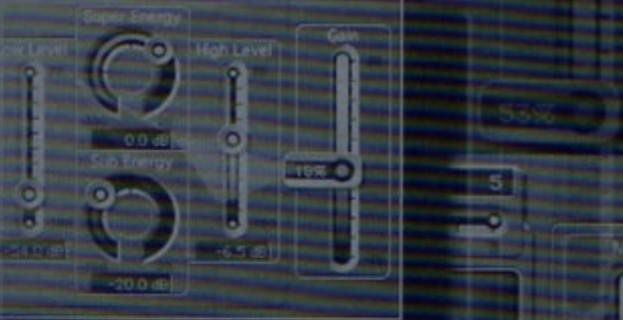




Ralf Kleinermanns



Logic

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A U D I O

Logic Audio FX Collection

500 professional presets for
the internal plug-ins



CD-ROM

For Platinum, Gold and Silver,
Windows and MacOS, from Version 4

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Ralf Kleinermanns

Logic
A | U | D | I | O

Logic Audio Fx Collection

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Imprint

Publisher Peter Gorges

Author Ralf Kleinermanns

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© Copyright 2000 by Wizoo GmbH
Bremen, Bundesrepublik Deutschland
Printed in Germany
ISBN 3-934903-30-4

Translation Thomas D. Green
Layout and typesetting Uwe Senkler, Hamburg
Cover design design-box, Ravensburg
Printed by Druckhaus EA Quensen GmbH

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Welcome...

With Version 4 of the Logic Audio sequencer, Emagic has supplied dozens of onboard plug-ins. The scope of the offering is impressive—all the key categories of effects are part of the package in a quality that largely rivals, if not surpasses, that of the commercial plug-ins touted by third-party vendors.

Many of the effects are rather sophisticated, and it's not always easy to get a handle on them immediately. To mine this rich sonic seam and awaken the vast Fx potential slumbering in the Logic plugs, you'd need a couple of months of undisturbed experimentation on a desert island—or this Fx Collection:

In just a few minutes time, you can install the 500 effect programs on the Cd-Rom and then load them immediately to the Logic plug-ins. This book explains all of the presets. It shows you how to deploy them to the best ›effect‹ and modify them to suit your purposes. Beyond that, the innards of each plug-in are x-rayed so that you'll learn everything about each plug's strengths, weaknesses and idiosyncrasies.

You can use this Fx Collection in two ways, as an arsenal of presets from which you can swiftly and easily draw your sonic weapon of choice, and as a practical how-to guide for learning the ropes of effects programming. It will serve you well in both applications. Here's hoping that it will give you many hours of music-making fun as well as the tools you need to broaden your sonic palette and beef up your creative powers.

A handwritten signature in black ink, reading "Ralf Kleinermanns". The signature is stylized and cursive, with a large initial "R" and a long, sweeping underline.

Ralf Kleinermanns

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1 Installation and Introduction

Which Logic Version Do You Need?

This book focuses on the plug-ins that first shipped with Logic Audio Version 4.0. Accordingly, you'll need Logic Audio Version 4.0 or higher so that you can use at least some of the plug-ins discussed herein and the effect presets that come with this book.

The newer parameters that were added on in Version 4.1 are taken into account in the effect settings showcased in this book. Obviously, you'll only be able to hear the variations that these parameters add to an effect and the tuning options that they offer if you own Version 4.1 or a later version. There are several reasons why it's a good idea to get your Logic version up to snuff by installing the latest update; this is one of them.

- ▶ You'll find Logic Audio updates on the Internet at www.emagic.de, from which you can download them directly.

A Survey of Plug-ins

You'll only enjoy the luxury of a comprehensive selection of all Logic plug-ins if you own the deluxe Platinum package. All other versions of Logic Audio are a bit leaner and don't offer the whole high-calorie feast. You'll find a detailed survey of which plug-ins come with which package in Table 1.

It also tells lists how many presets this Fx Collection offers for the given effect and tells you where they're explained in the book. You won't find any presets for some of the plug-ins. This is not an oversight. These plugs are all very straightfor-

ward—they offer too few parameters and thus hardly any knob-twiddling options.

There’s also a couple of special cases such as the reverb plug-in Rev 3.0. This ›classic‹ is an artifact, it only gets to hang around in Logic’s plug-in Fx fun-fest to assure compatibility with Logic songs that were created in older versions. Because the new Logic reverb plug-ins are so much more powerful, there’s no reason to use Rev 3.0 in new songs, which is why it would have made little sense to give you Fx presets for it.

Survey of Plug-ins Featured in the Diverse Logic Audio Packages

Name	Description	Logic Audio			Fx Presets	Page
		Silver	Gold	Platinum		
Reverb						
3.0 Rev ¹	Reverb from Logic Version 3.x	✓	✓	✓	—	—
PlatinumVerb	Reverb, highest quality	—	—	✓	18	32
GoldVerb	Reverb, medium quality	—	✓	✓	17	35
SilverVerb	Reverb, fair quality	✓	✓	✓	16	36
AVerb	Reverb, lowest quality	✓	✓	✓	13	37
Delay						
Tape Delay	Mono delay, EQ/tape saturation	✓	✓	✓	26	51
Stereo Delay	Stereo delay, EQ/cross feedback	✓	✓	✓	36	55
Dynamic						
Compressor	Compressor, fully-loaded	—	✓	✓	16	62
Silver Compressor	Compressor, 4 basic parameters	✓	✓	✓	14	64
Expander	Expander, fully-loaded	—	✓	✓	12	69
Envelope	Dynamic effect, ± attack, release	—	—	✓	13	72
Noise Gate	Noise Gate, fully-loaded	—	✓	✓	29	78
Silver Gate	Noise Gate, 5 basic parameters	✓	✓	✓	10	84

Survey of Plug-ins Featured in the Diverse Logic Audio Packages (cont.)

Name	Description	Logic Audio			Fx Presets	Page
		Silver	Gold	Platinum		
Eq²						
Fat Eq	5 fully parametric bands, incl. frequency graph	—	✓	✓	31	88
Silver EQ	1 × fully parametric mids, 2 × shelving with gain/freq.	✓	✓	✓	26	90
DJ EQ	1 × fully parametric mid, 2 × shelving with gain	✓	✓	✓	19	91
Parametric EQ	1 band (peak/notch), gain, frequency, Q	✓	✓	✓		—
High/Low Shelv ³	1 band (shelving), gain, frequency	✓	✓	✓		—
High/Low Cut ³	1 band (cut), frequency	—	✓	✓		—
High/Low Pass ³	1 band, frequency, slope, smoothing	—	✓	✓		—
Distortion						
Distortion	Fuzz, bipolar transistor	✓	✓	✓		—
Overdrive	Overdriver, field-effect transistor	✓	✓	✓		—
Modulation						
Modulation Delay	Modulatable delay for flanger, etc.	✓	✓	✓	29	113
Chorus	Chorus, 3 basic parameters	✓	✓	✓	12	119
Flanger	Flanger, 4 basic parameters	✓	✓	✓	26	122
Phaser	Phaser, 12 stages, 2 LFOs	—	—	✓	24	125
Ensemble	Ensemble, 8 voices, 3 LFOs	—	✓	✓	15	130
Oscillator	Oscillator, ring modulation	—	—	✓	22	134
Pitch Shifter II	Pitch shifter, 1 voice, 1 octave	✓	✓	✓	10	138
Sound Design						
AutoFilter	Synth filter ADSR/LFO Mod.	—	—	✓	30	143
BitCrusher	Lo-fi sound, aliasing, etc.	—	✓	✓	10	152
EnVerb	Special effect reverb/resonance, variable envelope	—	—	✓	58	158
Spectral Gate	Effect gate, variable frequency	—	—	✓	28	174

Survey of Plug-ins Featured in the Diverse Logic Audio Packages (cont.)

Name	Description	Logic Audio			FX Presets	Page
		Silver	Gold	Platinum		
Tools						
Sample Delay ⁴	Delay, run-time correction	✓	✓	✓		—
Gain'er ⁴	Phase shifting, stereo balance	✓	✓	✓		—
Volume	Phase reversal, phase difference	—	✓	✓		—
Dir Mixer	Direction mixer, M/S stereo	—	✓	✓		—
Dither	Dithering, 8 to 20 bits	—	✓	✓		—

- 1 On 3.0 Rev, you can generally select from among several algorithms, the difference between them being measured in effect quality and the load they place on the CPU. On LA Silver, you have two algorithms to select from, LA Gold and LA Platinum give you four levels of quality each.
- 2 Here you'll find only the EQ plug-ins listed. There are also EQ bands integrated into the audio channel strips, whereby the number and type vary depending on the Logic package.
- 3 Although you get a separate plug-in for the high and low bands respectively, the bands with variable frequencies always address the entire bandwidth of 20Hz to 20kHz.
- 4 The Sample Delay and Gain'er plug-ins are currently available on the Apple Macintosh platform only.

Installing Effect Presets

Installing the included plug-in presets to your Logic system is a piece of cake:

- 1 Look for the Logic program folder called **Plug-In Settings** on your hard disk. This is where Logic archives and administers the presets for its plug-ins.
- 2 Give the folder another meaningful name, say, **Plug-In Settings (Backup)**. Logic will henceforth ignore it, but you have assured that your stored plug-in presets won't go up in a puff of digital smoke.
- 3 Go to the CD-ROM and open the folder named **Logic Audio ... Presets** for the given Logic package, will be either Platinum, Gold or

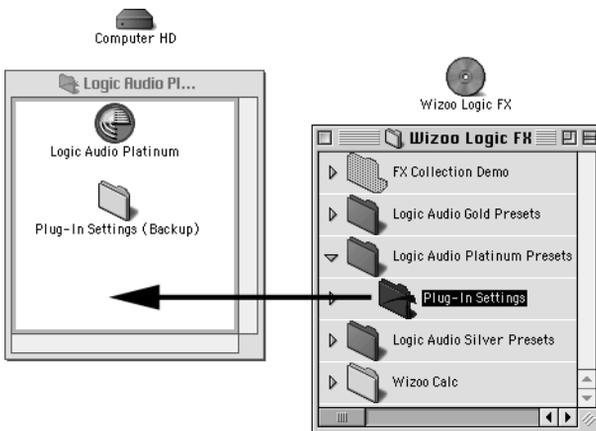
Installing the Demo Song

Silver. Copy the folder called **Plug-In Settings** contained therein to your Logic program folder.

- ▶ Under no circumstances should you copy one of the external folders such as **Logic Audio Platinum Presets** to your Logic system. Make absolutely sure that you are copying only the folder called **Plug-In Settings**, otherwise Logic will ignore the folder and the presets that it contains!

That's all there is to it. The next time you launch Logic, the newly installed presets will be ready to use and they'll appear in the selection menus of the plug-ins.

- ▶ No worries, the effect settings of your songs will not be lost if you rename the old Plug-in Settings folder. Logic always stores the settings of all plug-ins together with the song.



Rename the old >Plug-in Settings< folder and copy the new one from the CD-ROM into your Logic folder and all 500 new FX COLLECTION PRESETS will be installed in a jiffy.

Installing the Demo Song

You'll find a folder called **FX Collection Demo** on the Cd-Rom. It will let you dive right in and try out the new effect presets immediately using sounds that suit the given sonic purpose. Simply copy this folder to the hard disk on which you store your other Logic songs. It will take up some 50Mb of storage space.

In the folder, you'll find a song called `FX Collection Demo`. You'll have no trouble selecting each of the 21 audio examples that it contains. If you loop the desired example, you can load any plug-in, call up presets, or swap examples to experiment as you see fit.

Editing the Demo Song to Suit Your System

When you first open the Demo song on your hard disk, you should adjust the size and position of the windows to best fit your screen.

If you hear nothing during audio playback, you'll have to set the Logic mixer objects to your audio card. For this purpose, select the channel strips in the audio mixer window and select your audio hardware in the object parameter box under Dev.

Once you have adapted the song to your satisfaction, be sure to store your version. This way you'll be able to work directly with the demo at any later date.

Selecting an Audio Example

The examples in the Demo song are numbered from 01 to 21. For every preset in the book, you'll find one or several of these numbers listed in the marginal comments labeled ›Demo‹. This footnote tells you which sounds of the Demo song best demonstrate the effects of the given preset.

These are merely suggested ›recipes‹ to get you started. Don't let them dissuade you from experimenting in your home recording kitchen. You'll have just as much fun cooking up unorthodox dishes of your own. By all means feel free to try out wacky stuff like ladling a flanger over a vocal, or a phaser over a piano track. Bear in mind that some presets only work with percussive material, others may only deliver the goods in conjunction with pad-like sounds. In any case,

If the desired entry for the channel DEVICE appears in grey, your audio hardware or driver hasn't been installed properly. Consult the Logic manual in order to configure your system correctly.

be sure to check out the audio examples specified for a given preset. This approach ensures that you won't waste time trying out presets on sounds where the results can't be anything but disappointing.

The 21 examples in the Demo song provide the best audio material for every preset:

Demo Song Examples

No.	Name	Tempo (BPM)	Comments
01	Drums—Rock Set	90	Rock drum arrangement featuring five separate tracks. Switch individual tracks to Solo when you want to try out effects in isolation, say, on a kick drum or snare.
02	Band—Rare Funk	90	Funk/soul band arrangement featuring four separate tracks. You'll hear how a guitar effect sounds in the context of other band instruments and how a single preset can affect an entire mixdown.
03	Percussion—Mambo Basic	90	Percussion arrangement featuring six individual tracks. Activating Solo to check out individual tracks is also a good idea.
04	Percussion—Mambo Montuno	90	Percussion arrangement featuring five separate tracks. Like example 03, this one's great for filter and resonance effects.
05	Drum Loop—Reverb Set	90	Drum loop with loads of reverb. With its straightforward groove, this loop should be your first choice for all rhythmic delays, dynamic processors and modulation effects.
06	Drum Loop—Dry Processed	90	Distorted, dry loop with a real «spongy» attack, suitable for dynamic effects and reverb.
07	Drum Loop—Low BD Swing	90	Airy drum loop with lashings of reverb. The swinging groove isn't suitable for complex rhythmic delays.
08	Bass—Slap	90	Not your typical thumb-thumping funk bass, but it does have a nice, crisp attack. This one's predestined for dynamic processing.
09	Bass—Fingered	90	Deep, wooly bass, great for chorus and modulation effects.
10	Guitar—Funky Strat	90	Taut & spanky Strat comping; excellent for rhythmic delays, phaser or flanger trickery.

Demo Song Examples (cont.)

No.	Name	Tempo (BPM)	Comments
11	Synth—Slim Techno	90	Step sequencer riff; its lengthy rests make it great for delays and reverb—dub it 'till it sound eire, mon.
12	Synth—Fat Techno	90	Wide-body, patch-like synth lines with resonant filter effect: hip for reverb and modulations, but terminally uncool for rhythmic delays due to the lack of rests.
13	Vocals—Female	90	Female pipes, good stuff for reverb, pitch shifter, EQ ...
14	Voice—Male	free	Male voice; tweak it with a pitch shifter, EQ it, or mangle it with modulation and sound design effects.
15	Synth—Slow Chords	60	Sleepy, fat synth chords, fine for modulation and sound design effects.
16	Synth—Carpet	80	Synthesizer pad; a fave for over-the-top flanging; phase it 'till it hurts.
17	Piano—Reverb	free	Piano phrase with reverb, hip for dynamic effects and filters.
18	Sax—Dry	free	Bone-dry sax riff; a natural target for a heavy barrage of reverb.
19	Guitar—Slow Picking	free	Pretty, feathery arpeggios plucked on a Strat; like Synth Carpet 16, lends itself to almost all modulation and sound design effects.
20	Guitar—Strat Power Chords	120	Electric guitar barre chord workout; your kitchen-sink track for fiddling with fuzz, overdrive, phaser, delay, reverb, et al.
21	Noise Mix—Strat and Noise	95	Innocent rhythm guitar, savaged with a merciless onslaught of noise. This one's great for trying out noise gates and dynamic effects.

Calling Demo Examples

You can readily call up the desired example in the Demo song:

- ◆ In the Marker text window, you can step through the examples using the arrow keys. This is the best method if

you want to alternate between neighboring examples such as 3 and 4.

- ◆ When you click on the Marker text field in the small window below, a selection list will appear. You can click on every example directly, which is especially convenient when you want to select examples that are listed some distance apart.

Loop mode is activated automatically in the Demo song. All examples have been cut so that they run smoothly in loops.



Conveniently, you can select the examples in the Demo song with the help of the arrow keys in the text window or directly in the pop-up menu.

Plug-in Signal Routing

At the beginning of every plug-in chapter, you'll find a recommended signal routing option that tells you whether the given plug-in is better suited as an insert or as a send effect. Let's take a look at how you can apply these signal routing suggestions.

Insert Effect

If you want to use an ›unsuitable‹ plug-in, for instance the stereo version of the Modulation Delay in a mono channel, simply click on its INSERTS button while holding down  (PC) or  (Macintosh). The channel strip will be instantly ›reconfigured.‹ Be advised that this eats up a bit more computing power. In order to hear the stereo effect, you'll have to switch the button at the lower left of the channel strip from Mono to Stereo.

If you're running Logic Audio Platinum or Gold, you can insert a plug into the stereo master channel. In the Demo song, you'll find these master effects labeled succinctly as ›Master.‹

Here's the alternative method for all Logic Audio versions including Silver: simply insert the plug-in into one of the bus channels. In the Demo song, these channels are called ›Bus 1: Fx‹ and ›Bus 2: Fx.‹ Then switch the appropriate channel to Solo mode via the S button located at the lower right of the strip.

If, on the other hand, you want to hear a single signal with effect and the other signals without effect, insert the plug-in into the appropriate audio channel.

Bear in mind that many modulation and sound design effect presets generate rather extreme stereo effects. If you call up this type of a preset in a plug-in that is patched into a mono channel as a mono insert effect, it may sound completely different than it would in a stereo channel. Usually, you'll come up with better results if you ›shoehorn‹ the stereo version of the plug-in into the mono channel.

Send Effect

Insert the plug-in into bus channel 1. In the Demo song, it is called ›Bus 1: Fx.‹ The channel is activated automatically as soon as you move the fader to blend in the wet signal—›wet‹ meaning the processed signal, as opposed to the ›dry‹ original signal.

Bus channel 2 is configured just like bus channel 1. If you so desire, you can try out two send effects in parallel, say, reverb on bus channel 1 and delay on bus channel 2.

Make sure that the two bus channels are always muted for as long as you're not routing an effect through these circuits. Otherwise, you'll hear two dry signals. This ›doubled‹ signal is very disorienting and can lead to all kinds of signal routing and mixing hitches.

- ▶ If you load a preset to a plug-in that is inserted into a bus channel, the MIX parameter of the plug-in remains unaffected by this configuration. Logic has offered this little feature since Version 4.0.1. Although it's a sensible option, it can lead to considerable confusion if you're unaware that this is the case.



↑ You won't find it hard to try out even very complex effect combinations in the Demo song: Here, an AVerb serves as the send effect in bus channel 1, a Tape Delay as a send effect in bus channel 2 and the Spectral Gate as an insert effect in the stereo master bus.

Searching for and Finding Presets

When you open the parameter box of a Logic plug-in, you'll find the installed Fx presets in the Selection menu. This menu hides behind the triangle icon in the upper bar. You'll find that the structure of the menu is identical for all plug-ins featured in this Fx Collection:

- ◆ **Neutral:** You'll always find this preset at the top of the list. All parameters are set to default values, which is an excellent point of departure from which you can begin creating your own effects.
- ◆ **Effect:** The following presets are ordered by their names in categories. You should have no trouble dealing with this arrangement so that you'll find it easy to locate effects swiftly.

The FX COLLECTION PRESETS are clearly arranged by categories in the selection menus of the plug-ins. When you store a preset that you have created, it will automatically appear at the end of the list.



- ◆ **Logic:** If Logic has provided different ›factory presets‹ for the plug-in, you'll find them at the end of the selection list in the category called Logic.
- ◆ **Favorites:** If you load or edit a preset in the plug-in and then store it via Save Setting, it will appear in a separate category at the end of the selection menu. This is a good place to archive your fave presets from the Fx Collection. Feel free to add your own creations as you see fit.
- ▶ If you want your presets to appear automatically in the bottom category once you've saved them, make sure that their names don't begin with a space!

Presumably, you want to continue to use presets that you had saved before you installed the Fx Collection. This is not a problem:

- 1 Open the folder containing the desired plug-in in your old ›Plug-in Settings‹ folder.
- 2 Open the folder of the same name in the new ›Plug-in Settings‹ folder
- 3 Copy your own presets from the old to the new folder.

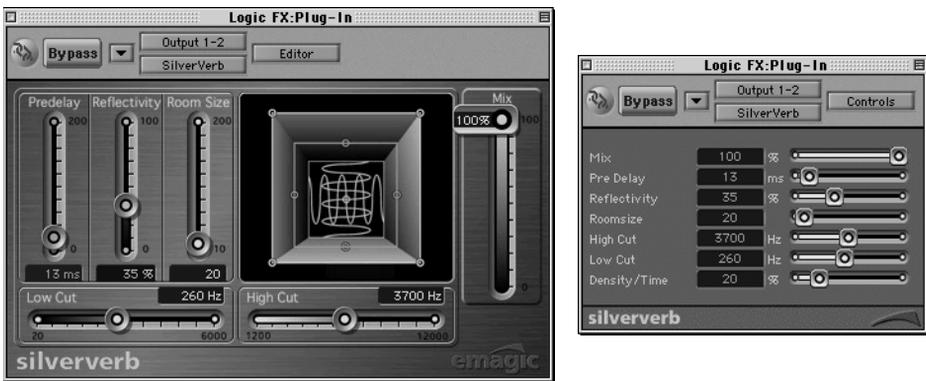
The early Logic 4 manuals profess that you can manage presets as you see fit by saving them in any given sub-folder. Nice notion, but the guys and gals at Logic haven't made it a reality yet. You'll have to save all presets directly in the folder bearing the name of the given plug-in so that Logic won't ignore them.

Editing Parameters

Most of the Logic plug-ins offer two different views for editing parameters. You can switch back and forth between the two via the button on the upper right of the plug-in box:

- ◆ **Editor:** This view offers knobs, faders and often graphics, which makes its feature and functions clearer. Plus it has a ›touchy-feely‹ vibe that is closer to that of knob twiddling in the real world. It places a slightly greater load on the computer than Controls mode, but with most plug-ins the difference is negligible.
- ◆ **Controls:** This view is limited to parameter values and standard faders. However, only in it can you select every parameter value via double-click and type in values directly on your computer's keyboard.

Although some plug-ins feature new parameters, the Editor windows haven't yet been adapted to accommodate these changes. This is why you will at times be faced with 'hidden parameters' that you can only view and edit in Controls mode. In the Fx Collection presets, these parameters have of course been set to deliver the best audio results. If you want to edit these hidden parameters, you'll have to do so in Controls mode.



↑ DENSITY/TIME in SilverVerb is an example of a hidden parameter. In current Logic versions, you'll find it in the CONTROLS view, but not in the EDITOR view of the plug-in.

Using Timing Presets

Some plug-ins are particularly well-suited for what we call timing effects. This term is a catch-all for echoes, reverb trails or modulations that are locked into the rhythm of a specific time signature. To assure that these effects groove along tightly and at the right beat, the time parameters (in ms) have to be synced up perfectly to the song speed (in Bpm).

It wouldn't be practical to give you the right timing presets for every possible tempo—you'd end up with endless menus.

For this reason, all timing presets have been set to a uniform speed of 90Bpm. On the Macintosh, you'll recognize these effects by the extension ›90Bpm,‹ on the Pc by the add-on ›90.‹ Examples 1 through 13 in the Demo song have a tempo of 90Bpm, so you can try out every timing preset immediately with these.

How you actually go about adjusting a timing preset to another song tempo varies according to the given plug-in. Let's take a look at the various procedures.

Reverb Plug-ins

For PlatinumVerb, GoldVerb, SilverVerb and AVerb, you'll find two timing presets each. When you read the descriptions of these presets, you'll find out which parameters are responsible for which rhythmic aspects of the effect. With this information, you can quickly adjust the timing presets to another tempo by ear.

EnVerb

The timing presets for the EnVerb reverb effects are particularly elaborate. You can adjust these effects to any other song tempo by typing in specific parameter values. You'll find out how to go about doing this in the section ›EnVerb‹ from page 158 onwards.

Using Delay Presets

Logic makes it easy for you to create rhythmic effects by means of the Tape Delay and Stereo Delay plug-ins. Here's where the term ›user-friendly‹ actually means something—the appropriate parameter values are adjusted automatically so that they match the given song tempo.

This means that you can try out all rhythmic delay presets in the Demo song by using any example that has an unvarying tempo. The Demo song features preprogrammed tempo

changes. This ensures the song is automatically set to the appropriate speed and will always be in sync with the selected example, which spares you the hassle of adjusting delay presets by hand.

Third-party Plug-ins

Logic Audio Silver, Gold and Platinum feature universal plug-in interfaces that let you connect hundreds of additional plug-ins offered by third-party manufacturers. The interfaces are designed to accommodate so-called ›native plug-ins‹ as well as Logic’s internal plugs that are powered solely by your computer.

The Vst plug-in format has become the de facto universal standard. Since Version 4.1, all Logic packages have supported plug-ins that comply with the Vst Specification 2.0 for Windows PCs and Macintosh machines. The offering boggles the mind—just about any effect that you could possibly wish for is available in the form of a plug-in.

Preset Info

In the subsequent chapters—next to pointing out the features and foibles of the effects themselves—I’ll provide you with an introduction to every plug-in.

The first section complements the plug-in chapter of the Logic manual. It gives you tips as well as information on the concept behind the plug and its signal routing options and parameters. You may be overjoyed to hear that the focus of this section is less on technical details and more on practical applications.

- This section is the right place to go if you want to truly understand what the given plug-in is all about. If you’re in a hurry to put the pre-

The ›Wizoo Guide Cubase VST Plug-Ins‹ offers a comprehensive overview of the VST standard plugs, including a CD-ROM with demos and freeware and shareware plugs. You’ll find more info and excerpts in the Wizoo catalog on the enclosed CD-ROM.

sets to good use, a quick glance at the recommended signal routing options will suffice to get you started.

The second section provides information on the individual presets. This is where you'll find out for which audio and demo material a given effect program is suitable, and with which parameters you can manipulate it effectively.

- ▶ This is the place to look when you want to try out or edit a preset. To find the desired effect swiftly, consult the quick-reference Preset Survey from page 9 onwards.

2 Reverb

To this day, reverb remains the reigning king of the effects hill. And for good reason, for it is one of the most critical components in a mix. Nowhere else is the importance of realistic-sounding algorithms and fine-tuning options for effect parameters greater. The Logic brain trust is certainly aware of the gravity of good reverb, so depending on the package, Logic offers up to four reverb plug-ins:

- ◆ PlatinumVerb rules the Logic reverb plug-in roost. It delivers the best quality and the widest range of effects options, but its service come at a price: PlatinumVerb has the healthiest appetite for computing power.
- ◆ GoldVerb is the heir apparent, the runner-up in the Logic reverb quality stakes. It is distinguished from the PlatinumVerb only by the fact that the reverb trail is not computed in two separate frequency bands. Therefore, some standard rooms sound a touch less transparent in GoldVerb.
- ◆ With the third-best Logic reverb plug-in, the SilverVerb, you'll have to make some concessions, for the performance of this stripped-down version is less stellar than its blue-blooded cousins. You can come up with some useful standard rooms with SilverVerb. However, its versatility, range of effects and tweaking options pale beside those of the GoldVerb and PlatinumVerb. Perhaps the SilverVerb's greatest drawback is that early reflections and the reverb trail can't be edited separately.
- ◆ AVerb, the bread-and-butter reverb of the starter package MicroLogic Av, ships with all Logic Audio packages. The algorithm provides a decent and useful reverb trail. However, it lacks two of the SilverVerb's parameters that let

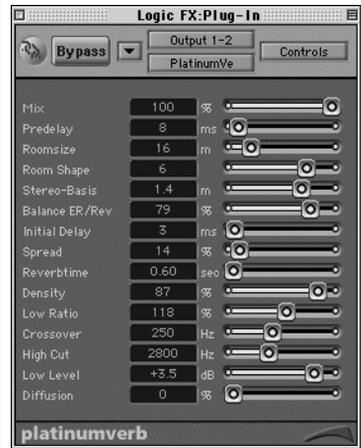
Standard signal
routing option: SEND

you shape the sound of the reverb trail. This means that AVerb's effects are even less transparent.

- ▶ Always insert a reverb into a bus channel and route signals to the plug-in via the send buses.

