EXTERNAL SPEAKER

SP-990

INSTRUCTION MANUAL

KENWOOD

JVC KENWOOD Corporation

We are grateful you purchased this **KENWOOD** EXTERNAL SPEAKER.

PRECAUTIONS

- Do not expose the unit to rain or moisture to avoid the risk of fire or electric shock.
- Do not remove the case. Accidentally touching an internal part may result in serious electric shock.
- Do not expose the unit to long periods of direct sunlight, nor place it close to heating appliances.
- Do not place the unit in excessively dusty and/or humid areas, nor on unstable surfaces.
- Do not use solvents such as benzene or paint thinner to clean the unit. Use a silicone or a clean, dry cloth.
- Do not install this equipment in a constricted location, such as a book case.
- If you detect an abnormal odor or smoke coming from the unit, turn OFF the power of the transceiver immediately. Contact your **KENWOOD** service center or dealer.

FEATURES

This is an external speaker designed and dedicated for TS-990 transceiver. The 100 mm (3.94 in) large diameter full-range speaker is adopted, and three different audio filters for the high cutoff and the low cutoff. A Mute button instantly mutes the audio line.

SUPPLIED ACCESSORIES

The connection cable (Phone Φ3.5 mm (1/8"), mono) 1
Instruction Manual (this booklet) 1
Warranty Card 1

SPECIFICATIONS

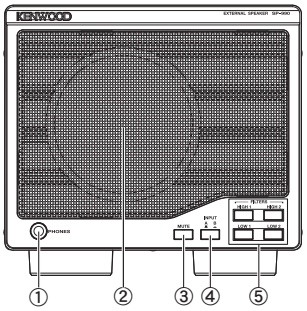
Operating Temperature Range ..... –10°C to 50°C (14 °F to 122 °F)
maximum Input .....5 W
Input Impedance ..... 8 Ω ± 15 %
Filter Cutoff Frequency
HIGH 1 ..... 2.4 kHz, -3 dB
HIGH 2 ..... 1.0 kHz, -3 dB
HIGH 1+2 ..... 700 Hz, -3 dB
LOW 1 ..... 200 Hz, -3 dB
LOW 2 ..... 400 Hz, -3 dB
LOW 1+2 ..... 600 Hz, -3 dB
Dimensions (Width x Height x Depth) .....200 x 165 x 300 mm
(7.87 x 6.5 x 11.8 in)(exclusive of projections)
Weight ..... 2.8 kg (6.2 lbs)

Information on Disposal of Old Electrical and Electronic Equipment and Batteries (applicable for countries that have adopted separate waste collection systems)

Products with the symbol (crossed-out wheeled bin) cannot be disposed as household waste.
Old electrical and electronic equipment should be recycled at a facility capable of handling these items and their waste byproducts. Contact your local authority for details in locating a recycle facility nearest to you. Proper recycling and waste disposal will help conserve resources whilst preventing detrimental effects on our health and the environment.

PANEL DESCRIPTIONS

FRONT PANEL



① PHONES Jack

Connects a set of headphones. Mates with a set of headphones with 4 to 32Ω impedance. If the filter has been enabled, the filtered audio is sent out. If the set of headphones is connected to the **PHONES** jack, no audio sounds from a speaker.

② SPEAKER

The speaker with Φ100 mm (3.94 in) and 8Ω input impedance is the most suitable for reception.

③ MUTE Key

With a single key press, mutes the audio line to a speaker. This switch can be used to temporarily deactivate the audio line to the speaker. Pressing the key again while the audio line is being muted unmutes the audio line.

④ INPUT A and INPUT B Keys

Toggles the audio input between Input A and Input B. A key press selects the Input A, and a key press again selects the Input B.

