

# HIRSCHMANN

MULTIMEDIA

## 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 1218 TE MODULAIR CONFIGURABLE AMPLIFIER

### DESCRIPTION

The BA 1218 TE is specifically designed for broadband distribution of RF signals in Multimedia networks. Designed in GaN technology they offer unrivaled RF performance.

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.

All settings are realized by a microprocessor and can be stored in a Smart PIM. Settings can be changed via a smartphone app with a bluetooth dongle. Power settings can be adjusted to optimize power consumption in conjunction with the required performance, creating savings in power cost. These power profiles assure an optimal TCO during its lifespan. Housing is made of a coated zamak alloy and offers protection according to IP54. This type of housing guarantees optimal heat dissipation and perfect protection of the electronic components.

\* Additional diplex filters are available upon request.



Standard equipped with two F-female adapters on both outputs, the housing is equipped with 5/8 threads.

### FEATURES

- All settings are realized automatically by means of a CPU. Uniformity is guaranteed.
- Only one plug-in module for storing all settings.
- Build-in configurable output splitter included for symmetrical outputs. No additional logistics are needed.
- Several plug-in diplexfilters to realize migration.

HIRSCHMANN PROVIDER PRODUCTS

- Spectrum Analyser function for ALS.
- Built in FSK receiver.
- Ultra efficient and reliable Power Supply:
- 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% (I<sup>2</sup>R).
- 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.
- Suitable for DOCSIS 3.1 phase 1 1218 MHz.

## Technical data

GENERAL DATA	
Housing	Coated zamak alloy
Dimensions HxWxD	115x190x85 mm
RF cable inlet	5/8 thread 3.5/12 or IECM14 or F-female connector (optional)
Test sockets	F male
RF outputs	5/8 thread, equipped with F-female adapters
Earthing connection	AMP 6.3 mm
Nominal temperature range	-20...+65°C
Protection level	IP 54
Transient AC power port protection	1 kV, EN 50083-2 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 1 A, according EN 50083-3	>70 dB (downstream), >65 dB (upstream)
Screening according to EN 50117.2	>95 dB (30-1000 MHz), >85 dB (1000-1218 MHz)
TECHNICAL DATA*	
Forward, depending on the diplexfilters	85/258...1218 MHz
Gain	2x42 dB ± 0.5 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 (within the frequency range of the applied diplexfilter)	> 20 dB at 40 MHz- 1.5 dB/octave, limited to 12 dB
Impedance	75 Ohm
Noise figure ( at max. gain)	< 7 dB
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
Attenuation, interstage	0...20 dB, by CPU
Equalization, input	0...20 dB, by CPU
Equalization, interstage	0...20 dB, by CPU

Test socket MP RF-in	-20 ± 1.5 dB, unidirectional
Test socket MP Upstream	-20 ± 1.5 dB, unidirectional
Test socket MP OUT1	-20 ± 0.75 dB, unidirectional
Supply voltage	24...65 VAC sine, 30...75 VAC block
Frequency	48...62 Hz
Power consumption,remote supply (at 50 VAC)	11...19 W depending on power profile
Max. AC current at RF input	1 A
<b>RETURN PATH</b>	
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 (204) MHz
Upstream active (port to port)	2x23± 1 dB (5...204 MHz) / 2 x 17 ± 1 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)	<9 dB (15MHz<f< 180 MHz) <11 dB (5MHz<f< 15 MHz, 180MHz<f<f<204 MHz)
Attenuation	0...20 dB, by CPU
Equalization	0...16 dB, by CPU
PIM	Universal slot for PIM ( ingress filter, cable simulator, high pass filter, attenuator). Not pre-installed. Optional on diplexfilters.
Ingress switch	0 / -6 / off ( < -40)

*\*Technical data at room temperature range.*

# BLOCK DIAGRAM OF BA 1218-TE DISTRIBUTION AMPLIFIER

