

Big Bottom Pro Plug-In Guide

Version 2.0 for Macintosh and Windows

Digidesign

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PN 932910294-00 REV A 04/02

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chapter 1

Introduction

Congratulations on your purchase of the Aphex Big Bottom Pro[®] plug-in for Pro Tools TDM systems.

The *Aphex Big Bottom Pro Plug-In Guide* covers features and functions of the Big Bottom Pro plug-in, providing suggestions on how to use it in a Pro Tools session. This guide is meant to be a supplement to your Pro Tools TDM guides.

Big Bottom Pro is a real-time plug-in that dynamically contours bass response, using a dynamic processor (compressor), and increases the perception of low frequencies without significantly increasing the maximum peak output.

What's New in Big Bottom Pro

- Support for Big Bottom Pro on Pro Tools|HD systems on Macintosh and Windows.
- Support for Big Bottom Pro on Pro Tools|24 MIX systems on Macintosh and Windows.
- Support for 192 kHz, 176.4 kHz, 96 kHz, 88.2 kHz, 48 kHz, and 44.1 kHz sessions.
- Plug-in authorization using the iLok USB hardware key from PACE Anti Piracy. (See the *Aphex Aural Exciter and Big Bottom Installation Guide*.)

System Requirements

To use Big Bottom Pro you need:

- ◆ A Digidesign-approved Pro Tools|HD system with version 5.3 software or higher, or Pro Tools|24 MIX system with version 5.0 software or higher.

For the latest compatibility information, contact your local Digidesign dealer or visit Digidesign's Web site.

www.digidesign.com/compato

Installing Big Bottom Pro

Refer to the electronic PDF copy of the *Aphex Aural Exciter Type III and Big Bottom Pro Installation Guide* for information on installing your Aphex plug-ins.

Working with Big Bottom Pro Plug-In

Refer to the *Pro Tools Reference Guide*, the *Digi-Rack Plug-Ins Guide*, or the electronic PDF copy of the *Digidesign Plug-Ins Guide* for information on working with plug-ins, including:

- Plug-Ins as Inserts
- ◆ The Plug-In Window
- Editing Plug-In Parameters
- Automating Plug-Ins
- Using the Librarian

Conventions Used in This Guide

All Digidesign guides use the following conventions to indicate menu choices and key commands:

Convention	Action
File > Save Session	Choose Save Session from the File menu
Control+N	Hold down the Control key and press the <i>N</i> key
Option-click	Hold down the Option key and click the mouse button

The following symbols are used to highlight important information:

 *User Tips are helpful hints for getting the most from your Pro Tools system.*

 *Important Notices include information that could affect your Pro Tools session data or the performance of your Pro Tools system.*

 *Shortcuts show you useful keyboard or mouse shortcuts.*

 *Cross References point to related sections in the Pro Tools Guides.*

chapter 2

Big Botton Pro Controls

Aphex Big Bottom Overview

Aphex Systems, Inc. first introduced Big Bottom Pro in 1992 as part of the Model 104. Since then, Big Bottom Pro has become a standard in the professional audio industry, and has been used on numerous albums, CDs, movies, broadcast productions, commercials, and concerts. The Big Bottom Pro plug-in for Pro Tools TDM systems continues this tradition of success, and is ready for use with the latest cutting edge music productions.

Big Bottom Pro provides more energy to the bass (increasing its sustain and density). It dynamically contours the bass response of a complex range of shapes in the 40 to 400 Hz range, isolating and enhancing the lowest frequencies to provide a deeper, more resonant bass. Big Bottom increases the perception of low frequencies without significantly increasing the maximum peak output.

Big Bottom Pro is a single-ended process which can be inserted at any point within the audio chain (see Figure 1 on page 4). The input signal is split into two parts. One part goes to the output unmodified, while the other part, known as a side-chain, goes through the Big Bottom Pro. The side-chain consists of a tunable low pass filter followed by a dynamic processor.

