



CLASSIC AMP



Instruction manual

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Important safety warnings

Before operating the CLASSIC AMP, read this manual carefully

Should you have any questions on how to setup or use your CLASSIC AMP, please contact your Nagra dealer.

Do not attempt to open the amplifier under any circumstances. Refer any service / repair work to Nagra qualified personnel. There are no user serviceable parts inside the amplifier

Audio Technology Switzerland SA declines all responsibility in the event of an accident caused by the non-observance of these instructions or any other form of user negligence

To work correctly in your country, the CLASSIC AMP has a specific power supply for 100, 115 and 230V. The power supply voltage can only be changed at the factory. Make sure you have the right operating voltage before switching your amplifier on.

Warranty

AUDIO TECHNOLOGY SWITZERLAND SA, designer and manufacturer of Nagra products, certifies that this instrument was thoroughly inspected and tested prior to leaving its factory and is in accordance with the data given in the accompanying measurement protocol and test sheet.

We warrant the products of our own manufacture against any defect arising from faulty manufacture for a period of three years from the date of delivery to the user.

Warranty will be void if the serial number has been removed from the unit.

This limited warranty covers the repair of confirmed defects or, if necessary, the replacement of the faulty parts, excluding all other indemnities.

All freight costs, as well as customs duty and other possible charges, are at the customer's expense.

We decline any responsibility for any and all damage resulting, directly or indirectly, from the use of our products.

We reserve the right to modify the product, and / or the specifications without notice.

Congratulations

Congratulations, you have just purchased one of the best amplifiers ever made!

The CLASSIC AMP was created by an engineering team with more than 60 years of experience designing world-class products for the professional audio, national security and military businesses.

Since its inception in 1951, Nagra builds products that continue to earn a reputation for delivering ultimate sonic performance. Numerous awards have been bestowed upon Nagra for its technical innovation, excellence in design and flawless construction including three Oscars® and one Emmy®.

The hi-fi products and field recorders are developed by the same R&D department. The Nagra philosophy is to provide innovation and technology in order to design high quality products. The hi-fi range was created to implement innovative designs and provide Nagra expertise to a new field.

Thank you for being our customer and enjoy your new Nagra CLASSIC AMP amplifier!

Package contents

In addition to the CLASSIC AMP and manual, each box should contain the following:

- Microfiber gloves (from Swiss Haute Horlogerie);
- AC power cable*;
- Set of fuses (for 100 - 120 or 220 - 250 V, depending on your country);
- 1x Bridge jumper.

If anything is missing, please contact your dealer.

*depending on your country, the AC mains cable features either US, European or Swiss plug.

Installation

Positioning the CLASSIC AMP

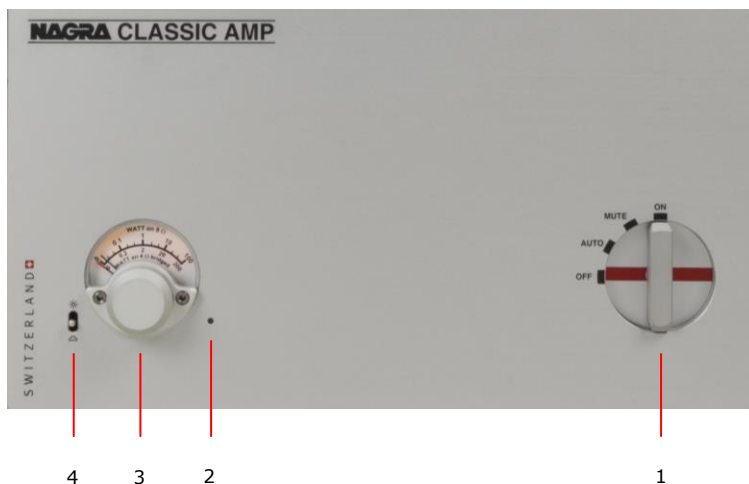
If you have a thick carpet, it is mandatory to place the CLASSIC AMP on a stand to allow an optimal thermal dissipation.

We recommend you to ask your Nagra dealer for a demonstration of the VFS L anti-vibration platform that offers a perfect match for your CLASSIC AMP.

The CLASSIC AMP is designed to be used exclusively indoors.

