

# SETTING UP SYSTEMS AFTER INSTALLATION FOR BEST PERFORMANCE

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## Multi Channel Amplifiers:

### **General:**

At this point you are ready to get more specific on the settings for your amplifier.

### **High Pass:**

-When in Hi Pass operation, this setting acts as a low frequency cut off for your system reproduction. The point that you set it at cuts off any frequencies from reproduction beyond this point. The 12 o'clock position is a great starting point. EXAMPLE: If you adjust the High Pass to 100Hz, the amplifier will not play frequencies below 100Hz but will play frequencies from 100Hz to the chosen Low Pass frequency.

-When in Low Pass/Bandpass operation, this setting acts as a low frequency cut off for your system reproduction aka Subsonic Filter. The point that you set it at cuts off any frequencies from reproduction beyond this point. The 12 o'clock position is a great starting point. EXAMPLE: If you adjust the High Pass to 25Hz, the amplifier will not play frequencies below 25Hz but will play frequencies from 25Hz to the chosen Low Pass frequency.

-When in Flat/Full operation, the High Pass crossover is bypassed.

### **Bass EQ:**

This setting is a fixed bass boost at 45Hz that is variable from 0-12dB. This feature provides impact to your bass, but if not adjusted correctly, it can be over used and cause damage to your speakers and amplifiers. It is best to slowly turn this setting clockwise until the desired punch is felt. It is not recommended to exceed the 12 o'clock position unless listening at a low volume or a low recording quality as this can result in high distortion and possibly clipping.

### **Low Pass:**

The Low Pass control acts as a ceiling and doesn't allow frequencies to the right of the desired setting to be reproduced. Turning the potentiometer all the way to the right is a great starting point. EXAMPLE: If you adjust the Low Pass to 120Hz, the amplifier will not play frequencies above 120Hz but will play frequencies from 120Hz to the chosen Hi Pass or Subsonic frequency.

-When in Hi Pass operation, this setting is bypassed.

### **Level Control Setup:**

Ensure that the Level is turned completely to the left prior to turning the system on. Next you should insert a CD or cassette that you are familiar with to use as a reference, and turn the head unit volume control to about 80% of its full setting. The system sound level will of course be very low, and the following procedures will help you to match the amplifier input sensitivities properly to the head unit output signal level.

It is important to match the amplifier **LEVEL** input sensitivity to the Radio/CD output sensitivity. This can be located in the Radio/CD manual.

If the Radio/CD output sensitivity is 2 volts, then adjust the amplifier **LEVEL** input to 2 volts.

If you are not sure what the Radio output sensitivity is, follow these general guide lines:

Turn the level control up slowly, till you hear distortion, then back off a few degrees on the control. If at any point your amplifier goes into protection, you will need to turn the Level to the left a bit and then try again. If you reach a point where the output does not increase, stop turning the Level control to the right as the amplifier/speaker combo has reached its max output in this application.

### **2 or 3 way active systems (all):**

Always start with the bass, or low frequency amplifier as a reference, by turning its control up to the point where distortion is audible, and back it off some.

Now adjust the level control for the highs or tweeter channels in a 2 way active system, to balance the highs to lows.

In a 3 way active system, match the midrange level to the bass, and then the highs to the midrange and bass. It may be necessary to perform a few iterations of the midrange and highs level

## Mono Channel Amplifiers:

### **General:**

At this point you are ready to get more specific on the settings for your amplifier.

### **Subsonic:**

This setting acts as a low frequency cut off for your system bass reproduction. The point that you set it at cuts off any frequencies from reproduction beyond this point. The 12 o'clock position is a great starting point. EXAMPLE: If you adjust the Subsonic to 25Hz, the amplifier will not play frequencies below 25Hz but will play frequencies from 25Hz to the chosen Low Pass frequency.

### **Bass EQ:**

This setting is a fixed bass boost at 45Hz that is variable from 0-10dB. This feature provides impact to your bass, but if not adjusted correctly, it can be over used and cause damage to your subwoofers and amplifiers. It is best to slowly turn this setting clockwise until the desired punch is felt. It is not recommended to exceed the 12 o'clock position unless listening at a low volume or a low recording quality as this can result in high distortion and possibly clipping.

### **Low Pass:**

The Low Pass control acts as a ceiling and doesn't allow frequencies to the right of the desired setting to be reproduced. The 12 o'clock position is a great starting point. EXAMPLE: If you adjust the Low Pass to 80Hz, the amplifier will not play frequencies above 80Hz but will play frequencies from 80Hz to the chosen Subsonic frequency.

### **Phase:**

The variable Phase adjustment allows you to change the relative time that the waveform meets your ear. With standard subwoofer installations where the subwoofer is behind you, the Phase should generally be at 0. When subwoofers or woofers are in the kick panels or door panels, the Phase adjustment is useful in delaying the timing of the wave meeting your ear by adjusting the potentiometer to 180 degrees.

### **Level Control Setup:**

Ensure that the Level is turned completely to the left prior to turning the system on. Next you should insert a CD or cassette that you are familiar with to use as a reference, and turn the head unit volume control to about 80% of its full setting. The system sound level will of course be very low, and the following procedures will help you to match the amplifier input sensitivities properly to the head unit output signal level.

It is important to match the amplifier **LEVEL** input sensitivity to the Radio/CD output sensitivity. This can be located in the Radio/CD manual.

If the Radio/CD output sensitivity is 2 volts, then adjust the amplifier **LEVEL** input to 2 volts.

If you are not sure what the Radio output sensitivity is, follow these general guide lines:

Turn the level control up slowly, till you hear distortion, then back off a few degrees on the control. If at any point your amplifier goes into protection, you will need to turn the Level to the left a bit and then try again. If you reach a point where the output does not increase, stop turning the Level control to the right as the amplifier/subwoofer combo has reached its max output in this application.

**Sit back and enjoy the music!**