PROFESSIONAL AMPLIFIER

PAMP 4

PROFESSIONAL

Grundig SAT Systems

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Scope of delivery

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5 IEC coaxial right-angle plugs with covers
1 user manual

Technical data

This product conforms with the requirements of the 73/23/EC and 89/336/EC guidelines of the European Council.
The standards EN 50083-2, EN 50083-2/A1, EN 50083-1 and EN 60065 required for the CE certification are kept to.

RF input

Input frequency range:	47 MHz ... 862 MHz
Input impedance:	75 Ω
Input level:	max. 86 dBµV
Input level control range:	0 to – 20 dB
Amplification:	typ. 37 dB
Noise factor:	about 7 dB

RF output

Output frequency range:	47 MHz ... 862 MHz
Output impedance:	75 Ω
Measurement output:	– 30dB
Max. output level at 862 MHz	
60 dB – IMA 3rd order[1]:	123 dBµV (– 8 dBµV)
60 dB – CTBA (CENELEC)[2]:	110 dBµV (– 8 dBµV)
60 dB – CSOA (CENELEC)[3]:	113 dBµV (– 8 dBµV)
Output level control range:	0 to – 20 dB
Equalization:	0 to – 20 dB
Push-pull amplifier, can be deactivated:	115 dBµV

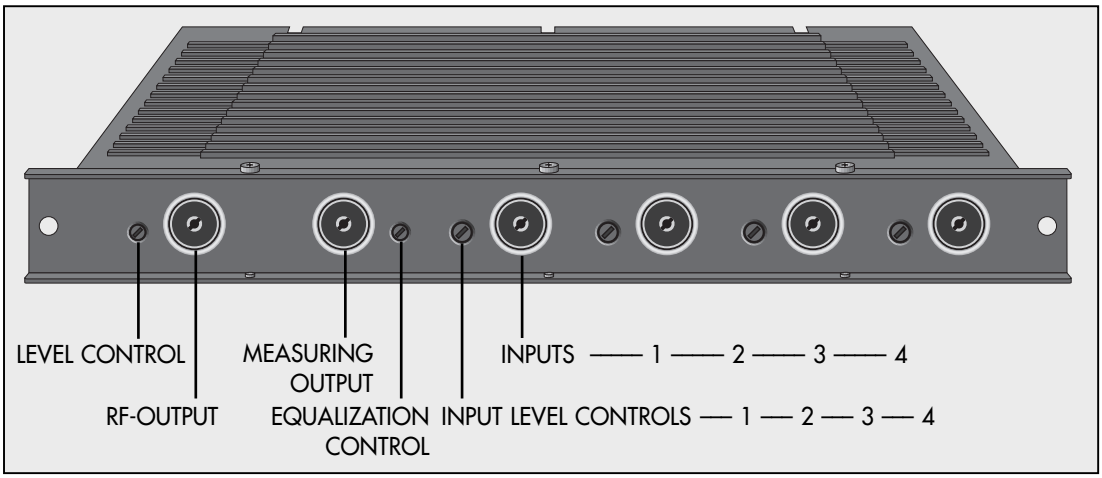
Power supply:	+24 V⎓, ± 4 V⎓
Power consumption:	about 15 Watt
Ambient temperature:	–10°C to +50°C

Connectors and controls

RF inputs 1, 2, 3, 4:	4 IEC sockets, female
– 1 level control per input	
RF measurement output:	1 IEC socket, female
RF output:	1 IEC socket, female
– with output level control	
– with EQUALIZATION control	

1) according to EN 50083 Part 5, (DIN 45004 B)
2) according to EN 50083 Part 3, CTBA at 60 dB – IMA, CENELEC norm norm with 42 channels
3) according to EN 50083 Part 3, CSOA at 60 dB – IMA, CENELEC norm with 42 channels