⑤ FILTERS Key

FILTERS HIGH 1 Key

While this filter is active, the signal above 2.4 kHz can be attenuated. (2.4 kHz, -3 dB)

FILTERS HIGH 2 Key

While this filter is active, the signal above 1.0 kHz can be attenuated. (1.0 kHz, -3 dB)
Also, if this filter is active while the Filter High 1 filter is active, the signal above 700 Hz can be attenuated. (700 Hz, -3 dB)

FILTERS LOW 1 Key

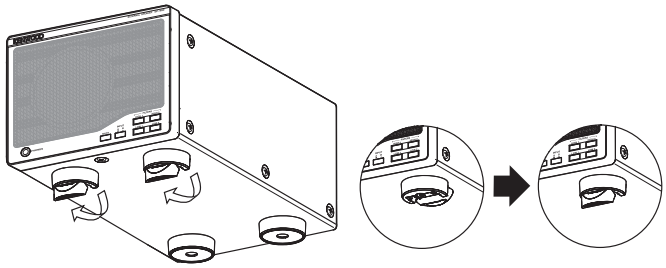
While this filter is active, the signal below 200 Hz can be attenuated. (200 Hz, -3 dB)

FILTERS LOW 2 Key

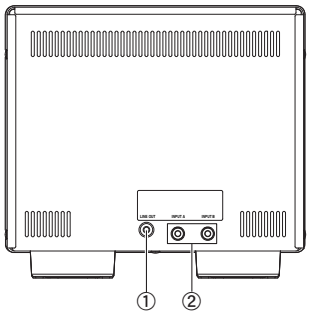
While this filter is active, the signal below 400 Hz can be attenuated. (400 Hz, -3 dB)
Also, if this filter is active while the Filter Low 1 filter is active, the signal below 600 Hz can be attenuated. (600 Hz, -3 dB)

FRONT BASES

The lift-up supplementary bases are available in the front bases on the bottom of the speaker. To position the front panel slightly toward the upper side, pull the supplementary bases forward to the limit.



REAR PANEL



① LINE OUTPUT Terminal

This is the line output terminal. This terminal can be used for recording of the received audio or for the data communications. If the filter has been enabled, the filtered audio is sent out. The output impedance is 1kΩ.

② INPUT A and INPUT B Terminals

Connect the transceiver to the **INPUT A** and **INPUT B** terminals, then use a switch on the front panel to switch. For the TS-990 transceiver, mates with the **EXT. SP 1** or **EXT. SP 2** terminal. Connecting not only the TS-990 transceiver but also other transceiver to the speaker, and the audio input line can be switched.

TIPS AND HINTS

With the filter combination, a filter optimal to the operating mode can be selected.

Following are tips and hints applicable to each operating mode.

In SSB mode, the High 1 filter is normally used. If the noise level is high, the High 1 filter can be used by combining it with the Low 1 or Low 2 filter. To gain the efficiency, the High 2 filter can be used by combining it with the Low 2 filter.

In CW mode, while both High 1 and High 2 filters are active, you can combine the filters with the Low 1 and Low 2 filters. If the transceiver is operated with the narrow-band IF DSP filter or the Auto Peak Filter enabled, the audio filter effect of the transceiver cannot clearly be distinguished; however, there may be an effect to eliminate the noise components.

In AM or FM mode, a filter is normally deactivated, so that you can use the wide bandwidth. If any noise is audible, you can activate the High 1 filter.

FILTER BEHAVIORS

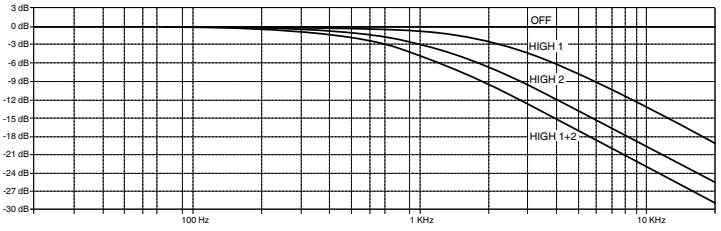
1 If both High 1 and Low 1 filters are active, the passband is ranging from 200 Hz to 2.4 kHz.

2 If both High 1 and Low 2 filters are active, the passband is ranging from 400 Hz to 2.4 kHz.

3 If both High 2 and Low 2 filters are active, the passband is ranging from 400 Hz to 1.0 kHz.

4 All High 1, High 2, Low 1, and Low 2 filters are active, the passband is ranging from 600 Hz to 700 Hz.

HIGH CUT FILTER



LOW CUT FILTER