GENIUS
CAR AUDIO

G-CROSS3W
CROSSOVER ELECTRONICO

- Crossover electronico variable de 3 vias, en canal frontal y trasero con multiplicador de Frecuencia X1 o X20
- Salida de Woofer con Boost de 15dB
- 8V Rolt RCA Entrada y Salida
- Control Bass Externo.

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SPECIFICATIONS

Power source:		14.4 volts DC negative ground
Input current:		0.5 amp max
Distortion:		0.01% THD at 1 V output level
Frequency response:		10Hz -30Hz -3 dB
S/N radio [A weighted]:		>95 dB
Separation:		60 dB
Crossover frequencies [continuously variable]:		
Front High-pass:	[X1]:	25-400Hz
	[X20]:	500-8KHz
Rear High-pass:		25-400Hz
Subwoofer:		25-400Hz
Crossover slope rate:		
Low-Pass:		18 dB per Octave 3rd Order Butter worth
High-Pass:		12 dB per Octave 2nd Order Butter worth
Subwoofer boost:		Single Octave 0 dB to 18 dB [variable] at 45Hz
Input impedance:		20K Ohms
Output impedance:		100 Ohms
Output gain:		1:2 [+6 dB]
Output voltage level:		5 volts max
Dimensions:		5.5" W x 7.5" L x 1.75" H [143mm W x 193.6mm L x 43.6mm H]

FEATURES AND SPECIFICATIONS SUBJECT TO CHANGE AND/OR IMPROVEMENT WITHOUT NOTICE

FEATURES

- EXCLUSIVE INFINITE CROSSOVER DESIGN
- ASYMMETRICAL ELECTRONIC CROSSOVER DESIGN
- BASS BOOST CIRCUITRY WITH QUASI-PARAMETRIC EQUALIZATION
  A sealed enclosure causes a woofer's frequency response to roll off at a rate of 12 dB per octave below the enclosure's resonant frequency.
  Our Bass Boost Circuitry with Quasi-Parametric Equalization provides a single octave boost of 12 dB at 45 Hz to ensure smooth and accurate bass response.
- DC/DC REGULATED SWITCHING POWER SUPPLY
  This power supply design provides constant voltage to the crossover regardless of the battery's voltage to ensure consistent output performance at all times. This design also eliminates switching noise due to voltage fluctuation.
- FREQUENCY MULTIPLIER
  The front high-pass section is equipped with a frequency multiplier switch that can be used to multiply the crossover Frequency points. With the additional selectable crossover points, system setting becomes an art of precision.
- PARALLEL INPUT SWITCH
  For a source unit having a single pair of signal outputs, an adapter is needed to split the source signal for the front and rear inputs. With the mobile electronic crossover, by engaging the parallel input feature, an external adapter is no longer necessary.
- FRONT /REAR INPUTS WITH FRONT /REAR /SUBWOOFER OUTPUTS
  The mobile electronic crossover features front and rear preamp inputs with front and rear outputs, as well as constant subwoofer output that is independent of the front/rear fader position on the source unit.
- ADJUSTABLE OUTPUT LEVEL STEREO/MONO SUBWOOFER GOLD PLATED RCA CONNECTORS

