

NEUTRAL AUDIO

Operating manual *X* Serie

Now possible

Parallel Multi Preamp

NEUTRAL AUDIO would like to thank you for the trust you have placed in us by purchasing this product and we hope it will satisfy you for a very long time.

We have put every effort into making sure our equipment, which is exclusive and unique because of our advanced analog technology, PARALLEL MULTI PREAMPLIFIER is High-End audio industry reference.

Signed J. M. Jimenez



IMPORTANT SECURITY INSTRUCTIONS

- Please read all the instructions.
- Don't use this equipment in humid environments.
- Do not use cleaning fluids. Use a dry or slightly damp cloth.
- Do not install near heat sources or equipment that generates heat.
- Except for the colour elements used to change the sound scene, there is no internal component that needs adjustment. Do not manipulate. Contact qualified service personnel in case of any failure to prevent electric shocks.
- Place the equipment on a flat surface with enough space for ventilation
- Do not cover the rear ventilation vents.
- Before connecting the power, be sure that you have the proper voltage and the earth/ground is of good quality.
- Contact Neutral Audio with any question not mentioned in this guide.
- Always disconnect the amplifier before handling connecting cables.

This product has been hand made in Spain, a member of the European Community. Neutral Audio and D.R.E.i. technology are trademarks and may not be used without the owner's permission.

This NEUTRAL AUDIO electric device is
Certified as having D.R.E.i. system technology
integrated into it.



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A brief description of the Preamp

Firstly, we are proud that NEUTRAL AUDIO is now a part of your highly valued musical equipment. With this **Analogical** and **Stereophonic** Multi-Preamp, we have made a big step forward in high-end audio.

This new product, essential in any high-level stereo system, is designed to increase the listening quality of stereo audio and film sound tracks to well above normal levels. The sound will allow you to enjoy many hours of warm, ear friendly music. If the rest of your audio equipment is of the appropriate quality, we are convinced that you will get great sound neutral, transparent, detailed, warm and musical.

A preamplifier is the element in the equipment of musical reproduction that lets you select the source you want to hear and change its output level or volume for the associated amplification. Neutral Audio is aware that this step is where more music signal deteriorates due to the extremely low levels with which they are working and the electrical problems inherited with this and because of this the components should be chosen with great care because the overall outcome of the entire system depends on them.

Neutral Audio has developed this **Parallel Multi Pre-amplification** technology, which uses several modules in parallel preamps for each channel controlled by the DREi module (deIntermodulator & Speaker Optimizer), to eliminate these problems and obtain a pure sound which will be heard as never before.

This is the only analog preamplifier capable of modifying the sound stage by using some interchangeable coloured elements supplied as standard.



► Designed with D.R.E.I. technology

PURE SINEWAVE. The insertion of D.R.E.i. module technology (deIntermodulator & Speaker Optimizer), in all the analog preamps models manufactured by Neutral Audio makes our products an exceptional pioneering technology.



To use the full power of "humanization" of the sound and the reduction of electronic interactions that this module can offer, Neutral Audio has had to develop new pre-amplification circuits and ingenious solutions to adapt them to each other.

For more information please visit our website www.neutralaudio.com

► Parallel Multi-Preamp

When inserting D.R.E.i. technology with parallel multi-preamps, a unique system of the brand and using up to 6 independent preamps for a stereo signal, each one specializing in one part of the signal that is sent and managed by DREi.



Do not confuse this product with a multi-channel home cinema systems. This is STEREO even though it uses a configuration based on multiple channels for both the left and right channels.



► Everything is analog

One of the fundamental aspects of the X Series and its exceptional sound is that we do not use any digital devices in the audio signal and show utmost respect to its content. Everything has been done using analog technology; there is no digitalization of audio in any process.

Even the volume control is fully analog, just like us human beings.

► Solidly construction

Being top-level equipment, the construction and design has been done without making concessions of any kind. We have used modern means to make each of the component parts, quality components, gold plated printed circuit boards and gold or silver plated connectors depending on the model, made to measure high performance toroidal transformers, Premium electronic brands, etc.

The audio signal has a reduced route as it does not run via any internal cables, most of the route being on a single circuit board.

We have used an anodized aluminum chassis for its sturdiness and durability.

