

INSTRUCTION MANUAL

MODEL ESS-801GL

Description	MODEL
Insulation pallet	03-00024A
Ground plane	03-00007A
Floor type vertical coupling plane	03-00034A
Discharge resistance cable	05-00054B

NOISE LABORATORY CO., LTD.

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1. IMPORTANT SAFETY PRECAUTIONS

Thoroughly understand the following precautions before use, as they are important matters for handling this unit in safety.

- 1. The purpose for this unit is to be used in the environment for electrostatic testing or immunity testing with other high voltages. Therefore please refer to the part of safety precautions on the attached manual for installing and operation of this unit.**
- 2. A number of safety recommendations are listed in "Basic safety precautions for this simulator" mentioned later. Be sure to read them before setting a test environment, connection and starting a test.**

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3. INTRODUCTION

We thank you very much for your purchase of ESS-801GL.

The Model ESS-801GL is manufactured for test set-up for floor-standing equipment in accordance with IEC 61000-4-2. The ESS-801GL can also be used for usual electrostatic discharge tests or impulse noise tests.

In order to obtain the highest performance from ESS-801GL, thoroughly understand the contents of this manual and use as ready reference for operation.

Features

1. It can be used for conducting tests on IEC 61000-4-2 in combination with our Electrostatic Discharge Simulators.
2. Wooden insulation pallet minimizes the loss of energy produced by the simulator and the loss of high-frequency electromagnetic field, resulting in excellent determination and reproducibility.
3. It can be maintained the distance at 0.1m between vertical coupling plane and EUT by dabbing at the floor equipment.

4. APPLICATION FORM FOR INSTRUCTION MANUAL

To: Noise Laboratory Co., Ltd.

We place an order for an instruction manual.

Model: ESS-801GL

Applicant:

Company name: _____

Address: _____

Department: _____

Person in charge: _____

Tel No.: _____

Fax No.: _____

=====

Cut off this page "APPLICATION FORM FOR INSTRUCTION MANUAL" from this volume and keep it for future use with care.

When an INSTRUCTION MANUAL is required, fill in the above Application Form and mail or fax it to the following sales department of our company.

5. BASIC SAFETY PRECAUTIONS

5-1 Hazard symbols



It expresses a DANGER.

DANGER indicates an impending dangerous condition resulting in a serious **injury or death**, if such a condition is not avoided.



death or serious injury.

It expresses a WARNING.

WARNING indicates a potentially hazardous situation which, if not avoided, could result in



It expresses a CAUTION.

CAUTION indicates a potentially hazardous a situation which, if not avoided, may result in **minor or moderate injury**.

5-2 Fundamental Safety Precautions



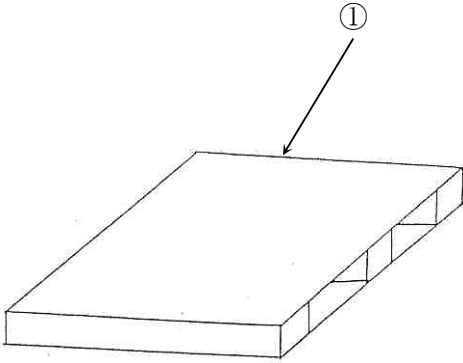
1. ESS-801GL shall be assembled before use. For assembling, follow the assembling instructions shown in a later part of this manual. Assembling can be performed only in a safe place and by two or more persons. Follow the general safety instructions of the users' work place. Working in an inappropriate environment may lead to an injury. 【Precautions for human body, environment and assembling】
2. Do not use this unit but the purpose for use. 【Precautions for handling】
3. Install the test table on a flat floor surface. 【Precautions for installation】

