

**INSTRUCTION MANUAL**

**FARADAY CAGE**

**MODEL FC-100**

**NOISE LABORATORY CO., LTD.**

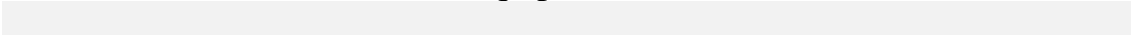
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Edition 1.01

Memorandum

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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.

- ✧ This unit cannot be used in an explosive area, fire prohibited area, etc. Use of this unit in such an area is liable to cause combustion or ignition.
  - ✧ A person who has a pacemaker on should not operate this unit and also should not enter the area where it is operating.
  - ✧ Be sure to connect the grounding cable (clip) of the discharge gun to GROUND terminal of this product, otherwise causing an electric shock or a breakdown of equipment.
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## 2. Application Form for Instruction Manual

We place an order for an instruction manual.

**Model:** FC-100

**Serial No.:** \_\_\_\_\_

**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.

To: Noise Laboratory Co., Ltd.

3F, Shin-Yurigaoka City Bldg., 1-1-1, Manpukuji, Asao-Ku,  
Kawasaki City, Kanagawa Pref., 215 Japan

Tel: +81-(0)44-959-1951

Fax: +81-(0)44-959-1918

### 3. Preface

We thank you very much for your purchase of Faraday Cage FC-100. In order to fully utilize this cage, we recommend that this operation manual is thoroughly read and used as ready reference for operation.

- Keep this operation manual in a readily accessible place whenever you use the FC-100.
- The FC-100 is used to check, verify and calibrate the output waveforms of an electrostatic simulator for conducting an electrostatic discharge immunity test conforming to IEC Pub. 1000-4-2 (IEC pub. 801-2).
- The FC-100 is provided to calibrate an electrostatic simulator Model ESS-200AX and other models. This operation manual describes operating instructions for FC-100 alone. As to operating instructions for electrostatic simulators, refer to the respective simulators.

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## 5. Name and Function of Each Part