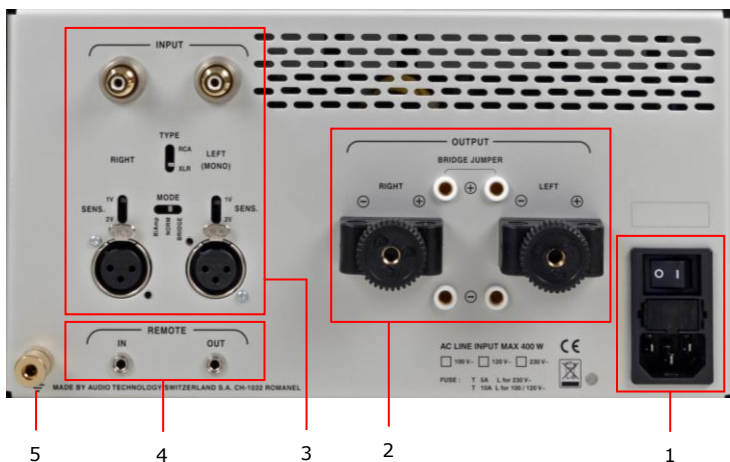
Presentation of your CLASSIC AMP

Front panel



- 1 – Main selector
- 2 – Clipping (orange) and alarm (red) LED
- 3 – Modulometer
- 4 – Modulometer intensity switch

Rear panel



- 1 - IEC Mains connector, fuse holder and Mains switch
- 2 - Output section
- 3 - Input section
- 4 - Remote section
- 5 - Ground connector

Fuse type

Replacement fuses are provided with your CLASSIC AMP.

Make sure to use:

FST 5x20mm 250V / T 10A L for 100 – 120V Mains.

FST 5x20mm 250V / T 5A L for 220 – 250V Mains.



The fuse holder itself contains a spare fuse. The active fuse is on the left-hand side on the picture.

Should the fuse blow twice for no apparent reasons, please contact your Nagra dealer for advice.

Input panel



Input type RCA or XLR

The CLASSIC AMP is a fully balanced amplifier. The inputs are provided on two balanced XLR connectors.

If your source is unbalanced, you can use the RCA input, and then switch the TYPE selector to RCA. Please note that this is not an input selector to connect different sources, it is to connect one component, either RCA or XLR.

Sensitivity

Depending on the source, you can adjust the CLASSIC AMP's input sensitivity. This will guarantee a perfect match with your preamplifier. You can change the input sensitivity at any time by moving the LEFT and/or RIGHT channel switches on the back (see position in the adjacent picture - SENS).

In this picture the sensitivity is set to 1V rms.

MODE selector BiAmp - NORM or BRIDGE

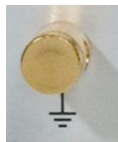
The MODE selector allows you to change the CLASSIC AMP mode. This selector should be moved when the amplifier is **OFF** (from the back panel's switch).

BiAMP The amplifier will use the left input to power both channels

NORM Normal mode, standard stereo amplifier

BRIDGE This is the bridge mode, when two amplifiers are combined

Ground connector



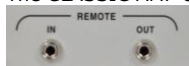
In some specific situations the ground connector can be used to connect different pieces of equipment to avoid unwanted earth-loop hum.

Your Nagra dealer will advise you during set-up whether this connector needs to be used.

Remote connection

The CLASSIC AMP can be set ON or OFF with an external signal from a Nagra MPS. Use the IN to connect the MPS' AMP output.

Use the CLASSIC AMP's output to trigger a second CLASSIC AMP (in bridged mode).



Output section

The CLASSIC AMP can operate in three different modes.

NORM normal mode or stereo, this is the standard mode



Connect the speakers on the LEFT and RIGHT Cardas connectors.

If you use banana plugs, use the white connectors.

Right speaker

Left speaker

BiAmp for BiAmping this mode is intended for using two CLASSIC AMPs.

If your speakers allow the connection of bass and high/mid sections separately, you can use two CLASSIC AMPs to power either one speaker each, or one amplifier for bass and one for highs (or mids and highs).

You may also decide to use the amplifiers in bridge mode, using one method or the other, depends very much of your speakers, you should try different solutions to find the best match. In any case, use the **LEFT** input on both amplifiers.

