CLASSIC PREAMP

User manual

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Safety warning

- Read this manual carefully before operating the CLASSIC PREAMP.

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

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

- The CLASSIC PREAMP is CLASS I equipment. It is essential that it is connected to a Mains socket outlet with a protective earthing connection when using the AC power supply.

- The CLASSIC PREAMP must not be exposed to dripping or splashing liquids and no objects filled with liquids, such as vases, should be placed on it.

- Never try to open your CLASSIC PREAMP when it is powered to prevent the risk of electric shock and burns. Switch it OFF, remove the Mains or the external DC power supply cable from the back panel and wait at least 10 minutes before any intervention into your Nagra CLASSIC PREAMP such as for tube exchange. If you are unsure, please contact your Nagra dealer.

Warranty

Please refer to the addendum enclosed in this User manual.

Congratulations

Congratulations! You have just acquired one of the best preamplifiers ever made.

The CLASSIC PREAMP was created by an engineering team with more than 70 years of experience designing world-class products for the professional audio, national security and military businesses.

Since its inception in 1951, Nagra has built 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 two Oscars® and two Emmys®.

The professional and Hi-Fi ranges are both designed by our Research and Development department. Nagra has launched a Hi-Fi range to allow the wider public to benefit from technical advances that are often the sole privilege of professionals.

This technology exists in the service of music, your music. We wish you great moments of listening pleasure with your CLASSIC PREAMP.

Thank you for your trust.

Package contents

Besides the manual and the CLASSIC PREAMP itself, the box contains:

- Mains cable*

- IR Remote Control Unit with 2x AAA-Dry cells

- Pair of "Haute Horlogerie" grade microfiber gloves

Please contact your Nagra dealer if anything should be missing.

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

Installation

Positioning

The CLASSIC PREAMP is designed exclusively for indoor use in a moderate climate.

There must be enough space all around the chassis for adequate ventilation. Ventilation should not be impeded by covering the ventilation openings with items such as newspapers, tablecloths, curtains, etc.

The CLASSIC PREAMP must rest on a stable support. We recommend that you use the Nagra CLASSIC VFS FOR SOURCE. The Vibration Free Support for source, developed by Nagra, consists of isolated solid aluminum plates using the same silicone base damping material as the Nagra CD mechanics.

Powering the CLASSIC PREAMP

The CLASSIC PREAMP can be powered either by its own internal power supply or by an external +12V(+12.6V) $\overline{}$ with the Nagra MPS or the CLASSIC PSU. In the first case, simply use the AC Mains cable provided.

Connecting the Mains
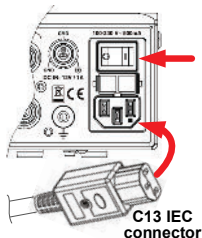
Place the Mains power switch on the rear panel of the unit in the OFF position, marked «**O**».

Insert the C13 IEC connector of the power cable into the C14 IEC Appliance inlet of the CLASSIC PREAMP.

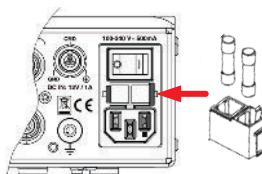You may then push the Mains switch into the «**I**» position.

C13 IEC connector

Fuse replacement
The fuse holder includes a replacement fuse.
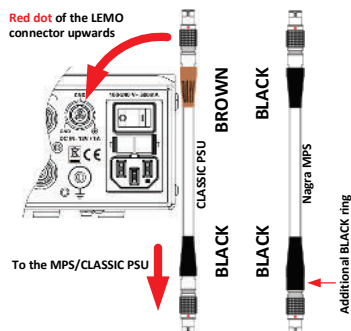The fuse type is: **FST 5x20mm 250V / T 500mA L**.

Should you need to replace it, use only the same fuse type and value.

Should the fuse blow more than once, please contact your Nagra dealer for assistance.