CONTROLS, INDICATORS AND TERMINALS

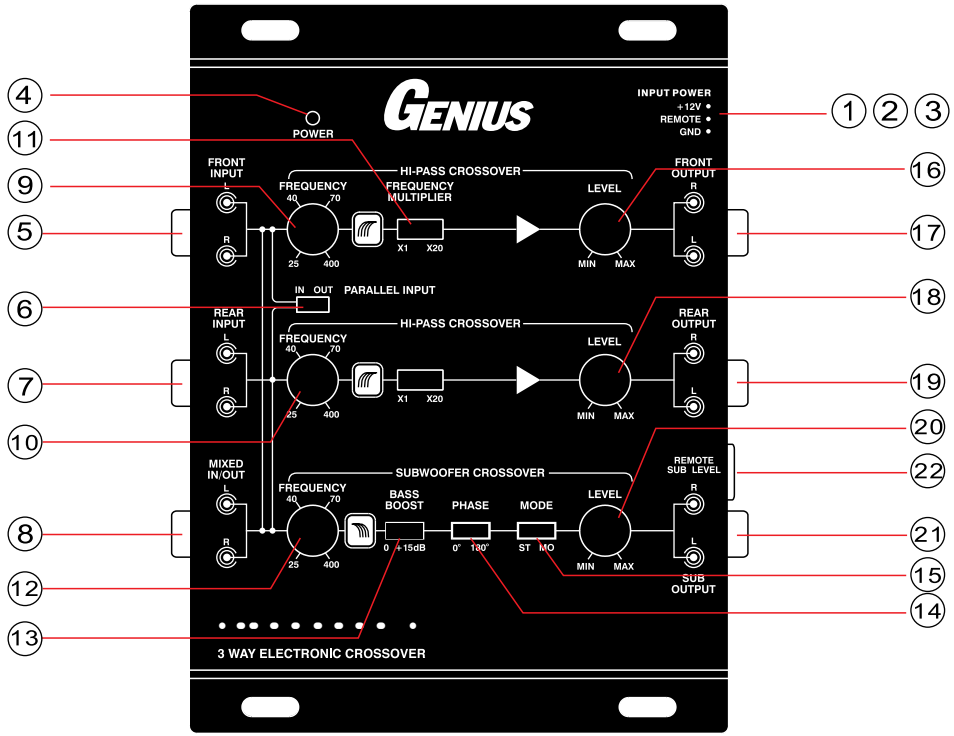

Figure 1: Control Panel Layout

1.POWER INPUT TERMINAL [RED]
To be connected to the positive terminal of your vehicle battery or other constant +12V source.

2.REMOTE TURN-ON INPUT TERMINAL [ORANGE]
To be connected to the remote control wire or antenna lead of the source unit for remote ON/OFF.

3.GROUND INPUT TERMINAL [BLACK]
To be wired to the vehicle's chassis ground.

4.POWER INDICATOR
This indicator lights up when the internal switching power supply is activated and the unit is operational.

5.LEFT/RIGHT FRONT CHANNEL SIGNAL INPUTS
To be connected to the front channel output of the source unit.

6.PARALLEL INPUT SWITCH
"IN": When the parallel input is at the "IN" position, the input signals coming in through the front channel signal inputs are split and directed to the front and rear channels simultaneously. [This feature is to be engaged where the source unit has no separate front, rear or subwoofer channel outputs.]
"**OUT**":If the source unit has independent front and rear channel outputs, disengage the parallel input by sliding the switch to the "OUT" position.

CONTROLS, INDICATORS AND TERMINALS

7.LEFT/RIGHT REAR CHANNEL SIGNAL INPUTS
To be connected to the rear channel output of the source unit, BUT MAKE SURE THAT THE PARALLEL INPUT SWITCH IS AT THE "OUT" POSITION.

8.LEFT/RIGHT MIXED IN/OUT TERMINALS
As input Terminal: To be connected to the subwoofer output of the source unit.
As output Terminal: To be connected to the front channel input terminal of another electronic cross-over in a multi-crossover system.

9.FRONT CHANNEL HIGH-PASS FREQUENCY SELECTOR
For selection of front channel high-pass crossover frequency between 25Hz and 400Hz [or 500Hz and 8KHz when its frequency multiplier is "X20" position].

10.REAR CHANNEL HIGH-PASS FREQUENCY SELECTOR
For selection of rear channel high-pass crossover frequency between 25Hz and 400Hz.

11.FRONT CHANNEL HIGH-PASS FREQUENCY MULTIPLIER
Positioning this switch at the "X20" position changes the range of selectable crossover frequency for the front channel high-pass from 25Hz-400Hz to 500Hz-8KHz.

12.SUBWOOFER FREQUENCY SELECTOR
For selection of the low-pass crossover frequency for the subwoofer channel between 25Hz and 400Hz.

13.BASS-SHAPER BOOST SWITCH
When activated, this circuit provides a single octave boost of 18dB at 45Hz to equalize the woofer enclosure.

14.PHASE INVERTER
Positioning the switch to the 180 position shifts the subwoofer outputs signals 180 degrees "out -of" phase relative to the front and rear output signals.

15.SUBWOOFER STEREO/ MONO SWITCH
For selection of stereo or mono mode subwoofer output.

16.FRONT CHANNEL OUTPUT LEVEL CONTROL
For adjusting the front channel output signal level.

17.LEFT/RIGHT FRONT CHANNEL OUTPUT TERMINALS
To be connected to the front channel amplifier left /right inputs.

18.REAR CHANNEL OUTPUT LEVEL CONTROL
For adjusting the rear channel output signal level.

19.LEFT /RIGHT REAR CHANNEL OUTPUT TERMINALS
To be connected to the rear channel amplifier left /right inputs.

20.SUBWOOFER OUTPUT LEVEL CONTROL
For adjusting the subwoofer channel output signal level.

21.LEFT /RIGHT SUBWOOFER OUTPUT TERMINALS
To be connected to the subwoofer channel amplifier left /right inputs.

