

KENWOOD

KEC-302

ELECTRONIC CROSSOVER NETWORK
INSTRUCTION MANUAL

DIVISEUR DE FREQUENCE
MODE D'EMPLOI

AKTIVE FREQUENZWEICHE
BEDIENUNGSANLEITUNG

ELECTRONISCHE CROSSOVER NETWORK
GEBRUIKSAANWIJZING

CROSSOVER ELECTRONICO PER SISTEMI MULTICANALI
ISTRUZIONI PER L'USO

FILTRO SEPARADOR DE FRECUENCIAS ELECTRONICO
MANUAL DE INSTRUCCIONES

KENWOOD CORPORATION

Take the time to read through this instruction manual. Familiarity with installation and operation procedures will help you obtain the best performance from your new electronic crossover network.

For your records

Record the serial number, found on the back of the unit, in the spaces designated on the warranty card, and in the space provided below. Refer to the model and serial numbers whenever you call upon your KENWOOD dealer for information or service on the product.

Model KEC-302 Serial number _____

SAFETY PRECAUTIONS

▲ WARNING

Observe the following instructions to prevent fires and personal injury.

- When the Power supply lead, Memory backup lead or Ground lead are extended, use a 0.75 mm² (AWG 18) or larger automotive grade cable which will withstand friction and heat to safe guard against fires occurring as a result of short-circuiting.
- Make sure that metal objects, particularly needles or coins do not get into the unit to prevent short-circuiting and fires.
- If smoke comes out of the unit or a strange smell is present, disconnect the unit immediately and consult your KENWOOD dealer. Continued use under these circumstances could cause a fire, as well as damage the unit permanently.

▲ CAUTION

Heed the following instructions to keep the unit in proper working order.

- The unit should be connected to a 12 V DC power supply with a minus ground connection.
- Do not open enclosures, such as the front panel, top or bottom covers.
- Do not place the unit, where it will be exposed to direct sunlight or near heating devices.
- Do not dash water on the unit.
- Do not place the unit in areas of excessive dust, high humidity or on unstable surfaces.

NOTE

- If you have difficulty in installing the set in your car, please contact your KENWOOD dealer.

CLEANING

1. Turn the power off, before cleaning the unit.
2. Wipe the front panel and other exterior surfaces of the unit with a soft dry cloth or a soft cloth lightly moistened with a neutral detergent.

▲ CAUTION

- Do not use abrasive pads, thinner or benzene (or other volatile solvents) to clean the unit as this may remove indicator characters.

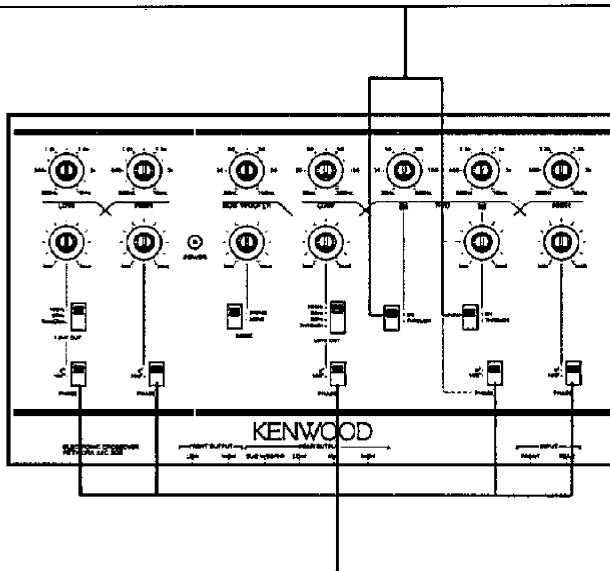
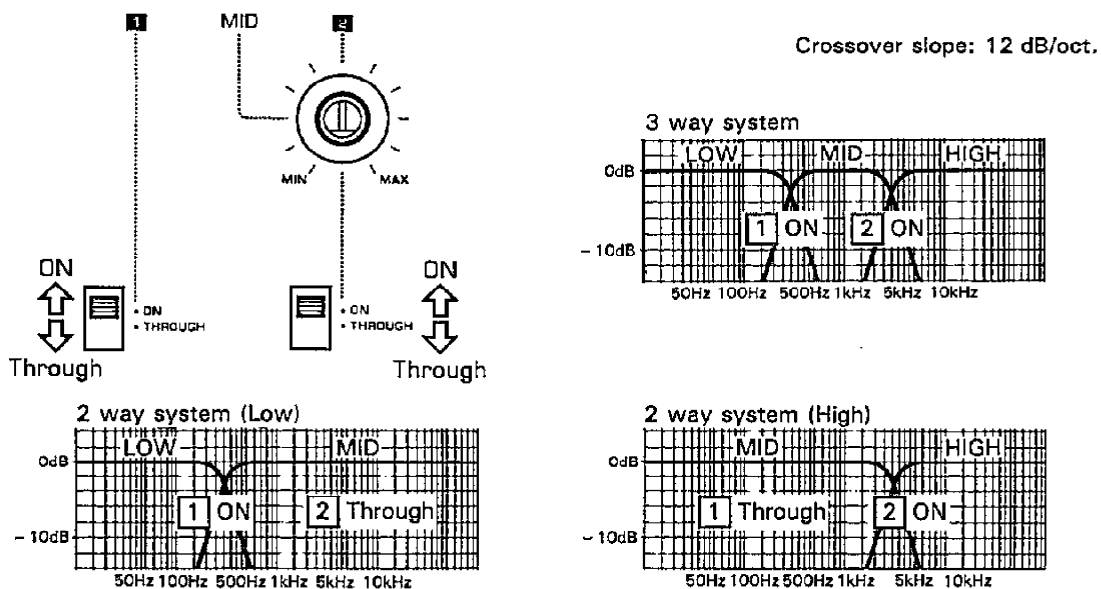
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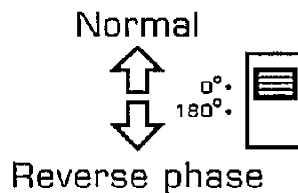


SWITCH SETTINGS ACCORDING TO SPEAKER SYSTEM

- Set the middle frequency switches for the rear speakers according to the type of system.