Big Bottom Pro is patented in the United States, Japan and most of Europe. Big Bottom Pro is a unique bass enhancement that cannot be achieved by any other technique.

Adjusting Parameters

Editing Parameters Using a Mouse

You can adjust rotary controls with a mouse by dragging horizontally or vertically. Parameter values increase as you drag upward or to the right, and decrease as you drag downward or to the left.

Editing Parameters Using a Computer Keyboard

Each rotary control has a corresponding parameter text field directly below it. This displays the current value of the parameter. You can edit the numeric value of a parameter with your computer keyboard.

BLOCK DIAGRAM OF BIG BOTTOM PRO

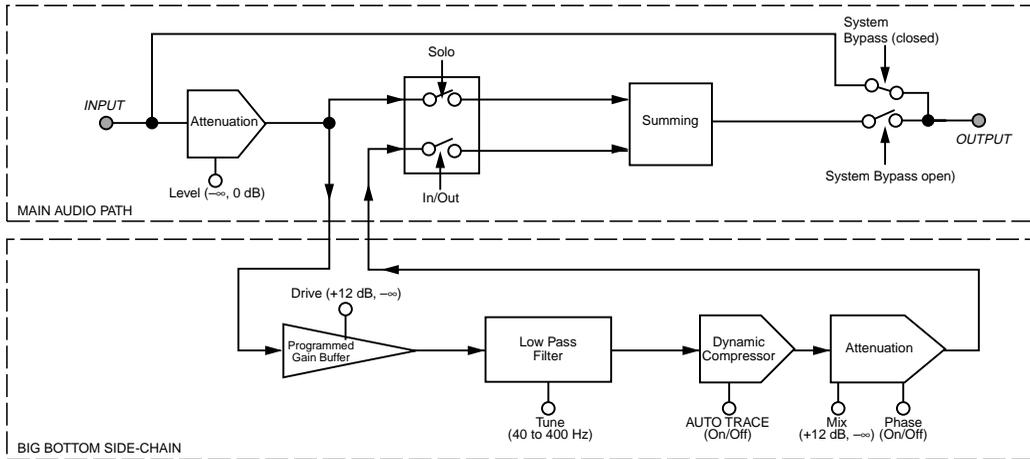


Figure 1. Block Diagram of Aphex Big Bottom Pro

To type a parameter value:

- 1 Click on the parameter text that you want to edit.
- 2 Change the value.
 - Type the desired value.
 - or –
 - To increase a value, press the Up Arrow on your keyboard. To decrease a value, press the Down Arrow on your keyboard.
- 3 Press Enter on the numeric keyboard to input the value and remain in keyboard editing mode.
 - or –

Press Return (Macintosh) or Enter on the alpha keyboard (Windows) to enter the value and leave keyboard editing mode.

Enabling Switches

To enable a switch, click on the switch.

Meters

Drive Meter

The input Drive peak meter indicates the actual peak level to the Big Bottom Pro side-chain.

A red LED at the top of the meter indicates if there is clipping.

Compression Meter

The Compression (Comp) meter indicates the actual amount of compression taking place in the Big Bottom Pro side-chain. If the Comp meter is not showing any activity the input level is too low. Adjust the Level and Drive controls accordingly.



Figure 2. Apex Big Bottom Pro

Out Meter

The Output peak meter indicates the actual peak level after mixing the Big Bottom Pro side-chain with the original input signal.

A red light at the top of the meter indicates if there is clipping.

 *Audition the loudest or peak sections of your audio material to avoid Big Bottom Pro output clipping: Use the Out Meter to check for clipping.*

Rotary Controls

Level Control

The Level control sets the attenuation of the input signal. For normal operation set the Level control on Max (0 dB).

In the event you are not generating enough bass enhancement (even when the Mix control is also set on Max), lower the Level control. This will give the Plug-in more headroom by generating less compression in the dynamic processor,

resulting in a more powerful side-chain signal. If you need more headroom when adjusting the Mix control, lower the input Level and re-tune the Mix control.

Drive Control

The Drive control sets the sensitivity to the bass generating side-chain. The corresponding Drive meter shows the actual peak level of the side-chain input. There is a boost in the side-chain signal of +12 dB, when the Drive control is set to Max.

The Drive control needs to be set at a point where the dynamic processor receives the optimum level required for Big Bottom Pro to work effectively. To find the optimum level, adjust the Drive control until the Comp meter displays in the yellow area. Make sure the Drive meter does not indicate clipping.

If the Comp meter is not showing any activity, the input level is too low. Adjust the Level control accordingly. When the AutoTrace switch is set to the On position, the setting of the Drive control is less sensitive, and the Big Bottom Pro side-chain affects a wider input range.

In general, higher Drive settings to the side-chain provide better control over peaks, while lower Drive settings tend to produce a more open sound.

By adjusting both the Drive and Mix controls, you can experiment with the different “colors” or timbral modifications the Big Bottom Pro is able to generate.

Tune Control

The Tune control sets the bandwidth (corner frequency) of the low pass filter in the side-chain prior to the dynamics processor. The range of the Tune control is from 40–400 Hz.

Aside from the Mix control, this is the most important control on the Big Bottom Pro plug-in.

The Tune control is used to isolate the range of frequencies being enhanced by Big Bottom Pro.

Mix Control

The Mix control adjusts the amount of the Big Bottom Pro enhancement signal being added to the original signal. The lower the setting the subtler the effect. The higher the setting, the more dramatic the effect. It’s important to note that higher settings may increase the peak output.

Switches

In/Out Switch

The In/Out switch gives you the choice of turning the Big Bottom Pro process On or Off. When the switch is set to the On position, Big Bottom Pro enhancement is sent to the outputs.

The switch illuminates when the Big Bottom Pro effect is activated.

Unlike system bypass, the audio from the input travels through the DSP algorithm on the way to the output whenever the In/Out switch is set to Off.

Switching back and forth from On to Off provides a quick A/B comparison, allowing you to hear the enhancements from the Big Bottom Pro effect in your program content.

Solo Switch

When engaged, the Solo switch allows you to audition the Big Bottom Pro side-chain effect without the main audio signal. The switch illuminates when the Solo switch is activated.

Phase Switch

The Phase switch allows you to alter the phase of the side-chain signal, which contains the Big Bottom Pro effect, before it is mixed with the original input signal. This function is used as an optional way to change the “quality” of the Big Bottom Pro effect.

The switch illuminates when the Phase switch is activated.

Altering the side-chain signal’s phase dramatically effects the sound of the Big Bottom Pro enhancement. With the Phase switch turned Off, you will recognize the Big Bottom Pro effect found in the Aphex Model 104.

As an exclusive feature for this TDM plug-in, we have added the Phase switch. When activated, the Phase switch alters the Big Bottom Pro effect by setting the side-chain in-phase with the main signal. This increases the output peak level. Use the Mix or Level controls to restore the output peak level if the Drive meter indicates clipping.

AutoTrace Switch

Activating the AutoTrace switch enables an automatic threshold function for the compressor within the Big Bottom Pro side-chain. The AutoTrace function enables the dynamic processor to self-optimize during normal operation. The switch illuminates when the AutoTrace switch is activated.

This control is particularly useful when you want a subtle Big Bottom Pro effect, or when the peak level of the input material varies over time. The AutoTrace feature is also ideal for changing the sound characteristics of the Big Bottom Pro effect. Drive control adjustments will be reduced when the AutoTrace switch is activated.

Link Switch

The Link switch is for stereo operation only. It links the left and right controls so they work as one. Grab a control on one page with the cursor and move it to the desired position. The control on the other page automatically updates. In this way both controls can be set to the exact same position. Stereo controls may be linked temporarily by holding down the Shift key while adjusting the control.

The switch illuminates when Link is activated.

LR (Left/Right) Switches

The LR switch is for stereo operation only. It allows you to view or change parameters on one channel at a time.

