

*Preliminary*



**ACI** Communications, Inc. 

**NLEII**

**1002 MHz**

Two Passive Outputs  
Line Extender Amplifiers



## Overview

The ACI NLEII is a compact size, easy installation and cost effective line extender amplifier. This amplifier provides high quality RF distribution for HFC (hybrid fiber coaxial) network. The AC power source provides operating power to the amplifier's active components via coaxial cable. All amplifiers support two-way operation at various standard frequency splits available. The AGC function is optional and will be available in single pilot or manual mode according to application request. The output is passive so that it's not necessary to re-align the electronics when changing from one to two output port configuration.

## Features

Operating bandwidth 1002 MHz

40-90 VAC cable 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

Compact size

Easy installation

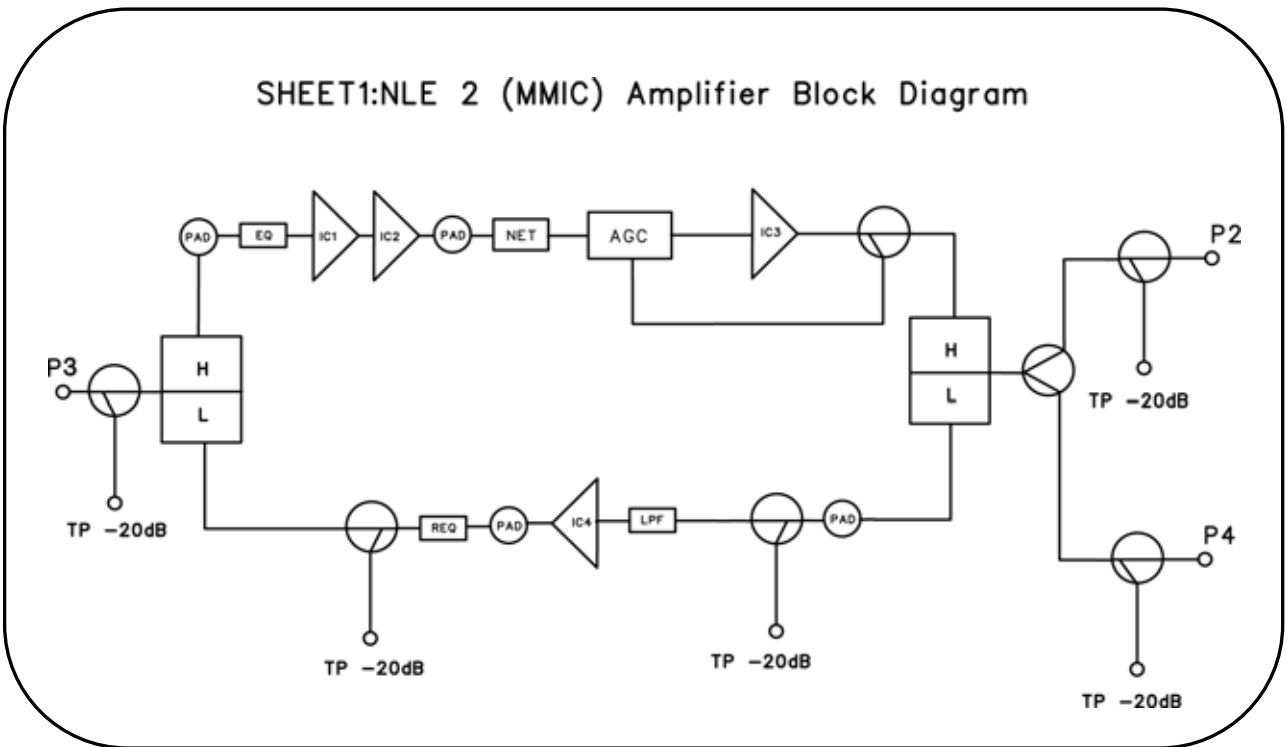
Attenuator pad & equalizer guides to aid in proper insertion of plug-ins