PlatinumVerb

↓ PlatinumVerb Editor



↑ PlatinumVerb Controls—
additional parameter: DIFFUSION

Here the effect signal is comprised of two components that you can, for the most part, manipulate individually without one affecting the other: Early Reflections—Er for short—and Reverb.

The separation between lets you play virtual interior decorator—you're free to vary the size of rooms rather liberally. Be aware, though, that this freedom comes with a price: you're on your own, there's no integrated automatism—a feature that automatically adapts parameters—that will pick

up the pieces for you when you make a mess of it. If you want to create natural-sounding rooms by fiddling with these parameters, you really need to know exactly what you're doing.

BALANCE FADER

If you drag the Balance fader to the far left to 100%, you'll hear the effect signal of the Er section only. Drag it to the far right to 100% Reverb and you'll hear the Reverb signal only.

You should always set Balance to one of these two extreme positions depending on which of the two parameters, Er or Reverb, that you want to edit. This lets you audition exactly which changes your settings have wrought as you go. When you're finished tweaking, use this fader to set the desired balance between the Er and Reverb signals.

EARLY REFLECTIONS

You'll find the parameters of this section in the upper half of the window. The control elements are tinged in a fetching violet hue.

›Early reflections‹ are the first reverberations that bounce back off the walls. They sound rather hard and distinctive, at times almost like an echo. Early reflections have the greatest influence on how our ears perceive of the size and shape of a room.

The Room Shape parameter defines the number of corners and thus the geometry of the room. That's all well and good, but in practice you'll find that it's far more important what the individual Er patterns sound like and which purposes they serve best:

- ◆ Shape 3: very dense pattern; good for natural-sounding rooms.
- ◆ Shape 4: well-defined reflections much like an echo, great for special effects, echoes, slapback effects and the like.

This component of the effect is especially important for creating small and rather inconspicuous rooms, for adding some 3D ambience to drums and percussion, as well as for coming up with in-your-face special effect sounds.

- ◆ Shape 5 to 7: similar to Shape 4, but not as hard. The individual echoes are closer together, which gives you a denser, tighter sound. This one's good for claustrophobic-sounding as well as for thickening tinny vocals or harmony parts.

REVERB

You'll find the parameters of this section in the lower half of the window. The control elements are colored blue.

›Reverb‹ refers to the reverb trail. It sounds softer and more diffuse than early reflections. The bigger the room, the longer the reverb trail; the harder the walls, the longer and brighter the reverb trail. This explains why the reverb trail is so prominent in very large halls and cathedrals.

A very special feature of the PlatinumVerb is that its reverb amount is split into two frequency bands. This can be helpful, but it takes some getting used to:

- ◆ Use Crossover to determine the frequency at which the two bands do just that, cross over.
- ◆ Low Ratio controls the amount of sustain for the reverb trail of the low frequency band in relation to the rest of the frequencies in the signal. Sounds terribly confusing, but it's not: at values less than 100%, the lower frequencies will fade before the higher ones.
- ◆ Low Level influences the level of the low frequency band in relation to the rest of the frequencies in the signal. By setting values less than 100%, you can cut the volume of lower frequencies to make them even more unobtrusive.

Caution is in order when you're playing with the Spread parameter. Values greater than 100% can reduce the mono compatibility of the wet signal. Use this parameter judiciously, say to whip up a special effect reverb for a single instrument. Never crank it for a reverb effect that plays a central role in your soundscape.

Reverb amount is a key factor in shaping a fatter, more dense soundscape. Reverb effects with long, conspicuous reverb trails work particularly well for ballads as well as for ambient tracks.

- ▶ Although the design of the plug-in and the manual suggest that there's a clear separation of the ER and REVERB sections, there is reciprocal action between the two:

The REVERB parameters SPREAD, HIGH CUT and DENSITY also influence the sound of the early reflections.

REVERB predelay, or REVERB INITIAL DELAY as it is called here, is determined by its own parameter value and ER PREDELAY. So if, for example, you set INITIAL DELAY to 0ms, but ER PREDELAY to 200ms, you won't hear the reverb trail until 200ms after the dry signal becomes audible.

If you've dialed in a mix where the ER section dominates the effect, you should first shape this part of the signal to taste and then leave the related parameters in the REVERB section well enough alone.

The additional CONTROLS parameter DIFFUSION does not influence the ER section. Instead it determines how the reverb trail is »scattered.« It kicks in percussively at 0%, while at 100% it sounds washed out. The room will sound somewhat larger or as if it had more nooks and crannies.

GoldVerb

↓ GoldVerb Editor



↑ GoldVerb Controls— additional parameter: DIFFUSION

Apart from the descriptions of the Low Ratio and Low Level, everything that was said for the PlatinumVerb (see the preceding section) holds true for the GoldVerb. The same applies to the GoldVerb's setting options, which are either identical to PlatinumVerb's settings or slightly modified versions thereof.

- ▶ In most cases, the reverb trail generated by GoldVerb sounds a bit fatter and muddier than a comparable effect created by the PlatinumVerb preset. If you own a Platinum package and have both plug-ins at your disposal, you should base your choice on a direct A/B comparison to decide if you'll opt for the more transparent sound of the PlatinumVerb or for placing less of a load on the processor with the GoldVerb effect.
- ▶ Programs that are based exclusively on the EARLY REFLECTIONS section (ER-BALANCE = 0), sound identical to those in the GoldVerb and PlatinumVerb. For all other programs, the difference between the two plugs' sounds depends on how strongly you tweaked the reverb trail of PlatinumVerb's CROSSOVER, LOW RATIO and LOW LEVEL parameters. In the majority of FX COLLECTION PRESETS, these PlatinumVerb parameters are used to make the reverb trail leaner and thus more transparent.

SilverVerb

↓ SilverVerb Editor



↑ SilverVerb Controls—additional parameter: DENSITY/TIME

You may be taken aback by the fact that this plug lacks some classic parameters such as Reverb Time. You'll still be able to put it to good use, though—there are ways of getting around this problem.

The *Refl ectivity* parameter adjusts the hardness of the simulated room’s surfaces. Next to *Room Size*, *Refl ectivity* should be your first choice when you want to influence reverb time:

- ◆ High values conjure up smooth, hard surfaces and thus longer reverb times.
- ◆ Low values create softer room surfaces which tend to soak up instead of throw back acoustic waves. This of course shortens the reverb trail.
- ▶ Logic Audio Version 4.0.1 saw the debut of a new parameter in *SilverVerb*, *DENSITY/TIME*, which is only available in *CONTROLS* mode. In most cases, lower values for this parameter create distinct echoes, with each being clearly distinguishable. Higher values, on the other hand, give you a softer ›wash‹ of reverb trail.
- ▶ Since *SilverVerb* doesn’t offer an overabundance of tweaking options, you probably shouldn’t pass on the *DENSITY/TIME* parameter. This is why your best bet is to edit this plug-in’s presets in *CONTROLS* mode.

AVerb

The *AVerb* is a similar beast in that you can only influence reverb time in a roundabout way via *Refl ectivity*. However, it’s more difficult to fine-tune the sonic changes that this parameter evokes than it is on the *SilverVerb*. *AVerb* doesn’t give you any tools to bonsai the frequency response of the reverb trail. This means that the range of available ›standard‹ rooms is severely limited.

- ▶ Medium-sized to large rooms sound quite spongy and opaque in *AVerb*. For this reason, you should use the wet signal of this plug sparingly. You want the dry signal to dominate so that you don’t muddy your mix.
- ▶ In up-tempo songs, you can add a hint of room ambience to rhythm guitars or synth tracks by using short delays. In this type of sonic scenario, be sure to try out *Tape Delay* or *Stereo Delay* as alternatives to

AVerb. You have both delay plug-ins at your disposal even in the budget Logic package.

Reverb Presets

In the selection menu of the reverb, you'll find the Fx Collection presets listed by the following categories:

- ◆ **Vocal:** Standard rooms mainly for vocals, but they will also work for all melody and harmony instruments such as guitars, horns, strings or lead/hook lines.
- ◆ **Drum:** Generally smaller rooms with strong early reflections for drums, horns riffs, lean funk guitars and everything else that should sound crisp rather than washed out
- ◆ **Fx:** Simulated venues and bizarre resonances that are definitely on the far side of orthodox reverb effects

VOCAL—Big Cathedral

Demo 13, 18

For vocals, piano,
guitar, strings

Special effect reverb rich in overtones; simulates a colossal cathedral

This reverb is one of those go-out-for-a-beer-and-pizza effects that will still be resounding when you come back. It was deliberately programmed to sound a bit chilly because the simulated room has very hard, reflective wall surfaces. The basic unedited setting is primarily suitable for use as a special effect, say, to highlight a key point or two in a song.

If you set the parameters specified in the tweaking tips to lower values, you can also use this preset as universal reverb for vocals and instruments. Go ahead and edit it freely—it is adaptable to suit a wide range of markedly different applications.

Tweaking tips: PlatinumVerb/GoldVerb

HIGH CUT	Lower values for more high-end damping and a warmer sound
REVERBTIME	Lower values evoke a shorter reverb trail and less obtrusive effect

Tweaking tips: SilverVerb

DENSITY/TIME	Lower values evoke a shorter reverb trail and less obtrusive effect
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Tweaking tips: AVerb

REFLECTIVITY	Lower values evoke a shorter reverb trail and less obtrusive effect
ROOM SIZE	Lower values evoke a tighter sound (drums and percussion)

VOCAL—Close Up

In-your-face reverb that makes a signal roomier without leaving a distinct reverb trail

Demo 13, 14, 3, 10

This is a rather subtle program that creates just a slight room ambience. It will always work when you've recorded in a >dead< room and want to liven up the signal a touch without slapping on clearly audible reverb.

Vocals, speech, guitar, drums

Used sparingly, this effect is also great for spicing up dry spoken-word recordings.

Tweaking tips: PlatinumVerb/GoldVerb/SilverVerb

BALANCE	Further to the left for a more claustrophobic, in-your-face vibe (not on the SilverVerb)
HIGH CUT	Lower values for an even more inconspicuous effect

Tweaking tips: AVerb

REFLECTIVITY	Lower values for an even more up-close vibe
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PlatinumVerb and
GoldVerb only

Demo 13, 18

For vocals, lead
instruments

VOCAL—Disco Doublor

A combination doubler effect and medium-length reverb

This combination effect is especially suitable for archetypal disco and dance tracks. The Er section generates a kind of doubler effect that fattens up signals. At the same time, the Reverb section adds a reverb trail of medium length.

Use the Balance fader to do just that, determine the balance between the two signals.

Tweaking tips: PlatinumVerb/GoldVerb

BALANCE	Further to the left for more doubler, further to the right for more reverb
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ROOM SIZE	Higher values for echo effects
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Demo 13, 01, 08

For vocals, drums,
guitar, bass, piano

VOCAL—Live Stage

Universal hall effect with a live vibe

This hall-style reverb is great if you want to add a live vibe to a mix. It'll give all typical band instruments as well as vocals that big venue feel.

The early reflections are relatively prominent here because this is often the case in concert halls that aren't packed wall to wall. If you prefer a softer, smoother effect, all you have to do is drag the Balance fader to the right and/or turn up the Density/Time knob.

Tweaking tips: PlatinumVerb/GoldVerb

BALANCE	Further to the left for smaller rooms, further to the right for softer, longer reverb effects
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DENSITY	100 to 50%; lower values for a harder sound, for instance for drums and percussion
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Tweaking tips: SilverVerb/AVerb

DENSITY/TIME	Lower values for a more echoey vibe, higher values for softer, longer reverb effect
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VOCAL—Smooth Ballad

Universal, relatively subtle balladesque reverb

Demo 13, 18, 19

This preset will always get you off to a good start when you're trying to come up with fairly subtle, universally applicable room ambience for ballads and mid-tempo numbers.

For vocals, strings, piano, guitar

- ▶ **PlatinumVerb:** By slightly turning up the REVERB LOW LEVEL parameter, you can add even more warmth to the reverb trail, which adds a nice touch to vocals. However, always check out the results in the context of the full mix, because a touch too much will soon muddy the sound.

Tweaking tips: PlatinumVerb

REVERB TIME Higher values for a longer reverb trail

LOW LEVEL Higher values for a warmer sound

Tweaking tips: GoldVerb

REVERB TIME Higher values for a longer reverb trail

HIGH CUT Lower values for a more subtle, warmer sound

Tweaking tips: SilverVerb/AVerb

REFLECTIVITY Length of the reverb trail (values between 30 and 90)

DRUM—Ambience Cool

A chilly room vibe without a distinct reverb trail

AVerb: Ambience

Demo 1, 3, 6

When you lay this effect over a complete mix or a drum loop, it will sound ›bigger‹ without adding an audible reverb effect to the track.

For drums, percussion, synthesizer, speech

The Reverb High Cut parameter lets you take the edge off or boost bright signals produced by instruments such as shakers, hi-hat or tambourines.

Tweaking tips: PlatinumVerb/GoldVerb

HIGH CUT Higher values accentuate bright drum and percussion instruments that are rich in top end frequencies

REVERB SPREAD To the left for a more subtle signal, to the right for more coloration

Tweaking tips: SilverVerb

HIGH CUT Higher values accentuate bright drums and percussion instruments that are rich in higher frequencies

REFLECTIVITY Higher values for more coloration and shatter

Tweaking tips: AVerb

REFLECTIVITY Lower values for a tighter, more focused sound

Not for AVerb

Demo 1, 8, 11

For drums, percussion, synthesizer, speech

DRUM—Ambience Warm

Full-sounding room vibe without a distinct reverb trail

When you lay this effect over a complete mix or a drum loop, it will sound ›bigger‹ without adding an audible reverb effect to the track.

- ▶ PlatinumVerb: With the LOW LEVEL parameter, you can zero in on and tweak boomy, low-frequency instruments such as kick drums or low toms.
- ▶ SilverVerb: With REFLECTIVITY, you can influence how focused or washed out the reverb effect will be.

Tweaking tips: PlatinumVerb/GoldVerb

LOW LEVEL Lower values for a leaner, more defined sound (PlatinumVerb only)

SPREAD Fine-tunes the timbre or tonal color of the small room (easy does it, this is a very responsive control).

Tweaking tips: SilverVerb

LOW CUT Higher values for a thinner sound

REFLECTIVITY Lower values for a tighter sound

Not for AVerb

Demo 1 (Cha 1 solo)

For kick drum

DRUM—Bassdrum Boom

Boomy, bottom-heavy reverb trail tweaked specifically for kick drums

This effect works best when you can lay it over a separate kick drum track. It's generally too spongy and obtrusive for other signals.

For a kick drum, it's particularly suitable as a clearly audible special effect that accentuates the biggest of all tubs. It will also serve you well for ballads where you want to make the kick drum sustain longer and sound plumper so that it integrates better into the mix.

Tweaking tips: PlatinumVerb/GoldVerb

HIGH CUT	Higher values accentuate the bass drum's kick
SPREAD	Lower values for a more subtle effect

Tweaking tips: SilverVerb

HIGH CUT	Higher values accentuate the bass drum's kick
REFLECTIVITY	Lower values for a tighter sound

DRUM—Percussion Cave

Cozy little room for instruments such as congas, bongos or sticks

Demo 3, 4, 14

This effect is relatively subtle, which means that it requires high send and effect levels to become audible. Feel free to use it any time you need defined yet inconspicuous room ambience. It's also suitable as an alternative to the ambient programs.

For drums, percussion, synthesizer, speech

- ▶ PlatinumVerb/GoldVerb: With the BALANCE control, you can create countless variations of the room's size: further to the left, the room will sound more like a small, relatively dry studio recording booth; further to the right, the room will sound larger, with harder, more reflective wall surfaces.

Tweaking tips: PlatinumVerb/GoldVerb

BALANCE	To the left for a smaller, drier room; to the right for larger rooms richer in top-end frequencies
ROOM SIZE	The effect kicks more boldly at higher values; great for special effects, e.g. for snare or kick drum

Tweaking tips: SilverVerb/AVerb

DENSITY/TIME	Higher values for a smoother, more uniform sound
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AVerb: Snare Long

Demo 1 (Cha 2 solo), 3,
19

For drums, percussion, synthesizer, speech

DRUM—Snare Long Smooth

Big ambience for snare sounds and sustaining percussion instruments

A classic reverb effect for snares in ballads, it will definitely thicken up a snare's sound. The reverb trail is relatively long, which works well for slow-tempo and ambient tracks.

- ▶ PlatinumVerb/GoldVerb: Try moving BALANCE to the left so that percussive parts of the effects signals are stressed more strongly, while the reverb trail takes a back seat. This gives you a more crisp, snappy signal, while the reverb trail remains clearly audible most of the time.

Tweaking tips: PlatinumVerb/GoldVerb

HIGH CUT	Higher values for a colder sound
REVERB TIME	Higher values for a longer reverb trail
BALANCE	To the left for a more percussive signal; to the right for more reverb trail

Tweaking tips: SilverVerb/AVerb

HIGH CUT	Higher values for a colder sound (SilverVerb only)
REFLECTIVITY	Higher values for a longer reverb trail
DENSITY/TIME	Higher values for a softer, more homogeneous sound

Not for AVerb

Demo 1 (Cha 2 solo), 3,
10

For drums, percussion, synthesizer, speech

DRUM—Snare Short Bright

Reverb for fast-fading snare sounds and percussion instruments

This snare reverb effect is short, snappy and bright. It's particularly hip for drum arrangements in fast songs and dance tracks because it fattens up the signal without watering it down.

When you turn down the Reverb High Cut parameter, the snare carpet is de-emphasized. You should not, however, go below 2,400Hz or so because the snare will start to sound tubby.

- ▶ **PlatinumVerb/GoldVerb:** When you turn HIGH CUT down to this threshold, you can turn REVERB TIME up to some 1.2sec without it becoming too obtrusive.

Tweaking tips: PlatinumVerb/GoldVerb

HIGH CUT Lower values for a warmer sound

REVERBTIME Higher values for a longer reverb trail

Tweaking tips: SilverVerb

HIGH CUT Lower values for a warmer sound

DENSITY/TIME Higher values for a more distinct room

Fx—Elvis Echo

Simple slapback echo for Elvis-era vocal ambience

This effect comes in handy when you're working with a spoken-word track and want to achieve that typical stadium announcement vibe.

If you want to do a little sound designing and bend the signal more or less radically, you can patch the effects signal to a filter plug-in. This lets you create different room or surface characteristics. By boosting the top end, you can simulate enclosed rooms with smooth wall surfaces.

If you cut both the top and bottom end frequencies, you can simulate the type of sound heard in stadiums or open-air venues.

Tweaking tips: PlatinumVerb/GoldVerb/SilverVerb/AVerb

PREDELAY Delay between the dry signal and the echo

ROOM SIZE Delay time, i.e. the tempo of the echo

Demo 14, 10, 11

For speech, guitar, synthesizer, vocals

Demo 1 (Cha 1, 2 or 6 solo), 12

For individual drumbeats, synthesizer, guitar

Fx—Eternity

Extremely long special effect reverb

This preset will put an infinite reverb cloud in your sonic sky. Note that this signal is very diffuse and focused on the mids—if it weren't, the effect would smother all other signals.

Use the preset as a special effect. Try laying it over a kick drum, a synth arpeggio or even an entire break in a drum loop. You can come up with a hip King Tubby-like effect if you slowly fade the bus channel that the plug-in is patched into in and out.

Tweaking tips: PlatinumVerb/GoldVerb

DENSITY	Lower values for a rawer, fatter effect
SPREAD	Lower values for a more subtle effect

Tweaking tips: SilverVerb/AVerb

REFLECTIVITY	Lower values for a more subtle effect
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PlatinumVerb/GoldVerb only

Demo 3, 1 (Cha 2 solo), 10

For drums, percussion, guitar, synthesizer

Fx—Metallic Whip

Adds fluttery, metallic overtones

This special effect reverb craves high send and effect levels.

Up Reverbtime a tad, then patch the signal to a gate plug-in to cut the reverb trail off as you please. This creates an even more drastic effect.

Tweaking tips: PlatinumVerb/GoldVerb

CROSSOVER	Lower values for a warmer sound (PlatinumVerb only)
DENSITY	Higher values for a tighter, more focused sound

Fx—Mr. Roboto

Resonance for synth drum effects and robot voices

Have some fun and route a signal to this effect at a relatively high send level or insert the plug-in into an audio channel for a change. This lets you warp the stuffing out of speech and vocals. You can also radically bend percussion sounds, for example, you could turn an acoustic conga into a Klingon war drum.

Tweaking tips: PlatinumVerb/GoldVerb

SPREAD	Tunes the resonance frequency
REVERBTIME	Higher values for a longer reverb trail

PlatinumVerb/GoldVerb only

Demo 3, 7, 14

For drums, percussion, synthesizer, speech

Fx—Feedback Bass

Resonance for ultra-low synth drum effects

With this effect, you can turn acoustic drums or percussion sounds into electronica-certified instruments. For example, you could turn an acoustic conga into the Martian equivalent of a very big jews' harp.

Tweaking tips: SilverVerb

REFLECTIVITY	Lower values for a shorter reverb tail (100 to 90)
DENSITY/TIME	Pitch of the resonant frequencies

SilverVerb only

Demo 3, 7, 11

For drums, percussion, synthesizer

Fx—Feedback Echo

Diffuse echo with loads of feedback

As its name would suggest, this preset creates a diffuse echo. With its relatively high feedback setting, it sounds quite complex. Use it when you need a brain damage-inducing psychedelic sound, for instance, for an ambient track.

Tweaking tips: AVerb

REFLECTIVITY	Lower values for fewer echoes and a more subtle effect
ROOM SIZE	Higher values for longer reverb times

AVerb only

Demo 3, 7, 11

For drums, percussion, synthesizer

SilverVerb and AVerb only

Demo 3, 7, 14

For drums, percussion, synthesizer, speech

Fx—Feedback Xtreme

Resonance for synth drum effects and warped vocals

Have some fun and route a signal to this effect at a relatively high send level or insert the plug-in into an audio channel for a change. This lets you radically bend vocals. A Reflectivity value of about 97 will elicit typical B-movie robot voices.

Tweaking tips: SilverVerb/AVerb

REFLECTIVITY Lower values for a shorter reverb tail (100 to 90)

DENSITY/TIME Pitch of the resonant frequencies

Demo 1, 6, 7

For drums, percussion, synthesizer

Fx—Rhythm Decay 90BPM

Rhythmic echo/reverb combination with a pumping sound

This reverb kicks in with a rhythmic delay, which generates a breathing, pumping sound.

You can vary the two Delay parameters to lock the effect into sync with any song tempo.

Tweaking tips: PlatinumVerb/GoldVerb

PREDELAY/ INITIAL DELAY The sum of the two values influences delay time.

INITIAL DELAY

Tweaking tips: SilverVerb/AVerb

PREDELAY Delay time

Demo 1, 6, 7

For drums, percussion, synthesizer, speech

Fx—Rhythm Reverse 90BPM

Rhythmic echo/reverb combination with reverse effect

Similar to ›Rhythm Decay,‹ this effect's backwards echo makes it sound somewhat more sophisticated.

You can vary the Er Predelay and Er Room Size to lock the effect into sync with any song tempo. This preset is a real chameleon, so once you've done that, be sure to try out the other parameter tweaking tips.

Tweaking tips: PlatinumVerb/GoldVerb

PREDELAY	Interval between the first echo and the dry signal
ROOM SIZE	Interval between individual echoes, in other words, delay time
SPREAD	Higher values for louder echoes
BALANCE	To the left for a more defined and percussive signal; to the right for a more diffuse signal

Tweaking tips: SilverVerb/AVerb

PREDELAY	Interval between the first echo and the dry signal
ROOM SIZE	Interval between individual echoes, in other words, delay time
REFLECTIVITY	Higher values for more echo repetitions

Fx—Toner

Adds a midrange tonal coloration

This program lets you mangle drums and percussion to create jaw-dropping effects.

However, extreme effects such as this can quickly grate your nerves. Try switching Bypass on and off rhythmically, for example, at every half-bar interval. Record this Bypass switching operation via Logic's onboard automation. When you're working on remix projects, this will yield a hip rhythmic component that is sure to impress your friends and thrill your audience.

Tweaking tips:

LOW LEVEL	Lower values for a leaner sound
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PlatinumVerb only
Demo 1 (Cha 2 solo), 4,
 11
 For drums, percussion, synthesizer

This is the only FX COLLECTION PRESET for PlatinumVerb that can't be anywhere near replicated in GoldVerb.

3 Delay

Logic has its own A-team of specialists for short echoes and the modulation effects that these can conjure up. With the Tape and Stereo Delay, the focus is on rhythmic, grooving echoes that can be synced up perfectly to the given song tempo.

Tape Delay

↓ Tape Delay Editor



↑ Tape Delay Controls—
additional parameters: DELAY
COARSE, DELAY FINE, DELAY UNIT,
SMOOTH, FLUTTER RATE and
FLUTTER INT.

This plug-in generates basic rhythmic echoes, the frequency band of which you can tweak as desired. With the built-in tape saturation simulation, this plug can deliver nice-and-sleazy dub delay grooves.

Standard signal routing option: SEND

- ▶ Insert the Tape Delay into a bus channel and tap into the plug-in via the send buses.

Handling

At first glance, this plug-in looks totally harmless. That, however, is deceptive. Under its mild-mannered exterior lurks a wild beast (two, actually) just waiting for you to pull its tail.

Groove Delays

A marvel of convenience, the Tape Delay can almost create rhythmic echoes on its own. Delay time is adjusted automatically to the song tempo. Use the four buttons to choose even meters. The Groove fader lets you shift the beat of the repetitions around a little to create dotted or triplet grooves to throw club-goers.

As usual, the Feedback parameter determines the number of echo repetitions. You can narrow down the frequency band of the echoes with the two Cut faders.

Modulation Effects

If in Controls mode you set Delay Unit to Ms, you can vary the Tape Delay freely so it no longer marches to the beat of the song tempo. You can then adjust the delay time yourself, which is rather boring. However, you can also modulate the delay time, which can be loads of fun:

- ◆ Flutter Rate determines the modulation speed.
- ◆ Flutter Int. determines the intensity of the effect or how drastically radical the modulation will warp the signal.
- ◆ Smooth, much like a soft sine modulation, smooths the signal when it is set to high values.

With these features, the Tape Delay can generate simple modulation effects reminiscent of a chorus or flanger. Take a look at the presets in this Fx category to see how this works.

If a rhythmic delay sounds too fat and chaotic, you should drag the CUT fader inwards. This is an instant weight-loss regimen and a lesson in restraint rolled into one.

Set LO-CUT to about 200Hz and HIGH-CUT to circa 7,000Hz for a typical tape echo sound. Each repetition will sound slightly muddier than the previous one, which creates a hip retro effect.

- ▶ The Tape Delay has a built-in tape saturation simulation. When the plug-in's input is overdriven, it will sound like creamy, fat analog distortion. Therefore, feel free to slap the Tape Delay's input silly with a high signal level if the sound you're working with could do with a little analog patina.
- ▶ The tape saturation effect is similar to the sound an analog multitrack tape machine produces when you feed it with fairly high signal levels. Producers like to use this trick to create a special sound, particularly to lend drums, guitars or basses a fatter, punchier, and more rough & ready edge.

Presets

In the selection menu of the Tape Delay, you'll find the Fx Collection presets listed by the following categories:

- ◆ Bin, Dot, Sync, Trip: Groove delays featuring different rhythms.
- ◆ Fx: A preview of modulation capabilities featuring chorus- and flanger-like effects.

BIN—...

Rhythmic echoes featuring even meters

These presets generate echoes that repeat in time with the specified even meter.

Tweaking tips:

FEEDBACK Lower values for fewer echo repetitions

HIGH/LOW CUT Toward the center for a typical tape echo sound

Demo 1, 5, 6, 10

For drums, percussion and any rhythmic material

DOT—...

Rhythmic echoes with dotted-note meters

These presets generate echoes that repeat in time with the specified dotted-note meters.

For example, a dotted quarter note is equal to three eighth notes, a dotted eighth note corresponds to three sixteenth notes.

Demo 1, 5, 6, 10

For drums, percussion and any rhythmic material

Tweaking tips:

FEEDBACK Lower values for fewer echo repetitions

HIGH/LOW CUT Toward the center for a typical tape echo sound

SYNC—...

Rhythmic echoes with syncopated notes

These presets generate echoes that repeat in time with the specified syncopated notes. These meters have odd numerators such as 5 or 7 and even denominators such as 8 or 16.

These lively grooves work particularly well with even meters—straight time, you know?

Tweaking tips:

FEEDBACK Lower values for fewer echo repetitions

HIGH/LOW CUT Toward the center for a typical tape echo sound

Demo 1, 5, 6, 10

For drums, percussion and any rhythmic material

TRIP—...

