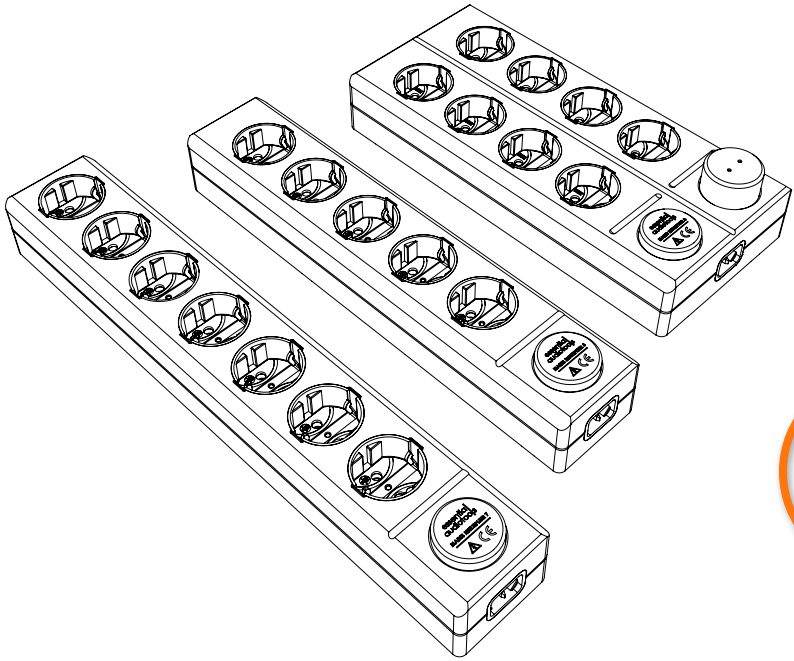
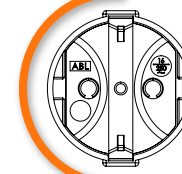
essentia
audiotools

User Manual

Rev 2.1 July 2021

Mains Multiplier 5
Mains Multiplier 7
Mains Multiplier 8





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Introduction

Thank you for purchasing this Essential Audio Tools Mains Multiplier!

'Essential Audio Tools' is a Square Audio brand name. The name speaks for itself, tools which are very essential for music reproduction. Better reproduction often means more involvement.

Our 'Essential Audio Tools' are products to improve the sound of your audio equipment where it all begins: the mains power supply. The power from the mains socket is being 'abused' even before it enters your audio equipment. The energy company uses the mains supply to control government property equipment, like streetlights. Also other equipment is communicating with each other by use of the mains power supply. But there is more: the past 25 years switching power supplies have made their way into computers, TV's and other home appliances. These devices pollute the mains supply with nasty pulses. This "Trojan Horse" comes into your equipment without you being aware of it. The pollution has to be taken out of the mains power supply before it reaches your (analogue) audio equipment. The Essential Audio Tools cables, distribution boxes, filters and phase indicator make any audio set perform better.

Essential Audio Tools invests lots of time and effort to make products as good as they can be. They are all made with use of precision CNC machining. Beautifully shaped, well-designed and manufactured from top-quality material by experts. Experience the quality of our products and listen to the results, then you know what we mean.

We wish you lots of pleasure!

Description

The Mains Multiplier is not a regular multiple socket but more a work of art made on a CNC machine that shapes this form out of one piece synthetic material. Yes… synthetic! The results speak for themselves, optical as well as electrical.

The type of outputs is chosen because of the high contact pressure, which is obvious when putting in or pulling out an electric plug. More contact pressure and an optimal contact surface do create a low resistance value. This is very important for good power distribution.

The wiring for phase, neutral and earth is connected by a star principle. Every output has its own wiring towards the feed cable. Peaks in the current or interference signals that appear on contacts of one socket will now have less effect on the other sockets.

A 'Pulse Protector' is integrated behind the IEC input connector. This prevents peaks and pulses reaching your audio equipment. Our Pulse Protector is also available as a separate tool, please check our website.

Where to use

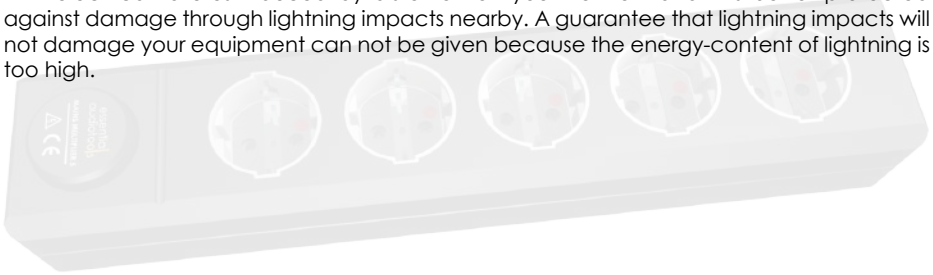
Wherever you need to connect multiple loads to the mains, the Mains Multiplier is the best choice. Of course you will have to use high performance power cords, else the Mains Multiplier will not perform at its best. It's a combination of factors, only if you use the Mains Multiplier in combination with high performance power cords -like our Current Conductor- you will achieve the maximum results for your audio system.