Two-way operation

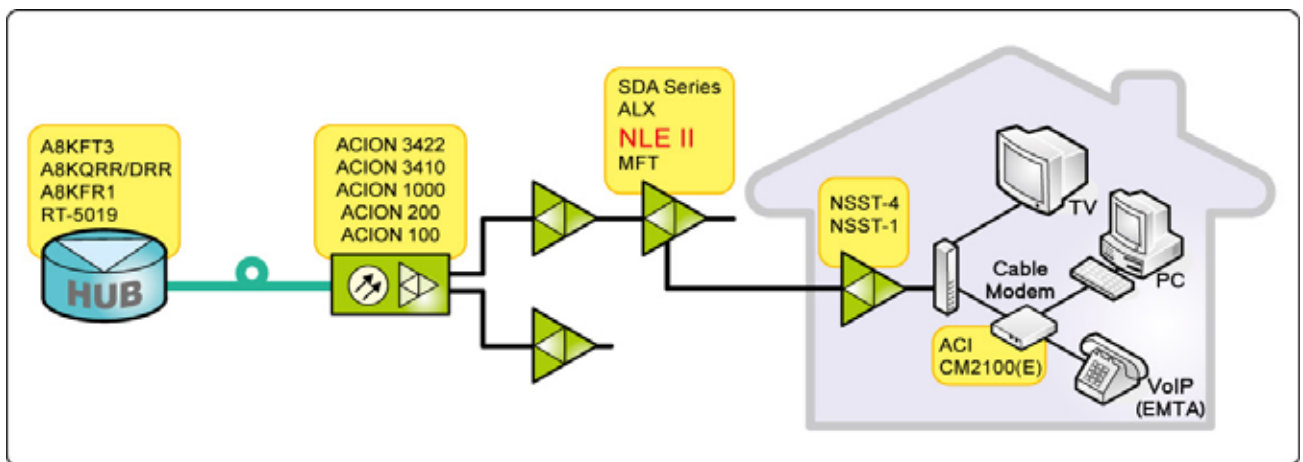
Gas tube crowbar surge protection

Preliminary

### Block Diagram



### Application



Specifications

ACI Communications, Inc.		NLEII 1002 MHz		
STATION PARAMETERS:				
DESCRIPTION	CONDITION	UNITS	SPECIFICATIONS	NOTES
Forward bandwidth		MHz	1002	
Flatness		dB	± 0.75	
Gain control range		dB	0 to 20.0	in 0.5 dB step
Slope control range		dB	-21.0 to +21.0	in 1.5 dB step
Operation gain	Min.	dB	1 output = 38 2 outputs = 34	1. 6 dB lower with AGC 2. gain option referring to ordering matrix
AGC range & tolerance		dB	± 0.5	
Return loss	Min.	dB	16	
Test point		dB	-20 ± 1	
Frequency		MHz	@54 / 550 / 750 / 870 / 1002	
Output level	@1002 MHz	dBmV	1 output = 50 2 outputs = 46	
Station slope		dB	0 / 9.0 / 12.6 / 14.8 / 17.2	
Distortion: 550 MHz analog channel loading, NTSC 79 channels +450 MHz digital channel loading, 256 QAM at -6 dBc relative to its associated visual carrier or PAL analog 72 channel.				
Composite Triple Beat (CTB)		dBc	-65	Typical
Composite Second Order		dBc	-65	
Cross Modulation (XMOD)		dBc	-65	
Noise Figure		dB	< 10.0	
Surge Protection		kv	4	
REVERSE SPECTRUM				
Operation gain	Min.	dB	1 output = 22 2 outputs = 18	
Return loss	Min.	dB	16	
Input Test point		dB	- 20 ± 1 / - 23 ± 1	-20 dB for 1 output with jumper; -23 dB for 2 outputs with splitter
Output Test point		dB	- 20 ± 1	
Station slope	Max.	dB	1.0	
Output level	Flat	dBmV	39	
Channel loading		Channel	6	
Composite Triple Beat (CTB)		dBc	-80	
Composite Second Order (CSO)		dBc	-70	
Cross Modulation (XMOD)		dBc	-70	
Noise Figure		dB	< 16.0	
Power Requirement				
Maximum	with AGC	W	27	
AC voltage input range		VAC	40-90	

Specifications

ACI Communications, Inc.		NLEII 1002 MHz		
STATION PARAMETERS:				
DESCRIPTION	CONDITIONS	UNITS	SPECIFICATIONS	NOTES
<b>Power Requirement</b>				
Current Capacity		A	10	
Hum modulation		dBc	-60	
<b>Physical</b>				
Dimensions	W x H x L	cm	17 x 14 x 22	
Weight		kg	3	

Ordering Matrix

### NLEII 1002 MHz Configuration Sheet

Customer: \_\_\_\_\_

Created By: \_\_\_\_\_ Order Date: \_\_\_\_\_

**ORDERING MATRIX** September 30, 2010

Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PART NUMBER	N	L	E												

1-2-3    N   L   E

4        TYPE OF STATION  
       1 = NLEII: 1 Output Line Extender Amplifier  
       2 = NLEII: 2 Passive Output Line Extender Amplifier

5        BANDWIDTH FREQUENCY  
       1 = 1002 MHz Upper Frequency

6-7         GAIN (Station Port to Port)

NLEII	
1 Output	2 Output
1002	1002
32	28
38	34

Max gain with AGC/Thermal PAD    32    28  
 Max gain w/bypass    38    34

8        DIPLEX FILTER SPLIT  
       4 = 42/53  
       6 = 65/85

9        STATION SLOPE  
       1 = 17.2 dB @ 1002 MHz

10-11         CONTROL TYPE / FREQUENCY  
       0M = Manual (AGC bypass)

12        REVERSE AMPLIFIER STATION GAIN  
       0 = None  
       1 = Passive  
       2 = 18 dB min (31 dB hybrid, 2 output)  
       3 = 18 dB min (26 dB hybrid, 1 output)

13        SURGE PROTECTOR  
       1 = Gas Tube (for 1002 MHz)

14        HOUSING  
       0 = No housing. Module only  
       1 = STD w / PS

15        SPECIAL SPEC (Determined by Product Management)  
       0 = No special instructions

**NOTES:**

ACI Communications, Inc. reserves the right to discontinue the manufacture or change the specifications without prior notice on any parts illustrated in the data sheet.

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