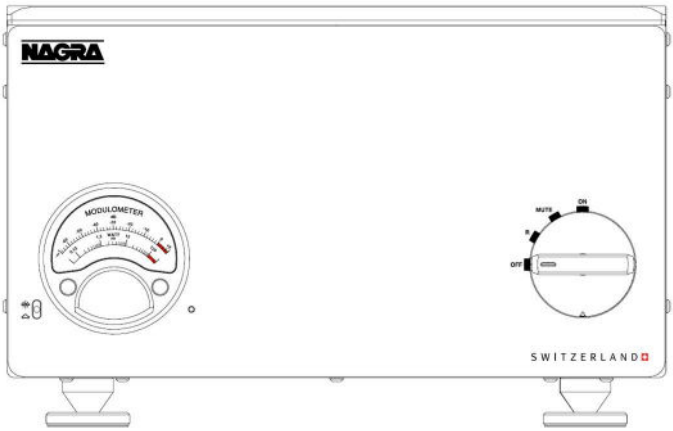
Nagra
AMP II-S



User manual

P/N: 2055309159
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Safety warning

- Read this manual carefully before operating the **AMP II-S**.
- Retain this manual for future reference.
- If you have any questions regarding the installation or operation of your **AMP II-S**, please contact your authorized Nagra dealer.
- Audio Technology Switzerland SA accepts no liability for damage or injury resulting from failure to follow these instructions or from improper use of the product.
- The **AMP II-S** is Class I equipment and must be connected to a mains outlet with a protective earth connection.
- Before connecting the **AMP II-S** to the mains supply, verify that the mains voltage indicated on the unit corresponds to the local mains voltage. Do not connect the amplifier to a different mains voltage.
- Do not expose the **AMP II-S** to rain, excessive moisture, dripping or splashing liquids. Do not place objects filled with liquids, such as vases, on the unit.
- Ensure adequate ventilation at all times. Do not cover the ventilation openings or install the amplifier in an enclosed space without sufficient airflow.
- The amplifier may become warm during normal operation. Do not obstruct air circulation around the unit.
- Switch the amplifier OFF using the mains switch on the rear panel before connecting or disconnecting loudspeakers or audio cables.
- There are no user-serviceable parts inside the **AMP II-S**. Do not open the unit. Servicing must be carried out only by qualified service personnel.

Warranty

Please refer to the warranty addendum supplied with this user manual.

Congratulations

You have just acquired one of the finest amplifiers ever created.
The **Nagra AMP II-S** is the result of seventy-five years of experience in designing world-class equipment for professional audio, national security and defence applications.

Since 1951, Nagra has earned a worldwide reputation for uncompromising engineering, exceptional craftsmanship and absolute fidelity. This pursuit of excellence has been recognized with numerous international distinctions, including two Academy Awards® (Oscars®) and two Emmy® Awards for technical achievement.

Nagra's professional and high-end audio products are conceived by the same Research and Development team. The technologies and expertise developed to meet the demanding requirements of professional applications also contribute directly to our high-end audio products, where they are applied in the pursuit of the highest level of musical reproduction.

At Nagra, technology has always existed for one purpose: to serve the music.
We wish you many years of exceptional listening enjoyment with your **AMP II-S**.
Thank you for your trust.

Package contents

The **AMP II-S** package includes:

- **Nagra AMP II-S**
- User manual
- Pair of Haute Horlogerie-grade microfiber gloves
- Set of fuses appropriate for the mains voltage
- Mains power cable*

Please contact your Nagra dealer if any item is missing.

* Depending on your country, the power cord features either a US, European or Swiss plug.

Installation

Positioning

The **AMP II-S** is designed exclusively for indoor use in a moderate climate.

Install the amplifier on a stable, level surface capable of supporting its weight. Allow sufficient clearance around the unit to ensure adequate ventilation.

Do not obstruct the ventilation openings or restrict airflow around the amplifier.

Do not install the **AMP II**-S in direct sunlight, near heat sources, or in locations exposed to excessive humidity or dust.

