

**a/d/s/**

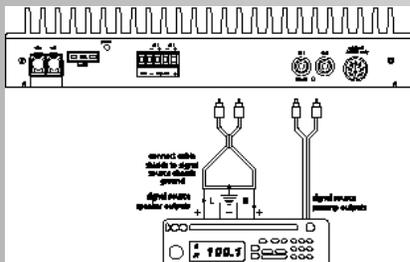
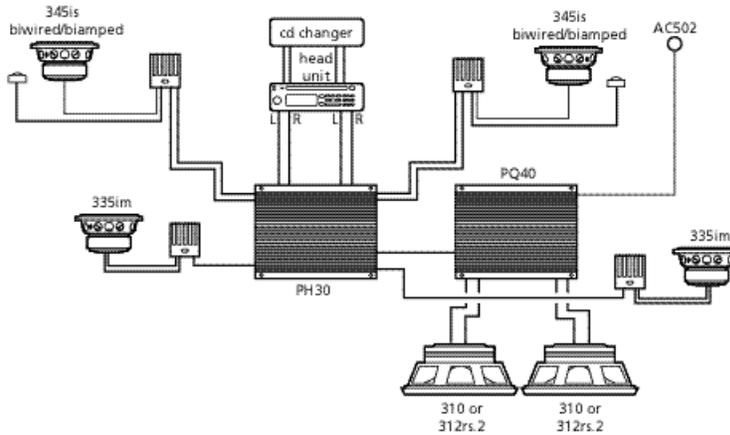
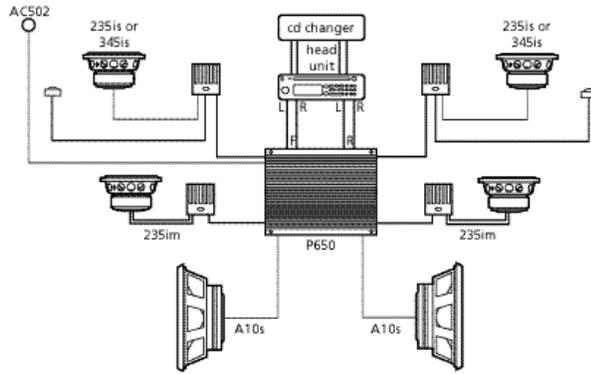
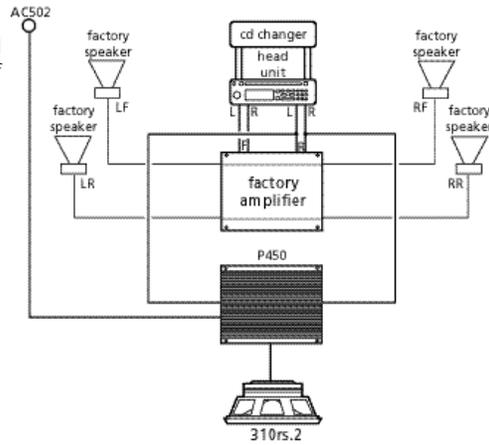
analog and digital systems inc.,

**BMW 5-Series (E39)  
Audio System Upgrades**

# BMW 5-Series (E39)

system upgrades

**UPGRADE I.** Our first upgrade will address the biggest shortcoming of all the stock BMW sound systems, **BASS**, or lack thereof.



Correct speaker level wiring diagram for interfacing with factory head units.

Use only positive (+) speaker wires. Tape off negative (-) speaker wires. Connect "+" speaker wires to RCA center pin conductors. Tie shields (audio return) together and ground to case of radio at back of radio. Repeat for 4 channel system.

Use of an a/d/s/ AC502 remote subwoofer level control will allow us to control the volume of our subwoofer from the front of the car. How convenient! This way, we can match the bass level to our own personal taste or to compensate for bass masked by road or wind noise.

Equipment:		
P450 amp		\$ 500.00/ea.
310rs.2	10" dual voice coil sub	\$ 250.00/ea.
AC502	level control	\$ 90.00/ea.

