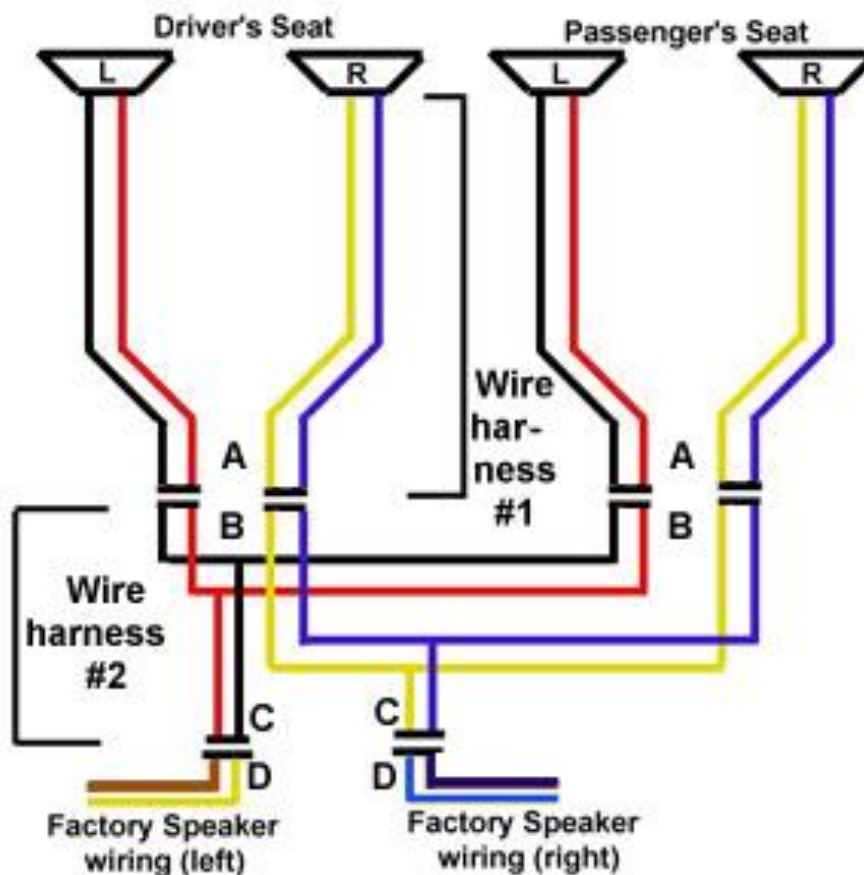


Changing Fiero rear head rest speakers 1984-85

Replacing Fiero Headrest Speakers:

NOTE: Much of the following data was taken from a series of internet searches. The primary source was a series of Pennock's Fiero Forum comments. The discussions were quite lengthy, so the comments and data were edited for brevity and checked for accuracy by one of our members who is a retired GM electrical engineer. Italicized comments are not from any internet source. ... The Michigan Fiero Club.

'84-85 Headrest Fiero Speakers: The headrest speakers were a feature in '84-85 Fieros only. They are 3.5" diameter and 1.75" in depth with 10 Ohm impedance wired in parallel and yielding 5 ohm net impedance. A 4 Ohm Speaker wired in parallel would yield a net 2 Ohm impedance; this is too much load for most factory (*i.e. Delco*) and aftermarket radios at anything close to full volume. This set-up with a net 2 ohm impedance will likely, at some point, over heat and destroy most radios. *The internal radio amplifiers are the weak link and high volume is the triggering mechanism.*



Changing Fiero rear head rest speakers 1984-85

Note on GENERAL MOTORS wiring:

Short answer: A labeled terminals = Negative

B labeled terminals = Positive

Power

Memory (+12v Constant)---Orange wire

Ignition (+12v Switched)---Yellow

Ground (-)-----Black

Illumination-----Gray

Dimmer-----Brown

Power Antenna-----Pink

Speakers

Right Front B(+)--Light Green wire

Right Front A(-)--Dark Green

Left Front B(+)--Tan

Left Front A(-)--Gray

Right Rear B(+)--Dark Blue

Right Rear A(-)--Light Blue

Left Rear B(+)--Brown

Left Rear A(-)--Yellow

The speakers itself may have a different color code (like red/black) but the connector side should hold true