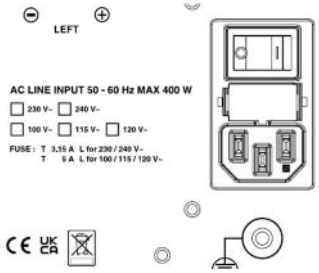
Due to the weight of the **AMP II-S**, take appropriate care when lifting or moving the unit.

Powering the AMP II-S

The **AMP II-S** is available in five mains voltage versions:
100 V, 115 V, 120 V, 230 V and 240 V.
Before connecting the **AMP II-S** to the mains supply, verify that the mains voltage indicated on the unit corresponds to the local mains voltage.

Do not connect the **AMP II-S** to a mains supply with a different voltage rating.
The mains voltage configuration of the **AMP II-S** may only be changed by an authorized Nagra dealer. Depending on the voltage conversion required, replacement of the power transformer may be necessary.

Connecting the mains

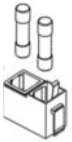


Before connecting the mains power cable, make sure that the mains power switch on the rear panel is in the OFF position, marked “0”.

Insert the C13 IEC connector of the mains power cable into the C14 IEC appliance inlet on the rear panel of the **AMP II-S**.

Connect the mains power cable to an appropriate earthed mains outlet.

Fuse replacement



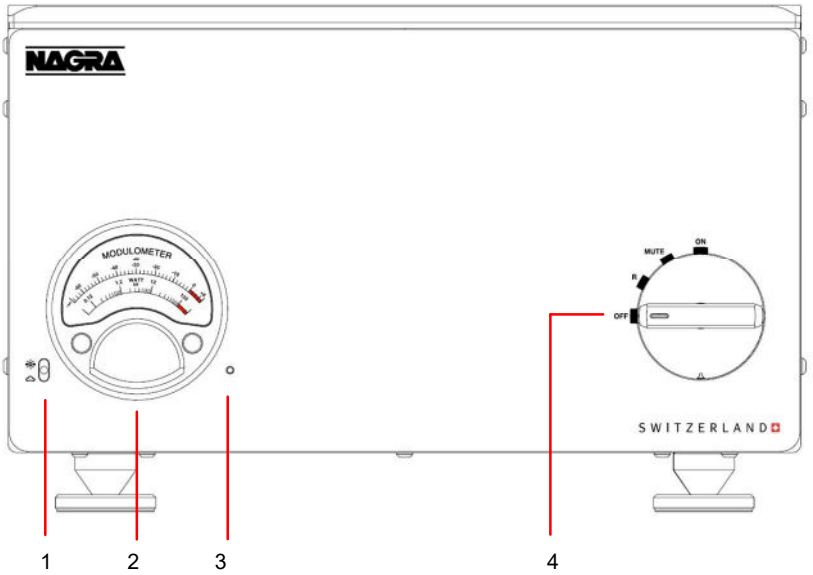
The fuse holder contains a spare fuse. Before replacing the fuse, switch the **AMP II-S** OFF and disconnect the mains power cable from the amplifier.

Use only a **5 × 20 mm time-delay fuse** of the specified type and rating:

Mains voltage	Fuse type
100, 115, 120 V	250 V T 5 A L
230, 240 V	250 V T 3.15 A L

Always replace the fuse with one of the same type and rating. If the replacement fuse blows, do not replace it again. Please contact your authorized Nagra dealer for assistance.