⚠ CAUTION 注意

4. As the vertical coupling plane is a thin plate, carefully handle it. Otherwise you may suffer an injury. Pay special attention to handling of this plane. **【Precautions for handling】**
5. As the ground planes are thin plates, wear gloves when handling them. As they are weighty part, be careful not to drop it on your feet. **【Precautions for handling and installation】**
6. Never put any device which generates fire or high heat on or in proximity to the table. **【Precautions for handling and installation】**
7. Do not let the product contact with water, oil or other chemical agent. **【Precautions for handling】**
8. Before doing any testing in the environment of the test facilities, read fully to know inside out of test method and read the manual for electro statistic unit, ESD Gun and Noise simulator and use properly. **【Caution against human, operation and environments】**
9. NOISE LABORATORY and its selling agents shall not be liable for any accident resulting in injury or any physical damage due to abuse or mishandling of this unit, and also shall not assume the responsibility for any resultant damages. **【Precautions for human body, operation, environments and connection】**
10. Avoid using or storing this product in a high temperature or low temperature environment. (Operating temperature range: 15~35°C/ Operating humidity range: 25~75%) **【Caution against environments】**
11. When repair, maintenance work or internal adjustment is required, our company's service engineer or our designated service engineer takes charge of such work.
12. Do not wipe this product with thinner, alcohol or other solvent. When the body is dirty, soak a cloth into neutral detergent, squeeze out the detergent from the cloth and wipe the body with the cloth.

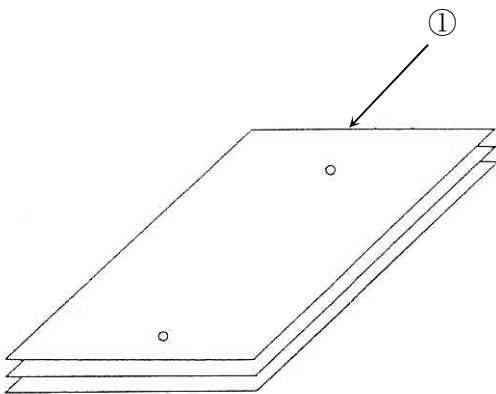
6. CONFIGURATION

Insulation pallet (MODEL:03-00024A)



- ① Insulation pallet.....1 pc
1200×1200×(H) 100 mm
Material: Wood

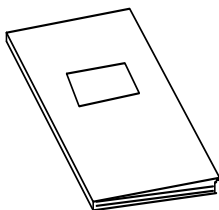
Ground plane (MODEL:03-00007A)



- ① Ground plane 3 pcs
1800×1000×(T) 1.5 mm
MaterialAluminum
- ② Screw M3 with washer.....14 pcs
(Spare 2pcs.)
(For ground plane connection)