Option 1 (one channel represented)



Left bass

Left mid / high

Option 2 (the other amplifier is used to power the mids and highs)



Left bass

Right bass

Bridge mode

In this mode, both channels are used in parallel to double the output current, thus doubling the power. The CLASSIC AMP will deliver 200 W rms into 8Ω on one channel. Doubling the current allows a better drive of your speakers. You do need to connect one CLASSIC AMP to each speaker. Use the **LEFT** input.



Make sure to turn the amplifier **OFF** (using the MAINS switch on the back) before changing the Mode.

Change the **MODE** to **BRIDGE**.

Place the bridge jumper

Speaker Left
or right

Then connect one loudspeaker to either connector (they are used in parallel). Do the same on both CLASSIC AMPs.

NB. You may also replace the jumper with a link connector of the same range as your speaker cable. Many cable manufacturers offer such a part.

Connecting the Mains cable

Make sure the switches are in the **OFF** position prior to connecting the mains cable.



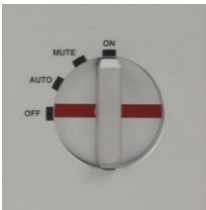
- This is the **Mains switch**, when set to the off **O** position, the amplifier is totally off and does not draw current from the Mains.
- Fuse compartment
- IEC connector

Operating the CLASSIC AMP

Proceed only once you have completed the installation steps described in the previous chapter **Installation**.

Switching ON

The **Mains switch** is located on the rear panel (see above section).



To use your amplifier, you must first, put the **Mains switch** in the **ON (I)** position.

Then you can use the **Front Selector** on the front panel. In Nagra's tradition, we call this selector the "péclette".

This table sums-up the different positions

Mains Switch	Front Selector	Action
O	Any	The CLASSIC AMP is shut down
I	OFF	This is the Standby position in which the CLASSIC AMP will use less than 1 W
I	AUTO	Automatic On/Off the CLASSIC AMP will detect signal on the input and turn ON automatically, it uses less than 1 W like in standby, it shuts down in the absence of signal after about 15 minutes
I	AUTO with MPS remote	When the REMOTE input is connected to the Nagra MPS power supply, it will automatically turn the CLASSIC AMP On and Off
I	MUTE	The CLASSIC AMP is ON but the inputs are muted
I	ON	The CLASSIC AMP is ON

Security

The CLASSIC AMP is loaded with different protection systems, to allow for smooth and secure operation for the amplifier itself and your loudspeakers.

Protection mode



Whenever a potential danger arises, for the amplifier or the loudspeakers, the CLASSIC AMP will shut down. This is called "**Protection mode**". The front red LED will light up as shown in the picture.

When does the CLASSIC AMP go into the "**Protection mode**"?

- If it is connected to the wrong mains supply voltage;
- Continuous clipping;
- Short-circuit protection;
- DC current appears on the output(s);
- Internal temperature is too high.

What should you do in this event?

On the rear of the unit, turn the **Mains switch OFF (O)**, wait for 30 seconds and turn it **ON (I)** again.

Note Should the CLASSIC AMP go into the **Protection Mode** without apparent reason or several times consecutively, turn it **OFF** (from the Mains switch) and contact your Nagra dealer.

Wrong voltage

The CLASSIC AMP power supply is designed to work for a specific Mains voltage, either 100-120 V or 220-240 V. To avoid potential component destruction, it won't turn on if it is connected to the wrong voltage. The front red LED will light, and the unit won't start. If this is the case, please contact your Nagra dealer.

Clipping protection

Clipping will occur when you push the amplifier to its limit, the front LED will start to blink orange. While a short "clip" will not even be heard, a long clip can damage the amplifier or the loudspeakers. That's why, after one second of continuous clipping, the LED will turn to red and the CLASSIC AMP will self-protect by going into the **Protection Mode**.

Short-circuit protection

In the event of a short-circuit on the speaker connectors, the front red LED will light up; after one second, the amplifier will go into the **Protection Mode**. Before turning the unit ON again, you should check the speaker connections.

DC protection

A DC (direct current) component generated from the amplifier could damage your loudspeakers. If a DC component of more than ± 2.5 V appears on the output of the CLASSIC AMP, the front LED will blink in red and the amplifier will go into **Protection Mode**.

Thermal problem

If the amplifier runs too hot, it will shut down automatically. In this case, don't do anything; it will turn on again when the temperature drops down. Make sure the amplifier is positioned on a solid platform and that fresh air can circulate inside the unit. In this case, the amplifier LED will blink in red and shut down, wait until the temperature cools down and it will turn on automatically.

