CX23L ELECTRONIC CROSSOVER

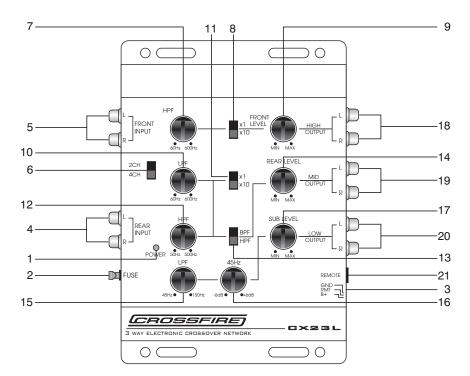
IMPORTANT

PLEASE READ ALL INSTRUCTIONS BEFORE INSTALLATION!!!

The quality of installation may affect the performance and reliability of your Crossfire crossover. Please take a few minutes to read the manual carefully. The time you spend on installation will prove to be worthwhile when it's time to listen to your investment. If you have any doubts or questions regarding installation or use, you may wish to contact your authorized Crossfire Car Audio dealer or call Crossfire at 562-483-8111 for further assistance.

SPECIFICATIONS & FEATURES

| Crossover frequencies | | | |
|------------------------|-----------|-----|---------------------------------|
| -Front output | Highpass: | x1 | variable between 60Hz and 600Hz |
| | | x10 | variable between 600Hz and 6KHz |
| -Rear/Mid output | | | |
| | Lowpass: | x1 | variable between 60Hz and 600Hz |
| | | x10 | variable between 600Hz and 6KHz |
| | Highpass: | | variable between 50Hz and 500Hz |
| -Sub output | Lowpass: | | variable between 40Hz and 150Hz |
| | | | |
| Crossover slope: | | | 12 dB per octave |
| Output level: | | | 6dB gain, up to 8 VRMS |
| Subwoofer boost: | | | variable, 0-6dB @ 45Hz |
| Input level: | | | 620mV to 7V |
| Input impedance: | | | 10K ohms |
| Frequency response: | | | 10Hz to 30KHz + 1dB |
| T.H.D.: | | | .005% |
| Channel separation: | | | >75dB |
| Signal to noise ratio: | | | >100dB |
| Dimensions: | | | 5.12(W) x 7.36(L) x 1.61(H) in. |
| | | | 130(W) x 187(L) x 41(H) mm |



1. L.E.D. POWER INDICATOR

This indicator lights up when the unit is properly powered and the source unit is turned on.

- 2. FUSE
- This 1 amp fuse will protect the CX23L from damage in case of a short.
- POWER TERMINALS
 B+ terminal: connect to a positive 12 volts DC
 Remote terminal: connect to remote turn-on lead of the source
 GND: connect to the vehicle's chassis (-12 volt DC)
- 4. REAR INPUTS

This accepts input signal from the rear output of the source unit via RCA cables.

5. FRONT INPUTS

This accepts input signal from the front output of the source unit via RCA cables.



6. 2CH/4CH INPUT SWITCH

-In the 4CH position, the CX23L will accept both front and rear signal inputs from the source unit. This allows fader control and summation of the front and rear inputs

for the subwoofer output.

-In the 2CH position, signal will only be accepted in to the rear inputs of the CX23L from the source unit. This in turn will split into the three outputs.

7. FRONT/HIGHPASS FREQUENCY SELECTOR

By using the continually adjustable dial, you may select a highpass crossover point for the front/high output between 60 and 6000Hz.

8. FREQUENCY MULTIPLIER FOR FRONT/HIGHPASS

This switch allows for additional crossover points for the front/highpass crossover. x1 position: 60 to 600Hz x10 position: 600 to 6000Hz

9. FRONT/HIGHPASS OUTPUT LEVEL CONTROL

Use this knob to increase or decrease the front/highpass output of the CX23L to match the input level of the corresponding amplifier.

10. MIDRANGE LOWPASS FREQUENCY SELECTOR

By using the continually adjustable dial, you may select a lowpass crossover point for the rear/mid output between 60 and 6000Hz. This adjustment only applies when switch number 13 is placed on BANDPASS.