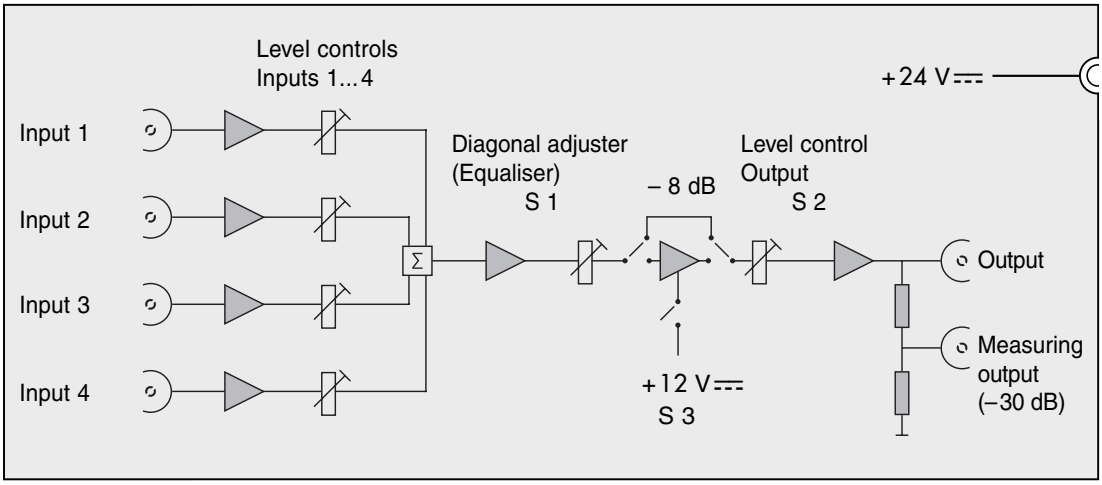
FUNCTIONAL DESCRIPTION



The GaAs hybrid amplifier PAMP 4

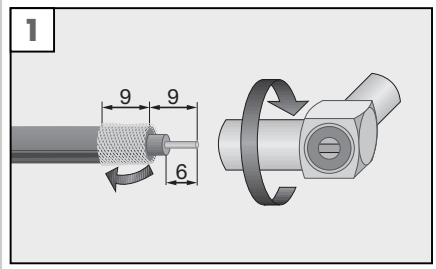
This hybrid amplifier has been designed according to the latest GaAs technology.
It comprises 4 Interstage RF inputs, 1 measuring RF output (–30 dB), and 1 RF output.
The level of each of the 4 inputs can be adjusted with the associated level control.
Due to the different cable loss over the frequency range of the cable system, the equalization can be adjusted with the associated control.
The output level at the RF output of the hybrid amplifer can be reduced by about –20 dB with the associated control.

The block diagram of the hybrid amplifier

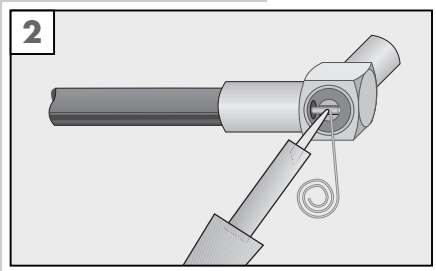


Expert installation of the IEC coaxial right-angle plug and the coaxial cable

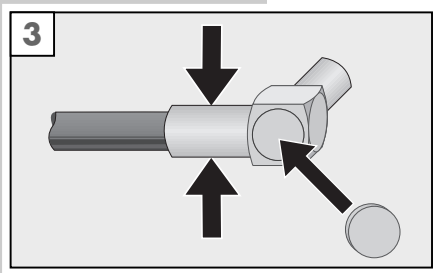
Note :
For the installation, only coaxial cables with a minimum diameter of 6.8 mm and a maximum diameter of 7.2 mm must be used.



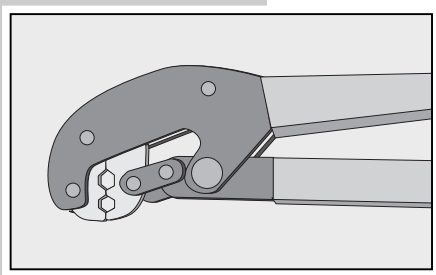
1 Remove the outer insulation, the screening, and the inner conductor of the coaxial cable accurately to the size, and then fit the screening of the coaxial cable over the outer insulation (see Fig. 1).



