



DREi Micro

V2

Owner manual

NEUTRAL AUDIO wants to thank you for the trust you have placed in us by purchasing this product and we hope it will fill you with satisfaction for a very long time.

You should know that we have made every effort to be an exclusive and unique audio industry leader, with our advanced analog technology.

Signed. J. M. Jimenez

Important Security Information

- 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 any heat sources or equipment that generates a lot of heat.
- There are no components inside that need any adjustment. **Do not open** the unit, and refer to qualified service personnel in case of failure to prevent electrical accidents or shocks.
- Place the equipment on a flat surface with enough space for ventilation
- Do not cover rear ventilation vents.
- Before connecting the mains power, be sure that you have the proper voltage and the earth is good quality.
- Contact NEUTRAL AUDIO with any questions that may not be contained in this guide.
- Always disconnect the amplifier before handling connecting cables.

This product has been assembled by hand in Spain, member of the European Community. NEUTRAL AUDIO and D.R.E.I. Technology are trademarks and may not be used without permission from the owner. The system D.R.E.I. technology is patented and cannot be used without having been licensed by the owner.

This NEUTRAL AUDIO electric device has been
Certified for use with the integrate D.R.E.I. system

Certified



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A brief description

In the first place we are proud that NEUTRAL AUDIO has formed a part of your highly valued musical system. With this **DREi DeIntermodulator, Stereo and Analogue**, we have taken an important step forward in the audio industry. D.R.E.i. stands for Dynamic Reduction of Electronic Interactions and is the essence of this device.

This new and essential product is designed to **increase the listening quality of your system audio** to levels well beyond currently normal. Our sound will give you many more hours of warm, friendly enjoyment. If the rest of your audio system is at an appropriate level, we are convinced that it will sound more neutral, transparent, detailed, warm and musical than you could ever have imagined.

A preamplifier is the element in the music reproduction system that lets you select the source you want to hear, to change its output level or volume and connect to the associated amplification. NEUTRAL AUDIO is aware that this is the step where the musical signal deteriorates mostly due to the extremely low levels with which they work and the electrical problems inherent in this and therefore should be chosen with great care as overall outcome of the entire system depends on it. For this reason we developed the Multi Pre amplification technology, which with several preamps modules in parallel per channel commanded by the DREi module the problems we have talked about are greatly reduced obtaining a pure sound you will never have heard before. There are several NEUTRAL AUDIO Multi-preamp models with DREi tech. and they are undoubtedly the best choice if you want to have the best sound possible, as they have been designed from scratch to eliminate any electronic interaction in the sound signal.

The **DREi Micro is not a preamp**. It is designed for those cases in which there may not be a need or desire to replace the existing preamplifier but where there is a desire to include the DREi technology in the final sound. To do this it is necessary to insert this external module before the amplifier.

Internally it uses a simplified Multi-preamp technology , using 6 high-precision buffers operating in parallel with no gain or volume control and controlled by the incorporated module chip "**DREi All Inside**" with the objective to neutralize intermodulation, correcting errors in the electronics and increasing the overall performance of the amplification, filters and speakers. **An external SYNERGY control over these buffers provides a new experience to system optimization in a way that has not heard before.**

PRO AUDIO, in this sector this device has an important use at indoor and outdoor concerts and nightclubs with the extraordinary control it exercises over power and amplification allowing higher sound levels without saturating rooms, producing fewer problems of sound transmission to adjacent rooms and floors and increases the intelligibility of the music. Less power is needed to achieve the required sound level, therefore facilitating compliance with acoustic regulations, increasing acoustic efficiency and extending the life of the power equipment and speakers thus increasing their profitability. In Recording studios, part of the properties our technology confers to is reflected in the sound quality of the Master.

The audio tone is not modified, it keeps the characteristic "sound" of your equipment but at a much higher level.

