

<b>Topic:</b>	<b>Audio System Noise after Install of iPod Direct Connect</b>
<b>Brief No.</b>	<b>TB102 (update to TB101 "Audio System Hiss")</b>
<b>Product:</b>	<b>Brandmotion iPod Direct Connect (all models)</b>
<b>Date:</b>	February 28, 2008
<b>To:</b>	Brandmotion Dealers and Distributors

**Summary:** Users may report audible noise from the factory audio system when the iPod Direct Connect is installed. These sounds can be whine, static, or hiss, and may vary from user to user and vehicle to vehicle. The solution depends on what causes the noise; therefore, getting an accurate description of the noise is critical.

**Background:** There are three distinct noises that have been infrequently reported in Ford vehicles with the Brandmotion Direct Connect installed:

1. constant low level hiss in background
2. whine that changes pitch with engine, or a hiss that is noticed over a satellite radio station when the iPod is unplugged
3. hard-drive spin-up whirring and then scratchy static for a 1-2 seconds at start of every 4<sup>th</sup> or 5<sup>th</sup> iPod song

Noise issues are uncommon, but are more likely to be reported in vehicles with a combination of an audiophile system and a Video iPod. Even then, noise reports are subjective; some users have more sensitive hearing than average and may report noises others may not hear.

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## **Procedure to Reduce Continuous Low Level Hiss in Background**

If a user describes a constant "hiss" we recommend the following actions be taken in the following order until the problem is eliminated.

### **Step 1. Set the iPod Screen display backlight to "always on"**

Configure the Backlight Timer (**Settings > Backlight Timer > duration**)

This lets you set how long the backlight displays before turning itself off.

You can choose Off, 2 Seconds, 5 Seconds, 10 Seconds, 15 Seconds, 20 Seconds, or Always On. Choose **"Always On"**.

### **Step 2. Reduce the treble settings on the iPod**

Go to at EQ (**Menu > Settings > EQ > preset equalizer settings**) The screen allows you to choose an EQ preset to make your music sound better. Try "Treble Reducer" as a way to reduce high pitched sounds.

## **Step 3. Turn the factory radio treble down to half.**

With digital content recorded at a low bit rate this can make a noticeable difference.

## **Step 4. Transfer music to the iPod at the highest bit rate possible; at least 192K.** Use custom settings in iTunes with MP3 encoding:

1. Choose **Edit > Preferences**, click **Advanced**, and then click **Importing**.
2. Choose **MP3 Encoder** from the **Import Using** pop-up menu.
3. Choose **Custom** from the **Setting** pop-up menu.
4. In the dialog that appears, choose settings > **Stereo Bit Rate**: The higher the Mono or Stereo kilobits per second (Kbps), the higher the audio quality and the larger the file size. The most common bit rate for stereo MP3 files is between 128 Kbps and 192 Kbps.

## **Step 5. Update the iPod's firmware**

Go to <http://www.apple.com/support/downloads>

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## **Procedure to Reduce Whine that Changes Pitch with Engine Speed or Hiss over Radio when iPod is Unplugged:**

If a user describes an alternator whine, or hears noise through an auxiliary component (satellite receiver or DVD) when the iPod is disconnected, we recommend the following action be taken to eliminate the problem.

### **Install a power line noise filter between the factory radio and the iPod adapter box.**

The filter eliminates engine noise coming through the power source, and isolates any imbalance between components.

**Easy Installation:** Brandmotion has a kit or complete harnesses that can be sent to our distributors on request and installed. The filter kit features three wires that need to be spliced into the power and ground wires on the Adapter harness. The kit includes complete instructions for either satellite receiver connection or radio connection, and 3M™ T-taps for splicing. Complete replacement harnesses are also available upon request.

### **Hard-Drive Spin-Up and Static for 1-2 Seconds at the Start of Every 4<sup>th</sup>-5<sup>th</sup> Song**

This issue has only been reported in cases of Video iPods, but is possible on all hard-drive equipped iPods (Video iPods, and new Classic line. Non-hard drive iPods include all Nanos including the new Video Nano, the Mini, and all other non-video iPods.)

The whirring noise the user hears is the sound of the iPod hard drive powering up to move to a different song buffer (4-5 songs are stored in buffer each time before the hard drive engages).

We have developed new Adapter circuitry to isolate this noise from the audio. There is no repair for this to existing adapter boxes currently. An adapter box replacement program to address this specific noise issue is now available. Please contact us for more information.

END OF BRIEF