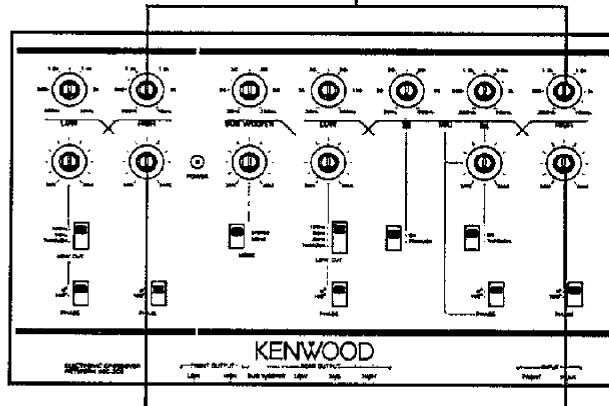
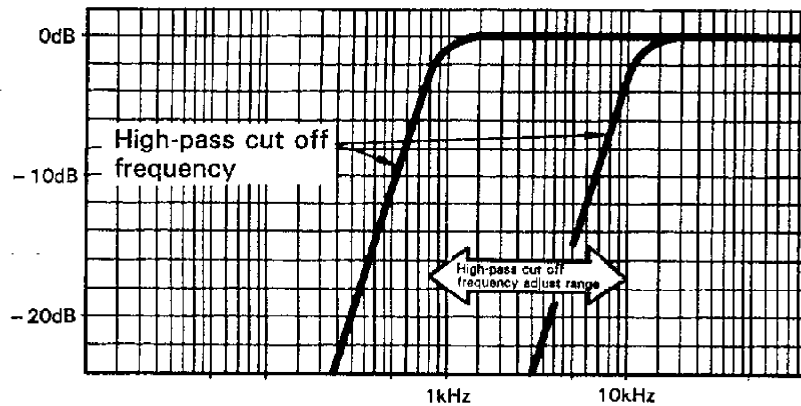
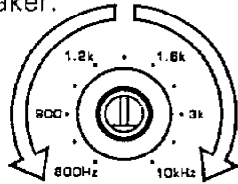


- The phase of each frequency band can be reversed by 180°.

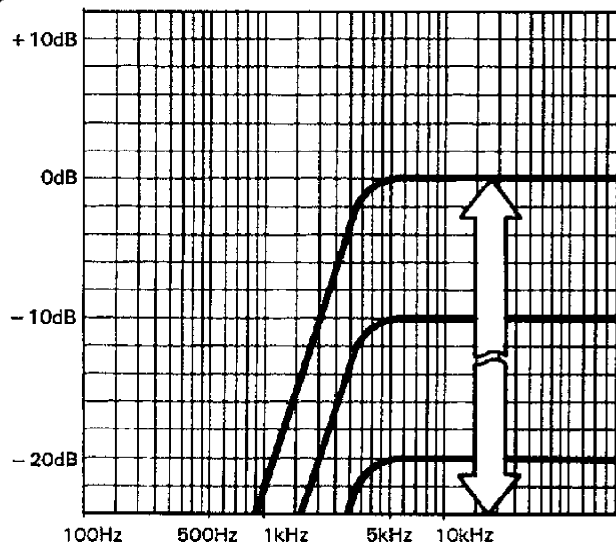
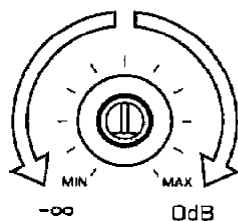


REAR-FRONT HIGH FREQUENCY ADJUST

When this knob is used to adjust the high-pass cut-off frequency, the high-pass cut-off frequency can be adjusted from 800 Hz to 10 kHz according to the high frequency characteristics of the speaker.

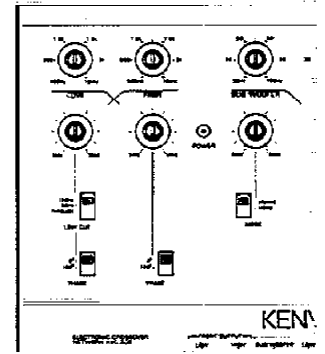
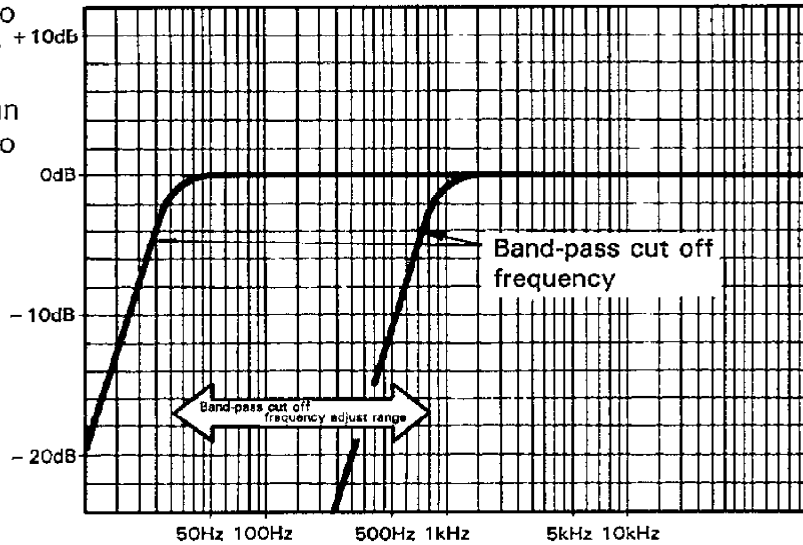
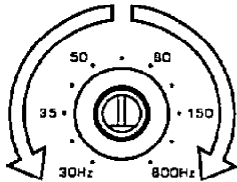


When this knob is used to adjust the high output level, the high output level can be adjusted from minus infinity (MIN) to 0 dB (MAX) according to the amplifier output power and speaker capacity.