Connecting the Nagra Power Supply

Red dot of the LEMO connector upwards

Start by removing the power cable from the C14 IEC Appliance inlet of the CLASSIC PREAMP. The Mains switch position is no longer relevant when an external power supply is connected.

Place the front rotary selector in the **OFF** position. Insert the LEMO connector from the external power supply cable into the DC socket as shown beside. You will hear a click that indicates the connector is securely locked.

Please note that the LEMO plug features a red dot that must be facing upwards for a correct insertion into the DC power input socket.

To the MPS/CLASSIC PSU

The BLACK-sleeved LEMO plug should be connected to the CLASSIC PSU or the BLACK-sleeved LEMO plug with the additional BLACK ring to the Nagra MPS.

To disconnect the LEMO plug, hold the fluted section of the connector and pull it backwards.

CMD signal from the CLASSIC PSU
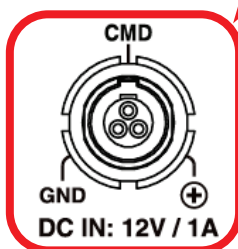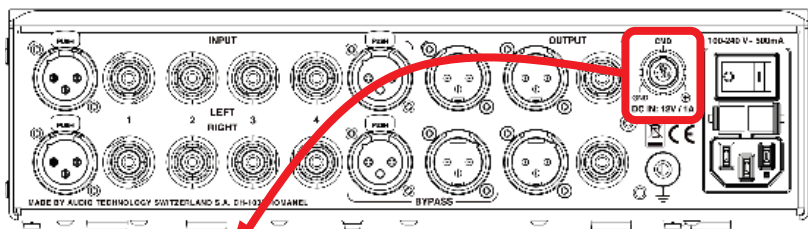
The CLASSIC PREAMPs with the ATS ref x0550261xx possess a new feature on the LEMO DC power supply socket. A command signal (**CMD**) has been added on the third contact to communicate with the CLASSIC PSU power supply (the serigraphy on the back panel is modified). This is used by the CLASSIC PSU to perform a clean power on and power off sequence of the CLASSIC PREAMP.

Available on the CLASSIC PREAMP with a **1.09** software version or above. The usage of a LEMO power cable fully wired is mandatory (see below).

As an internal hardware upgrade is necessary, this additional functionality is not available on the older devices with the ATS ref x0550260xx.

LEMO DC POWER CABLE
FOR NAGRA CLASSIC PSU

BLACK

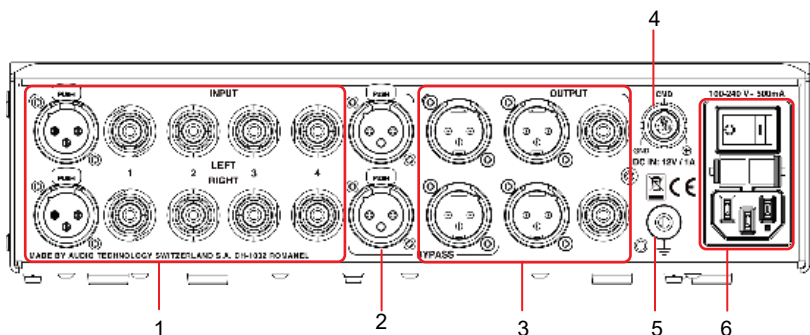| L [m]	ATS P/N
1.25	7055050020
3	7055050025
5	7055050027

BROWN

Nagra audio device
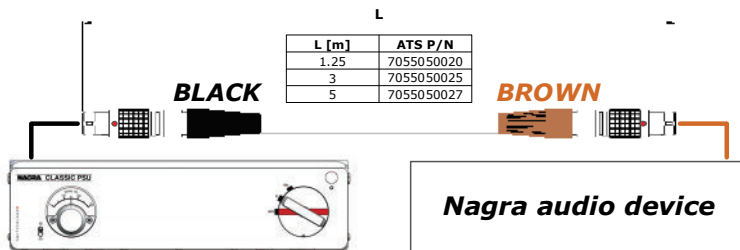
Only use LEMO cables with BLACK & BROWN sleeves to benefit from the best Nagra CLASSIC PSU features

*The **BLACK**-sleeved LEMO plug should be connected to the Nagra CLASSIC PSU*

Nagra 2021 rev 1

Connection block on rear panel

1. Input block✴
2. XLR BYPASS input, this is a special input, see **BYPASS input** on page 15
3. Output block with 2x XLR✴ and 1x RCA
4. DC power input on LEMO socket
5. Ground post
6. IEC Appliance inlet with Mains connector, Mains fuse, and Mains switch

✴The XLR inputs and outputs are unbalanced. Should you need balanced inputs or outputs, please contact your Nagra dealer. There is one set for the inputs and one for the outputs. The transformers are different, the input transformers are much more complex to build and thus are more expensive. All our audio transfomers are custom designed and hand wound by Nagra in Romanel-sur-Lausanne, Switzerland.

To obtain optimal performance from the CLASSIC PREAMP, it is preferable to leave the device switched on for about 15 minutes before use, so that the internal components can reach their optimum operating temperature.
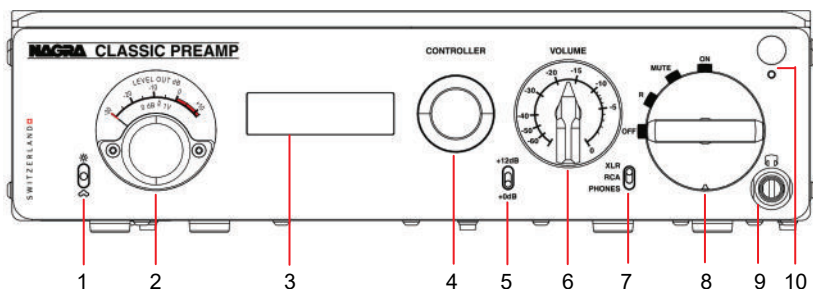
Like all tube electronic devices, the CLASSIC PREAMP needs a running-in period. It will reach peak performance after a few hundred hours operation.

Note about the Ground post
Use of this feature is seldom necessary but can sometimes come in handy to solve specific setup issues. Your Nagra dealer will assist you on when and how to use this connector.

Front panel

1 LCD display and Modulometer backlight intensity switch, pushed up will increase the intensity, down will reduce it, there are 7 intensity levels

2 Nagra Modulometer indicates the output level in dB, reference 0 dB = 1 V rms

3 LCD Display

4 Controller knob

5 Gain selection, standard position 0 dB, upward position +12 dB

6 Volume level control

7 Line out selection, position XLR, RCA or HEADPHONES

8 Front rotary selector

9 Headphones output on 6.3 mm (¼") Jack

10 IR window and remote control LED

When turned **ON**, the CLASSIC PREAMP will go through a 2.5-minute preheating sequence. This is to optimize the warming-up of tubes and critical components. This will allow your CLASSIC PREAMP to offer excellent performance for a longer period, since the components are managed gently.

Please note that you can access the menu while the unit is warming up.

Note: In case of an accidental return to the **OFF** position of the front rotary selector for less than 2 seconds, the preheating is not reapplied.

Operations

Basic operations
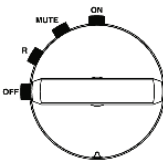
The typical Nagra front rotary selector offers 4 positions.

- **OFF** is similar to a STANDBY mode.
- **R** is for Remote control.
- **MUTE**, the unit is ON, but the audio signal is muted.
- **ON**, the unit is fully operational.

| WITH AC POWER	WITH DC POWER		
Rear Mains switch	Power supply output	Front rotary selector	Action
0	OFF	Any	The unit is totally off.
I	ON	OFF	The unit is in STANDBY mode. The device is still powered but the consumption remains very low.
I	ON	R	The unit can be triggered ON and OFF by the IR Remote Control Unit.
I	ON	MUTE	The unit is ON and muted (for warming-up).
I	ON	ON	The unit is fully operational.