**Total \$ 840.00**

Options:		
PQ40	in 2 channel mode	\$ 1000.00/ea.
A8s		\$ 150.00/ea.
A10s		\$ 175.00/ea.
A12s		\$ 200.00/ea.
308rs.2		\$ 200.00/ea.
312rs.2		\$ 300.00/ea.

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Our subwoofer could be the same one we chose for Upgrade I or something more.

The entire system will be powered by an a/d/s/ amp, and will use an AC502 for remote subwoofer level control

This BMW system is going to sound dynamic, smooth, and musical, yet still maintain totally stock cosmetics inside the car.

Equipment:		
235is		\$ 350.00/pr.
235im		\$ 280.00/pr.
A10s subwoofer(s)		\$ 175.00/ea.
P650 amp		\$ 650.00/ea.
AC 502		\$ 90.00/ea.

**Total \$ 1545.00**

Options:		
345is		\$ 600.00/pr.
P850 amp		\$ 850.00/ea.
Choice of a/d/s/ subwoofers		

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Given the interior dimensions and solid build quality of the BMW 5 Series, we'll have one excellent sounding audio system that will rival many home systems for sonic quality, and we've still maintained absolutely stock interior cosmetics for that low profile look. This is especially important if the car in question is leased, because even at this level of sophistication the car is easily returned to stock at the end of the lease term.

Equipment:		
345is		\$ 650.00/pr.
335im		\$ 400.00/pr.
(2) 312rs.2 subwoofers		\$ 600.00/pr.
PH30 amp		\$ 850.00/ea.
PQ40 amp		\$ 1000.00/ea.
AC502		\$ 90.00/ea.

**Total \$ 3590.00**

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Since the BMW head unit is common ground, all you have to do is put RCA ends on the twisted pairs and plug directly into the amplifier.

Also supplied at the stock amplifier you will find constant +12VDC and a ground referenced to the factory radio. +12VDC is red with a white stripe and ground is solid brown. These wires are a good power source for preamp components.



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made in the USA

## Speaker Location

## Color code from amplifier output

## PIN #

front left tweeter+  
front left tweeter-  
front right tweeter+  
front right tweeter-  
front left mid/tweeter+  
front left mid/tweeter-  
front right mid/tweeter+  
front right mid/tweeter-  
front left mid/woofer+  
front left mid/woofer-  
front right mid/woofer+  
front right mid/woofer-

yellow/green  
yellow/ brown  
blue /green  
blue/ brown  
yellow/white  
yellow/brown  
blue/white  
blue/brown  
yellow/red  
yellow/brown  
blue/red  
blue/brown

rear left tweeter+  
rear left tweeter-  
rear right tweeter+  
rear right tweeter-  
rear left midrange+  
rear left midrange-  
rear right midrange+  
rear right midrange-  
rear left woofer vc 1 +  
rear left woofer vc 1 -  
rear left woofer vc 2 +  
rear left woofer vc 2 -  
rear right woofer vc 1 +  
rear right woofer vc 1 -  
rear right woofer vc 2 +  
rear right woofer vc 2 -

yellow/grey  
yellow/black  
blue/grey  
blue/black  
yellow/violet  
yellow/grey  
blue/violet  
blue/grey  
yellow/red  
grey/brown  
blue/white  
blue/brown  
yellow/white  
yellow/brown  
yellow/black  
yellow grey

3  
11  
12  
5  
14  
4  
1  
9  
13  
6  
2  
10

## Signal Outputs

## Colors from tuner pack

## PIN #

front left output +  
front left output -  
front right output +  
front right output-  
rear left output +  
rear left output -  
rear right output +  
rear right output -

blue/red  
brown/orange  
yellow/red  
brown/orange  
empty need to add  
empty need to add  
empty need to add  
empty need to add

2  
11  
1  
8  
6  
14  
13  
12

remote turn on lead

violet/white

5

## TIPS

You will need part # 65-12-8-364-756 from BMW to send the audio signal from the changer to the factory tuner pack. You will also need to add the rear output leads on the factory tuner. For ease of location disassemble the tuner pack and double check wire and pin location.



analog and digital systems, inc.  
a subsidiary of ADST  
9235 s. mckemy street  
tempe, az 85284  
phone: 480.705.5600  
fax: 480.705.7339  
www.adst.com

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22.5'

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