

<b>CONTENTS</b>	
1. IMPORTANT SAFETY PRECAUTIONS.....	1
2. PREFACE.....	1
3. BASIC SAFETY PRECAUTIONS.....	1
4. CONTENT.....	2
5. SPECIFICATIONS.....	2
6. INSTALLATION.....	3
7. USAGE.....	4
8. INSPECTION.....	5
9. WARRANTY.....	6
10. MAINTENANCE.....	7
11. SUPPORT NETWORK.....	7
12. APPLICATION FORM.....	7

### NOTICE

- The contents of this booklet are subject to change without prior notice.
- No part of this booklet may be reproduced or transferred, in any form, for any purpose, without the permission of Noise Laboratory Co., Ltd.
- The contents of this booklet have been thoroughly checked. However, if a doubtful point, an error in writing or a missing is found, please contact us.
- Noise Laboratory Co., Ltd. shall have no liability for any trouble resulting from the misuse or improper handling of this product regardless of the contents of this booklet or arising from the repair or remodeling of this product by a third party other than Noise Laboratory Co., Ltd. or its authorized person.
- Noise Laboratory Co., Ltd. shall have no liability for any trouble resulting from the remodeling or modification of this product.
- In no event shall Noise Laboratory Co., Ltd. be liable for any results arising from the use of this product.
- Trademarks, company names, and similar that appear in this document are trademarks or registered trademarks of their respective companies. This document does not use the TM and ® symbols.

### 1. IMPORTANT SAFETY PRECAUTIONS

This product is the current target which is designed for trained electrical technicians to calibrate the electrostatic discharge (hereinafter "ESD") simulator which is prescribed in the standard EN/IEC 61000-4-2 Ed 2.0/ISO 10605 Ed 2.0.

Calibrating ESD simulator might cause troubles to human bodies or to instruments with electric shocks and so on. For safe ESD simulator calibration, read carefully "Important safety precautions" and "Basic safety precautions" of the instruction manual of ESD simulators and discharge guns as well as this instruction manual beforehand.

### 2. PREFACE

Thank you for your purchasing Current target MODEL: 06-00094A (the Unit). In order to obtain the highest performance of the Unit, thoroughly understand the contents of this instruction manual.

- This instruction manual will help operators handle and utilize the Unit in safety.
- Keep this instruction manual on a place where it is readily available.

#### -- Features --

- Current target for calibrating ESD simulator conforming to IEC 61000-4-2 Ed 2.0 and ISO 10605 Ed 2.0.
- Available to install on to Faraday cages and boards for current detecting.

### 3. BASIC SAFETY PRECAUTIONS

- Fully be careful not to drop the Unit in handling, especially when it is being installed.  
【Precaution for handling and connection】
- Install the Unit on the Faraday cage or the installation board firmly. Avoid injecting voltage while the output

terminals are in open status.

【Precaution for connection and operation】

- Do not input voltage exceeding specification value. Failure to follow this instruction risks an electric shock caused by ESD as well as damage or deterioration of characteristics of the Unit.

【Precaution of human body and operation】

### 4. CONTENT



ESD current target 06-00094A .....	1 pcs
20dB attenuator (SMA ) 00-00022A .....	2 pcs
Coaxial cable(SMA-SMA 1.0m) 02-00157A .....	1 pcs
M3 × 14 screw .....	8 pcs
M3 flat washer .....	8 pcs
M3 spring washer.....	8 pcs
M3 nut .....	8 pcs
Instruction manual.....	1 pcs

### 5. SPECIFICATIONS

The specifications of the current target for calibrating ESD simulators are prescribed in the standard IEC 61000-4-2 Ed 2.0 and ISO 10605 Ed 2.0 and its basic structure is also illustrated in the standards.

This product is designed and manufactured according to the both of the above standards.

Items	Specifications	
Injection voltage (pulse)	30kV MAX	
Input resistance	2.04 Ω	
Output impedance	2.04 Ω ※1	
Insertion loss (S21)	≤1GHz	Within ±0.5dB
	1GHz~4GHz	Within ±1.2dB
Output connector	SMA type	
Dimensions	70 φ × 35mm	
Weight	Approx. 480g	

※1. This product is designed to be adaptable for 50 Ω type transmission system with connecting a 20dB attenuator to the output connector directly.