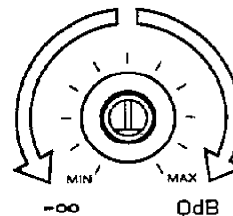


REAR MIDDLE FREQUENCY ADJUST

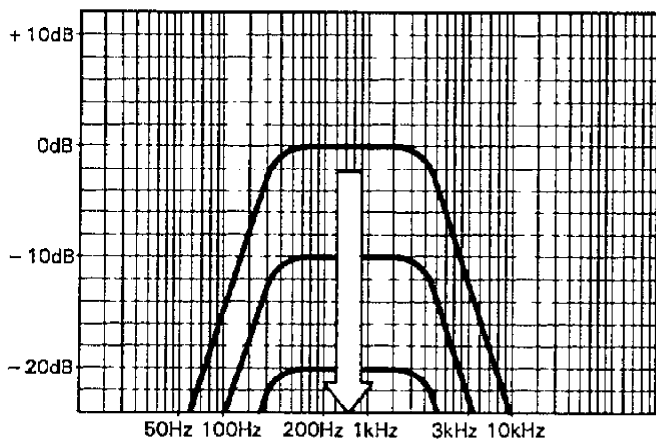
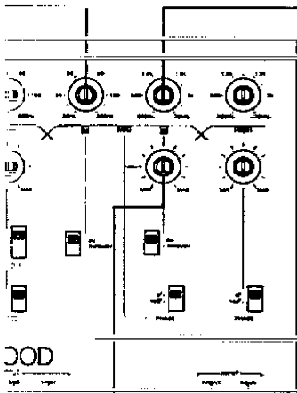
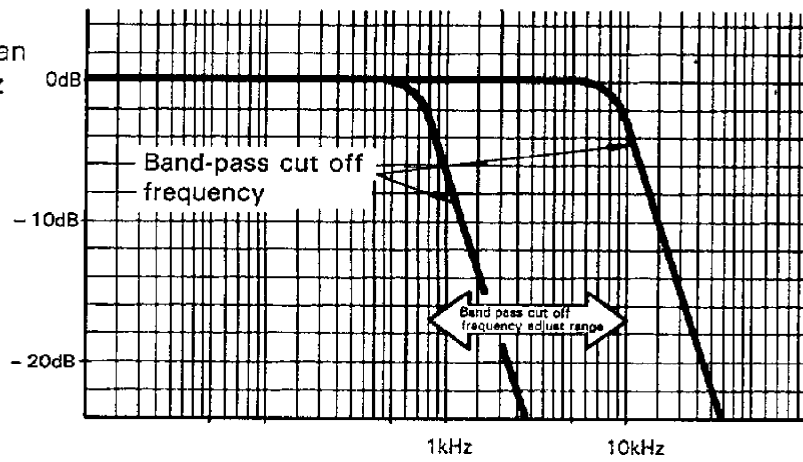
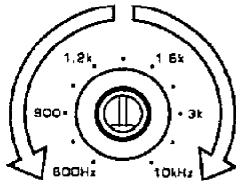
When this knob is used to adjust the band-pass cut-off frequency, the band-pass cut-off frequency can be adjusted from 30 Hz to 800 Hz according to the low frequency characteristics of the speaker.



When this knob is used to adjust the middle output level, the middle output level can be adjusted from minus infinity (MIN) to 0 dB (MAX) according to the amplifier output power and speaker capacity.

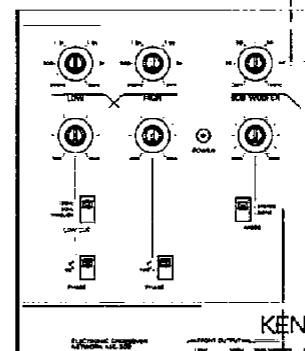
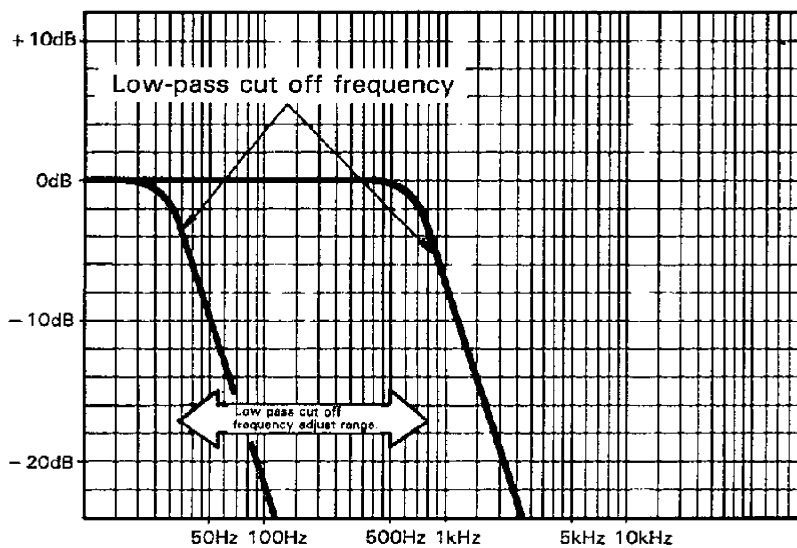
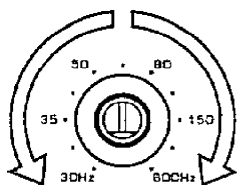


When this knob is used to adjust the band-pass cut-off frequency, the band-pass cut-off frequency can be adjusted from 800 Hz to 10 kHz according to the high frequency characteristics of the speaker.



