

# MULTI GUARD



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

### MULTI GUARD Set (4, 6 or 8 units)

MULTI GUARD MASTER

12V power supply, cable length 1,5 m

3,5 mm jack extension cable 5m

4, 6 or 8 MULTI GUARD unit of the variants  
PHASE, EARTH and ROOM (at buyer's option)

Antenna (per unit + master)

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

|                          |                                    |
|--------------------------|------------------------------------|
| MULTI GUARD MASTER       | 7 x 7 x 3.5 (without antenna), 0.3 |
| MULTI GUARD units each   | 14 x 5 x 5 (without antenna), 0.25 |
| Antennas are 11 cm long. |                                    |

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## 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.

## MULTI GUARD

The GIGA CANCELLING technology of the GRID PROTECTOR and the **MULTI GUARDS** clears up electrical interfering fields, resulting from the domestic power grid, radiating into the direct environment. The MULTI GUARDS complement and expand the performance of the GRID PROTECTOR, which takes on the control and coupling function.

Due to GIGA CANCELLING technology GRID PROTECTOR and MULTI GUARD can do without problematic filters and passive components like capacitors, which are responsible for loss of dynamics, resolution and naturalness; especially at high power requirements of the power grid.

Application of multiple MULTI GUARDS offers a flexible modular assignment at critical points of the domestic power grid, e. g. at the different current phases, the protective conductors or in the immediate vicinity of significant interfering sources (computer, router, etc.). Distributed in the room, they form a comprehensive ROOM SHIELD thanks to their coupling function. The operating principle and efficiency of the GRID PROTECTOR / MULTI GUARD system are unique and raise the potential of the entire music system to a completely new level.

