

MODEL SP-180 SPEAKER

OPERATING MANUAL

Your new Model SP-180 speaker has undergone stringent quality-control inspection and tests prior to packing and has left our factory in perfect operating condition. Please inspect your SP-180 carefully for any signs of damage in transit. If the unit is damaged, immediately notify the dealer from whom you purchased the unit, or contact the nearest Kenwood authorized service facility.

GENERAL

Your SP-180 is a sophisticated external speaker designed to enhance operation of the TS-180S HF Transceiver. It features precise audio response and matches the TS-180S in appearance. Its advantages are:

- * Built-in selectable tone filters to attenuate high or low frequency response inputs;
- * Two-channel selectable input;
- * Headphone output through the tone filters.

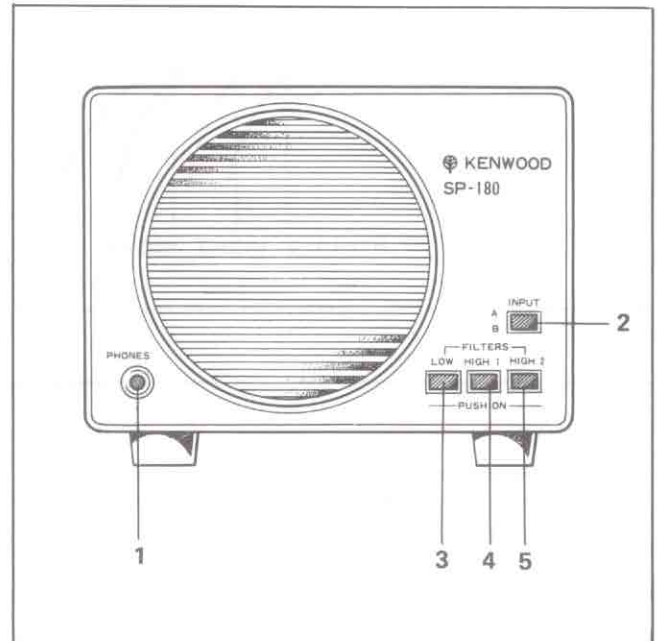
SPECIFICATIONS

Speaker used:	12 cm dia.
Rated Input:	2 W
Impedance:	8Ω
Frequency response:	100 Hz to 5 kHz.
Filter cut-off frequency,	
LOW:	400 Hz, -3 dB.
HIGH 1:	3 kHz, -3 dB.
HIGH 2:	1.5 kHz, -3 dB.
HIGH 1 + HIGH 2:	1 kHz, -3 dB.
Filter attenuation:	-6 dB/octave
Dimensions:	180 mm (7-1/16 inches) wide x 133 mm (5-1/4 inches) high x 287 mm (11-5/16 inches) deep.
Net weight:	1.8 kg (4.0 lbs.)
Accessories furnished:	Speaker cord, 1 pc. Extension foot, 2 pcs. Screw, M4, 2 pcs. 1-pin plug, 2 pcs.

FOR PACKING

Please save the shipping cartons and packing material for safe shipping of your unit if service is ever required, or for transporting your unit to a portable location. There will be considerably less chance of damage if you ship your unit in its original cartons and packing.

CONTROLS AND THEIR FUNCTIONS

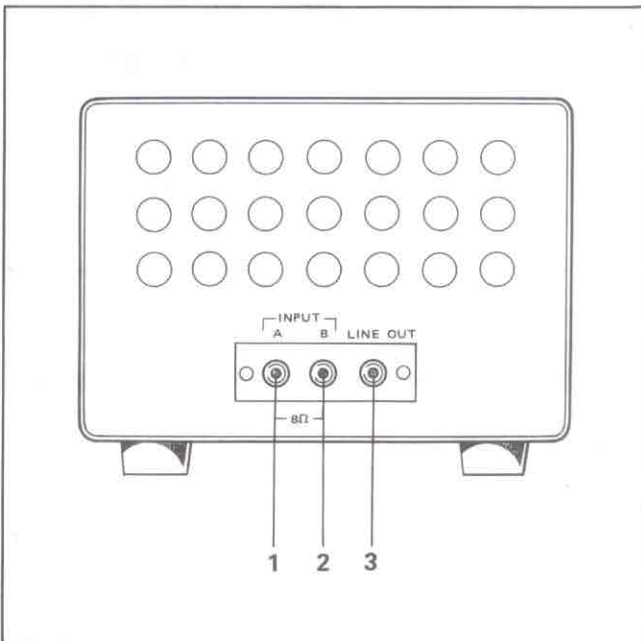
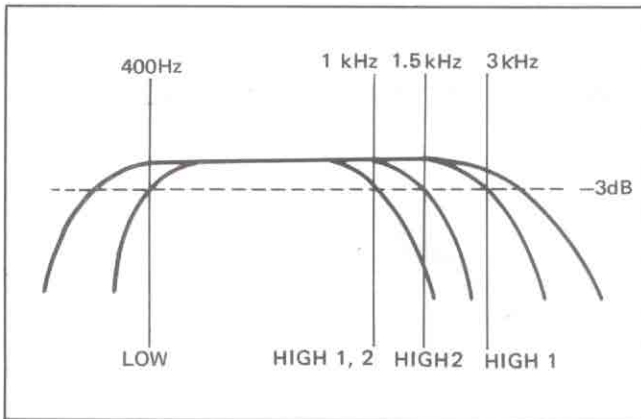


