



## MPS – Multiple Power Supply



## User manual

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## Safety warning

- Read this manual carefully before operating the MPS;
- Please contact your Nagra dealer, should you have any questions on how to setup or the use of your MPS,;
- Audio Technology Switzerland SA declines any responsibility in the event of an accident caused by the non-observation of these instructions or any other form of user negligence;
- There are no user adjustments inside the MPS, do not attempt to open it.

## Warranty

Audio Technology Switzerland SA, certifies that this device has been inspected and tested before leaving our factory.

Every Nagra unit goes through our test laboratory. The measurement results are recorded in the "Protocol" documentation that comes with the device.

We guarantee our products against all manufacturing defects, for a period of three years, starting from the date of delivery to the customer (validated by the serial number on the device casing and the invoice from an official Nagra dealer). This warranty is only valid for the original purchaser of new equipment.

This limited warranty covers the repair and / or replacement of defective parts and labor.

The absence of a serial number invalidates the warranty.

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

As we constantly strive to improve our products, we reserve the right to modify them or change their specifications without notice.



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 this product shall not be treated as household waste. Instead it shall 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: MPS power supply.

# Congratulations

Congratulations! You have just acquired a fine piece of equipment.

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

Ever since its creation in 1951, Nagra has built devices that offer exceptional sonic performance. The company has received many awards for its technical innovations and the excellence of its products. Among the most prestigious, Nagra has been awarded three Oscars® and an Emmy®.

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

The MPS will enhance your Nagra system and allow you to access better sonic performance and enjoy your music more.

Thank you for your confidence.

## Package contents

Besides this manual and the MPS itself, the box contains:

- Mains cable\*;
- Measurement protocol showing response curve characteristics for your device, measured by the Nagra laboratory;

Please contact your Nagra dealer if anything is missing. If you have purchased the optional battery it is already installed inside the MPS.

\* Depending on the country of purchase, the cable supplied by Nagra will feature a European, Swiss or US plug.

# Installation

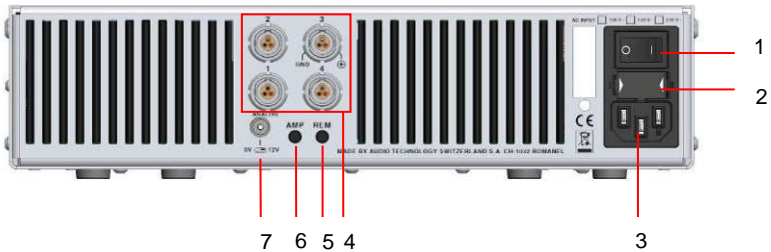
## Positioning

In order to protect against the risks of fire and electric shock, please keep this device away from rain and humidity, use exclusively indoors.

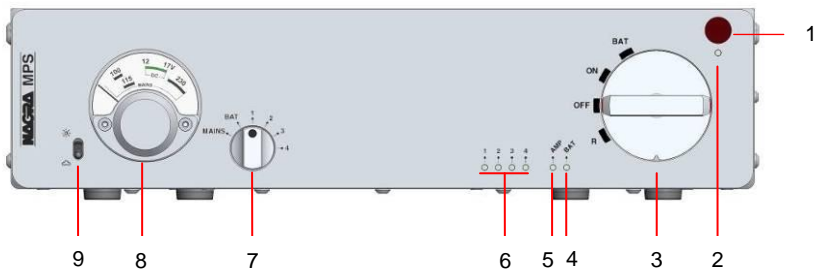
The Nagra MPS must rest on a stable support. We recommend that you use the anti-vibration support, Nagra VFS, Vibration Free Support, developed by Nagra consisting of isolated solid aluminum plates using the same silicon base damping material as the Nagra CD mechanics. Please note that the MPS needs four spikes and thus is not compatible with older VFS (before 2012). Feel free to contact your Nagra dealer for more information.

It is not advised to place other Nagra units above or below the MPS, as it features a large transformer. It is preferable to use a separate shelf for other devices.

## Connection block



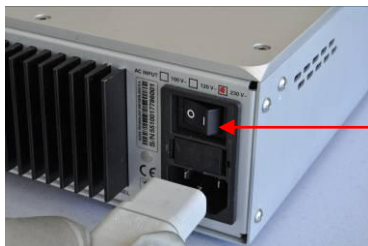
1. Main switch **I** for On / **O** for Off
2. Fuse holder
3. IEC socket for mains power cable
4. 12 V outputs for Nagra DC power cables
5. REM 1/8" jack input for home automation
6. AMP 1/8" jack output for triggering external components (marked AMP for Amplifiers)
7. DC output connector and voltage selector for BPS



## Front panel

1. Infrared remote control receptor
2. LED remote-control indicator
3. Main selector: **R** stands for Remote, **OFF**, **ON**, **BAT**
4. BAT, battery status
5. AMP, output trigger status, On when lit
6. Outputs 1 to 4 status
7. Modulometer selector: Mains voltage, battery voltage, individual output voltage
8. Modulometer
9. Modulometer and LED brightness selector

## Connecting the mains



Place the front panel selector in the **OFF** position, marked "**O**". Insert the IEC cable into the connector on the rear of the Nagra MPS.

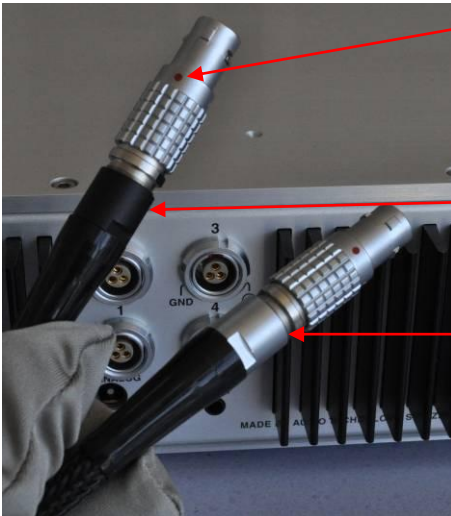
You may then push the mains switch to the "**I**" position.

## Which output to use?

Outputs 1 to 4 are all the same. They are completely isolated from one another, so you may connect your equipment as you wish, whether it is digital or analog. If your MPS has the internal battery option installed, we recommend using the battery output #1 for any analog equipment particularly for phono stages such as the VPS or the Melody with the phono option.

The 5<sup>th</sup> output is in parallel to output 1, so you can have a Jazz and a BPS on battery simultaneously.

## Connecting your Nagra gear to the MPS



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

The DC cables are directional.

One end is equipped with a black ring (left plug in the photo) which **MUST** be connected to the MPS.

The other end (aluminum ring, lower plug in the photo) must be connected to the source device.

When inserting the cable, you will hear a click. This indicates that the plug is securely locked.

To disconnect the DC cable, hold the indicated ribbed section of the plug and pull backwards.

## Connecting a Nagra BPS

The BPS must be connected to the dc connector located below the #1 output. Simply connect the BPS using the Nagra BPS cable.

Set the voltage selector to the 9 V position, on the left-hand side.

The connection between the BPS DC plug and the Lemo are not isolated from one another, so it is advised to use Output 1 only for analog products rather than digital.

The 12 V position is not used by current products, but is available for future developments.

## Fuse replacement



The fuse holder includes a replacement fuse (the one on the left). The fuse type is FST 5x20 mm 250 V 630 mA and for 115 V use 1.25 A. Should the replacement fuse blow immediately following the original, contact your dealer for support.

## Operating the MPS

These are the functions available from the main selector.

- R** (Remote) The MPS will be turned on and off by the remote control, or the input trigger, for more information see page 13
- OFF** The MPS is in standby position (the internal battery, if fitted, will recharge)
- ON** The power on sequence will start, outputs 1 through 4 will be powered and then the **AMP** output triggered, for more information about the latter see page 13
- BAT** The MPS will turn ON and output 1 will be fed by the battery

The power down sequence order is simply the opposite; first the **AMP** will shut down, then each output from 4 to 1. This allows a very smooth power on and off of the system and should avoid any annoying clicks in the speakers.



## Nagra Modulometer

The Nagra Modulometer was inherited from the second recorder developed by Nagra back in 1952, the Nagra II. The Modulometer is a precision modulation meter that displays the necessary information to perform the best possible recording.



Turn the modulometer selector to display the desired information.

In the case of the MPS, the Modulometer displays the following information.

**MAINS** Will display the AC power voltage. Depending on your country, the nominal voltage will be 100, 115 or 230 V. The actual scales are 90-110 V, 100-130 V and 210-250 V. Should the voltage be below minimum or above maximum, this should raise concerns about a mains power problem in your area. The MPS only displays the voltage, it does not affect it.

**BAT** displays the battery level from 12 to 17 V. The output level of a fully charged battery is 16.8 V. If the battery drops to around 13 V, the MPS will automatically recharge it. If no battery is present, the needle will remain on the far left of the meter.

**1, 2, 3, 4** positions will display the actual output level of the corresponding DC output. The nominal level is 12.3 V, so the needle is a little bit above 12 V (as shown in the picture). Should the voltage be significantly different, please contact your dealer for support.

## LED and Modulometer intensity adjustment



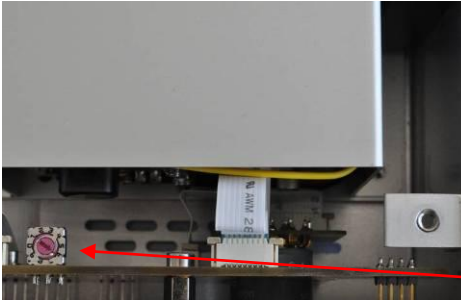
This two-way toggle switch allows you to adjust the LED and Modulometer backlight intensity. Pushing the toggle UP will increase the intensity, pushing it down will lower the intensity all the way to complete extinction. There are 7 different levels.

