBD		
Reverse Noise Figure					
Station noise figure (w/EQ)	Typical	dB	7		
Reverse Station Distortions					
Composite Second Order (CSO)	6 NTSC channel loading	- dBc	82		
Composite Triple Beat (CTB)	6 NTSC channel loading	- dBc	90		
Cross Modulation (XMOD)	6 NTSC channel loading	- dBc	80		
Reverse Station Group Delay					
Group delay	5 MHz	nSec / 1.5 MHz	43		
Group delay	7 MHz	nSec / 1.5 MHz	16		
Group delay	10 MHz	nSec / 1.5 MHz	6		
Group delay	35 MHz	nSec / 1.5 MHz	10		
Group delay	40 MHz	nSec / 1.5 MHz	25		
Power Requirements (Cable powered 40-90 VAC)					
Station configuration	Includes return				
	Worst case	W	24		
AC Voltage					
Input ranges	Selectable	VAC	40 - 90+		
Current Draw (Cable powered 40-90 VAC)					
@ 40 VAC	Maximum	A	0.74		
@ 50 VAC	Maximum	A	0.63		
@ 60 VAC	Maximum	A	0.56		
@ 70 VAC	Maximum	A	0.51		
@ 80 VAC	Maximum	A	0.43		
@ 90 VAC	Maximum	A	0.40		

Confidential

Information contained in this document is subject to change without notice.

Revision date: 03/23/05

ALE Product Configuration Worksheet

Customer: Date:

Position

1	2	3	4	5	6	7	8	9	10	11	12
---	---	---	---	---	---	---	---	---	----	----	----

 Rev B: 03/29/05

Model Number

A	L	E									
---	---	---	--	--	--	--	--	--	--	--	--

1,2,3

A	L	E
---	---	---

Type of Station
ALE = 1 output line extender amplifier

4

Bandwidth Frequency
7 = 750 MHz upper frequency
8 = 870 MHz upper frequency

5,6

<input type="text"/>	<input type="text"/>
----------------------	----------------------

Gain, (Station Port to Port)
36 = 36 dB @ 750 MHz
34 = 34 dB @ 870 MHz

7

Diplex Filter Split
4 = 42 / 53 5 = 55 / 70 6 = 65 / 85

8

Station Slope
0 = 0 dB @ 750 MHz & 870 MHz
A = 12.5 dB @ 750 MHz & 14.7 dB @ 870 MHz (w / 10.5 dB EQ installed)

9

Return Amplifier Station Gain
0 = None
1 = None (passive)
2 = 19 dB min (25 dB hybrid)

10

Powering
1 = Internal switching power supply (90 - 240 VAC)
9 = External transformer (90 - 240 VAC)

11

<input type="text"/>
<input type="text"/>

Power Cord Set Options for Line Powered (90-240 VAC) Units
0 = Cable powered (40 - 90 V)
1 = North America
2 = International / Europe
3 = Japan

12

Custom Options
X = Determined by product management

NOTES:

