XVR12/XVR14 INSTRUCTION MANUAL

Congratulations on purchasing the ultimate passive crossover network. In doing so you've demonstrated a desire to own the very finest in car audio equipment.

IMPORTANT! Read this entire installation manual before installing your XVR. Remember the XVR passive crossover network is designed to be installed with any amplifier capable of operating bridged mono and stereo simultaneously. Most amplifiers are capable of running in this configuration, but some CANNOT! The XVR utilizes the L+ and R- as the mono channel for proper phasing. Please make sure your amplifier bridges in this manner. Check with your local retailer or the amplifier manufacturer if you are in doubt.

The ***XVR12*** is designed for use with a 2 ohm mono subwoofer load.
The ***XVR14*** is designed for use with a 4 ohm mono subwoofer load.

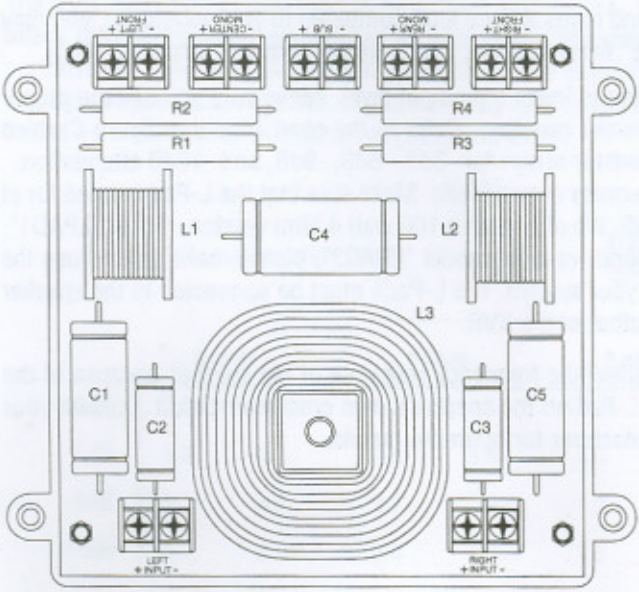
Do not confuse these two XVR systems! Both versions of the XVR are rated for 500 Watts peak in BRIDGED MONO operation. Using amplifiers which are capable of more than 500 watts mono may cause premature failure of the XVR, and will not be covered under warranty.

FEATURES

- 5 way passive crossover network
- 24kt Gold plated glass epoxy PC board
- 24kt Gold plated speaker terminals
- Computer optimized for the best possible impedance matching & frequency response
- Low frequency protection for front, rear and center midrange speakers

SPECIFICATIONS

- 500 watt power handling capability
- Stereo 6dB per octave High Pass at 160Hz
- Mono 6dB per octave Bandpass for center and rear fill at 500 to 3000Hz
- Mono 12dB per octave Low Pass at 80 Hz
- Assymetrical subwoofer crossover to overcome standing waves



CAPACITORS

C1 250uf/100wv
C2 68uf/100wv
C3 33uf/100wv
C4 370uf *(XVR14)*
C4 700uf *(XVR12)*
C5 250uf/100wv

RESISTORS

R1 2.0 ohm/10W
R2 4.0 ohm/10W
R3 4.0 ohm/10W
R4 8.0 ohm/10W

INDUCTORS

L1 0.20mH/AirCore
L2 0.40mH/AirCore
L3 11.0mH *(XVR14)*
L3 5.5mH *(XVR12)*

INSTALLATION INSTRUCTIONS

1. Find an appropriate location to install the XVR. The location should allow for easy access to all connections and mounting hardware.

2. Using the XVR as a template, mark the mounting holes with a pencil.

3. Once the mounting surface is marked, remove the XVR and drill 1/8" inch holes for the mounting screws. *See figure A.*

4. Mount the XVR with four philips panhead screws or use our MBS 24kt Gold plated wood screws.

5. Separate and mark all the speaker cables so they are ready for connection to the *CORRECT* speaker terminals on the XVR. The front left channel is connected to the front left High Pass output. The front right is connected to the front right and so on. Check and verify that the nominal impedance of your speakers match the XVR output.

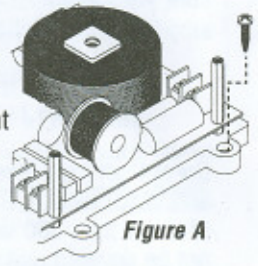


Figure A

6. Next connect the speaker cables directly into the XVR. We recommend you strip the insulation and crimp our PRO404 spade terminals to our 12 gauge (SS122) or 16 gauge (SS162) speaker cable. The use of spade terminals makes for a cleaner installation.

7. It's now time for the "Sound Check"! Please check and make sure that all of the speakers are connected and functioning properly. If the system sounds unusual, you probably have speaker(s) "out-of-phase". Using an RTA *Real Time Analyzer* will allow you to double check all of your speaker phasing.

8. If the front mids and highs are too loud compared to your woofer(s), you may want to "attenuate" these outputs. There are two ways of achieving this:

   Use power resistors to lower the output level. Make sure you use the proper 10 watt ceramic power resistors. *Refer to the chart shown in figure C* which lists the correct resistor arrays for -3dB, -6dB, -9dB, and -12dB attenuation.
   Use L-Pads to attenuate output levels. Make sure that the L-Pad is rated for at least 100 watt RMS. We offer both a 100 watt 4 ohm version, model "LPAD1", and a 100 watt 8 ohm version, model "LPAD2", please make sure to use the correct L-Pads in your system. The L-Pads must be connected to the speaker cables after the output of the XVR.

   NOTE: This may affect the frequency response of the speaker because of the interaction of the L-Pad on the speaker's own crossover circuit. Consult your loudspeaker manufacturer for optimum results.