# Remote control

## Factory settings for the remote control

The Nagra MPS is factory set to be device number 6 with Nagra remote control code.

## Changing device number (for dealers)



If you wish to use another device number, turn the MPS Off and unplug the mains cable. Then open the top plate. The selector is on the front panel board, on the right-hand side. (the picture shows an MPS equipped with the optional battery)

**0** position is for Philips RC 5 format – **1** to **6** is to use

Nagra RCU and RCU II device number, simply turn the selector to the number you wish the MPS to respond to.

## Using a “universal remote” with the MPS

Place the selector shown above on the **0** position. The MPS will respond to IR signals coded in Philips RC-5 format. The MPS is allocated a system number 7 for “Reserved”. Function 12 “Standby” is available to turn the unit On and Off.

## MPS with battery option

The optional battery allows you to supply clean and quiet DC entirely from the battery, isolated from the mains.

The MPS handles the battery entirely automatically.

The following table indicates the different status:

Main selector position	BAT LED status	Battery status	Output 1 voltage source
ON	Blinking	Recharging	From the mains
ON	Off	Full charge reached	From the mains
BAT	On	Connected to Output 1	From the battery
BAT	Blinking	Recharging	From the mains
OFF	Blinking	Recharging	Off
OFF	Off	Full charge reached	Off

**NB** If the BAT position is selected yet the battery charge is too low, the MPS will automatically begin to recharge. In this case, output 1 will be fed from the mains and no longer from the battery.

### Charging time and operation time

The charging time is estimated to be 8 hours, when the outputs are off.

If the battery is recharging while the MPS is turned on, charging time will be longer.

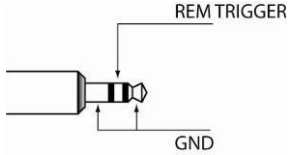
When you turn the main selector to the **OFF** position, the **MPS** will still charge the battery, however the mains switch (on the back panel) should be left in the **ON** position (**I**).

Device	Operation time (hours)
CDC	11
Jazz	8
Melody	49
PL-L	7.5
VPS	6.5
BPS	98

Note that the PL-P is not compatible with the MPS.

If you connect a BPS in parallel to one device, the operating time on the battery will be slightly reduced.

## Starting the MPS using the trigger input **REM**



On the **R** position, you can start the MPS using the REM (for REMote) input. Please note that both the tip and the sleeve of the 1/8" Jack should be connected to the ground.

Signal on the ring	MPS
Connected to the ground	Off
Open or connected to max 12 V rms	On

Note, in this case, in the ON position, the MPS does not run on battery. If you wish to use the battery, you need to turn the main selector to **BAT**.

Whenever you connect a jack on the REM connector, it will override the IR remote control.

## Using the trigger output **AMP**



See the following picture for cabling of the 1/8" jack.

MPS	Tip and ring
AMP On	Connected
AMP Off	Open

The **AMP** will be activated at the end of the powering sequence, to avoid any clicks that sometimes occur at start-up. When powering down, the amplifier will be turn off first.

You can of course connect any other compatible equipment, not only amplifiers.

## Case cleaning

Clean the MPS casing using a soft, non-fluffy, slightly damp cloth. Do not use any cleaning products which could have a corrosive effect.

## Technical specifications

<b>Compatibility</b>	Nagra PL-L, VPS, BPS, Jazz, Melody preamplifiers Nagra CD players	
<b>Output type</b>	1 to 4, 12 V DC, 1 A	Lemo connector
<b>BPS output</b>	9 V, 100 mA	Or 12 V by selector
<b>Linear noise</b>	100 $\mu$ V maximum	10 Hz - 300 kHz
<b>Linear noise (BPS output)</b>	150 $\mu$ V maximum	10 Hz - 300 kHz
<b>Home automation input, output</b>	3.5 mm jack connectors	output switching by relay
<b>Battery module capacity</b>	6.75 AH	Optional
<b>Mains power</b>	100, 115 or 230 VAC	$\pm$ 10%
<b>Power consumption</b>	Maximum 60 W	In standby < 10 mW
<b>Dimensions</b> L x W x H	277 x 268 x 73 mm 10.9 x 10.6 x 2.9 inches	Excluding connectors Excluding connectors
<b>Weight</b>	4.9 Kg (10.8 lbs.) 5.6 Kg (12.3 lbs.)	Without battery With battery

Specifications may change without notice

## Déclaration de conformité CE

### CE Declaration of conformity

**FABRICANT:** AUDIO TECHNOLOGY SWITZERLAND SA, 1032 Romanel, SUISSE

**MANUFACTURER:** AUDIO TECHNOLOGY SWITZERLAND SA, 1032 Romanel, SWITZERLAND

**APPAREIL:** Nagra MPS

**MODEL:** Nagra MPS

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 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)

Romanel sur Lausanne 3ème trimestre 2013

Romanel sur Lausanne 3rd quarter 2013

Nagra R&D team