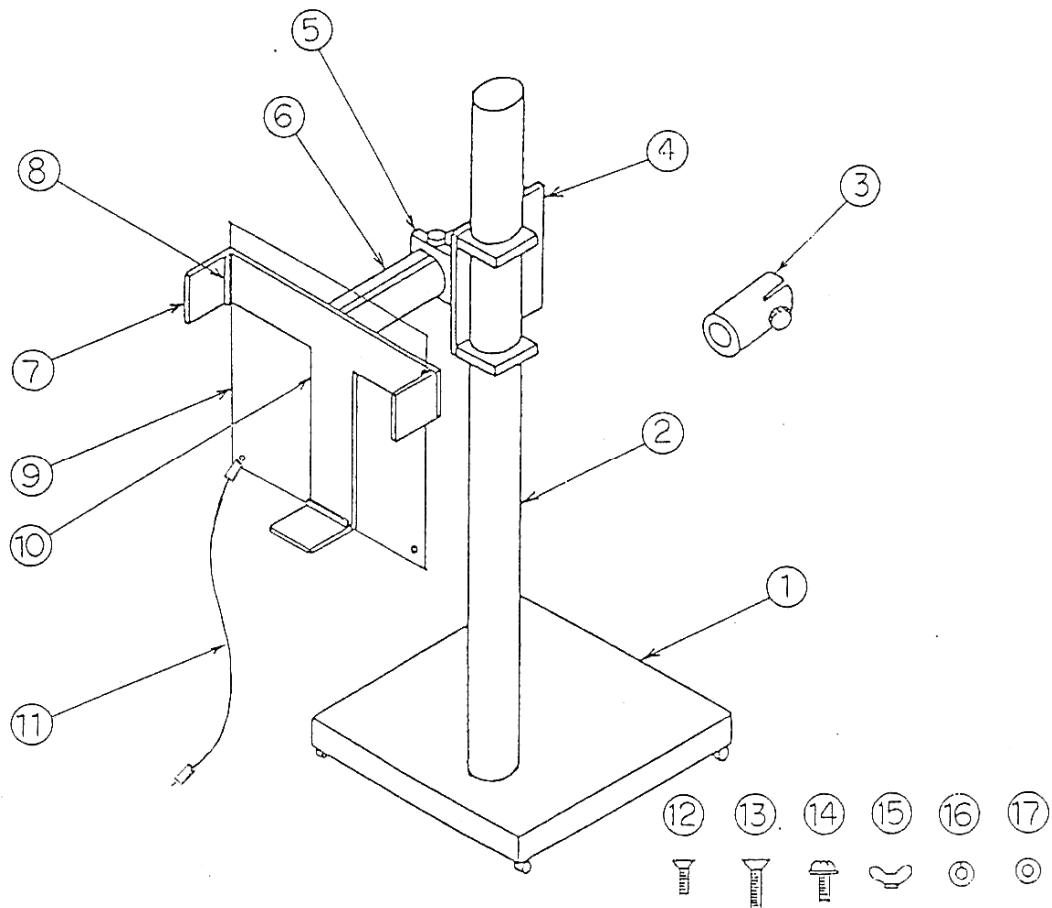


Instruction manual



- ① Instruction manual (This book)..... 1pc

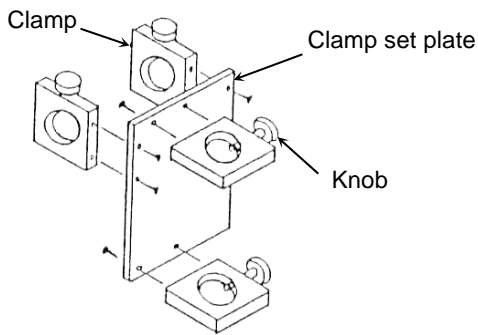
Floor type vertical coupling plane (MODEL:03-00034A)



- | | | | |
|---|---------------------------------|---------------------------------------------------|-------------------------------------------|
| ① | Base..... | 1 piece | Material: Wood |
| ② | Column..... | 1 piece | Material: Wood |
| ③ | Center adaptor..... | 1 piece | Material: Delrin |
| ④ | Clamp set plate..... | 1 piece | Material: Bakelite |
| ⑤ | Clamp..... | 4 pieces | Material: Bakelite |
| ⑥ | Sliding column..... | 1 piece | Material: Wood |
| ⑦ | Plate A..... | 3 pieces | Material: Bakelite |
| ⑧ | Plate B..... | 3 pieces | Material: Bakelite |
| ⑨ | Vertical coupling plane..... | 1 piece | Material: Aluminum, 500 x 500 x (T)1.5 mm |
| ⑩ | T-plate | 1 piece | Material: Bakelite |
| ⑪ | Discharge resistance cable..... | 1 piece | Resistance: 470 Ω x2 (MODEL:05-00054B) |
| ⑫ | M3 flat head screw | 14 pieces (spare 2) | |
| | | | For assembling plates A and B |
| ⑬ | M4 flat head screw | 14 pieces (spare 2) | for assembling T-plate at clamp |
| ⑭ | M4 screw with washer..... | 3 pieces (spare 1) | |
| | | | for connecting discharge resistance cable |
| ⑮ | Wing nut..... | 1 piece (Attached to ① base, for assembling base) | |
| ⑯ | M8 SP washer..... | 1 piece | For assembling base |
| ⑰ | M8 flat washer..... | 1 piece | For assembling base |

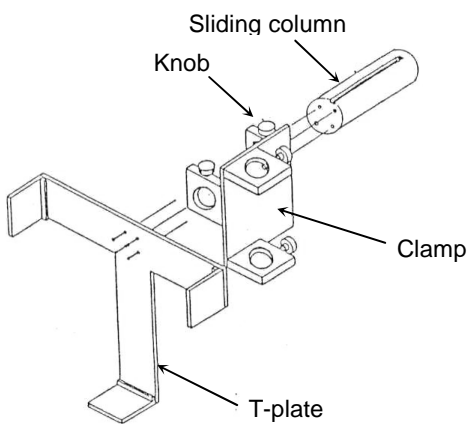
7. HOW TO ASSEMBLE

7-1. How to assemble the vertical coupling plane base



Assemble step 1:

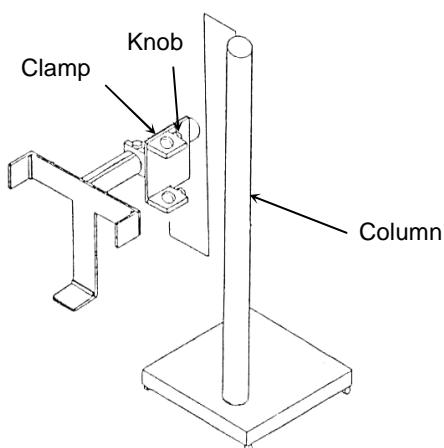
Fix Clamp to Clamp Set Plate with M4 flat head screw as shown in the figure.



