

# CQ10

## Graphic Equalizer Instruction Manual

### harman/kardon

Congratulations on your purchase of the Harman Kardon CQ10 Graphic Equalizer.

To fully understand the CQ10's capability, please read this manual carefully and follow all of the instructions regarding its use and installation.

#### Features

■ The level of 7 frequency bands can be adjusted from -10 to +10dB for precise corrections of the car acoustics and speaker characteristics.

■ Output jacks for 3 power amplifiers (Front, Rear, and Subwoofer) are provided. A FADER knob allows for an optimal balance between the Front and Rear output, while a SUB WOOFER knob independently controls the level of the signal sent to the subwoofer. Additional controls on the rear panel determine the operation range of the FADER knob and the bandwidth of the signal fed to the subwoofers.

■ Input jacks for receiver/deck and CD player are provided. A switch on the front panel selects the source. An additional input terminal on the front panel allows for connecting a portable CD player.

■ A DEFEAT switch allows the signal to bypass the equalizer's filters.

#### Specifications

Frequency Bands	:	7
Center Frequencies	:	50Hz, 200Hz, 500Hz, 1kHz, 3.2kHz, 8kHz, 16kHz
Boost/Cut Range	:	±10dB
Input Sensitivity/Impedance	:	0.1-1.0V/30k Ohms
Output Level/Load	:	0.1-1.0V/10k Ohms
Subwoofer Low-Pass Filter Parameters	:	80Hz, 125Hz, 200Hz, 12dB/Octave
Dimensions (WxHxD)	:	7-1/8" x 1" x 5-7/8" (180 x 25 x 149 mm)
Chassis Dimensions (WxHxD)	:	7" x 1" x 5-1/8" (178 x 25 x 130 mm)
Weight	:	1.5lbs. (0.7kg)

All specifications and features subject to change without notice.

#### Accessories

1. Power and remote control connector set with a 1-ampere fuse
2. Bolt with Washer (5 pcs.)

## General Instructions

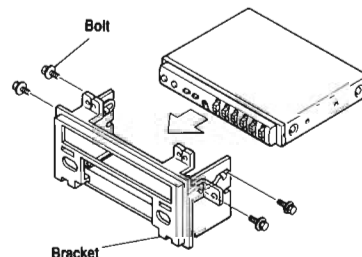
- This unit is for use in cars with 12 volt negative ground systems only. Never install this unit in a car using a 24V battery or a 12V battery with positive ground.
- To prevent discharge of the car battery, do not use your car stereo system for long periods of time when the engine is not running.
- Should the fuse blow, first check that the connections are correct and that the wires are not damaged, then replace the fuse with a 1 ampere fuse of the same type as the one supplied with the unit.
- If the car is left in direct sunlight for a long period of time, so that the temperature inside the car rises, do not operate this unit until the temperature has returned to normal.
- If your unit behaves abnormally, turn it off immediately and consult an authorized Harman Kardon Service Station.

## Installation

We recommend purchasing a mounting bracket specifically designed for your car in order to best install this unit.

### Installation of the CQ10 with a mount bracket

Securely mount this unit with the four accessory bolts (two for each side) after deciding the mounting position. Install the bracket with the unit mounted on the chassis of the car according to the instructions on the accompanying sheet.



To install this unit without a mounting bracket, please consult an authorized Harman Kardon Dealer or Service Station.

**WARNING:** After connecting the power supply wire and signal wires to CQ10, install the unit so that the CQ10's terminals will not touch the car chassis.

## Connections

Before beginning to make the connections, make certain that the ignition switch is OFF.

A four-pin connector is supplied with this unit for power supply and remote switching from the receiver/deck. Plug this connector into the 12V BATTERY POWER IN terminal on the rear panel.

### Power Supply

The red +12V SWITCHED wire should be connected to a +12 volt connector of the car circuit that is powered when the ignition switch is in the ACC position.

The black GROUND wire should be connected directly to the chassis. It is not necessary to connect this wire to the battery negative terminal. Engine noise will be minimized when the GROUND wire is connected to the same point at which the in-dash receiver or tuner/deck is grounded.

### **Remote Control**

The two yellow wires of the four-pin connector are for remote control. They allow the components of your stereo system to be switched ON/OFF from the receiver/deck.

The yellow REMOTE IN wire should be connected to the remote control wire or terminal of the receiver/deck.

- If there is no such a wire or terminal on your receiver/deck, connect the wire to the power antenna wire or terminal of the receiver/deck, even if that wire or terminal is already connected to the power antenna.

- If there is no power antenna wire or terminal, connect the wire to the ACC circuit of the car, together with the red +12V SWITCHED power wire. In this case, the CQ10 will be switched ON/OFF by the ignition switch.

The yellow POWER AMP REMOTE wire should be connected to the wire or terminal for remote control of the power amplifier.

- If there is not such a wire or terminal on the power amplifier, keep the wire insulated.