REAR LOW FREQUENCY ADJUST

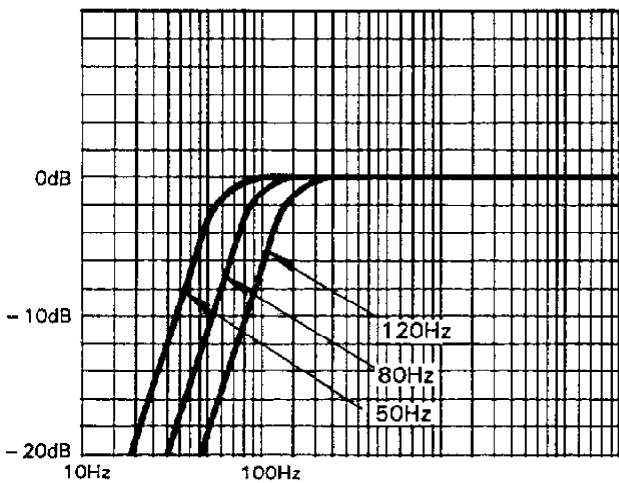
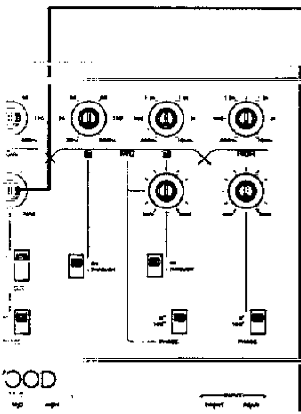
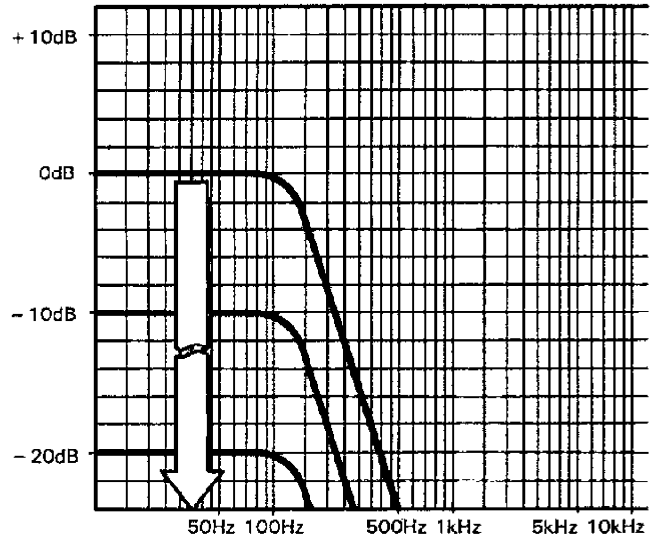
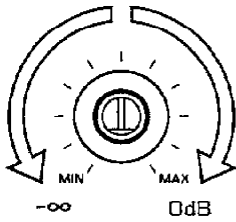
When this knob is used to adjust the low-pass cut-off frequency, the low-pass cut-off frequency can be adjusted from 30 Hz to 800 Hz according to the low frequency characteristics of the speaker.



When a sub-woofer is set, use the low cut off switch to select 120 Hz, 80 Hz, or 50 Hz as the low cut off frequency.

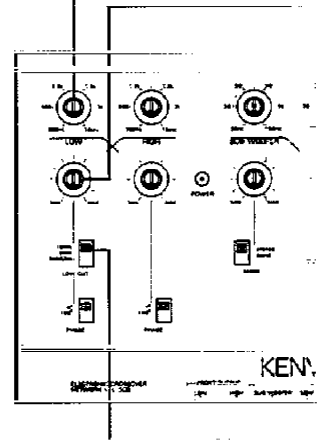
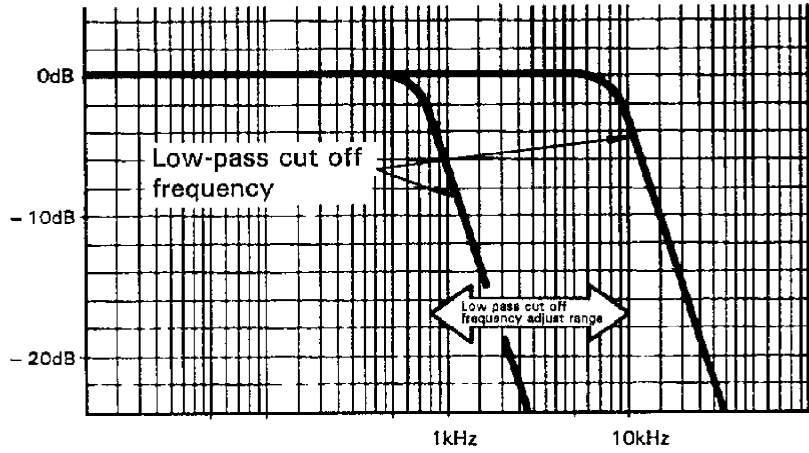
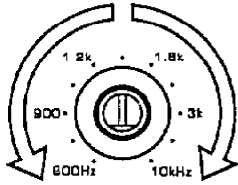


When this knob is used to adjust the low output level, the low output level can be adjusted from minus infinity (MIN) to 0 dB (MAX) according to the amplifier output power and speaker capacity.

