WRIGHT AUDIO

CS-1 / CS-2 TABLE / SHELF
SONICALLY-ADJUSTABLE
HIGH FIDELITY SPEAKERS

USER MANUAL

The CS-1 and CS-2 High Fidelity Speakers have been specially designed to provide unusually high quality sound when an installation requires a smaller speaker. These sonically-adjustable speakers provide superior sound 1.) on a shelf or table-top as part of a stereo system in a smaller room and 2.) for a sophisticated desktop computer work station where quality audio is required.

The CS-1, with its 4-inch lower-midrange/bass driver, provides the best sonic solution when a separate subwoofer system can be employed. The CS-2 with its 5 1/4" lower-midrange/bass driver has a better frequency balance if it is necessary that it be used alone and a separate subwoofer is not practical.

Both CS-1 and CS-2 models attain their unusually high sensitivity and special performance by using a built-in adjustable active crossover and a 'booster' power amplifier on the midrange-bass driver. There is a completely passive crossover on the large two-inch upper-midrange / high frequency dome.

The active crossover / amplifier enables the user to continually adjust both the volume of the lower midrange-bass cone driver and its crossover frequency relative to the passive dome. It adjusts those lower-midrange frequencies which are critical to a satisfactory balance in the difficult tabletop and shelf environment. The speaker adjusts for:

1.) The listener's distance to the speaker.
2.) The immediate physical reflective environment in which it is placed.
3.) The sonic character of the components connected to it.
4.) To suit the user's individual taste and hearing.

This flexibilty means that the speakers can assimilate much more quickly and successfully in a much wider variety of installations than other speakers.

This flexibility is not meant to substitute for standard bass and treble controls found on preamplifiers, integrated amplifiers and receivers. Those controls are meant to compensate for frequencies at the more extreme high and low portions of the spectrum. They will likely be necessary to compensate for widely varying program material particularly from the internet, for room acoustics and for individual taste.

Another significant advantage is that the internal 'booster amplifier' increases the gain of the lower-midrange / bass driver to match that of the much higher sensitivity aluminum dome thereby increasing the overall sensitivity of the speaker system to around 90 db, 1 watt, 1 meter. That sensitivity figure includes the bass frequencies around 70 cycles (for the CS-1 with a 4-inch driver) and 50 cycles (for the CS-2 with the 5 1/4-inch driver) accounting for the unusually strong bass performance of these speakers. It also makes it possible to use lower-wattage amplifiers, including superior small tube amplifiers, with such a small speaker.

CS-1 Features (with 4-inch midrange-bass driver)

- The cabinet's height and angled front panel correctly places the speaker drivers at a seated listener's ear level when placed on a desk or table during computer use.
- 4-inch lower midrange-bass driver with aluminum cone and long-travel suspension.
- 2-inch upper midrange-tweeter driver with aluminum dome provides extreme clarity. The aluminum composition of both the diaphragms is the reason the speakers' sound character remains consistent from bass to treble.
- Continuously variable volume level and frequency crossover points affecting the bass-lower midrange relative to the upper-midrange / tweeter.
- 8 ohms. Sensitivity: 90 db 1 watt @ 1 meter. 25-watt watt internal woofer-lower midrange power amplifier.
- Passive crossover with no resistors or attenuation to the two-inch midrange-tweeter dome.
- High durability black textured finish.
- Size: 17"H x 6 7/8"W x 7 ½" D
- Weight: 12 lbs.
- 3-Year Warranty. See website for details
- For 115-120VAC, 60 Hz.
- Made in U.S.A. with U.S. and Global parts.

CS-2 Features (with 5 1/4-inch midrange-bass driver)
Includes all the CS-1 features plus:

- Substitutes a larger 5 1/4-inch bass-midrange driver in a slightly larger cabinet: 17”H x 6 7/8”W x 9”D. Weight: 14 lbs.
- Adds an RCA line level input for use with a preamplifier output for the lower mid-range / bass driver plus a separate speaker-level upper midrange-tweeter input for maximum hookup flexibility.
- Adds an acoustically-transparent, thin fabric curved grill. No sound-coloring 'grill frame' used.

CS-1 Connection:

Refer to diagram on the back of the speakers.

1.) Speaker Input

The speaker-level input using spring clip type jacks to permit connection with bare wire. Connect the speaker-level output of a full-range amplifier to the input using standard speaker wire eiher 18 or 20 gauge.