► Special versions



There are two different versions in this series:

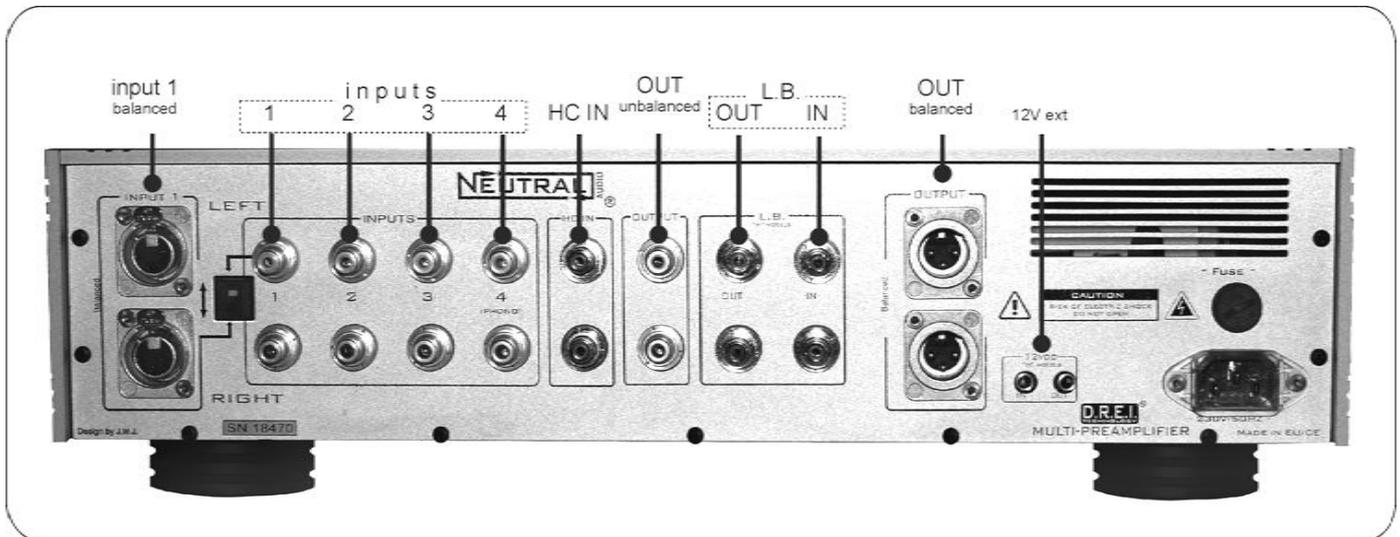
- “S” Version

For high-level stereo equipment which you do not wish to pre-integrate into a home cinema system, (although it can be invisibly connected, (See specific section).

- “H” Version

For systems in which you wish to fully integrate the preamp with a multi-channel home theatre system. Add L.B. function (Loop Bass) and HC (DREI Improved tech for main cinema channels). It is completed with a 12VDC input to auto connect to cinema mode when your AV receiver is on, (See specific section).

SWITCH ON THE PREAMP



Rear panel.



CAUTION. Before making any connections, turn off the associated amplification and disconnect the mains plug.

Make sure the voltage of the device matches that of your power supply. For safety, the earthing/grounding of your electrical system must work properly; otherwise you may introduce unwanted noise and interference into the audio systems.

We strongly recommend that good quality, clean, dry, rust free connecting cables be used. Periodically check the state of these connections.

Female

Male

Pin	Function
1	Chassis ground (cable shield)
2	positive polarity terminal ("hot")
3	return terminal ^[2] ("cold")

The input/output connections, depending on the model are of very high quality in gold or silver plated. We recommend the periodic application of a specific product for contact cleaning (ask the dealer) to the connectors to prevent rust and loss of contact.

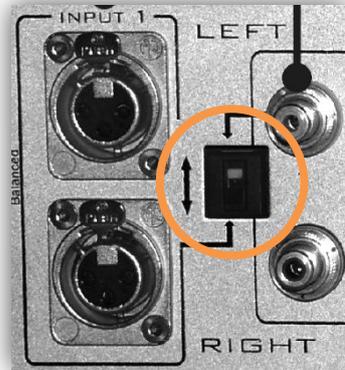
Balanced input and output connectors are XLR standard:

- Pin 1 = Ground/Earth
- Pin 2 = Hot (positive)
- Pin 3 = Cold (negative)

► Input lines

The preamp has non-balanced inputs 1 - 2 - 3 - 4 in line or low level, where you can connect any audio source like CD players, radios, etc.