Not counting some premium sound systems

Speaker side A/B = Black/Red = Negative/Positive

Wire harness side A/B = Light Blue/Dark Blue = Negative/Positive

Changing Fiero rear head rest speakers 1984-85

Potential Solutions for new headrest speakers:

Option one: It seems you can wire a 2ohm resistor (big white ceramic rectangular one) inline on the positive lead of each speaker in the head rest (*probably easiest option as it does not require pulling the consol to get to wiring harness #2 leads.*

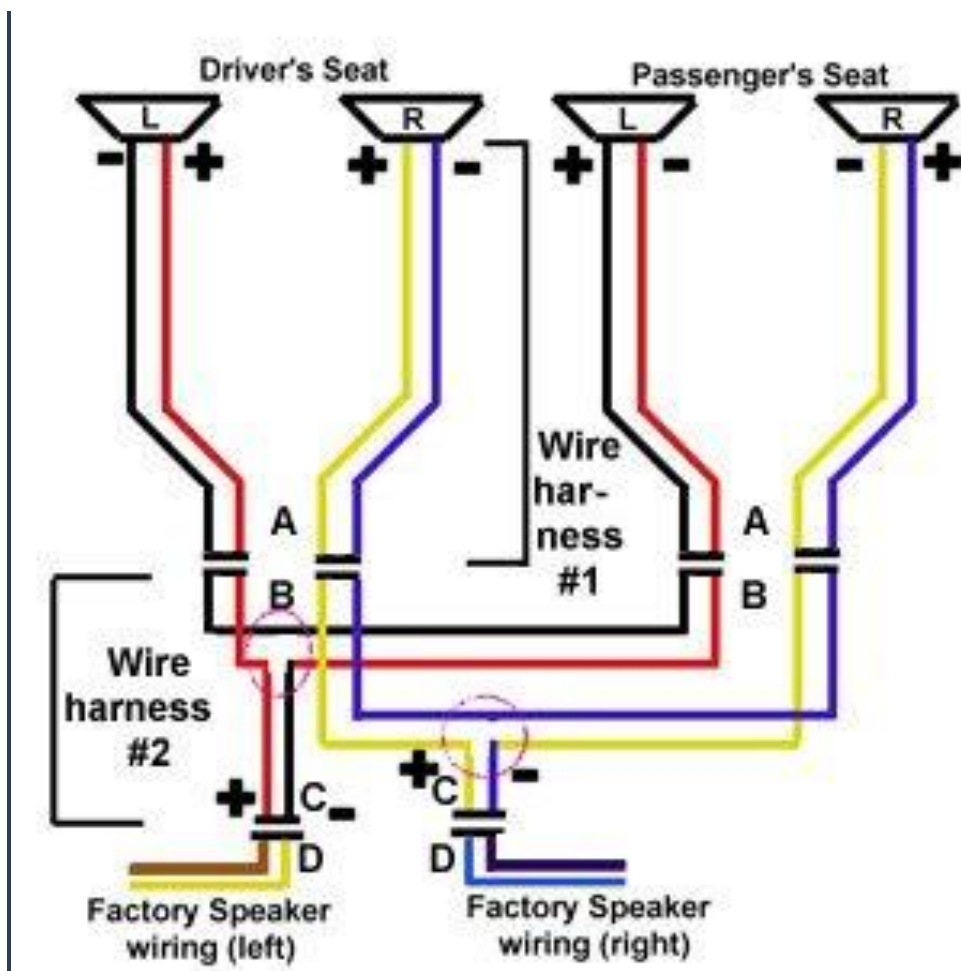
This will cut the volume a bit but also create a 4 Ohm net load. See:

<http://www.ls1tech.com/foru...ex.php/t-396064.html>

Option two: Rewire the system in series to gain a 4 Ohm net load with 4 Ohm speakers. *This is probably the most difficult solution time wise and the Radio may not function as designed for tuning purposes ... but this is still a viable alternative.*

Here is a diagram to wire the 2 lefts and 2 rights in series.

Series wiring:



Changing Fiero rear head rest speakers 1984-85

If you are running a high end aftermarket radio and you know your amp is 2 ohm stable then just use the factory wiring and forget about the rewiring.

