

# GROUND PROTECTOR



GROUND 2021-03 V1 en

Picture similar

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Dear customer,

Thank you for your purchase of a SCHNERZINGER product.

Please take the time to precisely read the information in this guide. You will find important instructions to use your product and hints for the optimal integration into your Hi-Fi system.

This guide facilitates your use of the product, promotes understanding its functional characteristics and helps you to obtain the full efficiency of the product.

We hope you enjoy your new SCHNERZINGER product.

Please clean the product with a non-scratching dry duster only. Avoid using cleaning agents.

A potting compound in the devices protects the innovative GIGA CANCELLING technology with its particular electrical components specially manufactured for SCHNERZINGER against direct access and screening via X-ray or magnetic field applications. A slight rustling caused by this potting compound is normal and does not result in any functional impairment. There are no informed crystals in the devices.

In case of malfunctions contact your SCHNERZINGER dealer. Please do not attempt to service the device yourself or to open it, in that case you will lose your entitlement for our manufacturer warranty.

In the case of damages at the power plug or power cable please initiate an exchange at SCHNERZINGER via your dealer.

## Package Contents

### GROUND PROTECTOR

CONTROL UNIT (COUA)

12V Power Supply, cable length 1,5m

3,5mm jack extension cable 5m

Antenna

1 GROUND INTERFACE

### Dimensions and weight (l x w x h in cm, weight in kg)

GROUND PROTECTOR 16.2 x 16.2 x 7.5 (without antenna), 3.7

The antenna is 11 cm long.

## Contents

PROTECTOR SYSTEM

GROUND PROTECTOR

Connecting the Hi-Fi Components

Setting up the GROUND PROTECTOR

Lasting effect of the GROUND PROTECTOR

## PROTECTOR SYSTEM

The music reproduction quality of an audio system is highly affected by low and high frequency electrical interfering fields, caused by Wi-Fi, cellular radio, power lines etc. With the **PROTECTORS** and their integrated trendsetting **GIGA CANCELLING** technology, SCHNERZINGER has developed a product category that actively eliminates the sonic effects of low and high frequency interfering fields.

The PROTECTORS significantly enhance the transmission quality of audio systems. The sonic effects include an astonishingly higher spatial depth and resolution as well as increased broad and fine dynamics in music reproduction.

Utilizing the operating principle and efficiency of the GIGA CANCELLING technology, the SCHNERZINGER PROTECTORS represent a unique solution in the market.

An important health aspect: protector technology does not increase radiation exposure within the room.

## GROUND PROTECTOR

The GIGA CANCELLING technology of the **GROUND PROTECTOR** extremely effectively clears up grounding resp. ground problems via its 3-channel-system.

- Channel 1 clears up grounding resp. ground problems of the attached devices
- Channel 2 directly operates in the signal path of the attached devices
- Channel 3 clears up interfering fields within the Hi-Fi system power distribution, without slowing down current flow at all.

Moreover the bidirectional operating device connections (GROUND INTERFACES) prevent transmission of interfering fields between the Hi-Fi devices.