You must connect the left channel to the "LEFT" (white) and the right channel to the "RIGHT" (red).



Input 1 is dual, it can be connected balanced (XLR) or unbalanced (RCA), but only one of the two works depending on the position of the switch located in the centre next to these sockets. Follow the direction of the arrows, up for RCA, down for XLR.

It is normal for the balanced input signal to be different than the RCA and this is not a malfunction.

All the inputs are equal but we recommend that the source you use most frequently be connected to number 2, as by default it is the active input when you turn on the preamp.

► Output to Amplifier

You should connect the output marked "OUT" directly to the associated amplifier and can use either unbalanced (RCA) or balanced (XLR) connections as both are always active.

For the advanced dynamics features of the DREi tech system you should not insert any device between the preamplifier and amplifier. Direct coupling of the output with 12 transistors is used and there is no decoupling capacitors.

Note that when you connect your device there will not be an output signal for a few seconds until all the internal modules are operational after which the blue power light will come on. This is not a failure; it protects your speakers from inappropriate signals. The same happens when you turn off the HC "active" mode.

Please read the following paragraph.

► Switching the HC to "invisible" mode.



All models and versions have "HC", Home Cinema, and invisible sockets as explained below.

Here you can connect the low level left and right front output channels of your receiver for AV (audio / video) or home theater.

With the preamp on, this socket has no use, so that does not affect your stereo signal in any way but when you want to watch a movie or listen to your AV receiver, simply turn off the preamp, after which it goes into "invisible" mode, the HC input is automatically connected to the output "OUT" unbalanced (RCA) of the preamplifier, so you can enjoy your soundtracks through the main amplifier and its main front boxes. Bear in mind that the balanced output (XLR) will have no signal, (only in HC active mode).



CAUTION. Do not connect this socket to anything that does not have its own volume control, as this may damage your speakers and your ears. Note that maximum volume would go to the amplifier.



CAUTION. Never turn off the preamp if you have connected this input to an AV receiver without first being sure that the output volume of the AV receiver is low or turned off. It may damage your speakers and your ears.