Rhythmic echoes featuring triplet grooves

These presets generate echoes with triplet note values.

A triplet is a group of three notes played in the time of two of the same value, so $3 \times$ an eighth triplet = two eighths = one quarter note. These rhythms in most cases yield a Reggae-type feel.

Tweaking tips:

FEEDBACK Lower values for fewer echo repetitions

HIGH/LOW CUT Toward the center for a typical tape echo sound

Demo 1, 5, 6, 10

For drums, percussion as well as any rhythmic material

FX—...

Chorus- and flanger-like modulation effects

These presets give you a glimpse of the Tape Delay's modulation capabilities. If you want classic chorus or flanger effects, you're better off using the plug-ins of the same name because they're designed specifically for these effects and are,

Demo 19, 10, 16

For guitar, synth pads, drums

of course, far better suited for this purpose. Plus, they're more variable.

Tweaking tips:

FLUTTER INT	Higher values for a more intense modulation
FLUTTER RATE	Modulation speed
FEEDBACK	Higher values for more resonance and coloration

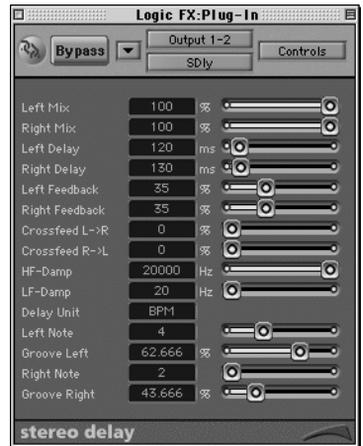
Stereo Delay

The plug-in's forte is generating a different echo pattern for each of the two stereo channels. If you fine-tune the feedback between the two channels, you can come up with interesting delay grooves.

Standard signal routing option: SEND

- ▶ Insert the Stereo Delay into a bus channel and route signals to the plug-in via the send buses.

↓ Stereo Delay Editor



- ↑ Stereo Delay Controls—additional parameters: LEFT DELAY, RIGHT DELAY, DELAY UNIT

Handling

Despite the many shared features, the Stereo Delay is not merely a ›Tape Delay Mk II.« Along with the stereo grooves, there are other differences between the two:

- ◆ You won't find the tape saturation simulation of the Tape Delay here so you can't imitate warm-and-fuzzy analog echoes with this plug. On the upside, the Stereo Delay buffers slightly overdriven signals that are piped into its input to spare your ears ugly digital distortion.
- ◆ Here too, you can cut the umbilical cord between delay time and song tempo by setting the Delay Unit parameter to Ms in Controls mode. However, the Stereo Delay doesn't offer any modulation options, so that won't be of much use. Although you can create resonance with it, other Logic plug-ins are far better equipped to generate this type of effects.

I don't want to rain on your parade, so if you want to experiment, go for it. However, this is a conceptual thing: the Stereo Delay is tweaked to deliver squeaky clean, transparent sounds because the stereo echoes are usually complex enough as it is. You'd do well to abide by this concept.

Stereo Grooves

All presets deliver combination echo patterns, for instance, a quarter note groove on the left side with an eighth note beat on the right. The feedback circuits are always disabled so that these delay rhythms as well as the selection menu don't end up being a labyrinthine mess. Once you've selected a preset, you can however quickly tweak it to deliver more echoes and sonic space:

- ◆ **Left/Right Feedback:** When you turn both Feedback knobs up, the Stereo Delay behaves like two mono delays. You'll hear more repetitions, but each of the two echo rhythms will remain on its stereo side.

▶ This variant sounds more transparent, the stereo effect is weaker.

◆ **Crossfeed:** When you turn both Crossfeed knobs up, the feedback circuits are crossed. You'll hear a bit of the right echo rhythm on the left side and vice versa. This creates a nice pendulum effect.

▶ This variant sounds more complex, the stereo effect is stronger.

Unsymmetrical configurations may also float your boat: Try using Crossfeed on one side only. Deactivate it altogether or use a pinch of Feedback as a mono accent on the other side.

▶ These presets enable you to swiftly try out different echo combinations. If you've found something that works for you but you find it a tad too chaotic for practical purposes, proceed as described in the Tape Delay chapter: simply drag the CUT fader inwards in order to slim down the echo.

▶ Bear in mind that this tweaking operation will affect both echoes. If you want to manipulate one side only, simply ›port‹ the stereo echo effect to two Tape Delays:

- 1 Memorize or jot down the name of the Stereo Delay preset: ›DOT-1_02 + D 1_04,‹ for example, indicates a half note (1_02) on the left and a dotted quarter note (D = DOT 1_04) on the right.
- 2 Send the Stereo Delay back to the digital limbo from where it came and patch a separate Tape Delay into each of two mono bus channels. Set the panorama of one bus channel to the far left, that of the other to the far right.
- 3 Call up the preset ›BIN-1_02,‹ which equals a half note, in one Tape Delay.
- 4 Call up the preset ›DOT-1_04,‹ which equals a dotted quarter note, in the other Tape Delay.
- 5 Now you have the same echo groove as in the Stereo Delay, except that it is generated by two separate plugs ...
- 6 Set the CUT fader on one delay so that it lets just the bass frequencies pass; set the other delay so it lets just the treble frequencies pass.
- 7 Saturate the input of the first Tape Delay by turning up the appropriate Bus knobs on the given channels.

For delay grooves, FEEDBACK or CROSSFEED values of 15% to 40% are standard. For special effects with endless ›clouds‹ of echoes, you can bring up the values to about 90%. However, watch out that the echoes don't take on a life of their own because once they started building up, their level can become unspeakably loud.

- 8 Insert a modulation plug-in behind the delay, but only in the second bus channel ...

As you can see, this type of setup can give you hours of tweaking and experimenting pleasure. Enjoy.

Presets

In the selection menu of the Stereo Delay, you'll find the Fx Collection presets listed in categories called Bin, Dot and Sync, all of which offer groove delays with different rhythms.

BIN—...

Delay combination of two even note values

Here we're dealing with even note values only, which yields clear, straightforward delay rhythms.

Tweaking tips:

CROSSFEED	Higher values for more ping-pong echoes
FEEDBACK	Higher values for more echoes on the given side
HIGH/LOW CUT	Toward the center for a typical tape echo sound

DOT—...

Delay combination with at least one dotted note

Here at least one dotted note groove is used, which calls forth ›swingin'‹ delay rhythms.

Tweaking tips:

CROSSFEED	Higher values for more ping-pong echoes
FEEDBACK	Higher values for more echoes on the given side
HIGH/LOW CUT	Toward the center for a typical tape echo sound

SYNC...

Delay combination with at least one syncopated note

Here at least one syncopated note groove is used, which elicits even more complex delay grooves—polyrhythmic echoes, so to speak.

Demo 1, 5, 6, 10

For drums, percussion and any rhythmic material

Demo 1, 5, 6, 10

For drums, percussion and any rhythmic material

Demo 1, 5, 6, 10

For drums, percussion and any rhythmic material

Tweaking tips:

CROSSFEED	Higher values for more ping-pong echoes
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FEEDBACK	Higher values for more echoes on the given side
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HIGH/LOW CUT	Toward the center for a typical tape echo sound
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4 Dynamic

The value and impact of dynamic processing operations are often underestimated because they can't be heard up-front like other effects. However, particularly in jam-packed arrangements where punch and transparency are essential, you simply can't do without professional-quality dynamic effects.

Compressor and Silver Compressor

These plug-ins reduce the dynamic range of signals. They can iron out the peaks in a signal and then boost the level of the flattened signal. This yields a ›tighter‹ signal that sounds, at least subjectively, louder.

Standard signal routing option: INSERT

↓ Compressor Editor



↑ Compressor Controls—
additional parameter: REGION GATE

The Silver Compressor is a bit bare-bones, meaning that it is equipped with just the fundamental parameters. This is not a problem, though, it will only restrict you when you want to ›micro-manage‹ a signal by tweaking it super-subtly.

Silver Compressor Controls



- ▶ Insert the compressor into an input channel or a bus channel which is used as a subgroup or has been switched to Solo mode. With the exception of Logic Audio Silver, you can also insert these plugs into the stereo master channel.

Compressor Features

The design and features of the Logic's compressors are pretty much what you'd expect from any standard compressor. They're explained in depth in the Logic manual, so without further ado, let's take a whirlwind tour and look at a couple of handling tips:

- ◆ **Threshold:** The signal level is attenuated as soon as it exceeds this boundary. If you set the Threshold fader way down low, the level of even soft signals will be reduced.
Call up the NEUTRAL preset and set it to a medium value. Then set THRESHOLD so that the GAIN REDUCTION display twitches strongly only at signal peaks.
- ◆ **Ratio** determines the compression ratio. The higher this value, the more the signal level is attenuated.
For ›sensitive‹ audio material such as a mixdown or solo vocals RATIO values of 2:1 to 4:1 will suffice. The peak value of 30:1 yields a merciless limiter effect that cuts peak levels off hard.
- ◆ **Attack** determines the response speed. At a value of 10ms, the initial ›kick‹ of a kick drum will pass before the compressor can intervene. This lets you make every percussive sound a touch snappier.

When you're ready to mix tracks down and want them to sound as punchy as possible, you should set ATTACK to a value from 0 to no higher than 2ms. Values between 10 and 50ms yield a more percussive mix.

- ◆ Release determines how soon the dry signal will be allowed to pass unimpeded when its level falls below the defined Threshold. The effect that this parameter has is most conspicuous when you're processing percussive signals.

RELEASE values can be touchy when they're set too low because this will evoke that universally dreaded compressor pumping. Anything less than 15ms is counterproductive, even for drums. Values above 100ms will work nicely for mixdowns. They're also a cure-all when you feel that a compressor has flattened out a percussive signal such as a tom or snare drum a tad too much.

GAIN REDUCTION Display

One great advantage that the Compressor has over the Silver Compressor is its Gain Reduction display. The further this display deflects to the left, the more the signal is being attenuated at that moment. This is an invaluable visual aid when you're trying to set the right Threshold values.

How far should the Gain Reduction display twitch? That of course depends on the type of signal you're dealing with and the effect that you're trying to achieve. For standard compression effects, about -6dB , roughly a third of the range of the display, is a good place to start. When the display stays within this range, compression will normally be audible but not too obtrusive.

Tips

Next to the standard features, the Logic Compressor offers some special parameters that deliver subtle, occasionally even somewhat esoteric, effects:

- ◆ Peak/Rms: In Peak mode, the Compressor responds to even the most fleeting signal peaks. In Rms mode, it re-

sponds a little later and less swiftly. According to the manual, Rms mode is more ›musical;‹ in my view, it's too slow for percussive signals.

- ◆ **Knee:** The minimum value of 0 makes the Compressor sound very brittle. Values around 0.4 are good for drums, higher values of up to 1.0 are better for less obtrusive processing.
- ◆ **Auto Gain** is supposed to adjust the output level automatically, giving you the ideal signal level in the process. Alas, the results are rarely satisfactory in practice. For this very reason, all Compressor presets work without this feature. This means that you'll have to adjust the Gain fader manually.
- ◆ **Region Gate:** This Controls parameter is an artifact, a left-over from older Logic plug-ins. It was once used to switch the plug off when an audio region of the incoming signal came to an end. For plug-in effects like reverb or delay that lengthen signals, this was a handy option to conserve computing power or create gate effects. I haven't noticed that this feature has any effect in the Compressor. If you agree, you can leave it On; it certainly doesn't seem to do any harm.
- ▶ You'll also find the **REGION GATE** parameter featured in some other Logic-plug-ins' **CONTROLS** mode.

Silver Compressor Features

The Silver Compressor is limited to the most important parameters: Threshold, Ratio, Attack and Release.

Regrettably, the Silver Compressor doesn't offer a volume or gain control for its output level. This means that you'll have to use the volume fader of the audio channel into which you've patched the Silver Compressor to adjust levels.

- ▶ The Silver Compressor always works in PEAK mode; it doesn't offer the «kinder, gentler» RMS mode. AUTO GATE is always active in the Silver Compressor.
- ▶ By virtue of these features, the Silver Compressor's performance can rival that of its big brother when you're trying to achieve drastic special effect compression or when you're processing extremely percussive signals. However, if you own both plug-ins, the Compressor is a far better tool for processing mixdowns inconspicuously; it is also the preferred option for most acoustic instruments.

Presets

In the selection menu of the Compressor and Silver Compressor, you'll find the Fx Collection presets listed by the following categories:

- ◆ Channel: These are designed for processing individual signals.
- ◆ Master: These are designed for processing complex signals, that is loops or mixdowns.
- ◆ Fx: These are designed for fairly radical dynamic processing operations, for example, for perking up ho-hum drum loops.

The following tweaking tips will work for all Channel presets:

Tweaking tips:

THRESHOLD	Lower values for a more intense effect
GAIN	Adjusts the output level to compensate for the change in levels (Compressor only)
ATTACK	Lower values for shorter attack

CHANNEL—Bass Slap

Compressor for slap bass and funky guitar grooves

A universal program for lean, percussive bass sounds and guitars. The string noise is stressed, which makes sounds slimmer and snappier.

The easiest way to check out dynamic presets in the Demo song is to set all channel faders to 0, and insert the plug-in into bus channel 1 and then set it to Solo.

Demo 8, 10, 20

For funk bass, synth bass, choppy guitar chords

- Demo 9, 8**
For bass, synth bass
- CHANNEL—Bass Smooth**
Compressor for standard bass sounds of medium length
A universal program for standard bass sounds. It is suitable for double basses that are plucked (as opposed to bowed) and similar-sounding synth bass sounds.
- Demo 1 (Cha 1 solo)**
For kick drum
- CHANNEL—Bassdrum**
Compressor for kick drums
Laid over a kick drum channel, this preset evokes a punchier sound. The bass drum's ›kick‹ is emphasized slightly.
- Demo 19, 20, 10**
For e-guitar synth arpeggios
- CHANNEL—E-Guitar**
Compressor for electric guitar sounds
Guitarists usually provide a compressed signal anyway, so this preset's effect is relatively weak. If, however, you patch in a guitar signal direct-to-desk, you can try bringing up the Ratio parameter to about twice the value. This is particularly effective to great tight-as-spandex heavy metal sounds.
- Demo 17**
For piano sounds
- CHANNEL—Piano**
Compressor for acoustic and synthetic piano sounds
This is a rather gentle, inconspicuous compressor effect for piano sounds. If you're after a crisper sound, you can up the Attack value to about 20ms.
- Demo 1 (Cha 2 solo)**
For snare
- CHANNEL—Snare Long**
Compressor for longer snare drum sounds
This preset emphasizes the sound of the snare carpet on snare hits that have lengthy sustain so that the sound will seem bigger.
- Demo 1 (Cha 2 solo)**
For snare
- CHANNEL—Snare Punch**
Compressor for punchy snare drum sounds
This preset boosts the attack noise of snare hits to achieve a snappier, more percussive snare sound.

CHANNEL—Vocals Choir

Compressor for harmony vocals

Demo 14, 13

Generally, when you're mixing harmony vocals, you want a very dense, smooth sound. Bear in mind that, for back-up vocals, you usually don't want the kind of dynamic leeway that you'll grant lead vocalists. For this reason, this preset is far less forgiving than its Solo Vocal counterpart.

For choir, speech

CHANNEL—Vocals Solo

Compressor for lead vocals

Demo 13, 14

This preset is suitable for treating solo vocal parts in general, meaning both lead vocals and spoken-word recordings.

For lead vocals, speech

MASTER—Compression

Moderate master compression

Silver Compressor only

A standard master signal compressor for dynamic material.

Demo 5, 7, 2

Tweaking tips:

THRESHOLD Lower values for a more intense effect

For stereo mixdowns, complex loops

MASTER—Compression +

Stronger master signal compression

Silver Compressor only

This preset is identical to ›Compression,‹ except that here the compression amount is doubled. This yields a ›louder,‹ denser sound.

Demo 5, 7, 2

Be sure to listen closely for any undesirable side effects, for example a rougher sound or an ugly pumping effect.

For stereo mixdowns, complex loops

Tweaking tips:

THRESHOLD Lower values for a more intense effect

MASTER—Limiter

Limiter

Demo 5, 7, 2

This limiter program only flattens signal peaks, frequencies in the middle and lower dynamic range are not influenced. Use this preset when you want to whip your master signal

For stereo mixdowns, complex loops

into shape to assure that it doesn't exceed the upper dB Fs limit, but don't want to hear audible compression. This is an effortless, sure-fire method to prevent digital distortion.

The following tweaking tips will work for all master settings:

Tweaking tips:

THRESHOLD	Lower values for a lower peak level
GAIN	Adjusts the output level to compensate for the change in levels (for low THRESHOLD value only).

Compressor only

Demo 5, 7, 2

For stereo mixdowns,
complex loops

MASTER—Punchy

Moderate master compression for percussive material

This is a standard master compressor for dynamic material where drums and percussion dominate.

Compressor only

Demo 5, 7, 2

For stereo mixdowns,
complex loops

MASTER—Punchy +

More intense master compression for percussive material

This preset is identical to ›Punchy,‹ except that here the compression amount is doubled. This yields a ›louder,‹ denser sound.

Be sure to listen closely for any undesirable side effects, for example a rougher sound or an ugly pumping effect.

Compressor only

Demo 5, 7, 2

For stereo mixdowns,
complex loops

MASTER—Soft

Moderate master compression for less dynamic material

This is a standard master compressor for more ›placid‹ material dominated by pads or vocals and the like.

Compressor only

Demo 5, 7, 2

For stereo mixdowns,
complex loops

MASTER—Soft +

More intense master compression for less dynamic material

This preset is identical to ›Soft,‹ except that here the compression amount is doubled. This yields a ›louder,‹ denser sound.

Be sure to listen closely for any undesirable side effects, for example a rougher sound or an ugly pumping effect.

Fx—Killer Attacks

Special effect lo-fi compression with over-the-top attack emphasis

Demo 5, 7

Here the attack—that is, hits on drums and percussion instruments—is boosted to an extreme. This effect is fairly heavy, so it’s ideal for special effect drums in electronica/industrial tracks.

For drum loops

Tweaking tips:

ATTACK Length of the emphasis on hits; higher values for longer sound

Fx—King of Release

Special effect lo-fi compression with over-the-top attack de-emphasis

Demo 5, 7

Here the attack—that is, hits on drums and percussion instruments—is attenuated to an extreme. As a result, other signals become more prominent. Guitars, cymbals or reverb trails sound much louder. This yields a bizarre but interesting ›wobbly‹ effect.

For drum loops

The effect does warp the signal fairly radically, but it’s not something that will make your ears bleed. For this reason, it works nicely with meditative or more tranquil tracks with an ambient flavor. Try the preset out on synth arpeggios, percussion tracks or even on a break or bridge of a complete master mixdown.

Expander

An expander is also standard dynamics processing gadget found in most every mix mechanic’s toolbox. However, it’s not nearly as widely known because it’s rarely needed in practice.

An expander is the opposite of a compressor—it boosts the peaks and thus ›expands‹ the dynamic range of a signal.

Standard signal routing option: INSERT

With this plug-in, you can breathe new life into tracks or loops that have had all the dynamics compressed out of them at some prior processing stage.

- ▶ Insert an expander into an input channel or a bus channel which is used as a subgroup or has been switched to Solo mode. With the exception of Logic Audio Silver, you can also insert these plugs into the stereo master channel.

↓ Expander Editor



↑ Expander Controls—
additional parameter: REGION

Handling

Because the expander is in essence an inverted compressor, you'll find similarities between their parameters:

- ◆ **Threshold:** As soon as the signal level exceeds this boundary, it is *boosted*. If you set the Threshold fader way down low, the level of even very soft signals is amplified.
- ◆ **Ratio** determines the *expansion* ratio. The *lower* this value, the more the signal is *boosted*.
- ◆ **Attack** determines the speed of response. At a value of 10ms, the initial ›kick‹ of a kick drum will pass without the expander intervening. This lets you *boost* just the ›boom‹ rather than the ›kick‹ of a kick drum or snare.

- ◆ Release determines how soon the dry signal will be allowed to pass unimpeded when its level falls below the defined Threshold. The effect that this parameter has is most conspicuous when you're processing percussive signals.

All other ›special‹ parameters function just like their counterparts on the Compressor. In other words, they let you determine the response of the effect, whereby anything from very faint to bull-in-a-china shop reactions are possible. However, you usually want an expander to respond swiftly and audibly, so Peak mode = On, Knee = 0 and Auto Gain = Off are settings that will generally serve you well. If you need more info on these parameters, check out the section ›Compressor and Silver Compressor‹ from page 61 onwards.

- ▶ Bear in mind that this plug-in reverses the effect—boosting signals so that they seem subjectively louder—that has made the compressor such a popular processing tool. The expander amplifies the differences between loud and soft passages, so the overall signal is less compact. It sounds softer and therefore, on average, has less energy.
- ▶ Incidentally, if you own Logic Audio Platinum, you have a tool aboard that is in most cases preferable to the Expander. The Enveloper normally delivers better results. Plus, it's easier to understand.

The expander makes signals appear to be softer, so you generally shouldn't use this plug-in to process mixdowns!

Presets

In the selection menu of the Expander, you'll find the Fx Collection presets listed by the following categories:

- ◆ Crisp: brief, punchy boost of attack noises.
- ◆ Long: longer emphasis on entire percussion instruments, for instance individual snares.
- ◆ Slaggy: presets that accentuate but wash out attack noise.

The easiest way to check out dynamic presets in the Demo song is to set all channel faders to 0, and insert the plug-in into bus channel 1 and then set it to Solo.

Demo 5, 7—or 1 plus lots of reverb

For drums, loops, percussion, guitars, basses

The Expander will only produce an audible effect if the input signal already has discernible dynamics. These presets work best with crisp drum loops that have been treated with reverb.

CRISP/LONG/SLAGGY—Punch...

Upward expander for more dynamics

Laid over percussive material and loops, the following presets will:

- ◆ emphasize attack noises to even greater degree, and
- ◆ de-emphasize reverb trails, which are usually already much softer than the attack noises.

The numbers in the preset names indicate its effect intensity: 1 yields the most subtle, 4 the most drastic effect.

Tweaking tips:

THRESHOLD	Lower values for a more intense effect
RATIO	Amount of boost; further to the left for a more drastic effect
GAIN	Adjusts the output level to compensate for the change in levels

Standard signal routing option: INSERT

Enveloper

Don't make the mistake of considering the Enveloper merely a variation of the Expander, for it offers truly novel dynamics processing options. When you want to manipulate the attack or release phases of percussive signals, this effect puts all other Logic plugs to shame. Small wonder, then, that you'll only find this luxury plug in the high-end Platinum package only.

- ▶ Insert the Enveloper into an input channel or a bus channel which is used as a subgroup or has been switched to Solo mode. With the exception of Logic Audio Silver, you can also insert these plugs into the stereo master channel.

↓ Enveloper Editor



↑ Enveloper Controls

Handling

With just a little dynamics processing experience, you'll be able to handle the Enveloper intuitively.

Threshold

Threshold determines the point at which the effect kicks in. All signals that lie above this boundary are processed.

Unlike on the Compressor and Expander, here Threshold does not define the boundary between Attack and Release. Rather, the algorithm is of the ›intelligent‹ variety, and decides on its own whether it is dealing with an attack or a release phase. This means that on the Enveloper you can set Threshold to minimum values when you want a particularly intense effect.

Dynamic Envelope

You can determine what happens to the signal in its Attack and Release phases separately via the following two parameters:

- ◆ Time defines the amount of processing time. For the Attack phase, for example, you can use it to determine if

just the initial impact (short) of a snare hit or the entire hit (long) is boosted.

- ◆ Gain defines the amount of boost (positive values) or cut (negative values). In the case of the Release phase, this influences how much a signal such as a reverb trail is amplified or attenuated.

The display gives you a visual indication of the effect that the current settings for the Time and Release parameters are having: The green line represents the normal, unprocessed signal. The orange line indicates to which extent the processed signal deviates from the original, which tells you exactly what the effect is doing to the input signal.

Lookahead

LOOKAHEAD is critical for softer, sustaining signals such as finger-picked or arpeggiated electric guitars. If the effect sounds raw, distorted or fluttery, you should set a slightly higher LOOKAHEAD value. This will always eliminate the unwanted side effect.

Lookahead lets you determine how far ahead the algorithm will look into the crystal ball. During audio playback, it cheats a little and takes a peek at data that is about to be sent from the hard disk to the plug.

Values that are too high deaden the response of the effect, which of course is not good when you want to boost Attack phases. The minimum value of 0ms is generally not hip either because it will produce an audible click. Moderately low Lookahead values of 2 to 10ms have proven effective in practice.

- ▶ Particularly with positive ATTACK GAIN values—i.e. when you're boosting attack phases—same thing said for the Expander holds true for the Enveloper: The overall signal will sound softer because it has a lower average energy.

Presets

In the selection menu of the Enveloper, you'll find the Fx Collection presets listed by the following categories:

- ◆ **Attack:** These manipulate the attack phase by either boosting or cutting drum hits, hammer noises, picking noises...
- ◆ **Release:** These manipulate the release phase by either boosting or cutting cymbals, guitar chord, reverb trails...
- ◆ **A+R:** These are combinations where the attack and release phases are processed to expand or compress signals.

The easiest way to check out dynamic presets in the Demo song is to set all channel faders to 0, and insert the plug-in into bus channel 1 and then set it to Solo.

ATTACK—Klick ±, Punch ±

Boost (+) or cuts (-) attack noises

Demo 2, 6, 10

These presets will achieve astounding results when you want to manipulate the dynamics of individual drums beats, spanky guitar chords or other percussive signals:

For drums, percussion, guitar, bass

- ◆ The attack phase is stressed by the ›+‹ presets, meaning that the attack noise will come through more clearly. The signal sounds crisper, more percussive and punchier—in a nutshell, it will cut through the mix better.
- ◆ The attack phase is cut by the ›-‹ presets, meaning that the attack noise will become less distinct. The signal sounds a little more washed out, indirect and softer.

›Klick‹ and ›Punch‹ in the preset names indicate how fast the effect responds and how it shapes the given sound:

- ◆ The two ›Klick‹ presets process just a very short time window. These work best with very fast, lean sounds, say, to manipulate the click of a drumstick hitting a hi-hat. In the case of a snare, these preset will generally just boost that high-frequency click you hear when the stick first hits the head.
- ◆ The two ›Punch‹ presets manipulate a bigger window of time. In the case of a snare, they'll generally boost the entire ›belly‹ of the signal—the boomy sound created by the shell. This type of processing doesn't produce the kind of

top end sizzle that you can conjure up with the ›Klick‹ presets. Instead it adds more body to the signal.

Tweaking tips:

ATTACK GAIN (left)	Less deviation from the center 0 position for less boost (0 to +50%) or cut (0 to -50%) and a weaker effect
OUT LEVEL	Adjusts the output level to compensate for the change in levels

ATTACK—Slow Fade in

Turns a hard attack into a fade-in

Demo 1 (Cha 6 solo), 9
For cymbals, e-guitar, bass

This preset gradually fades in a sound's attack phase similar to the effect produced when you slowly pull up a fader on a mixer.

This preset only works when the dry signal consists of individual audio events that are clearly separate of one another. It won't work when, for example, your real or virtual drummer has incessantly pounded a ride cymbal, thus creating a continuous carpet of sound.

This effect will deliver the niftiest results when the dry signal kicks in hard and fades over a long period, say something like a cymbal or gong produces. If you slap it on an electric guitar, you can simulate that bowed or pedal steel effect when players hit a string first and then turn up the volume knob.

Tweaking tips:

ATTACK GAIN (left)	Higher values for less cut and a weaker effect
ATTACK TIME (left)	Lower values for a faster fade-in
OUT LEVEL	Adjusts the output level to compensate for the change in levels

RELEASE—...

Boosts (+) or cuts (-) the release phases of reverb trails

Demo 5, 7, 17

For drums, percussion, guitar, reverb trails

These presets influence the release phase only, for example fading cymbals, the rattle of a snare carpet, or the dying strains of guitar chords.

They'll deliver compelling results with signals that have a powerful, long-sustaining reverb trail. Notably, here the reverb effect is treated as the release phase, which means it

can be manipulated fairly well in isolation from the dry signal. For example, you can use the ›-‹ or ›Mute‹ preset to suppress the reverb on a vocal sample that is drenched in cavernous reverb.

- ◆ The ›+‹ presets stress the release phases: reverb trails become more prominent; the more intense ›++‹ effect even yields a pumping sound. In a nutshell, the signal will sound washed out, more airy and as if it were emanating from a greater distance.
- ◆ The ›-‹ preset attenuates the release phase, the ›Mute‹ preset generally suppresses them altogether. The signal sounds more direct, clearer and tighter.