Assemble step 3:

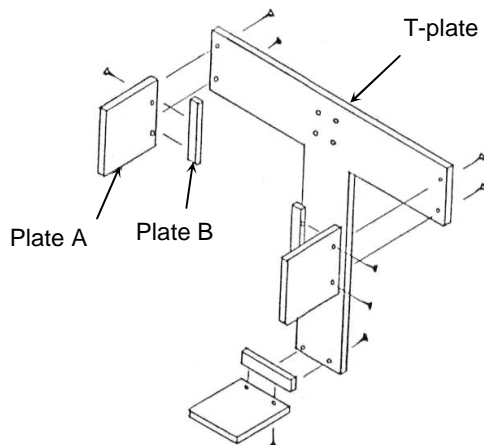
Loosen Knob of Clamp and pass Sliding Column as shown in the figure. Then fix T-plate with M4 flat head screw (supplied) as shown in the figure.

(Note) Do not excessively loosen Knob.



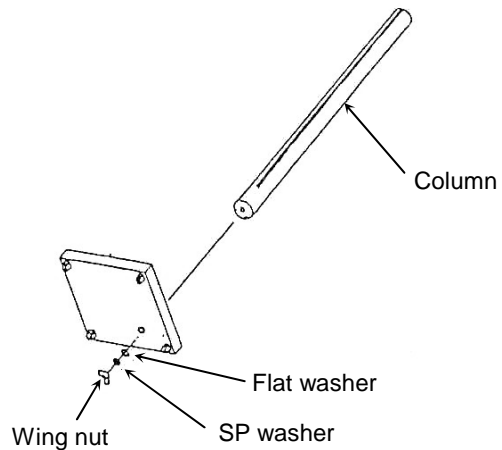
Assemble step 5:

Loosen knob of Clamp and finally pass Column in Clamp.



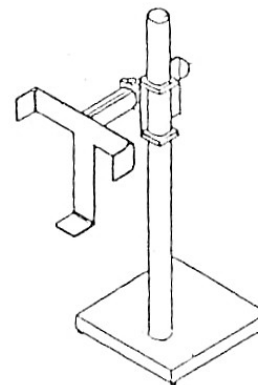
Assemble step 2:

Fix Plate A and Plate B to T-plate with M3 screw as shown in the figure.



