



VPA

Ultimate 845 amplifiers



Instruction manual

P/N: 2055008151

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Security warnings

- Carefully read this manual before installing your new VPA;
- Should you have any questions on how to set-up or use your amplifiers, contact your Nagra dealer;
- 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;
- Do not attempt to open the unit under any circumstances. Refer any service/repair work to qualified personnel. There are no user serviceable parts inside the amplifier;
- The Nagra VPA is designed to be used indoor only;
- The Nagra VPA runs very hot, install it in a safe place to avoid any risk of injury, especially with children and domestic pets;
- Should you need to ship or transport your amplifier, always use the original packing supplied by Nagra.

Warranty

AUDIO TECHNOLOGY SWITZERLAND SA, 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 damages resulting, directly or indirectly, from the use of our products.

We reserve the right to modify the product, and / or the 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.

Congratulations

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

The VPA were 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. 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 VPA amplifiers!

Package content

In addition to the user manual:

- 2x VPA monoblocks;
- 2 mains cables *;
- Set of spare fuses;
- Hex screwdriver (to install the tube protections);
- 2x Sets of tube protections;
- 2x Sets of feet;
- 2x Sets of 845 tubes;
- Microfiber gloves (from Swiss Haute Horlogerie);
- Measurement protocol, this is the actual electrical measurement of your amplifiers.

If anything is missing, please contact your dealer.

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

Setting-up the amplifier

Installation of the feet

The VPA needs to stand on its feet to be stable, please install them. Turn each of the two VPA mono blocks on their side on the edge of a table.



Step 1 Start by removing the transportation screws

Step 2 Install the feet, using the longer screws provided



Installation of the tubes

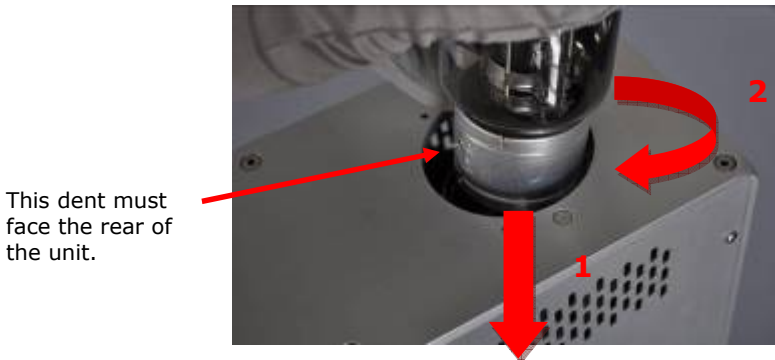
Step 1 Using the hex screwdriver provided, remove the top rings. Be careful not to drop a screw inside the amplifier!



Step 2 Insert the 845 tubes

Please use the gloves provided; they are custom made for Nagra using state of the art "Haute Horlogerie" micro-fiber fabric.

Each VPA has its own set of tubes with a serial number written on the socket. Each tube is also marked "FRONT" or "REAR" which indicates the correct location for the tube on the particular amplifier.



Step 1 Insert the tube, make sure the dent is in the correct position

Step 2 Rotate the tube clockwise, until it clicks.

Installation of the tube protections

845 tubes run extremely hot, more than 300° C, it is mandatory to install the tube protections for safety reasons. Even with the tube protection, you should be careful not to get too close to the tubes and especially to keep children away from the amplifier.

You should also make sure to keep any object or fabric (like curtains for instance) away from the amplifiers to avoid any fire risk.



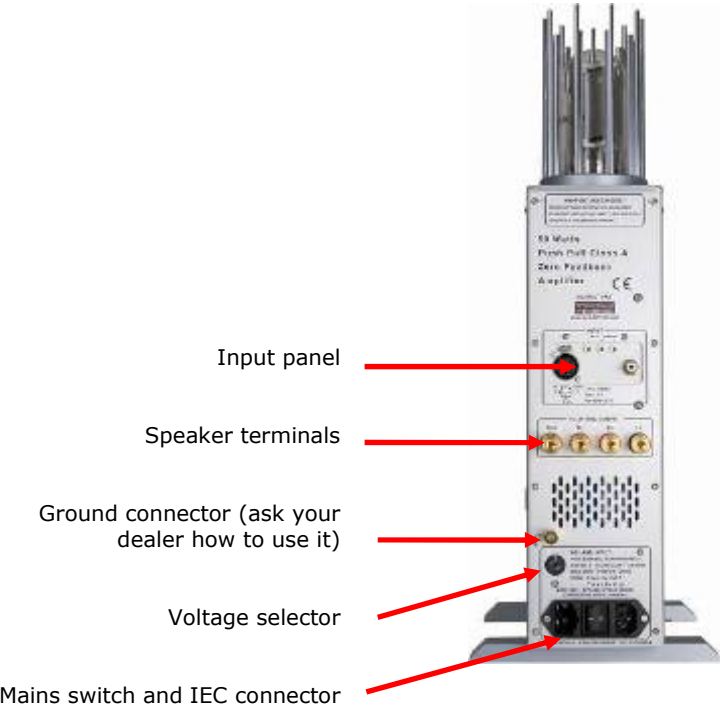
Gently slide the tube protection down.