Tweaking tips:

RELEASE GAIN (right)	Less deviation from the center 0 position for less boost (0 to +50%) or cut (0 to 50%) and a weaker effect
RELEASE TIME (right)	Lower values for a shorter time period and a faster but more inconspicuous effect
OUT LEVEL	Adjusts the output level to compensate for the change in levels

A+R—...

Makes attack and release phases more focused or more diffuse

Demo 5, 7, 2

These presets are a combination of the previous two categories. They'll always manipulate both the attack and release phases:

For drums, percussion, loops

- ◆ The ›Crisp‹ presets boost the attack noise and cut the reverb trail. This creates a tighter, crisper and more direct sound.
- ◆ The ›Muddy‹ presets cut the attack noise and boost the reverb trail. This creates a softer, roomier and more diffuse sound.

Tweaking tips:

ATTACK GAIN	Less deviation from the center 0 position for less boost (0 to +50%) or cut (0 to 50%) of the attack noise
RELEASE GAIN	Less deviation from the center 0 position for less boost (0 to +50%) or cut (0 to 50%) of the reverb trail
OUT LEVEL	Adjusts the output level to compensate for the change in levels

Noise Gate

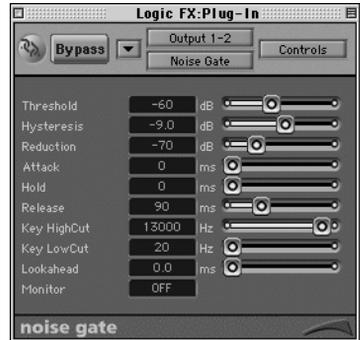
With the advent of digital technology, noisy recordings are largely a thing of the past. Although the Noise Gate will let you do just that—excise noise from your tracks—it can do far more.

Standard signal routing option: INSERT

Forget just for a moment the ›Noise‹ in its name and you end up with a ›Gate.‹ And a versatile gate it is, for it lets you do stuff like cut individual snare beats from a loop; it will even do the job of a de-esser.

- ▶ Insert the Noise Gate into an input channel or a bus channel which is used as a subgroup or has been switched to Solo mode. With the exception of Logic Audio Silver, you can also insert these plugs into the stereo master channel.

↓ Noise Gate Editor



↑ Noise Gate Controls

Handling

Think of the Noise Gate as an automated mixer fader: it is pulled down automatically as soon as the signal falls below the defined Threshold level.

The concept here is simple enough: In a noisy recording, the instrument (useful signal) is generally much louder than the noise floor.

So whenever the instrument isn't playing and the signal falls below a certain threshold, the noise gate kicks in, cutting the noise from the signal.

In practice, the trickiest chore when you're using this type of a gate is finding the ideal threshold. You should always take a painstaking approach to this task chore, for it determines how much useful signal and how little noise you end up with.

Fine-tuning Tips

The Noise Gate offers a bunch of nifty setting options for a wide range of signal processing options:

Reduction determines how tightly the gate slams shut. A value of -30dB , for instance, won't mute the noise altogether, it will merely make it far softer. This will sound better with extremely noisy signals because the gate won't be nearly as conspicuous when it does its thing.

Hysteresis defines a certain zone in which the gate closes. This is important so that the sound doesn't chatter. According to the Logic manual, -6dB is a good starting value, but higher values of up to -12dB are often better.

Attack lets you determine how swiftly the gate closes, Hold how long it stays closed, and Release how fast it opens up again. If you use these parameters to emulate the inherent dynamics of the useful signal, the gate will do its thing less obtrusively.

- To get a feel for how this works, you may want to take a closer look at the parameter values of the presets.

Like on the Enveloper, Lookahead determines how far ahead the program will look to analyze incoming data. We're not concerned with cobra-like response here, so medium values are usually okay.

Setting a Frequency Range

In the Sidechain section, you'll find an integrated filter that let's you focus the gate's attention on a variable frequency range:

- 1 Switch on MONITOR so that you can hear the filter directly.
- 2 Define the frequency range with the two CUT faders so that you end up with as much useful signal and as little noise as possible.
- 3 Switch MONITOR off and readjust THRESHOLD.
- 4 The gate should now open and close more precisely.

Processing Individual Instruments in a Loop

The presets of the Only category are great for processing drum loops:

- 1 Copy a drum loop to three different audio tracks.
 - 2 Insert a separate Noise Gate plug-in into each of the three audio channels.
 - 3 Call up an ONLY preset in the first channel to isolate the kick drum, then call up a second preset for the snare, and a third preset for the hi-hat.
 - 4 Adjust the THRESHOLD parameters until you hear only the desired signal over each of the channels.
 - 5 Now you can process the kick drum, snare and hi-hat with different EQ settings and effects such as reverb or delay.
- Obviously, the way a gate will work depends largely on the signal that it is working with. In practice, gates will deliver good but rarely perfect results. Ergo, when you're using a gate, you'll have to dig deep into your tolerance bag and be willing to pull out a compromise.

- ▶ You can practice this virtue with Demo song example 21—by design, it's a noisy one. With it, you'll find out exactly what a gate can and, perhaps more importantly, cannot do.

Presets

In the selection menu of the Noise Gate, you'll find the Fx Collection presets listed by the following categories:

- ◆ No Noise: These are various classic noise gate presets.
- ◆ Voice: Here you get a de-esser for cutting and an esser for boosting sibilants in vocals and speech.
- ◆ Only: These emphasize individual instruments in a mix or loop.
- ◆ Remove: These de-emphasize individual instruments in a mix or loop.

No NOISE—...

Noise gates for noise suppression

These presets are classic noise gates for fading out noise during pauses in any signal. There are several variations here, each designed to deal with different types of noise in different signal processing scenarios:

- ◆ ›High‹ is your best bet when you want to combat high-end noise such as hiss. ›Mid‹ is recommended for muddier noise such as hum.
- ◆ ›Fast‹ is usually the better option if your useful signal is percussive, for instance, if percussion instruments dominate the track. ›Slow‹ is less aggressive and thus better for speech and acoustic instruments.
- ◆ ›Gate‹ silences the noise carpet completely during pauses in the signal, ›Floor‹ simply makes it far softer. Particularly when you're dealing with a very noisy signal, ›Floor‹ is often the better choice because the noise gate is not nearly as obtrusive.

The easiest way to check out dynamic presets in the Demo song is to set all channel faders to 0, and insert the plug-in into bus channel 1 and then set it to Solo.

Demo 21

For any material marred by noise

To assure that these presets work as intended, you must always adjust the THRESHOLD parameter by ear!

In real problem cases, give one of the Only presets a shot because these programs can also be used for noise reduction.

Tweaking tips:

THRESHOLD	Lower values if you can't hear anything at all or the useful signal sounds choppy; higher values if the noise is not silenced during pauses in the signal
REDUCTION	Controls the amount of noise suppression during pauses in the signal
ATTACK	Higher values if, for example, the beginnings of words are cut off in spoken-word recordings
RELEASE	Higher values if, for example, the ends of words are cut off in spoken-word recordings

VOICE—De-Esser...No-Esser

Various de-essers for reducing sibilants

You remember Kaa, the snake in the Jungle Book? It was in dire need of a de-esser. You'll need a de-esser when the >s< sounds of vocals or speech hiss unpleasantly. These presets suppress specifically these sibilants. If you tweak them properly, the >Light< or >Moderate< versions will usually do the trick.

The >No-Esser< preset mutes sibilants completely. It lets you do stuff like suppress the sibilants of harmony vocals in a multi-tracked chorus section so that the lyrics of the chorus become more intelligible and precise.

- ▶ Proceed with caution and restraint when you're using these de-esser presets. Our ears are primed to the human voice, they're very sensitive and immediately register anything that sounds in the least bit artificial. If you're not careful, a slight hiss can quickly turn into strong lisp. Tweak the presets by ear and, while you're at it, constantly A/B the wet and dry signals by punching the BYPASS button repeatedly.

Tweaking tips:

THRESHOLD	Lower values if the voice sounds choppy; higher values if the sibilants are not reduced
REDUCTION	Lower values for a stronger reduction of sibilants

Demo 13, 14

For vocals, speech

VOICE—Esser Light/Strong

Esser for boosting sibilants in vocals and speech

This are the antithesis of the De-esser presets. In the unlikely event that you went overboard with a de-esser and the original recording no longer exists, these effects can save the day.

Tweaking tips:

THRESHOLD	Higher values if the vocals sound choppy or too soft; lower values if the sibilants aren't boosted
REDUCTION	Higher values for stronger emphasis on the sibilants

Demo 13, 14

For vocals, speech

ONLY—...

Gates for isolating specific instruments in a mix

These presets will only let the instrument pass that is indicated in the name of the given preset. Whenever this instrument is audible, all other signals are muted.

Tweaking tips:

THRESHOLD	Lower values if you can't hear anything at all or the targeted instrument sounds choppy; higher values if the other instruments aren't silenced during pauses in the signal
REDUCTION	Controls how much the other signals are suppressed during pauses
ATTACK	Higher values if the front end of the targeted signal is being cut off
RELEASE	Higher values if the back end of the targeted signal is being cut off

Demo 1, 5 (Drums),
2, 3 (Percussion)

For loops

These effects can't and won't work when an instrument's level is extremely low in relation to those of the other instruments. Try it out with Demo example 1 and, when necessary, balance out the mix accordingly.

REMOVE—...

Gates for removing specific instruments from a mix

These presets are designed to do the opposite of what their counterparts in the ›Only‹ category do: Here the instrument cited in the preset's name is suppressed so that, once it's been processed, it sounds softer and somewhat more washed out than the other signals.

Demo 1, 6, 7

For loops

While the effect of the kick drum and snare presets kicks in relatively hard, the ›Cymbal‹ preset creates a fade-in effect: when a cymbal is struck, it will sound as if you slowly pulled up a channel fader on a mixing console.

All three presets are great if you want to spice up a conventional-sounding drum loop by lending it a washed-out, more psychedelic sound.

Tweaking tips:

THRESHOLD Higher values if you can't hear anything at all or the other instruments sound choppy; lower values if the targeted instrument isn't cut enough or at all

REDUCTION Lower values down to 0dB for a weaker effect

Silver Gate

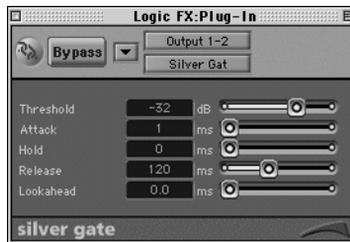
Despite the similarity in names, the Silver Gate doesn't have much in common with the much more convenient Noise Gate. It lacks the features that let you target a specific frequency range and gradually boost or cut levels.

The Silver Gate can't do anything but serve as a simple on/off switch. You will be able to de-noise signals with this plug-in, but the results in most cases will fall short of what you can up with via the Noise Gate.

- ▶ Insert the Silver Gate into an input channel or a bus channel which is used as a subgroup or has been switched to Solo mode. With the exception of Logic Audio Silver, you can also insert these plugs into the stereo master channel.

Standard signal routing option: INSERT

Silver Gate Controls



Handling

All of the Silver Gate and Noise Gate parameters of the same name are identical. For the inside scoop on these features, check out the section ›Noise Gate‹ from page 78 onwards.

- ▶ When you're working with a gate, it's critical that you compare the wet to the dry signal. Otherwise, chances are that you'll lop off some of the signals that you want to keep along with those that you don't.
- ▶ For this purpose, make liberal use of the BYPASS button when editing presets in the plug-in. Pay close attention to which parts of the signal you're losing when you tweak a parameter. If something that you want to keep is being ›bonsaiied,‹ dial in a less extreme setting for the gate.

Presets

In the selection menu of the Silver Gate, you'll find the Fx Collection presets listed by the following categories:

- ◆ **Inst:** These are gate presets for de-noising soft signals such as vocals or strings.
- ◆ **Drums:** These are gate presets for de-noising percussive signals such as drums.

INST/DRUM—...

Noise gates for noise reduction

Here you get classic noise gates for suppressing the noise carpet that you hear during pauses in the signal. Lamentably, unlike with the presets of the Noise Gate plug, here you can't target a specific frequency range. For this reason, you'll generally find the results less satisfactory than those that the Noise Gate presets deliver.

The easiest way to check out dynamic presets in the Demo song is to set all channel faders to 0, and insert the plug-in into bus channel 1 and set it to Solo.

Demo 21, 17, 7

See the preset names

Tweaking tips:

THRESHOLD	Lower values if you can't hear anything at all or the useful signal sounds choppy; higher values if the noise is not silenced during pauses in the signal
REDUCTION	Controls the amount of noise suppression during pauses in the signal
ATTACK	Higher values if, for example, the beginnings of words are cut off in spoken-word recordings
RELEASE	Higher values if, for example, the ends of words are cut off in spoken-word recordings

5 EQ

Logic's Eq plug-ins are essentially combinations of the types of filter ordinarily found in the Eq sections of the audio channel strips. However, next to offering a handful of features that are far more convenient than those of their console-bound counterparts, the plug-ins have a very decisive advantage: by simply calling up a preset, you end up with a fine-tuned Eq in a matter of seconds.

- ▶ Insert the EQs into an input channel or a bus channel which is used as a subgroup or has been switched to Solo mode. With the exception of Logic Audio Silver, you can also insert these plugs into the stereo master channel.

Depending on the Logic package, you have up to three Eq plugs at your disposal:

Standard signal routing option: INSERT

- ◆ **Fat Eq:** The flagship of the Eq offering, it features combinations of up to five frequency bands, which let you implement rather complex filter curves. Another highlight of this plug is its graphic display of the filter curve, which makes it easy for inexperienced users to see what effect the Eq is having.
- ◆ **Silver Eq:** In contrast to the Fat Eq, this plug-in offers just three frequency bands, which aren't quite as versatile as those of its chubby big brother. All the same, there are just a few crucial filter settings that the Silver Eq is unable to deliver in a comparable quality.
- ◆ **Dj Eq:** This filter is identical to the Silver Eq in all but a few details. The two external bands are less flexible, but that oh-so-important fully parametric middle band is identical. The Dj Eq will certainly let you do a lot more than simply boost the top end a touch.

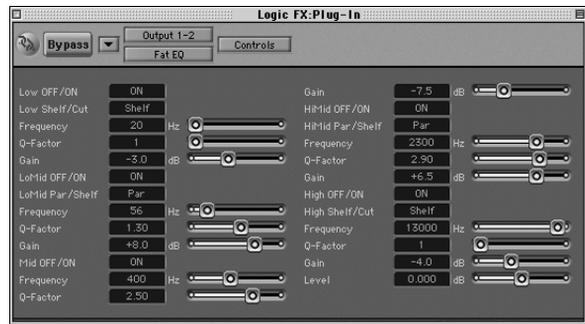
Fat EQ

This classy filter puts five independent filter bands at your disposal. You can, in theory, use them all simultaneously, but in practice, just a couple of 'em will generally get the job done.

↓ Fat EQ Editor



↓ Fat EQ Controls



Basic Parameters

Buttons 1 through 5 let you switch individual bands on (green) and off (black). Located above these you'll find the control features that address the given band:

- ◆ **Q:** You can determine how steep or ›peaky‹ the filter curve will be in the lowest parameter field. This determines if the band will influence a wider frequency range (minimum value) or a narrower frequency range (peak value).

Low Q values of around 1.0 are good for inconspicuous, more ›musical‹ Eqing. You'll need higher Q values when you want to process just a specific slice of an instrument's frequency pie, for instance, the belly of a snare sound.

- ◆ **Gain:** The center knob lets you determine to which extent the selected frequency range is boosted or cut.

When the GAIN value is set to 0, all other controls of the filter band have no influence on the curve shown in the display, nor of course on the sound. Always switch any band that is set to 0 off because it doesn't do anything but waste computing power.

- ◆ **Frequency:** In the upper parameter field, you can shift the filter band along the frequency scale.

Depending on the filter type, the adjusted value indicates the center (bell) or the outer limits (pass, shelving) of the filter band.

An EQ doesn't magically conjure up frequencies out of nowhere, it simply modifies those that are there already. This means that you can only use an EQ to influence a frequency range that the audio material actually contains!

Filter Types

The icons located above the filter curve determine the type of filter band. The connection between the buttons and bands is visually not as clear as it is with the other parameters, so be aware that the buttons address solely the underlying filter band. This means that only the center button applies to Band 3. For every other band, you have a choice of two types of filters:

- ◆ **High-pass:** lets only frequencies that lie above the defined cut-off frequency pass.

The GAIN parameter has no influence here.



- ◆ **Low Shelving:** boosts or cuts the frequencies that lie below the defined cut-off frequency.

The Q parameter has no influence here.



- ◆ **Bell:** boosts or cuts a bell-shaped frequency range surrounding the defined center frequency.

GAIN and Q do have an influence here, which makes this what is called a 'fully parametric' equalizer. Not only is it a mouthful to say, it's also the most versatile filter type.



- ◆ **High Shelving:** boosts or cuts the frequencies that lie above the defined cut-off frequency.



The Q parameter has no influence here.



- ◆ **Low Pass:** lets only frequencies that lie below the defined cut-off frequency pass.

The GAIN parameter has no influence here.

- ▶ If you're unfamiliar with the way an EQ works and want to check out what these filter parameters do, proceed as follows:

- 1 Switch on Band 3 only.
- 2 Select a relatively high GAIN value of around +10dB.
- 3 Fiddle with the FREQUENCY and Q parameters, first with one, then with the other.

You should have no trouble hearing and seeing what happens when you manipulate these key filter parameters.

Silver Eq

Unfortunately, even a truckload of presets won't make amends for the Silver Eq's greatest shortcoming—you can't see the filter curve. This means that you'll have to rely on your ears.

On the Silver Eq, the type of every filter band is pre-defined. Up top, a High-Shelving band does its thing, the mids get the treatment of a fully parametric bell filter like the Fat Eq's band 3, and the bottom end is tweaked by means of a Low-Shelving band.

These parameters work just like those of the Fat Eq, so for more info, check out the section above on the ›Fat Eq.<

The only difference is that the Silver Eq's Gain parameters have different names: when you want to adjust the gain for the upper band, use the High Shelf fader, for the lower band, use the Low Shelf fader.

To make it easy on yourself—and you won't find this a difficult task—simply bear in mind that the two High parameters influence the upper filter band and the two Low parameters

influence the lower band. The three remaining faders in the middle tweak the fully parametric mid band.



Silver EQ Controls

- ▶ Although the features of the mids band largely correspond to those of a fully parametric Fat EQ band, there are two major differences: On the Fat EQ, the control range for the Q factor sweeps from 0.1 to 10, on the Silver EQ from 0.7 to 3.9.

On the Fat EQ, the control range for the cut-off frequency extends over the full range of human hearing, from 20Hz to 20kHz. On the Silver EQ, it is limited to about 50Hz to 10kHz.

Although less impressive, both ranges of the Silver EQ will generally leave you enough leeway to tweak signals properly. If, however, you own both plug-ins, be sure to opt for the Fat EQ when you want to do some extreme filter processing, for example, to do a search-and-destroy number on annoying, narrow-band noise sources.

Dj Eq

The Dj Eq is almost identical to the Silver Eq, so, for this plug, you can take the information in the preceding ›Silver Eq‹ section at face value. The only difference between the two plugs is that the cut-off frequencies of the two shelving filters of the Dj Eq are fixed:

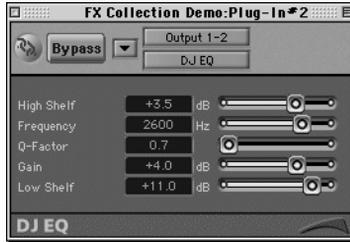
- ◆ High Shelf Frequency: 14,000Hz
- ◆ Low Shelf Frequency: 53Hz

This is why you won't find anything like the Silver EQ presets that use both the shelving bands and the mids band here. It also means that, since they're not there, you won't have to tweak them. By extension, even if some presets share the same name, you'll find that the Dj EQ presets are not nearly as finely tuned as the Silver EQ presets.

Dj EQ Controls



- ▶ Incidentally, once you've found the perfect preset for a given channel, be sure to dial in these setting on channel EQs: The following applies to all the other EQ plugs-ins as well:
 - 1 If you don't see an EQ field in the desired mixer channel, select the name under the mixer channel, display the channel's parameters by going to VIEW ⇒ PARAMETER and activating the field SHOW EQs.
 - 2 Click on the THRU field and select the desired type of filter band from the list. A new THRU field will then appear, meaning that you can select and use several filter bands at the same time. (The maximum number of bands and available EQ types depends on the Logic package that you own.)
 - 3 For a Dj EQ preset that uses all three bands, you'll need a HIGH SHELF FILTER, PARAMETRIC EQ and LOW SHELF FILTER each. The sequence doesn't affect the sound in any way. However, you'll probably find it easier going if you stick with the order that the bands are arranged in on the plug-in.
 - 4 Enter the values from the plug-in to the corresponding parameter fields. In the case of the Dj EQ, you must always enter 14,000Hz for HIGH SHELF FREQUENCY, and 53Hz for LOW SHELF FREQUENCY.
 - 5 You can now remove the EQ plug-in. The sound of the channel EQ will be identical to that of the plug. The advantages are that you now have direct access to these parameters, which means that you can edit them faster and more flexibly, and that you can switch the filter bands off and on conveniently via the ON buttons.



You can convert filter presets from the EQ plug-ins into channel filters at any time by simply transferring the parameter values.

EQ Presets

In the selection menus, you'll find the Fx Collection presets listed by the following categories:

- ◆ **Inst:** good for processing individual signals.
- ◆ **Sound:** global Eqing, for instance, for more shimmer, girth or transparency.
- ◆ **Tool:** utility filter, mainly for eliminating hiss or hum.

INST—Bass

Standard filter for bass sounds

With this preset you can tweak acoustic bass sounds as well as all kinds of synth bass lines.

Demo 9, 8

For bass, synth bass

Fat Eq:

- ◆ Band 3 boosts the bottom end bass frequencies at 50Hz and thus fattens up the sound.

- ◆ Band 2 limits this bass boost to the very low frequency range of about 20 to 40Hz so that the sound doesn't end up too boomy.
- ◆ Band 4 boosts the attack noise, for example, for a slapped funk bass. You can also use it to emphasize the ›throaty‹ aspect of the sound.

Tweaking tips:

GAIN in Band 3	Amount of bottom end boost
ON/OFF for Band 2	Try switching Band 2 off when you want an even fatter sound
GAIN in Band 4	Higher values for a more leaner, more cutting sound

Silver Eq/Dj Eq:

- ◆ Middle band: boosts the bottom end bass frequencies at 50Hz and thus fattens up the sound.
- ◆ Low-shelf band: limits the bass boost to the very low frequencies so that the track doesn't end up sounding too boomy.

Tweaking tips:

GAIN	Lower values for a thinner sound, higher values for a fuller sound
LOW SHELF	Try bringing up this parameter to 0.0dB when you want an even fatter sound

Silver Eq only

Demo 9, 8

For Bass, synth bass

INST—Bass + Slap

Standard filter for bass sounds with high-end boost

This preset beefs up the bottom end just like the ›Bass‹ preset does. In addition, it emphasizes top end frequencies starting at 3kHz, for instance, to stress the metallic bite of a slapped bass sound.

- ◆ Middle band: boosts the bottom end bass frequencies at 50Hz and thus fattens up the sound.

- ◆ Low-shelf band: limits the bass boost to the very low frequencies so that the track doesn't end up sounding too boomy.
- ◆ High-shelf band: boosts the attack noise and the ›wiry‹ aspect of the sound, for example, to stress the metallic bite of a slapped funk bass groove.

Tweaking tips:

GAIN	Lower values for a thinner sound, higher values for a fuller sound
LOW SHELF	Try bringing up this parameter to 0.0dB when you want an even fatter sound
HIGH SHELF	Higher values for a more aggressive, biting sound, lower values if there's too much high-end hiss

INST—Bassdrum

Standard filter for kick drums

This preset covers all the sonic angles of a kick drum sound.

Fat Eq:

- ◆ Band 1 slightly attenuates the ultra-low frequencies so that the sound isn't too boomy.
- ◆ Band 2 boosts the belly of the kick drum at about 80Hz to make a sound fatter and punchier.
- ◆ Band 3 cuts the mids to make a sound more transparent.
- ◆ Band 4 emphasizes the attack noise (kick).
- ◆ Band 5 attenuates high-frequency hissing if there's any in the signal.

Demo 1 (Cha 1 solo)

For kick drums

Tweaking tips:

GAIN in Band 2	Lower values for a thinner sound, higher values for a fuller sound
ON/OFF for Band 1	Try switching Band 1 off when you want an even fatter sound.
GAIN in Band 4	Higher values for more kick, lower values for less kick

Silver Eq/Dj Eq:

- ◆ Middle band: boosts the belly of the kick drum at about 80Hz to make a sound fatter and punchier.
- ◆ Low-shelf band: slightly attenuates the ultra-low frequencies so that the sound isn't too boomy.

Tweaking tips:

GAIN	Lower values for a thinner sound, higher values for a fuller sound
LOW SHELF	Try bringing up this parameter to 0.0dB when you want an even fatter sound
FREQUENCY	Depending on the given kick drum and arrangement, you can also tune the bottom end a bit lower (down to about 50Hz).

Silver Eq only
Demo 1 (Cha 1 solo)
For kick drums

INST—Bassdrum + Kick

Standard filter for bass drums with an accent on the kick

This preset beefs up the bottom end just like the >Bassdrum< preset does. In addition, it emphasizes top end frequencies starting at 2kHz to stress the high-frequency kick and create a more crisp drum sound.

- ◆ Middle band: boosts the belly of the kick drum at about 80Hz to make a sound fatter and punchier.
- ◆ Low-shelf band: slightly attenuates the ultra-low frequencies so that the sound isn't too boomy.

- ◆ High-shelf band: boosts frequencies above 2kHz in order to stress that initial >click< of the kick drum.

Tweaking tips:

GAIN	Lower values for a thinner sound, higher values for a fuller sound
LOW SHELF	Try bringing up this parameter to 0.0dB when you want an even fatter sound
FREQUENCY	Depending on the given kick drum and arrangement, you can also tune the bottom end emphasis a bit lower (down to about 50Hz)
HIGH SHELF	Higher values for a more prominent kick, lower values if there's too much high-end hiss

INST—Bongo

Standard filter for Bongo

This preset tweaks the two most important aspects of a bongo drum:

- ◆ Band 3 emphasizes the tone of the bongo drum. Vary the frequency to adjust the filter band precisely to match the tuning of the bongo drum.
- ◆ Band 4/5 stresses the sound of the hand hitting the head, which opens up and adds top end to the sound.

Tweaking tips:

FREQUENCY in Band 3	Adjusts the bandwidth to match the pitch of the bongo (about 300Hz–500Hz)
GAIN in Band 3	Amount of boost
GAIN in Band 4	Higher values to stress the sound of the hand hitting the heads

INST—Conga

Standard filter for conga drums

This preset tweaks the two most important aspects of a conga drum:

Fat EQ only

Demo 3 (Cha 1 solo)

For bongos

Fat EQ only

Demo 3, 4 (Cha 2 solo)

For conga

- ◆ Band 3 emphasizes the tone of the conga drum. Vary the frequency to adjust the filter band precisely to match the tuning of the conga.
- ◆ Band 4/5 stresses the sound of the hand hitting the head of the drum, which opens up and adds top end to the sound.
- ▶ Band 2's settings are identical to those of Band 3, but the former is switched off. Activate this band if you would like to manipulate two different pitches in isolation.

Tweaking tips:

FREQUENCY in Band 3	Adjusts bandwidth to match the pitch of the conga (about 100Hz–400Hz)
GAIN in Band 3	Amount of boost
GAIN in Band 4	Higher values to stress the sound of the hand hitting the heads

INST—Cymbal

Standard filter for cymbals

This preset is suitable for all kinds of cymbals, in particular, for lean splash and ride cymbals. Lower frequencies are cut, i.e. the signals of other drum instruments that bled into the cymbals mic (should this be the case) are removed from the sonic picture.

On the other hand, the top end is boosted, which lends the sound a pleasant sheen and sets it off from other drum instruments.

Tweaking tips: Fat Eq

GAIN in Band 4	Amount of top end boost
FREQUENCY in Band 4	Lower values for a slightly harder sound (crash cymbal)

Demo 1 (Cha 6 solo)

For cymbals

Crosstalk means that a signal bleeds into another mic, say when you're miking a drum set. You don't have to filter out other signals. Base your decision on the what works best. Signals with crosstalk generally sound livelier, without it more transparent.