Front panel



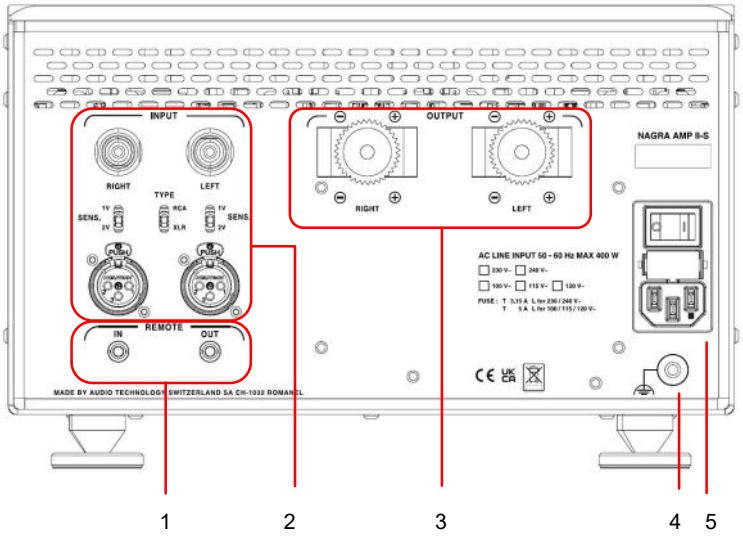
1 Brightness control, adjust the Modulometer™ illumination level

2 Nagra Modulometer™ Displays the output power

3 Status LED Indicates the operating and protection status

4 Front rotary selector

Connection block on rear panel



1 REMOTE section
REMOTE IN and REMOTE OUT connections.

2 INPUT section
Left and right RCA and XLR audio inputs, with input type and sensitivity selectors.

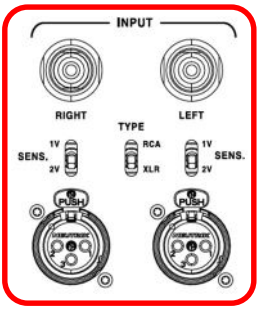
3 Loudspeaker outputs
Left and right loudspeaker connection terminals.

4 Ground post
Chassis ground connection for specific system configurations.

5 Mains section
C14 IEC appliance inlet, fuse holder and mains power switch.

Note about the Ground post
In most installations, the ground post does not need to be used. It may, however, be useful in resolving grounding issues in certain system configurations.
If necessary, please consult your Nagra dealer for advice on the appropriate use of the ground post.

INPUT section



XLR
For a balanced source, connect the source to the XLR inputs and set the TYPE selector to **XLR**. In this position, the unit operates as a true balanced input.

RCA
For an unbalanced source, set the TYPE selector to **RCA**.

An unbalanced source may also be connected through the XLR inputs. In this case, the TYPE selector must remain in the RCA position. XLR pin 3 is then connected to ground.

Use either the RCA or XLR inputs, but never both simultaneously.

SENS. (SENSITIVITY)

The input sensitivity of the **AMP II-S** can be adjusted to match the output level of your preamplifier. The setting applies equally to the RCA and XLR inputs.

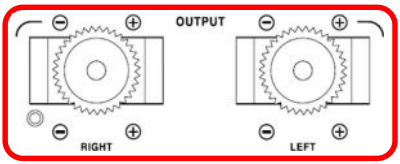
The sensitivity can be selected independently for the LEFT and RIGHT channels:

- **1 V:** rated output power is reached with an input signal of 1 V RMS.
- **2 V:** rated output power is reached with an input signal of 2 V RMS.

For most systems, select the setting that best matches the output level of your preamplifier. With Nagra preamplifiers, we recommend 1 V.

Place the **AMP II-S** in **MUTE** before changing the sensitivity setting to avoid switching noise.

OUTPUT section



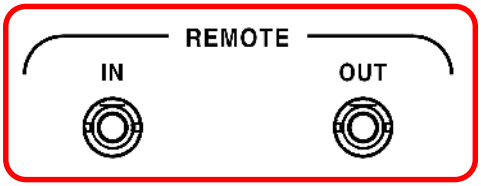
Switch the **AMP II-S** OFF using the mains switch on the rear panel before connecting or disconnecting the loudspeakers.

Connect the left and right loudspeakers to the corresponding **LEFT** and **RIGHT** output terminals, observing the correct polarity.
The red terminal corresponds to positive (+) and the black terminal to negative (–).

For loudspeaker cables fitted with 4 mm banana plugs, insert the plugs into the openings at the ends of the binding posts. Make sure that the loudspeaker cable conductors do not come into contact with each other or with the opposite terminal, as this could cause a short circuit.