Make sure the screw holes are placed above those of the VPA.

Using the hex screwdriver provided put the screws back in place



VPA connections



Connecting the VPA to the source

Connect the source preamplifier to the XLR balanced input or the RCA connector.



The white jumper allows you to select either XLR balance input (as shown on the picture) or RCA unbalanced

Connecting the loudspeakers

On the rear of each VPA mono block there are four gold plated WBT loudspeaker terminals. The loudspeaker cables should be connected between the right-most terminal marked "LO" for - and the correct terminal according to the impedance stated by the manufacturer of the loudspeaker for the +.

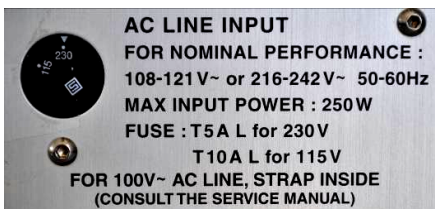


Should you have any doubt about your speaker's impedance, start with 8 Ohms. You will learn in the "Load Match Meter" section, how to take full advantage of the VPA unique features to get the best performance out of your speakers.

Connecting the AC mains power

Before connecting the AC power cables, verify that the AC mains voltage selector (located on the rear panel) is in the correct position corresponding to the supply voltage available in your country.

Here the selector is on 220 V.



If the selector is not in the right position, make sure to change it, and check the fuse value:

110 – 120V operation two 10A fuses should be installed;
220 – 240V operation two 5A fuses should be installed.

Fuse compartment

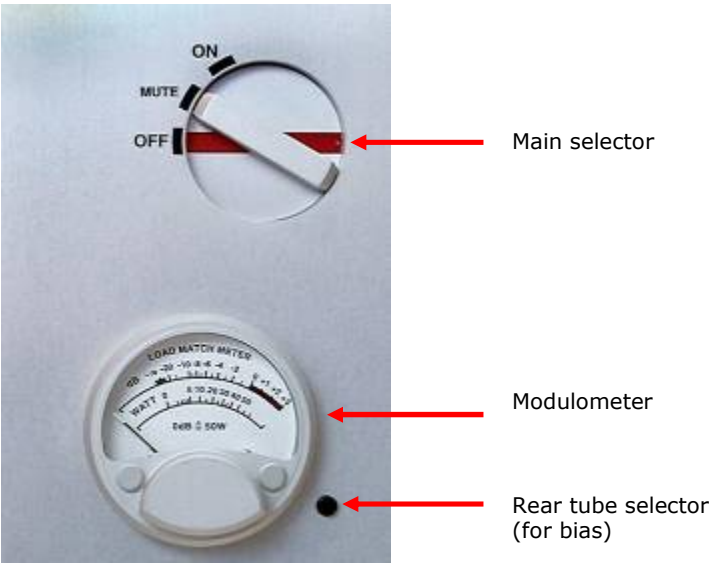
Mains electrical switch



Warning:

Units for Japan are factory adjusted for 100 V and carry a special sticker. If you live in Japan and don't find this sticker, please contact your Nagra dealer and do not attempt to power the unit.

Operation



The main selector

Turn the Mains switch (on the rear) to the **I** position. Then, place the main selector on the “**MUTE**” position, the tubes are now powered and will light up. In this position the amplifier is powered and the audio signal is muted. Turn the main selector to the “**ON**” position, the amplifier is now fully operational. The best performance will be obtained after 15 minutes operation (warming-up time).

| Mains switch (rear) | Main selector position | What is happening |
|---------------------|------------------------|--------------------------------|
| O | Any | The unit is completely off |
| I | OFF | The unit is in standby |
| I | MUTE | The unit is On, sound is muted |
| I | ON | On |

To prevent tube ageing, it is better leave the amplifier on for longer periods rather than turning it on and off several times a day. For more information on tube ageing and replacement, refer to Tube ageing and replacement on page 12.