Tweaking tips: Silver Eq

HIGH SHELF	Amount of top end boost
HIGH FREQUENCY	Lower values for a slightly harder sound (crash cymbal)

Tweaking tips: Dj Eq

HIGH SHELF	Amount of top end boost
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INST—Guiro*Standard filter for guiros*

Although designed for a guiro, this preset will work for all other percussion instruments that have a particularly mid-heavy, woody sound.

The filter stresses the frequency range in which that ›woodiness‹ comes through loud and clear. Use this preset whenever the sound of a percussion instrument seems too thin or synthetic to you.

Tweaking tips:

GAIN in Band 2	Amount of boost for the ›woody‹ frequencies
GAIN in Band 4	Higher values for a more open sound richer in top end frequencies

INST—HiHat*Standard filter for hi-hat*

This preset is suitable not only for hi-hats, but also for all other lean-sounding drums and percussion instruments with lots of top end frequencies such as shakers and triangles.

Fat Eq:

- ◆ Band 3 boosts the attack noise, for example, the sound of a drumstick hitting a hi-hat.
- ◆ Band 4 stresses the upper frequency range, for instance, the fading rattle of a shaker sound.

Fat Eq only

Demo 3 (Cha 4 solo)

For guiros and other percussion instruments with a mid-heavy sound

Demo 1 (Cha 3 solo),
2 (Cha 2 solo)

For hi-hats and other percussion instruments rich in high

Tweaking tips:

GAIN in Band 3	Amount of attack noise boost
GAIN in Band 4	Amount of high-end boost

Silver Eq/Dj Eq:

- ◆ Mid band: boosts the attack noise, for example, the sound of a drumstick hitting a hi-hat.
- ◆ High-shelf band: stresses the upper frequency range, for instance, the fading rattle of a shaker sound.

Tweaking tips:

GAIN	Amount of attack boost
HIGH SHELF	Amount of high-end boost

INST—Snare

Standard filter for snare drums

This preset covers all the different sonic angles of a snare sound.

Fat Eq:

- ◆ Band 1 slightly attenuates the bottom end frequencies to prevent the sound from becoming too boomy.
- ◆ Band 2 boosts the belly of the snare at about 170Hz to make it sound bigger.
- ◆ Band 3 attenuates the mids in a narrow band to make the sound more transparent.
- ◆ Band 4 emphasizes the attack noise.
- ◆ Band 5 stresses the snare carpet.

Demo 1 (Cha 2 solo)
For snare

Tweaking tips:

GAIN in Band 2	Lower values for a thinner sound, higher values for a fuller sound
Q in Band 3	Lower values for a more transparent sound
GAIN in Band 4	Higher values for more attack noise

Silver Eq/Dj Eq:

- ◆ Low-shelf band: boosts the lower frequency range to make the track sound bigger.
- ◆ Mid band: emphasizes the attack noise.
- ◆ High-shelf band: stresses the snare carpet.

Finding the right filter settings for a snare is often an exacting chore. If your Logic package contains the Fat Eq you should opt for it because it's the better fine-tuning tool.

Tweaking tips:

LOW SHELF	Lower values for a thinner sound, higher values for a fuller sound
GAIN	Higher values for more attack noise, lower values for less
HIGH SHELF	Higher values for more snare carpet, lower values for less

INST—Tom Tom*Standard filter for toms*

This preset is a good place to get started when you want to process tom-tom sounds or even entire drum loops. It slims the sound down and makes it more transparent while emphasizing attack noises.

Please note that tom-tom sounds vary quite strongly in pitch and tone. In the vast majority of cases, you'll have to fine-tune the parameters by ear to come up with the best results for the different material that you'll be working with.

Not for DJ Eq

Demo 5, 6, 7

For toms, drum loops

- ▶ Dialing in the ideal filter setting for tom-tom sounds is no mean feat. If your Logic package contains the Fat EQ, be sure to use it.

Tweaking tips: Fat Eq

Q in Band 3	Lower values for a more transparent sound
GAIN in Band 2	Higher values for a fatter sound
GAIN in Band 4	Higher values for more attack noise

Tweaking tips: Silver Eq

GAIN	Lower values for a more transparent sound
LOW SHELF	Higher values for a fatter sound
HIGH SHELF	Higher values for more attack noise

Not for DJ Eq

Demo 13

For female vocals,
female speech

INST—Vocal Female

Filter for female vocals

This preset serves to add warmth and a bit more transparency to tracks featuring female voices. It will also increase intelligibility—you'll be able to distinguish lyrics more clearly.

Tweaking tips: Fat Eq

GAIN in Band 2	Lower values for a thinner sound, higher values for a warmer sound
GAIN in Band 4	Higher values for improved speech intelligibility (harder, more articulate sound)
GAIN in Band 5	Higher values for a more ›satiny‹ sound

Tweaking tips: Silver Eq

LOW SHELF	Lower values for a thinner sound, higher values for a warmer sound
GAIN	Higher values for improved speech intelligibility (harder, more articulate sound)
HIGH SHELF	Higher values for a more ›satiny‹ sound

INST—Vocal Male*Filter for male vocals*

This preset adds warmth and a bit more transparency to male voices. It will also increase intelligibility—you'll be able to distinguish lyrics more clearly.

Tweaking tips: Fat Eq

Q in Band 2	Lower values for a thinner sound
GAIN in Band 1	Higher values for a warmer sound
GAIN in Band 5	Higher values for a more ›satiny‹ sound

Tweaking tips: Silver Eq

LOW SHELF	Lower values for a thinner sound, higher values for a warmer sound
GAIN	Higher values for improved speech intelligibility (harder, more articulate sound)
HIGH SHELF	Higher values for a more ›satiny‹ sound

INST—Vocal Mixed*Filter for mixed choruses*

This preset makes male/female harmony vocals more transparent and helps them cut through the mix better. It will also enhance intelligibility—you'll be able to distinguish lyrics more clearly.

Tweaking tips:

GAIN in Band 2	Lower values for a thinner sound, higher values for a warmer sound
GAIN in Band 4	Higher values for improved speech intelligibility (harder, more articulate sound)
GAIN in Band 5	Higher values for a more ›satiny‹ sound

SOUND—5-Band Mastering*Universal Eq with settings tweaked for mastering*

This preset is a great place to start when you're ready to master tracks, in other words, to Eq entire mixdowns, drum

Not for DJ Eq

Demo 14

For male vocals, male speech

Fat Eq only

Demo 13, 14

For choruses

Fat Eq only

Demo 2

Universal

loops or other complex signals consisting of many different components.

The most important frequency ranges and the Q factors are predetermined, which will make it easier for you:

- ◆ Band 1: bottom end frequencies
- ◆ Band 2: warmth/body for voices
- ◆ Band 3: attenuation of ›mushy mids‹ for more transparency
- ◆ Band 4: lower high-end frequencies (the ›cutting‹ ones)
- ◆ Band 5: upper high-end frequencies, the ›silky‹ ones up top

Only switch on the bands for the frequencies that you want to Eq. Then vary the Gain parameter to taste. If necessary, you can also adjust the Frequency parameter, but do so conservatively.

Tweaking tips:

ON/OFF for Bands 1 to 5

GAIN for Bands 1 to 5

FREQUENCY for Bands 1 to 5

SOUND—High Sharp +

Top end tweaking for a cutting, aggressive sound

Here the lower highs are boosted while the upper highs are cut a tad.

Use this preset when an electric guitar track has trouble cutting through the mix or if you can't understand the lyrics of a vocal track.

Tweaking tips: Fat Eq

GAIN for Band 3 Boosts those aggressive lower highs

GAIN for Band 4 Cuts those satiny upper highs

Demo 2, 10, 20
Universal

Tweaking tips: Silver Eq/Dj Eq

HIGH SHELF	Amount of satiny highs
GAIN	Amount of cutting, aggressive highs

SOUND—High Soft +*Top end tweaking for a soft, silken sound*

Demo 2, 10, 20

Here the lower highs are cut while the upper highs are boosted.

Universal

Use this preset when you feel that a sound is too edgy or cutting but you don't want to lose that high-end shimmer.

Tweaking tips: Fat Eq

GAIN for Band 3	Cuts those aggressive lower highs
GAIN for Band 4	Boosts those satiny upper highs

Tweaking tips: Silver Eq/Dj Eq

HIGH SHELF	Amount of satiny highs
GAIN	Amount of cutting, aggressive highs

SOUND—Linear Fat*Constant bottom end amplification and top end attenuation*

Fat Eq only

Demo 2, 7, 9

Here the bass frequencies are boosted across the board while the highs are cut. This thickens the entire sonic image.

Universal

With its virtually linear filter curve, this preset minimizes coloration so that the results generally sound very natural.

You can vary the Gain values to influence the intensity of the filter curve's effect. If at all possible, be sure to balance out the values so that you end up with a linear filter curve.

Tweaking tips:

GAIN for Bands 1, 2, 4, 5

Fat EQ only
Demo 2, 7, 9
Universal

SOUND—Linear Slim

Constant bottom end attenuation and top end amplification

Here the bass frequencies are cut across the board while the highs are boosted. This slims down the entire sonic image.

With its virtually linear filter curve, this preset minimizes coloration so that the results generally sound very natural.

You can vary the Gain values to influence the intensity of the filter curve's effect. If at all possible, be sure to balance out the values so that you end up with a linear filter curve.

Tweaking tips:

GAIN for Bands 1, 2, 4, 5

Fat EQ only
Demo 2, 7, 9
Universal

SOUND—Linear Hi +

Top end boost above about 2kHz

Here highs above about 2kHz are boosted considerably. With this preset, you can do stuff like emphasize the cymbals in a drum loop without influencing the other instruments appreciably.

With its virtually linear filter curve, this preset minimizes coloration so that the results generally sound very natural.

You can vary the Gain values to influence the intensity of the filter curve's effect. If at all possible, be sure to balance out the values so that you end up with a linear filter curve.

Tweaking tips:

GAIN for Bands 3, 4, 5

Fat EQ only
Demo 2, 7, 9
Universal

SOUND—Linear Lo +

Bass boost up to about 500Hz

Here the bass frequencies are boosted considerably up to about 500Hz. With this preset, you can do stuff like emphasize the kick drum in a drum loop without influencing the other instruments appreciably.

With its virtually linear filter curve, this preset minimizes coloration so that the results generally sound very natural.

You can vary the Gain values to influence the intensity of the filter curve's effect. If at all possible, be sure to balance out the values so that you end up with a linear filter curve.

Tweaking tips:

GAIN for Bands 1 to 5

SOUND—Presence +

Boosts the lower bass frequencies and upper highs

Demo 2, 7, 9

Here the lower bass and the upper treble frequencies are boosted by the same measure. With this preset, you can turn a cheap, mids-heavy sound into something a bit more hi-fi.

Universal

Tweaking tips: Fat Eq

GAIN for Bands 4/5 Level of the top end frequencies

GAIN for Bands 1/2 Level of the bottom end frequencies

Tweaking tips: Silver Eq/Dj Eq

HIGH SHELF Level of the top end frequencies

LOW SHELF Level of the bottom end frequencies

SOUND—Presence –

Cuts the lower bass frequencies and upper highs

Demo 2, 7, 9

Here the lower bass and upper treble frequencies are cut by the same measure. This preset lets you tone down a sound that you find too shrill, boomy or overblown to make it sound somewhat more subtle.

Universal

Tweaking tips: Fat Eq

GAIN for Bands 4/5 Level of the top end frequencies

GAIN for Bands 1/2 Level of the bottom end frequencies

Tweaking tips: Silver Eq/Dj Eq

HIGH SHELF Level of the top end frequencies

LOW SHELF Level of the bottom end frequencies

Not for Fat EQ

Demo 2, 7, 9

Universal

SOUND—Shelving Hi +

Top end boost

Here the upper frequency range is boosted uniformly. This preset lets you slap some sheen to a lackluster soundscape.

Tweaking tips:

HIGH SHELF	Amount of top end boost
HIGH FREQUENCY	Corner frequency for the top end boost; lower values for a more cutting sound (Silver EQ only)

Not for Fat EQ

Demo 2, 7, 9

Universal

SOUND—Shelving Low +

Bottom end boost

Here the lower frequency range is boosted uniformly. This preset lets you add some beef to a skinny soundscape.

Tweaking tips:

LOW SHELF	Amount of bottom end boost
LOW FREQUENCY	Corner frequency for the bottom end boost; lower values for a more mids-heavy sound (Silver EQ only)

Not for Fat EQ

Demo 2, 7, 9

Universal

SOUND—Shelvings Fat

Bottom end amplification and top end attenuation

Here the bass frequencies are boosted across the board while the highs are cut. This fattens up the entire sonic image.

You can vary the High/Low-Shelf values to influence the intensity of the filter curve's effect.

Tweaking tips:

HIGH SHELF	Level of the top end frequencies
LOW SHELF	Level of the bottom end frequencies

SOUND—Shelvings Slim*Bottom end attenuation and top end amplification*

Here the bass frequencies are cut across the board while the highs are boosted. This slims down the entire sonic image.

You can vary the High/Low-Shelf values to influence the intensity of the filter curve's effect.

Tweaking tips:

HIGH SHELF	Level of the top end frequencies
LOW SHELF	Level of the bottom end frequencies

Not for Fat Eq

Demo 2, 7, 9

Universal

SOUND—Telephone*Special Fx filter with optional sweep Eq effect*

Like a telephone or a cheap radio, here just a narrow mids band is allowed to pass. Use this filter as a lo-fi effect, for example, to give a vocal or drum loop a nasty nasal honk.

- ▶ Wacko effects such as this will have the most dramatic when you use them for a short passage, a break, or some other brief interlude. When you switch the filter off again and the instruments get their full bandwidth back, the effect of the mix suddenly opening up again can sound quite impressive.

Fat Eq:

If you set Band 3's Q to higher values, say, between about 5 and 10, and switch off Band 1 and Band 5, the filter will color the sound even more drastically. Try laying this preset over a drum loop and fiddle with Band 3's Frequency parameter. This will create that familiar Eq sweep.

Tweaking tips:

FREQUENCY for BAND 3	Here only a narrow band surrounding this freq is allowed to pass to shape the sound of the filter
Q for BAND 3	Higher values for an even steeper mids filter and thus a more drastic effect
OFF for BAND 1 and 5	Deactivate these filter bands in order to disable low- and high-cut filtering

Demo 2, 7, 14

Universal

Silver Eq/Dj Eq:

Lay this preset over a drum loop, set the Q Factor to 3.9, and sweep the Frequency parameter while you're playing the loop back. This will create that sweep Eq effect known and loved by all.

Tweaking tips:

Q FACTOR	Slope of the mids band: try a peak value of 3.9 to bend the sound even more radically
FREQUENCY	Mids band corner frequency
HIGH/LOW SHELF	Neutral values of 0dB each disable low- or high-cut filtering

Fat EQ only

For signals that were recorded with Emphasis coding

Tool—De-Emphasis

Filter curve for equalizing ›Emphasis‹ encoded signals

Emphasis is a normalized filter curve that was used rather liberally back when digital audio engineering was in its infancy. During recording, the high frequencies in the signal were boosted and then cut during playback. This improved the signal-to-noise ratio.

With this preset, you can equalize a signal that was recorded with Emphasis on a Dat recorder so that the track sounds fairly close to the original.

- ▶ If you choose to use this filter processing option, make sure that the ›De-Emphasis flag‹ is not set when you're having a CD master made. Otherwise, the material could be filtered again by the CD player during playback, which will muddy the signal.

Not for Fat EQ

Demo 9, 8

For signals with annoying AC hum

Tool—Hum Cancel

Attenuation at 50 Hertz to suppress AC or mains hum

This filter attenuates the frequency range in which typical mains hum becomes audible.

- ▶ The filter bands on the Silver EQ and DJ EQ can't be set nearly as steeply and precisely as their counterparts on the Fat EQ. This is not good because precision EQing is exactly what this application craves.

If your Logic package contains the Fat EQ, you're better off using it, or more accurately, one of its ›Notch‹ presets (page 112).

Tweaking tips:

GAIN	Amount of cut
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TOOL—No Noise High...

Broadband, high end damping to suppress noise

With the help of this preset, you can get rid of typical high-end hiss.

However, a simple filter can't distinguish between the useful signal and hiss. If your useful signal—say, a snare carpet or vocals—contains high frequencies, it will sound darker when you use these filters. This is why I've given you three different options with varying intensities. Choose the ›compromise‹ that works best for the given sonic scenario.

► There are only two variations available for the Dj Eq.

Tweaking tips: Fat Eq

GAIN and FREQUENCY in Band 3 and 4 noise suppression

Tweaking tips: Silver Eq/Dj Eq

GAIN and HIGH SHELF Intensity of noise suppression

TOOL—No Noise Mid...

Broadband, high mids damping to suppress noise

These presets work in much the same manner as ›No Noise High.‹

However, in contrast to ›No Noise High,‹ the frequencies that these presets cut are somewhat lower. At the same time, the uppermost highs are boosted slightly so that some of that high-end shimmer is restored to your useful signal.

If the frequency of the his that you're hearing isn't extremely high, you'll be able to achieve better results with these programs than you could with ›No Noise High.‹

Demo 21

For signals masked by an annoying blanket of noise

Demo 21

For signals masked by an annoying blanket of noise

Tweaking tips: Fat Eq

GAIN and FREQUENCY in Band 3 and 4 for noise suppression

GAIN and FREQUENCY in Band 5 for top end boost

Tweaking tips: Silver Eq/Dj Eq

GAIN and HIGH SHELF Intensity of noise suppression

Fat Eq only

Demo 9, 8

For signals with annoying mains hum (50Hz in Europe, 60Hz in North America)

Tool—Notch 50/60Hz Hum

Narrow-band attenuation to suppress mains hum

Whenever you're using a notch filter, the object is to find the best possible compromise:

- ◆ If the Eq is too puny, the intended effect will be too weak—you won't get rid of all the mains noise.
- ◆ If the Eq kicks in with too heavy a hand, you'll lose key parts of the useful signal, in this case, the bottom end frequencies.

In the preset, Eq bands 2, 3 and 4 are active. If their influence is too strong, you can deactivate one or two of these Eq bands.

If the filter is still intervening too strongly, you can lessen its influence by adjusting the Gain knob of the last of the active Eq bands within the range of -18dB to -3dB.

Tweaking tips:

ON/OFF for Bands 2, 3, 4

GAIN for Bands 2, 3, 4

6 Modulation

Modulation effects such as chorus, flanger and their ilk can do more than just fatten up anorexic sounds. The more extreme settings can create bizarre resonance, lost-in-space filtering and weird, wacky and very warped sounds.

- ▶ When you're working with modulation effects, the best signal routing option is not nearly as obvious as it may be in the case of other breeds of effects. Generally, you can't go wrong with the INSERT method. However, if you want to send an effect to several channels, the trusty SEND routing option can be the more practical prospect. Make your choice on a case-by-case basis—anything that rings your bell goes.

Modulation Delay

The jack of all trades among the Logic modulation effects, this little beast can be found in all packages. Although its name ›Delay‹ is technically correct, it is a bit confusing. It won't deliver the usual echoes or delay taps that you'd normally expect from a delay, but it makes up for it by offering a wide selection of hip-sounding chorus, flanger, tremolo and reverb effects.

Standard signal routing option: INSERT

- ▶ Insert the Modulation Delay into an input channel or a bus channel which is used as a subgroup or has been switched to Solo mode. With the exception of Logic Audio Silver, you can also insert these plugs into the stereo master channel.

Handling

The many control features on the Modulation Delay may at first glance look intimidating, but there's no need for concern because you won't need to use them all at once:

- ◆ Flanger Chorus determines the base time of the modulated delay. A setting of 0 generates flanger effects, every other value will give you chorus.

↓ Modulation Delay Editor



↑ Modulation Delay Controls

- ◆ Width determines the modulation intensity of the delay, meaning the amount of the flanger and chorus effects. For chorus, values of to about 50% are okay, a maximum of 10% suffices for flanging.
- ◆ Anti Pitch: When you switch this button on, flanger and chorus effects won't wobble, which means they'll sound particularly hi-fi in that spanking-clean, '80s big hair kind of way that we've all come to know and loathe. For cheap-and-cheesy-sounding effects, you want to do without this option.
- ◆ Lfo section: When the Lfo Mix knob is set to the far left, you can adjust the modulation rate via Lfo 1, which for classic flanger or chorus effects is about the speed of a true Deadhead's diction, that is to say, veerrrry sllloooooooowwww, dude...
As a very special treat, you get a second Lfo. If you adjust another rate for it and combine the two Lfos by setting a middle Lfo Mix value, you'll end up with a right complex

waveform. The modulations will be irregular and the results will sound rather frisky.

Constant Mod ensures that modulations don't sound puny at very low Lfo rates. This one's a must-have for powerful effects.

- ◆ **Feedback:** When you set anything other than a neutral value of 50%, you'll generate feedback, which, depending on the effect, will give you a more intense modulation, a ›tonal‹ component or even very clearly perceptible resonance.

If you're an advocate of orthodoxy in sound-sculpting, do without Feedback for chorus effects. If you want to be like me, an intrepid explorer of the sonic wilderness, add some feedback to spice up heavily chorused sounds.

Philosophical considerations such as this one aside, when you're cooking up flanger and resonance effects, be bold, reach deep into the Feedback bag, and sprinkle it liberally all over your sonic meal.

- ◆ **Stereo-Phase:** Generally, you should opt for the stereo version of the Modulation Delay. When you do, you can use this parameter to shift the phases of signals between the two stereo channels. Although this gives you a real huge, larger-than-life effect, be aware it can sound a lot smaller when you monitor the signal over a monaural system.
- ◆ **Vol. Mod.:** The further you open up this fader, the greater the Lfo section's influence on the signal's volume. You can use this effect separately or in addition to the Width delay modulation.

With a Phase value of 0 (mono), the only thing that you will generate are variations in volume level, which is called a tremolo effect. A Stereo Phase value of 180 yields stereo panning effects, which means that the signal will wander to and fro in the panorama.

- ◆ Mix controls effect balance. When you're patching the signal in via an insert, a value of 50%, which gives you a 50:50 mix of wet and dry signals, will generally serve you well.
- ▶ On account of its rather involved design, the Modulation Delay is a much bigger resource hog than easily satiable plugs such as the Chorus or Flanger. If you want a run-of-the-mill effect that doesn't use ANTI-PITCH mode, you're better off using the Flanger or Chorus plug.

Presets

In the selection menu of the Modulation Delay, you'll find the Fx Collection presets listed by the following categories:

- ◆ Chorus: Chorus effects that elicit a fatter, more lively sound.
- ◆ Flanger: Flanger effects for a more powerful sound and Enterprise-approved swoosh.
- ◆ Tremolo: In the case of a plug-in version with a mono output, this option will vary volume levels; stereo versions give you panning effects.
- ◆ Reso: Strong resonance and *beaucoup* coloration for sound design applications.
- ◆ Fx: Totally useless but fun chirping, twittering, whistling et al...

CHORUS—AP...

Chorus effects without readily perceptible variations in pitch

These classic chorus presets introduce movement into the signal and beef it up a bit. They all use the Anti-Pitch function, which is only available in this Logic plug. It assures that even heavily chorused sounds don't sound off kilter due to a wonky pitch.

As its name would indicate, the preset ›Ap Moderate Rev‹ adds a dash of reverb, which sounds particularly nice when

Demo 19, 8, 10, 17

For guitar, bass, synth, piano, organ, vocals and speech

ladled over percussive sounds and finger- or flat-picked guitars.

Tweaking tips:

MIX	Lower values for more dry signal and a weaker effect
LFO 1/2	Higher values for a faster modulation rate (very responsive)
FEEDBACK	Further away from the 50% center position for more detuning

CHORUS—Light, Mod, Strong

Classic chorus effects for a livelier, fatter sound

These are all classic chorus presets. They don't make use of the Anti-Pitch feature, so you'll hear the pitch fluctuate perceptibly. This can be desirable if, rather than a subtle chorus effect in the background, you want an in-your-face, clearly audible effect, for instance for special organ sounds or as a detune-type effect for a saloon or barrelhouse piano.

Demo 19, 8, 10, 17

For guitar, bass, synth, piano, organ, vocals and speech

Tweaking tips:

MIX	Lower values for more dry signal and a weaker effect
LFO 1/2	Higher values for a faster modulation rate (very responsive)
FEEDBACK	Further away from the 50% center position for more detuning

FLANGE—Light ... Strong Low

Classic flanger effects with resonance shifting

These Flanger presets are great when you want to lend guitars or synths a ›spacier‹ more powerful edge. For the record, the ›High‹ presets sound leaner and have higher resonance than the ›Low‹ presets.

Demo 16, 10, 6

For synth pads, guitar, bass, drums

Tweaking tips:

MIX	Lower values for more dry signal and a weaker effect
LFO 1/2	Higher values for a faster modulation rate (very responsive)
FEEDBACK	Closer to the 50% center position for a more subtle effect

Demo 16

For synth pads

FLANGE—Say Ja 1/2

Flanger effect for ›talking‹ synth pads

With this preset, the Flanger generates resonance that is reminiscent of a vocoder. Try it out with pads; it won't work with staccato or percussive signals.

Tweaking tips:

MIX Lower values for more dry signal and a weaker effect

LFO 1/2 Higher values for a faster modulation rate (very responsive)

Demo 12, 11, 16

For synth, e-guitar,
e-piano

TREMOLO—...

Tremolo effects for rapid-fire changes in volume

Tremolo effects such as this one rapidly modulate a signal's volume level that, depending on the rate, gives you anything from a Dick Dale-approved ›surf's up‹ sound to a really jagged staccato effect—imagine Pete Townsend maniacally juggling the toggle switch of his Les Paul and you'll get the picture.

Used in plug-in versions with a stereo output, these presets deliver auto-panning, which means that the signal will swing to and fro in the stereo image.

Tweaking tips:

MIX Lower values for more dry signal and a weaker effect

LFO 1 Higher values for a faster off/on effect

FEEDBACK Higher values for a warmer sound

Demo 3, 4, 1

For drums, percus-
sion, drum loops

Reso—...

Resonance and reflections

Here the input signal is bent, colored or zoomed out so that it seems to be far away from the listener. Some presets such as ›Tune Me‹ also add fairly radical resonance, which can become audible as another, separate signal.

Tweaking tips:

MIX	Lower values for more dry signal and a weaker effect
FEEDBACK	Closer to the 50% center position for shorter resonance
FLANGER/CHORUS	Changes the pitch of the resonance.

Fx—...*Extreme modulation effects*

This little Fx collection covers the bizarre end of the sonic spectrum. Bear in mind that some of the effects such as ›Ghost Choir‹ and ›Something Hairy‹ sound best with pads. Others such as ›Space Bubbles‹ are hippest when they're laid over drums. Your best bet is to simply give 'em a shot and see for yourself.

Tweaking tips:

MIX	Lower values for more dry signal and a weaker effect
FEEDBACK	Closer to the 50% center position for more subtle effects
LFO 1/2	Higher values for a faster modulation rate (very responsive)

Demo 1, 16

For synth pads, guitar, drums, percussion, drum loops

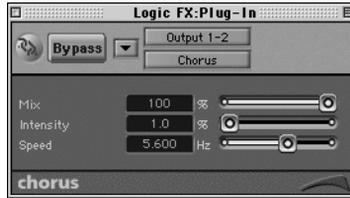
Chorus

Undoubtedly, this is the most common of all modulation effects. It adds richness and shimmer to just about any sound, making it more atmospheric and spacious. Despite its spartan array of parameters, the Logic Chorus gives you an astounding range of tweaking options.

Standard signal routing option: INSERT

- ▶ Insert the Chorus into an input channel or a bus channel which is used as a subgroup or has been switched to Solo mode. With the exception of Logic Audio Silver, you can also insert these plugs into the stereo master channel.

Chorus controls



Handling

There's not a great deal to explain about these three parameters, but, for the record, here you go:

- ◆ Mix controls the balance between dry and wet signals.
- ◆ Intensity determines modulation depth and thus the effect amount.
- ◆ Speed defines the modulation rate.

Be aware that higher Speed values will also increase the modulation depth. If a very slow chorus doesn't give you the desired thickness, often all it takes to get a beefier signal is to simply up the Speed a notch.

- ▶ If you're after a subtle, classy chorus sound, you should give the >Ap< presets a try in the Modulation Delay. The Ensemble plug-in also gives you some nice alternatives to the standard chorus effects.

Presets

In the selection menu of the Chorus, you'll find the Fx Collection presets listed by the following categories:

- ◆ Chorus: Chorus effects for a fatter, more lively sound.
- ◆ Fx: This one's for those Neil Young acolytes who agree with the man that being in tune is entirely overrated ...