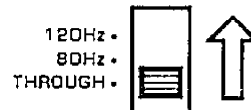


FRONT LOW FREQUENCY ADJUST

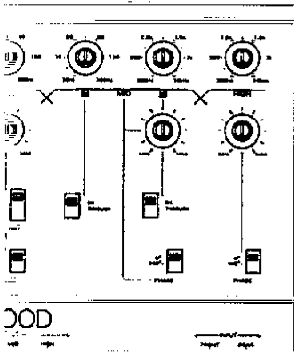
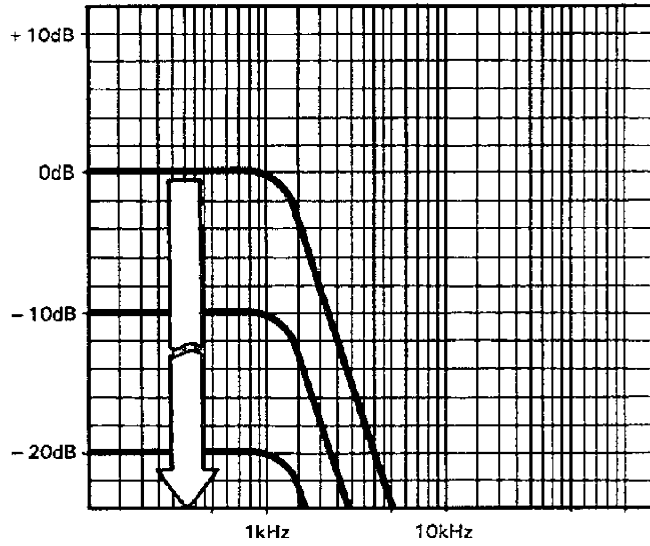
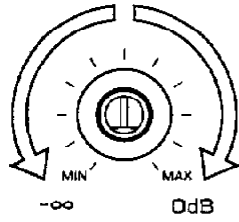
When this knob is used to adjust the low-pass cut-off frequency, the low-pass cut-off frequency can be adjusted from 800 Hz to 10 kHz according to the low frequency characteristics of the speaker.



When a sub-woofer is set, use the low cut off switch to select 120 Hz or 80 Hz as the low cut off frequency.

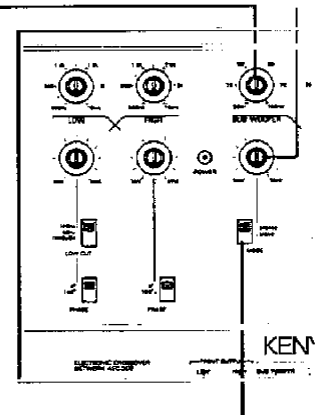
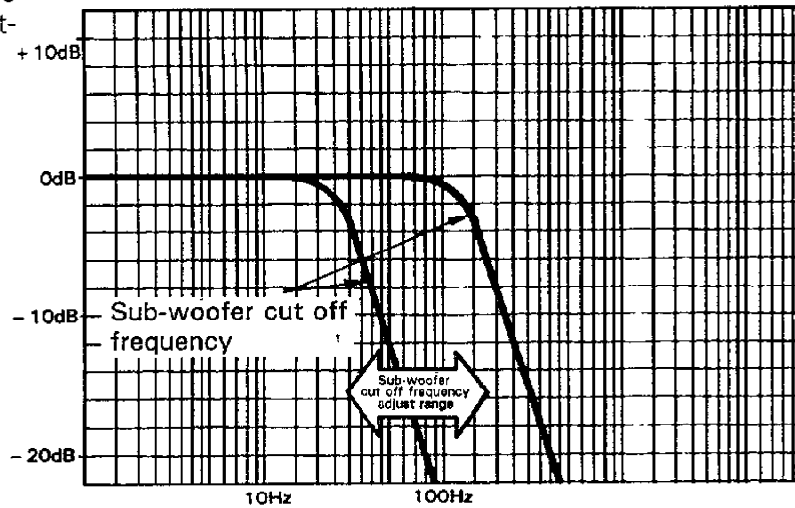
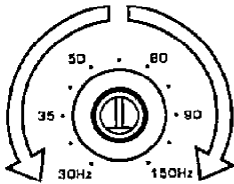


When this knob is used to adjust the low output level, the low output level can be adjusted from minus infinity (MIN) to 0 dB (MAX) according to the amplifier output power and speaker capacity.



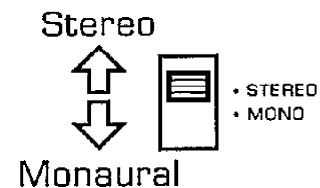
SUB-WOOFER ADJUST

When this knob is used to adjust the sub-woofer cut-off frequency, the sub-woofer cut-off frequency can be adjusted from 30 Hz to 150 Hz according to the sub-woofer characteristics of the speaker.

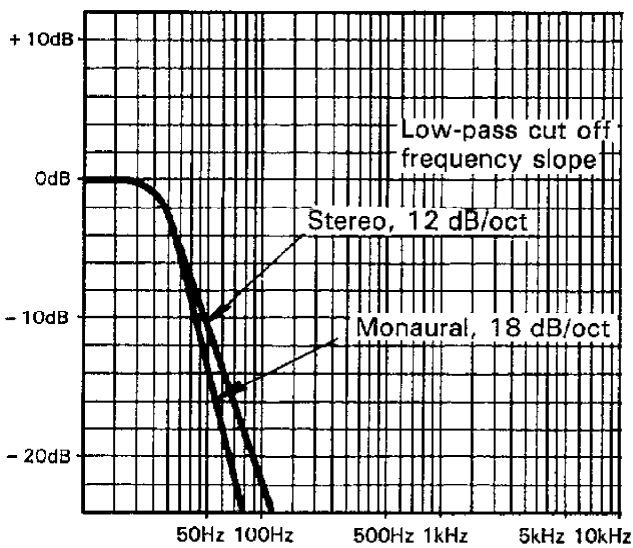
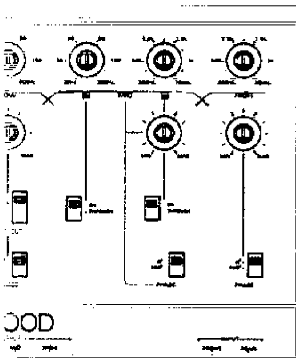
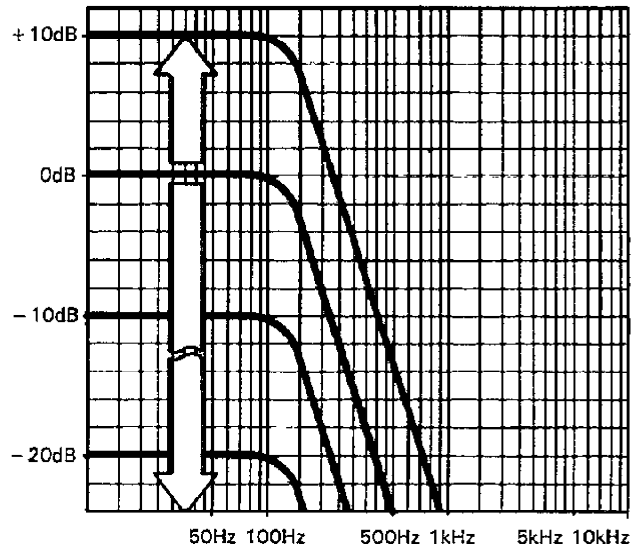
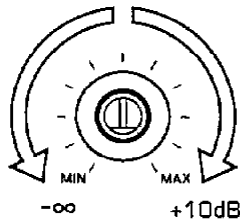