### 6. INSTALLATION

☆Install the Unit on Noiseken's Faraday cage (MODEL: FC-200) or Noiseken's target installation board (MODEL: 03-00052B) with the following procedure.

- For installing the Unit on both FC-200 and 03-00052B, since they have 8 pilot holes with M3 tap, the supplied nuts and washers are not necessary.
- Fit the Unit into the hole for installation of FC-200 or 03-00052B, position it to screw holes with supporting it by hands not to drop it, insert the supplied M3 screw into the topmost hole of the 8 screw holes, and fix it temporarily with rotating the screw several times.
  - Fit the screws at the other 7 screw holes and tighten them temporarily as the topmost hole.
  - Tighten equally in diagonal order all of the 8 screws which are fixed temporarily. Pay fully attention not to destroy a resinous part sandwiched between cover plates since it is apt to be broken if screws are tightened too strongly.

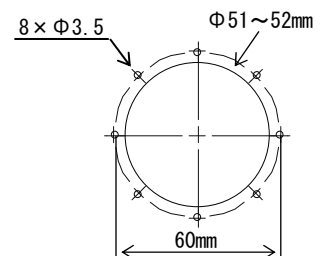
#### --Notice--

M3 flat washers, M3 spring washers, and M3 nuts are attached as accessories of the Unit for installing it onto equipment (without M3 tapped screw holes) other than FC-200 or 03-00052B.

It is recommendable that two persons should work together for installation not to drop the Unit.

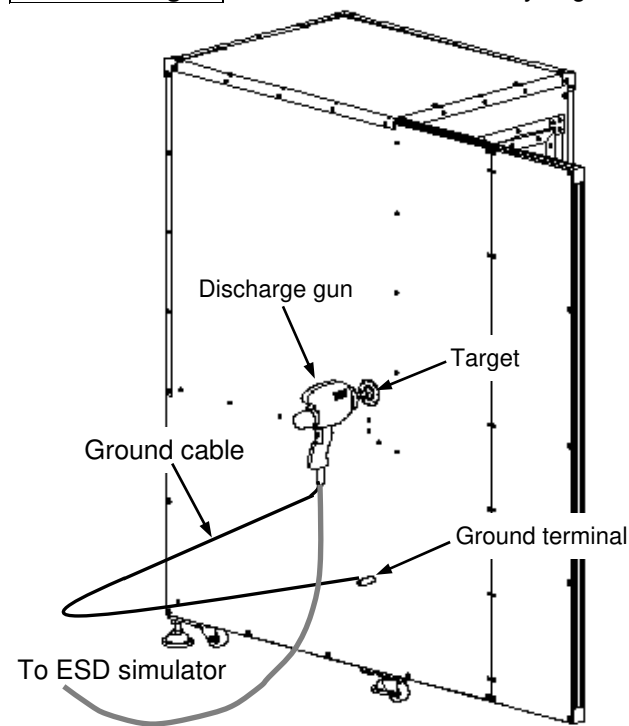
#### Guidance

In case of installing the Unit onto the wall of a shield room, a Faraday cage other than Noiseken's, or so on, make a Φ51~52mm hole on that object and also make 8 pieces of Φ3.5mm holes at 45° interval on the circumference of the Φ60mm circle concentric with the above Φ51~52mm hole. Make each hole properly without burrs.



## 7. USAGE (For reference)

**Reference Figure** Connection to the Faraday cage: FC-200



Set the discharge gun with a non-metal type gun holder (like Noiseken's 03-00061B) as the point of the discharge tip contacts perpendicularly to the center conductor of the Unit. Connect the ground cable of the discharge gun to the ground terminal of the Faraday cage with drawing the cable backward so that the cable can make two sides of an isosceles triangle.

For details about calibrating ESD simulator, refer to the IEC 61000-4-2 Ed 2.0 and the ISO 10605 Ed 2.0.