- 11. FREQUENCY MULTIPLIER FOR MIDRANGE LOWPASS This switch allows for additional crossover points for the midrange lowpass crossover. x1 position: 60 to 600Hz x10 position: 600 to 6000Hz
- 12. REAR/HIGHPASS FREQUENCY SELECTOR

By using the continually adjustable dial, you may select a highpass crossover point for the rear/mid output between 60 and 600Hz.

13. HIGHPASS/BANDPASS SELECTOR

-When this switch is on highpass mode, the lowpass filter cannot be used. Place in this position when using as a 2-way crossover with front and rear speakers and/or when using front and rear inputs and the source unit to control fader functions.

-Switching to bandpass mode may be desirable when the CX23L is being used in a 3-way system. This will enable the midrange lowpass frequency selector (#10).

14. REAR/MID OUTPUT LEVEL CONTROL

Use this knob to increase or decrease the rear/mid output of the CX23L to match the input level of the corresponding amplifier.

15. SUBWOOFER FREQUENCY CONTROL

By using this continually adjustable dial, you may select a lowpass crossover point for the sub output between 40 and 150Hz.

16. 45Hz BOOST CONTROL

This knob allows you to boost or cut 6dB at 45Hz. Be cautious not to overdrive your woofer(s).

17. SUB OUTPUT LEVEL CONTROL

Use this knob to increase or decrease the sub output of the CX23L to match the input level of the corresponding amplifier.

18. FRONT/HIGH OUTPUT

This is a female RCA receptacle for the patch cables leading to the front/highpass amplifier.

19. REAR/MID OUTPUT

This is a female RCA receptacle for the patch cables leading to the rear/midrange amplifier.

20. SUB OUTPUT

This is a female RCA receptacle for the patch cables leading to the subwoofer amplifier.

21. **REMOTE**

Jack for optional CFR-1 remote bass level control.

MOUNTING

Find a sturdy, secure area to mount the CX23L. Be sure it is accessible, but not out in the open where the crossover points or the level controls may be easily bumped. Predrill your mounting holes with a 7/32" diameter drill bit and use the supplied screws to mount the CX23L securely

POWER CONNECTIONS

Before connecting anything, be sure to disconnect the ground from your battery to prevent any damage to the audio components. All components should be hooked up before the battery is reconnected.

B+

Connect to this terminal a positive 12 volt lead using the same source of power used to power your amplifiers. This should eliminate any chance of picking up noise due to voltage differences. If you decide to run the power wire for the crossover directly to the battery, be sure to add an inline fuse holder containing a 1 amp fuse at the battery in case of a short. Use a minimum of 16 awg stranded copper wire and be sure to apply grommets whenever the power wire is run through any metal wall.

GND

When grounding your Crossfire CX23L, locate a metal area close to the crossover that is a good source of ground (preferably the floor). Investigate the area you wish to use for electrical wires, vacuum lines, and brake or fuel lines. Using either a wire brush or sandpaper, eliminate unwanted paint to supply a better contact when grounding. Use the same gauge wire for ground as you did for the power. Terminate your ground wire using the correct size ring terminal and attach it to the bare metal using a #8 sheet metal screw. It is important for this connection to be solid. To complete the job, spread silicon over the screw and bare metal to prevent rust.

REMOTE

Between the power and ground is a remote turn-on terminal. This terminal must be connected to a switched +12 volt source. Typically, remote turn-on leads are provided by the source unit which will turn on and off the amplifier in correspondence with the source. If a radio does not have a remote turn-on, then a power antenna wire may be used. Yet, if neither of these leads are available at the source, a switched +12 volt supply must be used. Run a minimum of 18gauge wire from the amplifier location to the source of the switched +12 volt lead. Remember, it's best to keep all +12 volt wire ran on one side of the vehicle and away from the RCA cable. Avoid running the wire near sharp edges that may easily cut through the insulation. Connect the source to the wire. Check your connections by turning on the source. The green light will illuminate if your connections are correct.

SIGNAL CONNECTIONS

Check system variation diagrams and choose the application that works best in your system. For applications requiring fader control, two pairs of RCA patch cables are needed to link the source unit to the CX23L. If fader control is not needed or the source unit has only one pair of low level outputs (RCA outputs), only a single pair of RCA patch cables are needed to connect the source unit to the CX23L.