Setting your CLASSIC PREAMP

Thanks to its LCD display and the controller, you will be able to personalize your CLASSIC PREAMP to fully integrate it within your system. Please take some time to

learn more about the settings that you can change to enjoy more music.
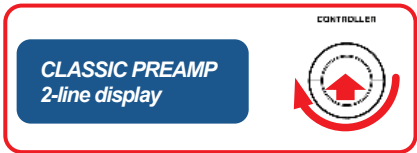
How to access menus
It is simple, one knob that does everything! The CONTROLLER has different functions. You can rotate it or press it. If you push the Controller and hold it for 3 seconds, you will access the menus. You can navigate within the menu tree by rotating the Controller. Whenever you want to exit the menu, press and hold the Controller.

How to operate the Controller knob

Controller	Normal operation	Inside MENU
Rotate	Change input	Scroll up or down
Press and hold (3 s)	Access MENU	Go backward
Press once	None	Validate or go forward
Don't touch anything	Enjoy the music	-----

We suggest you navigate within the menus to become familiar with the navigation Controller before starting the setting-up.

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Menu tree or map

Here is the menu tree or map, that will help you localize the function you are looking for. It may look complex, but actually once you have set-up your CLASSIC PREAMP, you won't need to change it often or at all!

Language	English		
	Français		
In. Names	Editing	XLR	
	Restore	RCA 1	
		RCA 2	
		RCA 3	
		RCA 4	
Balance	R -3.5dB		Adjustable by steps of 0.5 dB
	…		
	R -0.5dB		
	L = R		
	L -0.5dB		
	…		
	L -3.5dB		
Channel	Stereo		**NB** no balance is possible in Mono
	Mono		
Remote	RC-5		
	DEVICE 1		In reference to the Nagra RCU/RCU II Remote
	DEVICE 2		Control Unit selection keys (1 to 6)
	DEVICE 3		
	DEVICE 4		
	DEVICE 5		
	DEVICE 6		
About	Soft V.		
	Op. Time		
	TubeTime	Reset?	
	S.Number		

Setting the language

You might want to start by setting the language.
First, press and hold the Controller button for 3 seconds.

Language	Press the Controller once, then you can select the language.
Français	Rotate the controller to the desired language, then press it once to select it.
Langue	The menu will return to the previous screen.

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Inputs naming

You have 8 characters available to name your inputs. Names can include letters, numbers, and special signs. The letters are available in the following order:
a…z_-*#/,.:;0123456789_A…Z

When inside the menu, rotate the knob until « In.Names » is displayed:

In.Names	Press the Controller button to go inside this setting.
Editing	Press the Controller button once. You can now « Editing ».
XLR	« XLR » is the first input, this is its factory name, now you can choose the name to be displayed on the CLASSIC PREAMP when you select the XLR input.
RCA 1	Keep turning the Controller if you wish to edit another input name. Let's change « RCA 1 » name.
RCA 1	Press the controller knob once. The <u>underscore</u> appears below the letter you can change.
DCA 1	By rotating the knob, you will scroll the characters until you reach « D ».
DCA 1	By pressing the knob once, « D » is memorized, and the underscore moves to the next character.
DAC	Repeat the procedure for each character to change. Once you have completed the naming, push shortly on the knob several times until the <u>underscore</u> disappears, then press and hold the knob for a few seconds to record the new name and to get back to the « In.Names » menu.

Resetting input names

If you are unhappy with the name you have chosen, you can reset all the input names to factory settings. Go in the menu:

In.Names	Push once.
Editing	Rotate to display « Restore ».
Restore	Push once.
Confirm	Push once, the factory names have been restored.

Adjusting the balance
Go in the menu:

In.Names

Rotate to display « Balance ».