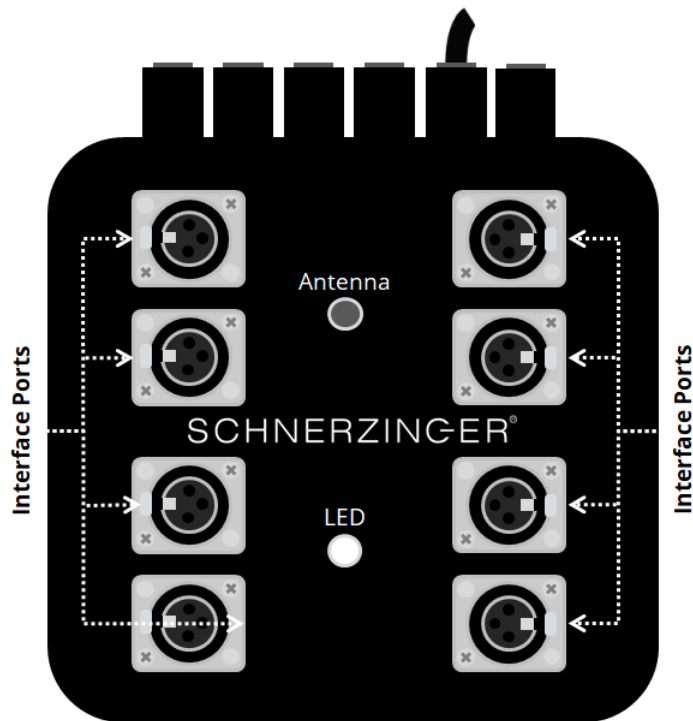
The operating principle and efficiency of the GROUND PROTECTOR are unique; a single GRID PROTECTOR raises the potential of the entire music system to a new level.

## Connecting the Hi-Fi Components

The **GROUND PROTECTOR** can be connected to up to 8 components (but no speakers\*). Hi-Fi Components are connected by **INTERFACES**, available in the grades\*\* REFERENCE and EXTREME.

It's recommended to connect all key components of the Hi-Fi system to the GROUND PROTECTOR, starting with the major source, the other sources and further on in the direction of signal flow through the preamp to the power amplifier. The particular Hi-Fi component should be switched off\* during installation.

Via the INTERFACE options RCA, XLR/W, XLR/M, BNC, USB Type A and Type B first the free inputs of the Hi-Fi components are available to connect to the GROUND PROTECTOR.



For each single component please test the optimal input; primary digital inputs, alternatively analog inputs. Per component only one INTERFACE will be connected. If the right and left channels are available for analog inputs, one channel will be connected via an INTERFACE, while the second channel may be connected to a GIGA GUARD. If no digital or analog input is available, the effect of an INTERFACE may also be tested at an output (digital or analog, but no speaker terminal\*).

Connected this way, the GROUND PROTECTOR operates in the component particularly effective, both via the signal path as well as via the grounding.

If a component to be connected has no suitable free input or output, the connection can be done just via the grounding with the INTERFACE Option Chassis Ground.

\* Caution – risk of damage

\*\* Choosing the quality level for a single interface not only affects the effect on the connected component, but affects the GROUND PROTECTOR as a whole. SCHNERZINGER Advisory Service will be glad to support you.