CHORUS—...*Chorus effects with different speeds and intensities*

Demo 19, 8, 10, 17

Here you'll find chorus presets featuring different rates and intensities. These will get the job done when you want to add some girth and gloss to guitars, synthesizer pads, electric pianos and the like.

For guitar, bass, piano, organ, e-piano

If you're in the mood for experimentation, be advised that when you vary the parameters Intensity and Speed, even very slight changes in values will have a considerable impact on the sound of the effect.

Tweaking tips:

MIX	Effects balance; settings around 50% elicit a leaner sound
INTENSITY	Effect amount (very responsive)
SPEED	Modulation rate; higher values also give you a more intense effect (very responsive)

Fx—...*Extreme modulation effects*

Demo 19, 1, 14

These three presets generate extreme pitch modulations. They warp the pitch of the dry signal very radically, which gives you a fairly authentic honky-tonk piano. They can also add some wicked flutter to a hi-hat or cymbal sound.

For guitar, synthesizer, drums, speech

Bear in mind that the presets ›Baaad Tune‹ and ›Strange Glides‹ are designed to bend a ›tonal‹ input signal—you'll be disappointed if you try them on non-melody instruments such as drums and percussion.

Tweaking tips:

MIX	Effect balance
INTENSITY	Modulation amount; lower values for a weaker effect

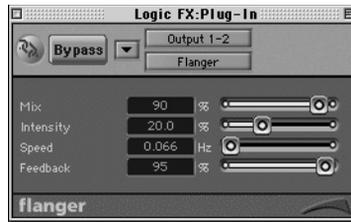
Flanger

Standard signal routing option: INSERT

The Flanger looks pretty much like the Chorus' twin, except for one major difference: it offers a resonance-exciting parameter. This feature lets you conjure up swirling Space Invader effects and even more radical sounds. While most chorus effects are more suitable for guitars and basses, here you'll find the right tools for processing synthesizers and drums.

- ▶ Insert the Flanger into an input channel or a bus channel which is used as a subgroup or has been switched to Solo mode. With the exception of Logic Audio Silver, you can also insert these plugs into the stereo master channel.

Flanger controls



Handling

The three top Flanger parameters are identical to those of the Chorus:

- ◆ Mix controls the balance between dry and wet signals.
- ◆ Intensity determines modulation depth and thus the effect amount.
- ◆ Speed defines the modulation rate. Higher speeds also increase the intensity of modulations.

Plus, you get a Feedback parameter that adds that typical ›tonal‹ component of a flanger to input signals.

- ▶ Even if you pass on the FEEDBACK parameter, the Flanger and Chorus are not identical. The former works with shorter delay times. You

could imitate chorus-like effects using the Flanger, but what's the point? Every Logic package ships with both plug-ins, so with the exception of a few special effects, these presets focus on what the Flanger does best.

Presets

In the selection menu of the Flanger, you'll find the Fx Collection presets listed by the following categories:

- ◆ Flange: flanger effects for more power and space appeal.
- ◆ Static: static resonance effects, primarily for tormenting drum sounds.
- ◆ Fx: for tormenting dogs, scaring small children, and driving the neighbors nuts...

FLANGE—Sleepy ... Xtreme 6

Flanger effects with different speeds and intensities

The first six Flanger presets offer standard effects featuring different speeds and intensities. The six ›Xtreme‹ presets give you more ostentatious Flanger effects that lend themselves to synth pads, loops, cymbals and hi-hats.

If you're in the mood for experimentation, be advised that when you vary the parameters Intensity and Speed, even very slight changes in values will have a considerable impact on the effect sound.

- ▶ Note that internal feedback can jack up the signal level in a heartbeat. If the input signal sounds distorted, back off its level accordingly.

Tweaking tips:

MIX	Effects balance; settings around 50% elicit a leaner sound
INTENSITY	Effect amount (very responsive)
SPEED	Modulation rate; higher values also give you a more intense effect (very responsive)

Demo 16, 10, 6

For synth pads, guitar, bass, drums

Demo 3, 1, 14

For drums, synth, speech

STATIC—...

Resonance effects

The six presets work with static modulations or modulations that are so fast that you can't hear the sound change gradually over time. This yields resonance effects that let you bend the frequency spectrum of any sound all out of shape.

For example, you can take a devotional hymn sung by the local Girl Scout chapter and make it sound like a down-and-dirty ghetto rap. These effects deliver the hippest results with dynamic signals such as drums, percussion or synth arpeggios.

The Intensity parameter lets you manipulate the sound further.

- ▶ Note that feedback can jack up the signal level in a heartbeat. If the input signal sounds distorted, back off its level accordingly.

Tweaking tips:

MIX	Effect balance
INTENSITY	Pitch of the resonances—further to the left for higher frequencies, further to the right for lower frequencies

Demo 1, 19, 3

For synth pads, e-guitar, drums, percussion, drum loops

Fx—...

Extreme modulation and resonance effects

These presets warp the input signal beyond recognition or even beget sounds of their own, so to speak. This breed of preset is highly recommended for creating Martian nose flutes and other equally ridiculous avant-garde noises.

- ▶ Some of these resonance levels are extremely high. Be sure to audition these presets at a low monitor volume! If the input signal sounds distorted, back off its level accordingly.

Tweaking tips:

MIX	Effect balance
INTENSITY	Modulation amount

Phaser

To my ears, this is the most striking of the classic modulation effects. Cheesy but cool, perhaps this is what the electronic musician of the '60s thought the future would sound like. In any case, a phaser shifts the phases of individual frequencies in the signal and combines the out-of-phase signal with the original signal to conjure up more or less complex phase cancellations.

Logic's take on this tried-and-true signal-shaping work-horse gives good effect. It offers loads of editing options and thus the sonic variations are many. Sadly, only Platinum users get the goodies, everyone else has to do without.

- ▶ Insert the Phaser into an input channel or a bus channel which is used as a subgroup or has been switched to Solo mode. With the exception of Logic Audio Silver, you can also insert these plugs into the stereo master channel.

Standard signal routing option: INSERT

↓ Phaser Editor



↑ Phaser Controls—additional parameters: Mix and DIR. ENV-MOD

Handling

The Lfo section and the Stereo Phase parameter correspond to their counterparts on the Modulation Delay. To get the

scoop on these, check out the section ›Modulation Delay‹ from page 113 onwards.

Let's take a look at the remaining parameters of the Phaser:

- ◆ Order determines how many stages the simulated phaser circuit has. Only even-numbered values generate classic phaser effects, with each even number evoking a different sonic flavor.
Uneven numbers give you comb filter effects, which means that the sound is colored more radically. Depending on the settings for the remaining parameters, the difference between even and odd values ranges from barely audible to striking.
- ◆ Sweep: These two parameters let you limit the overtones that the effect generates to any desired frequency range. This means that you can come up with leaner phaser sounds and that you actually ›tune‹ resonances.
- ◆ Color is akin to the Feedback parameter found on other modulation effects. It lets you emphasize the tonal character or change the timbre of the effect.

Effect Balance

- ◆ When you've inserted the Phaser, the Mix parameter lets you dial in the desired balance between the dry and wet signals. Here you'll find it in Controls mode. Most presets use the peak value of $\pm 100\%$, which delivers the pure effects signal. However, for resonance sounds, you may want to dial in $\pm 50\%$ so you end up with a 50:50 mix of the wet and dry signal.
- ◆ Negative values reverse the phase of the wet signal, which sometimes, but not always, elicits a different sound than one the equivalent positive value conjures up.
- ▶ As with any phaser, the LFO section modulates the effect. This means that you can use it to modify the speed of the modulation.

- ▶ However, Logic's Phaser gives you other, more sophisticated options. Via ENV-MODULATION, the level of the input signal can influence the LFO 1 rate. DIR. ENV-MOD, which you will find in CONTROLS mode only, also generates a level-dependent modulation, but it does so independently of the selected LFO.
- ▶ These two additional modulations are downright confusing. In my experience, they don't add much to the sonic palette of the standard phaser sounds. Although some presets of the Fx category use ENV modulations, you won't be missing much if you ignore these parameters.

Presets

In the selection menu of the Phaser, you'll find the Fx Collection presets listed by the following categories:

- ◆ Phase: standard phaser effects for synth pads, e-guitars, drums.
- ◆ Comb: comb filter resonances for drum or percussion sounds.
- ◆ Fx: interesting to way out effects with powerful modulations.

PHASE—...

Classic phaser effects for swirly to spacey sounds.

These presets are standard fare on the typical phaser menu. They'll serve you well whenever you want to fatten up a sound or add a touch of rotary vibe or a spacey feel to it.

It's all in the name—the preset nomenclature tells you what you can expect:

- ◆ Light/Mod/Strong: The differences here lie primarily in the various tonal characteristics. Pitch-shifting is strongest in the, you guessed it, ›Strong‹ presets.
- ◆ Slow/Fast: Classic Phaser sounds work with very slow modulation rates. The ›Fast‹ variants speed things up.
- ◆ 04 to 12: The number indicates how many stages the phaser circuit uses. The numbers 04, 06, 08, 10 and 12

Demo 16, 1, 10

For synth pads, e-guitar, cymbals, hi-hat

each represent a different phaser circuit that yields a unique sound.

- ◆ **All/Mid:** The ›All‹ presets always modulate the entire frequency range. In the ›Mid‹ presets, the frequency range is narrowed down so the sound won't be colored as drastically.

Tweaking tips:

LFO 1	Higher values for faster modulations (very responsive)
ORDER	Select any other even number at random for a different-sounding phaser effect.
COLOR	Higher values for more intense pitch-shifting and a more drastic effect
MIX (in CONTROLS mode only)	Effect balance: further towards 0 for more dry and less wet signal

Demo 1 (solo, depending on the preset), 3, 4

For individual drum signals such as a kick drum or snare; percussion

COMB—...

Powerful comb filter resonances

These presets add a strong resonance to a single drum sound. They can be used to beef up a kick drum or add a bell-like sound or other percussion instrument on top of the original signal.

In the two final presets ›Random High/Low‹ let you assign another random value for the pitch of the resonance signal. To this end, all you have to do is briefly turn up the Lfo 1 Mix parameter and turn it back down to 0.00Hz.

Tweaking tips:

SWEEP CEILING/ FLOOR	Controls the pitch of the resonance. Make sure that the two faders stay at relatively similar positions.
ORDER	Select any other number at random for a different pitch. Only the odd numbers yield genuine comb filter effects, but even numbers will generate similar effects.
COLOR	Lower values for weaker resonance and a more inconspicuous effect
MIX (in CONTROLS mode only)	Effect balance: further towards 0 for more dry and less wet signal

Fx—...*Extreme phaser modulation effects*

The presets of this category deliver freaky effects and extreme modulations. The first four are a tad more conservative, meaning that they don't mangle the pitch and timbre of the input signal so drastically as to render it unrecognizable.

For that James-Brown-on-acid effect (would that be Parliament then?), try laying these presets over tonal material such as a funk guitar lick.

Demo 3, 1, 10

For drums, guitars, loops, synth

Tweaking tips:

LFO 1/2	Higher values for faster modulations (very responsive)
ORDER	Select any other number at random for a different-sounding phaser effect.
COLOR	Lower values for weaker resonance and a more inconspicuous effect
MIX (in CONTROLS mode only)	Effect Balance: further towards 0 for more dry and less wet signal

Ensemble

Standard signal routing option: INSERT

This plug-in is the illegitimate love child of a dalliance between a chorus and a phaser. A cross between the two, it can, however, sound warmer and fuller than either. Although the Ensemble doesn't deliver sounds that are as spectacular as those of a phaser, Logic Gold users will find it a worthy substitute. And one thing is certain—the Ensemble definitely wins the door prize for the most psychedelic Logic user interface of all time.

- ▶ Insert the Ensemble into an input channel or a bus channel which is used as a subgroup or has been switched to Solo mode. With the exception of Logic Audio Silver, you can also insert these plugs into the stereo master channel.

↓ Ensemble Editor



↑ Ensemble Controls

Handling

You can easily learn what this plug-in is all about. Simply select a pad like Example 16 of the Demo song, plug the En-

semble into the stereo master bus, load the Neutral preset and pull the mixer fader up. Now you're ready to roll:

- 1 Turn LFO 1 INTENSITY up. You'll hear a slightly seasick sound—that's a ›pitch modulation.« You can vary its speed via the RATE knob.
- 2 Up the number of VOICES from 1 to 8. Although the Ensemble now works with the full complement of eight voices, other than the fact that it eats up a lot of more computing power and sounds a little louder, nothing much has changed.
- 3 It will in a flash when you set PHASE to a value other than 0%. The voice modulations are shifted so that the pad sounds far fuller and thicker.
- 4 Now you can dial in a more sophisticated modulating waveform by adding LFO 2 or even the RANDOM LFO to the mix.
- 5 The oversized green coaster that you're looking at there in the middle of the screen is called the ›Emagic Eye.« Not only does it look kind of nifty, it's also practical. The more complex the modulation, the more it writhes around. Real effects aficionados know that feeling ...

With Stereo Base values higher than 100% you can broaden the stereo width of the image, but bear in mind that this reduces the signal's mono compatibility. Finally, you'll find a parameter called Effect Volume. It probably doesn't come as a huge surprise that it will let you compensate for the increase in level when you use several voices.

- ▶ Depending on the computer platform, the Ensemble may at times not run as stably as the other Logic plugs. If the effect begins acting up, simply click the BYPASS button briefly to get it to straighten up its act.
- ▶ Never launch this effect simultaneously with the sequencer because the LFO needs some time to rev up. Give it a bar's worth of time before the beginning of your song to let it pick up speed. This blank bar in front of a song is also recommended for other reasons, which we'll get into later.

Presets

In the selection menu of the Ensemble, you'll find the Fx Collection presets listed by the following categories:

- ◆ Clean: clean chorus-like effects without phase shifting
 - ◆ Phase: trademark Ensemble effects with lots of depth and a 3D vibe.
 - ◆ Fx: interesting to way-out effects with powerful modulations.
- ▶ The more voices a preset uses, the fuller the sound will be. However, bear in mind that every voice will chow down on computing power. If any of the presets makes your computer break a digital sweat, simply back off the VOICES parameter.
- ▶ STEREO BASE values above 100% like the one used here reduce the mono compatibility of the signal. If you use these effects in a stereo mixdown, you should audition the mono sound every now and then. If necessary, turn the STEREO BASE parameter as far back down as 100%.

CLEAN—3/5/8 Voice Guitar

Chorus-like effect for more thickness and shimmer

These presets are great for guitar sounds (Strat lovers, heads up) and arpeggiated guitar and synthesizer chords. If you want to flesh out skinny sounds or add some sparkle to flat sounds, this one will do the trick.

Tweaking tips:

VOICES	Lower values for a leaner sound and less load on your computer
MIX	Effect balance: lower values for more dry signal

PHASE—3/5/8 Voice Guitar

Phaser-like effect for guitars

These presets are based on those of the Clean category, but they add heavy-duty phase shifting between the voices, which yields a more drastic effect and lends sounds an ›electronic‹ flavor. The stereo spread is also manipulated, which gives you a bigger, more impressive sound.

Demo 19, 20

For clean e-guitar,
bass, synth

Demo 19, 20, 8

For clean e-guitar,
bass, synth

Tweaking tips:

VOICES	Lower values for a leaner sound and less load on your computer
MIX	Effect balance: lower values for more dry signal
STEREO BASE	Values around 100% for full mono compatibility

PHASE—Carpet...*Phaser-like effects for pads and heavier sounds*

These presets work much like the others of their category, but they use far more drastic modulations. Laid over skinny sounds such as a squeaky clean electric guitar, the pitch-bending modulations of these effects can give you queasy, out-of-tune sound.

These effects work better with wide-body sounds such as synthesizer pads or distorted e-guitars, which will end up sounding positively huge.

Tweaking tips:

VOICES	Lower values for a leaner sound and less load on your computer
MIX	Effect balance: lower values for more dry signal
STEREO BASE	Values around 100% for full mono compatibility

Demo 16, 19

For synth pads, electric guitar

Fx—...*Off-beat effects featuring extreme pitch modulations*

These presets are great for special effects. With ›Baaad Tune‹ you can turn a normal piano into a bona fide saloon piano, ›Strange Glides‹ morphs a clean electric guitar into a sick sitar, ›Poor Robot‹ mutates your Mom's call to the dinner table into Darth Vader's battle cry and a normal crash cymbal into an inter-galactic thunderstorm ...

Demo 3, 19, 14

For e-guitar drums, loops, speech and vocals

Tweaking tips:

VOICES	Lower values for a leaner sound and less load on your computer
MIX	Effect balance: lower values for more dry signal
STEREO BASE	Values around 100% for full mono compatibility

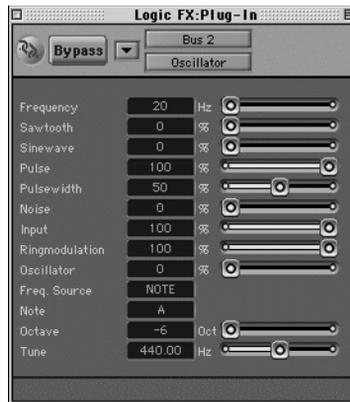
Oscillator

Standard signal routing option: INSERT

If you've never called this plug-in up before because you assumed it is merely a test tone generator, you've missed out on a bunch of fun. The Oscillator can also bend sounds, which makes it a genuine modulation effect ...

- ▶ Insert the Oscillator into an input channel or a bus channel which is used as a subgroup or has been switched to Solo mode.

Oscillator controls



Handling

This effect really doesn't fit into any category—the Oscillator is both a utilitarian tool and a creative plug-in.

Test Signals

Foremost, the Oscillator does what all of its ilk do, that is, oscillate. But it can do more than merely generate test tones and noise:

- 1** Start playback. Like all Logic plug-ins, the Oscillator won't give you a signal unless the sequencer is running.
- 2** Use the OSCILLATOR fader to determine the level of the test signal. Proceed with caution, for it can become quite loud.
- 3** Use **FREQ. SOURCE** to define if you want the signal's pitch to be determined by means of a frequency (**FREQUENCY**) or a note (**NOTE, OCTAVE**); **TUNE** lets you do just that to the signal.
- 4** If you want the classic test tone, select **SINEWAVE**. **SAWTOOTH** and **PULSE** with variable width (**PULSEWIDTH**) give you additional waveforms and thus different timbres to choose from.
- 5** **NOISE** lets you add just that to the signal. You can mix it in any amount that you desire to all the available signals and thus create fairly complex oscillations.

Ring Modulation

The Oscillator can do more than just pump out its signal in isolation, you can also modulate it via an input signal. This process is called ring modulation; it generates anything from metallic to abrasive, rake-your-fingernails-down-the-chalk-board sounds:

- 1** Set the Oscillator up to generate any desired signal as described above.
- 2** Patch a drum or percussion loop into the plug-in.
- 3** Pull the OSCILLATOR fader all the way down and pull RINGMODULATION all the way up. You'll hear the input signal come out distorted or with additional resonance.
- 4** Experiment with the different waveforms. Here's where the plug's many features start to make sense because, depending on the modulated signal, you can use them to manipulate sounds in a variety of ways.
- 5** Use the INPUT fader to add as much of the dry signal to the processed signal as you see fit.

- ▶ You'll be able to come up with the most interesting ring modulation effects when the pitch of the modulated signal lies somewhere in the middle range of frequencies.
- ▶ Ultra-low frequencies will create tremolo-like effects, meaning that the volume level will ›pump‹ up and down. Try mixing waveforms to create otherworldly grooves.

Presets

In the selection menu of the Oscillator, you'll find the Fx Collection presets listed by the following categories:

- ◆ Osc: diverse standard test signals.
- ◆ Ringmod: ring modulation effects with metallic overtones.
- ◆ Trem: tremolo-like effects with rhythmically pumping volume.

Osc—Noise 01/02...

Noise signals for test purposes

These two presets generate noise that is used for test signals. ›Pink‹ gives you noise with loads of mids, ›White‹ contains more high frequencies. However, we're not talking about the standard white or pink noise used for audio testing purpose. This preset can only deliver an approximation of these noises.

Tweaking tips:

FREQUENCY	Pitch of the noise signal
OSCILLATOR	Volume of the noise signal

Osc—Sine 01—10...

Sine tones used for testing purposes

These presets generate sine test signals with the indicated pitches. ›Sine 05—440Hz‹ gives you what's called concert pitch, which is precisely the pitch of a tuning fork.

Bear in mind that extremely low or high pitches around 20Hz or 20kHz can be heard only over high-quality monitor loudspeakers.

Tweaking tips:

FREQUENCY	Pitch of the sine signal (except for Preset 05)
NOTE/OCTAVE/TUNE	Pitch of the sine signal (except for Preset 05)
OSCILLATOR	Volume of the sine signal

RINGMOD—...

Ring modulation with metallic overtones

Demo 8, 12, 1, 11

These presets will do a number on percussive material with lots of bottom end. They add metallic overtones in different pitches and timbres.

For synth, bass, drums, percussion

Tweaking tips:

INPUT	Amount of dry signal
RINGMODULATION	Level of the wet signal
NOTE/OCTAVE	Pitch or timbre of the wet signal

TREM—...

Tremolo-like rhythmic pumping of the volume level

Demo 16

Some of these presets generate rather unusual tremolo effects. Your best bet is to try them with a pad. Make sure that you can hear the wet signal only—mute whatever device is generating the input signal.

For strings, synth pads, guitar

Tweaking tips:

OCTAVE	Coarse modulation rate setting (-6 up to -3)
NOTE	Modulation rate setting
TUNE	Fine-tunes the modulation rate

Pitch Shifter II

Standard signal routing option: INSERT

Strictly speaking, this is not a modulation effect. However, along with typical transposition effects, this plug can generate pitch-bending effects, which is why most of these presets fit right in with this category.

- ▶ Insert the Pitch Shifter II into an input channel or a bus channel which is used as a subgroup or has been switched to Solo mode. With the exception of Logic Audio Silver, you can also insert these plugs into the stereo master channel.

↓ Pitch Shifter II Editor



↑ Pitch Shifter II controls

Handling

Couldn't be any easier: use Semi Tones to adjust the interval of the desired pitch shift in semi-tone steps, Cents to fine-tune it in increments of $\frac{1}{100}$ of a semitone—half note, if you prefer—, and Mix to dial in the desired balance between the wet and dry signals.

The plug also gives you a choice of operating modes. Very hip.

- ◆ Set to Drums, the effect's response is lightninglike, but on the downside, sounds somewhat synthetic.
- ◆ Vocals delivers the most natural-sounding effect, but its response is sluggish.

- ◆ Speech is a trade-off between the two extremes.

Feel free to try out operating modes that are ›inappropriate‹ for the given signal, for example Speech for a drum loop. This can create intriguing ›doubled‹ sounds.

- ▶ The quality of this plug-in is simply not good enough to let you take a single vocal track and harmonize it to create a full choir. You're better off trying this trick in the Sample Editor. The Time and Pitch Machine, which you'll find in the FACTORY menu, will deliver far superior results.

Presets

In the selection menu of the Pitch Shifter II, you'll find the Fx Collection presets listed by the following categories:

- ◆ Speech: here you can change the timbre of a speaking voice.
- ◆ Doubler: adds thickness and body to vocals and instruments.
- ◆ Drum Fx: extreme transpositions for drum effects.

SPEECH—More Male 1/2

Makes male voices somewhat deeper and more sonorous

Demo 14

With these two presets, you can put some hair on the chest of male voices. It makes them deeper so that they sound more ›manly‹ and sonorous. You can also use these programs to bend female voices so that they sound more masculine.

For speech

You won't find the reverse effect—a preset that makes female voices even more ›feminine‹—here. This has two reasons:

- ◆ A slight shift in pitch works fine for male voices, but not for female voices.
- ◆ Logic's Pitch Shifter does an Ok job of transposing downwards; it doesn't fare so well in the other direction. Do the words ›Minnie Mouse on helium‹ ring a bell?

Tweaking tips:

SEMI TONES	Detunes the signal in semitone increments; lower values for a more drastic effect (to up to about -4 for a natural sound; extreme values of up to -12 for ›Lurch-like‹ effects)
CENTS	Fine-tunes the detuned signal: opt for values between 0 and 50 when you want to tweak a sound subtly.

DOUBLER—...

Thicker-sounding vocals and instruments

Demo 13, 18, 10

For vocals, guitar, sax

These presets slightly detune the signal and mix the detuned signal with the dry signal. The resultant sound is bigger, with a touch of chorus-like shimmer. This type of effect is often used to beef up scrawny vocals, but it will also do a nice job on clean electric guitars or synth arpeggios:

- ◆ ›Tight‹ simply doubles up the signal with a touch of detuning.
- ◆ ›Slap‹ adds a dash of ›slapback‹ echo.
- ◆ ›Late‹ delivers a clearly audible echo that sounds something like a second voice.

Tweaking tips:

MIX	Dry/wet signal volume level balance; select higher values for a more powerful effect, but stay within a range of about 30% to 70%. Otherwise, one of the two components will be too soft and the effect too weak.
CENTS	Fine-tunes the detuned signal; greater deviations from the 0 position yields more shimmer. At about $\pm 30\%$, the shimmer starts to turn from sweet to sour.

DRUM FX—E-lectro Hat 1/2

Turns acoustic into electronic hi-hat sounds

Demo 1 (Cha 3 solo), 3

For hi-hat, shaker, high-frequency percussion sounds

These two presets tune the signal way up and mix the high-frequency wet signal with the dry signal. If you apply this effect to hi-hats or lean percussion sounds, you'll add something of an e-drum touch to these sounds.

Tweaking tips:

MIX	Dry/wet signal volume level balance. Select higher values of up to 75% for a stronger effect. At 75% and higher, you'll hear little of the dry signal, but that can be desirable for this effect.
SEMI TONES	Detuning in semitone steps; higher values for a more drastic effect (from about +5 to +12)
CENTS	Fine-tunes the detuned signal; use it to make subtle changes to the sound.

DRUM Fx—Loow Crash

Extreme downward transposition that creates metallic drum sounds

Here the dry signal is transposed downwards by more than an octave. Particularly cymbals will sound huge, but the effect can also spice up a hi-hat or shaker

Demo 1 (Cha 3 or 6 solo), 4, 2 (Cha 2 solo)

For cymbals, hi-hat, shaker

Tweaking tips:

DRUMS/ SPEECH/ VOCALS	When you switch from one mode to the other, you'll notice how the sound will become floppier or less focused. VOCALS softens up the sound considerably, DRUMS delivers a snappier sound, SPEECH gives you sounds that lie midway between these two extremes.
-----------------------------	--

DRUM Fx—Slapback 1/2

Slight echo for more of a 3D room vibe

A blatant example of effects misappropriation, here the Pitch Shifter doesn't produce any kind of detuning at all. Instead, its operating modes Speech and Vocals are exploited to generate ultra-short delays. In conjunction with percussive signals such as tom-toms or funk guitars, this yields a very subtle echo that adds depth and breadth to the sound.

Demo 4, 10, 11

For percussive instruments

Tweaking tips:

MIX	Dry/wet signal volume level balance. Dial in lower values if the echo is too loud for your taste.
-----	---

7 Sound Design

This chapter is my favorite because it deals with particularly creative and innovative plugs. Lamentably, only Platinum users get to enjoy the vast majority of effects highlighted here. It seems that even in the virtual world, good fun doesn't come cheap.

Auto Filter

This plug-in puts all the tools of a resonance-capable synthesizer filter at your fingertips—you can chop up pads, create stereo ping-pong effects and distort signals to your heart's content. And you can use all of these neat sound-sculpting tools individually or in combinations. Plus, you can shape sounds statically, via variable Lfo modes or even by means of the dynamics of the input signal.

Sounds complicated? Make no mistake about it, it is. But it's well worth the effort of exploring the Auto Filter's many options, for it is a grab-bag chock full of creative sound design tricks.

Standard signal routing option: INSERT

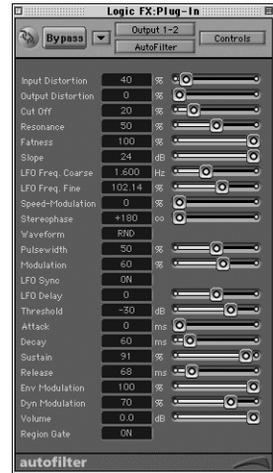
- ▶ Insert the Auto Filter into an input channel or a bus channel which is used as a subgroup or has been switched to Solo mode. With the exception of Logic Audio Silver, you can also insert these plugs into the stereo master channel.

Handling

The Auto Filter features different sections. Some of these must interact for the plug to work, others can interact if that's what you want. It's particularly important that you come to understand the individual functions and how they

interact so that you don't get hopelessly lost in this labyrinth of features.