Selecting the right speaker impedance

The Load Match Meter was specially designed to help you match your amplifier with your speakers. The Nagra VPA's output stage features a custom hand-made Nagra transformer that offers 3 different output windings for 4, 8 and 16 Ohm speakers.

Start by verifying the nominal impedance of your loudspeakers, either from their technical specifications or on the rear of the speaker. Then connect the "+ve" speaker cable to the correct terminal on the VPA.

The modulometer features two pointers, the red pointer indicates the peak cathode current and the black pointer indicates the peak anode voltage of the output tube. They will allow you to know if the impedance match is right.



When playing music (main selector in the **ON** position)

| Needle position | What is happening | Solution |
|----------------------------|------------------------------|--|
| Red needle > Green needle* | Output impedance is too high | Choose a lower output (8 or 4 Ohms) |
| Green needle > Red needle | Output impedance is too low | Choose a higher impedance (8 or 16 Ohms) |
| Needles follow each other | The match is perfect | Enjoy your music |

* as shown on the picture
NB the two needles will almost never superimposed one above the other, but should not be too far apart, this is subjective; spend a little bit of time to know how to "read" the needles.

Tube ageing and replacement

845 tubes are supposed to operate for around 5'000 hours.
Internal tubes can last about the same.

As a rule, you should replace all tubes at once on both units.

Internal tubes must be replaced by a Nagra dealer.

It is normal to adjust the bias once in a while. From time to time, before listening, check the bias and eventually adjust it to make sure you get 100% performance out of your amplifiers.

Tube compatibility

Nagra selected 845 tubes go through a rigorous selection: 24 hour burn-in, individual measurement and selection and are paired using a Nagra unique process. Using 845 from other suppliers will void warranty.

Tube bias adjustment

Please refer to the instructions found in the tube package to learn how to set-up the bias.

Technical specifications

The following table shows the general specifications for all Nagra VPA amplifiers. Your personal amplifier's measurements are provided on the accompanying "measurement protocol" document.

| | | |
|------------------------------|--|--|
| Type | Pure class A | |
| Tube type | 845 | |
| Output power | 50 W rms | |
| Input impedance | > 100 k Ohms | |
| Inputs | 1 RCA, 1 XLR balanced | Selection by jumper |
| Frequency response | 20 - 40 kHz | +0 / -3dB |
| Signal-to-noise ratio | > 100 dB | ASA A |
| Output impedance | 4, 8, 16 Ohms | Bare wires up to 4.2 mm 4mm banana plugs 6.35mm spade lugs |
| Driver tubes | 2x ECC83, 1 E182CC | |
| Voltage range | 108 - 121 V or 216 -242 V (Japan 100 V) | 50 – 60 Hz |
| Power consumption | 250 W continuous | |
| Dimensions | 335 x 115 x 375 mm | 13 x 4 ½ x 14 ¾ inches |
| Net weight (each VPA) | 13.5 Kg | 30 lbs |



Déclaration de conformité

Declaration of conformity

FABRICANT: AUDIO TECHNOLOGY SWITZERLAND SA,
1032 Romanel, SUISSE

MANUFACTURER: AUDIO TECHNOLOGY SWITZERLAND SA,
1032 Romanel, SWITZERLAND

APPAREIL : VPA
MODEL: VPA

Par la présente nous déclarons l'équipement conforme à toutes les exigences fixées dans les normes:

We hereby declare that the equipment conforms to all the requirements outlined by the following norms:

NORMES GENERIQUES APPLICABLES : **APPLICABLE GENERIC NORMS:**

CENELEC EN 61000-3-2
61000-3-3
50081-1
50082-1

Avertissement.

Bien qu'étant conforme aux normes, cet appareil peut, dans des cas exceptionnels, provoquer des interférences. Dans ce cas, il peut être demandé à l'utilisateur de prendre des mesures appropriées.

Warning.

Although this equipment conforms to the stated norms, under certain exceptional circumstances it may provoke interference. In this event the user may be asked to take appropriate measures.

Other electrical regulatory certification pending.

Cheseaux 1^{er} trimestre 2000
Cheseaux 1st quarter 2000