The "stereo" feeling is not perceived to a great extent with low frequency sounds. Also, if stereo sounds are present in the low frequency range, the signals from the left and right channels interfere with each other.

With this switch, the sub-woofer sound can be set to monaural. When the switch is set to monaural, the crossover slope changes from 12 dB/octave (stereo) to 18 dB/octave (monaural).

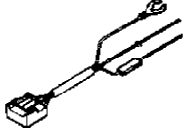

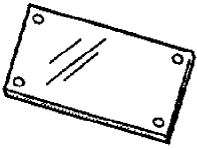
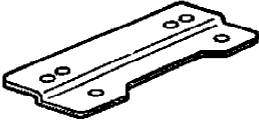





When this knob is used to adjust the sub-woofer output level, the sub-woofer output level can be adjusted from minus infinity (MIN) to +10 dB (MAX) according to the amplifier output power and speaker capacity.



ACCESSORIES AND PROCEDURE

■ ACCESSORIES

No.	Part name	External View	Number of units	No.	Part name	External View	Number of units
①	Power connection cord		1	④	Tapping screw (φ4 × 14)		4
				⑤	Acryle panel		1
②	Metal fixture		2	⑥	Collar		4
				⑦	Decorative screw		4
③	Pan head screw (M3 × 5)		4				

■ PROCEDURE

1. Before installation and wiring, remove the ⊖ terminal of the battery to prevent short-circuiting.
2. Connect the input and output cords of the system. (☞ P. 16)
3. Connect the Ground lead (Black) to the metal chassis of the car. (☞ P. 16)
4. Connect the back up lead (Yellow). (☞ P. 16)
5. Install the unit in the car. (☞ P. 15)
6. Connect the negative ⊖ terminal of the disconnected battery.

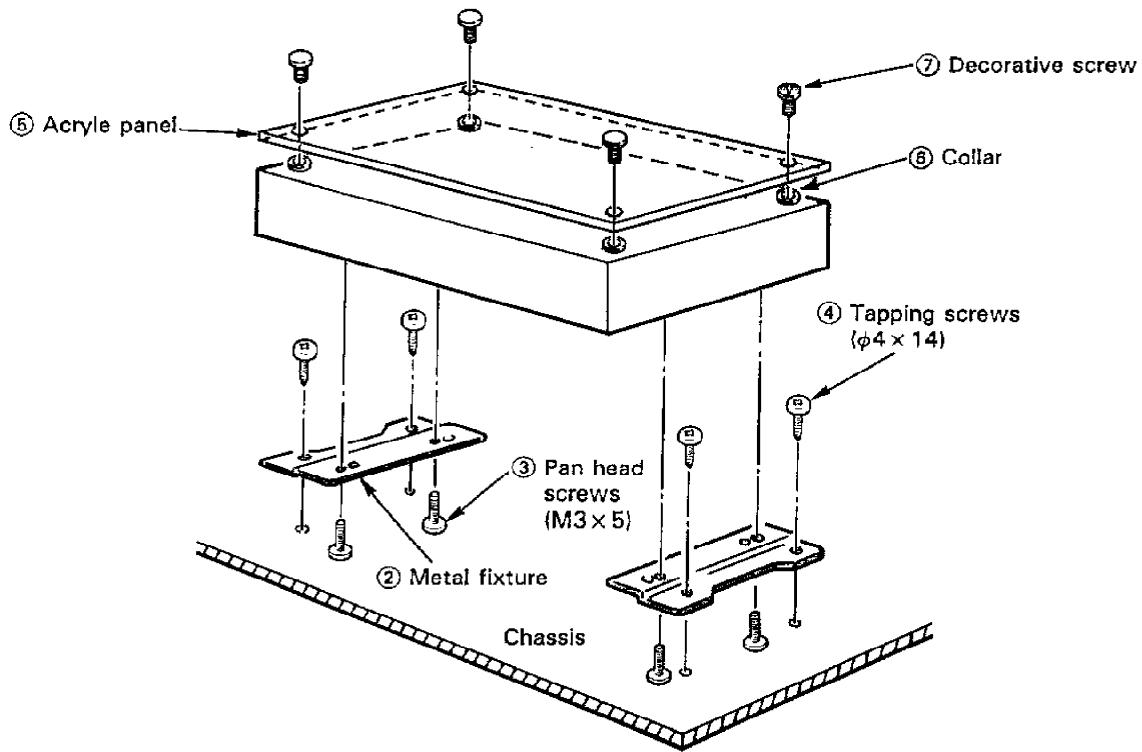
▲ CAUTION

- A short-circuit may be the cause of blown fuse. A short-circuit is a serious problem that can lead to a fire. Check the wiring and rewire if any wires are short-circuited. After this (or if no short-circuits are found), replace the fuse with one having the same capacity (see indication on fuse box).
- Make sure that unconnected wires and connectors are not in contact with the live chassis (ground) of the car to prevent noise and current from entering the system which can cause it to malfunction or damage the unit. For the same reason, caps on connectors that are not used should not be removed.