Choose the correct length and style of RCA patch cables for your needs. Better RCA's have either multiple layers of shielding or twisted pair wiring and gold plated terminals for better noise rejection and outstanding contact (consult your dealer).

Be extra careful when running your RCA patch cables. Car environments are notorious for poorly insulated wires. This means that hiss, engine noise, and fan noise can easily be picked up through RCA cables if ran incorrectly. As a precaution, avoid placing your RCA's near large wire looms and electric fans whenever possible.

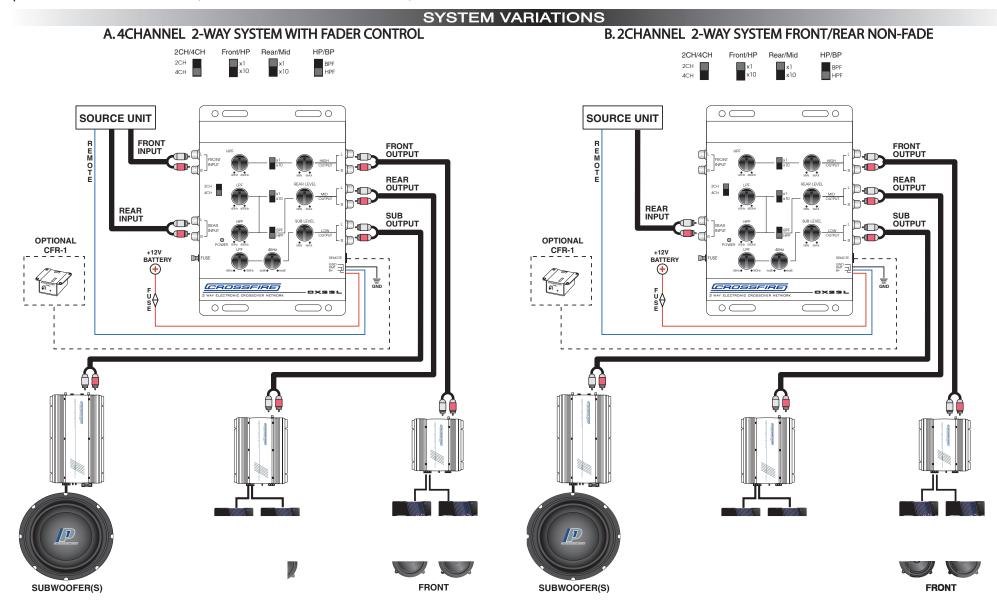
Starting at the source, connect the patch cables to the RCA output. Run the cables to the location of the CX23L. Connect your patch cables to the corresponding inputs. Be sure to check for correct balance (red is right and black or white is left) on both the radio and the crossover.

Now it's time to do the final connections, the outputs. Be careful you link the outputs, via RCA patch cables, to the proper amplifier(s). Use the diagrams on the following pages to determine the correct system layout. Avoid entanglement between the RCA's and the power wires. Once again, check for correct balance between the CX23L and the corresponding amplifier.

You may now reconnect your battery and install the correct size fuse into the fuse holder.

OUTPUT LEVEL CONTROLS

Now that your connections have all been made, it's time to adjust your stereo system. Before you turn the system on, be sure to turn all of the gains down on the amplifier(s) and the CX23L. Choose the correct crossover points for the speakers you are using. Once this is accomplished, you may turn the source unit on and adjust the volume level to 2/3 of maximum volume. Now adjust the CX23L output level controls until desired volume is achieved without audible distortion. If the output levels are at maximum gain on the CX23L and desired volume level is not reached, you may now wish to adjust the gain controls of the amplifier(s) for more volume control. Remember, turning the gain control all the way up on your amplifier(s) does not increase output power to your speakers, but will definitely make your speakers distort much sooner. (A word to the wise: Distortion Kills)



SYSTEM VARIATIONS CONTINUED

C.2CHANNEL 3-WAY

2CH/4CH Front/HP Rear/Mid HP/BP