Balance

Push once.

L = R

Rotate left or right to select the desired balance from R -3.5 dB to L -3.5 dB by 0.5 dB steps. Press and hold the knob for a few seconds to record the new balance parameter and to get back to the menu.

Selecting the mode
Go in the menu:

In.Names

Rotate to display « Channel ».

Channel

Push once.

Mono

Rotate left or right to select the desired mode. Push once to record the new parameter and to get back to the menu.

Remote control
The CLASSIC PREAMP comes with the RCU III remote control unit.
This remote control unit uses standard RC5 codes from Philips. It is called « RC5 » in the menu.
However, you may also use it with the older Nagra RCU or RCU II remote control units that work with the RECS-80 protocol. In this case, you should change the device number here:

Remote

In the menu, rotate the knob until « Remote » displays, then push once to enter remote control selection.

RC5

« RC5 » displays, rotate the knob to select the remote control you want the CLASSIC PREAMP to be controlled with.

DEVICE 1

Push once to record the new parameter and to get back to the menu.

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About

This part of the menu provides you useful information about your CLASSIC PREAMP device:

About

In the menu, rotate the knob until « About » displays, then press it once to enter the selection and rotate it again to display the different parameters.

Soft V.

Software version: you can check the CLASSIC PREAMP internal software version. Should we release a new version, we will advise your dealer and post it on our website.

Op. Time

Operation time: this counter will let you know how many hours the CLASSIC PREAMP has been powered on. It cannot be reset.

TubeTime

Tube time: this counter will let you know how many hours the tubes have been running. It can be reset when you change the tubes.
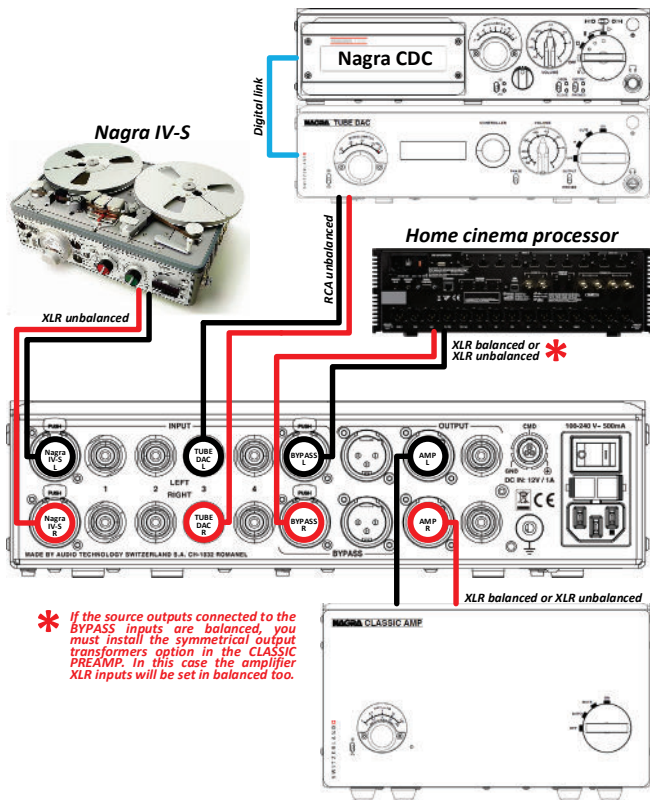
S.Number

Serial number: this serial number cannot be changed or erased. In the very unfortunate event that your CLASSIC PREAMP is stolen, please send us your serial number, we will track this unit whenever it reaches a Nagra dealer or service centre.

BYPASS input

The BYPASS input is a nice feature that allows a second system, a home cinema for instance, to be linked to the main amplifier connected to your CLASSIC PREAMP. The BYPASS is active when the CLASSIC PREAMP front rotary selector is turned to the **OFF** position. The BYPASS inputs will be directly connected to the XLR outputs.