### 5-1. Front view

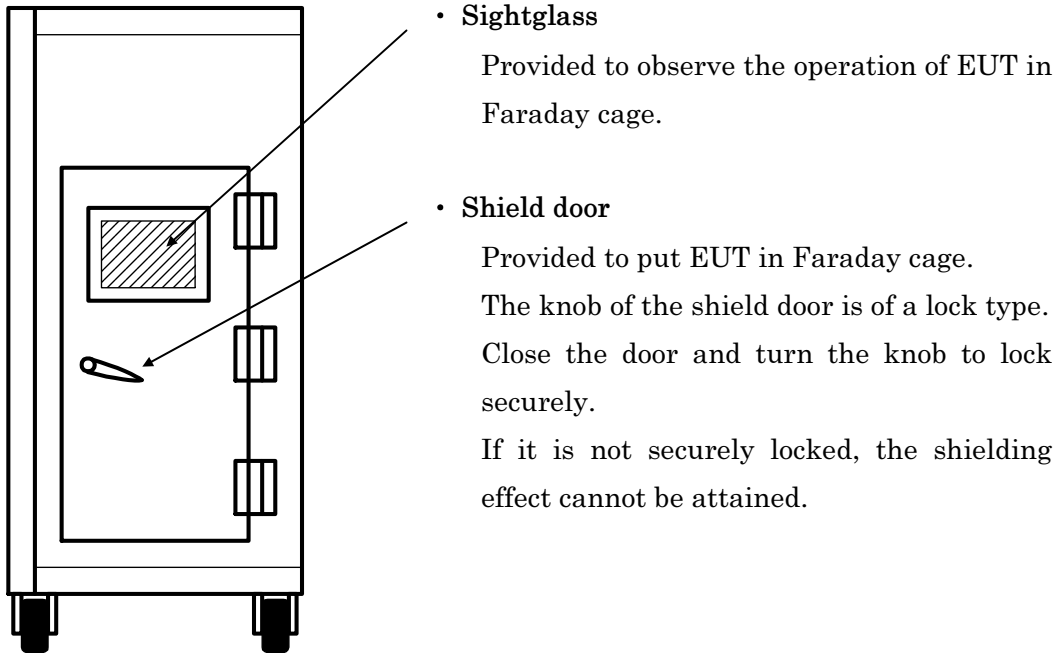


Fig. 1

### 5-2. Side view

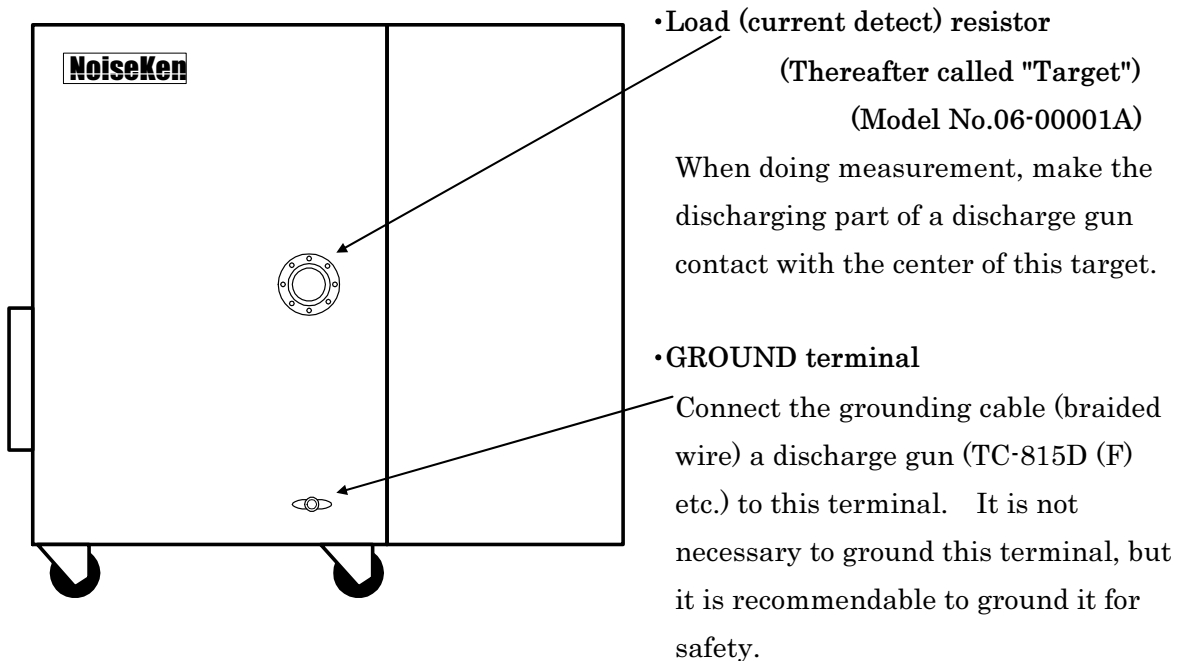


Fig. 2

5-3. Rear view

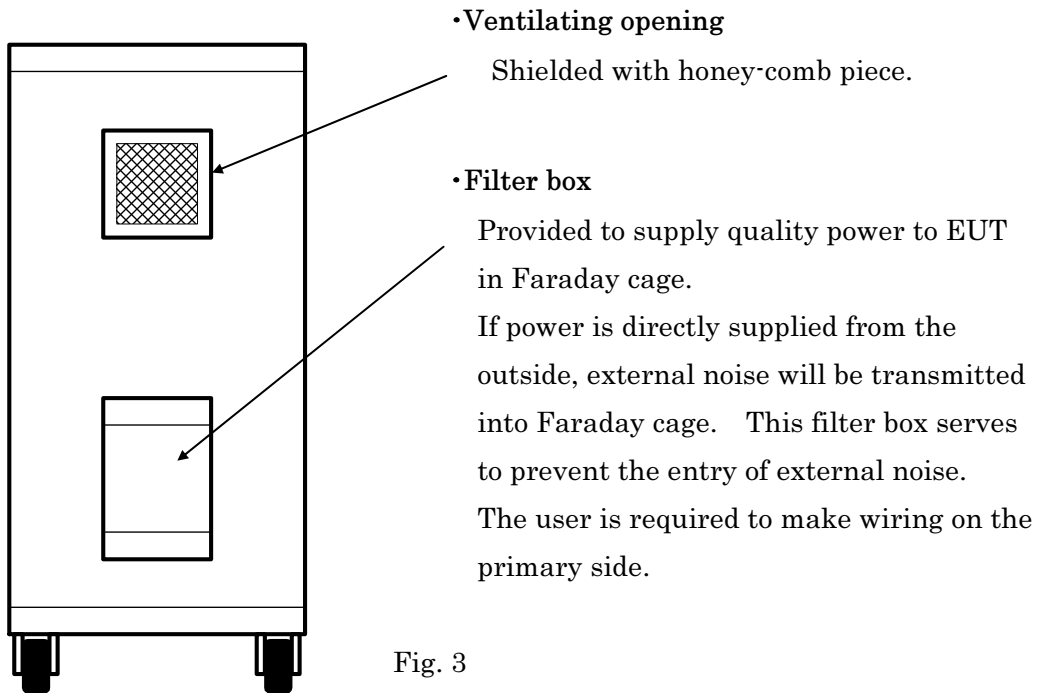


Fig. 3

5-4. Inside of Faraday cage

Faraday cage incorporates two 2P + E plug sockets for supplying power to EUT.