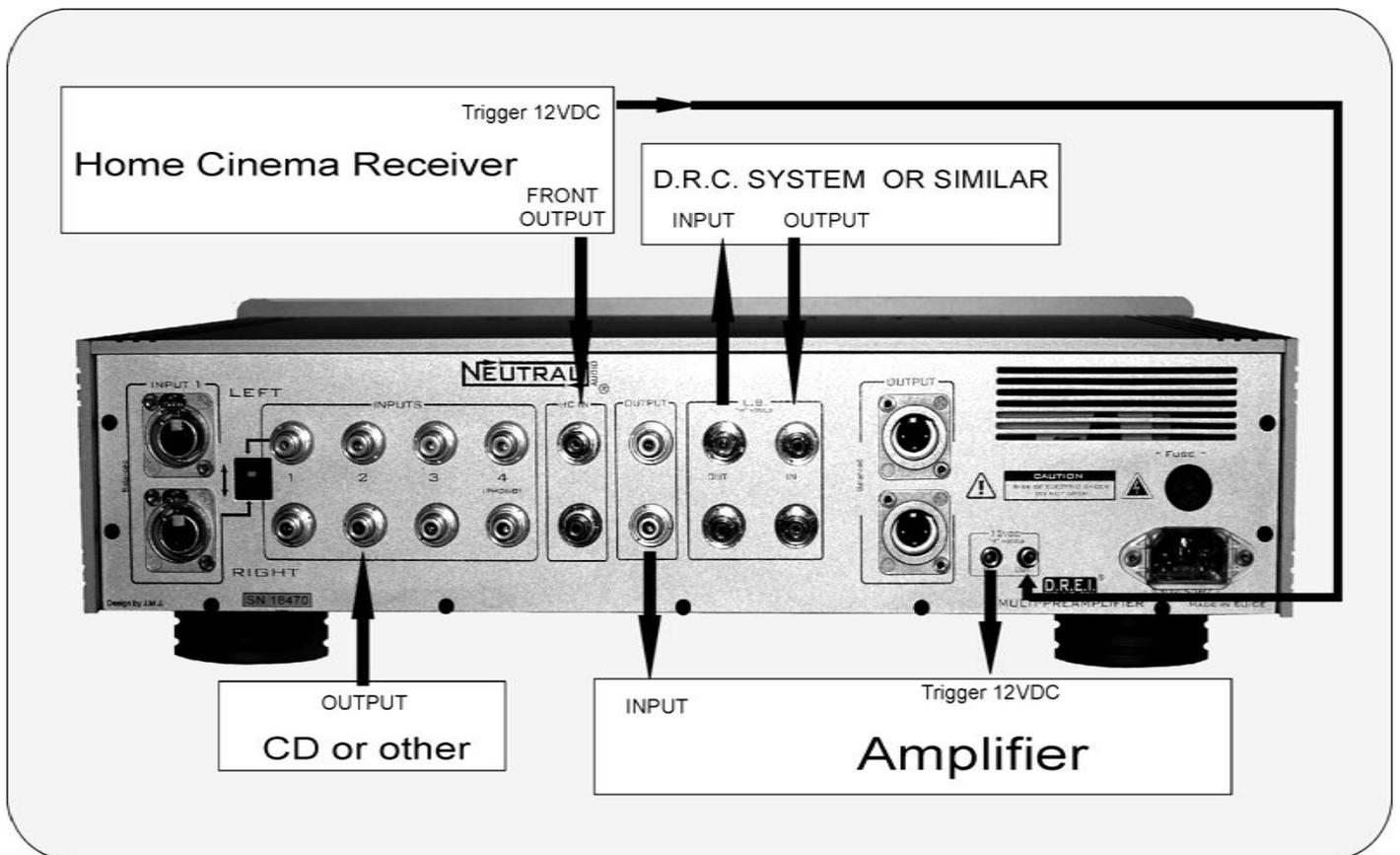


Diagram of Connections

► "H" or HC active versions



Everything said above about connecting the HC is also valid for this version and you must observe the same precautions as in the previous section.

These models have HC "active".

This includes a button on the front marked HC. On pressing the HC input is diverted (after a few seconds of system protection), to the DREI module and after being processed is sent to the various preamplifiers before being returned to the output. Thus, all the improvements to the audio signals that happen with this new system are also applied to the two main channels of the home cinema, so that the soundtracks and music will be much more real, more three-dimensionality and spatiality

Note that the preamp volume control will be disabled and the volume of output will be equal to the input, so that the AV receiver is what controls the volume of the entire system. It may happen that with certain receptors the output signal is somewhat different in the front channels than in the rest. We recommend readjusting the output levels of your AV system after it is connected to this preamp.

In this version ("H") you can use the balanced outputs (XLR) for the amplifier stage.

► Input and Output L.B.

A very interesting feature added to the "H" version.

In many homes where these devices are usually installed, it happens that the acoustics are not of the most appropriate and for economic, personal or aesthetic preferences; acoustic treatment cannot be carried out. So it is best in these cases to carry out an electronic correction of the room's acoustic response.

This is mostly done with most digital processors or with equalizers of different types. In the high-end audio industry there are high quality DRC devices to achieve these goals.

As an example, suppose that a room because of its dimensions and finish has an increased 100 Hz frequency response, the DRC reduces the sound level as necessary to level out the total response and reduce unwanted increases. We do not intend to delve into this type of solution but you must understand this concept in order to properly assess the role of LB. Ask your dealer about this type of equipment.

L.B. means "Loop Bass" (lower loop). It is known that most of a room's acoustic problems happen at low frequencies. So it is better not to process the remaining frequencies to avoid damaging the complex musical content. Taking advantage of D.R.E.i., when you press the LB button on the front of the preamp, the low-frequency musical signal is diverted into LB OUT. From there you should go to a DRC entry or EQ, and once set, they should be introduced into the preamplifier LB IN connection to be reunited to the rest of the signal that has not been altered in the least.

When this feature is disabled, the sound is not affected and the LB output has no signal.