2 Slide the coaxial cable into the right-angle plug, press the inner conductor of the coaxial cable into the contact slot of the right-angle plug, and finally use an appropriate soldering iron to solder together the parts (see Fig. 2).



3 Use appropriate crimp pliers to firmly press together the metal shoe (arrow) of the right-angle plug (see Fig. 3).
Press the enclosed cover into the opening of the right-angle plug.



Recommendation:
Appropriate crimp pliers with the required inserts can be purchased from:

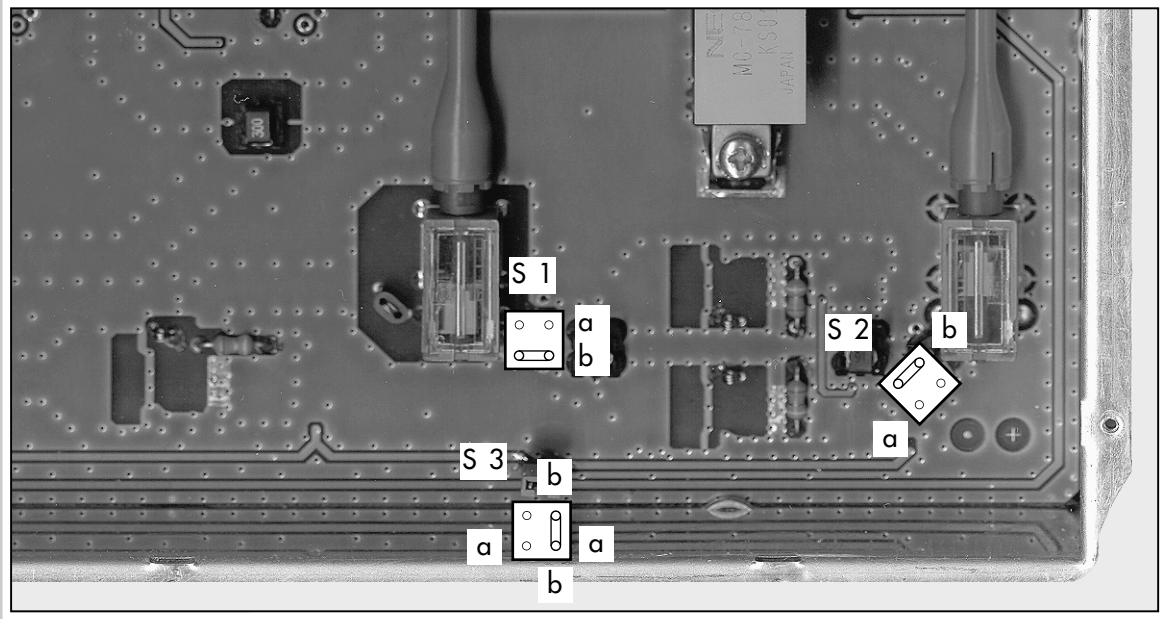
Alfred Knitter GmbH
Colditzstraße 28
D-12099 Berlin-Tempelhof
Tel.: 030/75 68 06-0 • Fax: 030/75 68 06-44
E-Mail: info@knitter.de

Lowering the output level

If you need a lower output level, but want to retain the noise-voltage ratio, you can change the jumpers as shown below.

1 Use a Torx screwdriver (TX6) to remove the 10 screws and take off the top of the housing.

2 Plug in the jumpers as shown below.
– Signal path a – the push-pull amplifier is switched off (factory setting).

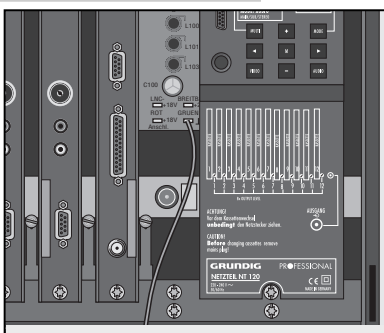


3 Attach the upper housing again and screw it on.

Installing the hybrid amplifier into a professional satellite unit and connecting it

Important!
Due to its rather high power, it is not allowed to use the hybrid amplifier inside the professional satellite unit STC 332.