- If you are using more than one amplifier, connect the wire to each amplifier to ensure that all of them will be switched at the same time.

### **Input Jacks**

The INPUT jacks (red cable) should be connected to line level output terminals of the receiver/deck.

The CD INPUT jacks (red cable) should be connected to the line level output terminals of the CD player.

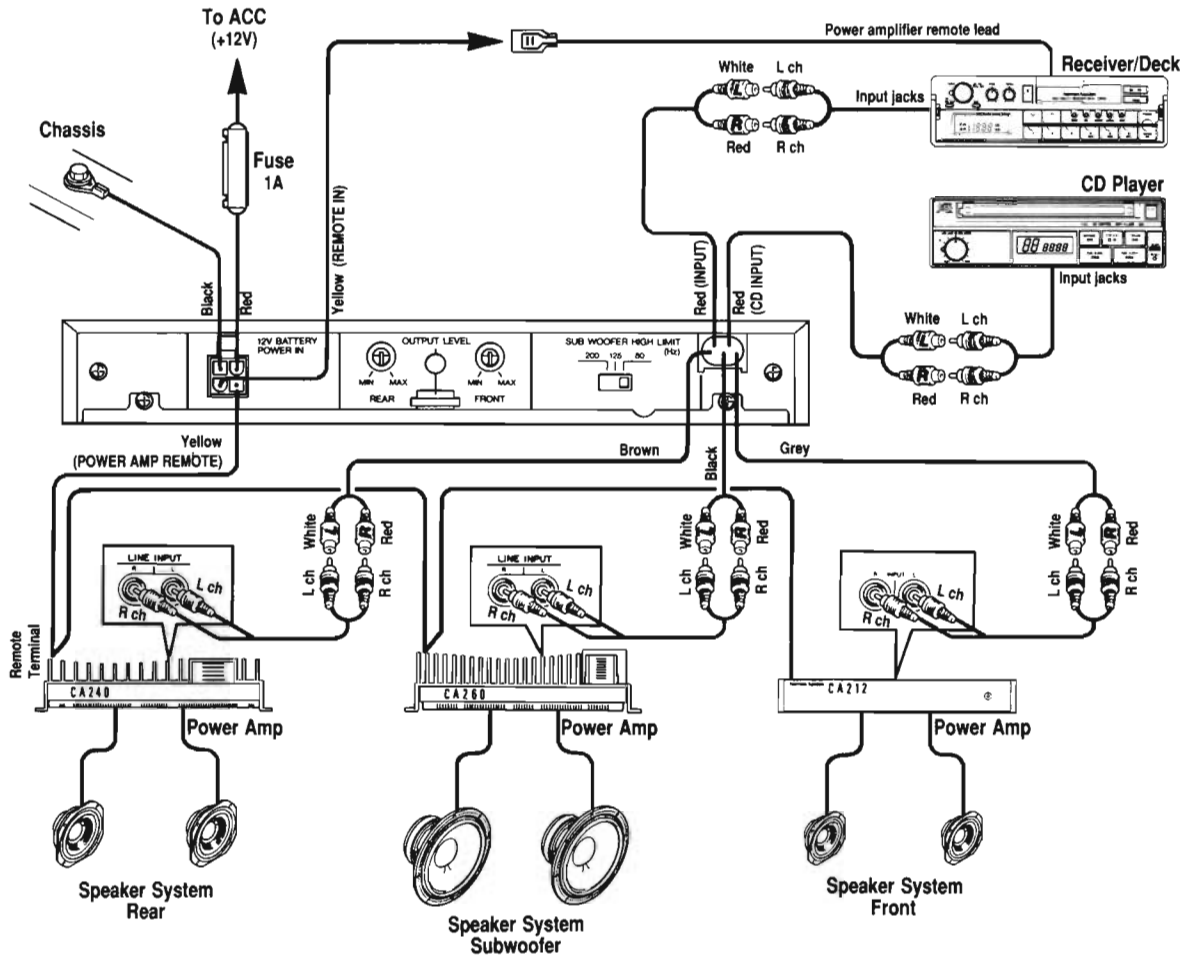
NOTE: ● A portable CD player can be connected to the CD INPUT terminal on the front panel. However, inserting a jack in this terminal does not cut the input from the rear panel CD input jacks.

### **Output Jacks**

There are three sets of output jacks: Front PREOUT (grey cable), Rear PREOUT (brown cable), and SUB PREOUT (black cable). These jacks should be connected to the line level input terminals of the respective power amplifiers. This configuration allows for independent feeding of three power amplifier systems so that, in total, you may obtain sound output from three pairs of speakers (two front speakers, two rear speakers, and two subwoofers).

