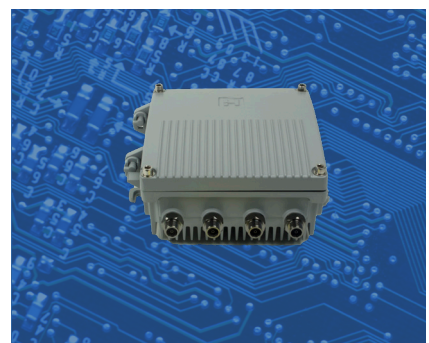


Hirschmann Multimedia

Under the trademark Hirschmann Multimedia, we provide high-quality communications technology whether you are a consumer, a business, government or service provider in Europe. Global technological developments are translated by research and development into components and solutions for our markets. The products and systems are characterized by innovative, cost-effective, energy efficient and sustainable solutions.



BA 1218TE3 MODULAIR CONFIGURABLE AMPLIFIER

DESCRIPTION

Amplifier BA 1218TE3 is specially designed for broadband distribution of RF signals in CATV systems in the frequency range 85 (258) – 1218 MHz. Standard configured as a line or final amplifier. The final stage of the unit is designed in GaN technology. This provides an optimum relation between power consumption and channel load. The unit is suitable and flexible for distribution of the return path in the range 5-65 (204) MHz.

The modular design offers multiple bandwidth options from 85-1218 MHz downstream and 5-65/204 MHz upstream, as easy as replacing the diplex filters*. The input diplex filter can be exchanged with an optical receiver to create a fiber node as a feature option.

Attenuation, equalization and other functions can be activated and controlled by means of a CPU. Settings are fixed in an optional smart plug-in module. Additionally the settings can be controlled with a Bluetooth Dongle and Smartphone App. Smart PIM ensures easy replacement for service.



To provide several options for in- and output connectors, the housing is equipped with 5/8 threads.

The remote power supply is protected by a self-recovering fuse.

Housing is made of a coated zamak alloy and offers protection according to IP67. This type of housing guarantees optimal heat dissipation and perfect protection of the electronic components.

FEATURES

- Configurable as a line or final amplifier.
- All settings are realized automatically by means of a CPU. Uniformity is guaranteed.
- Only one plug-in module for storing all settings.

- Adjust settings via smartphone and Bluetooth adapter.
- Built in FSK NMS receiver.
- Spectrum Analyzer Function for ALSC.
- Loop-through port.
- Several plug-in diplexfilters to realize migration, field upgradeable.
- Input diplexfilter can be exchanged for optical receiver creating a fiber node. (not field upgradeable)
- Ultra efficient and reliable Power Supply:
 - Suitable for Docsis 3.1 phase 1 1218 MHz.
 - Optional support for DOCSIS or FSK based management platforms.
 - RDR ready (1250 MHz).
- Ultra-high efficiency switch mode power supply (> 87%).
- Powersave option; PA current high/low.
- Indicator for AC and DC supply voltage enabling fast diagnosis.
- Power factor corrector which reduces power loss in feeding-net by 75% (I²R).
- Ceramic capacitors in switch mode power supply secondary side, significantly improving lifetime, reliability and EMI.
- Only one electrolytic capacitor on input side, stress protected by PFC.
- Power profiles can be set for optimal power settings.

Technical data

GENERAL DATA	
Housing	Coated zamak alloy
Dimensions HxWxD	180x180x85 mm
RF cable inlet	5/8 thread (3.5/12 or IECM14 or F fem connectors optional)
Test sockets	F female
RF outputs	5/8 thread (3.5/12 or IECM14 or F fem connectors optional)
Earthing connection	AMP 6.3 mm
Nominal temperature range	-20...+65°C
Protection level	IP 67
Transient AC power port protection	1 kV, EN 500083-2 4-7, EN 61000 4-4
ESD	4 kV, EN 50083-2 4-6, EN61000 4-2 ESD encl.
EMC	EN 50083-2
Overvoltage protection acc. EN 61000 4-5	2 kV, 1.2µs/50µs surge to RF ports, every port
Surge protection	6 kV, EN 50083-2 lightning protection, every RF port
Hum modulation, at 7 A, according EN 50083-3	>65 dB @ 5-1000 MHz, >60dB @ 1000-1218 Mhz
Screening according to EN 50117.2	>95 dB (30-1000 MHz), >85 dB (1000-1218 MHz)
TECHNICAL DATA *	
Downstream, depending on the diplexfilters	85 (258)...1218 MHz
Gain	1x47,5 dB (2x43 dB)
Flatness	< ± 0.5 dB (85...862 MHz), ± 1 dB (862...1218 MHz)
Variation in gain over the entire temperature range	< ± 0.75 dB
Group delay	< 10 ns (B=4.43 MHz)
Group delay, at lower cut +15%	< 15 ns (B=4.43 MHz)
Return loss	
65/85 split	10-65 MHz > 20 dB 65 MHz >20 dB- 1.75 dB/octave, limited to 12 dB@1218 MHz

*Technical data at room temperature range.

204/258 split	10-204 MHz >20 dB 204 MHz >20 dB- 3.0 dB/octave, limited to 12 dB@1218 MHz
Impedance	75 Ohm
Noise figure	Typical 6 dB <7 dB, 85-1100 <8 dB, 1150-1218
Output level	
CINR	50 dB CINR @ 2 X 105 dB (1 X 109 dB) loaded with 120 digital channels flat, 2 X 38 dB gain
Attenuation,input	0...20 dB, by CPU and optional plug-in module Smart PIM
Attenuation,interstage	0...20 dB, by CPU and optional plug-in module Smart PIM
Equalization,input	0...20 dB, by CPU and optional plug-in module Smart PIM
Equalization,interstage	0...20 dB, by CPU and optional plug-in module Smart PIM
Pivot point slope adjustment	Selectable between 1006 or 1218 MHz
Test socket MP RF-in	-20 ± 1.5 dB, bidirectional
Test socket MP OUT 1/2	-20 ± 0.75 dB, unidirectional
Remote power supply	
Supply voltage	28...90 VAC sine, 30...75 VAC block
Frequency	48...62 Hz
Power consumption,remote supply (at 50 VAC)	11-21 W
Max. AC current at RF in-and output and AC port	10 A
RETURN PATH	
Pivot point slope adjustment	Selectable between 65 or 204 MHz
Frequency range without filtering	5...204 MHz
Return path, depending on the diplexfilters	5...65 (85,204) MHz
Upstream active (port to port)	1x28± 0.5 dB (5...204 MHz) 1x21± 0.5 dB (5...65 MHz)
Flatness (5-204 MHz)	<± 0.5 dB
Group delay 5-10 MHz	<50 ns (B=2 MHz)
Group delay	<10 ns (B=2 MHz)
Group delay, at higher cut -5%	<20 ns (B=2 MHz)
Noise figure (at max. Gain with splitter)	Typical 8 dB <9 dB (15MHz<f< 180 MHz) <11 dB (5MHz<f< 15 MHz, 180MHz<f<f<204 MHz)
Attenuation	0...20 dB, by CPU and plug-in module Smart PIM
Equalization	0...16 dB, by CPU and plug-in module Smart PIM
PIM	Universal slot for PIM (ingress filter, cable simulator, high pass filter, attenuator)
Ingress switch	0 / -6 / off (< -40)

BLOCK DIAGRAM OF BA 1218T3