Each BYPASS XLR input contact is connected to the output XLR, so if the source is balanced, the connection must be balanced all the way through. Here is an example of a setup using the BYPASS input:

* If the source outputs connected to the BYPASS inputs are balanced, you must install the symmetrical output transformers option in the CLASSIC PREAMP. In this case the amplifier XLR inputs will be set in balanced too.

⚠️ **Warning**
Please note that the CLASSIC PREAMP volume control will be bypassed too. The signal is directly routed to the XLR outputs. Be careful to use a source with volume control. To avoid any damage to the loudspeakers, adjust the volume to the minimum on the source, before turning the CLASSIC PREAMP **OFF**.

Nagra Modulometer
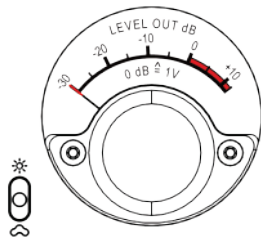
Nagra Modulometer is inherited from the second recorder developed by Nagra back in 1952, the Nagra II. The Modulometer is a typical Nagra precision instrument that displays the necessary information to perform the best possible recording. In the case of the CLASSIC PREAMP, the Modulometer displays the output level. The 0 dB corresponds to a 1 V rms signal on the output.

Left channel - black needle
Right channel - red needle

The Modulometer allows you to make sure you adjust the volume in a consistent manner with the source and the amplifier you are using.

Gain selection

To accommodate a wide range of amplifier/speaker combinations, the CLASSIC PREAMP's internal gain can be adjusted by a switch on the front panel.

The gain can be changed while the unit is **ON** and playing. +12 dB amplification is a 4x multiplication, so be aware of the sound level when you change gain.

This switch is placed on the front panel, so that you can change it from one source to another, depending on the music style you are playing, at any time. So, we do not recommend any particular position for a given set-up. Feel free to experiment.

LCD display and Modulometer intensity adjustment

This two-way toggle switch allows you to adjust the LCD display and the Modulometer backlight intensity. Pushing the toggle UP will increase the intensity, pushing it down will lower the intensity all the way to no illumination. In total there are 7 different levels.

Balance fine adjustment

The balance is often regarded as not mandatory by many manufacturers. At Nagra, we believe it is useful to adjust some minor left/right impairments, typical of LP cutting.

This is the reason the CLASSIC PREAMP Balance setting is intended for fine adjustments that will affect Left/Right balance by just 3 dB. So, this is perfectly normal that the volume does not go completely to the left or right channel.

The balance is adjusted either with the Remote Control Unit or from the device menu.
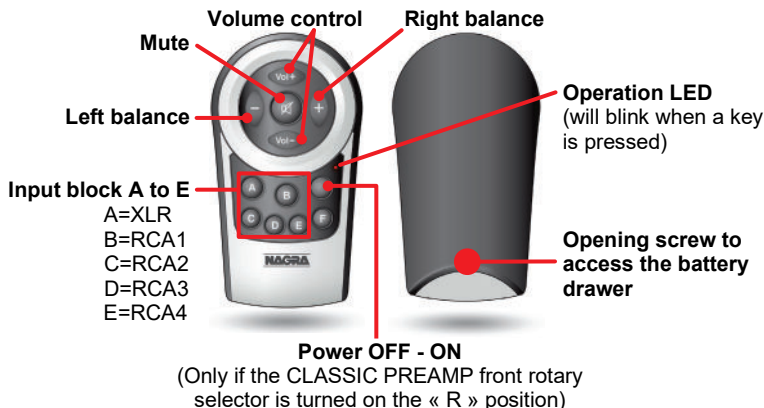

IR Remote Control Unit

⚠️	The Remote Control Unit, with batteries installed, should not be exposed to excessive heat such as sunshine, fire or the like.	⚠️

The CLASSIC PREAMP currently comes with the RCU-III IR Remote Control Unit with Philips RC-5 format encoding. You may also use a Nagra RCU or RCU-II IR Remote Control Unit. Make the necessary setting in the « REMOTE » menu.