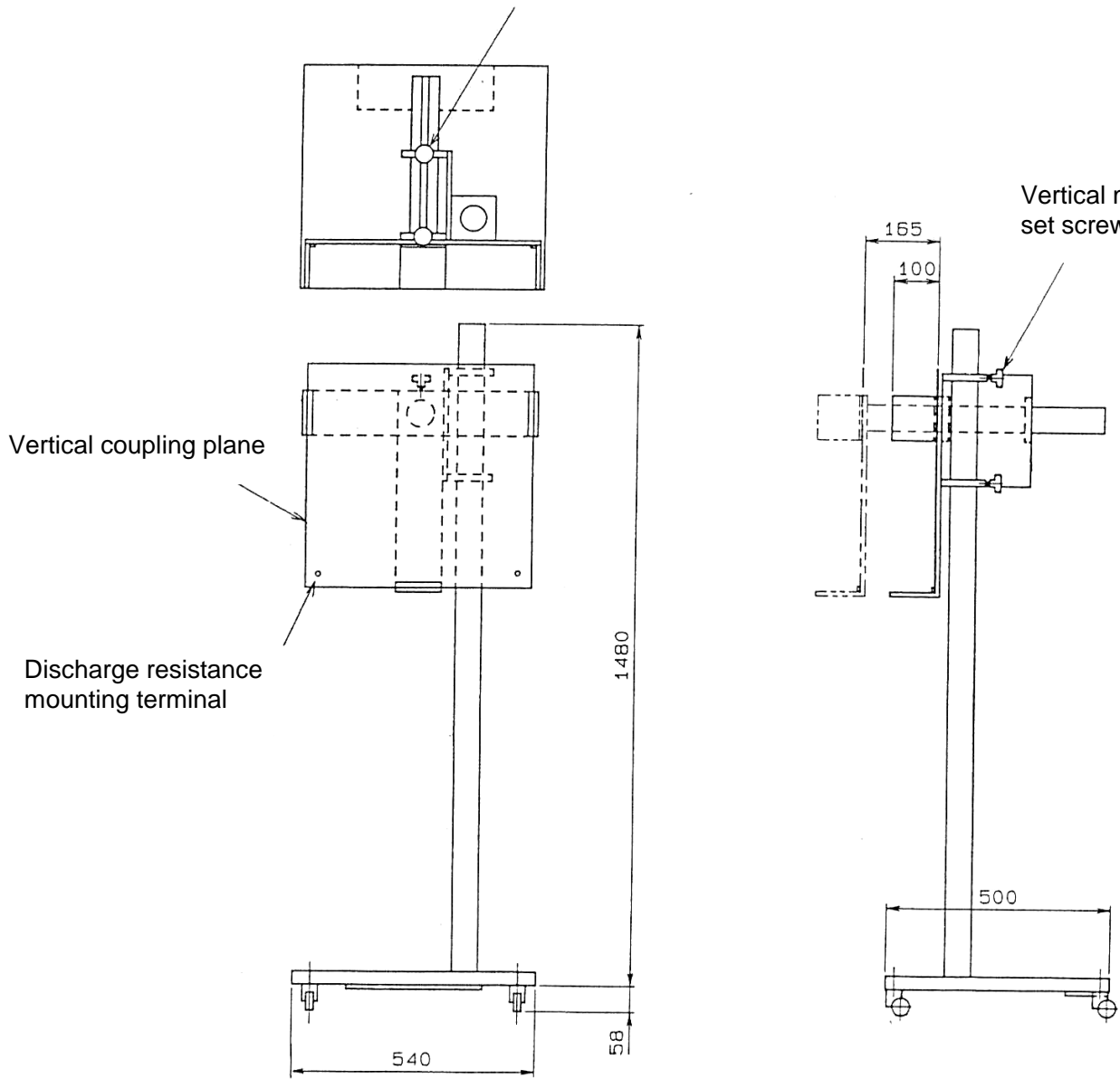
Assemble step 4:

Pass Column through Base as shown in the figure. Fix Bolt with Wing Nut.

