

House connection amplifiers

Features

- House connection amplifiers for modern HFC networks up to 1 GHz
- Integrated high-efficiency switched-mode power supply unit
- Power management: Unused amplifier stage switch-off for reduced power consumption
- Die-cast housing with F-type connectors
- Variable 6 dB interstage gain setting using on-board plug-in attenuators (delivery condition: higher gain)
- The maximum operational levels also apply for operation with interstage attenuation
- Interstage equaliser switchable with bridging plugs (6 dB pre-emphasis)
- Integrated return path 5-65 MHz active/passive, off (switchable with bridging plugs)
- Built-in variable attenuators (delivery condition return path: max. attenuation) and variable equaliser



The amplifiers comply with the EMC directive 2004/103/EC and Low-Voltage Directive 2006/95/EC applicable at the time of shipping.

- LED to indicate operational mode
- Test socket on output -20 dB (with directional coupler)
- Test socket on input -20 dB
- Test sockets are terminated with the EMK 03 in the delivery status
- Conform to: EN 60728-11, EN 50083-2 and EN 60065
- For indoor installation

Basic safety precautions



- Installation must be carried out by authorised specialist staff.
- Unplug from the mains before installation.
- Described amplifiers are exclusively for installation of HFC networks up to 1,006 MHz.
- Any other use or failure to comply with these instructions will void the warranty or guarantee.
- The amplifiers may only be installed in dry areas indoors. Do not install on or against highly combustible materials.
- The amplifiers must be earthed when installed (Cu, minimally 4 mm²).
- The safety regulations set out in the current EN 60728-11 and EN 60065 standards must be complied with.



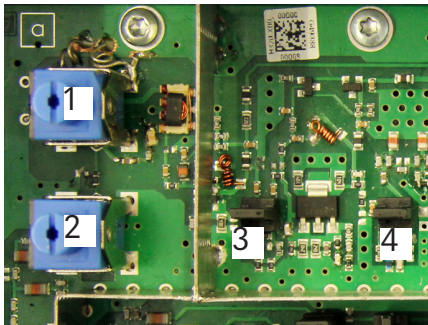
- The supply voltage of the amplifiers is 230 VAC which can be fatal if touched directly.
- The only reliable method of disconnecting the amplifiers from the mains is to unplug them.
- Do not touch live parts.
- The power plug must be easy to operate as the means of cutting power to the amplifier, so the wall outlet must be close to the amplifier and easily accessible.
- The amplifiers may only be installed and deinstalled in the voltage-free condition.
- Do not operate the amplifiers without the factory-fitted protective cover over the power supply unit. The cover must be closed.
- No liquid-filled items may be placed on top of the amplifiers.
- The amplifiers are not to be exposed to dripping or splashing water.
- Ambient temperature range -20 to +55°C

Setting of the amplifier

To adjust the settings, a Phillips screwdriver is required to remove the housing cover. The settings options are also imprinted on the housing cover.

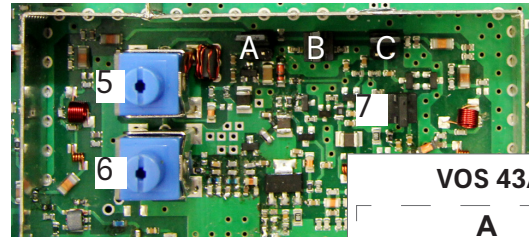
Forward path

- 1 Pre-emphasis: 0...20 dB
- 2 Attenuation: 0...20 dB
- 3 Interstage → Attenuation: 6 dB
- 4 Interstage → Attenuation: 6 dB



Return path

- 5 Pre-emphasis: 0...20 dB
- 6 Attenuation: 0...20 dB
- 7 Attenuation: 0/10 dB
- A B C Operation mode return path: (see graphic and block diagram)