Volume control **Right balance**

Mute

Left balance

Operation LED
(will blink when a key is pressed)

Input block A to E
A=XLR
B=RCA1
C=RCA2
D=RCA3
E=RCA4

Opening screw to access the battery drawer

Power OFF - ON
(Only if the CLASSIC PREAMP front rotary selector is turned on the « R » position)

Note: *The « F » key is not assigned for the CLASSIC PREAMP.*

Battery installation/exchange

Open the battery drawer by removing the screw located on the back side of the Remote Control Unit with a small Phillips drive screwdriver. Replace empty batteries with either 2x new AAA-Dry cell battery or 2x AAA-NiMH/NiCd rechargeable battery externally loaded.

🗑️	By ensuring battery is disposed of correctly, you will help prevent potential negative consequences for the environment and human health. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of battery, please contact your local authority, your household waste disposal service, or the shop where you purchased the battery.

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Using an "universal" RCU with the CLASSIC PREAMP

The CLASSIC PREAMP responds to IR (Infra Red) signals coded in Philips RC-5 format. A default code 16 has been allocated to the CLASSIC PREAMP as a preamplifier. Should you wish to program your universal Remote Control Unit, please use the following table:

Code	Function
1 to 5	Input **A** to **E** (code 6/input **F** is not active for the CLASSIC PREAMP)
12	Power ON - OFF
13	Mute
16	Volume up
17	Volume down
26	Balance Right
27	Balance Left
32	Input change step-up
33	Input change step-down

Setting the headphones amplifier level

The headphones amplifier output level can be adjusted, by the means of jumpers, to match the sensitivity of your headset.

The settings to change your headphone amplifier are inside the CLASSIC PREAMP so your dealer should adjust it upon delivering of the unit.

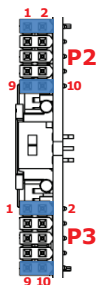| ⚠ WARNING ⚠ |
|---|
| Hazardous live parts are accessible when equipment is open: risk of electric shock! |
| Tube working temperature is very hot: risk of burns! |

Turn the CLASSIC PREAMP front rotary selector to **OFF**, either switch off the external power supply and unplug the DC power cables from the CLASSIC PREAMP back panel or turn the CLASSIC PREAMP Mains switch on the back panel to the **0** position and disconnect the Mains power cable from the C14 IEC Appliance inlet. Wait for 15 minutes before any intervention into your device. If you are unsure, please contact your Nagra dealer.
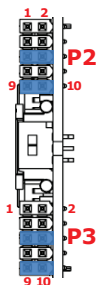
Rear panel
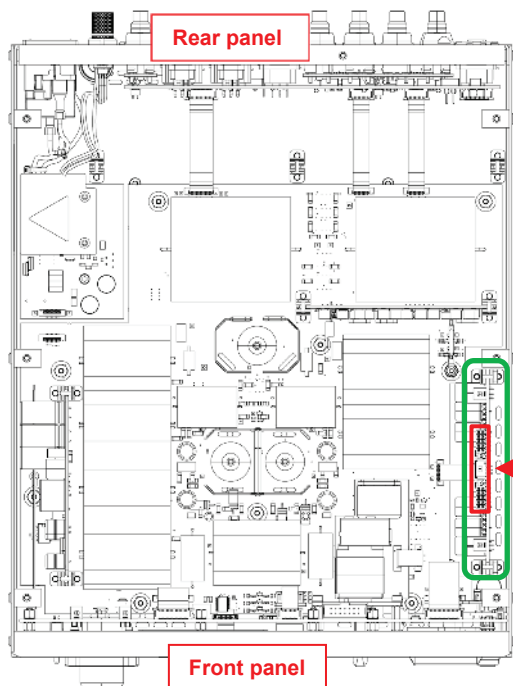
The headphones amplifier board is located on the right side of CLASSIC PREAMP, with two series of jumpers for settings as explained below:
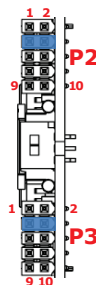
P2 LEFT channel
Jumpers
P3 RIGHT channel

