

Distribution Amplifier Lambda Pro 45



Features

- Compact size
- MESFET GaAs amplifier technology
- High saturation factor
- Built-in active / passive / off return path circuit
- Protection class IP 44, IP 54 optional
- Local power inserter AMP
- Parallel circuits for attenuators and equalizers
- Very low power consumption
- Power Factor Corrector

General

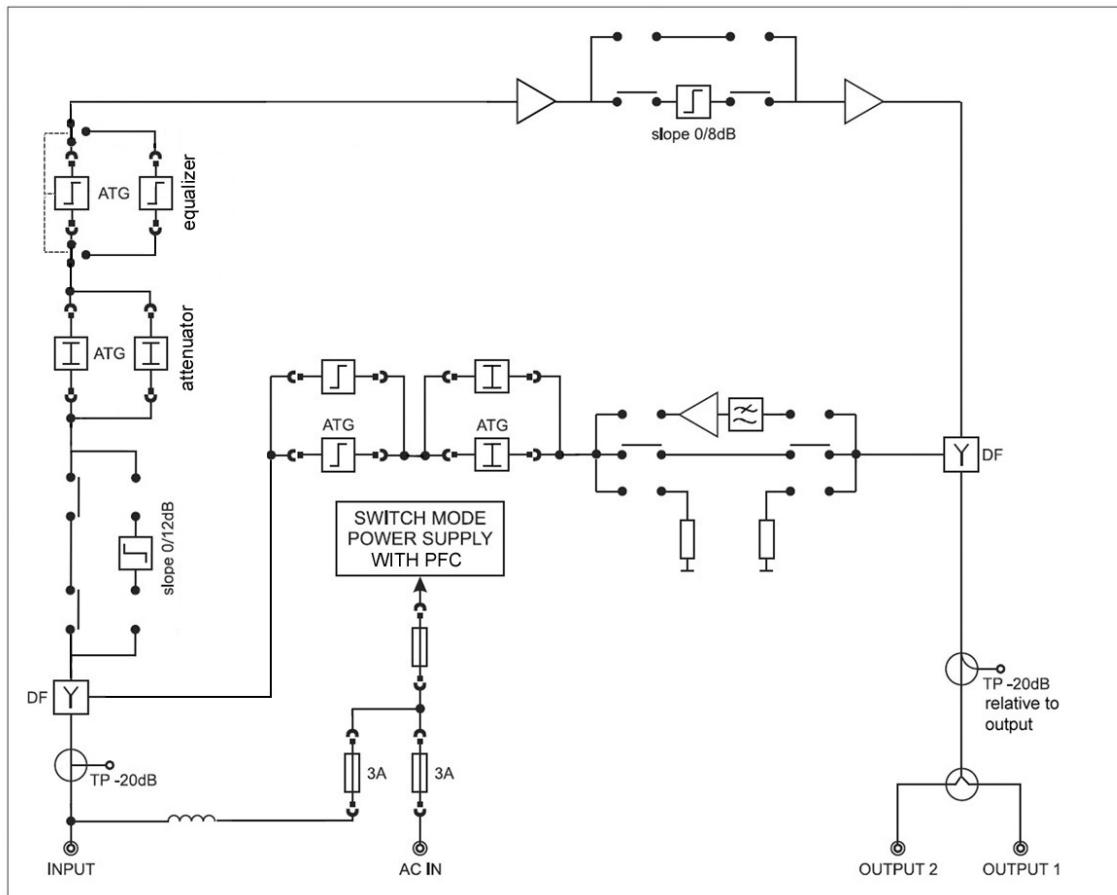
The Lambda Pro 45 is a dual output distribution amplifier for application in HFC networks. The amplifier is equipped with new state of the art MESFET Gallium Arsenide hybrids to achieve high output level and saturation factor, thus improving system performance and even reducing power consumption. Additionally, a power factor corrector reduces AC-power in the network to safe energy costs.

The amplifier is specially designed for combined channel load of both analogue (PAL) and digital (QAM) signals allowing continuing operational levels when replacing analogue signals by digital signals in future.

