

## Antenna Distributor AVB Series 1.5 MHz – 30 MHz

The Antenna Distribution System AVB is a very flexible distribution solution for short wave communication applications.

The AVB series is furnished into a single 19-inch 2 HU slide-in unit so its small footprint allows for flexible integration into the application environment.

The AVB series covers the frequency range from 1.5 MHz to 30 MHz providing the non-blocking switching distribution of up to 4 antenna inputs to max 20 receiver outputs

The AVB series can be powered from a standard AC and/or DC (battery) mains supply.

The **AVB 10 series** is available in various configurations with 1 - 4 inputs and up to **10 outputs**.

The **AVB 20 series** is available in various configurations with 1 - 4 inputs and up to **20 outputs**.



- Flexible configuration to meet application needs
- Fast input to output switching
- Switchable input attenuator (automatic – 0dB – 6dB – 20dB)
- Input protection 2 kV 50  $\mu$ s
- Monitoring of active antennas, preamplifiers and channel amplifiers
- Number of inputs and outputs according to customer requirement
- Special preamplifiers available for limitation of frequency range or passive bypass
- No restriction concerning the antenna selection

## Technical Data

Parameter	Data
Dimension slide-in unit (w x h x d)	19" 2 u, 360 mm
Weight	approx. 7 kg, depends on configuration
Colour of Front Panel	RAL 7035 (light grey)
Mains Supply	max. 85 – 264 Vac, 50 - 60 Hz
Power Consumption	typ. 45 VA, depends on configuration
DC (Battery) Supply (optional)	max. 18 – 36 Vdc max. 4,5 A (ground free)
Ambient Temperature	-10°C ... +60°C (IEC 60945)
Storage Temperature	-20°C ... +70°C (IEC 60945)
Relative Humidity <sup>(1)</sup>	95%, +20 ... +55° C, (IEC 60945)
EMC / EMI	Immunity EN 61000-6-2 Emission EN 61000-6-3
Vibration	5Hz – 13,2Hz; +/- 1,0mm 13,2Hz – 100Hz; 0,7g IEC 60068-2-6
Shock	10 g, 6 ms, half sine
MTBF	21.000 h (AVB 10 unit fully equipped) 19.000 h (AVB 20 unit fully equipped)
MTTR (replacement of subunits)	0,5 h

## HF Data

Parameter	Data
Antenna Inputs	max. 4 (N-Socket)
Input Impedance	50 $\Omega$ VSWR < 1,4
Maximum Signal Level cw	37 dBm (5W)
Input Protection	2 kV 50 $\mu$ s
Receiver Outputs (AVB 10)	max. 10
Receiver Outputs (AVB 20)	max. 20
Output Impedance	50 $\Omega$ VSWR < 1,5
Frequency Range	1.5 ... 30 MHz
Gain (1.5 – 30 MHz)	typ. 0,5 ... 2,5 dB
Noise Figure	8,0 dB
Intercept Point IPOP2	58 dBm
Intercept Point IPOP3	37 dBm
1 dB Compression	16 dBm
Decoupling between two outputs	60 dB
Decoupling between output and input <sup>(2)</sup>	80 dB
Cross-talk between two inputs	36 dB
Remote Control Interface	RS232/RS422
Switching Time	typ. 1 ms

Note 1:  
 Relative humidity valid for the front panel, non-condensing

Note 2:  
 Not applicable for preamplifiers with passive bypass (e. g. PA L1B)

Data given are typical values, depends on device configuration  
 Design and specification are subject to change without prior notice, errors excepted.

## Options

Option	Description
Receiver Connectors	Receiver connections N socket instead of BNC socket
Power Supply	Additional power supply 18 – 36 Vdc ground free with automatic change-over by mains failure
LAN	LAN Interface 10/100 instead of RS232/RS422 remote control interface
Colour of Front Panel	Colour to be specified by customer RAL number

## Preamplifiers

Preamplicifier AVB 10	Description
Preamplicifier PA LB	Standard version f=1.5-30 MHz, Uant=39Vdc, 150 mA
Preamplicifier PA L1B	f=1.5-30 MHz, passive bypass for passive antennas only, no remote antenna voltage
Preamplicifier PA L4B	f=1.5-30 MHz, Uant=24Vdc, 500 mA
Preamplicifier PA L5B	f=1.5-30 MHz, Uant=39Vdc, 280 mA for use with active dipole