Front panel

No attenuation (factory setting)	6 dB attenuation (-6 dB)	Limited power output

Note: when listening through headphones, the perceived level is always lower than the actual level. If you have any doubt, please use the "Limited power output" setting. Also be careful of possible high-level differences when switching from the external output to the headphones output and vice versa.

⚠️ **HEADPHONES OUTPUT**
This equipment is capable of producing high sound levels which can be harmful to your hearing ⚠️

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Maintenance

Tube ageing

The CLASSIC PREAMP tubes are selected by Nagra according to exacting criteria. Their theoretical minimum useful life is 5'000 hours. Actually, some tubes operate consistently for more than 10'000 hours.

Thus, the useful life of the tubes is somewhat unpredictable. Rather than replacing the tubes arbitrarily after 5'000 hours, we suggest that you identify the signs of ageing:

- The distortion gently increases to an audible level
- Presence of clicks (dry and short noise, like breaking dead wood)
- Presence of pops, short noise in the low frequencies
- Presence of hiss, higher background noise

As soon as one of these signs appears, please contact your Nagra dealer to order a CLASSIC PREAMP replacement tube kit, reference 7055764000.

Case cleaning

Clean the CLASSIC PREAMP casing using a soft, lint-free, slightly damp cloth. Do not use any cleaning products which could have a corrosive effect.

Technical specifications

Input impedance (without sym. input transformers)	50 kΩ	Balance setting in the menu L=R
Output impedance (without sym. output transformers)	24 Ω 6 Ω	Gain selection switch @ +12 dB Gain selection switch @ 0 dB
Frequency response	10 Hz - 50 kHz	+0 / -0.5 dB
Dynamic range	> 125 dB	Gain selection switch @ +12 dB
Input level to reach 0 dB (Modulometer)	0.25 V rms	Gain selection switch @ +12 dB, volume potentiometer @ 0 dB
Input level to reach 0 dB (Modulometer)	1 V rms	Gain selection switch @ 0 dB, volume potentiometer @ 0 dB
Total harmonic distortion (THD + N)	< 0.01 %	@ 1 kHz, 1 V rms out, no load
Crosstalk	> 85 dB	
Headphones output	6.3 mm (¼") stereo Jack Adjustable output level via volume level potentiometer & internal jumpers (see page 18-19)	
Vacuum tubes	2x 12AX7/ECC83 1x 12AT7/ECC81	Selected by Nagra Laboratory
Power supply	1x 12 V ⎓ / 1 A 1x 12.6 V ⎓ / 1 A or 100-240 V~ ±10% 50-60 Hz	With MPS, Classic PSU With Classic PSU With Mains
Power consumption	P_{MAX} 22 W	Standby < 1 W
Mains fuse	T 500 mA L	FST 5x20 mm 250 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	380 x 280 x 76 mm 15 x 11 x 3 in	Overall
Weight (net)	4.8 kg / 10.6 lb	

Specifications may change without notice

Accessories

ATS ref	Part description	Comment
7055026060	Input symmetrical transformers kit	
7055026070	Output symmetrical transformers kit	
7055328000	Remote Control Unit	Spare unit
7055764000	Tubes kit	Spare tubes
4181310500	FST 5x20mm 250V - T 500mA L	Spare fuse

Disposal of old electrical & electronic equipment (Applicable in the European Union and other European countries with separate collection systems).

This symbol on the product or on its packaging indicates that it should be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local authority, your household waste disposal service or the shop where you purchased the product.

Applicable to the following devices:
Nagra CLASSIC PREAMP and all the package contents