REMOTE section

The REMOTE connections allow the **AMP II-S** to be switched ON and OFF automatically by another compatible Nagra device and to control an additional device in the same way.



REMOTE IN

3.5 mm (1/8") jack input used to control the **AMP II-S** from a **MAIN** device.
For example, the **AMP II-S** can be controlled by the REMOTE OUT of a Nagra CLASSIC PSU, MPS or HD PSU.

REMOTE OUT

3.5 mm (1/8") jack output used to control an additional **CONTROLLED** device.

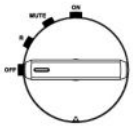
Note: To use the **AMP II-S** REMOTE OUT, the **AMP II-S** REMOTE IN must be connected to the REMOTE OUT of a compatible Nagra device.

Detailed information about the REMOTE IN and REMOTE OUT functions is provided on page 14.

Operations

Basic operations

The iconic Nagra front rotary selector provides four operating positions.



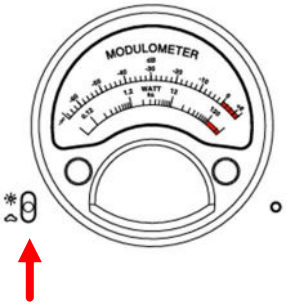
- **OFF** The amplifier is in standby mode.
- **R** (REMOTE) The amplifier is switched ON and OFF through the REMOTE IN connection.
- **MUTE** The amplifier is ON, but the audio outputs are muted.
- **ON** The amplifier is fully operational.

The rear-panel mains switch and front rotary selector operate as follows:

Rear mains switch	Front rotary selector	Action
0	Any	Completely switched OFF.
I	OFF	Standby mode. The amplifier remains powered, with very low power consumption.
I	R	Controlled through the REMOTE IN connection.
I	MUTE	Amplifier ON; audio outputs muted.
I	ON	Amplifier ON and fully operational.

During start-up, the status LED blinks slowly in yellow while the amplifier completes its start-up sequence.

Nagra Modulometer™



The Modulometer™ is one of Nagra's most recognizable features and has been used on Nagra recorders for decades.

On the **AMP II-S**, the Modulometer™ provides a visual indication of the output level for both channels.

- **Black needle:** left channel
- **Red needle:** right channel

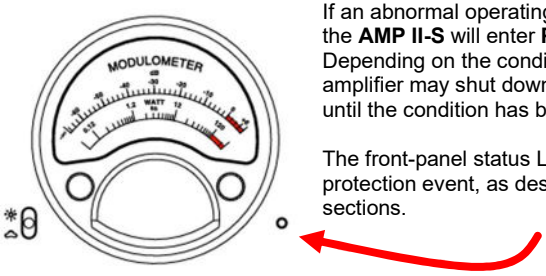
The upper scale indicates the output level in dB.
The lower scale indicates the output power in watts into an 8 Ω load.

Modulometer™ brightness adjustment

The Modulometer™ illumination can be adjusted to suit your preference.
Push the toggle switch **UP** to increase the brightness or **DOWN** to decrease it.
At the lowest setting, the illumination is switched off.

Protection mode

The **AMP II-S** incorporates several protection systems designed to protect both the amplifier and the connected loudspeakers.



If an abnormal operating condition is detected, the **AMP II-S** will enter **Protection mode**. Depending on the condition detected, the amplifier may shut down or prevent operation until the condition has been resolved.

The front-panel status LED indicates the type of protection event, as described in the following sections.

The **AMP II-S** may enter Protection mode in the following situations:

- Incorrect mains voltage
- Continuous or excessive clipping
- Short circuit at the loudspeaker outputs
- DC voltage detected at the loudspeaker outputs
- Excessive internal temperature

Incorrect mains voltage

The **AMP II-S** is configured at the factory for a specific mains voltage: **100 V, 115 V, 120 V, 230 V or 240 V**.
If the amplifier detects an incompatible mains voltage, its protection system prevents normal start-up in order to protect the internal circuitry. The front-panel status LED lights continuously in red and the amplifier will not start.
Do not attempt to operate the **AMP II-S** from a mains supply that does not correspond to the voltage indicated on the unit.
If this condition occurs, disconnect the **AMP II-S** from the mains supply and contact your authorized Nagra dealer for assistance.