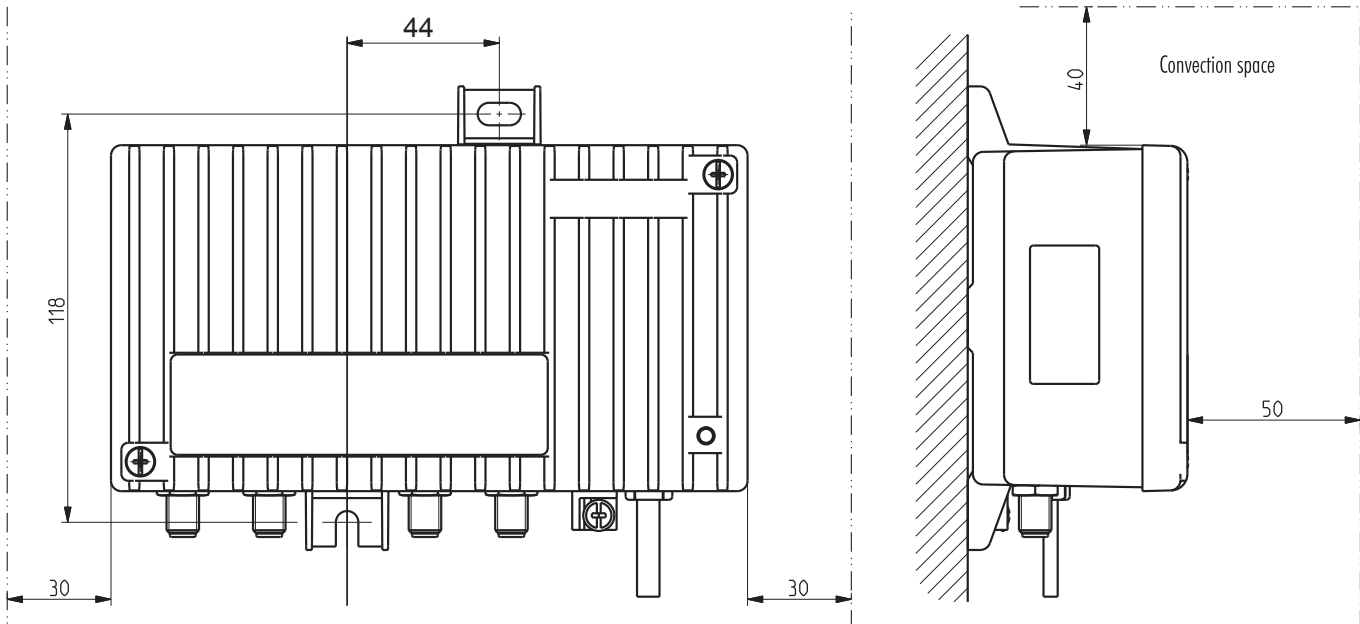


VOS 43/RA			
	A	B	C
active	⋮⋮	⋮⋮	⋮⋮
passive	⋮⋮	⋮⋮	⋮⋮
off	⋮⋮	⋮⋮	⋮⋮

Optionally available accessories

- De-emphasis equaliser ERZ 120, Order no. 272791
- KAZ 12 lightning arrester, Order no. 21810002

Mounting:

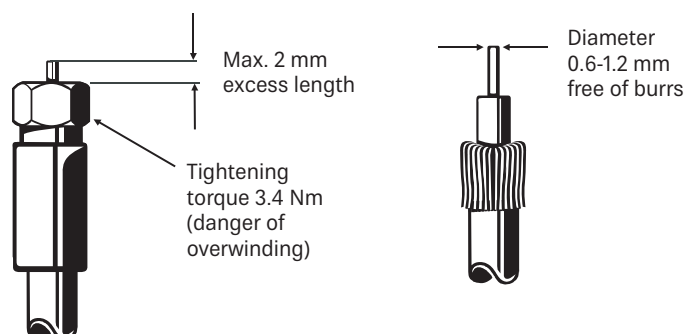


The following is required for installation:

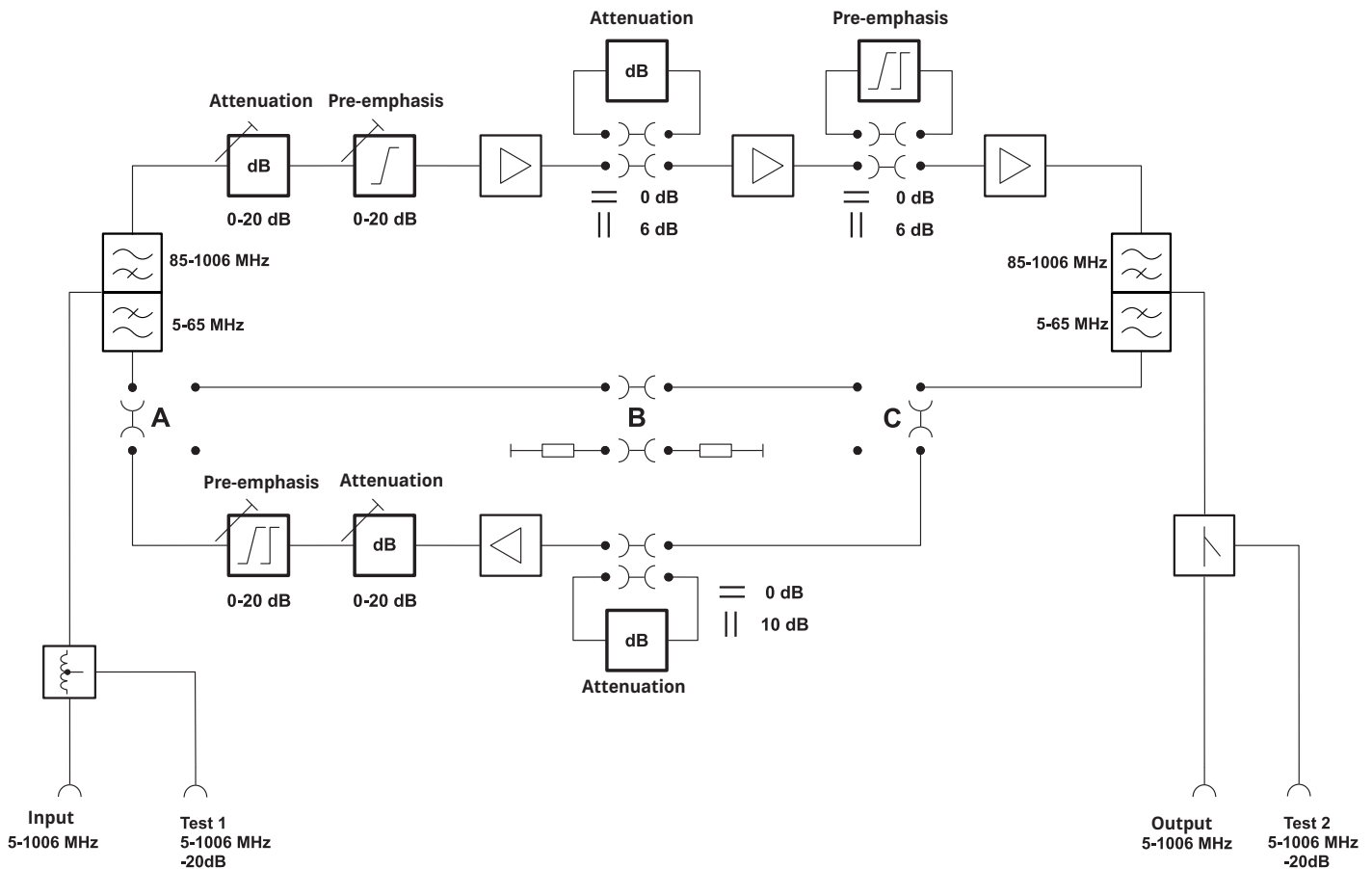
- Fixings: screws, max. Ø: 4.5 mm
- F-type connector plug as per EN 61169-24.



- An inner cable conductor diameter greater than 1.2 mm, or the presence of burrs may damage the sockets on the unit.