Of course it is possible to use the Mains Multiplier as an ordinary multiple socket without high performance power supply cables. Our advice is to buy better power cords, the results will be rewarding.

What to expect

An improvement in dynamics, a much better sound image and a lower hum level. The sound character of your audio system remains, fortunately!

By using the Mains Multiplier with integrated Pulse Protector your equipment has less trouble with electrical failures induced by distortion on your network and it is better protected against damage through lightning impacts nearby. A guarantee that lightning impacts will not damage your equipment can not be given because the energy-content of lightning is too high.



Safety precautions

For your protection and safe operation of the unit, please read the following:

Avoid water and other liquids
To avoid risk of fire and electrical shock: do not expose this device to moisture. Use indoors and in dry locations only. Do not expose to dripping and/or splashing. Do not place objects filled with liquids -such as vases- on or near the device. Do not operate the unit if any liquid is spilled on or into the unit; return it to your dealer for servicing.

Don't open the device
To avoid risk of electrical shock: do not open the device. There are no user serviceable parts inside. Repairs have to be performed by qualified personnel only.

Unplug before cleaning
Always disconnect the unit before cleaning. Only clean the unit with a dry cloth or duster. Do not use any cleaning solutions, sprays or water.

Connect to mains ground
For safety reasons and to protect connected equipment, this product MUST be connected to mains with a three conductor power cord which includes a working ground conductor. The power cord MUST be plugged into a grounded AC power outlet (3-pin). Do not use a 3-to-2-pin adapter to bypass the grounding pin. Failing to plug this product into a grounded outlet through a ground conductor including mains cord may result in personal injury or damage to your equipment. Call a licensed electrician if you are unsure if your AC outlets are properly grounded.

Do not overload individual outputs
Do not connect loads which draw more current than the maximum rating for each individual outlet. Possible damages due to exceeding these maximum ratings will void warranty. The MAXIMUM CURRENT rating for each outlet may differ, please look at the **Specifications** further on in this manual for maximum loads.

Do not exceed maximum total load
The total current drawn from all outlets together may not exceed 16 Amps. At 230 Volts mains supply this is equivalent to 3680W.

Check your supply voltage
This device is designed for 220-240V~ @ 50/60 Hz mains supply. Connecting to a different voltage may damage the device and warranty will be void.

Avoid condensation
If the device is moved from a cold to a warmer area, allow the product to warm up to room temperature before connecting it to the mains supply. This is to avoid condensation inside the device.

Connect power cords safely
Power cords should be routed in such a way that they are not likely to be walked on or pinched by items. Do not route power cords near heat sources. To disconnect the power cord, pull it out by the plug (wall outlet side first). Do not pull the cable itself, doing so may result in damage which can lead to fire or electric shock.

Connections

Integrating your new Mains Multiplier 5 / 7 / 8 is as easy as can be.

Just connect the Mains Multiplier 5 or Mains Multiplier 7 to your wall socket. Use a phase indicator (like our Sound Saver) to test which contact of your mains supply wall socket is phase. You found it when the LED indicator lights. Essential Audio Tools power cords (Current Conductors) are marked with a red dot to indicate the phase. Now you know how to plug the power cord in; red dot mark at the phase of the mains supply wall socket.

For the Mains Multiplier 8 it is not necessary to check the phase of the mains wall socket because it has a phase indicator integrated which shows the following indications:

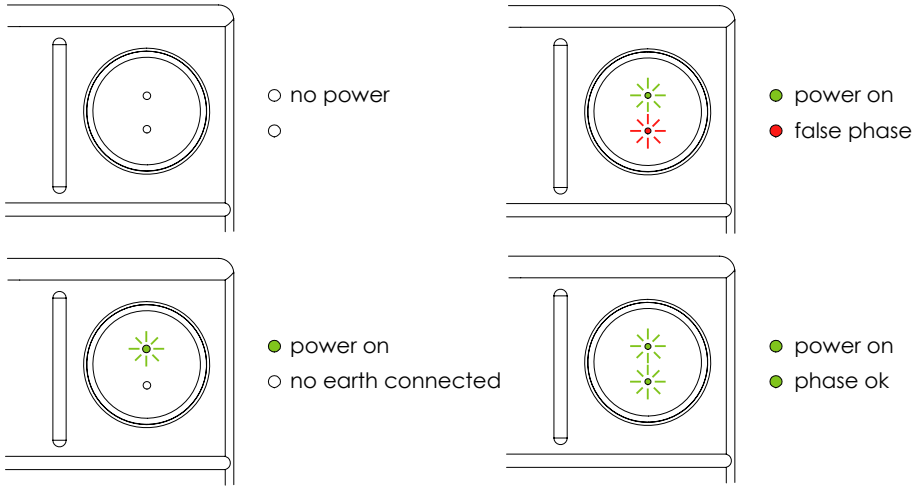
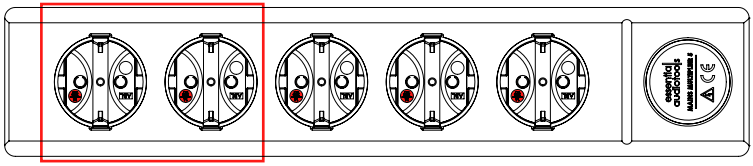


Figure 1. Phase indication Mains Multiplier 8

If you get a false phase indication by a red light, you should reverse the power cable plug in the wall socket. You will notice that both indicators will light green which means that the power is on and phase is ok.

For countries with an earth pin in the middle of the mains supply wall socket (France, Belgium) it is not possible to reverse the power cord plug in the wall socket. You should ask a technician to reverse the neutral and phase in your wall socket, NOT in your power cord. Don't do this yourself, the mains voltage is dangerous!

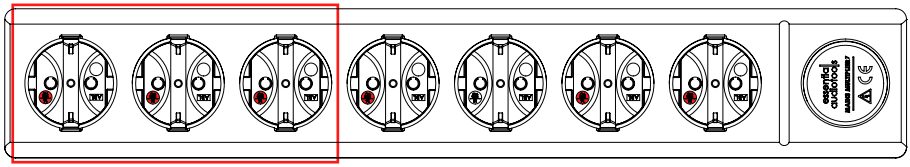
The Mains Multiplier 5 has two HF filtered outputs and three direct outputs, see figure 2. They all have maximum current of 10 Amps each, however the **total current of all outputs may also not exceed 10 Amps.**



Filtered

Figure 2. Mains Multiplier 5

The Mains Multiplier 7 has three HF filtered outputs and four direct outputs, see figure 3. They all have a maximum current of 10 Amps each, however the **total current of all outputs may also not exceed 10 Amps.**



Filtered

Figure 3. Mains Multiplier 7

The Mains Multiplier 8 has four HF filtered outputs and four direct outputs, see figure 4. They all have a maximum current of 10 Amps each, however the **total current of all outputs may also not exceed 10 Amps.**

Filtered

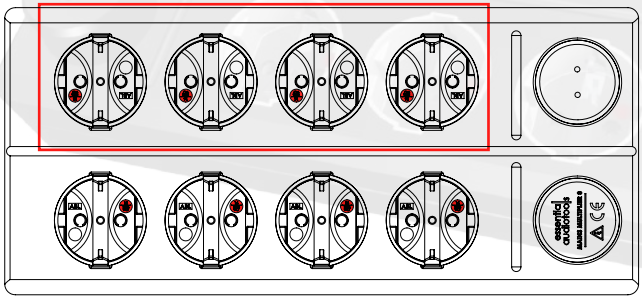


Figure 4. Mains Multiplier 8

The HF filtered outputs are meant for digital and analog sources like cd-players, tuners, DAC's and turntables. Power amplifiers should be connected to the direct outputs.

Your Mains Multiplier must be connected to an earthed mains supply wall socket, however if you do not have earth the Mains Multiplier will still function. The Mains Multiplier itself will make a connection between all earth contacts of your equipment. This will prevent that small currents will run through your interlinks due to differences between earth potentials at your equipment's chassis. So even without an earthed wall socket you should keep using your earthed power cords.

Tips

For maximum noise reduction, it is best to keep power cords and audio cables separated by some distance from each other, also avoid routing cables in parallel.

Use high-quality power cords (our Current Conductors for example) to connect your equipment. The screenings will prevent stray-fields reaching your audio cables. Order your power cords as short as possible, for best results.

Do not connect distribution blocks or mains splitters to the outputs, it will possibly cause interference.

Feed ALL your equipment from the Mains Multiplier. Having an extra external power feed to one device will possibly cause interference and/or hum.