The main function is as described but has other interesting features:

- You can select from 5 different SYNERGY positions using the central button or any brand of remote control (RC5), thanks to its code learning function (including power on / off)
- Push button Standby/Bypass. In standby, or if disconnected from the mains, it will redirect the input to the output, unchanged.
- It remembers the last Synergy position used.
- "DEMO" mode changes between the different Synergy positions starting with bypass.
- Voltage change on the base of the chassis (115VAC/230VAC)
- LED lights indicate the DREI is on and the selected Synergy.
- The RCA/XLR version is also an active adapter between the RCA input and the Balanced output.

Designed by D.R.E.I. technology

The incorporation of D.R.E.i. technology in all NEUTRAL AUDIO analogue products makes them exceptional pioneers.

For more information please visit our website. <http://www.neutralaudio.com/drei.htm>

Multi-buffers

Similar to a prism that separates white light in to different colours, D.R.E.i. technology separates various blocks of the musical signal and redirects them into 6 high precision buffers working in parallel. Each of these buffers is directed by the "D.R.E.i. ALL Inside" chip

Everything is analogue

One of the fundamental aspects of these systems is that they don't use any digital device with the audio signal. Everything is done using analogue technology, there is no digitization of audio in any part of the process which respects the full musical content.

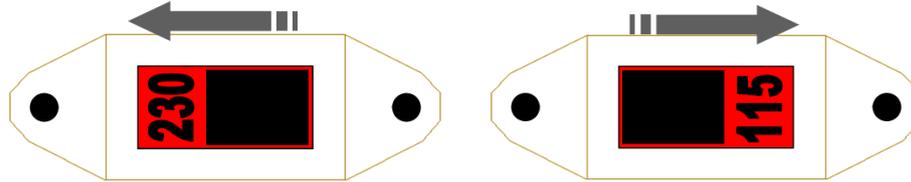
The audio signal does not run through any internal cables and takes a greatly shortened route across a single high quality, gold plated circuit board.

Connecting the DREi Micro



CAUTION. Before connecting, turn off the associated amplification and disconnect the plug from the outlet.

Make sure the voltage of the device matches that of your power supply. For safety, the earth of your electrical system must work properly, otherwise unwanted noise and interference may invade the audio system.



You can select the correct voltage for your installation (depending model) with the switch that can be found on the bottom of the DREi Micro. **DO NOT CONNECT TO THE MAINS** until you have verified this setting. Standard delivery is set to 230VAC. To switch it to 115VAC you only have to slide the red lever in the center until you see the 115VAC mark. Use the supplied cable and a good quality plug which must be earthed.

Please note that when the unit is off it creates a "bypass" of the input signal which will be available at the output "as is", connecting RCA in RCA and XLR in XLR (not in the RCA/XLR model).

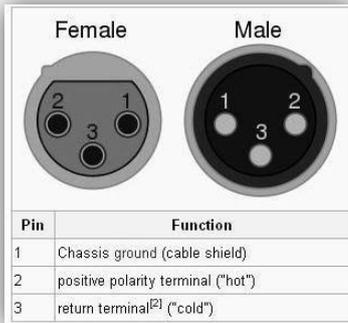
When connecting the unit the led STB (Standby) light will flash until all the internal modules are operational (Approx. 2 sec.) after which the LED "DREi" will turn on and the system will start to work.

We strongly recommend you to use good quality, clean, dry, rust free interconnecting cables. Periodically check the status of these connections. **Our "CABLE DREi" are highly suitable to connect to the rest of the audio system, as the DREi process is cumulative.**

Our connections are of very high quality and gold plated. We recommend periodic application of a specific product, (ask the dealer), to the connectors to prevent rust and loss of contact.