The switch for the currently displayed channel illuminates. Clicking the unlit switch changes the display to the other channel.

To edit both channels simultaneously, click on the Link switch.

chapter 3

Using Big Bottom

By putting the Big Bottom Pro to use in a Pro Tools session you will find many creative uses for its powerful processing capabilities.

The remaining sections provide instructions on how to get the most out of the Big Bottom Pro.

Inserting Big Bottom Pro on a Track

To use Big Bottom Pro in a Pro Tools session, insert it on a track. Before doing so, make sure the Inserts View is shown in the Mix window.

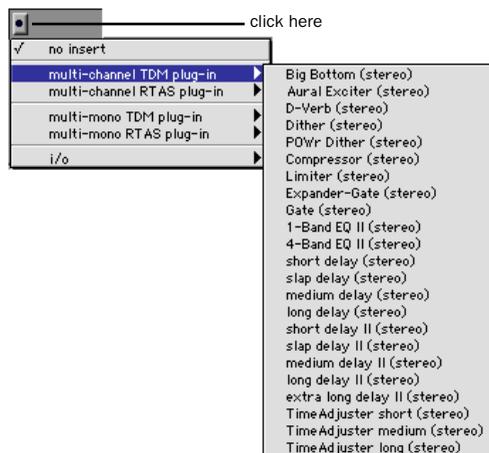
 *Although Big Bottom is typically used as an insert on a track (in the same manner compressors and equalizers are used), it can also be used on busses and sends. Refer to the Pro Tools Reference Guide, the DigiRack Plug-Ins Guide, or the electronic PDF copy of the Digidesign Plug-Ins Guide.*

To show inserts in the Mix window:

- Choose Display > Mix Window Shows > Inserts View.

To insert Big Bottom Pro on a track:

- Click the Insert Selector on the track and select the plug-in that you want to use.



Inserting a plug-in

To remove Big Bottom Pro from a track:

- Click the Insert Selector and choose No Insert.

Setting the Gain Structure

If the desired amount of Big Bottom Pro effect is limited by a lack of headroom in the input material, use the Level control to adjust the signal level to avoid clipping. When using the Big Bottom Pro with the Phase switch in the Off position, it is possible to achieve a substantial increase in bass energy without significantly increasing the peak level output.

For optimal performance keep the peak hold meter of the Drive meter inside the yellow area.

Optimizing the Big Bottom Pro Effects

When using the Big Bottom Pro, the output signal level is equal to the input signal levels plus the bass enhanced Big Bottom Pro effect. The dynamic characteristics of the Big Bottom Pro are based on a complex algorithm that includes the signal peak level, the average steady state level as well as the dynamic characteristics. Unlike a bass EQ, which adds a constant boost in the low end, the Big Bottom Pro enhancement is added into the input signal dynamically.

Starting with the factory settings, experiment with the controls and switches on the Big Bottom Pro to hear how this plug-in effects the low-end frequencies of your source material.

- If the Drive meter is clipping (in the yellow area) adjust the Drive control for optimal operation.
- Activate the Solo switch to listen to only the Big Bottom Pro side-chain effect.
- Vary the Tune control to hear the low-pass filter isolate the low-end bandwidths of the original input signal.
- De-activate the Solo switch and continue to vary the Tune control until you find the optimal setting.
- Adjust the Mix control to set the amount of Big Bottom Pro effect.
- Use the In/Out switch for an A/B comparison with the output signal and the original input signal.
- Activate the Phase switch and observe the change in the sound characteristics of the Big Bottom Pro effect. For most applications, leave the Phase switch in the Off position.
- Activate the AutoTrace switch and observe the change in the sound characteristics. Also notice that the compression level in the dynamic processor, shown by the Comp meter, is affected as well.
- Readjust the Mix control as desired to experience the benefits of the Big Bottom Pro TDM plug-in. Remember that a little Big Bottom Pro effect goes a long way.

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