Specifications

Rated voltage	220-240V~ @ 50/60 Hz
Maximum continuous current per socket	10A
Maximum continuous total current	10A
Maximum continuous total power	2300W

Protecting Phase-Neutral, Phase-Earth and Neutral-Earth

Maximum voltage	250V~
Maximum peak-voltage	2500V
Maximum peak-current	4500A
Maximum peak-energy	3 x 65 Joule
Response time	< 25 nanoseconds

For Mains Multiplier 5

Size	350(l) x 70(w) x 59,5(h) in mm
Weight	1,08 kg

For Mains Multiplier 7

Size	424(l) x 70(w) x 59,5(h) in mm
Weight	1,3 kg

For Mains Multiplier 8

Size	298(l) x 135(w) x 72(h) in mm
Weight	1,77 kg

Problem solving

There are no serviceable parts inside. Do not open your Mains Multiplier!

Please check the following before requesting service:

1 – Check the wall socket by plugging in a light or load to check if the power is present.

2 – Check if the power cord from the wall socket to the Mains Multiplier is functioning and make sure the power cord is plugged deep enough into the Mains Multiplier's input.

3 – Check your equipment and the power cord by connecting them directly to a wall socket to test if they work without the Mains Multiplier in between.

Please contact your local dealer if all of the above is tested and working, but the unit is still not functioning.

Warranty

Essential Audio Tools products have a warranty period of two years from date of purchase. This warranty covers manufacturing defects and failures within products specifications.

When warranty is claimed the original bill with the buyer's name and date of purchase should be presented.

Warranty will void if:

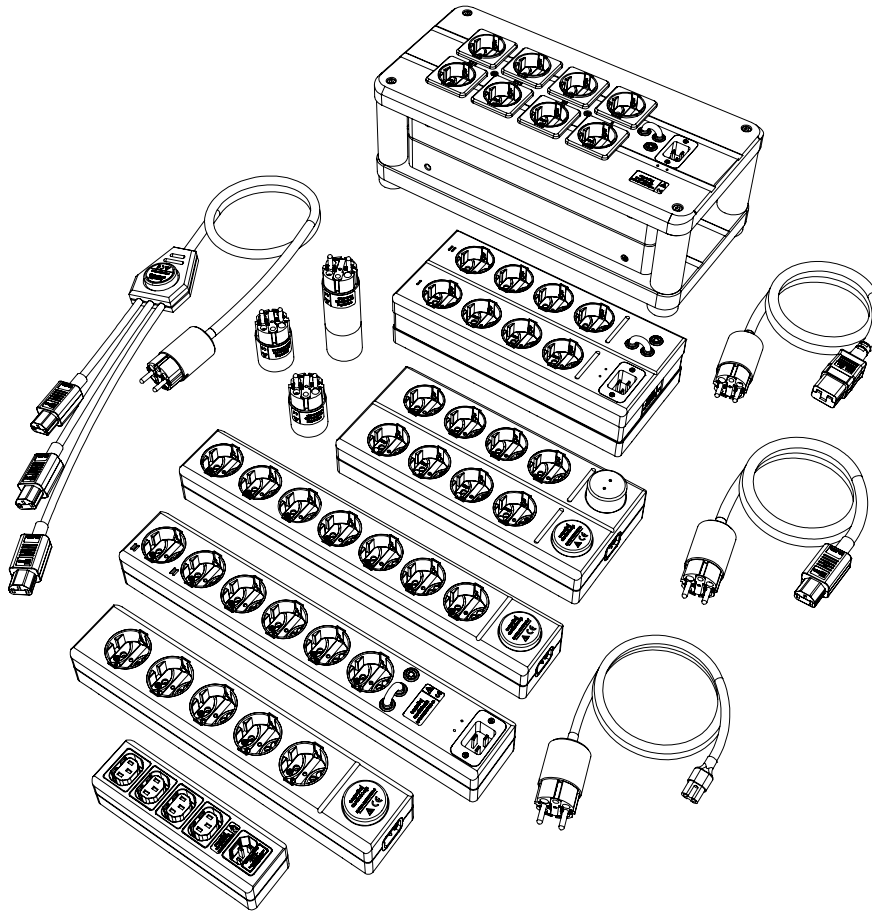
- The device has not been used in conformance with the user manual.
- The device has been used in an industrial environment.
- The bill has been altered or made illegible.
- Modifications or repairs have been performed by non-authorized persons.
- Malfunction is caused by device-external conditions, such as: overloading, atmospheric discharges and fire or water damages etc.

Warranty is limited to damages regarding the Mains Multiplier itself:
all eventual consequential damages are not covered by warranty.

More information about our products:

essentia audiotools

MORE INFORMATION:
WWW.ESSENTIALAUDIOTOOLS.COM



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