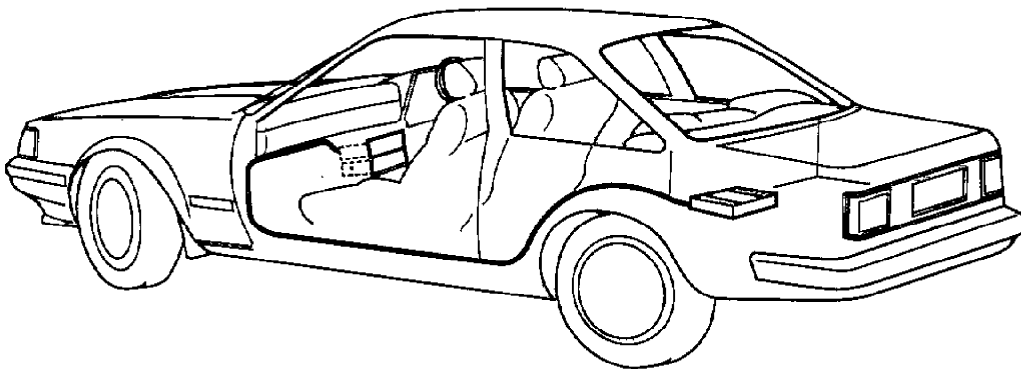
INSTALLATION

■ When installing to the car, install the unit securely for safety driving.

- Use screws supplied as accessories when installing the unit.



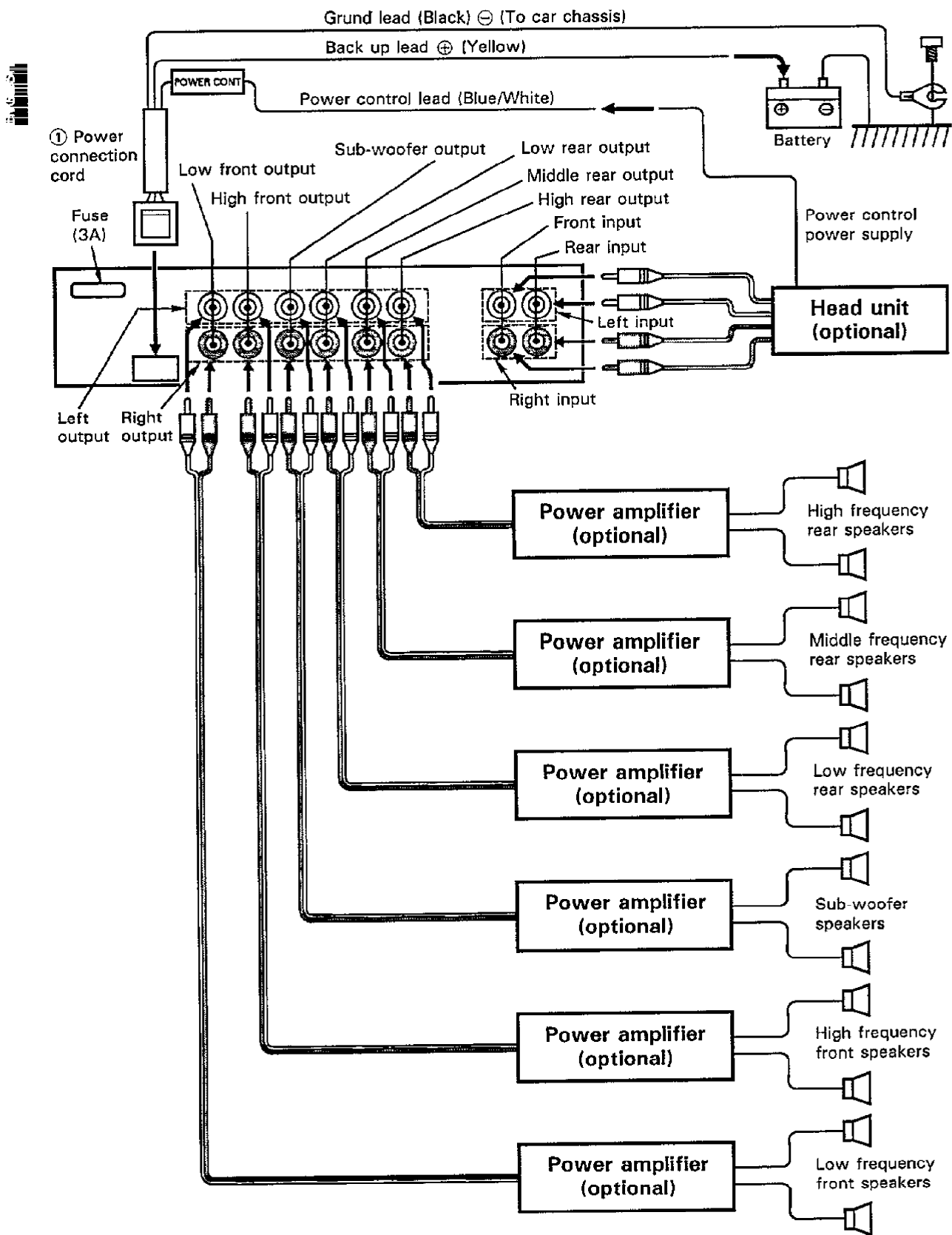
- An example of an installation position is inside a trunk room.