22.SUBWOOFER OUTPUT LEVEL REMOTE CONTROL TERMINAL
To be connected to remote control for exclusive maneuver of the subwoofer output level, and the subwoofer output level control on the unit (24" above) is by-passed.

AND YOUR MOBILE AUDIO SYSTEM

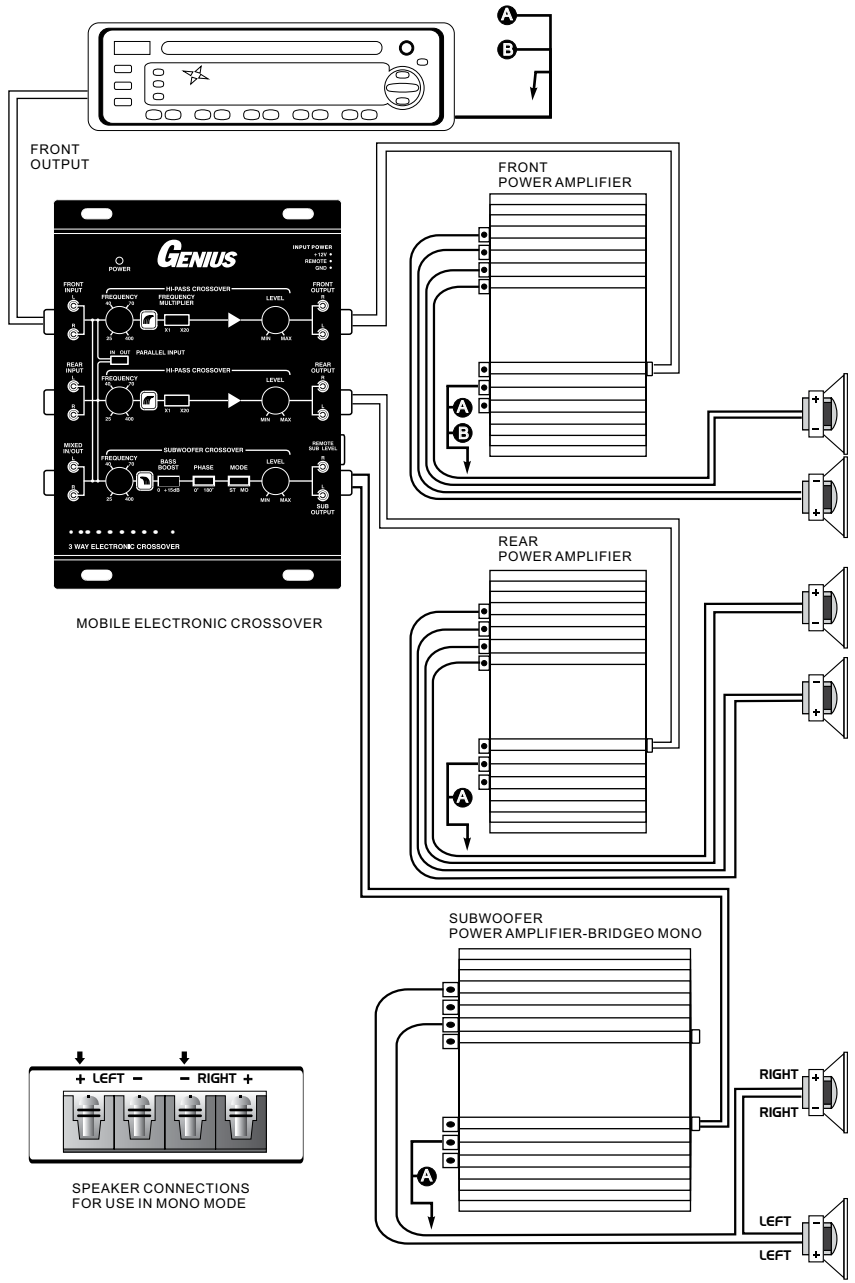

Figure 2: Four-Channel "Bi-Amp" System(Stereo Front/Rear)

