Thank you very much for purchasing this product.
Read and understand this instruction manual
to ensure safe and correct use.

Cautions on using this product
This product was developed as an optional probe for DEBUGSCOPE.
When using this product with measuring instruments such as other oscilloscopes
and spectrum analyzers, please note that the performance is not warrantable.
This product was developed aiming mainly at the troubleshooting, the daily
checkup to prevent the trouble caused by noise, and the simple noise check at the
product development stage. Since this product cannot be calibrated, do not
use it for product inspection.
This product is not designed for equipment which requires safety precautions and
high reliability (medical devices, nuclear facilities and devices, aerospace
equipment, various safety devices, etc.), that could endanger a life or cause
injury directly due to malfunction of this product.

Safety precautions
Always observe the following precautions to avoid injury and accidents.
Safety precautions are classified by level into “warnings” and “cautions” in this
instruction manual.

Warning
Indicates a potentially hazardous situation which, if this
product is not handled properly, could cause death, severe
injury, or damage to the product.

Do not disassemble or modify this product. Doing so may cause fire, electric
shock, malfunction, or injury. If repair is required, request us. The user must
pay the repair cost if this product is disassembled or modified by the user, even
within the warranty period.
Do not handle this product with wet hands. This may cause an electric shock.

Caution
Indicates a potentially hazardous situation which, if this
product is not handled properly, may result in personal
damage or property damage.

Do not bend the cable excessively, pull it forcibly, or pinch it. Doing so may
cause malfunction.
Do not use or store this product in the following places. Doing so may cause
malfunction.
A place subject to high humidity and prone to condensation

Neglecting the above precautions could have a serious result (such as death
or severe injury) according to the usage conditions. The precautions describe
serious matters and must always be followed.

Package Contents
- Noise probe (Main body) ........................................ 1 pce
- Extension cable (With connector for connection) ............ 1 pce
- Instruction manual (This manual) ............................ 1 pce
- Warranty .......................................................... 1 pce

Outline
The MSDB-NPROBE is a hand-held probe aiming at observing indirectly the wave
form and the frequency spectrum of the electrical noise which a signal line may
receive, or searching for a noise origin or a noise propagation path.
This product detects the neighborhood magnetic field which is discharged from
electronic equipment and cable and wiring by factor of current noise, and outputs a
voltage waveform. Since this product can easily observe the noise by connecting it
with DEBUGSCOPE, it is applicable to the troubleshooting, the daily checkup to
prevent the trouble caused by noise, and the simple noise check at the product
development stage.

How to use
Connect this product to DEBUGSCOPE (in oscilloscope mode), and first, observe
the noise waveform and frequency spectrum (FFT viewer is used) by the following setting.

Time range 5 µs/div
Voltage range 10mV/div
Probe ratio 1:1
Input coupling Optional (DC or AC)
Trigger mode AUTO
Trigger channel Input channel to which this probe is
connected
Trigger edge Optional (depending on noise waveform)
Trigger position Center
Trigger level 0V
FFT Viewer Vertical axis range Upper limit: 0dB, Lower limit: -110dB

If noise waveform is observed, adjust time range, voltage range, and trigger level,
etc. according to the waveform.
Refer to the instruction manual of DEBUGSCOPE for details of the setting.

Specifications

- Frequency bandwidth: 9kHz to 30MHz (-3dB)
- Detection part: φ18 mm, Coaxial cable
- Cable: φ4.4 mm, Coaxial cable
- Connector: BNC
- Maximum voltage to earth for measuring object: 500V (Peak value)
- Operating temperature: 0℃ to +50℃
- Operating humidity: 5 to 85% RH (non-condensing)
- Weight: Main body: 90g (including cable)
- Accessory extension cable: 80g
- Dimensions: Main body: φ28 mm×173 mm (Overall length including cable: Approx. 1.5 m)
- Accessory extension cable: Approx. 1.5 m

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