Clipping protection

If the **AMP II-S** is driven continuously into clipping, the protection system will be activated. The front-panel status LED will blink rapidly in red and the amplifier will enter Protection mode.

Reduce the listening level before restarting the amplifier.
If repeated clipping occurs during normal use, setting the input sensitivity to 2 V instead of 1 V may provide a more suitable match with your preamplifier. This setting does not increase the amplifier's output power.

Short-circuit protection

If a short circuit is detected at the loudspeaker outputs, the **AMP II-S** will enter

Protection mode and the front-panel status LED will blink rapidly in red.
Switch the amplifier OFF using the mains switch on the rear panel and check the loudspeaker cables and connections carefully.
Make sure that no exposed conductor or connector can create a short circuit between the positive (+) and negative (–) output terminals.

Once the cause of the short circuit has been identified and corrected, the amplifier may be restarted.

DC protection

A DC (direct current) voltage at the amplifier output could damage the connected loudspeakers.
If a DC voltage exceeding **±2.5 V** is detected at either output, the **AMP II-S** will enter Protection mode and the front-panel status LED will light continuously in red.
Switch the amplifier OFF using the mains switch on the rear panel and contact your authorized Nagra dealer for assistance.

Thermal protection

If the internal temperature of the **AMP II-S** exceeds 60 °C (140 °F), the amplifier will enter Protection mode and shut down. The front-panel status LED will blink normally in yellow (as defined next page).

Allow the amplifier to cool naturally. Once the amplifier has cooled sufficiently, switch it OFF and ON again using the mains switch on the rear panel to resume operation.
If thermal protection is activated, make sure that the ventilation openings are unobstructed and that sufficient airflow is available around and underneath the amplifier.

High ambient temperatures reduce the amplifier's available thermal operating range. For optimum operation, a room temperature below 30 °C (86 °F) is recommended.

Troubleshooting summary

Whenever the mains switch is ON (I position on the rear panel).

Selector	LED	Possible cause	What to do
OFF			
	Red ON	Amplifier configured for a different mains voltage	Set the rear-panel mains switch to OFF (0) and check that the mains voltage corresponds to the voltage indicated on the rear panel. If necessary, contact your Nagra dealer.
	Red blinking slowly	Power rail protection fault	Switch the amplifier OFF* and ON again. If the indication persists, contact your Nagra dealer.
R, **MUTE** or **ON**			
	Red blinking normally	Power supply fault	Switch the amplifier OFF* and contact your Nagra dealer.
	Red blinking fast	Short circuit at the loudspeaker outputs or excessive clipping	Switch the amplifier OFF*. Check the loudspeaker connections and reduce the listening level before restarting.
	Red ON	DC voltage detected at the loudspeaker output	Switch the amplifier OFF* and contact your Nagra dealer.
	Yellow blinking normally	Overheating	Allow the amplifier to cool and check that the ventilation openings are unobstructed. Then switch the amplifier OFF* and ON again.
	Yellow ON	Mains voltage too high	Switch the amplifier OFF* and check the nominal mains voltage. Restart only when the mains voltage has returned to the correct range. If the condition persists, contact your Nagra dealer.

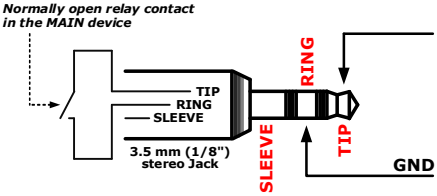
*Switch the amplifier OFF and ON again using the mains switch on the rear panel

Status LED blinking rates

Fast	Every 0.1 s
Normal	Every 0.5 s
Slow	Every 1 s

Starting the AMP II-S with REMOTE IN trigger input

The **AMP II-S** can be switched ON and OFF automatically by a compatible Nagra device connected to its REMOTE IN.