Preamplicifier AVB 20	Description
Preamplicifier PA KB	Standard version f=1.5-30 MHz, Uant=39Vdc, 150 mA
Preamplicifier PA K1B	f=1.5-30 MHz, passive bypass for passive antennas only, no remote antenna voltage
Preamplicifier PA K4B	f=1.5-30 MHz, Uant=24Vdc, 500 mA
Preamplicifier PA K5B	f=1.5-30 MHz, Uant=39Vdc, 280 mA for use with active dipole

## AVB 10 Configuration - Type Designation

### AVB 10 X1 – X2 – X3 – X4 – X5

X1 = **Option:** Connectors for receiver connections

BNC = BNC sockets

N = N sockets

X2 = **Configuration:** Number and type of preamplifiers (inputs)

LB = standard 1.5 – 30 MHz

L1B = with passive bypass 1.5 – 30 MHz (in case of failure of the supply voltage  
or is the antenna distributor switched off input 1 is being connected with output 1)

X3 = **Configuration:** Number and type of channel amplifiers (outputs)

H = standard 0,01 – 30 MHz

X4 = **Option:** Power supply

DC = power supply unit with additional input for emergency operation (18 – 36 Vdc ground free)

X5 = **Option:** Interface

LAN = instead of RS232/RS422 Interface an Ethernet-LAN Interface is installed

### Configuration Example 1:

Requested: An antenna distributor with 4 inputs, 8 BNC outputs, supply voltage 230 Vac and RS232 Interface.

### AVB 10 B – 4LB - 8H

### Configuration Example 2:

Requested: An antenna distributor with 4 inputs, 6 N outputs, supply voltage 230 Vac and 18 – 36 Vdc as well as a LAN interface. Input 1 should be equipped with a passive bypass.

### AVB 10 N – 1L1B – 3LB - 6H – DC - LAN

## AVB 20 Configuration - Type Designation

### AVB 20 X1 – X2 – X3 – X4 – X5

X1 = **Option:** Connectors for receiver connections

BNC = BNC sockets

N = N sockets

X2 = **Configuration:** Number and type of preamplifiers (inputs)

KB = standard 1.5 – 30 MHz

K1B = with passive bypass 1.5 – 30 MHz (in case of failure of the supply voltage  
or is the antenna distributor switched off input 1 is being connected with output 1)

X3 = **Configuration:** Number and type of channel amplifiers (outputs)

H = standard 0,01 – 30 MHz

X4 = **Option:** Power supply

DC = power supply unit with additional input for emergency operation (18 – 36 Vdc ground free)

X5 = **Option:** Interface

LAN = instead of RS232/RS422 Interface an Ethernet-LAN Interface is installed

### Configuration Example 1:

Requested: An equipment with 4 inputs, 12 BNC outputs, supply voltage 230 Vac and RS232 Interface.

### AVB 20 B – 4KB - 12H

### Configuration Example 2:

Requested: An equipment with 3 inputs, 20 N outputs, supply voltage 230 Vac and 18 – 36 Vdc as well as a LAN interface. The input 1 should be equipped with a passive bypass.

### AVB 20 N – 1K1B – 2KB - 20H – DC - LAN

## Spare Parts AVB

Designation	Type	Part No.	Remark
Channel Amplifier	CA H	0008.7612.80	
Motherboard	MB AVA	0028.2331.80	
Control Unit	CU A	0028.0501.80	
Display Unit	DU B	0008.9822.80	
Network Interface	LAN A	0028.0503.80	10/100 MB
Switch Board	PCB SB B	0008.9841.80	
Power supply	PS E	0008.7410.00	Option DC
Power supply	PS E1	0008.7411.00	standard AC power supply
Power supply	PS E2	0008.7412.00	for use with max. 2x PA L4
Fuse	5,0 AT/250V	E.0046	

## Spare Parts AVB 10 specific

Designation	Type	Part No.	Remark
Preamplifier	PA LB	0008.xxxx.00	Uant=39Vdc, 150 mA
Preamplifier	PA L1B	0008.xxxx.00	passive bypass for input 1
Preamplifier	PA L4B	0008.xxxx.00	Uant=24Vdc, 500 mA
Preamplifier	PA L5B	0008.xxxx.00	Uant=39Vdc, 280 mA

## Spare Parts AVB 20 specific

Designation	Type	Part No.	Remark
Preamplifier	PA KB	0008.xxxx.00	Uant=39Vdc, 150 mA
Preamplifier	PA K1B	0008.xxxx.00	passive bypass for input 1
Preamplifier	PA K4B	0008.xxxx.00	Uant=24Vdc, 500 mA
Preamplifier	PA K5B	0008.xxxx.00	Uant=39Vdc, 280 mA
Extension Board	EB AVA	0028.2334.80	