NB If the room temperature is high, the amplifier operating range will be smaller and the risk of the amplifier over-heating higher. Make sure the room is at a comfortable temperature, preferably below 30° C.

Modulometer



The modulometer provides two scales to display the rms power on the output of the amplifier. The upper scale is into 8 Ohms the lower is for 4 Ohms in BRIDGE mode.

Right channel - black needle
Left channel - red needle

Adjusting the modulometer brightness

The toggle switch located on the left-hand side of the modulometer allows you to adjust the backlight intensity.

From full blown  to a complete extinction  it provides 7 levels of intensity.

This setting is automatically memorized by the CLASSIC AMP when you turn the amplifier OFF.

Troubleshooting

The following table will help you to solve any problems of set-up and operation.

LED status	Cause	Amp. Status	What to do
RED on	Wrong voltage	The amplifier does not start	Wrong Mains voltage, contact your Nagra dealer
The amplifier is playing music			
Blinks orange	Light clipping	ON	It is ok, consider reducing the listening volume
The amplifier shuts down - Protection Mode			
Orange on	Heavy clipping	Protection Mode	You need to restart the amplifier and reduce the volume
Blinks orange	Overheating	Protection Mode	The amp is overheating, it will start again when the temperature is below 60° C (140° F)
Blinks red	DC problem	Protection Mode	To avoid damage to your speakers, the amplifier turns off, contact your Nagra dealer

Technical specifications

Class	AB	
Power	100 W rms into 8Ω	
Sensitivity	1V or 2V rms	
Bandwidth	<10 Hz to 80 KHz	+0 / -3 dB
Crosstalk	>70 dB	
Signal-to-noise ratio	Typically 110 dB	Measured in ASA A
THD+N	< 0.05 %	@100 W
Input impedance	>100 KΩ	
Output impedance	60 mΩ	
Input connectors	XLR	Balanced
	RCA	Unbalanced
	Jack 3.5 [mm]	External Remote IN and OUT
Monitoring	Stereo level meter	
	Red/ Orange LED on front panel	Clipping indication, temperature, saturation
Automatic start	For input level > 10mV	
Protection Deactivates the amplifier	Overheating	Above 60°C (140°F)
	DC protection for loudspeakers	Above +/- 2.5 V DC
Output connectors	Cardas CPBP	Rhodium terminals
Consumption	400 W max	Sine wave current draw complies with EN61000-3-2 regulation
	Less than 1W in Standby and Auto	
Weight	15 Kg (33 lbs)	Net weight
Size	27.7 x 39.5 x 17.4 cm	11 x 15.5 x 7 inches
Operating range	90-110 or 110 - 132V or 180-264V	50 - 60 Hz



DECLARATION DE CONFORMITE
DECLARATION OF CONFORMITY

FABRICANT: Audio Technology Switzerland 1032 Romanel, SUISSE
MANUFACTURER: Audio Technology Switzerland 1032 Romanel, SWITZERLAND

APPAREIL : Nagra CLASSIC AMP ou CLASSIC AMP
MODEL: Nagra CLASSIC AMP or CLASSIC AMP

NORMES APPLICABLES :
APPLICABLE NORMS:

Champ électromagnétique rayonné Radiated electromagnetic field	EN 55022 Cl. B EN 55022 Cl. B
Perturbations conduites sur secteur Disturbance voltage on mains terminal	EN 55022 Cl. B EN 55022 Cl. B
Immunité aux champs électromagnétiques Immunity to electromagnetic fields	EN 61000-4-3 EN 61000-4-3
Immunité aux décharges électrostatiques Immunity to electrostatic discharges	EN 61000-4-2 EN 61000-4-2
Immunité aux transitoires électriques rapides en salves sur câble d'alimentation Immunity to burst on mains line	EN 61000-4-4 level 2 (1000V) EN 61000-4-4 level 2 (1000V)
Immunité aux transitoires électriques rapides en salves sur câbles d'entrées/sorties signaux Immunity to burst on input/output signal line	EN 61000-4-4 level 1 (500V) EN 61000-4-4 level 1 (500V)
Immunité aux ondes de choc Immunity to surge	EN 61000-4-5 level 2 (1000V) EN 61000-4-5 level 2 (1000V)

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Nagra R&D team