► Connecting Bass dedicated amplifier

If you want to bi-amplify your speakers, know how to do it and have the means to do so, using the function LB. LB provides in its output the part of the signal corresponding to the bass frequencies, so you can connect an amplifier here just for the bass and the rest of the output signal to the "OUT" output normal to another stage for the rest of frequencies.

► Connecting an integrated volume control.

Perhaps you have a source, such as a CD player which has its own volume control and do not want it to go through this preamp. You can connect it to the HC input, and as explained above, you can hear it in the "invisible" or "HC" active modes. Remember that in this input the volume control of the preamplifier has been disabled.

► Active Control of HC to AV receptor



On the rear of the preamp there are two 3.5"mm. jack type connections so if you have a home cinema receiver or other device capable of controlling the on/off of external equipment, (usually used for ignition of the associated amplifier stages), either of these two output jacks can be connected to the 12VDC the power amp. This jack accepts tensions between 5VDC and 24VDC.

That way, when you turn on your AV receiver, the preamplifier automatically switches to "HC" active mode. It will return to normal when you turn off your AV receiver.

FRONT



As you can see the design of the preamplifier is very simple, as befits a device of its category that should be outstanding for ease of use and best possible sound.

► Power on the equipment

If you've already got this far, you must have the equipment fully installed, tested and connected.

It is common sense to avoid damage to your speakers by turning the amplification on last and also by turning it off first.

When you press "POWER", the display comes on instantly, but there will still be no sound. After five seconds, when all the internal modules are stabilized, the circular LED power button will light, indicating that the preamp is fully operational.

It is set to use Input 2, at a volume level of -88db.

► Select the source and the volume

The three central buttons are audio source selection, volume + and volume -

Gently press them to change the input source line 1 to 4 and vary the volume or with the remote control supplied.

► Buttons HC and LB

If your preamplifier is version "H" it will have buttons marked "HC" and "LB" on the left. The function of these buttons has been explained above.

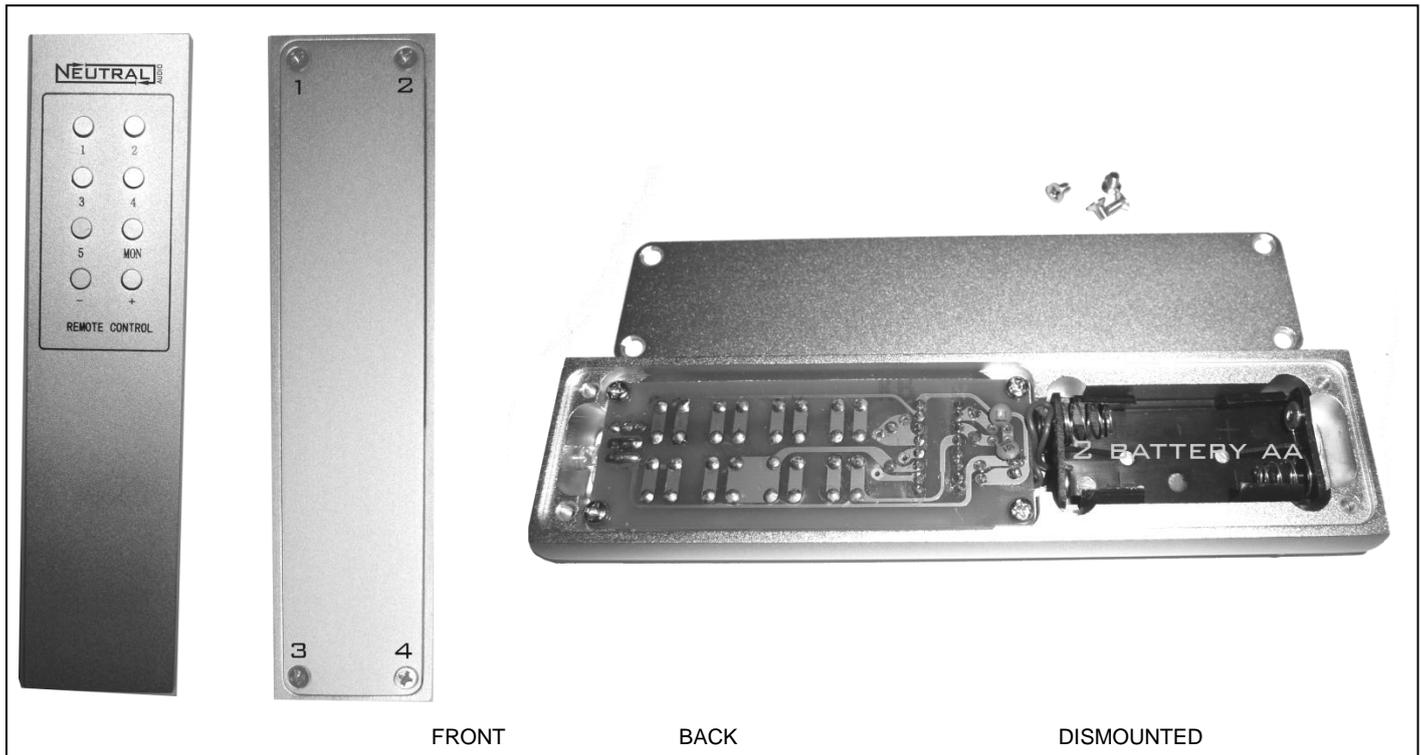
If you press "HC", the circular light will light up dimly, the display is switched off and the power button illumination will dim. It is programmed so that their brightness does not bother you in the dark when you are viewing movies.