9. Install the plexi-glass cover once you have finished the installation with the captive nylon washers on both sides of the plexi-glass cover. Remember do not over tighten the 24kt Gold Phillips head screws. **Broken plexi-glass covers or bases will not be covered under warranty.** *See figure B.*

10. Because of your particular system design you may desire to change the crossover frequencies for either the high pass or low pass of the XVR crossover. The dotted area below is for your information only. **Any field modifications to the XVR voids the warranty.** If you decide to change the crossover values, be careful not to damage the gold plated PC board when soldering.

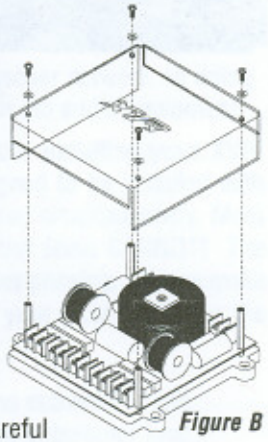


Figure B

FRONT HIGH PASS (left and right at 6dB per octave)

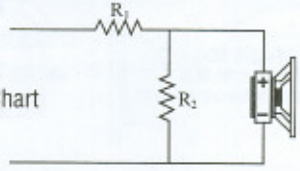
	4 OHM LOAD	2 OHM LOAD
C1,C5 • Capacitor	250uf	500uf

LOW PASS (subwoofer at 12dB per octave)

	4 OHM LOAD	2 OHM LOAD
C4 • Capacitor	370uf	700uf
L1 • Inductor	11mH	5.5mH

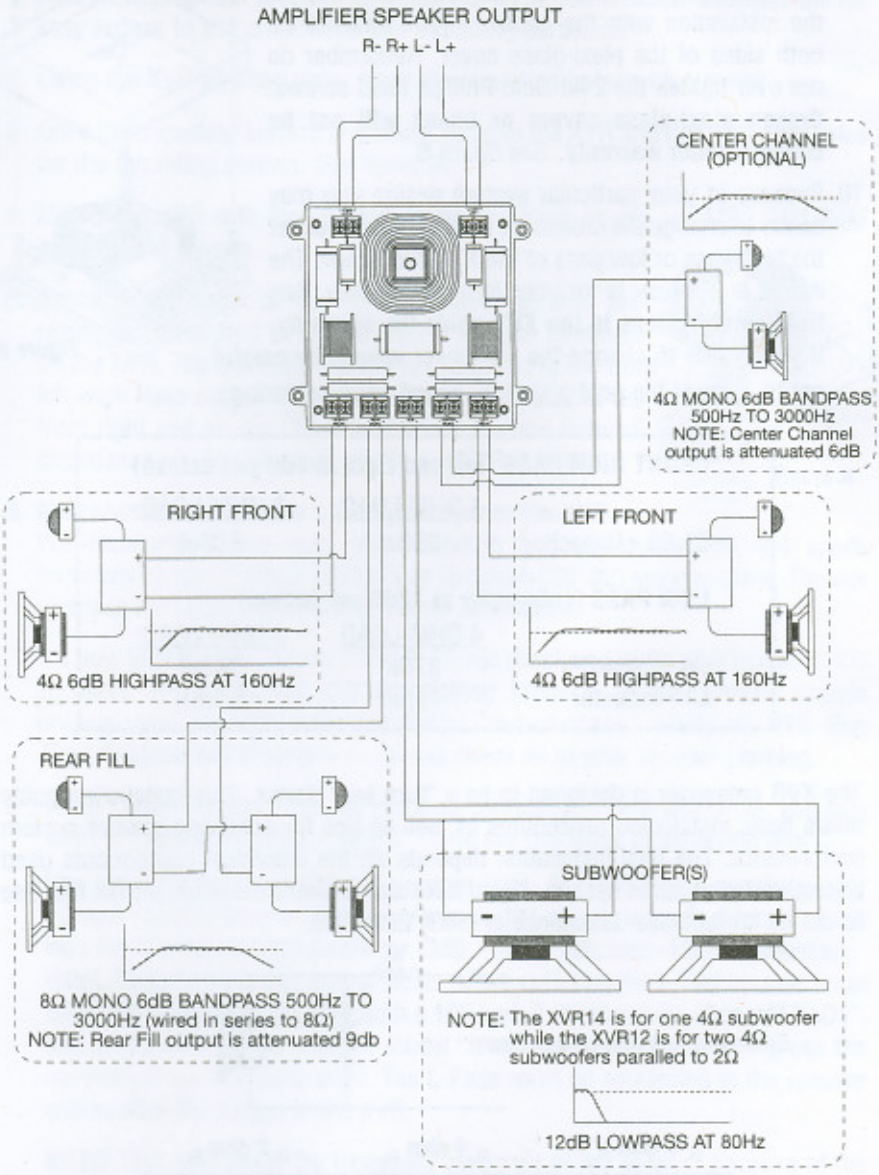
The XVR crossover is designed to be a "turn key" device. This installation guide offers basic installation procedures as well as tips for achieving greater system performance. The final installation depends on the individual components used throughout your audio system. If you have any further questions, please feel free to call us for technical assistance at (503) 288-2008.

Figure C
Schematic and Attenuation Chart



	R_1 8 ohm	R_2	R_1 4 ohm	R_2	R_1 2 ohm	R_2
-3dB	2.2	20	1.2	10	0.62	4.7
-6dB	3.9	8.2	2.0	3.9	1.0	2.0
-9dB	5.1	4.3	2.7	2.2	1.3	1.1
-12dB	6.2	2.7	3.0	1.3	1.5	0.68

SYSTEM DIAGRAM



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