To use this function, set the front rotary selector to **R** (REMOTE).

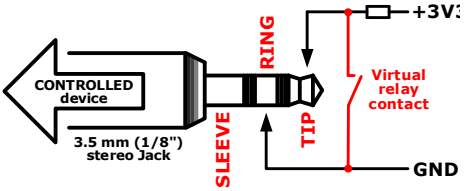
Please note that the RING contact of the 1/8" stereo jack is connected to ground in the **AMP II-S**.

Signal on the TIP	AMP II-S
Loop closed between TIP and RING (MAIN DEVICE ON) or TIP connected to ground	ON
Loop open between TIP and RING (MAIN DEVICE OFF) or TIP connected to **max +12 V** ⎓	OFF

Note
It is mandatory to connect the **AMP II-S** REMOTE IN to the REMOTE OUT of another Nagra device, such as the CLASSIC PSU, the MPS, or the HD PSU, if you want to drive a CONTROLLED device with your **AMP II-S** (a second amplifier for instance).

Turn the **AMP II-S** OFF from the back panel before connecting the REMOTE IN cable.

Using the REMOTE OUT trigger output



Please note that the RING contact of the 1/8" stereo jack is connected to ground in the **AMP II-S**.

AMP II-S	TIP	VIRTUAL RELAY CONTACT
ON REMOTE OUT activated	GND	Loop closed between TIP and RING when the MAIN device connected on the REMOTE IN is switched ON
OFF REMOTE OUT not activated	+3.3 V	Loop open between TIP and RING when the MAIN device connected on the REMOTE IN is switched OFF

Case cleaning

Before cleaning the **AMP II-S**, switch the amplifier OFF and disconnect it from the mains supply.

Clean the casing using a soft, lint-free cloth, slightly dampened if necessary.
Do not use solvents, abrasive products or chemical cleaning agents, as they may damage the finish.

Technical specifications

Amplifier	Class AB	
Output power	120 W RMS into 8 Ω	Per channel
Input sensitivity	1 V or 2 V RMS	Selectable
Gain	29.8 dB	For 1 V, 23.8 dB at 2 V
Bandwidth	<10 Hz to 75 kHz	+0 / -3 dB
Crosstalk	>90 dB	
Signal-to-noise ratio	Typically 110 dB	A-weighted
THD+N	< 0.05 %	At 120 W
Input impedance	>100 kΩ	
Output impedance	60 mΩ	
Input connectors	XLR RCA jack 3.5 mm (1/8")	Balanced Unbalanced REMOTE IN
Output connectors	Cardas CPBP jack 3.5 mm (1/8")	Rhodium-plated terminals REMOTE OUT
Monitoring	Stereo Modulometer™ Status LED	Output power in W into 8 Ω Operating and protection status
Protection mode	Overtemperature DC protection Short-circuit Clipping Incorrect mains voltage	Above 60 °C (140 °F) Above ±2.5 V
Power supply types 50 or 60 Hz	100 V 115 / 120 V 230 / 240 V	±10 %
Power consumption	P_{MAX} 400 W	Less than 1 W in Standby & REMOTE OFF
Mains fuse FST 5 x 20 mm	250 V / T 5 A L 250 V / T 3.15 A L	100, 115, 120 V 230, 240 V
Operating temperature	+15 °C to +35 °C +59 °F to +95 °F	Moderate climate
Operating environment	Indoor only	IP30
Dimensions L x W x H	461 x 280 x 174 mm 18.15 x 11.02 x 6.85 in	Overall
Net weight	24.5 kg / 54 lb	

Specifications may change without notice



(Applicable in the European Union and other countries with separate collection systems.)
This symbol on the product or its packaging indicates that this product must not be disposed of with household waste. It should be taken to an appropriate collection point for the recycling of electrical and electronic equipment.

For further information about the recycling of this product, please contact your local authority, household waste disposal service or the retailer from whom you purchased the product.

By ensuring that this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health and contribute to the conservation of natural resources.