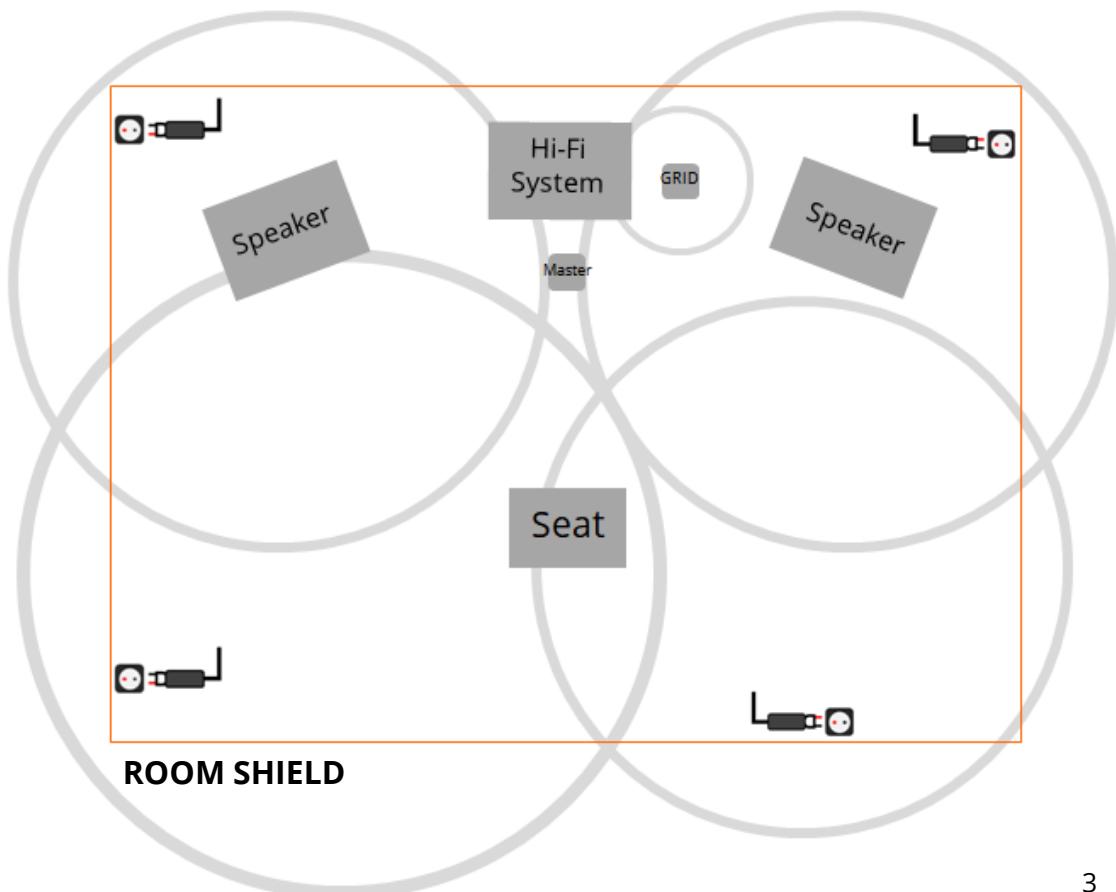
## Use of MULTI GUARD

The use of the **GRID PROTECTOR** is an indispensable prerequisite for the use of the MULTI GUARD. It takes on the control and coupling function for all MULTI GUARDS. The GRID PROTECTOR is an extreme powerful central unit and is recommended to connect to the first slot in the Hi-Fi system power distributor, but may also achieve its best results at another socket, at different phase or even in another room. In connection with MULTI GUARD, the GRID PROTECTOR always achieves the best results at the first slot in the Hi-Fi system power distributor. If this is not feasible, select a socket of the same circuit or at least the same phase.

MULTI GUARDS must be operated with their associated **MASTER**. Preferably the **MASTER** should have an elevated central position within the listening room. The MULTI GUARDS unfolds their effect in their close environment and thus enable a flexible modular use at other critical points of the domestic power grid.

MULTI GUARDS can be connected to free sockets or power distributors. When connecting to a power distributor, the first slot should be used.

Several MULTI GUARDS, appropriately distributed in the room, can be coupled to form a comprehensive **ROOM SHIELD**.



## Use of MULTI GUARD

A common successful approach is to comprehensively clear up the domestic power grid by using the GRID and several MULTI GUARDS. MULTI GUARDS of the **PHASE** variant are used to clear up the individual phases of the current conductors and MULTI GUARDS of the **EARTH** variant to clear up the protective conductor. MULTI GUARDS of the **ROOM** variant are used to clear up the electrical interfering fields that radiate into the room through the power cables installed in the walls and floors of the listening room.

To do this, it is helpful to know which phases the sockets in the listening room are running on, especially the Hi-Fi power strip, but also other sockets in the house. Your electrician can tell you this after a look in your fuse box. Alternatively, you can switch off the individual pre-fuses of the phases one after the other and thus determine at each socket which phase it belongs to.



## Use of MULTI GUARD

The table shows the performance spectrum of the individual MULTI GUARD variants.

| Product | Power Conductor                 | Protective Conductor            | Room HF- interference clearing | ROOM- Shield        | Effective Area | Application                                                                                                                      | Connection                                                                                                               |                                                                                                                          |
|---------|---------------------------------|---------------------------------|--------------------------------|---------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
|         | HF and LF interference clearing | HF and LF interference clearing | clearing (radius)              | Coupling function   |                |                                                                                                                                  |                                                                                                                          |                                                                                                                          |
| POWER   | <b>GRID PROTECTOR</b>           | ✓✓✓                             | ✓✓✓                            | ✓<br>0,5m           | ✓              | Electrical conductors<br>Protective conductor<br>HF clearing of the direct environment                                           | the all-rounder and strongest partner in the power area, in connection with the MULTI GUARDS the ultimate power clearing | Connection to the power distributor of the Hi-Fi system and / or to sockets of a different phase (possibly another room) |
|         | <b>MULTI GUARD PHASE</b>        | ✓✓                              | ✓                              | ✓<br>3m per module  | ✓              | Electrical conductors<br>Protective conductor                                                                                    | Supplementary product to the GRID PROTECTOR, which takes on the control and coupling function                            | Connection to sockets or power strips                                                                                    |
|         | <b>MULTI GUARD EARTH</b>        | ✓                               | ✓✓                             | ✓<br>3m per module  | ✓              | HF clearing of the environment<br><br>Several MULTI GUARDS, can be coupled to form a comprehensive ROOM SHIELD in the given room | modular solution for targeted use directly at the polluter                                                               |                                                                                                                          |
|         | <b>MULTI GUARD ROOM</b>         | ✓                               | ✓                              | ✓✓<br>3m per module | ✓              | Electrical conductors<br>Protective conductor                                                                                    | Stand alone or as support for the GRID PROTECTOR                                                                         |                                                                                                                          |
|         | <b>POWER GUARD</b>              | ✓                               | ✓                              | ✓<br>0,5m           | ---            | HF clearing of the direct environment                                                                                            | Connection to the power distributor of the Hi-Fi system and / or to sockets of a different phase (possibly another room) |                                                                                                                          |

## Setting up the MULTI GUARD

The use of the GRID PROTECTOR is an indispensable prerequisite for the use of the MULTI GUARD. As GRID PROTECTOR and MULTI GUARD form a system, they must be set up together. As a result, the switch positions of the GRID in the GRID / MULTI GUARD system may differ from the setting of a GRID without MULTI GUARD. This manual only mentions the essential steps for setting the GRID PROTECTOR as part of the setting of the GRID / MULTI GUARD system; the separate GRID PROTECTOR manual contains further details.