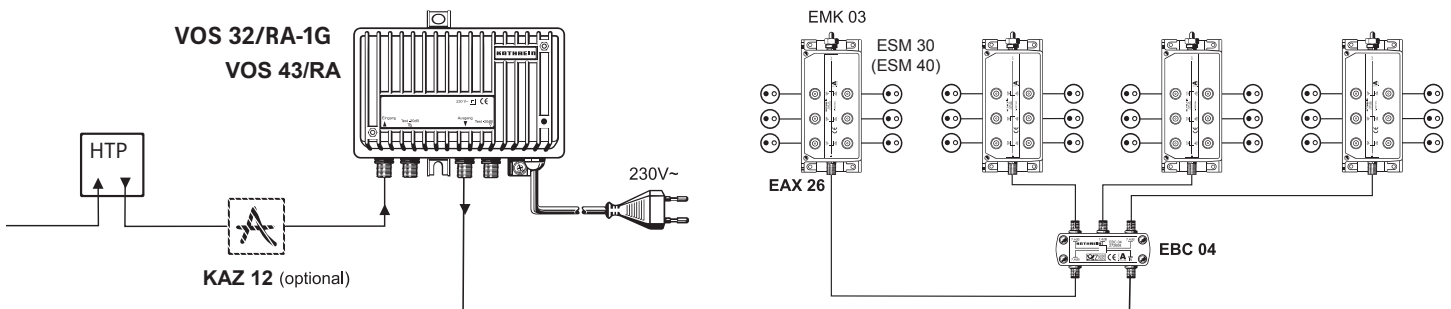


Block diagram VOS 43/RA



Connection example

Standard in-house distribution network for 24 connections in central star structure with modem outlets



Service-Support-Contact



All relevant information (address, telephone number, e-mail address, opening hours) for repairs or help with problems with our products can be found at:

<https://www.kathrein-ds.com/en/support/service-points>

Please note that there are different contact persons for **repair** and **support**!

You can find a contact form here: <https://www.kathrein-ds.com/en/contact>



Technical data

Type		VOS 32/RA-1G	VOS 43/RA
Order no.		20910033	20910030
Forward path			
Frequency range	MHz	85-1,006	
Gain (variable through interstage gain)	dB	26/32	34/40
Amplitude deviation	dB	± 1	
Setting range variable attenuator	dB	0-20	
Setting range equaliser	dB	0-20	
Setting range interstage attenuation (switchable with bridging plug)	dB	0/6	
Setting range interstage equaliser (switchable with bridging plug)	dB	0/6	
Max. operating level ¹⁾ (60 dB CTB/CSO) flat with interstage pre-emphasis	dBμV	101/101 102/102	107/109 107/110
Recommended operational level ¹⁾ (66 dB CTB/66 dB CSO) flat with 6 dB interstage pre-emphasis	dBμV	98/95 99/96	105/105
Noise figure (interstage attenuation 0/6 dB)	dB	6/8	
Number of outputs		1	
Return path			
Frequency range	MHz	5-65	
Gain (switchable passive/active)	dB	-1/28, can be disconnected	
Setting range attenuation on amplifier input (switchable with bridging plug)	dB	0/10	
Setting range variable attenuator (amplifier output)	dB	0-20	
Setting range equaliser (amplifier output)	dB	0-20	
Noise figure	dB	5	
Input level density (CINR: 55 dB)	dBμV/Hz	-6	
Dynamic range (input level density)	dB	19	18
General			
Impedance input/output	Ω	75	
Return loss input/output Forward path ²⁾ Return path	dB	18 20	
RF connections		F-type connector	
Test socket output with directional coupler (5-1,006 MHz)	dB	-20	
Test socket input (5-1,006 MHz)	dB	-20	
Nominal input voltage	V _{AC}	230 (50/60 Hz)	
Power consumption (without/with return path)	W	6	6.5/8
Operational display		Green LED	
Protection class/protection category (to EN 60529)		II/IP 50	
Classification according to KDG 1 TS 140		C(3.2)	C(4.3)
Temperature range	°C	-20 to +55	
Dimensions	mm	184 x 134 x 63	
Packing unit/weight	pc./kg	1 (10)/1.7	

¹⁾ To EN 60728-3; CENELEC channel plan 41 carriers; the level values also apply for interstage attenuation

²⁾ To EN 60728-3 (category B); from 40 MHz ≥ 18 dB -1.5 dB/octave



Electronic equipment is *not domestic waste* - it must be disposed of properly in accordance with directive 2002/96/EC OF THE EUROPEAN PARLIAMENT AND THE COUNCIL dated 27th January 2003 concerning used electrical and electronic appliances.

At the end of its service life, take this device for disposal at a designated public collection point.