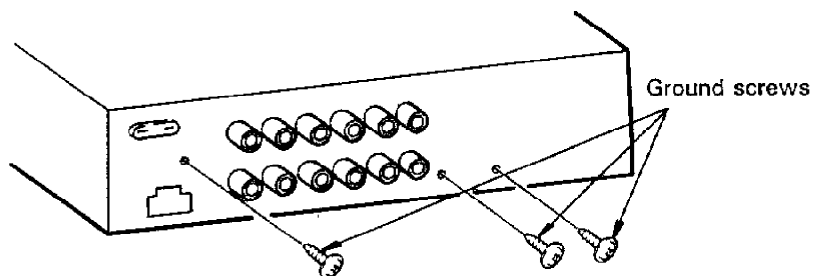
- Use the extension cables. (Optional)

Type \ Length	0.5 m	1 m	2 m	4 m	6 m
RCA	CA-2S	CA-12S	CA-22S	—	—
RCA (φ8 mm)	CA-3W	CA-13W	CA-23W	CA-43W	CA-63W
RCA (φ12 mm)	CA-5W	CA-15W	CA-25W	CA-45W	CA-65W

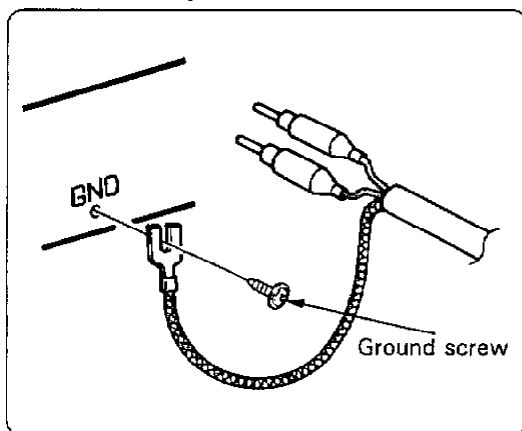
CONNECTIONS



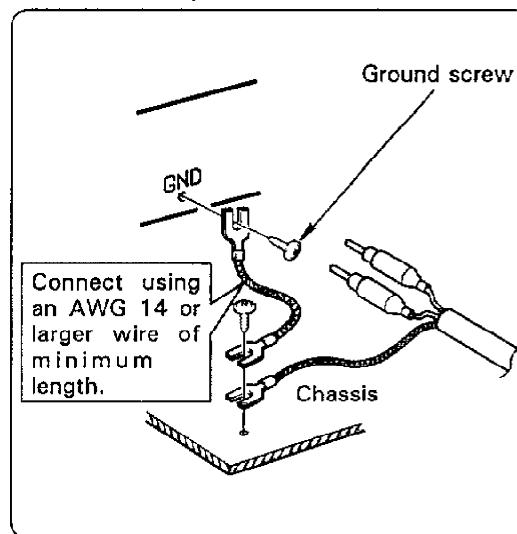
■ How to use the ground screws



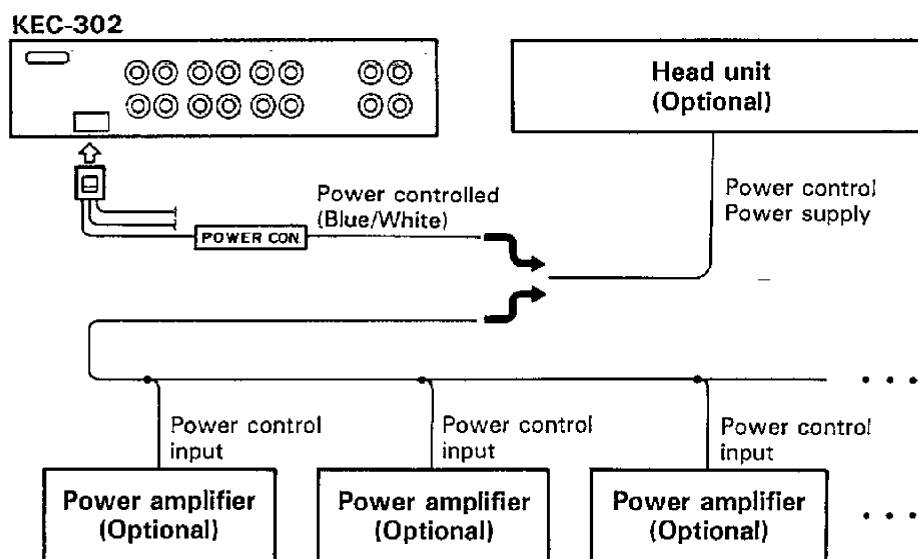
● Use example 1



● Use example 2



■ Power amplifier power control connection method



SPECIFICATIONS

Specification subject to change without notice.

Crossover Section

Crossover Frequency (variable)

Front (Low)	800 Hz ~ 10 kHz
(High)	800 Hz ~ 10 kHz
Rear (Sub-woofer)	30 Hz ~ 150 Hz
(Low)	30 Hz ~ 800 Hz
(Middle 1)	30 Hz ~ 800 Hz
(Middle 2)	800 Hz ~ 10 kHz
(High)	800 Hz ~ 10 kHz

Level Control

Front (Low, High)	-∞ ~ 0 dB
Rear (Sub-woofer)	-∞ ~ +10 dB
(Low)	-∞ ~ 0 dB
(Middle 1, Middle 2)	-∞ ~ 0 dB
(High)	-∞ ~ 0 dB

Low cut Frequency (selectable)

Front	Through, 80 Hz, 120 Hz
Rear	Through, 50 Hz, 80 Hz, 120 Hz

Phase

Front (Low)	0°/180°
(High)	0°/180°
Rear (Low)	0°/180°
(Mid)	0°/180°
(High)	0°/180°

Crossover Slope 12 dB/oct.

Sub-woofer Crossover slope

Stereo	12 dB/oct.
Monaural	18 dB/oct.

Audio Section

Input Impedance	10 kΩ
Output Impedance	600 Ω
Signal to Noise Ratio	100 dB
T.H.D.	0.01%
Frequency Response	20 Hz ~ 100 kHz (-3 dB)

General

Operating Voltage	14.4 V (11 ~ 16 V)
Current Consumption (MAX.)	0.3 A
Dimensions (W × H × D)	250 × 50 × 150 mm (9-13/16 × 1-15/16 × 5-7/8 in.)
Weight	1.5 kg (3.3 lb)

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