The GRID 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.

The settings apply to the system GRID / MULTI GUARD.

The MULTI GUARD MASTER has three power levels to simply adjust the GIGA CANCELLING technology via a toggle switch.

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.

The following constellations have proven to be advantageous:

- The GRID PROTECTOR connects to the first slot in the Hi-Fi system power distributor
- all 3 phases of the domestic power grid are covered by the GRID and further MULTI GUARD PHASEs.
- Several MULTI GUARDS, appropriately distributed in the room, are coupled to form a comprehensive ROOM SHIELD.
- MULTI GUARD PHASE are located near significant sources of interference in the domestic power grid, such as computer, refrigerator, hob, router, etc., which are often in other rooms or even on other floors or in the basement.

# Setting up the MULTI GUARD

## 1. Step: Base setting GRID PROTECTOR

Connect\* GRID PROTECTOR at the first slot of the Hi-Fi system power distributor.

Connect antenna (upright position) and CONTROL UNIT (COUA), without 12V power supply.

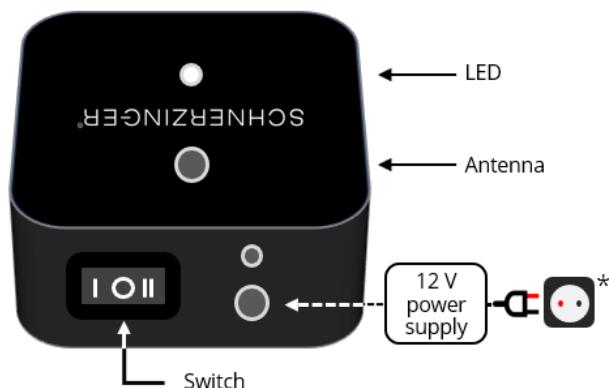
Set all 9 switches to base setting 0.

## 2. Step: Base setting master

Preferably the master should have an elevated central position within the listening room. Usually (power level 1), it will be operated without the 12V power supply. To maintain its performance, it should be connected to the grid with its 12V power supply once a year for 15 minutes.

**Connect antenna** (upright position) to the master, without 12V power supply.

Set the switch of the master to base setting 0.



## 3. Step: MULTI GUARD PHASE

Connect the first MULTI GUARD PHASE\*. By turning and bending at the hinge the antenna has to be brought to upright position for proper functioning.

Proven application are tested.

1. At a slot of the Hi-Fi power strip (e. g. last slot).
2. At another socket of the same phase in the room.
3. At another phase.

Retain the option with the best effect.

Then a second MULTI GUARD PHASE is tested in the same way as above, and possibly another MULTI GUARD PHASE.

This can be continued until no further improvement or even deterioration occurs.

It can be advantageous if all 3 phases of the domestic power grid are covered by the GRID and further MULTI GUARD PHASE.

MULTI GUARD PHASE may advantageously be connected near significant sources of interference in the domestic power grid, such as computer, refrigerator, hob, router, etc., which are often in other rooms or even on other floors or in the basement.



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

## Setting up the MULTI GUARD

### 4. Step: MULTI GUARD EARTH

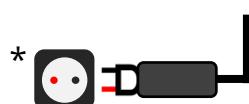
Connect the first MULTI GUARD EARTH\*. By turning and bending at the hinge the antenna has to be brought to upright position for proper functioning.

Proven application are tested.

1. At a socket of the Hi-Fi phase in the room.
2. At another phase.
3. At sockets in the listening room that complement the ROOM SHIELD with the already occupied slots of the MULTI GUARD PHASE.

Retain the option with the best effect.

One MULTI GUARD EARTH is usually sufficient. However, further MULTI GUARD EARTH can also be tested until no further improvement or even deterioration occurs.



### 5. Step: MULTI GUARD ROOM

Because MULTI GUARD PHASE and EARTH already include a ROOM function, the MULTI GUARD ROOM should only be used if further PHASE and EARTH do not lead to any further improvement or even to a deterioration.

MULTI GUARD ROOM are intended for the listening room. Due to their more spacious effect, they complement and reinforce the ROOM SHIELD in combination with the MULTI GUARD PHASE and EARTH already used in the listening room.

Connect the first MULTI GUARD ROOM\*. By turning and bending at the hinge the antenna has to be brought to upright position for proper functioning.

Different slots in the listening room are tested and the option with the best effect is retained.

The best slots for further MULTI GUARD ROOMs are iteratively tested and retained until no further improvement or even deterioration occurs.

