NoiseKen

Instruction Manual

IMPULSIVE MAGNETIC FIELD ADAPTOR

03-00069A

NOISE LABORATORY CO., LTD.

Edition 1.02

AEC00272-00E-0C

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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.

1. 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.
2. 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.
3. 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 IMPULSIVE MAGNETIC FIELD ADAPTOR (03-00069A).

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

This product is connected to the discharge gun GT-30R(A) for our electrostatic discharge simulator. For the handling of the electrostatic discharge simulator and the discharge gun, refer to the instruction manuals for them. This product cannot be used with the TC-815 series (our previous discharge gun model).

3. Basic Safety Precautions

1. Safety Warning Signs and Their Meanings

⚠ WARNING 警告 Indicates **Warning**.

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

⚠ CAUTION 注意 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

⚠ WARNING 警告

1. 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)
2. 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)
3. 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)
4. 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)

⚠ CAUTION 注意

5. 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)
6. 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)
7. 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)
8. 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.

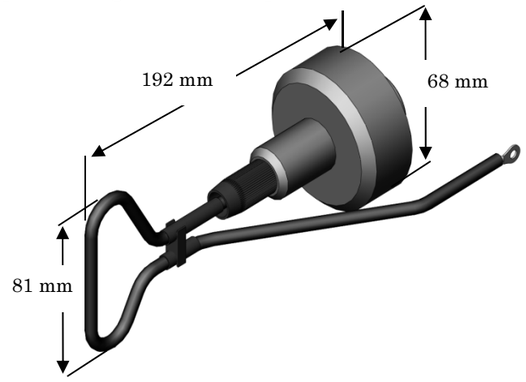
9. Do not wipe the unit with thinner, alcohol, or other solvents. If the unit is dirty, wipe with a cloth dipped in neutral detergent after it is fully wrung out. Wiping with a solvent can damage the unit surface.

4. Outline

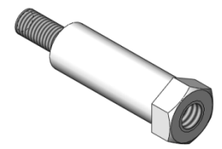
The impulsive magnetic field adaptor is designed to simulate electromagnetic induction as a noise inductive mode. It is connected to the discharge gun for our electrostatic discharge simulator.

5. Product components

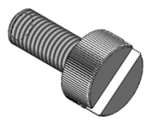
- Impulsive magnetic field adaptor



- Spacer



- SG screw



- Instruction Manual (this document)

6. Specifications

Item	Spec./performance	Note
Discharge resistance	1.5 kΩ	Built into the body
Max. voltage	30.5 kV	
Storage temperature range	-5 to 55 ºC	
Operating temperature range	15 to 35 ºC	
Operating humidity range	25 to 75%	
Mass	Approx. 145 g	

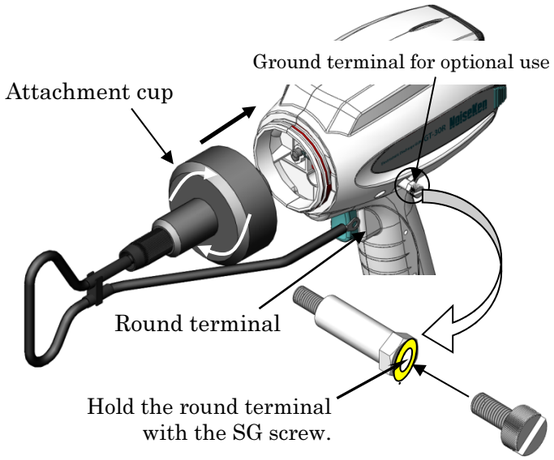
7. Installation

i) Remove the discharge cup of GT-30R(A).

ii) Mount the attachment cup of the impulsive magnetic field adaptor. Secure the cup by turning it clockwise.

iii) Uncover the ground terminal for optional use on the discharge gun by hand. Use a nut screwdriver, etc. to insert the spacer (7.8 Nm or less). Place the adaptor's round terminal for grounding and secure it by manually tightening the SG screw.

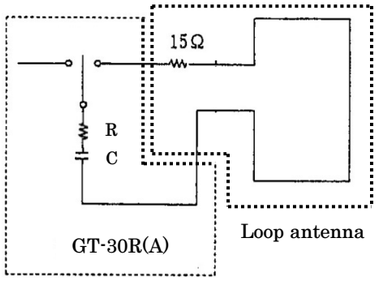
* Excessive tightening may damage the screw.



8. Operation

Put the adaptor near the test point on the equipment under test. Connect the GT-30R(A) return cable to the ground terminal of the equipment under test or the ground plane. For the operation of GT-30R(A), refer to the instruction manual for it.

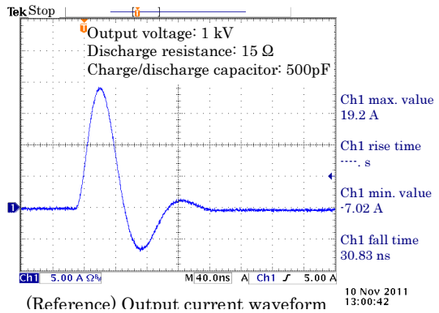
9. Mechanism of magnetic field generation



The electric charge on the charge/discharge capacitor (C) of GT-30R(A) is released and passes through the discharge resistor (R) and the adaptor resistor (15 Ω) to the loop antenna, generating a magnetic field.

Output voltage vs. output peak current
(Reference) For the 500pF-0Ω CR unit

Output voltage	Output peak current
1 kV	20 A
5 kV	100 A
10 kV	200 A
20 kV	400 A
30 kV	600 A



(Reference) Output current waveform

10. Warranty

Services

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

1. Scope
   The Unit and accessories and options provided by the Company are covered under this section.
2. 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.
3. 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.
4. 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.
5. 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

6.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.

1. Scope
   This warranty is applicable only to the Unit and its accessories.
2. 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.
3. 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.

11. 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 the 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 the Unit and Probe.

12. 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.

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Cutline

13. Application Form For Instruction Manual

We place an order for an instruction manual.

Model:	03-00069A
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, Sagamihara City, Kanagawa Pref. 252-0237 Japan
Tel: +81-42-712-2051 Fax: +81-42-712-2050