

## UA 1000 N Compact Universal Extended Broadband Amplifier

### Description

Universal amplifier UA 1000 N can be used for broadband distribution of RF signals in CATV systems in the frequency range 85 - 1000 MHz.

The final stage of the amplifier is designed in GaAs technology. This provides an optimum relation between power consumption and channel load.

The amplifier is suitable for distribution of the return path. The use of the return path (5-65 MHz) can be configured by jumpers.

Input and RF output 1 are provided with test sockets (RF output 2 upon request).

Attenuation, equalization and other functions can be activated by means of adjustable plug-in modules. This guarantees a stable setting during a long period.

The power supply is protected by a self recovering fuse.

Housing is made of die-cast aluminium and offers protection according to IP54. This type of housing guarantees optimal heat dissipation and perfect protection of the electronic components.



For optimal HF contact, the connectors are Cabelcon F-61-HQ (at input and both outputs). The connectors are mounted with sunken rubber O ring and soldered inner conductor.

### Features

- Output splitter included for symmetrical outputs. No additional logistics are needed. Single output selectable by means of shifting the module one pin to the right.
- No power consumption in returnpath amplifier when disabled.
- Ultra-high efficiency switch mode power supply (> 88%).
- Indicator for DC supply voltage enabling fast diagnosis.

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### General data

Dimensions HxWxD	:	115x190x85 mm
AC connection	:	Cord with Euro plug
Test sockets	:	IEC 169-2
RF in- and outputs	:	F
Earthing connection	:	AMP 6.3 mm
Nominal temperature range	:	-20...+55°C
Maximum temperature range	:	-20...+70°C
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
Screening	:	≥ 85 dB
Ordering type	:	UA 1000 N, artnr: 695.004.471

### Technical data \*

Frequency range	:	
Forward	:	85...1000 MHz
return path	:	5...65 MHz
Gain	:	2x30 dB ± 0.5 dB ( 862 MHz)
Flatness ( 90-700 MHz)	:	≤ ± 0.5 dB
Flatness ( 700-862 MHz)	:	≥ - 0.5 dB and ≤ + 0.7 dB
Variation in gain per °C, -20...+55°C	:	≤ 0.023 dB
Group delay	:	≤ 2.5 ns ( B=4.43 MHz, f <sub>g</sub> ≥ 90 MHz)
Return loss	:	≥ 18 dB at 40 MHz- 1.5 dB/octave to 862 MHz
Impedance	:	75 Ohm
Test socket MP RF-in	:	-20 ± 1.5 dB, bidirectional
Test socket MP OUT1	:	-20 ± 1 dB unidirectional; 75 ohm
Noise figure ( at max. gain)	:	≤ 5.5 dB max ≤ 6.5 dB
Output level (for 2 RF-outputs)	:	
acc. to EN 50083-5 ( IMA3= 60 dB)	:	≥ 2x120 dBµV
acc. to EN 50083-5 ( IMA2= 60 dB)	:	≥ 2x115 dBµV
42 channels CENELEC (CTB= 60 dB)	:	≥ 2x105 dBµV
42 channels CENELEC (CSO= 60 dB)	:	≥ 2x108 dBµV
Attenuation,input	:	Adjustable plug-in module PIM 0-20 dB
Equalization,input	:	Adjustable plug-in module PIM 0-20 dB
Equalization,input	:	0,12 dB, via jumpers
Equalization,interstage	:	0,8 dB, via jumpers

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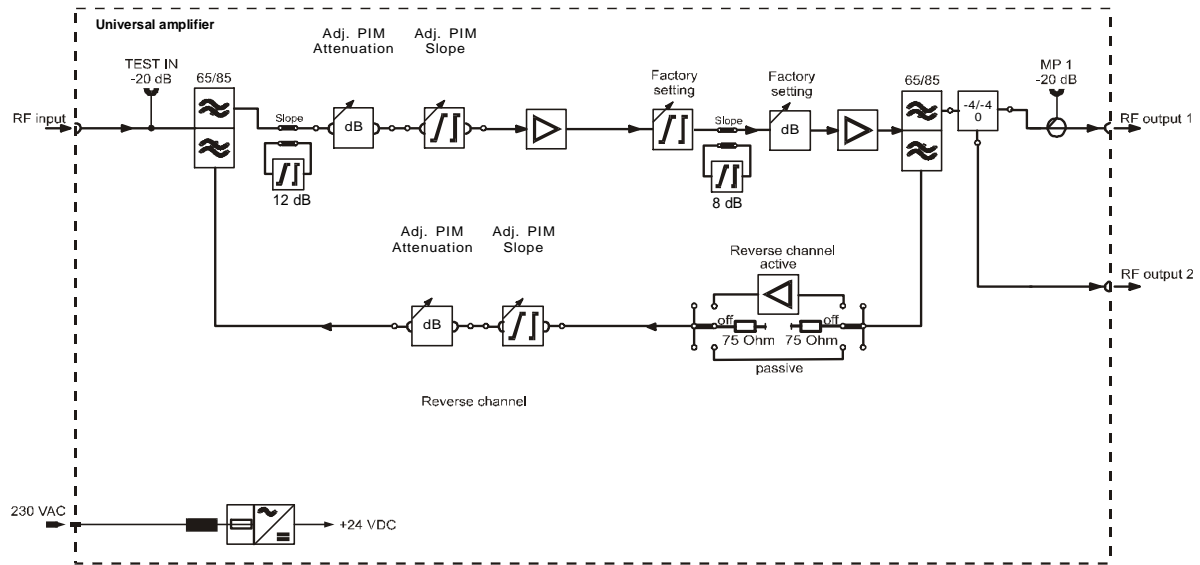
Power supply  
 supply voltage : 85-240 VAC  
 frequency : 48...62 Hz  
 Power consumption : ≤ 9 W (passive return path)  
 : ≤ 10 W (active return path)

### Return path

Diplexfilter : 5...65/85...1000 MHz  
 Upstream active : 2x16 dB ± 2 dB  
 Upstream passive : 2x-6.5 dB (>60 MHz, <65 MHz 2x-7.5 dB)  
 Upstream set off by jumpers : 75 Ohm termination resistors  
 Group delay : ≤ 25 ns ( B=3.2 MHz, f= 60 MHz)  
 Noise figure ( at max. Gain with splitter) : ≤ 8.5 dB (>60 MHz, <65 MHz ≤ 10 dB)  
 Output level (max.)  
 acc. to EN 50083-5 ( IMA3= 60 dB) : ≥ 114.5 dBμV  
 acc. to EN 50083-5 ( IMA2= 60 dB) : ≥ 110 dBμV  
 Attenuation : Adjustable plug-in module PIM 0-20 dB  
 Equalization : Adjustable plug-in module PIM 0-20 dB

\*Technical data,  
 at room temperature range

### Block diagram of the Compact Universal Extended Broadband Amplifier UA 1000 N



### Output(s):

Two outputs: Splitter 2x 4 dB module (included).

One output: Shifting the above module one pin to the right.

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