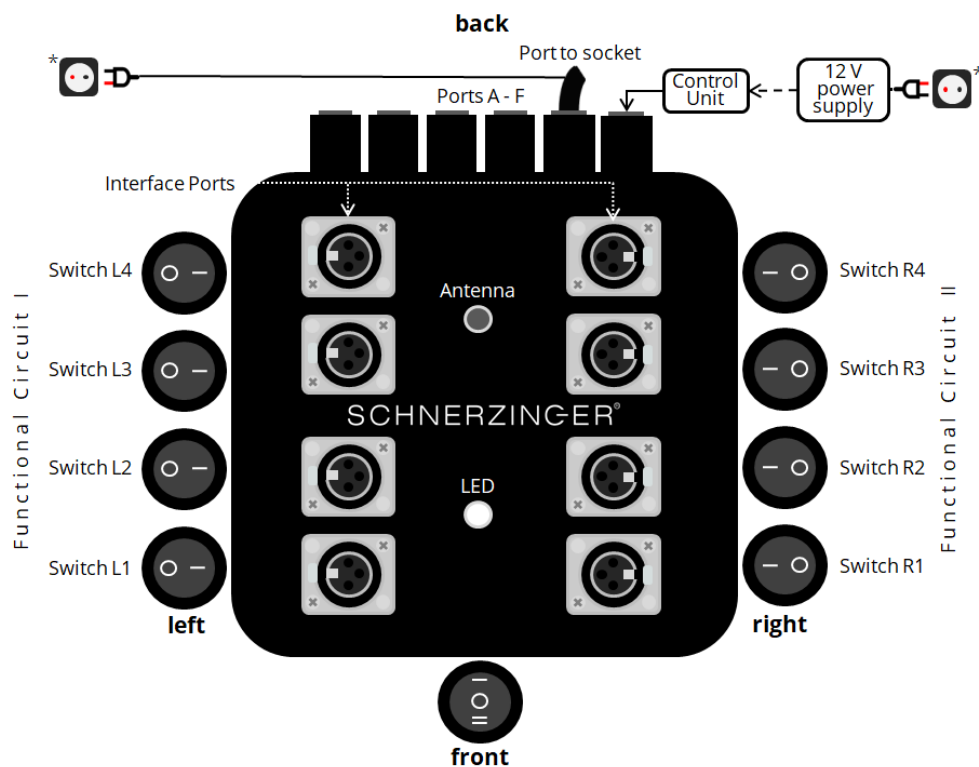
## Setting up the GROUND PROTECTOR

The **GROUND PROTECTOR** has three power levels and two functional circuits to simply adjust bandwidth and clock rate of GIGA CANCELLING technology via toggle switches. This makes it possible to adapt to any interference field spectrum. The change in bandwidth extends or decreases the detection range, changing the clock rate the processing speed.

The rule is: the narrower the bandwidth, the higher the efficiency - the smaller the detection range. The lower the clock rate, the higher the extinction rate - the less interference frequencies are detected.

Changes need some time to take effect mostly. Therefore at each of the following steps you should wait for app. two minutes before judging.

Do not change the results as determined from the previous steps when you do the subsequent steps.



### 1. Step: Connecting to the power grid

The **GROUND PROTECTOR** should be connected\* to the first slot of the Hi-Fi power strip.

### 1. Step: Base setting

Usually (power level 1), the GROUND PROTECTOR will be operated without the 12V power supply. To maintain its performance, it should be connected to the grid with CONTROL UNIT and 12V power supply once a year for 15 minutes.

**Connect antenna** (upright position) and **CONTROL UNIT** (COUA) to the GROUND PROTECTOR, without 12V power supply.

The other ports are reserved for PROFESSIONAL LINE accessories. The optional GROUND PROTECTOR BOOSTER will be connected to one of the ports A-D.

Set all 9 switches to base setting 0.

### 3. Step: Connecting the Hi-Fi Components

See separate page 4

### 4. Step: Switch in front in position 0 - power level 1

Start with switch setting 0 = power level 1 – with CONTROL UNIT, **without** 12V power supply.

\* note the correct phase (marked with a silver dot) – measure the phase of your socket.

## Setting up the GROUND PROTECTOR

### 5. Step: Switches left:

Functional circuit I – setting the **bandwidth**

Switches: L1 = narrow to L4 = wide

Starting from the base setting the switches L1 - L4 will be set sequentially from position 0 to position 1. Each step will increase the bandwidth.

If the bandwidth is too low, the best possible effect will not be reached yet. If the bandwidth is too high, even a sound degradation may occur.

The test ends, when the subsequent step won't achieve a better result.