Front Panel

- 1 PHONES Connector**
Standard headphone output, switchable through the tone filters.
 - 2 INPUT Switch**
Selects one of two audio inputs.
 - 3 FILTERS, LOW Switch**
This switch attenuates frequencies below 400 Hz; -3 dB at 400 Hz, -6 dB/octave.
 - 4 FILTERS, HIGH 1 Switch**
This switch attenuates frequencies above 3 kHz; -3 dB at 3 kHz, -6 dB/octave.
 - 5 FILTERS, HIGH 2 Switch**
This switch attenuates frequencies above 1.5 kHz; -3 dB at 1.5 kHz, -6 dB/octave.
- FILTERS, HIGH 1 and HIGH 2 Switch**
This switch attenuates frequencies above 1 kHz; -3 dB at 1 kHz, -6 dB/octave.

USING COMBINED FILTERS

1. When both LOW and HIGH 1 filters are engaged, the passband width ranges from 400 Hz to 3 kHz.
2. When both LOW and HIGH 2 filters are engaged, bandwidth is 400 Hz to 1.5 kHz.
3. LOW, HIGH 1 and HIGH 2 filters engaged, 400 Hz to 1 kHz.



REAR PANEL

1, 2 INPUT connectors

Accepts audio output from two sources.

3 LINE OUT Connector

Standard line output switchable through the filters for RTTY, SSTV, or similar use.

USE OF FILTERS

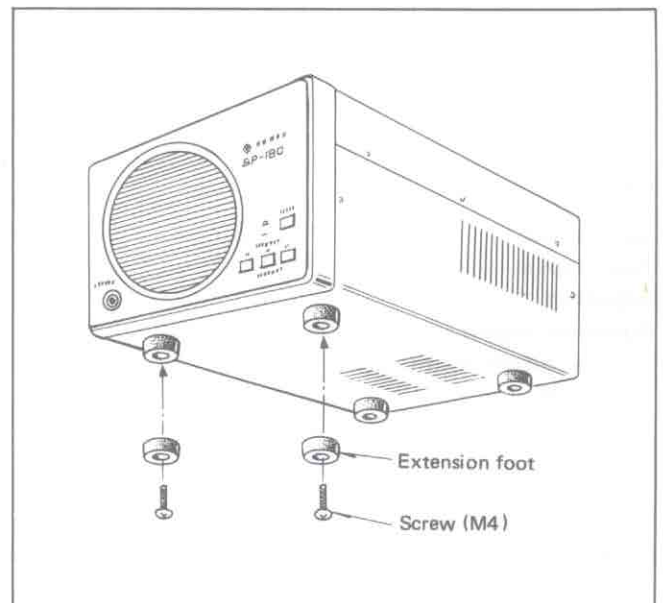
In general, it is desired that a CW, AM, or similar transmission be received clearly within the usual communication audio bandwidth, 300 Hz — 3 kHz. However, QRM, QRN or RFI may lower the overall signal-to-noise ratio at the receiver, resulting in degraded reception. In theory, as the passband width of the IF stages is narrowed, the equivalent noise bandwidth will also narrow, thus improving the signal-to-noise ratio. Alternately, the bandwidth of the AF stage can be narrowed to attenuate the noise component, enhancing reception.

Proper filter selection depends on transmission mode and type of noise encountered.

1. SSB: use the HIGH 1 and LOW filters, or the HIGH 2 and LOW filters. In more severe cases, use both HIGH 1 + HIGH 2, and LOW filters.
2. CW: use the HIGH 1 and HIGH 2 filters or HIGH 1 + HIGH 2 and LOW in combination.

INSTALLATION OF EXTENSION FEET

To install the extension feet, screw to the front, bottom of the cabinet as illustrated below.



A product of
TRIO-KENWOOD CORPORATION
 6-17, 3-chome, Aobadal, Meguro-ku, Tokyo 153, Japan

TRIO-KENWOOD COMMUNICATIONS, INC.
 1111 West Walnut Street, Compton, California, 90220, U.S.A.
TRIO-KENWOOD COMMUNICATIONS, GmbH
 D-6374 Steinbach TS, Industriestrasse 8A, West Germany
TRIO-KENWOOD (AUSTRALIA) PTY. LTD.
 30 Whiting Street, Artarmon, Sydney N.S.W. Australia 2064