

# NoiseKen INSTRUCTION MANUAL

FAST RISE TIME ADAPTOR FOR GT-30R(A)  
03-00073A

NOISE LABORATORY CO., LTD.

Edition 1.03  
AEC00270-00E-0D

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## NOTICE

- The contents of this instruction manual (the "Manual") are subject to change without prior notice.
- No part of the Manual may be reproduced or distributed, in any form or by any means, without the authorization of Noise Laboratory Co., Ltd. (the "Company").
- The contents of the Manual have been thoroughly examined. However, if you find any problems, misprints, or missing information, please feel free to contact our sales agent who you purchased our product from.
- The Company assumes no responsibility for any loss or damage resulting from improper usage, failure to follow the Manual, or any repair or modifications of this product undertaken by a third party other than the Company or the agent authorized by the Company.
- The Company assumes no responsibility for any loss or damage resulting from remodeling or conversion solely undertaken by the user. Please note that the Company cannot be held responsible for any consequences arising from the use of this product.

## 1. Important Safety Precautions

Important points for the safe use of this unit are provided below. Be sure to carefully read this information before use.

- Do not use this unit in areas where open flames are prohibited or areas having an explosive atmosphere. Electrical discharges can occur during use, which can cause these atmospheres to ignite.
- Do not allow people with pacemakers or other electronic medical devices to operate this unit and to enter the testing area while this unit is operating.
- The section "Basic Safety Precautions" contains important safety recommendations, and so be sure to read the section carefully before making the testing environment settings, connections, and starting testing.

## 2. Introduction

Thank you for purchasing the FAST RISE TIME ADAPTOR (03-00073A).

In order to obtain the maximum performance of the product, thoroughly read this document before use.

In addition to this Instruction Manual, read the instruction manuals for the discharge gun and the electrostatic discharge simulator to ensure safety and reliability in electrostatic discharge testing.

- This Instruction Manual is intended to allow a person who can obey the operation method and instructions to handle and utilize 03-00073A safely.
- Keep this Instruction Manual in a readily accessible place.
- This product is for use with our discharge gun GT-30R(A) in electrostatic discharge testing.

This product cannot be used with the TC-815 series (our previous discharge gun model). For the electrostatic discharge current waveform of the discharge gun, this product achieves a fast rise time of 0.2 to 0.3 ns. Note that the rise time specified by IEC 61000-4-2 is 0.7 to 1.0 ns. This product is incompatible with IEC or ISO standards.

## 3. Basic Safety Precautions For Using This Product

### 1. Safety Warning Signs and Their Meanings



Indicates **Warning**.

Failure to follow this safety information can lead to a **potentially hazardous situation** resulting in **death or serious injury**.



Indicates **Caution**.

Failure to follow this safety information can lead to a **potentially hazardous situation** resulting in a **minor injury or moderate damage**.

### 2. Basic Safety Precautions



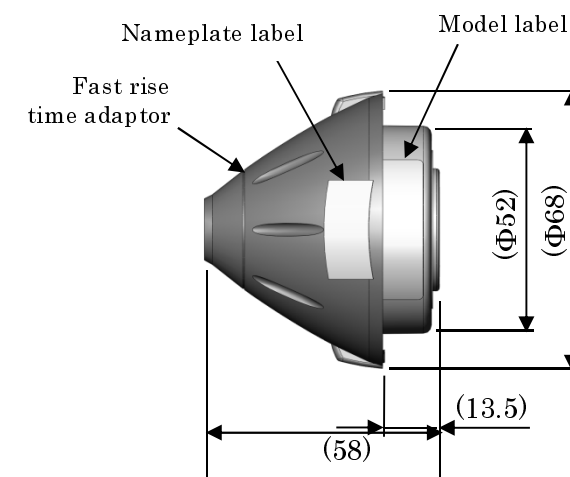
- Do not use this unit in areas where open flames are prohibited or areas having an explosive atmosphere. Electrical discharges can occur during use, which can cause these atmospheres to ignite. (Precaution regarding personal safety and environment)
- Do not allow people with pacemakers or other electronic medical devices to operate this unit and to enter the testing area while this unit is operating. Failure to observe this can result in malfunctions in the electronic medical device and endanger personal safety. (Precaution regarding personal safety and operation)
- Noise Laboratory and our affiliated dealers are not liable for any injuries or equipment damage due to improper operation of this unit or for any resulting incidental damages. (Precaution regarding personal safety, operation, environment, and connection)
- When operating this unit, do not leave the equipment unmonitored. Before leaving this unit, be sure to press the STOP button on the testing equipment to end the testing process. If you fail to observe this, you could endanger people in the surrounding area and testing equipments. (Precaution regarding personal safety, operation, and environment)