AND YOUR MOBILE AUDIO SYSTEM

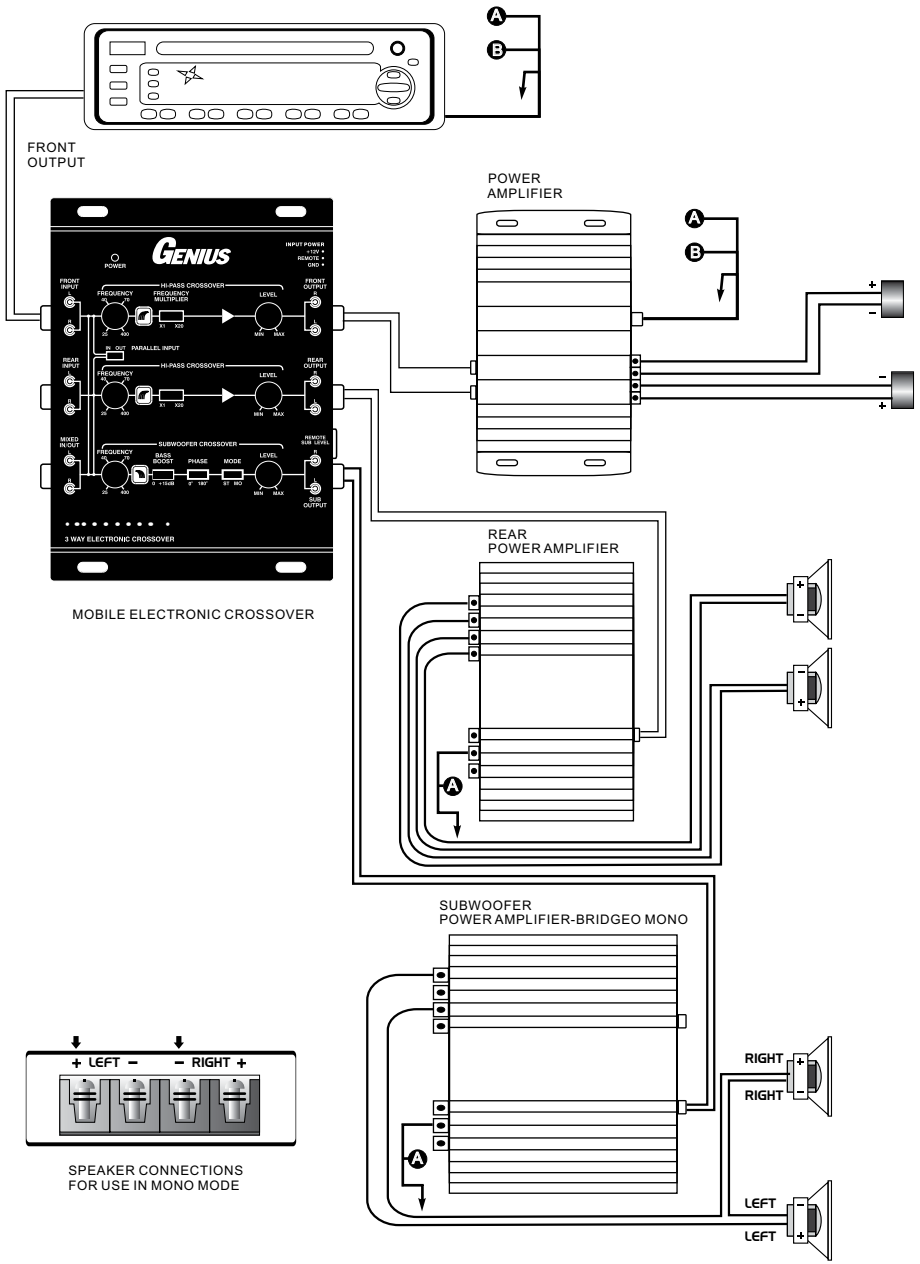

Figure 3: Two-Channel "Tri-Amp" System

INSTALLATION

Crossover Terminal
Left/Right Front Inputs
Left/Right Rear Inputs
Left/Right Mixed IN/OUT (as input)
Left/Right Mixed IN/OUT (as output)
Left/Right Front Outputs
Left/Right Rear Outputs
Left/Right Subwoofer Outputs
Power Input Terminal (B+)
Ground Input Terminal (GND)
Remote Turn-On Input Terminal
Connected To
Source Unit
Source Unit
Source Unit
Another Compatible Electronic Crossover
Front Amplifier
Rear Amplifier
Subwoofer Amplifier
Battery
Vehicle Chassis
Source Unit
Terminal
Front Pre-amp Ouputs
Rear Pre-amp Ouputs
Subwoofer Pre-amp Ouputs
Front Inputs
Left/Right Inputs
Left/Right Inputs
Left/Right Inputs
Positive Terminal
Bare Metal Spot
Remove Control Wire or Power Antennal Lead

FINAL SYSTEM CHECK

A. Pre-Setting

1.Preset front, rear and subwoofer amplifier input gain to half of their maximum.
2.Preset the crossover frequencies and output Levels as follows.

