

**a/d/s/**

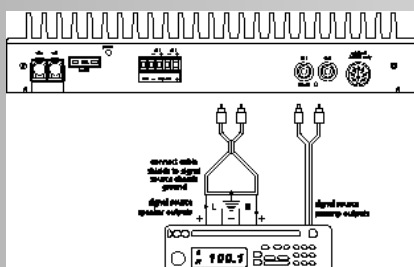
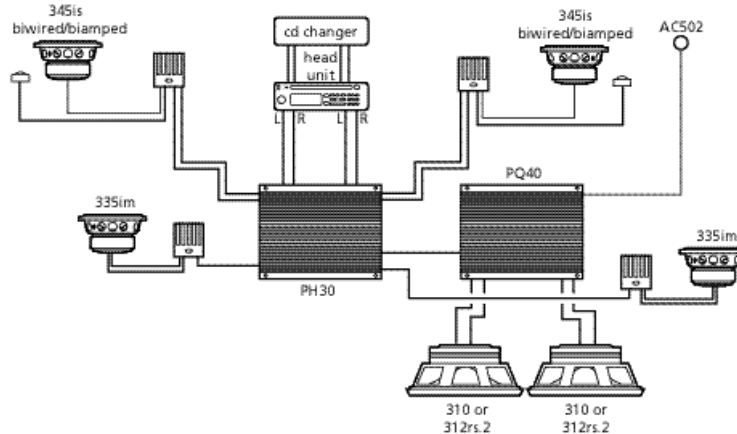
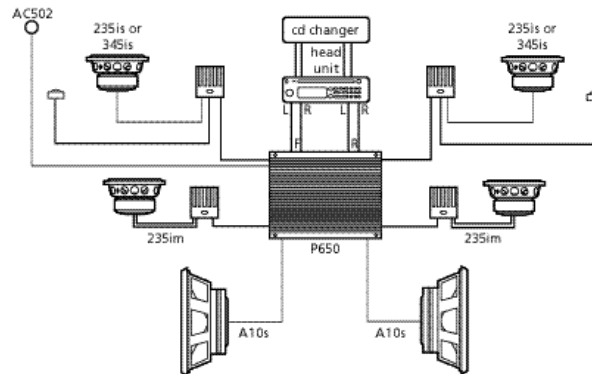
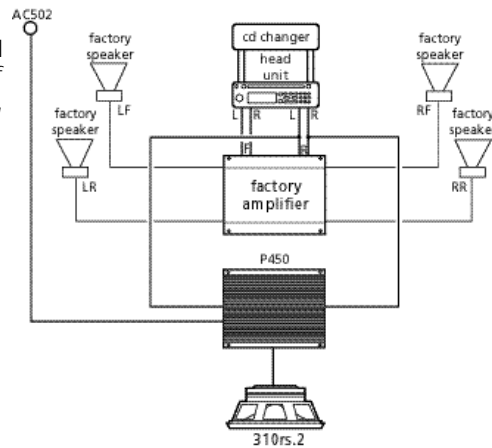
analog and digital systems inc.,

**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.

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		

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**

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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**Speaker Location****Color code from amplifier output****PIN #**

front left tweeter+	yellow/green	
front left tweeter-	yellow/ brown	
front right tweeter+	blue /green	
front right tweeter-	blue/ brown	
front left mid/tweeter+	yellow/white	
front left mid/tweeter-	yellow/brown	
front right mid/tweeter+	blue/white	
front right mid/tweeter-	blue/brown	
front left mid/woofer+	yellow/red	
front left mid/woofer-	yellow/brown	
front right mid/woofer+	blue/red	
front right mid/woofer-	blue/brown	

rear left tweeter+	yellow/grey	
rear left tweeter-	yellow/black	
rear right tweeter+	blue/grey	
rear right tweeter-	blue/black	
rear left midrange+	yellow/violet	3
rear left midrange-	yellow/grey	11
rear right midrange+	blue/violet	12
rear right midrange-	blue/grey	5
rear left woofer vc 1 +	yellow/red	14
rear left woofer vc 1 -	grey/brown	4
rear left woofer vc 2 +	blue/white	1
rear left woofer vc 2 -	blue/brown	9
rear right woofer vc 1 +	yellow/white	13
rear right woofer vc 1 -	yellow/brown	6
rear right woofer vc 2 +	yellow/black	2
rear right woofer vc 2 -	yellow grey	10

**Signal Outputs****Colors from tuner pack****PIN #**

front left output +	blue/red	2
front left output -	brown/orange	11
front right output +	yellow/red	1
front right output-	brown/orange	8
rear left output +	empty need to add	6
rear left output -	empty need to add	14
rear right output +	empty need to add	13
rear right output -	empty need to add	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 dis-assemble the tuner pack and double check wire and pin location.



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