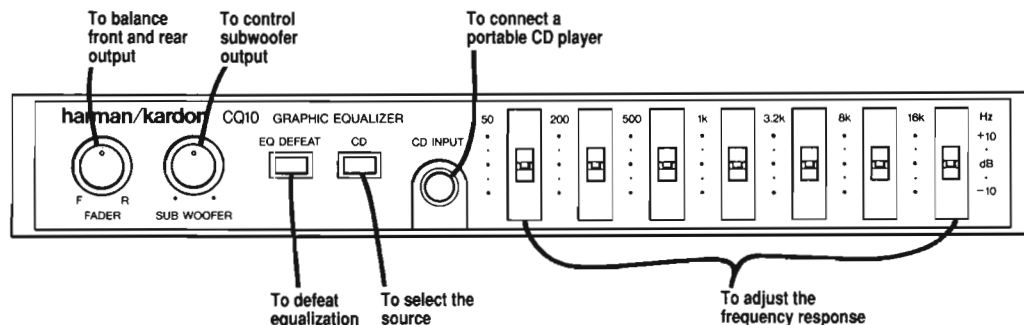
NOTES: ● If an input or output cable is not used, the jacks should be insulated with adhesive tape.

- Be careful not to invert the left and right channels. The red jacks are for right channels and the white jacks for left channels.



Connection Diagram

## Operation



### Turning the Power ON/OFF

If you correctly connected the CQ10, it should automatically come ON and OFF at the same time the receiver/deck or the ignition switch is turned ON/OFF. The CQ10 has no independent power switch.

### Adjusting the Controls

The FADER and SUB WOOFER knobs are used to adjust the relative levels of your three pairs of speakers. Press the knobs to release them, and turn to the desired position. Push again to return the knobs to their safety position.

The FADER knob balances the sound output of the front and rear speakers according to the settings of the OUTPUT LEVEL control. When the FADER knob is set in the center position, for example, the sound output of the front and rear speakers will be equal only if both LEFT and RIGHT INPUT LEVEL controls are set to the same position.

The SUB WOOFER knob is used to adjust the volume of the subwoofers.

### Selecting the Source

To select the receiver/deck, release the CD button. To select the CD player, push the CD button in.

### Equalizing the Sound

The seven sliders at the right of the front panel are used to determine the frequency response of the CQ10 while giving a graphic picture of the frequency response curve. The center frequency of the band-pass filters is indicated on each slider. The possible settings range from a cut of  $-10\text{dB}$  to a boost of  $+10\text{dB}$ .

When the EQ DEFEAT button is pressed in, the filters are bypassed and the frequency response is flat, regardless of the sliders position.

The sliders and the EQ DEFEAT button do not affect the signal fed to the subwoofers.

## Settings

The controls provided on the rear panel allow you to find the best match of your personal tastes, car acoustics and size, and subwoofers. It is a good idea to leave these controls in the factory-preset position the first time, and then freely experiment with other settings until you find the best one. To make this more practical, you should permanently install the CQ10 in the car only after finding the best setting.

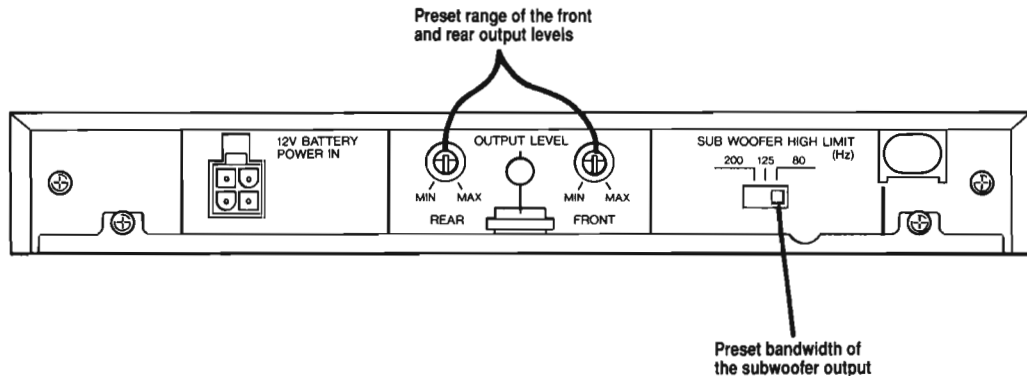
### OUTPUT LEVEL Controls

Two output level controls on the rear panel allow for setting the operation range of the front and rear output level. Use a screwdriver to set these controls. These OUTPUT LEVEL controls are used to achieve balance between the sub woofer

output level and front/rear output level. They are used when there is a discrepancy between the efficiency (dB/m) of the speakers being used and the sensitivity output of the power amplifier or when there is a difference in output level between the front/rear or sub woofer. They can also be used when adjustment is not possible through FADER adjustment.

### SUB WOOFER HIGH LIMIT Selector

The SUB WOOFER HIGH LIMIT selector determines the cutoff frequency of the low-pass filter affecting the signal fed to the subwoofer power amplifier. Use a small screwdriver to set this selector. There are three positions (200, 125, and 80 Hz).



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