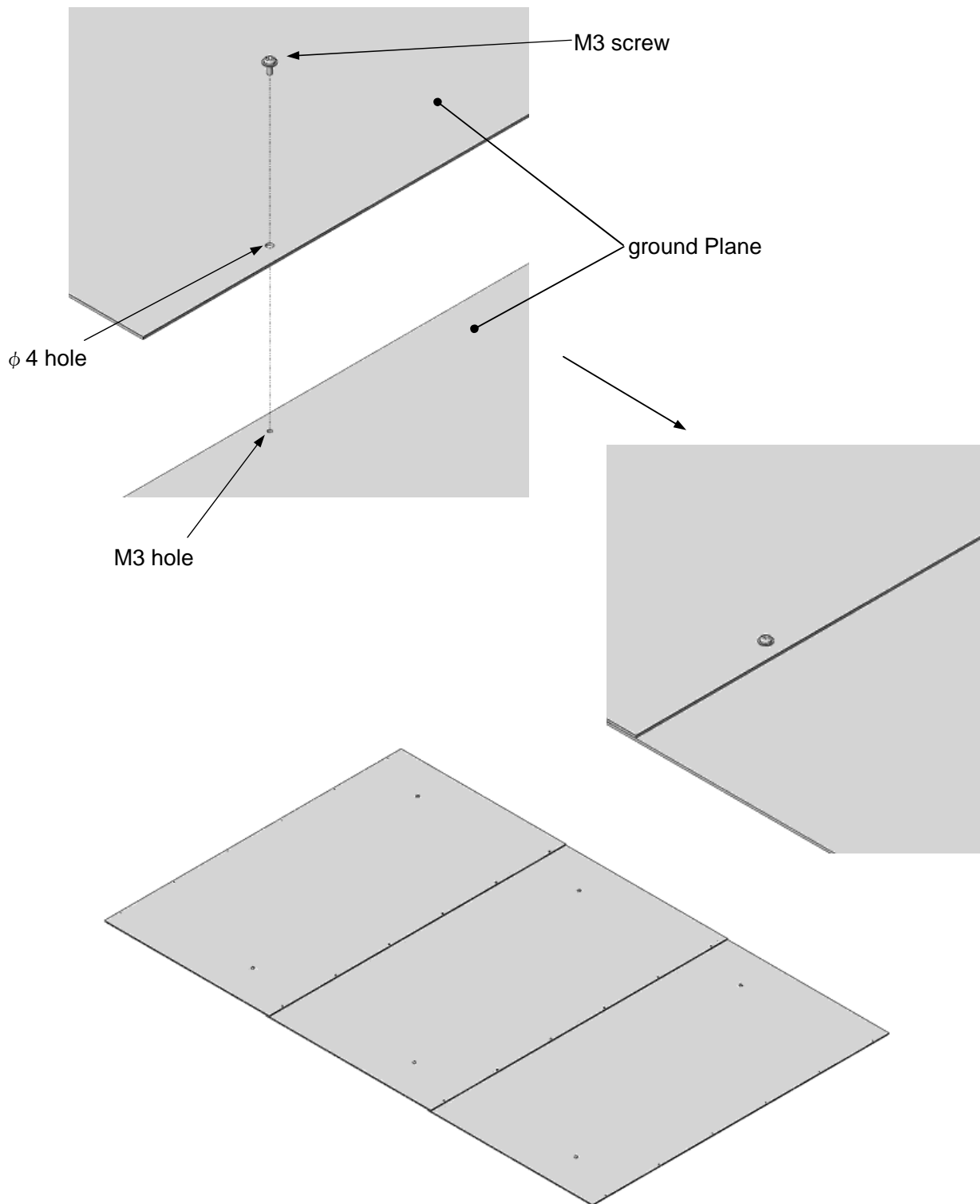


Final drawing

Front-to-back moving guide set screw



7-2. How to connect the ground plane



As shown in the above figure, fit the holes of the ground planes and fix them with the supplied M3 screws with washer.

3. Place the insulating platform on top of the ground plane, confirm that the platform does not wobble, then place the EUT on top of the platform. Do not lay anything on top of the insulating platform.
4. Move the assembled floor-standing vertical coupling plate onto the ground plane, loosen the knobs for adjusting the vertical and horizontal clamp position, and slide the vertical coupling plate until plate A (guide plate) comes into contact with the external surface of the EUT for which the indirect discharge test is to be performed. After setting in the location where the indirect discharge is to be applied, tighten the two knobs on the clamp to secure the vertical coupling plate in position. This ensures that the distance between the EUT and vertical coupling plate is kept at 0.1m.
5. Using an M4 bolt (with washer), attach the discharge resistance cable to the vertical coupling plate. Using an M4 bolt (with washer), connect the other end of the discharge resistance cable to a boss hole (M4) on the ground plane. It does not matter which end of the discharge resistance cable is connected to the plate and which to the ground plane.
6. If required, plug the AC power cable from the EUT into an isolating transformer (use of a NoiseKen NCT Series transformer is recommended).
 - ☆ Although the EN/IEC 61000-4-2 standard does not allow use of an isolating transformer, the Japanese JIS C 61000-4-2 standard stipulates how to connect an isolating transformer when the EUT specifications and Japanese power supply conditions make this necessary.
7. Place the electrostatic tester on the ground plane. Placing the tester on the insulating platform is not permitted.
8. Connect the ground cable from the discharge gun to the ground plane. The boss holes (M4) on the ground plane can be used as connection terminals. In some cases, the size of the EUT or its position relative to the electrostatic tester will prevent the ground cable from reaching a boss hole (M4), or mean that the discharge gun cannot be brought close to the EUT when the ground cable is connected. In situations such as this, add a new ground terminal at a convenient location on the ground plane using a bolt and braided wire.

Also, attach the center adapter to the conical discharge tip of the discharge gun, and insert the vertical coupling plate into the groove at the tip to use as a guide for maintaining the indirect discharge position.

Notes

Even in the case of comparatively large floor-standing EUTs, if the EUT lacks a ground cable due to use of battery power, for example, the application of electrostatic discharges causes EUT itself to leave a residual charge, reduce the effectiveness of subsequent discharges and we will lose the validity of the test result.