More edited comments (for brevity) from Pennock's Fiero Form:

First comment: Wiring will depend upon the ohms of the speakers chosen. If 8 ohm are selected, they can be wired up like stock with the final ohm rating being 4 ohm versus the 5 ohm stock. 4 ohm should be fine with the head unit. If 4 ohm speakers are chosen, then wire them in series. That will show the radio with a net 4 ohm load which again the radio shouldn't have a problem handling. They will be slightly quieter than the stock speakers because the net 4 ohm load will result in slightly less power being produced by the radio (*net 5 ohm will be louder than net 4 ohm*).

Either way, just about any stock or aftermarket stereo will handle 4 or 5 ohm net loads. There are **some high end aftermarket stereos that will handle a 2 ohm net load** and most aftermarket amplifiers (if you are using one) will also handle a 2 ohm net load.

Second comment: How much quieter are the headrest speakers when wired in series compared to the dash speakers. Are the headrest speakers controlled by the fade function? Also, if wired in series, would you have the balance function?

Returning comments: The difference in volume won't be that noticeable; unless you listen to your stereo maxed on the volume knob all the time. You will probably have to turn your knob a sixteenth of a turn higher *to get comparable volume with stock speakers*. The fader works with the seat speakers as they were hooked up to the rear outputs on the stereo.

Balance still works, **but the factory wiring has seat speaker adjustments for right and left balance in each seat for stereo sound. This feature will not work as designed in this series diagram; each seat would be mono and the balance would adjust volume between the left seat and the right seat.**

Changing Fiero rear head rest speakers 1984-85

Option three: (and the easiest of the three) is to install 8 Ohm spec speakers; found only one full range brand and model for sale on the internet (as of January 2016). The following speakers were designed with an 8 Ohm internal impedance (4 Ohms net in parallel) and can be used with the existing Fiero wiring without the resistors or rewiring in series. These speakers are also recommended on several Fiero sites. Purchased 4 of these speakers for ~\$92 (\$23 each); these speakers are 3.66 inches at the flange and 1.77 inches deep (they will fit in the existing Fiero headrest speaker openings):

Product Details

Tang Band W3-881SJ 3" Cast Frame Neodymium Driver

This is an exceptional 3" driver featuring a PPM cone, rubber surround, cast aluminum frame, and self-shielded underhung neodymium motor. The small magnet size reduces harmful reflections behind the cone and makes installation in small enclosures much easier. This is an exceptional little driver, excelling at midrange and full-range applications.

Product Specifications

- Nominal Diameter 3"
- Power Handling (RMS) 15 Watts
-
- Power Handling (max) 30 Watts
- Impedance 8 ohms
-
- Frequency Response 100 to 20,000 Hz
- Sensitivity 86 dB 1W/1m
-
- Voice Coil Diameter 0.75"
- Magnet Weight 0.4 oz.
-

Thiele-Small Parameters

- Resonant Frequency (Fs) 100 Hz
- DC Resistance (Re) 6.6 ohms
-
- Mechanical Q (Qms) 3.07
- Electromagnetic Q (Qes) 0.8
-
- Total Q (Qts) 0.63
- Compliance Equivalent Volume (Vas) 0.078 ft.³
-
- Mechanical Compliance of Suspension (Cms) 1.31 mm/N
- BL Product (BL) 2.9 Tm
-
- Diaphragm Mass Inc. Airload (Mms) 1.6g
- Maximum Linear Excursion (Xmax) 0.5 mm
-
- Surface Area of Cone (Sd) 32 cm²

Changing Fiero rear head rest speakers 1984-85

Materials of Construction

- Cone Material Poly
- Surround Material Santoprene®
-
- Basket / Frame Material Cast Aluminum
- Magnet Material Neodymium
-

Mounting Information

- Overall Outside Diameter 3.66"
- Baffle Cutout Diameter 2.95"
-
- Depth 1.77"
- # Mounting Holes 4
-

Optimum Cabinet Size (determined using BassBox 6 Pro High Fidelity suggestion)

- Sealed Volume 0.11 ft.³
- Sealed F 3126 Hz
-
- Vented Volume 0.18 ft.³
- Vented F 364 Hz
-

Tang Band W3-881SJ 3" Cast Frame Neodymium Driver

- Brand Tang Band
- Model W3-881SJ
-
- Part Number 264-812
- UPC 844632019432
-
- Product Category Midrange / Midbass Drivers & Full-Range Speakers
- Unit of Measure EA
-
- Product Rating
(23 Reviews)
-
- Weight 0.5 lbs.

Hope this helps!

The Michigan Fiero Club