↓ Auto Filter Editor



↑ Auto Filter controls—
additional parameters:
VOLUME, REGION GATE

Basic Filter Settings

Here too, ›learning by doing‹ is definitely the best approach:

- 1 Start with a dry signal that is rich in top end frequencies, say Demo Example 10.
- 2 Select the preset NEUTRAL in the Auto Filter. All modulations are deactivated in this preset.
- 3 Use CUTOFF FREQ to define the upper threshold—the highest frequency that the filter will let through. Choose a value of around 30%.
- 4 Use RESONANCE to determine how strongly the filter will later ›chirp.‹ Select 50% or so.
- 5 The higher the RESONANCE value, the thinner the sound. If it gets too lean for your taste, simply boost FATNESS. However, this will also take the biting edge off the sound.
- 6 The higher the SLOPE value, the steeper the filter and the more drastic its effect. For typical synth effects, a peak value of 24 is generally your best bet.

The sound that you're hearing now is muddy and very boring. However, bear in mind that, when the filter is being modulated by the envelope, it can't open up any wider than the Cutoff threshold will let it. In other words, if you set a high Cutoff frequency from the start, the filter won't have much ›headroom‹—it has no room up top to open up during an envelope modulation, which means that you won't hear any modulation effect!

Dynamic Filter Modulation

Now we'll mix things up a bit by giving the filter some room to move:

- 1** Push the upper vertical MODULATION fader all the way up. The ENVELOPE can now influence the filter.
- 2** Gradually turn the THRESHOLD knob down in order to make the filter more sensitive. Try to pinpoint the position at which the input signal crosses this threshold as often as possible.
- 3** Once you've found the sweet spot—the most desirable threshold—you'll hear the input signal constantly ›trigger‹ the envelope anew. The sound will begin to twitter, chirp, whistle or whatever else you want to call this ›squirty‹ noise.
- 4** Go ahead and experiment with the envelope parameters ATTACK, DECAY, SUSTAIN and RELEASE to hear how they affect the sound.
- 5** If you turn up DYNAMIC MOD. to about the halfway point, you'll hear how the input signal's dynamics begin to influence the modulation amount. Generally, the sound will become a touch muddier, so you can turn up CUTOFF FREQ.

LFO Modulation

The Auto Filter can also deliver modulations at any speed:

- 1** Turn THRESHOLD all the way up and the upper vertical MODULATION fader all the way down in order to cut out the influence of the envelope.
- 2** Patch a pad sound like Demo Example 16 into the Auto Filter, then pull the lower vertical MODULATION fader all the way up.
- 3** The LFO now influences the filter. This is a simple oscillation for which you can select the desired FREQUENCY and WAVEFORM which are located in the area on the lower left of your screen.

- 4 Play with the parameters: you'll hear how the filter opens and closes at regular intervals. Caution: You will hear clicks with all but the center waveform!
- 5 You can create ping-pong effects by setting STEREO PHASE in the stereo version of the Auto Filter to 180%.
- 6 Note how a dynamic input signal's level influences the LFO rate when you turn THRESHOLD down and SPEED MOD. up.
- 7 When you activate SYNC, the LFO is retriggered every time the input signal exceeds the defined THRESHOLD. This lets you conjure up effects that groove to the >beat< of the input signal, particularly when you set slow LFO rates of around 1.0.

Distortion

The gain of the distortion modules boost the signal level considerably. If you own a relatively up-to-date version of Logic Audio, you'll find the hidden parameter VOLUME (it's visible when the Auto Filter is set to CONTROL mode). Use it to balance out this increase in level.

At the bottom right of your screen, you'll see two controls for the onboard distortion modules:

- ◆ Select Input if you want to filter the distorted signal. This option yields a sound reminiscent of a standard guitar amp.
- ◆ Select Output if you want to distort the filtered signal. This gives you a more electronic and colder sound, which is just what the doctor ordered for techno synths and drums.

If you can't make up your mind which you prefer or want to create a particularly brutal effect, you can of course combine the two distortion options.

- ▶ Once you have a handle on each of the individual sections and understand how they work, you can start combining the different effects. Bear in mind that sometimes a little goes a long way and an overly busy or even a chaotic effect is not necessarily a good effect. Often the effect is more powerful when it's focused on just a few sonic elements.

Presets

In the selection menu of the Auto Filter, you'll find the Fx Collection presets listed by the following categories:

- ◆ Chop: Lfo-controlled hacking up of pad sounds.
- ◆ Stereo Pan: stereo effects such as auto panning and the like.
- ◆ Env: envelope-controlled synth filter for bass and guitar.
- ◆ Reso: for generating additional sounds on top of the input signal or radical coloration; hip for drums.
- ◆ Mix: spaced-out combinations for freaky drums, loops, synths ...

CHOP—Balalaika

Fades pad sounds in and out rapidly

Here the signal fades in and out smoothly with a little delay and at a relatively high speed. The result reminds me a bit of that trademark sound of a balalaika (that's a Russian instrument with just three strings, perhaps strung so conservatively to make it easier to play after imbibing a bottle of vodka).

- ▶ Use this preset for pads with loads of sustain and little harmonic movement (yep, the boring stuff). Otherwise, it'll sound too chaotic.

Tweaking tips:

THRESHOLD	Determines the frequency at which dynamic modulations are excited; try to locate the position that triggers the most action.
LFO MODULATION (bottom)	Effect balance: turn it up for more prominent fades, down for smoother sustain.
LFO SPEED MOD	Rate at which the sound fades in and out

CHOP—ELO Sweep

Typical Lfo sweep filter sound

This preset works statically, meaning that the sound isn't affected by the dynamics of the input signal. The low Resonance value adds a subtle, soft and warm sweep filter to the sound.

Demo 16

For synth pads

Demo 16

For synth pads

Tweaking tips:

LFO MODULATION (bottom)	Effect balance: turn it up for more prominent fades, down for smoother sustain.
LFO FREQUENCY	Rate at which the sound fades in and out
FATNESS	Lower values for a leaner sound

CHOP—Random

Chops up pad sounds randomly

Demo 16

For long-fading synth pads

If you feed this preset with a synth pad sound, it will sound as if some barking mad audio engineer is muting the corresponding mixer channel at random. This effect will definitely liven up a boring, endlessly sustaining pad. You can spice it up even more by laying a rhythmic delay over it.

Tweaking tips:

THRESHOLD	Determines the frequency at which dynamic modulations are excited; try to locate the position that triggers the most action.
LFO MODULATION (bottom)	Effect balance: turn it up for prominent muting, down for smoother sustain.

CHOP—Random Vocoder

Hacks up pads and adds chirping noises

Demo 16

For long-fading synth pads

Much like the ›Random‹ preset, this one chops up synth pad sounds in a random rhythm. However, this filter adds a healthy helping of resonance, which yields modulated and perhaps inane twittering that sounds a bit like a vocoder effect.

Here too, you can come up with a nifty effect if you pipe the wet signal through a rhythmic delay.

Tweaking tips:

THRESHOLD	Determines the frequency at which dynamic modulations are excited; try to locate the position that triggers the most action.
LFO MODULATION (bottom)	Effect balance: turn it up for prominent muting and chirping, down for smoother sustain.
RESONANCE	Higher values up to about 70% for more high-end chirping, lower values down to about 30% for darker resonance.

STEREO PAN—Dynamic...*Soft, dynamic sweeps through the stereo panorama*

These two simple auto-panners gradually sweep the signal to and fro in the stereo panorama. Other than the speed of movement, there's not much difference between the two.

The dynamic modulation creates an effect similar to the sound of a rotary cabinet when it first kicks in and starts to pick up speed.

Tweaking tips:

THRESHOLD	Determines the frequency at which dynamic modulations are excited; try to locate the position that triggers the most action.
LFO MODULATION (bottom)	Effect balance: turn it down for a more subtle stereo sweep.
LFO SPEED MOD	Speed of the stereo sweep; intensity of the ›start-up‹ effect

STEREO PAN—Static...*Soft, smooth sweep through the stereo panorama*

These two auto panners are similar to the ›Dynamic‹ variants. Here, however, the stereo sweep is regular or steady, meaning that it's not influenced by the dynamics of the input signal.

Demo 11, 12, 15

For synth, e-guitar organ

Demo 11, 12, 15

For synth, e-guitar organ

Tweaking tips:

LFO MODULATION (bottom)	Effect balance: turn it down for a more subtle stereo sweep
LFO FREQUENCY	Speed of the stereo sweep

Demo 1 (Cha 6 or 3 solo), 2, 3

For cymbals, hi-hat, percussion instruments rich in highs

ENV—Crash ... Birdy 1/2

Special filter effects for cymbals or hi-hat

Unlike most other Auto Filter presets, these three effects are designed specifically for individual drum instruments, so they won't work too well with entire drums sets.

The ›Crash‹ preset fades in a cymbal hit gently via a sweep effect.

- ◆ The ›HiHat‹ presets lend acoustic hi-hat tracks a kind of chirping vibe that is reminiscent of electronic drums.

Tweaking tips:

THRESHOLD	Determines the frequency at which dynamic modulations are excited; try to locate the position that triggers the most action.
ENVELOPE Parameters 1 to 4	Use these to shape the envelope; simply tweak them by ear until you come up with sounds that you like.
RESONANCE	Lower values for less chirping

Demo 8, 2, 5

For bass, guitar, synth, loops

ENV—Synth...

Filter effects for synth basses, wah-wah guitars and loops

These presets put the basic types of envelope-controlled filters at your disposal. They'll let you turn e-bass and guitar sounds into typical synthesizer sounds. Particularly when you're recording real instruments (as opposed to samples, etc.), these effects can deliver hip sounds.

- ▶ Be sure to try these presets with entire drum sets or loops. They'll bend the original groove radically or thin it out to an extent where you end up with entirely new grooves!

Tweaking tips:

THRESHOLD	Determines the frequency at which dynamic modulations are excited; try to locate the position that triggers the most action.
ENVELOPE parameters 1 to 4	Use these to shape the envelope; simply tweak them by ear until you come up with sounds that you like.
RESONANCE	Lower values for less chirping
FATNESS	Lower values for a leaner sound

RESO—...*Adds resonance frequencies with different pitches*

These presets are excited by the input signal so that they generate sounds of their own with characteristic curves ranging from that of a typical e-drum tom to ›woody‹ resonances and extremely low kick drums.

As unlikely as this may sound, you actually can use these presets for all kinds of sonic sleight of hand, for example, to instantly turn a hi-hat track into a snappy kick drum. Try it and see for yourself!

- ▶ Give these presets a whirl with individual drum instruments, for instance, a hi-hat or snare track that you've set to solo. Although the sound of the dry signal is replaced completely by the synth sound generated in the plug-in, the input signal has a formative influence on the results.
- ▶ The level of the wet signal also largely depends on the type of dry signal that you're patching into the plug. If the resonance is too loud, activate CONTROL mode and back off the VOLUME fader.

Demo 1 (Individual channels Solo)

For drums, percussion

Tweaking tips:

THRESHOLD	Determines the frequency at which dynamic modulations are excited; try to locate the position that triggers the most action.
ENVELOPE DECAY	Length of the generated synth tone
CUTOFF FREQ.	Pitch of the generated synth tone
DYNAMIC MOD and ENVELOPE MODULATION (top)	Timbre of the generated synth tone

Mix—...

Wild resonance filter and panning effects

Most of these presets combine different sections of the Auto Filter, so this category delivers considerably more extravagant effects. I'll spare you any attempts at explanations—these effects are so complex that they defy description.

- ▶ Simply load a fat drum loop, crank up your system, and brace yourself for your neighbors' fury!

Tweaking tips:

THRESHOLD	Determines the frequency at which dynamic modulations are excited; try to locate the position that triggers the most action.
ENVELOPE MODULATION (top)	Determines how much influence the envelope has.
LFO MODULATION (bottom)	Determines how much influence the LFO has.

Bitcrusher

This is a typical lo-fi effect that will add dirt, dissonance or an ugly industrial vibe to every signal. If you want your drum loops to sound like you suffered a deeply troubled childhood, you'll love the Bitcrusher.

Demo 5, 1, 6

For drums, percussion, drum loops

Standard signal routing option: INSERT

- ▶ Insert the Bitcrusher into an input channel or a bus channel which is used as a subgroup or has been switched to Solo mode. With the exception of Logic Audio Silver, you can also insert these plugs into the stereo master channel.

↓ Bitcrusher Editor



↑ Bitcrusher controls

Handling

Much like the Ensemble, the Bitcrusher is adorned with an informative graphic display. It shows you exactly how and when this cruel processor is mangling an innocent sine curve. Despite the few control elements, you get three different functions that let you bend the signal along with the visuals that represent it graphically.

Reduced Bit Depth

The Resolution fader lets you simulate different bit depths. The lower the value, the rawer and noisier the sound.

Values between 4 and 12 bits are the most effective. The influence of the plug is extremely weak at higher values so that you won't perceive much of a difference between the effects and the original signal.

Reduced Sampling Rate

The Downsampling fader lets you simulate the different sounds that different sampling rates produce. The higher the

value, the less details you'll hear. In addition, at high values, high-frequency overtones are added to the signal in a process called aliasing.

Distortion

The Clipping section lets you simulate digital distortion. The more you crank the Drive and Clip faders, the more you'll distort the signal. Unlike Clip, Drive also determines the input level of the other sections.

With the Mode buttons on the right, you can choose from among three different types of distortion, each having a unique timbre.

- ▶ The Bitcrusher merely simulates the tonal influences of these parameters. No matter what wild & wacky settings you dial in, the bit depth and sampling rate of your signal don't actually change.
- ▶ Unfortunately, the Bitcrusher doesn't come with a parameter that lets you tweak the effect's output level. This means that wet signals with lots of distortion will leave the plug-in at a very high volume. As a precaution, you should always back off the monitor volume when you're working with this plug-in. Use the channel fader to lower over-the-top output levels.

Presets

In the selection menu of the Bitcrusher, you'll find the Fx Collection presets listed by the following categories:

- ◆ Inst: effects for instruments such as guitar or bass.
- ◆ Drum: effects for drums, percussion, loops.
- ◆ Fx: extreme combination effects for any audio material.

INST—Clavi Guitar

Makes guitar signals sound chimey

This program works well with clean guitar sounds. It adds chimey overtones and a bit more gloss to the signal; you can even achieve harpsichord-like sounds.

Demo 19, 10, 20
For e-guitar

Tweaking tips:

Downsampling 3 to 6: higher values for a more powerful effect

INST—Digital Distortion*Fat distortion*

Demo 20, 12, 1

The preset delivers the kind of distortion you might associate with that of a digital guitar amp. The effect works nicely with clean electric guitar signals as well as with synth sounds.

For guitar, synth

- ▶ Caution, this preset pumps out a very high output level! Back off the monitor volume and compensate for the higher level by pulling down the channel fader!

Tweaking tips:

DRIVE Higher values for a more powerful effect

INST—Flat Eric Bass*Morphs acoustic bass sounds into something synth-like*

Demo 8, 9

This preset lets you instantly turn an acoustic bass track into a techno synth bass line.

For bass

With the Downsampling parameter, you can literally tune the overtones of the signal. Note that higher values yield lower frequencies. Try adjusting the Downsampling parameter so that the pitch of the overtones matches the key of the bass riff.

Tweaking tips:

Downsampling 10 to 40: higher values for deeper overtones

DRUM—Metallic Distortion*Heavy distortion with loads of mids*

Demo 3, 4, 1

This preset gets the job done when you want to bend a percussion track. It works best with thin sounds that are rich in top-end frequencies, say a guiro or shaker. This preset's distortion emphasizes the midrange frequencies, which creates a warmer overall sound.

For percussion, drums, loops

- ▶ Caution, this preset pumps out a very high output level! Back off the monitor volume and compensate for the higher level by pulling down the channel fader!

Tweaking tips:

Downsampling 10 to 40: higher values for deeper overtones

DRUM—Snare Shorty

It shortens and tightens up sustaining snare sounds

If a snare carpet hangs around too long for your taste, you can trim it up with this program.

Tweaking tips:

Resolution 8 to 4: lower values for a more intense effect

Demo 1 (Cha 2 solo)
For snare

Fx—Bjoerky Fat

Bass-boosting lo-fi effect

Another typical lo-fi effect, this one lets you twist drum or percussion loops all out of shape. It also boosts bottom end frequencies for a more in-your-face kick drum sound.

- ▶ Caution, this preset pumps out a very high output level! Back off the monitor volume and compensate for the higher level by pulling down the channel fader!

Tweaking tips:

Drive Higher values for a more powerful effect

Demo 7, 6, 1
For drum loops,
percussion

Fx—Bjoerky Mid

Bass- and treble-cutting lo-fi effect

Another typical lo-fi effect, this one lets you twist drum or percussion loops all out of shape. It cuts low and high frequencies and at the same time adds freaky high-frequency aliasing. The effect sounds fairly drastic, but, to my ears not unpleasant or overly aggressive.

Demo 6, 4, 1
For drum loops,
percussion

- Caution, this preset pumps out a very high output level! Back off the monitor volume and compensate for the higher level by pulling down the channel fader!

Tweaking tips:

DRIVE	Higher values for a more powerful effect
-------	--

Fx—Bjoerky Sharp

Treble-boosting lo-fi effect

Another typical lo-fi effect, this one lets you twist drum or percussion loops all out of shape. Particularly the higher frequencies are stressed here, which helps a hi-hat, shaker & the like to cut through the mix. It also makes them sound a bit bigger.

- Caution, this preset pumps out a very high output level! Back off the monitor volume and compensate for the higher level by pulling down the channel fader!

Tweaking tips:

DRIVE	Higher values for a more powerful effect
-------	--

Fx—Little LoFi Bright

Moderate lo-fi effect with lots of top end

Another typical lo-fi effect, this one boosts the higher frequencies. It adds sheen to freshen up dull snare or shaker sounds, which helps them cut through the mix. It's also suitable for instruments such as bass.

Tweaking tips:

DRIVE	Higher values for a more powerful effect
-------	--

Fx—Little LoFi Mellow

Moderate lo-fi effect with top end cut

Load this preset when you want to add just a touch of grit to squeaky-clean signals. The result sounds a tad muddier,

Demo 5, 1, 4

For drum loops, percussion

Demo 2, 8

For loops, percussion, bass

Demo 2, 8

For loops, percussion, bass

noisier and unfocused, whereby the effect is not too obtrusive.

Tweaking tips:

DRIVE Higher values for a more powerful effect

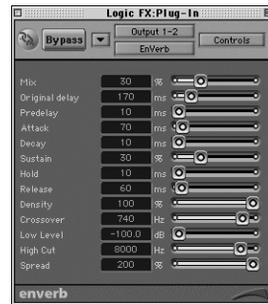
EnVerb

Standard signal routing option: INSERT

Although this plug-in nominally generates reverb, it definitely has a rightful claim to membership in our little sound design effects club. To be sure, you'll find that the starting point and dynamics of the reverb trail are putty in your hands—you can shape the signal at will. This plug invites you to create nifty gated reverb and echoes. In a nifty twist, you can even contort reverb trails so that they become audible before you hear the dry signal.

- ▶ Insert the EnVerb into an input channel or a bus channel which is used as a subgroup or has been switched to Solo mode. With the exception of Logic Audio Silver, you can also insert these plugs into the stereo master channel.

↓ EnVerb Editor



↑ EnVerb controls

Handling

One of the more convenient features of this plug-in is that it offers three distinct sound-shaping sections. This means that

although you can achieve extremely orthodox and certainly dramatic effects, the concept behind the effect is easy to grasp and the plug itself is a piece of cake to handle.

Sound of the Reverb Trail

Like on every normal reverb plug-in, the EnVerb lets you spice up the sound of the reverb trail to taste. You'll find the parameters for this on the right. They largely correspond to the reverb parameters of the PlatinumVerb:

- ◆ Density determines the thickness of the reverb trail: higher values for a soft, natural-sounding reverb trail, lower values for a rawer sound; extremely low values for resonance effects.
- ◆ Spread influences the breadth of the stereo image. Bear in mind that values greater than 100% reduce the mono compatibility of the signal.
- ◆ High Cut controls the upper frequency threshold. Lower values evoke more subtle, warmer reverb.
- ◆ Like on the PlatinumVerb, here too the reverb trail is divided into two frequency bands: For example, if you set Crossover to 120Hz and Low Level to about +6dB, the bottom end frequencies below 120Hz are boosted by 6 decibels. This creates a really fat reverb sound for dramatic kick drum effects.

Dynamic Envelope

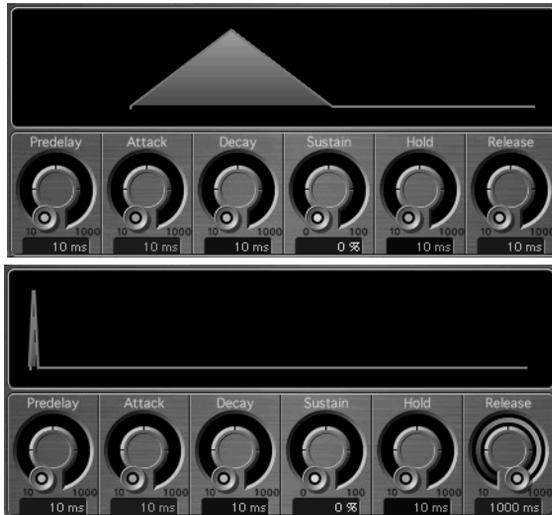
Using the parameters located below the graph, you can shape the dynamic envelope of the reverb trail. They let you determine whether the reverb signal pops up briefly or it swells gradually and, at full ›bloom,‹ becomes a huge wall of sound. If you've ever fiddled around with a synthesizer, you're already familiar with these ›envelope parameters.‹

The graph located at the center of the plug-in's interface gives you a visual reference showing you what the parameters that you set for the dynamic envelope actually do.

With the help of this graphic tool, you'll find it very easy to tweak the settings to taste.

Bear in mind that the plug adjusts the graph to reflect the actual length of the different stages of an envelope. For example, the Attack phase will appear to be very long and relatively flat on the graph when the Hold and Release values are low. When these values are high, it will appear to be very short and spiky.

Don't let appearances deceive you: With the long RELEASE time in the example below, the reverb pulse looks much more peaked and percussive than it actually is. In reality, the two settings sound identical.



Delayed Effect Signal

Like on every standard reverb plug-in, the Predelay parameter lets you delay the wet signal. However, this Predelay feature is special because it offers unusually long delay times of up to a full second.

If you care to, you can opt to leave a clearly audible gap between the dry and wet signals. This will sound a bit like an echo with a healthy helping of reverb over it, which can sound quite intriguing.

Reverb in Front of the Dry Signal

The Original Delay parameter has an unusual function: it delays the dry signal while the wet signal remains unaffected. This lets you come up with wicked effects when you dial in higher values. For example, you could create a configuration where a snare's reverb can be heard *before* the actual snare hit.

This operation shifts the dry signal to another position within your arrangement, and it's highly likely that it will no longer fit the rhythmic context. This problem is easily solved in Logic:

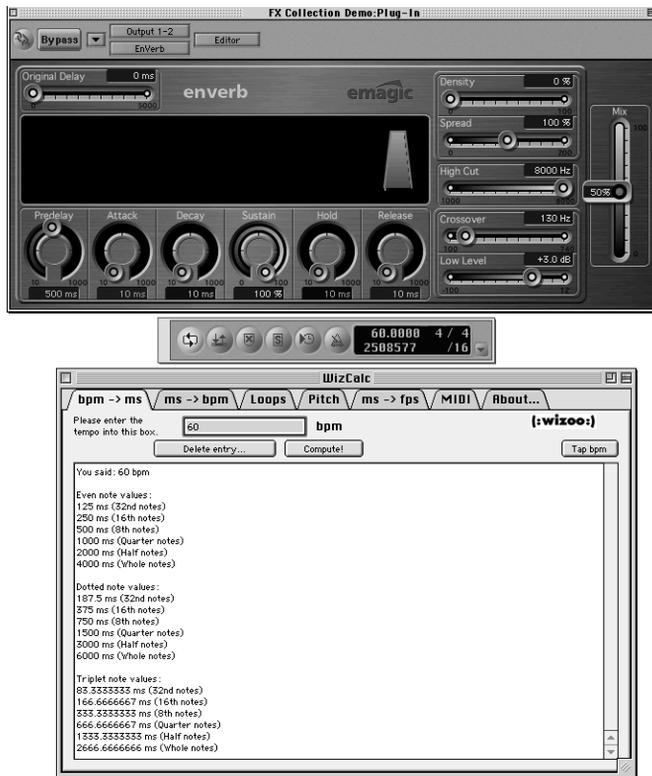
- 1 Select Example 1 in the Demo song and plug the EnVerb into Audio Mixer Channel 2 to process the snare.
- 2 On the EnVerb, select the preset ›ORG DEL—Attack 1_08 90BPM:‹ ›ORG DEL‹ stands for ›ORIGINAL DELAY,‹ which is a delayed dry signal. ›Attack‹ is a reverb trail that fades in gradually. ›1_08‹ indicates the effect's rhythm, which is an eighth note.
- 3 Note that the reverb trail is rather loud. Pull the MIX parameter on the EnVerb down to about 10%. The reverb trail now builds up gradually before the snare signal comes in.
- 4 The effect delays the snare by roughly an eighth note, so now the rhythm sounds different. Select Snare Track 2 in the ARRANGE window and click on the track parameters to the left of the entry DELAY. Select ›-1/8‹ from the pop-up menu. The negative value shifts the snare track an eighth note back towards the start of the song. The groove now sounds just like it did before you processed the snare.
- 5 You can generally come up with a slinkier groove when you tweak the EnVerb's envelope parameters. In our example, the reverb and dry signals seem to blend in better with one another at an ATTACK value of about 300ms.
- 6 At an ATTACK value of some 500ms, the original snare kicks in the middle of the reverb trail. This sounds like pre-delayed reverb combined with a normal reverb effect.
- 7 Check out how the different envelope parameters affect the sound. Also check out what happens when you send the snare signal to a ›normal‹ reverb via the bus knobs.

A combination of ORIGINAL DELAY and PREDELAY would delay both the wet and dry signals, which makes little sense in practice. For this reason, you should always set one of these two parameters to its minimum value.

If the DELAY is not indicated in the track parameters as a note value, you have activated DELAY IN MS. For this application, you should switch this option off in the local SELECTION menu.

Adjusting Presets to Match the Song Tempo

Nearly all EnVerb presets are programmed to run at a song tempo of 90Bpm. However, you can easily adapt the EnVerb's settings to any other song tempo, particularly since the connection between the parameters and the effect's groove is fairly clear:



Piece of cake: Simply enter your song's tempo to WizCalc and set the EnVerb parameters labeled in this book to values that appear in the list.

- 1 Copy the WizCalc utility located on the included CD-ROM to your hard disk. It requires just some 2MB RAM, so you won't have any problems running it in parallel with Logic.

- 2 At the top of the WizCalc, select the entry ›bpm → ms,‹ enter the tempo of your song to the box at the left next to ›bpm‹ and press % or the COMPUTE! button.
- 3 A list will appear that indicates a matching time signature for every note value. Next to EVEN note values, the list also contains DOTTED values and TRIPLETS.
- 4 Select a time value from the list for parameters that are earmarked ›WizCalc‹ in the EnVerb chapter. Where appropriate, add or subtract the specified note value and adjust the parameters accordingly.
- 5 Voilà! Now the preset is a perfect match for the tempo of your song.

Incidentally, WizCalc puts a bunch of helpful music and technology tools at your fingertips. Take the time to rummage around in this little utility—it's well worth it!

- ▶ The EnVerb's Mix parameter controls effects balance in the usual manner. This is a critical feature when you, as I've recommended, use the plug-in as an insert effect. In the presets, Mix is set to values between 30% and 50%, which, although the values are nominally low, actually produces high effect volumes.
- ▶ For all effects that do not use a delayed dry signal, you can also route signals to the EnVerb like you would any normal reverb plug-in, meaning that you can plug it as a send effect into an Aux channel strip that is addressed via busses. In this case, Logic automatically sets the Mix knob to 100%. And that's where it should stay, because in this configuration you will control the wet/dry mix via the volume fader of the channel strip.

Presets

In the selection menu of the EnVerb, you'll find the Fx Collection presets listed by the following categories:

- ◆ Steady: virtually infinite reverb trails as lo-fi background noise for loops.
- ◆ Direct: effect reverb trails that are connected directly to the dry signal.

The note value in the preset name corresponds to the length of the effect signal.

- ◆ **Fx Del:** delayed reverb trails, kind of like a reverb echo, if that makes sense to you.

The note value in the preset name generally corresponds to the length of the effect signal as well as to the interval between the dry and wet signals.