When you press HC again, the preamplifier returns to its normal functioning after a few seconds without audio signal output while it stabilizes its internal systems.

If you press LB, you should do so firmly unlike the other buttons, to avoid accidentally pressing it you must press it until the circular light comes on and the buttons stays locked in. Press it again to release.

The LB function is explained in the preceding paragraph about connections.

THE REMOTE CONTROL

**► Insert batteries**

On the back of the solid aluminum control there are 4 screws. Using a small star tipped screwdriver carefully remove them, exposing the battery case inside.

Insert two good quality AAA batteries and be sure to use the proper polarity. Close the lid and carefully screw it back down without over tightening the screws to avoid damaging the internal threads.

When the remote is not in use for long periods, we recommend that you remove the batteries.

► Use the remote control

Point the remote at the preamplifier display where the infrared receiver is. The keys 1, 2, 3 and 4 change the selected source.

To increase the volume press + and to decrease the same press -

MON key is used to change the volume level between the two channels (balance), when pressed once it will show "L" (Left) on the display, now you can press + or - to increase or decrease the volume level on the left channel. Repeat if you want to do the same with the channel "R" (Right). These changes will be void the next time you start your equipment.

SYNERGY CONTROL



One of the advantages of the technology developed by Neutral Audio is that it allows you to vary the impulse response on each of the various preamps or buffers that make up each channel. Thanks to this unique and novel technique the soundstage can be adapted to your taste with a simple change of coloured elements that are included as standard with this preamp.

The reason that led Neutral Audio to design this feature is very important. As the room where music is played alters its overall response and depending on its physical characteristics and the type of speakers you have in your system, the resulting sound can be far from ideal. Explaining every situation would take forever and that is not the objective of this manual but generalizing, equipment + room may deliver a dull confused sound, with severely out of control and poorly defined basses and a lack of stage "space" and "focus" resulting in the music sounding "lifeless" and unreal. All this can be vastly improved by using this device.

To achieve maximum synergy between the room and your system, (especially the speakers) you can change elements internally marked with colours (green, blue and red). Standard supplied with red element and is suitable as many installations.

Find an enclosed colour printout, a screwdriver and colour elements available with this preamp. Read both sides of this sheet before continuing. It contains further instructions and the outcomes you can expect from these changes. Do not wait for a tone control or equalizer, as this is a different analog technique which is very effective and does not alter the musical content.

Our recommendation is not to make any changes when you install the preamp, wait a few days until you become familiar with the sound and only change if you think you may be more comfortable with some of the other options.



CAUTION. Follow the instructions exactly but above all DO NOT FORGET TO UNPLUG THE POWER SUPPLY, IT IS NOT ENOUGH TO JUST SWITCH IT OFF. Otherwise you may cause electric shock and serious personal injury.