Bi-Amp System

Front Frequency Selector:	160Hz
Frequency Multiplier:	X 1
Rear Frequency Selector:	160Hz
Subwoofer Frequency Selector:	160Hz
Front Output Level:	10 o' clock position
Rear Output Level:	10 o' clock position
Subwoofer Output Level:	12 o' clock position

Tri-Amp System

Front Frequency Selector:	200Hz
Frequency Multiplier:	X 20
Rear Frequency Selector:	120Hz
Subwoofer Frequency Selector:	120Hz
Front Output Level:	10 o' clock position
Rear Output Level:	10 o' clock position
Subwoofer Output Level:	12 o' clock position

3.Preset the volume of the source unite to its minimum (otherwise, when the source unit is turned on, the sudden surge of high power from the amplifier might cause damage to the audio components).

B. Turn the source unit on and slowly turn the volume up:

■No Sound At All

1.Turn the system off immediately.
2.Check if connections are made properly (refer to subsection titled CONNECTION for details).
3.Use a Volt /Ohm meter to make sure good chassis ground established for each Component that needs to be grounded.
4.Check if the power input of all system components are properly connected to 12 volt positive power Supply.
5.Check if the remote on/off terminal of all system components are properly connected to positive 12 volt source.
6.If everything is order, turn the power on again, If the problem persists, refer to section titled TROUBLE SHOOTING GUIDE for assistance.

■Obvious Distortion

Turn the system off and refer to section titled TROUBLE SHOOTING GUIDE for assistance.

■Out-of-Phase Problem (i.e. Abnormal Bass)

Turn the system off and refer to section titled TROUBLE SHOOTING GUIDE for assistance.

C. NOISE CHECK

Before mounting the mobile electronic crossover and other audio components permanently, conduct the following check:

1.Start the engine and turn on power of the source unit.
2.Rev the engine and vary the audio volume to check for radiated engine noise. If there is an alternator whining noise or tic-tic noise, refer to the TROUBLE SHOOTING GUIDE for assistance. If the problem persists, consult your local dealer directly.
3.If no unwanted noise is detected, double check all the wiring and cables for safe placement. Then securely tighten the mounting screws of all the audio components.

TROUBLE SHOOTING GUIDE

A.No power

1.Check all the ground, B+ and remote terminals for tight connection.
2.Check all fuses.
3.Use a Volt/Ohm meter to check all power wire connected to see if the system is receiving +12 V.

B. "Motorboating" : The mobile electronic crossover power indicator going off repeatedly when the audio system is on.

1.Check if the mobile electronic crossover B+ power input is connected directly to the +12V power source.
2.Check the battery voltage: if low, recharge or replace it.
3.Check if the mobile electronic crossover has a good ground connection (i.e. Whether the ground wire is making good contact with a bare metal spot of the vehicle chassis).

C.The mobile electronic crossover heats up quickly even when the audio system is at moderate volume.

1.Check all ground connections of the entire system for good contact with bare metal
2.Check for speaker short: Disconnect speaker wire from amplifier, test speaker and wire with a Volt/Ohm meter. if there is speaker and meter contact, sightly enlarge the speaker mounting holes, if there is a short in the speaker wiring, replace the entire speaker wire or re-insulate any exposed wire with electrical tape.

D.When the engines is running, the audio system has a whining noise that remains unchanged or disappears with the increase of audio volume.

1.Check all the power wires to see if they are all connected directly to the battery.
2.Check all the ground connections of the entire system for good contact with bare metal of the vehicle chassis.
3.Check if the source unit and the mobile electronic crossover are ground at the same reference point.

E.When the engine is running, the audio system has a whining noise that increases or decreases with the volume of all program sources (whether radio, tape or CD).

1.Install a 10 amp in-line filter on the red power wire of the mobile electronic crossover.
2.If the whining noise persists, check the alternator diodes and the voltage regulator.

F. When the engine is running. The audio system has a whining noise that increases or decreases with the tape mode volume ONLY.

1.This is commonly known as "radiated" noise. It is NOT caused by the mobile electronic crossover and thus is beyond the scope of this manual. Please contact your local retailer / installer for assistance.

G.Obvious distortion at low volume.

1.Output level of various channels not compatible, refer to section titled FINAL SYSTEM CHECK.

H.Over all sound effect good, but bass abnormal (more bass at the two extreme settings of the balance control than at the center setting).

1.The subwoofers are "out-of-phass" with each other, thus canceling the bass when the balance control is at the center position. Check the wiring from the amplifier to the subwoofers (positive "+" and negative "-" to negative "-").