### 6. Step: Switches right:

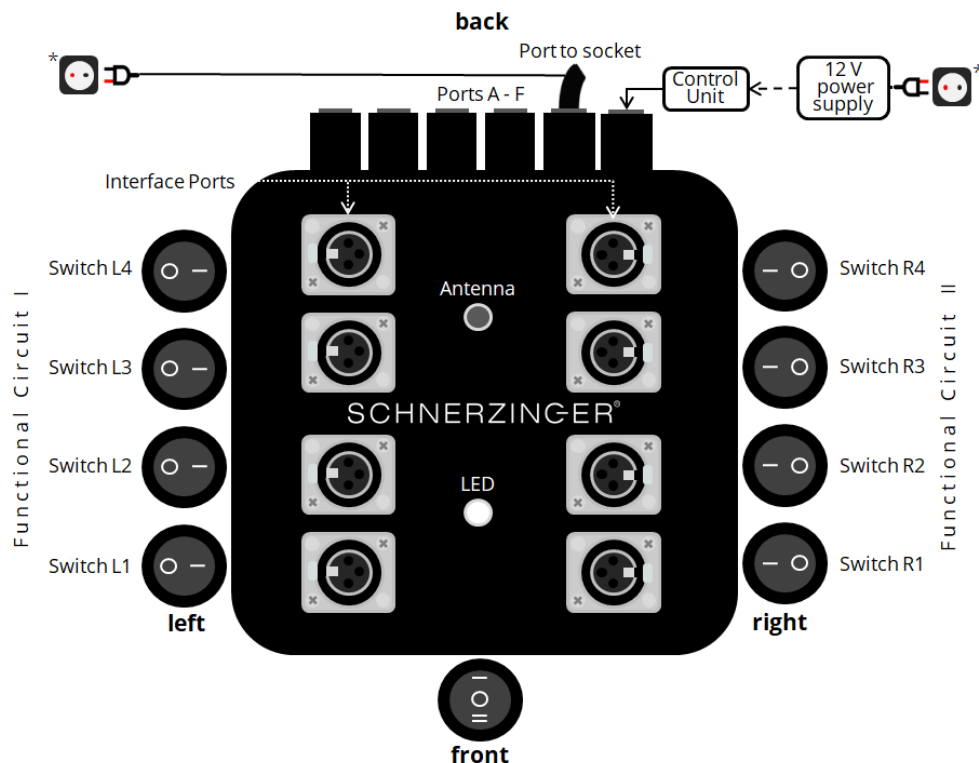
Functional circuit II – setting the **clocking**

Switches: R1 = low to R4 = high

Starting from the base setting the switches R1 - R4 will be set sequentially from position 0 to position 1. Each step will increase the clocking pace.

If the pace is too low, the best possible effect will not be reached yet. If the pace is too high, even a sound degradation may occur.

The test ends, when the subsequent step won't achieve a better result.



### 7. Step: Switch in front – adjustment of the power level:

If power level 1 is not sufficient for the present interference field spectrum, 2 additional power levels can be activated. This requires the permanent connection of the 12V power supply\* to the CONTROL UNIT and the grid. The 12 Volt power supply should be connected to a power circuit separate from the Hi-Fi system – ideally even to a different power phase.

Do not change the previously tested switch setting of the functional circuits I and II!

Activate power levels 2 and 3 with the front switch. Check the result compared to switch position 0 (**without 12V power supply**). If the result improves with power level 2 or 3, it is recommended to repeat steps 5 and 6 with the best power level.

0 = Power Level 1 – with COUA, **without 12V power supply**

1 = Power Level 2 – with COUA, **with 12V power supply**, LEDs on

2 = Power Level 3 – with COUA, **with 12V power supply**, LEDs high

\* note the correct phase (marked with a silver dot) – measure the phase of your socket.

## Lasting Effect of the GROUND PROTECTOR

The **GROUND PROTECTOR** constantly operates to clear up interfering fields effectively and comprehensively.

If after a while you once want to hear the performance of your system without your GROUND PROTECTOR, the buffering effect absolutely has to be considered.

If the GROUND PROTECTOR is switched off for a short time only, it still takes effect because of the buffering of the power supply unit.

Disconnect the 12V power supply (if connected) and the CONTROL UNIT from the power grid and the GROUND PROTECTOR resp. and detach the power cable of the GROUND PROTECTOR from the power grid. Remove all other connections completely, especially the INTERFACES. Additionally remove the antenna, place the unit on the floor and set the switch in front to position 2. Keep these conditions for several hours, preferably overnight. This way you achieve that the GROUND PROTECTOR has no effect any more.

Upon recommissioning the interfering fields will be cleared again fast.

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