## 6. How To Use

### 6-1. How to use

- ① Connect the primary side power supply to the filter of Faraday cage.
- ② Put an oscilloscope into Faraday cage and supply power to the oscilloscope through the plug socket in Faraday cage.  
※As a metallic base is provided in Faraday cage, place the oscilloscope on the base.
- ③ Connect BNC connector located in Faraday cage to the oscilloscope using the supplied coaxial cable.  
※Use an oscilloscope whose frequency band is at least 1GHz.  
※As the level of voltage that can be input for an oscilloscope with frequency band of 1GHz or more is low, it is recommendable to put an attenuator of about 20dB between the target and oscilloscope for protection.
- ④ Make the target of Faraday cage contact with the discharging part of an discharge gun for electrostatic simulators and fix it with a probe stand (option).
- ⑤ Connect the grounding cable of the discharge gun to GROUND terminal of Faraday cage.
- ⑥ Operate the electrostatic simulator and observe the waveform through the oscilloscope in Faraday cage.

※ Check points for waveforms output to oscilloscope are shown in Fig. 4 for reference.

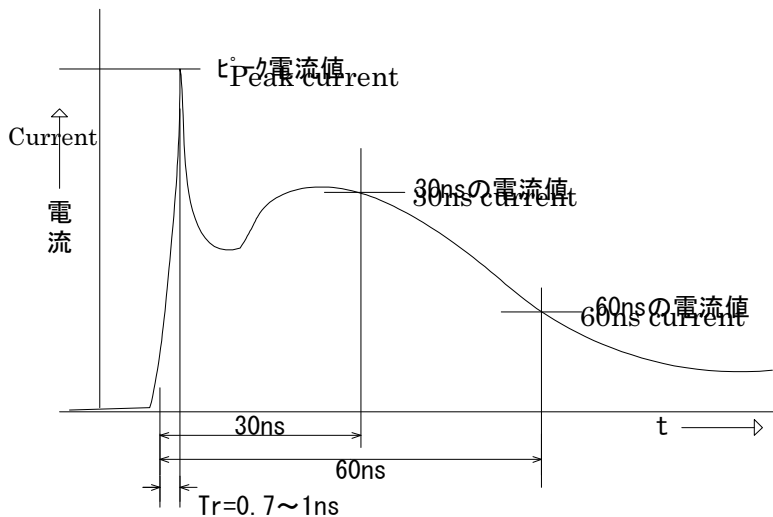


Fig. 4

## 6-2 How to connect

How to connect is shown below:

Faraday cage

FC-100

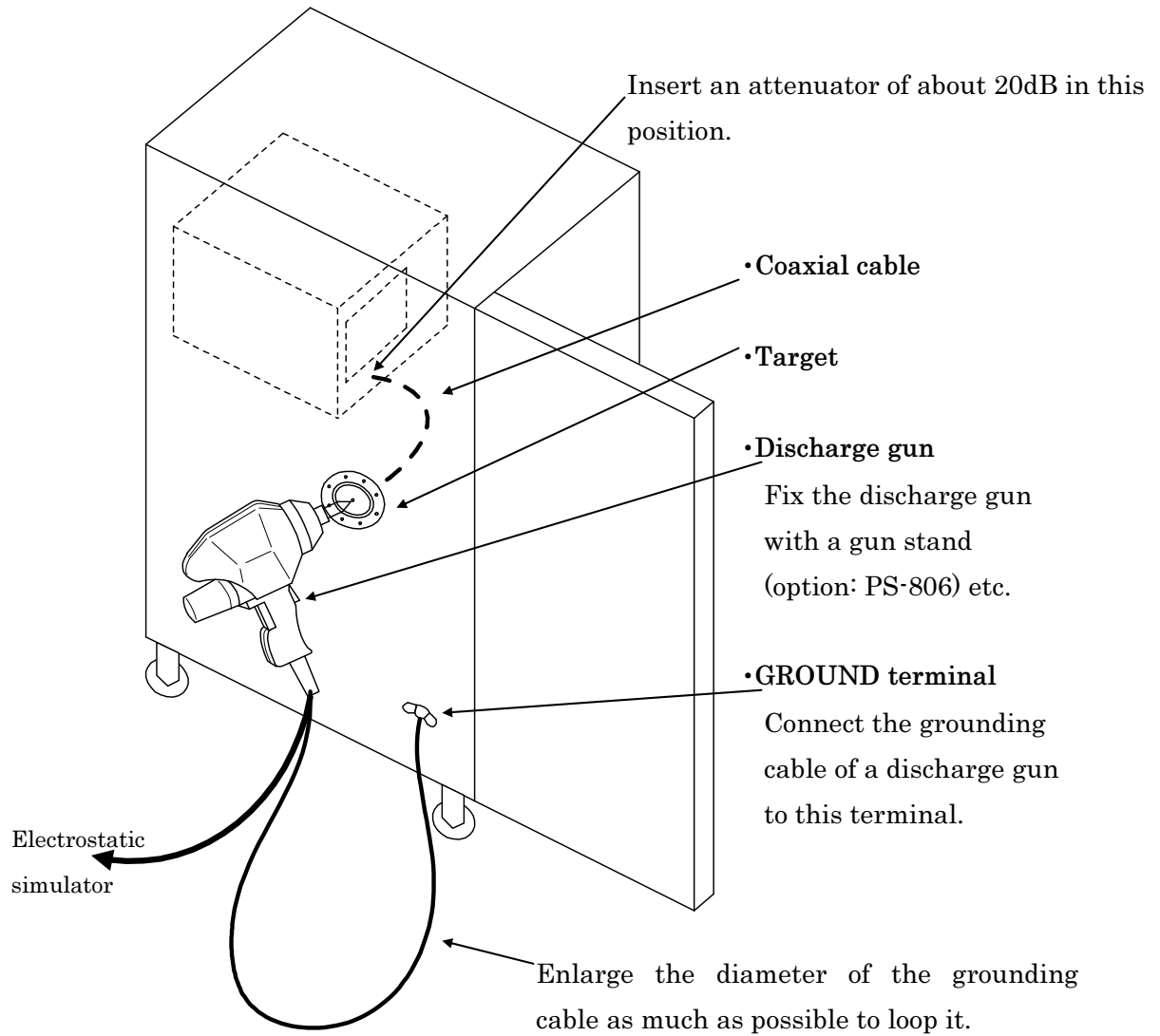


Fig. 5

## 7. Specifications

### 7-1. Main Unit

Item	Specifications		Property and quantity
1) Shielding characteristics	Magnetic field	150KHz~30MHz	60dB or more
	Electric field	150KHz~30MHz	60dB or more
	Plane wave	30MHz~1GHz	60dB or more
2) Power line shielding characteristics	Power supply for EUT	10kHz~100kHz	60dB or more
3) Size	Refer to Fig. 6 below.		
4) Shield door	Construction	Shield gasket contact type	
	Open/close mechanism	Swing type	
	Opening size	(W)350x(H)900mm	1 place
5) Electric equipment	Ordinary plug socket	2P-15A+E 200V system	Doubles-slot
6) RF filter	RF filter for the above-mentioned equipment		1 pc.
7) Weight	Approx. 170kg		
8) Power supply capacity	1kVA		

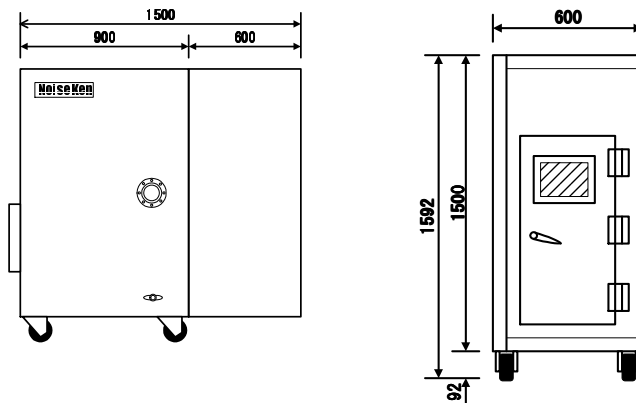


Fig. 6

### 7-2. Target

Items	Specifications
Voltage	15kV MAX
Output impedance	50 Ω
Conversion ratio	1V/1A (At 50 Ω termination) 2V/1A (Open)
Output side connector	N-R type
Size	70 φ x 39 mm
Weight	Approx. 200g

## 8. Accessories

- ① Coaxial cable (50cm) ..... 1 piece
- ② Instruction manual (this book) ..... 1 volume

## 9. Warranty

1. For period of one (1) year from date of delivery, this unit and its accessories will be repaired free of charge.
2. However, replacement of consumable parts during the warranty period shall not be covered by this warranty.
3. If some part fails during this warranty period, such part will be repaired or replaced free of charge, or it will be changed for equivalent when needed. In this case, Noise Laboratory shall decide on the content of repair.
4. Any trouble or damage due to careless handling or remodeling on the user side and any resultant damages shall not be warranted. In this case, the warranty shall be void, even if the customer or any third party interferes with the warranty condition.
5. Once product has been delivered to the customer, our company shall have no responsibility for a damage to such product during transit.
6. Any trouble or damage due to fire, earthquake or other natural disaster shall not be covered by this warranty.

## 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 use side is restricted to the outside cleaning and functional check of the unit.
3. When cleaning the unit, turn off the switch of this unit and the connected equipment and disconnect the plug socket beforehand.
4. Avoid using chemicals for cleaning. Otherwise, the coating of the unit may peel off or the sight glass may be broken.
5. Do not open the cover of the unit.

## **11. Noise Laboratory Support Network**

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

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

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