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1. IMPORTANT SAFETY PRECAUTIONS

This product is the Normal Mode Coupling Balun specifically designed for the NoiseKen FNS series EFT/B simulators.

Thoroughly read "IMPORTANT SAFETY PRECAUTION" for such high voltage pulse generator and "BASIC PRECAUTIONS FOR SAFETY IN USE OF THIS UNIT" beforehand.

2. INTRODUCTION

Thank you very much for your purchase of Normal Mode Coupling Balun 15-00013A

- This operation manual describes the function, Operation and safety precautions of Normal Mode Coupling Balun 15-00013A.
- Thoroughly read this operation manual before use and keep it as a ready reference.

§Features

1. The normal mode coupling balun is the adaptor converting the common mode output of the simulator (one side of PULSE OUT referenced ground) into floating output (the HIGH and LOW sides of the 15-00013A output working against each other where ground is irrelevant)
2. Maximum pulse voltage input 5000V
3. Maximum EUT operating voltage AC/DC 600V

3. BASIC SAFETY PRECAUTIONS FOR THIS UNIT

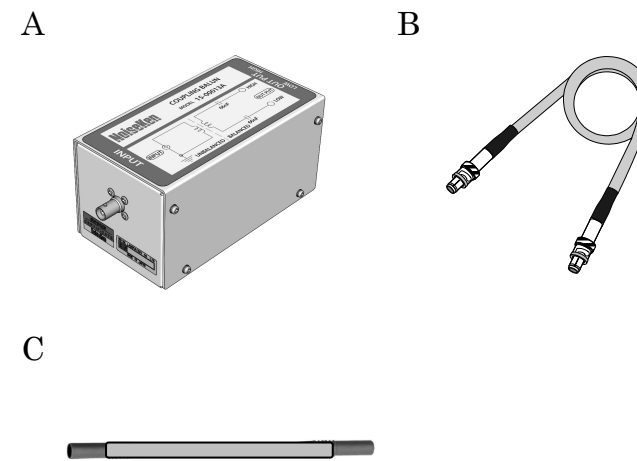
Basic safety precautions

1. Mishandling or careless operation may result in serious injury. (Precautions for human body, operation, environment and connection)
2. This unit is provided with a special input connector (NMHV-J). When a suitable connector is not used, accurate measurement cannot be performed and the operator may receive an electric shock depending on circumstances. (Precautions for human body and connection)
3. Before connecting this unit to a high voltage pulse generator, turn off the high voltage circuitry beforehand. Otherwise, the operator may receive an electric shock due to the generated high voltage pulses. (Precautions for human body and connection)
4. Fully insert the coaxial connector and turn it clockwise until a click is heard to make connection securely. (Precautions for human body and connection)

5. Our company and its distributors/agents shall have no liability for any injury or damage resulting from careless operation of this unit and any resultant damage or loss. (Precautions for human body, operation, environment and connection)
6. Do not apply high voltage pulse over 5000V to the INPUT connector of this unit, otherwise resulting in damages and an electric shock due to high voltage. (Precautions for human body and connection)
7. For peak pulse voltage (V_p), duration, and repetition frequency which are allowable to operate of this unit, refer to the maximum values in Section "Specifications". Do not operate this unit with input signals which are exceeding the specified values. Failure to follow this instruction may result in damage of this unit or an electric shock due to high voltage. (Precautions for human body and connection)

4. MAIN UNIT AND ACCESSORY

This product includes the following items:



- A : 15-00013A main unit 1pc.
 B : Input cable(NMHV-P-P 1m) 1pc.
 C : Output Cable(0.5m) 2pcs.
 Instruction Manual 1pc.

5. OPERATION

1. Connection to a pulse generator

The 15-00013A INPUT port shall be connected to the PULSE OUT port of FNS series EFT/B simulators by using the coaxial cable included in 15-00013A package.

Cautions:

- This coaxial cable can connect to pulse out port of FNS series.
- Before attaching and detaching the connector, confirm that no pulse is generated.

The output ports of the 15-00013A normal mode coupling balun shall be connected to BALUN IN ports on the simulator front panel. A BALUN IN port connected to the HIGH OUTPUT of 15-00013A balun is the injection (coupling) line and BALUN IN port connected to the LOW OUTPUT is the return line. For more details, refer to the relevant pages of FNS series simulator manual.

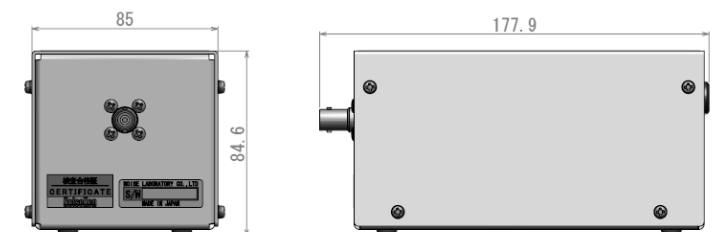
2. Setup of EFT/B simulators

Perform the required test settings following the instructions referring to the FNS series simulator manual. When using the 15-00013A, the PULSE OUT port should be active. Select SIGNAL LINE (not POWER LINE) on the relevant test setting screen so that the burst signals are delivered to the PULSE OUT but not to EUT LINE OUTPUT.

6. SPECIFICATIONS

| Item | Specifications |
|----------------------------|------------------------|
| Input pulses | EFT/B |
| Input pulse voltage | 5000V MAX |
| Coupling capacitor | 66nF per line |
| The EUT power line voltage | Up to AC/DC600V |
| Input port connector | NMHV connector |
| Output port connector | φ4mm safety socket x 2 |
| Dimensions | W85 x H85 x D178 mm |
| Weight | 570g |

【 Dimensions 】



7. 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 fore 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.

8. MAINTENACE

1. When repair, maintenance or internal adjustment is required, it should be performed only by our company's authorized service engineer.
2. Maintenance to be performed by the customer are limited to the outside cleaning and functional check.
3. For products with fuses, unplug before check or fuse replacement.
4. When cleaning products, turn off the power switch and unplug them beforehand.
5. When the body gets dirty, soak a cloth in water or detergent, squeeze the cloth and gently wipe off it.
6. For check and servicing purpose, open designated covers only.

9. SERVICE SUPPORT CONTACT

- If you find a phenomenon, which may be judged as a trouble, please inform our maintenance or sales division of the model name of your machine and serial number together with the detail of such phenomenon.
- When you return the product, fill in a repair request form with the detail of the trouble, symptom, model name, serial number and your request. Put the whole equipment in the original package or pack it in a type of package suitable for transit and send to our company.

For repair and other services, contact:

International Dept.

Noise Laboratory Co., Ltd.

1-4-4 Chiyoda, Chuo-ku, Sagamihara, Kanagawa

252-0237, Japan

Tel: +81 (0)42-712-2051 Fax: +81 (0)42-712-2050

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10. Application Form for Buying Instruction Manual

We apply for buying INSTRUCTION MANUAL.

Model: 15-00013A

Serial Number: _____

Applicant's address:

Company name:

Section:

Name of person in charge:

Tel:

Fax:

Cut off this page "APPLICATION FORM FOR BUYING INSTRUCTION MANUAL" 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.