The pair of spring clips to the right are not used in this model.

2.) The pair of RCA jacks are not used on this model. Do not insert any plugs in these sockets.

3.) To Subwoofer
Speaker-level passthrough outputs are full-range for connection to an external subwoofer system.

4.) Power Input
This unit features an externally accessible 0.75A, 250V fuse and USA polarized 2-pin plug. This unit is not suitable for 220-240V applications.

CS-2 Connection Options:

Refer to diagram on the back of the speakers.

To provide flexibility, there are two ways of connecting this speaker. Depending on the external amplifier used, one method may sound better than the other.

Method 1: Using speaker-level signal from the amplifier only:

1.) Speaker Input
The speaker-level input uses spring clip type jacks to permit connection with bare wire. Connect the speaker-level output of a full-range amplifier to the input using standard speaker wire either 18 or 20 gauge.

The pair of spring clips to the left are not used in this model.

2.) Connect the supplied red and black wires from the High Frequency spring clip type jack connections to the recessed binding posts above. Observe the polarity of the connection, connecting the black wire to 'minus' and the red wire to 'plus' on both the spring clips and the binding posts.

Method 2: Using a full-range, line-level RCA preamplifier output and the speaker-level signals simultaneously. (NOTE: A home theater receiver with an LFE (Low Frequency Effects) RCA output will not work properly.)

1.) Do not use any of the spring clip connections.

2.) Connect the speaker-level output from amplifier directly to the recessed cup with binding posts observing the correct plus and minus polarity.

3.) BOTH RCA jacks on the speaker's back must be connected in parallel for connection to the amplifier's preamplifier output section. This is accomplished with a short "y-connector" consisting of one female RCA socket to two RCA male plugs which is included.

Plug the two male plugs into BOTH RCA sockets on the speaker and use an RCA interconnect the appropriate length to your amplifier's preamplifier section output.

NOTE: When this method is used, the "Suggested Settings" as shown on the rear of the speaker will likely not be accurate.

AC Power Connection

To avoid the possibility of hum, all the components should be connected to the same power strip. Cable TV systems can cause hum from the speakers as well. Try disconnecting all coaxial feeds that are connected to the system. If this solves the problem, install a coaxial line isolator and reconnect the system. In the very worst case, a line-level audio isolator/transformer connected to the line-in of the subwoofer amplifier will usually solve the problem.

Note 1: When the power switch is turned 'Off', each amplifier still draws about 7 watts of power. When it is turned on and left idle, the amplifier draws about 8 watts. In order not to disturb the "Gain" setting, the amplifier may be left on continually. If this is not desired, AC Power ON / OFF remote controls are available through Amazon and is recommended.

Note 2: It is normal for the amplifiers' panel to become very warm, even when the power switch on the amplifier is turned off.

CS1 and CS2 CONTROLS / INDICATORS

As a a starting point, adjust the controls to conform with the positions shown on the diagram on the back of the speaker. In many, if not most situations, these positions will remain as the ideal settings.

Further adjustments of the controls may be found either by measurement instruments at the listener's position or by ear using an average setting found by listening to a wide range of program material. If the amplifier has Bass and Treble Controls, leave them at the 'flat' position during this process.

1.) Power / Gain Control ("Gain")
This control adjusts the volume of ONLY the lower-midrange / bass driver. When the power/ gain switch is turned to the "On" position, the LED will illuminate and the amp will be in "On' mode. If the LED is not illuminated, check that the amplifier is plugged into a power source and that the "Gain" knob is not set to the "Off" position.

2.) Frequency Control (Crossover Point)
This control is used to adjust the highest frequency that the lower-midrange / bass driver will reproduce.

IMPORTANT NOTE:
The settings are not meant to be something fiddly requiring constant readjustment. Once the ideal settings are found, use the amplifier's Bass and Treble Controls to provide any further adjustment required and leave the speakers' settings alone.

When making Gain and Frequency Crossover adjustments, make sure both speakers are closely matched. When deviating from the suggested settings, move the controls only in half-step increments (between the marked lines) as small setting changes can be sonically significant.

The 'Suggested Settings' are the conditions when a listener is sitting at a computer desk with the speakers at somewhat less than arm's length away with the speakers on either side of the monitor.

At farther distances, the "Gain Control" may have to be slightly increased.