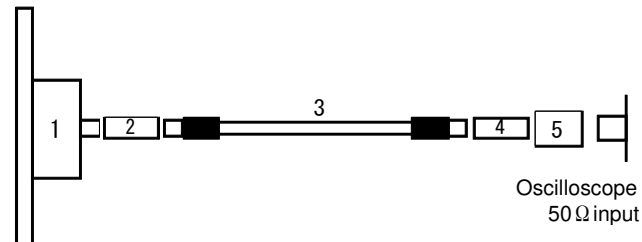
## WARNING 警告

**Avoid touching the electrode of the Unit and the discharge gun when the discharge gun is discharging. Never fail to watch the related equipment in operation so that the third person cannot touch it.**

※Noiseken prepares the following optional products for calibration of ESD simulators.

- FC-200 : Faraday cage
- 03-00052B : Target installation board
- 02-00133A : BNC(P)-SMA(J) connector
- 03-00060A : GND cable stand (For fixing the cable)
- 03-00061B : Discharge gun holder (Stand for FC-200)

Connect each of the attenuators, the high frequency coaxial cable, and the optional BNC(P)-SMA(J) connector as shown in the figure as below. The conversion ratio of this time is 50A/1V.



1. Target (the Unit)
2. 20dB attenuator
3. High frequency coaxial cable 1.0m
4. 20dB Attenuator<sup>※2</sup>
5. BNC(P)-SMA(J) connector<sup>※3</sup>

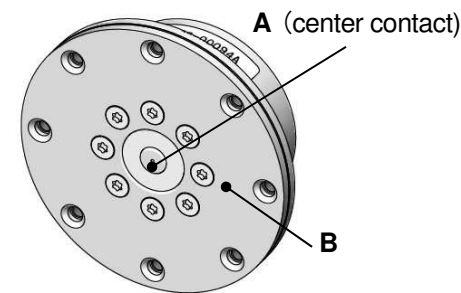
※2. The standard tightening torque for SMA connector is 0.6N·m. If tightening of each connector is loose, measurement result might be wrong and too tight tightening might damage the connector.

※3. BNC(P)-SMA(J) connector is used in case the input terminal of the oscilloscope is a BNC connector.

## 8. INSPECTION

It is recommendable that the Unit should be inspected periodically. For calibration of it, the way of connecting the target calibration adaptor (Noiseken's optional product MODEL: 06-00068A), the attenuators, and coaxial cable to the Unit and checking the insertion loss is prescribed in the standard. For details, ask Noise Laboratory or your nearest sales agent.

For pre-start inspection, prepare a measurement instrument which has satisfactory precision and measure resistance between each two points of following four points.



- A: Target center conductor
- B: Target flame
- C: Core line of the attached attenuator
- D: Shell of the attached attenuator

Confirm that actual measurement value between each point satisfies .

- A-B:  $2\Omega \pm 10\%$
- A-C:  $52\Omega \pm 10\%$
- B-D:  $< 1\Omega$

When the actual measurement value is out of the above tolerance, some defect caused by disconnection, heat etc. seems to have occurred. For details, ask Noise Laboratory or your nearest sales agent.

## 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

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. When cleaning the Unit, turn off the switch of the connected equipment and disconnect the plug socket beforehand and wipe the surface with a dry, soft cloth.
3. Do not dissolve the Unit more than the status when it was shipped.

## 11. 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, model 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.

### For repair and other services, contact:

International Dept.  
Noise Laboratory Co., Ltd.  
1-4-4 Chiyoda, Chuo-ku, Sagami-hara, Kanagawa  
252-0237, Japan  
Tel: +81 (0)42-712-2051 / Fax: +81 (0)42-712-2050

## 12. APPLICATION FORM

We apply for buying INSTRUCTION MANUAL.

**Model : 06-00094A**

**Serial Number :** \_\_\_\_\_

Applicant's address: \_\_\_\_\_

Company name: \_\_\_\_\_

Section: \_\_\_\_\_

Name of person in charge: \_\_\_\_\_

TEL: \_\_\_\_\_

FAX: \_\_\_\_\_

Cut off this page "APPLICATION FORM" from this booklet and keep it for future use with care.

When an INSTRUCTION MANUAL is required, fill out the above Application Form and mail or fax it to NOISE LABORATORY CO., LTD. or our sales agent.