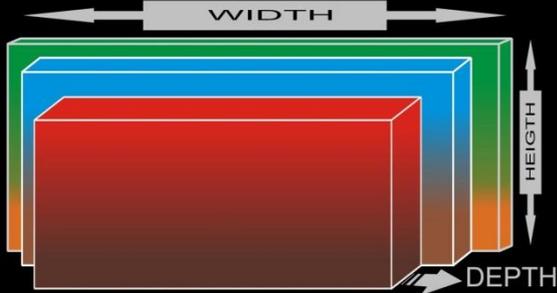
No technical skills are required to do this. Make sure you have good lighting. First locate the 6 hex head screws located on the top cover 3 on each side. Remove them and slide the cover a little backwards and upwards to remove it completely.

Two elements can easily be found on the bottom left of the large cover. Remove them by gently pulling them up and replacing them with the one you want. Do not mix different colors. When you insert them ensure that no connector pin is left unplugged, (it is almost impossible to get it wrong), and polarity does not matter. Once done replace the cover and screw back on without over tightening the screws.

SYNERGY CONTROL

To ensure maximum synergy with your current hifi system and your personal tastes regarding the type of music you usually hear, you can vary the dynamic response of multiple preamps using Neutral Audio's exclusive technology, simply changing the colour elements supplied as standard to the color that best suits your needs.

It is not a tone control or equalization. The controlled change of the impulsor on each of the preamps on both channels produces clear differences in the three-dimensional sound response and the strength and intensity of the bass area, which is reflected in the following graph:



- | | |
|--|---|
| | <ul style="list-style-type: none"> - Extreme openness and less depth. - Bass less intense. - Suitable for rooms with reverberation problems or speakers with a lot of bass pressure or poorly controlled bass. - Recommended for Classical, orchestral masses, Jazz instrumental, big band, electronic music etc. |
| | <ul style="list-style-type: none"> - More natural and balanced openness and depth. - Natural and intense basses. - Suitable for most situations. Installed as standard. - Recommended for general Classical, Opera and Vocals, Vocal Jazz, Pop, Rock, etc. |
| | <ul style="list-style-type: none"> - Less openness and maximum depth. - Very intense basses. - Suitable for rooms with no problems or speakers with little bass pressure on some monitor types. - Recommended for Pop, Rock, Metal, etc. |

On the back: Instructions to change the colour features.

- This chart is not to scale, and is purely informative.
- In each case the answer may be more or less pronounced especially depending on the loudspeakers.



- The green element puts you in the position of the conductor.
- Blue you sit in the front row
- The red in the fifth row.

INSTRUCTIONS

VERY IMPORTANT: First, disconnect electrical power to the equipment to avoid injury.

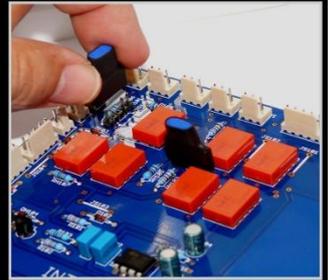
Remove the six screws on the top cover using the included screwdriver and remove by lifting from back to front.

Locate the elements to the left of the main board. Remove them by pulling up and put in place the desired item.

Must change whenever the two elements and have no polarity, so you can insert it in any way. Just make sure it goes properly into the connector and have no pin out.

Before restarting the prior replace the cap and the screws do not overtighten.

Now you can hear their new sound stage. You can make these changes as many times as you like, but we recommend you always leave the scene that you like and do not touch it unless you make changes to your facility or in your room that needs it.

