Instruction manual

Handy Low-frequency Wave Oscillator

⚠Safety Precaution

🚫 **Do not disassemble, repair and remodel this product. This product might stop working and warranty will be void.**

🚫 **Do not splash it with water and protect it against getting wet. It is possible for it to get damaged, short circuited, or you might get even an electric shock.**

🚫 **Teacher or trainer must instruct students about the safe ways of conducting experiments with this product before actually conducting experiments.**

🚫 **When you find that something is broken, please do not repair the product by yourself and contact your distributor.**

Introduction

This device is a more compact oscillator for a sound experiment than any other popular oscillators, and it can be carried with you easily into the classroom. A built-in speaker in the body enables many experiments of sound easily without external speakers. If an external amplifier and speakers are connected to the device, the experimental coverage will get wider. The device has a function of preset sound frequencies in its memory. Additionally, it has a memory function as well.

Specification

- Oscillating frequency: 5~200 kHz

- Speaker: 40 Hz to 30 kHz (Maximum wattage: 1 W, with 15 steps)

- Output: Signal output, speaker output (amplified output), Terminal: 3.5 mm mono jack

- Feature: Equipped with a built-in small speaker and a frequency memory

- Power source: x3 AA cell batteries or AC adaptor (DC 9 V) (not included)

- Dimensions and weight: 76 x 135 x 27mm, 285g

Name and Description of Each Part
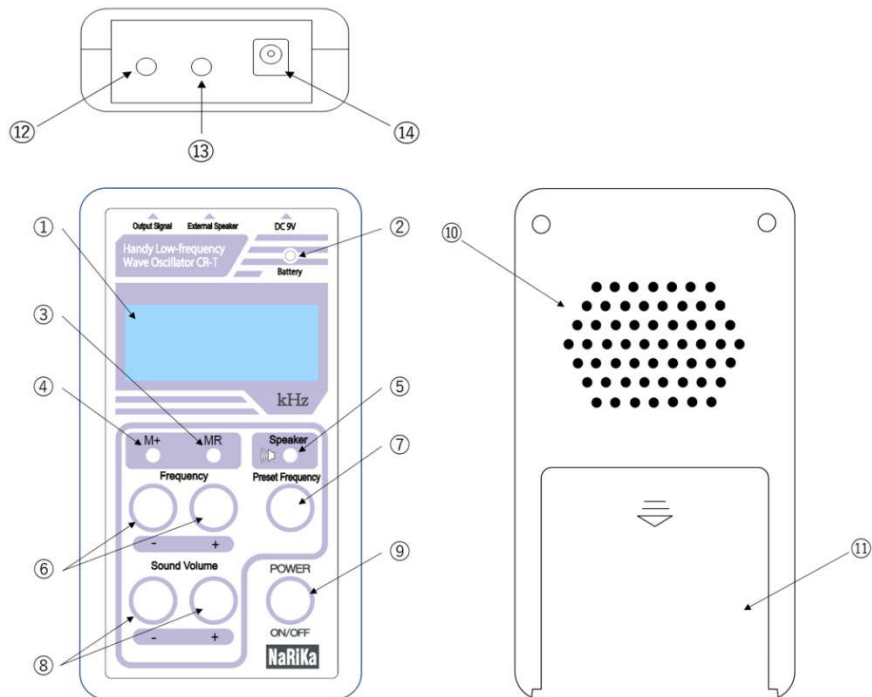
① Display Screen   Display the current frequency (in kHz).

② Battery   This light will go on when the battery level is low. Please change the batteries.

③ MR   Recall setting in memory.

④ M+   Store current settings such as a set frequency, an output frequency, and the sound volume. These settings will also be the initial setting when turned on, or these settings in the memory are recalled by pressing "MR" button.

⑤ Speaker   ON / OFF switch for speaker output (internal / external). Set to OFF when power is on.

⑥ Frequency + / -   Short press to change frequency in single digits. Press and hold to change frequency much faster.

⑦ Preset Frequency   Each time you press this button will jump to the preset frequency (0.400, 0.800, 1.600, 10.00, 100.0kHz).

Preset Frequency (kHz)	Division (kHz)	Frequency Range (kHz)
0.400	0.001	0.005 ~ 9.999
0.800		
1.600		
10.00	0.01	1.00 ~ 99.99
100.0	0.1	10.0 ~ 200.0

⑧ Sound Volume + / -   To change the sound volume (1~15 steps). That volume level is temporarily shown on the display. To step sound volume up, press the

"+" button, and to step down it, press the "-" button. Pressing and holding the button, the sound volume will step up and down faster.

*Tip: Level seven (7) is recommended when using the internal speaker because distortion of the sound will occur over level eight (8).

**Caution: In case of continuous use with connecting with an external speaker, do not set the sound volume over 12 sound level. Otherwise, its components inside will be heated and be damaged.

⑨ POWER ON / OFF   To turn power ON / OFF

⑩ Internal Speaker   To use the Internal speaker, press the ⑥Speaker ON/OF button. Internal speaker does not work when the terminal for output speaker is connected.

⑪ Battery Box   Please insert 3 pcs of AA batteries.

⑫ Plug for Output Signal   Output of signals 5 – 200 kHz / AC1.0V directly that do not though an internal amplifier.

⑬ Plug for Output Speaker Output of signal for an external speaker through an internal amplifier. 8 Ohm speaker is recommended.

⑭ Plug for AC adapter   For connection when using AC adapter (sold separately).

Procedure of operation

1. Put three alkaline dry cell batteries in the battery box⑪.

2. Press the power button, the last setting frequency is shown on the display. In the case of using an external speaker, connect its plug with ⑬ before pressing the power button.

3. Press the speaker button to output sound from an internal speaker⑩ (or an external speaker).

4. Adjust the sound level to a suitable one by pressing the "-" button of the Sound Volume button⑧ before the experiment or demonstration. Otherwise, it would output a big sound.

5. Adjust its sound level to the experiment by pressing the "+" or "-" button of Sound Volume button⑧.

4. Adjust its sound frequency to the experiment by pressing the "+" or "-" button of Frequency button⑥.

5. In the case of storing the settings of the last sound frequency used, press the button of "M+" ④.

6. At the end of the experiment or demonstration, press the POWER ON/OFF⑨ to turn it down.