Balanced connections of input and output XLR connectors are the standard in:

The pin 1 = Ground The pin 2 = Hot The pin 3 = Cold



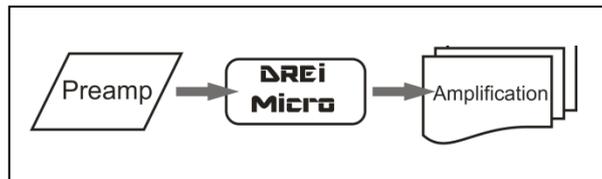
Line inputs

Depending on the version, the unit might have **RCA** (not balanced) inputs and outputs or **XLR** (balanced) connectors or the **RCA/XLR** version which can be used as an active adaptor with RCA inputs and XLR outputs.

We recommend connecting the left channel to the "LEFT" (white) input and the right channel to the "RIGHT" (red) input, but this is not obligatory.

It is normal for the balanced input signal (XLR) to have more volume than the RCA and this doesn't imply a malfunction of the unit. In the same way the XLR output also has a higher volume level (+6 db.) than the RCA.

Recommended connection



The recommended and usual way to connect the DREi Micro in your current stereo system is as shown in the illustration above.

The *DREi Micro* is inserted between the preamplifier and amplifier. In this mode with a single appliance, the DREi Micro serves all the sources used.

Preamplifier Amplifier



XLR Model

At the input you can connect any preamp of any brand, transistor or valve, or any source (CD player, DAC, etc.) but it is very important that it has VOLUME CONTROL.



Remember that this device does not have any gain or volume control, so the volume level of the output is the same as the input. If you connect a source directly, the sound is very loud and could damage your speakers.

Output to amplifier

You must connect the output marked "OUT" directly to the associated amplifier. If you have active speakers connect the DREi Micro directly to the internal amplifier input.

Alternative connection

There is another way to connect the *DREi Micro* into your current stereo system, indicated in the illustration (right), although it is generally less efficient than the previous way. It inserts the *DREi Micro* between a source and preamp. It is not necessary that the source has a volume control.



You may wish to connect it this way for various reasons, including:

- Do not want any of your sources to be directed to the DREi (although you can always turn it off thanks to its internal bypass).
- You want to set a different Synergy in each source.
- To enhance the sound with several DREi, both on the inputs and the outputs.

At the input you can connect any source whether transistor or valve from any manufacturer.

Remember that this device does not have any gain or volume control, so the volume level of the output is the same as the input.



Do not connect in this way, unless the connected source has a volume control or the sound will be very loud and could damage your speakers.

Finally there is another possible connection mode, the Loop Tape. If your preamp has an input / output recording tape, you can connect the X-DREi here as indicated in the instruction manual of your preamp, as if it were a recording system, processor or equalizer.



Front panel



As you can see the design of the DREi Micro is extremely simple, as befits a device of its range where ease of use and high sound quality should dominate.

While "off" the bypass redirects each input to its output (RCA-RCA and Balanced-Balanced). There is no change in the connected equipment's impedance values when in bypass.

Turning on the system

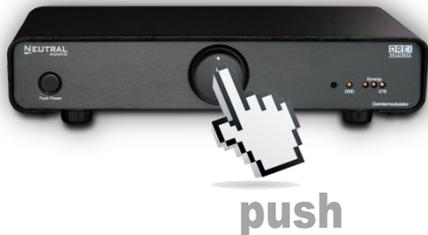
If you've already got to here, you must have the equipment fully installed, tested and connected.

It is common sense to avoid damage to your speakers by turning the amplifier stage on last, and also switching them off first!

When you press the power button located on the rear panel, the LED STB light will flash for a few seconds and, when all the interior modules are stabilized, the led "DREi" light will light up, indicating that everything is fully operational.

This device memorizes the mode it was on when it was disconnected from the mains. If you disconnected it while in standby it will remain on standby or if it was operating normally, it will turn back on with the same Synergy setting it had when it was turned off.

STANDBY Function



STANDBY FUNCTION, pressing the central switch of the device will turn it on or off. The LED STB light will be lit dimly and the device will enter a low power mode. To switch it on again you simply press the switch or turn it in any direction.