The Lambda Pro 45 has parallel circuits for both downstream and upstream equalization and attenuation to allow adjustment and exchange of plug-ins in the field without service interruption. To simplify configuration and maintenance, the amplifier is equipped with fixed, switch able return-path amplifier, diplex filters and output splitter. Plug-ins are only needed for adjusting input attenuation and slope.

An interstage slope jumper allows for sloped output level if required in a network concept. Powering is possible both remotely through the RF input port or locally using the AMP fast-on AC input port.

Block diagram



Technical Specifications

Downstream specifications	Value	Units	Remarks
Frequency range	85 ... 862	MHz	fixed duplex filters
Return loss	18	dB	at 40 MHz -1.5 dB/octave up to 862 MHz
Impedance	75	Ohm	
Gain	2x30± 0.5	dB	at 862 MHz, with 0 dB pads, duplexers and output splitter
Flatness	≤± 0.5	dB	@20°C, between 90 and 700 MHz
Input attenuator control range	0 ... 25	dB	JXP plug-in module, 1 dB step
Input equalizer control range	0 ... 12	dB	attenuation @ 85 MHz, JXP plug-in module, 1 dB step
	0/12		switch able (additional)
Interstage slope range	0/8	dB	switch able, attenuation @ 85 MHz
Output level CTB flat output	≥2x105	dBμV	CTB ≥ 60 dB, according EN 50083-3, 42 channels
Output level CSO flat output	≥2x108	dBμV	CSO ≥ 60 dB, according EN 50083-3, 42 channels
Noise figure	≤7	dB	at nominal gain and flat output
Test point input	-20 ± 1.5	dB	related to input level, bidirectional
Test point output	-20 ± 1.0	dB	related directly to output level, uni directional

Upstream specifications	Value	Units	Remarks
Frequency range	5 ... 65	MHz	fixed duplex filters
Impedance	75	Ohm	
Gain active	$\geq 2 \times 16 \pm 1$	dB	measured from output to input, splitter included
Gain passive	$\leq 2 \times -6.5$	dB	measured from output to input, splitter included
Attenuator control range	0 ... 10	dB	JXP plug-in module, 1 dB step
Equalizer control range	0 ... 10	dB	JXP plug-in module, 1 dB step, (table attached)
Output level IMA3	$\geq 1 \times 116$	dBuV	IMA3 ≥ 60 dB, according EN 50083-5
Output level IMA2	$\geq 1 \times 103$	dBuV	IMA2 ≥ 60 dB, according EN 50083-5 (typ. $\geq 1 \times 105$ dBuV)
Noise figure	≤ 8.5	dB	At nominal gain and flat output, 2 inputs

General specifications	Value	Units	Remarks
Temperature range specifications	-20 ... 55	°C	all specifications are met within this range unless specified otherwise
Temperature range operational	-20 ... 70	°C	operational range of amplifier
Remote power supply voltage RF input	26 ... 55	VAC	30 ... 50 VAC block shape voltage
Remote power supply voltage local AMP 6,3 mm	26 ... 55	VAC	30 ... 50 VAC block shape voltage
Power consumption	≤ 11	Watt	@50VACsine and 20°C, active return path, with PFC
	≤ 10	Watt	@50VACsine and 20°C, passive return path, with PFC
Maximum input current RF input/direct	2,5	A	
Hum modulation	65 @ ≥ 10 MHz 70 @ ≥ 85 MHz	dB	at maximum current according EN 50083-2
Transient input/output protection	2	kV	EN61000 4-5 1.2 μ s/50 μ s surge to RF ports
ESD	4	kV	EN61000 4-5 ESD enclosure and RF ports
EMC	EN50083-2		every port
Over voltage protection	EN50083-2		every port
Dimensions	83x209x133	mm	height x width x depth maximum inclusive mounting
Class of enclosure	IP44		EN 60529, minimum class, IP54 optional
Input connector	IEC/M14 female		PG11 adapter, Sn-Ni coating
Test points connector	F female		
Output connectors	F female		bulkhead, Sn-Ni coating
AC and ground connector	AMP 6.3 x 0.8	mm	length x thickness; flat connector
Screening	> 85	dB	

Specifications are subject to change without notice.