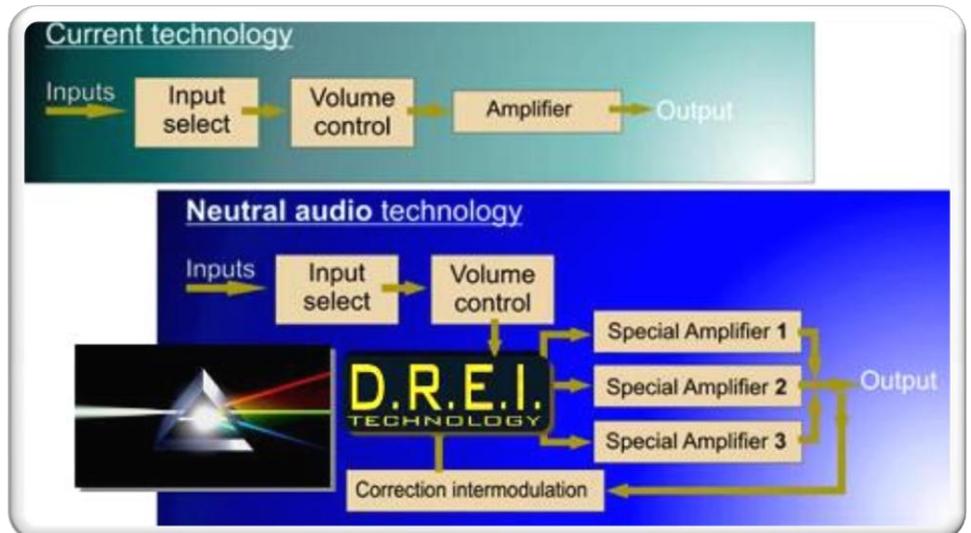
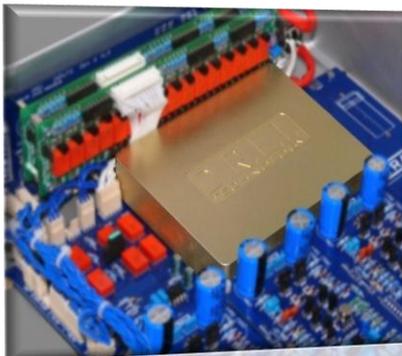


NEUTRAL AUDIO DREI TECHNOLOGY
THE SOUND THAT CAME FROM THE FUTURE

► Internal topology

As shown in the graph, these special preamps feature unique and original topology that make it different, let you work dynamically with DREI module and prevent intermodulation in the audio signal.

Get a strong dynamic contribution and absolute control of all frequencies thanks to its 12 output transistors operating in parallel, and 5 power supplies. An atypical circuitry to obtain a unique and incomparable sound.



Warranty conditions

- NEUTRAL AUDIO guarantees this product for a period of 2 years or the time legally prevailing in the country where it was purchased, as long as it has been supplied by an authorized dealer.
- This warranty covers all manufacturing defects.
- To qualify for this warranty, you must go to a service centre authorized by NEUTRAL AUDIO or the store where you purchased it, showing your purchase invoice.

The warranty DOES NOT COVER:

- Damage caused by accident, misuse or abuse.
- Damage caused by external factors or Acts of God.
- Theft or robbery.
- Damage caused by handling by persons not authorized to do so by NEUTRAL AUDIO.
- Damage caused by other non-product components.
- Products purchased from unauthorized distributors.
- Shipment of equipment to and from the customer.
- Any costs arising from the installation or uninstallation of the product.

Any handling of the product by persons not authorized by of NEUTRAL AUDIO will automatically void the warranty.

Consult your service provider for the nearest technical assistance and how to contact them.

Technical features

All the technical specifications contained in this manual are correct at the time of printing. However NEUTRAL AUDIO may have made modifications to them without notice.

- Line inputs 1 balanced / unbalanced + 3 unbalanced + 1 H.C.
- Outputs 1 balanced XLR and 1 unbalanced RCA
- Input and Output Bass Loop (0-315Hz.) Version H
- Frequency response 0-100 KHz (extended up to 500 KHz)
- Total Distortion 0.04% 1 KHz Sine
- Recommended maximum input 7 Vrms
- Maximum output 4 Vrms
- Input impedance 50 Kohms balanced / 20 Kohm unbalanced
- Maximum gain x4 with input of 1 Vrms
- Output Impedance 300 Ohms balanced / unbalanced 600 ohms
- Remote control
- Volume control resistive 100 steps
- Balance control
- Signal to noise ratio better than 100 dB
- Channel separation better than 100 dB
- Input / Bridge for 5-24VDC Trigger (H version)
- IEC socket
- Maximum power (depending on options) 80 W
- Supply voltage 230 VAC 50Hz.
- Dimensions Width: 450 mm, Depth: 370 mm, Height: 115 mm
- Approximate net weight (depending on options) 14 kg

For more information contact your local distributor or Neutral Audio.

► Notes for technical folk:

This device challenges the traditional methods of electronic sound measurement. If you want to correctly interpret their values, consider talking to Neutral Audio about it.

NOTES:



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