We recommend you disconnect the device using the back power switch, located next to the power input cable, if it is not going to be used for a long period. Unlike standby, turning the device off doesn't consume any electricity at all.



SYNERGY CONTROL

The D.R.E.i. technology process is always running at 100% and its process is independent of this setting.

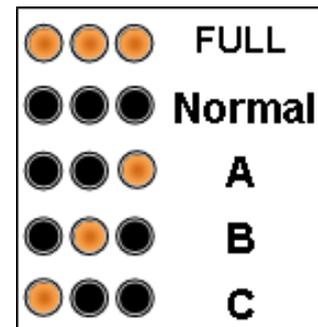
SYNERGY CONTROL: One of the advantages of the technology developed by NEUTRAL AUDIO is that it allows you to vary the impulse response of each of the several buffers which compose each channel. With this new technique you can adapt the resulting Synergy to your requirements turning the central button.

What led NEUTRAL AUDIO to design this feature is very important. Bear in mind that the room/hall where music is played always alters the overall sound. Depending on the physical characteristics and elements of the room/hall and the type of speakers you have in your installation, the resulting sound can be far from ideal. It would be endless to explain all the possible situations and that is not the goal of this manual but generalizing, all equipment + room/hall may deliver a less crisp and more confused sound with severely uncontrolled bass areas with little detail, in addition to lack of amplitude and focus on the stage, including lack of "life" and realism. All this can be improved by using this *DREi Micro*.

To achieve maximum synergy between the room/hall and your High End equipment (especially the speakers), try using the different positions (5) by turning the switch to the one that best suits your preferences. There is no need to turn off the appliance.

The different positions are indicated by LED "SYNERGY" lights. Note that each time you modify this setting or turn on the device these LEDs will light for 10 seconds and then they will turn off, but the Synergy position is running.

Our recommendation is not to make any radical changes in the beginning. For example start at Blue (A) and eventually turn the switch until you reach your optimal position. You might be interested in other positions when using different sources.



A very obvious improvement with extreme optimization of the system, is the opening and three-dimensionality of the "SYNERGY" settings. This image will help you select the position you like best. The following explanations should not be taken too literally as they are only intended to explain as simply and graphically as possible what to expect from this technology and its results will depend on the quality of the associated elements and the listening room/hall.



As you can see in our example, the C (green) position gives you a close sound, with great bass detail and only the first wave reflections the middles and trebles will be clean and straightforward, widely spaced and with plenty of air between the instruments as might be perceived by an orchestra director. Everything seems to become otherworldly and listening becomes pleasanter and less tiring.

On A (blue) you will seem to move back a few rows into the audience, the bass will become more present and more instruments are fused together. The soundstage becomes a bit narrower.

In FULL (red) the feeling of the room/hall becomes more present. The reverberations seem to increase, the bass becomes more powerful and confused and some details are lost. The middles and trebles attenuate because of

the effect of the stored energy, in general the room/hall and the speakers are more easily saturated and the sound pressure level can't be so high and produces more listening fatigue.

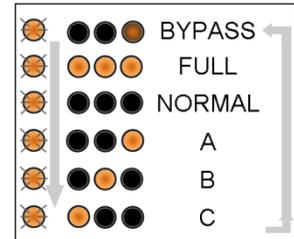
FULL SYNERGY (= OFF) produces no change and is less perceptible to be more balanced in the operation of the buffers. The D.R.E.i. process is always running at 100% and its process is independent of this setting.

DEMO function

To help with SYNERGY control setting, we have provided the *DREi Micro* with a demo mode. To operate it, hold the center button for 3 to 8 seconds. When you release the button the 3 LED lights from the SCENE panel will illuminate in a rapid sequence and the LED DREi light will flash every second indicating that it has begun this mode. To exit the demo mode you just have to press or rotate the button again.