- Do not use or store in environments with extremely hot or cold temperatures. If you cannot maintain a suitable operating environment (temperature: 15°C to 35°C, humidity: 25% to 75%), the unit can be damaged and result in impaired performance. (Precaution regarding environment)
- In the event that condensation forms, be sure that the unit is fully dried before starting operation. Failure to observe this can damage the unit and result in impaired performance. (Precaution regarding

- environment)
- Avoid using the unit in locations with high humidity or exposed to large amounts of dust. Failure to observe this can damage the unit and result in impaired performance. (Precaution regarding environment)
- Any required repairs, maintenance, and internal adjustment for this unit must be performed only by service engineers authorized by Noise Laboratory. Failure to observe this can result in impaired performance.
- Do not wipe the unit with thinner, alcohol, or other solvents. If the unit is dirty, wipe with a cloth dipped in neutral detergent after it is fully wrung out. Wiping with a solvent can damage the unit surface.

## 4. Specifications

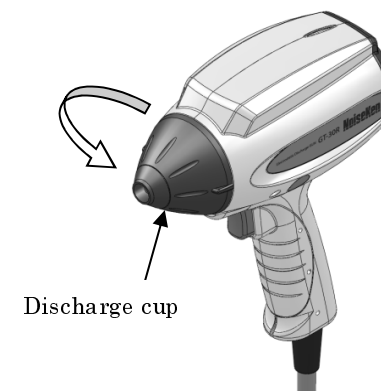


This product is incompatible with IEC or ISO standards.

Item	Spec./performance	Note
Max. voltage	30.5 kV	
Rise time	Approx. 0.2 to 0.3 ns	Reference
Storage temperature	-5 to 55 °C	
Operating temperature range	15 to 35 °C	
Operating humidity range	25 to 75%	
Mass	Approx. 50 g	

## 5. Installation

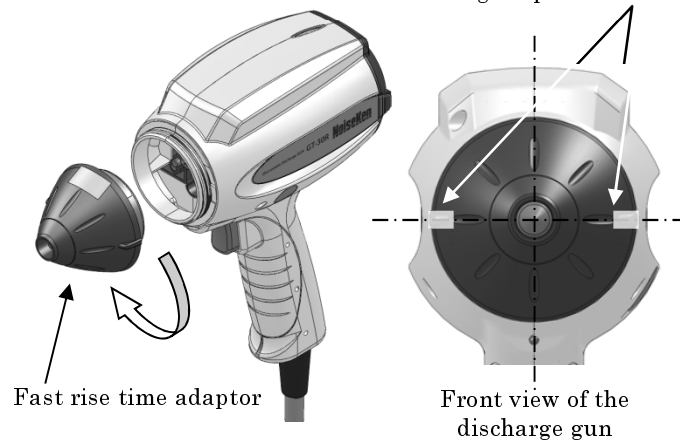
- Remove the IEC-compatible discharge cup (waveform shaping part) of the discharge gun by turning it counterclockwise as viewed from the discharge tip side.



- Attach the fast rise time adaptor. Secure the adaptor by turning it clockwise.

Turn the adaptor clockwise as viewed from the front of the discharge gun until it is locked with clicking sound. Make sure that the side ribs are horizontal.

When attaching the adaptor, make sure that the side ribs of the discharge cup are horizontal.



- Attach the appropriate discharge tip for the test.



The discharge cup must not be disassembled. Do not loose the screws or twist the cover.

