

Amplifier DA-1000

Features:

- Common Path Distortion Safe
- Strand and Cabinet Mount
- Input Pass-through
- Service Interruption Protection
- Ingress Management Ready
- Compact Die-cast Aluminium Housing
- Side and Bottom Connector Configuration
- GaAs hybrid
- Optional Automatic Gain Control
- 6A Power Passing
- Integrated Inrush Current Limiter
- Modem Safe



Description

The DA-1000 Distribution Amplifier is a low cost, high performance amplifier which can be implemented economically in all new and existing cable TV system architectures. The amplifier has been designed for simplicity of installation and operation. The DA-1000 can be used in a strand or cabinet mounted configuration with a choice of bottom or side input and output connection. The input pass-through further extends the application of this amplifier.

From an operation side, the value of the attenuation and equalisation plug-ins can be changed without interrupting the service. Common Path Distortion is eliminated by using a high performance double spring seizure mechanism for the connectors. Other features are Plug-in Return Amplifiers, Optional Automatic Gain Control, Inrush Current Limiter and Ingress Management Module.

Specifications V1 mrt 19, 2009

	Port	Range	Min	Typical	Max	Units	Remark
Nominal impedance				75		Ohm	
Screening Effectiveness		5 MHz < F < 300 MHz	85			dB	
		300 MHz < F < 470 MHz	80			dB	
		470 MHz < F < 1000 MHz	75			dB	
Line Voltage		Sinus	24		60	VAC	8
Power Passing					6	A	
Hummodulation				-70		dBc	
Power Consumption		with passive reverse path		14,5		W	
		With active reverse path		15,5		W	
Surge protection		1kV pulse 1,2/50us					7
Dimensions		220 x 145 x 80				mm	
Weight				1,4		Kg	
Waterproof Condition				0,5		Kg/cm2	
Connectors				F-female			
Temperature Range		operating temperature	-20		60	°C	

Ordering Information

DA-1000	Amplifier	Article number:	none
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Modem Safe



ModemSafe® is a highly effective surge protection solution. It blocks high level surge pulses and unwanted DC voltages, thus protecting sensitive equipment. In addition to the protection against these surges and voltages, ModemSafe technology® also prevents the internal ferrites becoming magnetized. When ferrite material is magnetized, the intermodulation behaviour deteriorates resulting in an increase of passive intermodulation products. Thanks to the ModemSafe® circuitry, the intermodulation behaviour of the models is excellent and will not deteriorate over time.

Ingress Safe®



A new technology is called IngressSafe®. The use of this technology in CATV splitters is unique. Thanks to the phase cancellation phenomenon, the ingress levels in the CATV network can be drastically reduced. Our unique and Patented IngressSafe® technology is an effective method to reduce subscriber ingress significantly. As there is a correlation between the frequency and phase of ingress signals with a common origin from two adjacent subscribers, we can use this phenomenon to reduce ingress near to the source. In traditional splitters phase related ingress equals approximately $13\text{Log}(n)$ to $17\text{Log}(n)$ dB where n is the number of ports. This means the addition of ingress reduces the carrier to noise ration between 3.9 dB to 5.1 dB in a 2-way splitter. Each IngressSafe® model is fitted with integrated ingress reduction. An 180° phase shifting device is added to the output of the splitter. The effect is that the ingress from one subscriber is added in the splitter 180° out of phase with the ingress from a second subscriber, thereby cancelling each other out. Measurements show that IngressSafe® units in the distribution network can improve the carrier to noise ratio up to 8 dB.

	Port	Range	Min	Typical	Max	Units	Remark
Frequency range			85		1000	MHz	
			5		65	MHz	
Gain			40	41	42	dB	1
		active	24	25	26	dB	
		Passive		-5,0	-6,3	dB	
Flatness					+/- 0,5	dB	
Attenuation			0		20	dB	2
Equalisation			0		20	dB	2
AGC		optional					
CSO				-60		dBc	3
CTB				-76		dBc	3
Noise figure				6	7,5	dB	
Return loss			18			dB	4
Test point	w.r.t. Input or output		-	-20	-21,5	dB	
			18,5				

Specifications Return path

	Port	Range	Min	Typical	Max	Units	Remark
Flatness					+/- 0,5	dB	
Attenuation			0		20	dB	
Equalisation			0		20	dB	
Intermodulation 2th order				-64	-61	dBc	5
Intermodulation 3th order				113		dBμV	6
Noise figure				5,5		dB	
Return loss			18			dB	
Test point	w.r.t. Input		-	-20	-21,5	dB	
			18,5				

Remarks	
1	High gain
2	1dB steps using standard JXP pads
3	112dBμV output level with 42 channels, 8dB tilt according Cenelec
4	@ 40 MHz, -1,5 dB / octave
5	Second order: fm = f1 + f2 or f1 - f2 f1 = 27 MHz; f2 = 33 MHz; fm = 10 MHz and 60 MHz out; 100 dBμV
6	Third order: in accordance with DIN 45004B 6.3, 3-tone fp = 50 MHz @ 0 dB level fq = 27 MHz @ -6 dB level fr = 33 MHz @ -6 dB level measured at fm = 44 MHz and 56 MHz
7	According IEC 61000-4-5 Level 2
8	60V Sine, 90V Block