Attention!
Before installing or replacing the hybrid amplifier, satellite boxes, or the power supply and control unit, it is absolutely necessary to disconnect the power supply plug of the professional satellite unit (headend) from the wall outlet.



Supply voltage of the hybrid amplifier (+24 V ⎓ via the screened lead)

1 Connect the IEC plug of the enclosed screened lead with the HF socket (+24 V) on the back of the hybrid amplifier, and the other end of the lead with the »+24 V ⎓« contact on the backplane of the professional satellite unit (see Figure).

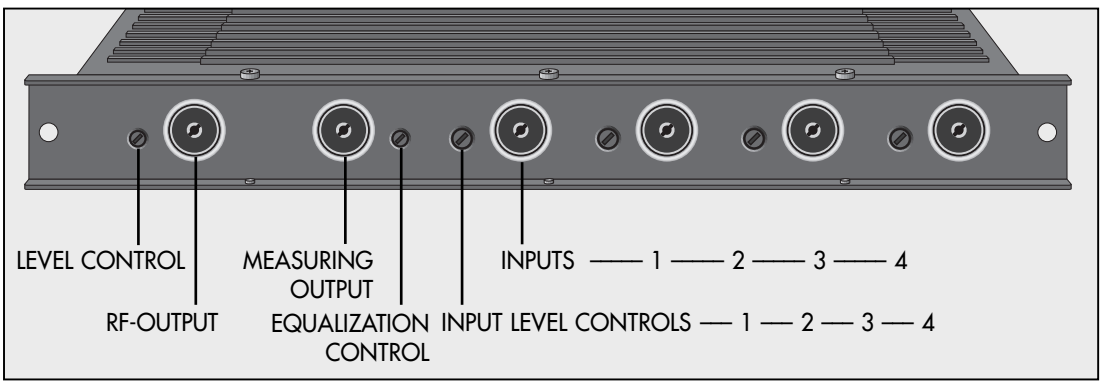
2 Installl the hybrid amplifier into the plug-in location next to the power supply and control unit of the professional satellite unit, and then fix it with the screws to the mounting frame.

3 Connect the RF output sockets (output collector) of the professional satellite unit with the RF input sockets of the hybrid amplifier using RF cables.

Note:
Terminate not used inputs of the hybrid amplifier with 75 Ω resistors.

4 Connect the power supply plug of the professional satellite unit with a wall outlet (220-240 V~, 50/60 Hz).

Important!
The professional satellite unit is only completely separated from the mains voltage by pulling the power supply plug.



Setting up the hybrid amplifier

Important!
Precondition for the setup of the hybrid amplifier is a correct installation, connection, setup and level adjustment of the satellite boxes fitted in the professional satellite unit.

1 Turn all 6 level controls of the hybrid amplifier clockwise to their right end stop (= maximum level).

2 Connect a measuring receiver to the RF output of the hybrid amplifier.

3 Measure the RF output level of the hybrid amplifier, and then adjust the required output level using the output level control.

4 Measure the output level (amplification) of every connected RF input, and then adjust the same level using the associated input level controls.
Please observe the following in doing this:
The nominal value is the output level of the analog TV channels.
– Adjust the output levels of digital TV channels (64 QAM) about 6 to 10 dB lower.
– Adjust the output levels of FM radio programmes about 10 dB lower.

5 Adjust the RF output level of the hybrid amplifier using the output level control.

6 Only if applicable:
It is possible to adjust the equlization of the cable system's cable loss using the »EQUALIZATION« control.

GSS Grundig SAT Systems GmbH • Beuthener Str. 43 • D-90471 Nürnberg • http://www.gss.tv