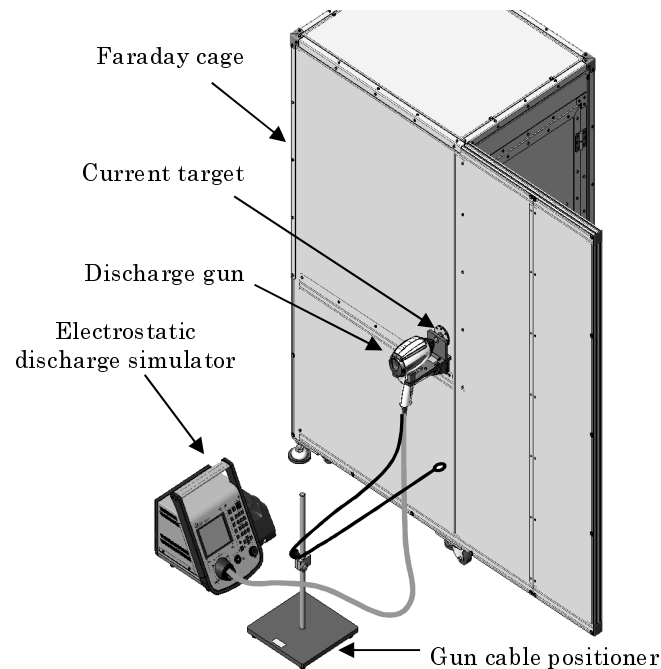
↑ Disassembly prohibited

## 6. Operation

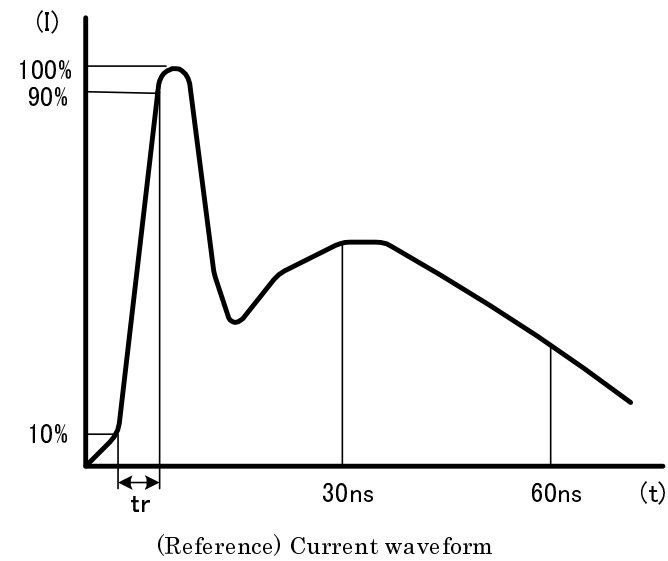
Refer to the instruction manuals for the discharge gun and the electrostatic discharge simulator.

## 7. Waveform measurement

Measuring the discharge current waveform of the electrostatic discharge simulator requires a Faraday cage, a current target, an oscilloscope (with a frequency band of 2 GHz or higher), and other relevant equipment/jigs.



Example of waveform measurement apparatus/arrangement  
A typical current waveform with the rise time of about 0.2 ns is shown below. The rise time of 0.2 ns is so fast that the measurement is significantly affected by the oscilloscope, current transformer (target), and other measurement conditions. Therefore, no accurate measurement can be obtained at the rise time of 0.2 ns. **Note that the output waveform of the discharge gun with the fast rise time adaptor is incompatible with IEC or ISO standards.**



## 8. Warranty

### Services

The following terms are applicable to the services provided by the Company to maintain and repair the Unit.

- Scope**  
The Unit and accessories and options provided by the Company are covered under this section.
- Technical Service Fee**  
Any repairs provided by the Company during the warranty period will be free of charge in accordance with the Limited Warranty. After expiration of the warranty period, actual cost for the repair will be charged to the user.
- Ownership of Defective Parts**  
All the defective parts replaced during the warranty period become the property of the Company. For paid repairs, they also become the property of the Company unless otherwise directed by the user.
- Maximum Compensation**  
In the event the user incurs damage due to malfunction of the Unit arising solely from the negligence and/or improper repair on the part of the Company, the Company will compensate for the damage. The maximum compensation amount shall be limited to the amount paid by the user at the time of purchase of the Unit. In no event, shall the company be liable or in any way responsible for incidental or consequential damages such as loss of profit or third party's claims to the user.

- Wrong Parts, Missing Parts and Damage**

The company shall not be liable for loss of profit, business interruption, other incidental damage, special loss, punitive damage or third party's claims to the user directly or indirectly arising from suspension of testing activities due to wrong parts, missing parts, or damage of the Unit.

- Service Refusal**

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

In the event of failure during the warranty period, the Unit will be repaired or replaced free of charge. Decision of the repair method shall be left at the discretion of the Company. This limited warranty is applicable in Japan only.

- Scope**  
This warranty is applicable only to the Unit and its accessories.
- Warranty Period**  
One year from the date of delivery.  
For a location once repaired, the warranty period for same parts / same problems is 6 months from the time of repair completion.
- Exceptions**  
Regardless of the above, following will be excluded from the warranty.
  - Consumable parts replacement, including High Voltage Relay (if used)
  - Failure caused by negligence, or damage to the Unit.
  - Failure due to modifications made without the Company's authorization.
  - Failure due to repairs made by personnel not authorized by the Company.
  - Failure directly or indirectly arising from force majeure including but not limited to, acts of god, fire, war, rebellion and others.
  - Failure due to shipping, vibration, falling, or impact shock after delivery
  - Failures due to use of the Unit under the improper environment.
  - When the Unit is taken out of the country.

## 9. Maintenance

- When repair, maintenance or internal adjustment of the Unit is required, a qualified service engineer takes charge of such work.
- 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.
- Do not dissolve the Unit more than the status when it was shipped.

## 10. 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, 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.

NOISE LABORATORY CO., LTD.  
SALES DEPT.

TEL: +81-42-712-2051  
FAX: +81-42-712-2050

E-mail: [sales@noiseken.com](mailto:sales@noiseken.com)  
<http://www.noiseken.com>

----- Cutline -----

## 11. Application Form For Instruction Manual

We place an order for an instruction manual.

Model:   
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.**  
**1-4-4 Chiyoda, Chuo-Ku, Sagamiara City,**  
**Kanagawa Pref. 252-0237 Japan**  
**Tel: +81-42-712-2051 Fax: +81-42-712-2050**