The best effect is usually achieved when the MULTI GUARDS (incl. PHASE and EARTH) used in the listening room cover all room walls, e. g. by placing units near all 4 room corners, and form a high-performance ROOM SHIELD.

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

## Setting up the MULTI GUARD

### 6. Step: GRID PROTECTOR 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 to low, the best possible effect will not be reached yet. If the bandwidth is to high, even a sound degradation may occur.

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

### 7. Step: GRID PROTECTOR switches right:

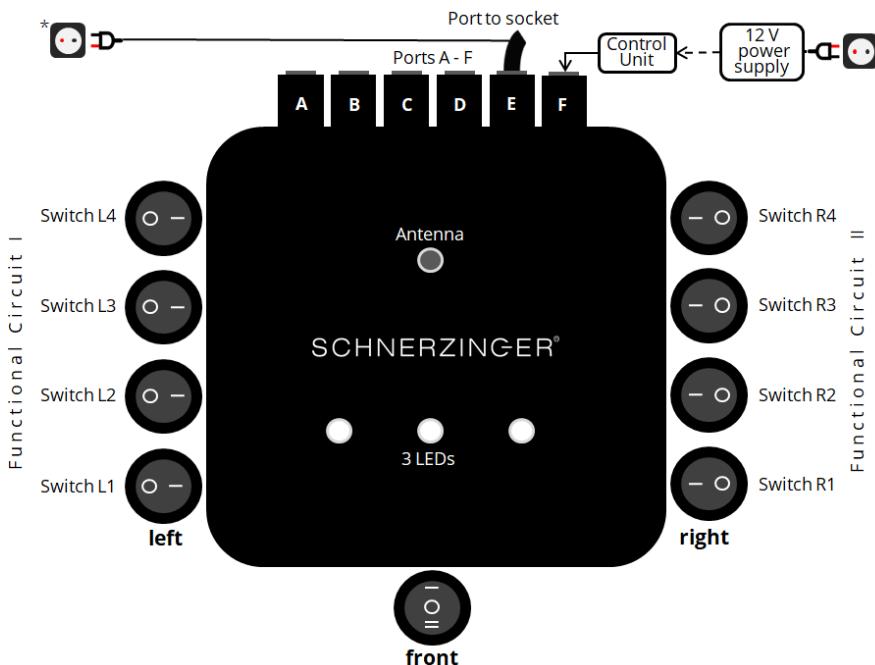
Functional circuit II – setting the **clocking**

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

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



### 8. Step: GRID PROTECTOR switch in front – 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 III!

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 4 and 5 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.

## Setting up the MULTI GUARD

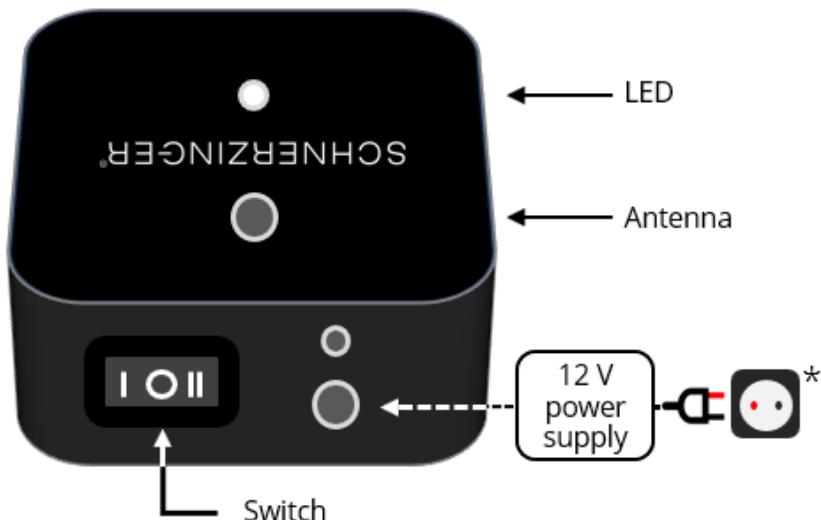
### 9. Step: Switch at the master – adjustment of the power level:

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 master 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.

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

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

2 = Power Level 3 – **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 MULTI GUARD

The **MULTI GUARD** 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 MULTI GUARD, the buffering effect absolutely has to be considered.

If the MULTI GUARD is switched off for a short time only, it still takes effect. But it only requires up to 15 minutes to reach its maximum performance.

Remove the MULTI GUARD MASTER and all MULTI GUARD units from the power grid and set all antennas to a horizontal position. Keep these conditions for several hours, preferably overnight. This way you achieve that the MULTI GUARD has no effect any more.

Upon recommissioning the interfering fields will be cleared again fast.

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