LE1000 Modular line amplifier

- Downstream frequency range up to 1006 MHz
- Upstream frequency range up to 204 MHz
- Optional connection to Monitoring System
- GaN output stage
- Automatic gain and slope control
- Automatic ingress management by the RSW module

General description

The LE1000 line amplifier thanks to it's modular style and to the 3 different gain value can be adapted to each CATV network. The automatic controlled return path ingress switch, the dividable high level output, the module defined breakpoint frequency up to 1 GHz and the optional automatic gain and slope control unit as well as the exchangeable tray make the device the best choice for HFC solutions.

Technical specifications

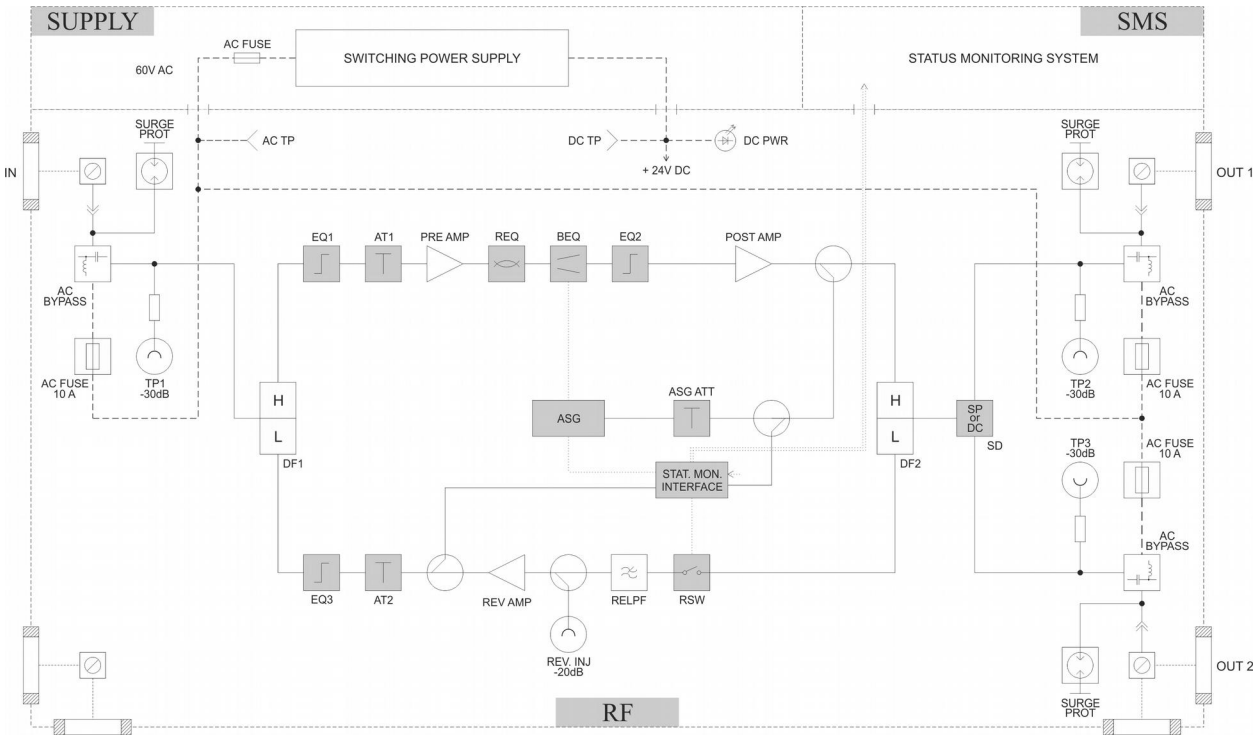
Forward path RF parameters	**LE1036D**	**LE1040D**	**LE1044D**
Amplifier type		GaN PD hybrid	
Gain [dB]	36 +2/-0	40 +2/-0	44 +2/-0
Frequency range [MHz]		47...1006 (1)	
Equaliser breakpoint frequency [MHz]		862, 1006 (2)	
RF attenuator range [dB]		0...22 (3)	
RF equaliser range [dB]		0...18 (4)	
Flatness [dB]		±0.75	
Return loss (40MHz -1.5dB/octave) [dB]		>18	
RF testpoint attenuation [dB]		30±1	
CTB [dB]		-73 (5)	
CSO [dB]		-76 (5)	
Noise-to-power ratio (NPR) maximum / Dynamic range of NPR > 42 [dB]		60 / 25 (6) (7)	
ASG insertion loss (20°C) [dB]		6.5	
ASG control range [dB]		±4	
ASG flatness [dB]		±0.5	
Noise figure [dB]		7	
Output splitter, directional coupler [dB]		Plug-in 4, 8, 12, 16, 20	

Specifications are subject to change without notice!

Reverse path RF parameters	LE10xxD-xx-20	LE10xxD-xx-25
Gain [dB]	20±1	25±1
Frequency range [MHz]	5...204	
Diplex filter [MHz]	65/85, 85/105, 204/258	
RF attenuator range [dB]	0...22 (3)	
RF equaliser range [dB]	0...14 (3) (8)	
Flatness [dB]	±0.75	
Input return loss (40MHz -1.5dB/octave) [dB]	>18	
RF testpoint attenuation [dB]	30±1	
Ingress control switch (RSW) states	0dB/-6dB/-50dB, 0dB/-6dB/-50dB/HPF20	
Noise-to-power ratio (NPR) maximum / Dynamic range of NPR > 36 [dB]	57 / 27 (9) (10)	
General parameters		
RF connector	5/8”	
Power supply voltage [VAC]	∿ 30..65, ⎍ 35...90	
Maximum power consumption [W]	25	
Maximum current feed-through [A]	10	
Hum modulation [dB]	70	
Screening factor [dB]	80	
Degree of protection	IP65	
Operational temperature range [°C]	-40...+60	
Dimensions [mm]	275x200x122	
Weight [kg]	4.1	

(1) Lower frequency limit is defined by the diplexer
(2) Breakpoint is defined by the mounted equaliser modules
(3) 2 dB steps (in case of attenuators 1 dB steps are possible between 0 dB and 5 dB)
(4) 2 dB steps. In case of breakpoint of 1006 MHz the range is limited at 16 dB
(5) 60 dBmV at 1006 MHz, 18 dB extrapolated tilt, 79 analog + 75 digital channels (-6 dB offset)
(6) Measured with flat full spectrum load between 85 and 1006 MHz
(7) NPR_{max} at TCP = 65 dBmV
(8) In case of breakpoint of 65 MHz and 85 MHz the range is limited at 12 dB
(9) Measured with flat full spectrum load between 5 and 204 MHz
(7) NPR_{max} at 39 dBmV/channel

BLOCK DIAGRAM



ORDERING INFORMATION

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Forward path gain	
36	Minimum 36 dB
40	Minimum 40 dB
44	Minimum 44 dB

Type of the diplex filter	
65	Pluggable 65/85MHz diplex filter
85	Pluggable 85/105MHz diplex filter
204	Pluggable 204/258MHz diplex filter

Reverse path gain	
20	20 dB
25	25 dB

Option	Required modules	Ordering codes
ASG option	1pc ASGxxx-C, 1pc BEQxxx-A, 1pc ATxx	ASGxxx-C, BEQxxx-A, ATxx
Monitoring option	1pc NMT-FE, 1pc RSW2-A or 1pc RSW2-H20	NMT-FE, RSW-2A, RSW2-H20
Wall mount kit	1pc WMK-1 (double)	WMK-1