The device starts a sequence that begins with the DREi Micro in Standby making an internal audio signal bypass, so you will be hearing your system directly as if there was nothing connected. After 10 seconds it will automatically turn on so you can hear the *DREi Micro* with the SYNERGY "FULL" (only the DREi process). After another 10 seconds it will automatically switch to the SYNERGY "NORMAL", and so on with the other scenes. After the "C" it will go back to Standby and restart the cycle.

Activate this mode and relax in the comfort of your own home until you decide which Synergy is your favorite depending the best performance of your sound system.



IR self learning function

Another interesting feature that has been added to the DREi Micro is the one that will allow you to use any infrared remote control for this device. We have equipped it with an infrared receiver capable of memorizing.

As we have seen, it only needs 3 keys," Function" (by pressing the center button), "Left" and "Right". Look for any remote control you have for one that has 3 buttons that you don't use.

- Press the center button for over 8 seconds and then release it. The SYNERGY LEDs will all flash together, indicating that the learning mode has been enabled.
- Now the LED DREi light starts flashing quickly and the 1 LED light.
- Point the remote towards the device and press the button which you have selected to be "Function". Don't keep it pressed, press just once.
- If the device accepts the button the LED light will flash quickly again and the 2 LED light will light.
- Press the button you have chosen to be LEFT.
- If accepted it will flash rapidly and the 3 LED will light.
- Press the button you have chosen to be RIGHT.
- If accepted it will flash quickly and the device will return to its normal functioning.
- If you need to leave this mode you simply have to press the center button on the device.

Now you can use the remote control to work the DREi Micro. You can repeat this programming as many times as you need to, but only one remote will be memorized. Disconnecting the device doesn't erase this setting.

Some controls are not compatible with the codes that can be stored, so it might not work. Note that we use the RC5 protocol to 36kHz. It could happen that with some controls only some of the keys operate.

Guarantee conditions

- NEUTRAL AUDIO guarantees this product for a period of 1 year, or the time legally established in the country where it is purchased, as long as it is purchased from an authorized dealer.
- This guarantee covers any manufacturing defects.
- To qualify for this guarantee, you must go to a service centre authorized by NEUTRALAUDIO or the store where you purchased it, presenting your purchase invoice.

The Guarantee DOES NOT COVER:

- Damage caused by accident, misuse or abuse.
- Damage caused by external factors or natural tragedies.
- Theft or robbery.
- Damage caused by handling by persons not authorized by NEUTRAL AUDIO.
- Damage caused by other non-product components.
- Products purchased from unauthorized distributors.
- The shipment rates for the repair and return of the device is to be carried by the customer.
- Any costs arising from installation or dis-installation of the product is to be carried by the customer.

Any manipulation of the product by any person not authorized by NEUTRAL AUDIO automatically makes this guarantee null and void.

Consult your distributor as to your nearest technical assistance provider and how to contact them.

Technical features

All 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 input RCA unbalanced or XLR balanced depending of model
- Line outputs RCA unbalanced or XLR balanced depending of model
- Frequency response 0-200.000 Hz (extended up to 500,000 Hz)
- Total Distortion 0.04%
- Recommended maximum input voltage 3.2Vpp RCA / 9Vpp XLR
- Maximum output voltage Vpp 3.2Vpp RCA / 9Vpp XLR
- Input impedance 20 Kohms RCA / 50 kohms balanced
- Output impedance 600 ohms RCA / 300 Ohm balanced
- Signal to noise ratio better than 110 dB
- Channel separation better than 100 dB
- IEC socket for power supply
- Maximum Consumption less than 3 W
- Supply voltage 230VAC 50/60Hz. (or 115VAC) (using an external switch).
- Dimensions Width: 185 mm, Depth: 130 mm, Height: 55 mm
- Approximate Net Weight 3 kg

For more information contact your local NEUTRAL AUDIO dealer.

Note for technical experts::

This unit challenges the traditional method of the electronic measurement of sound. If you want to correctly interpret these values, consider talking to NEUTRAL AUDIO regarding them.

Notes:



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