To avoid this problem, the EN/IEC 61000-4-2 standard stipulates that any residual charge on the EUT be neutralized after each application of electrostatic discharge, and the supplied discharge resistance cable can also be used to neutralize* any residual charge on the EUT.

In the case of an EUT with sites for applying an electrostatic discharge such as metal connectors or shells on a case made of plastic or other non-conductive material, it is permitted to leave a neutralizing cable connected to the point of application while discharges are applied. In this Case, there is a stipulated orientation for connecting this cable. The supplied discharge resistance cable has two 470 k Ω resistors. If using this cable, connect the resistor contained in the square pillar case to the point of application, while for the resistor contained in the round pillar case, connect the crimped terminal at the end of the cable to the horizontal coupling plate.

If the test results are different depending on the method used to neutralize residual charge, use the results of tests in which the charge is neutralized between each discharge application.

* A special-purpose neutralizing brush (Model 05-00125A) designed for removing residual charge from EUTs is available as an option.

9. WARRANTY

Servicing terms

The following terms are applicable to servicing by Noise Laboratory Co., Ltd., (hereafter referred to as the Company) provided to maintain the intended performance of its products.

1. Scope

The following terms shall apply only to products made by the Company.

2. Technical servicing fee

In the event of a failure of a product within the warranty period (see warranty section), the Company will repair a product without charge. After the warranty expires, repairs will be billed at a nominal cost.

3. Ownership of defective parts

Any defective part exchanged under the Company's servicing belongs to it.

4. Limited liability

In the event that damages resulting from servicing by the Company are intentional or caused by negligence, the Company will pay the cost but at the purchase value of the relevant product maximum. But, notwithstanding the foregoing, the Company shall not be responsible for any incidental or consequential damages of any nature, including without limitation thereof loss of would-be profit or compensation demanded from a third party

5. Refusal to offer servicing

The company may not accept a repair order in the following cases:

- More than 5 years have passed since the product discontinued
- More than 8 years have passed after delivery
- Required component for servicing already discontinued and no alternative is available.
- Product changed, repaired or remodeled without obtaining a prior permission from the Company.
- Product severely damaged to the extent it has lost its original form

Limited warranty

Noise Laboratory Co., Ltd. (hereafter referred to as the Company) warrants its products to be free from defects in materials and workmanship under normal use and service for a period of one year from date of delivery. In the event of failure of a product covered by this warranty, the Company will repair the product or may, at its option, replace it in lieu of repair without charge.

Notwithstanding the foregoing, the Company shall not be responsible for any incidental or consequential damages of any nature, including without limitation thereof loss of would-be profit or compensation demanded from a third party. This warranty is valid only in Japan.

1. Scope

This warranty shall only apply to products made by the Company.

2. Period

One year from date of delivery. The warranty may be valid in 6 months after servicing if the same failure on the same component has repeated.

3. Exclusions

The followings are exclusions from this warranty:

- Consumable parts (including HV relay)
- Failure caused by misuse, neglect, accident or abnormal conditions of operation
- Failure caused by remodeling on the user side without prior permission from the Company
- Failure caused by servicing by unauthorized personnel by the Company
- Failure due to force majeure including but not limited to, acts of God, fire, war, riot, rebellion and others
- Failure due to shock or drop in or after transit
- Failure due to operation in environment being out of ambient specifications.
- A unit shipped to overseas.

10. MAINTENANCE

1. When repair, maintenance or internal adjustment of the unit is required, a qualified service engineer takes charge of such work.
2. Maintenance on the user side is restricted to the outside cleaning and functional check of the unit.
3. When checking or replacing the fuse, turn off the switch of the unit and disconnect the plug socket beforehand.
4. When cleaning the unit, turn off the switch of this unit and the connected equipment and disconnect the plug socket beforehand.
5. Avoid using chemicals for cleaning. Otherwise, the coating of the unit may peel off or the sight glass may be broken.
6. Do not open the cover of this unit.

11. NOISE LABORATORY SUPPORT NETWORK

- If a symptom that seems a trouble is found, check the symptom against the following check sheet and inform the model name and serial Number of the product together with the symptom to Noise Laboratory or our nearest sales agent in your area.
- When the product is returned to Noise Laboratory, write the state of the trouble, contents of your request, model name and serial number in a repair order, pack the product and repair order sheet in the former package or equivalent suitable for transit, and send them back.

NOISE LABORATORY CO., LTD.

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Printed in Japan