- ◆ **Org Del:** effect reverb trails that become audible before the dry signal.

The note value in the preset name generally corresponds to the length of the effect signal as well as to the delay of the dry signal. This delay creates a misalignment to the other tracks of the arrangement, which you can compensate for in the track parameters.

STEADY—...

Extremely long noise flag for industrial beat effects

These presets add noise signals that have different timbres. The sounds of the effect signal sustain for more than one second which, when the effect is slapped on a drum track, will in most cases sound like continuous noise.

Not for the fainthearted, this effect is one of the more savage of this collection. If you like the ultra-heavy, extremely harsh sounds of industrial beats, this one will get your blood pumping. For more subtle effects, back off the Mix parameter.

Tweaking tips:

MIX	Balance between the wet and dry signals
HIGH CUT/CROSSOVER/ LOW LEVEL	Sound of the noise flag

DIRECT—Attack ... 90BPM

Rhythmic effect reverb with a gradually swelling reverb trail

Here the reverb trail increases gradually during the attack phase, but cuts off abruptly when it arrives at its peak level. This evokes a heavy, pumping sound that reminds me of a backward reverb.

Demo 7, 3, 1

For drums, percussion, e-guitar, synthesizer

Demo 1, 3, 11

For drums, percussion, e-guitar, synthesizer

Tweaking tips:

MIX	Balance between the wet and dry signals
ATTACK	Length and rhythm of the reverb trail <i>Sync to song tempo with the WizCalc value – 40ms</i>
HIGH CUT/CROSSOVER/ LOW LEVEL	Sound of the reverb trail

DIRECT—Breath ... 90BPM*Rhythmic special effects reverb with thin reverb trail*

Here an extremely lean reverb trail gradually fades in during the attack phase. Upon arriving at its peak level, it abruptly drops to a lower level, eliciting a ›breathy‹ vibe that sounds like a mixture of effect reverb and normal reverb.

You can also vary the Attack and Release times to combine phases that have different note lengths.

Tweaking tips:

MIX	Balance between the wet and dry signals
ATTACK	Length and rhythm of the attack phase <i>Sync to song tempo with the WizCalc value – 10ms</i>
RELEASE	Length and rhythm of the release phase <i>Sync to song tempo with the WizCalc value – 20ms</i>
HIGH CUT/CROSSOVER/ LOW LEVEL	Sound of the reverb trail

DIRECT—Gate ... 90BPM*Rhythmic special effect reverb with a reverb trail that cuts off hard*

Here the reverb trail kicks in hard and makes a hasty exit. This gives you a classic gated reverb sound that, particularly for snare and tom-tom sounds, has been used and abused in countless pop arrangements (that trademark Phil Collins ›sucking‹ drum sound).

Demo 1, 3, 11

For drums, percussion, e-guitar, synthesizer

Demo 1, 3, 11

For drums, percussion, e-guitar, synthesizer

Tweaking tips:

MIX	Balance between the wet and dry signals
HOLD	Length and rhythm of the reverb trail <i>Sync to song tempo with the WizCalc value – 40ms</i>
HIGH CUT/CROSSOVER/ LOW LEVEL	Sound of the reverb trail

DIRECT—Long ... 90BPM

Rhythmic special effect reverb with a softly fading reverb trail

Demo 1, 3, 11

For drums, percussion, e-guitar, synthesizer

The reverb trail kicks in hard and fades gradually and far more softly. The effect is reminiscent of the ›Breath‹ presets, except that this is the more subtle of the two categories. Among other things, it is the more subtle of the two because this reverb trail sounds much more natural.

Tweaking tips:

MIX	Balance between the wet and dry signals
RELEASE	Length and rhythm of the release phase <i>Sync to song tempo with the WizCalc value – 40ms</i>
HIGH CUT/CROSSOVER/ LOW LEVEL	Sound of the reverb trail

DIRECT—Reso ... 90BPM

Rhythmic bass resonance sound

Demo 1, 3, 6

For drums, percussion, loops

These presets generate signals with lengths that correspond to those of the ›Gated‹ programs. However, this effect does not produce the classic reverb trail; instead it yields a synth-like, dark reverb sound. Try it with low-frequency dry signals such as a kick drum—the effect will add a ›tonal‹ flavor that sounds rather spectacular.

Tweaking tips:

MIX	Balance between the wet and dry signals
HOLD	Length and rhythm of the resonance signal <i>Sync to song tempo with the WizCalc value – 40ms</i>
HIGH CUT/CROSSOVER/ LOW LEVEL	Timbre of the resonance signal

DIRECT—ResoCut*Short bass resonance*

This preset generates a signal that corresponds to that of the other ›Reso‹ presets. However, here the resonance is audible for just a moment. Since the effect doesn't hang around for long enough to have a bearing on the groove, this preset will work with any song tempo and doesn't require any further tempo modification.

Demo 1, 3, 6

For drums, percussion

Tweaking tips:

MIX	Balance between the wet and dry signals
HIGH CUT/CROSSOVER/ LOW LEVEL	Timbre of the resonance signal

Fx DELAY—Attack ... 90BPM*Delayed special effect reverb with a gradually swelling reverb trail*

The reverb trail is identical to that of the corresponding presets in the Direct category. However, it kicks in a bit delayed, which generates an added echo effect.

Demo 7, 10, 1

For drums, percussion, e-guitar, synthesizer

Tweaking tips:

MIX	Balance between the wet and dry signals
PRE DELAY	Delay between the reverb trail and dry signal; echo rhythm <i>Sync to song tempo with the WizCalc value</i>
ATTACK	Length and rhythm of the reverb trail <i>Sync to song tempo with the WizCalc value – 30ms</i>
HIGH CUT/CROSSOVER/ LOW LEVEL	Sound of the reverb trail

Demo 7, 10, 1

For drums, percussion, e-guitar, synthesizer

Fx DELAY—Breath ... 90BPM

Delayed special effect reverb with a thin reverb trail

The reverb trail is identical to that of the corresponding presets in the Direct category. However, it kicks in a bit delayed, which generates an added echo effect.

- ▶ On account of the value range, the interval between the reverb trail and the dry signal is only half of the specified note value.

Tweaking tips:

MIX	Balance between the wet and dry signals
PRE DELAY	Delay between the reverb trail and dry signal; echo rhythm <i>Sync to song tempo with the WizCalc value</i>
ATTACK	Length and rhythm of the attack phase <i>Sync to song tempo with the WizCalc value</i>
RELEASE	Length and rhythm of the release phase <i>Sync to song tempo with the WizCalc value – 20ms</i>

Demo 7, 10, 1

For drums, percussion, e-guitar, synthesizer

Fx DELAY—Gate ... 90BPM

Delayed special effect reverb with a reverb trail that cuts off hard

The reverb trail is identical to that of the corresponding presets in the Direct category. However, it kicks in a bit delayed, which generates an added echo effect.

Tweaking tips:

MIX	Balance between the wet and dry signals
PRE DELAY	Delay between the reverb trail and dry signal; echo rhythm <i>Sync to song tempo with the WizCalc value</i>
HOLD	Length and rhythm of the reverb trail <i>Sync to song tempo with the WizCalc value – 30ms</i>
HIGH CUT/CROSSOVER/ LOW LEVEL	Sound of the reverb trail

Fx DELAY—Long ... 90BPM

Delayed rhythmic special effect reverb with softly fading reverb trail

Demo 1, 3, 6

The reverb trail is identical to that of the corresponding presets in the Direct category. However, it kicks in a bit delayed, which generates an added echo effect.

For drums, percussion, e-guitar, synthesizer

Tweaking tips:

MIX	Balance between the wet and dry signals
PRE DELAY	Delay between the reverb trail and dry signal; echo rhythm <i>Sync to song tempo with the WizCalc value</i>
RELEASE	Length and rhythm of the release phase <i>Sync to song tempo with the WizCalc value – 30ms</i>
HIGH CUT/CROSSOVER/ LOW LEVEL	Sound of the reverb trail

Fx DELAY—Reso ... 90BPM

Delayed rhythmic bass resonance sound

Demo 1, 3, 6

The resonance signal is identical to that of the corresponding presets in the Direct category. However, it kicks in a bit delayed, which generates an added echo effect.

For drums, percussion, loops

Tweaking tips:

MIX	Balance between the wet and dry signals
PRE DELAY	Delay between the resonance signal and dry signal; echo rhythm <i>Sync to song tempo with the WizCalc value</i>
HOLD	Length and rhythm of the resonance signal <i>Sync to song tempo with the WizCalc value – 30ms</i>
HIGH CUT/CROSSOVER/ LOW LEVEL	Timbre of the resonance signal

Demo 1, 3, 6

For drums, percussion, e-guitar, synthesizer

Fx DELAY—ResoCut ... 90BPM

Delayed rhythmic bass resonance sound

The wet signal corresponds to that of the other ›Reso‹ presets. However, it kicks in a bit delayed, which generates an added echo effect.

- ▶ Here the note length in the preset name merely indicates the interval between the dry and wet signals.

Tweaking tips:

MIX	Balance between the wet and dry signals
PRE DELAY	Delay between the resonance signal and dry signal; echo rhythm <i>Sync to song tempo with the WizCalc value</i>
HIGH CUT/CROSSOVER/ LOW LEVEL	Timbre of the resonance signal

Demo 1, 3, 7

For drums, percussion, e-guitar, synthesizer

ORG DELAY—Attack ... 90BPM

Special effect reverb with a delayed dry signal and gradually swelling reverb trail

The reverb trail of all Org Delay presets is identical to that of the corresponding presets in the ›Direct‹ category. However, here the dry signal is delayed so that it becomes audible only after you hear the reverb trail.

Tweaking tips:

MIX	Balance between the wet and dry signals
ORIGINAL DELAY	Delay of the dry signal <i>Sync to song tempo with the WizCalc value</i>
ATTACK	Length and rhythm of the reverb trail <i>Sync to song tempo with the WizCalc value – 40ms</i>
HIGH CUT/CROSSOVER/ LOW LEVEL	Sound of the reverb trail

ORG DELAY—Breath ... 90BPM

Special effect reverb with a delayed dry signal and a thin reverb trail

Demo 1, 3, 7

Tweaking tips:

MIX	Balance between the wet and dry signals
ORIGINAL DELAY	Delay of the dry signal <i>Sync to song tempo with the WizCalc value</i>
ATTACK	Length and rhythm of the reverb trail <i>Sync to song tempo with the WizCalc value – 40ms</i>
RELEASE	Length and rhythm of the release phase <i>Sync to song tempo with the WizCalc value – 20ms</i>

For drums, percussion, e-guitar, synthesizer

ORG DELAY—Gate ... 90BPM

Special effect reverb with a delayed dry signal and a reverb trail that cuts off hard

Demo 1, 3, 7

Tweaking tips:

MIX	Balance between the wet and dry signals
ORIGINAL DELAY	Delay of the dry signal <i>Sync to song tempo with the WizCalc value</i>
HOLD	Length and rhythm of the reverb trail <i>Sync to song tempo with the WizCalc value – 40ms</i>
HIGH CUT/CROSSOVER/ LOW LEVEL	Sound of the reverb trail

For drums, percussion, e-guitar, synthesizer

ORG DELAY—Long ... 90BPM

Special effect reverb with a delayed dry signal and a softly fading reverb trail

Demo 1, 3, 7

This effect comes with three different note values. The note value in the effect name corresponds to the length of the entire reverb trail as well as to the interval by which the dry signal is shifted.

For drums, percussion, e-guitar, synthesizer

Tweaking tips:

MIX	Balance between the wet and dry signals
ORIGINAL DELAY	Delay of the dry signal <i>Sync to song tempo with the WizCalc value</i>
RELEASE	Length and rhythm of the release phase <i>Sync to song tempo with the WizCalc value – 40ms</i>
HIGH CUT/CROSSOVER/ LOW LEVEL	Sound of the reverb trail

ORG DELAY—Reso ... 90BPM

Rhythmic bass resonance sound with delayed dry signal

Tweaking tips:

MIX	Balance between the wet and dry signals
ORIGINAL DELAY	Delay of the dry signal <i>Sync to song tempo with the WizCalc value</i>
HOLD	Length and rhythm of the resonance signal <i>Sync to song tempo with the WizCalc value – 40ms</i>
HIGH CUT/CROSSOVER/ LOW LEVEL	Timbre of the resonance signal

ORG DELAY—ResoCut ... 90BPM

Short rhythmic bass resonance sound with delayed dry signal

The wet signal corresponds to that of the other ›Reso‹ presets. However, here the resonance signal is always as short as possible. The dry signal is delayed so that it becomes audible only after you hear the resonance signal.

- Here the note length in the preset name merely indicates the delay of the dry signal. To adjust the ORIGINAL DELAY parameter to your song tempo, add 50ms and compensate for the shifted position of the signal by editing the track parameters.

You must first activate the option DELAY IN MS so that you can set the Track DELAY in milliseconds. You'll find this option in the local SELECTION menu.

Demo 1, 3, 7

For drums, percussion, loops

Demo 1, 3, 7

For drums, percussion, loops

Tweaking tips:

MIX	Balance between the wet and dry signals
ORIGINAL DELAY	Delay of the dry signal <i>Sync to song tempo with the WizCalc value + 50ms</i>
HIGH CUT/CROSSOVER/ LOW LEVEL	Timbre of the resonance signal

ORG DELAY—ResoCut Straight

Short rhythmic bass resonance sound with slightly delayed dry signal

Demo 1, 3, 7

The wet signal corresponds to that of the other ›ResoCut‹ presets in this category. Here, however, the dry signal is delayed just a touch so that you'll hear it immediately after the resonance sound. Irrespective of the given song tempo, here the Original Delay value is always 50ms. You can compensate for this value in the track parameters.

For drums, percussion, loops

- For each of these effects, you'll always have to compensate for a fixed value of 50ms in the track parameters. You must first activate the option DELAY IN MS so that you can set the Track DELAY in milliseconds. You'll find this option in the local SELECTION menu.

Tweaking tips:

MIX	Balance between the wet and dry signals
HIGH CUT/CROSSOVER/ LOW LEVEL	Timbre of the resonance signal

Spectral Gate

Standard signal routing option: INSERT

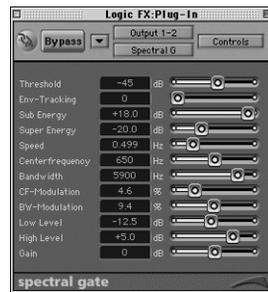
If you want to liberate your tracks from the tyranny of the same old boring modulations, this plug is a sure-fire antidote. When you're in the mood to concoct novel and truly captivating sounds, the Spectral Gate will serve you well. My personal favorite, it is certainly the most innovative of all Logic plug-ins.

- ▶ Insert the Spectral Gate into an input channel or a bus channel which is used as a subgroup or has been switched to Solo mode. With the exception of Logic Audio Silver, you can also insert these plugs into the stereo master channel.

Handling

Not one for intuitive handling, this plug is a complex sound-sculpting tool. Nevertheless, if you take it step by step, you'll be able to get a handle on its basic functions relatively swiftly ...

↓ Spectral Gate Editor



↑ Spectral Gate controls—additional parameter: ENV-TRACKING

Basic Functions

- 1 Insert the plug-in into the master channel, call up the preset NEUTRAL and patch in a drum loop.
- 2 The Spectral Gate analyzes any frequency range. Determine the width of this frequency range via BANDWIDTH, its center via CENTER FREQ.

- 3 Select a bandwidth of about 1,000Hz and fiddle with the center frequency. Presto, there you have classic band-pass filter which allows only the defined frequency range to pass.
- 4 And now for something truly special: When you set a given THRESHOLD, you can manipulate all frequencies of the band that lies above this threshold via the SUPER ENERGY parameter. SUB ENERGY, in contrast, affects all frequencies below this threshold.
- 5 Horse around with THRESHOLD, SUPER ENERGY and SUB ENERGY to hear what they do.
- 6 The connection between these three is clear when you set extreme THRESHOLD values. At 100%, none of the frequencies lie above the threshold and SUPER ENERGY has no influence. When you set a minimum THRESHOLD value, you'll put SUB ENERGY out of action.

Modulation

If you want to modify the bandwidth or center of the frequency range, you don't have to maul the parameters manually. You can also vary these values automatically—in other words, you can modulate them:

- 1 Start with the preset ›STATIC—Bandpass.«
- 2 Move CENTER FREQ. to and fro to sweep the frequency band. You can have the plug knock out this chore for you by setting CF MOD to a value greater than 0%.
- 3 Reset the preset to its original values. Shuttle BANDWIDTH back and forth to change the width of the frequency band. You can also have the plug knock out this chore for you by setting BW MOD to a value greater than 0%.
- 4 In both cases, adjust the rate of modulation via SPEED.

The greater the modulation depth that you set via the two Mod parameters, the higher the modulation will turn up the parameter value. This means that if you set Center Freq. or Bandwidth to the highest possible values, the modulation has no place to go; ergo, it won't influence the signal.

In Logic plug-ins, modulations work most effectively when you set the parameter that you want to modulate to the lowest possible value!

This trick will only work if the frequency band can also displace a healthy slice of the sideband, which is a complicated way of saying that it shouldn't be too narrow. To this end, BANDWIDTH must be set to a value above some 2,000Hz or it must be modulated perceptibly by BW MOD.

Sidebands

To add to the aforementioned effects, you can use Low Level to mix in the desired amount of dry signal that lies below the selected frequency band. High Level does the same thing for those frequencies of the signal that lie above the frequency band.

In the case of an effect such as ›Static—Bandpass,‹ where the frequency band does not sweep, this will simply blend in the original signal, which doesn't sound particularly thrilling.

To liven things up, you want to change the frequency band via a modulation. Then the modulation pushes the sidebands that you have mixed to the wet signal out of the sonic picture at regular intervals. This adds an intriguing sweep to the sound.

Take, for example, the preset ›Bw Mod—Hf Laser:‹ In it, the width of the mids band is varied constantly, and it elbows the high-end sideband out to the beat of a pulsating rhythm.

Signal Routing Options

Under normal circumstances, you should insert the Spectral Gate. Unfortunately, the plug-in doesn't feature a parameter that controls the dry/wet balance, so there's no way to blend in the desired amount of the full dry signal.

If you want to hear parts of the dry signal along with the wet effect signal, you should use the Spectral Gate as a send effect. If you want to hear just a hint of the dry signal, be sure to set all Send knobs of the channels to Pre-Fader mode and pull the channel faders way down.

- ▶ In CONTROL mode, you also have a parameter called ENV-TRACKING available. If you set a parameter value of 1 for it, the input signal's entire dynamic envelope will influence the sound of the effect.
- ▶ Other than a very few exceptions, the Spectral Gate's effects are clearer and can be used for far more applications when you do without this option.

Presets

In the selection menu of the Spectral Gate, you'll find the Fx Collection presets listed by the following categories:

- ◆ **Static:** no modulation, meaning that the sound will not change continuously.
- ◆ **Cf Mod:** center frequency modulation, which is a type of sweep effect.
- ◆ **Bw Mod:** bandwidth modulation, a distant relative of the wah-wah effect.
- ◆ **Mix Mod:** combined center frequency and bandwidth modulation. This one of course evokes the most complex and fascinating effects.

STATIC—Bandpass

Classic band-pass filter; allows just a narrow frequency band to pass Demo 14, 2, 7

In its basic configuration, this preset delivers that trademark phone. You can tune it to the most diverse frequency ranges by varying the Center Freq. parameter. Universal

Tweaking tips:

CENTER FREQ	Determines the center frequency and thus the pitch of the signal that it lets through
BANDWIDTH	Width of the filter band; lower values for a more drastic effect

STATIC—Full Valve

Special effect distortion with lots of top end frequencies and a biting attack Demo 5, 7, 1

Here the entire frequency range that lies below the threshold is boosted. This creates a biting, slightly distorted sound. For drums, loops, percussion

Tweaking tips:

THRESHOLD	Lower values for a more intense effect
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Demo 5, 7, 1

For drums, loops,
percussion

STATIC—Narrow Valve

Special effect distortion with a variable frequency range

Similar to ›Static—Full Valve,‹ this preset processes just a narrow band, the center frequency of which you can vary freely.

Tweaking tips:

THRESHOLD	Lower values for a more intense effect
CENTER FREQ.	Center frequency of the effect signal
BANDWIDTH	Lower values for a more drastic effect

Demo 7, 5, 6

For drums, loops,
percussion

STATIC—Soft Gate...

Thins out the signal and adds midrange resonance

These three presets mute the effect signal until it reaches a specific level. Consequently, the effect is similar to that of a gate with extreme settings, except that it adds resonance and colors the signal.

Tweaking tips:

THRESHOLD	Higher values for more drastic tapering
CENTER FREQ.	Center frequency of the effect signal (not with ... Wide)

Demo 5, 10, 16

For drums, loops,
percussion

CF MOD—Bandpass...

Modulation with movement over the entire frequency range

Here you get three band-pass filter effects with different sounds; the center frequency is swept through the entire frequency range.

Tweaking tips:

SPEED	Modulation rate
THRESHOLD	Higher values for more drastic tapering (not for Bandpass 2)
LOW LEVEL	Higher values to mix in more bass
HIGH LEVEL	Higher values to mix in more treble

CF MOD—Moving Valve

Slight distortion with modulation over the entire frequency range

Demo 5, 8

This is the ›autopilot‹ version of ›Static—... Valve.‹ It drives through the entire frequency band, which yields a complex filter resonance.

For drums, loops, percussion

Tweaking tips:

SPEED	Modulation rate
THRESHOLD	Lower values for more drastic tapering
LOW LEVEL	Higher values to mix in more bass
HIGH LEVEL	Higher values to mix in more treble

CF MOD—Soft Gate ...

Strong thinning out with continuous modulation

Demo 5, 6, 10

These three presets are similar to their ›Soft Gate‹ cousins of the ›Static‹ category. However, here the frequency range is swept automatically. This also steadily changes the amount of frequencies that are blended into and out of the signal, which makes for a far more lively effect.

For drums, loops, percussion

Tweaking tips:

SPEED	Modulation rate
THRESHOLD	Higher values for more drastic tapering
LOW LEVEL	Higher values to mix in more bass
HIGH LEVEL	Higher values to mix in more treble

BW MOD—Bass Blend

Belching sound with added bottom end that fades in and out

Demo 5, 6, 7

This preset is reminiscent of the tried-and-true tape stop effect. This is the term used to describe the sound of an analog tape machine when a tape is stopped during playback.

For drums, loops, percussion

Some heavy-duty bottom end is blended in every now and then by the modulation.

Tweaking tips:

SPEED	Modulation rate
THRESHOLD	Lower values for more drastic tapering
LOW LEVEL	Higher values to mix in more bass

Bw MOD—Dark Wah

Dark, wah-wah-like effect

Demo 10, 5, 1

For drums, loops,
guitar

Here a relatively intense bandwidth filter modulation creates a sound similar to a wah-wah with audible resonance and coloration.

Tweaking tips:

SPEED	Modulation rate
THRESHOLD	Lower values for more drastic tapering
CENTER FREQ.	Center frequency of the effect signal

Bw MOD—Fat Attack

Rhythmic thinning out with the occasional bass boost

Demo 7, 5

For drums, loops,
guitar

Here the bottom end of the dry signal is boosted considerably by blending in the low sideband every now and then. The rest of the signal is chopped up and thinned out rhythmically.

Tweaking tips:

SPEED	Modulation rate
THRESHOLD	Higher values for more drastic tapering
LOW LEVEL	Higher values for even stronger accentuation of bass frequencies

Bw MOD—HF Laser

Rhythmic midrange resonance with high-frequency filter sweeping

Demo 6, 7, 16

For drums, loops,
synth

Slap this preset on a drum loop to generate rhythmic resonance. In conjunction with the lean filter sweep, it sounds almost as if two effects were at work here.

Tweaking tips:

SPEED	Modulation rate
THRESHOLD	Higher values for more drastic tapering
CENTER FREQ.	Higher values for a leaner sound

Bw MOD—Nothing Left*Radical rhythmic tapering with midrange resonance*

This preset lets you thin out a drum loop that is far too fat or dense. The effect also works well when you use it to highlight a brief interlude, which can help spice up a staid arrangement.

Demo 5, 1

For drums, loops, percussion

Tweaking tips:

SPEED	Modulation rate
THRESHOLD	Higher values for more drastic tapering

Bw MOD—Wild Sweep*Fast rhythmic fades with high-frequency resonance*

With its high modulation rate, this effect leaves a very dynamic sonic footprint on a track. If you feel that the effect is over the top and would prefer something less hectic, try dialing in a lower Speed or a higher Low Level value.

Demo 7, 6

For drums, loops, percussion

Tweaking tips:

SPEED	Modulation rate
THRESHOLD	Higher values for more drastic tapering
LOW LEVEL	Higher values to mix in more bass
HIGH LEVEL	Higher values to mix in more treble

Mix MOD—...*Demented morphing effects with complex modulations*

These effects incorporate both modulations, which creates an elaborate, some might say psychotic, effect. The audio re-

Demo 5, 7, 3

For drums, loops, percussion

sult is hard to capture in words, so you'll just have to see for yourself ...

Tweaking tips:

SPEED	Modulation rate
THRESHOLD	Amount of taper; effects intensity

Reference Section

CD-ROM Table of Contents

Logic Audio...Presets	Here you'll find a folder for each of the Logic audio packages Platinum, Gold and Silver. In each of these folders, you'll see a subdirectory called Plug-In Settings that contains the corresponding FX COLLECTION PRESETS. To find out how to install these without further ado, read page 16.
FX Collection Demo	This folder contains a Logic song featuring the audio examples that were compiled for this book. Check out page 17 to learn how to install the song and audition the presets.
WIZOO Calculator	This folder contains the utility WizCalc. Among other nifty stuff, it can help you adapt the EnVerb presets to another song tempo. To find out how this works, refer to page 162.
WIZOO	Here you'll find the current WIZOO catalog in HTML format with excerpts from the other wonderful WIZOO books for your reading pleasure. You'll also find demos of our sample CD-ROMs here.

Logic Internet Links

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Here you'll find update pages for this and other Wizoo books, Wizoo's professional sample Cd-Roms, a newbie zone featuring info for novices, and loads more cool stuff.

Glossary

Here you'll find explanations of abbreviations and terms that are mentioned in the book but are not explained at length. The glossary also features a host of entries for words that you may come across when you're working with Logic. If you can't find a term here, look it up in the index.

Aliasing	Generally an undesirable digital artifact that crops up when a signal is digitized at too low a \Rightarrow sample rate; this creates \gg aliased \ll or mirrored frequencies that sound like additional overtones.
Amplitude	Amplitude is a term used to describe the amount of a signal. It can relate to volume in an audio signal or the amount of voltage in an electrical signal. In the audio sector, the term is often equated with \gg level \ll and \gg volume \ll .
Amplitude envelope	This is the volume curve of any given audio signal; it determines if a sound fades in gradually or kicks in hard. See \Rightarrow envelope.
ASIO	Short for \gg Audio Stream Input Output \ll —a Steinberg designed API which is used to create software drivers for the communication between audio hardware and audio application.
Attack	Start phase of an audio event and an \Rightarrow envelope parameter.
Audio file	A file that actually contains digital audio data, as opposed to \Rightarrow audio regions or audio segments.
Audio region	This simulated audio file holds the place for an actual \Rightarrow audio file or portions thereof; it doesn't contain audio data, only peripheral information such as the start and end point.
Bandwidth	The range of frequencies that a filter band processes; see \Rightarrow quality, \Rightarrow Q factor or \Rightarrow slope.
BPM	Short for \gg Beats Per Minute \ll —increments of musical tempo (1 beat = 1 quarter note).
Close up	A form of microphone placement to ensure that a voice sounds very intense and very much in your face; the effect is emphasized by reverb programs that simulate a tiny room.
Comb filter	Filter curve with steep notches, which in a graphical representation resemble the teeth of a comb. Changes the timbre of a sound drastically and is usually considered an undesirable side effect caused by \Rightarrow phase shifting, among others.

Crossover	Separates a signal into several ⇒frequency bands so that they can be processed or amplified individually.
dB	Short for »decibel«—a numerical expression for the relative (a logarithmic value) loudness of a sound. Different measures of dB such as dB u or dB V are used depending on the application and nominal value.
Decay	In an envelope, the amount of time it takes for a signal to fall from peak level to sustain level.
Drivers	Files required by the operating system of a computer so that it can address expansion components such as hard disks, MIDI interfaces or soundcards.
Dynamic range	The difference between the loudest and softest signal in a recording. Highly dynamic recordings sound softer because the average energy of the signal is lower.
Envelope	An envelope is a control voltage used to modulate a sound-shaping component within a given time frame so that the sound is changed in some manner. In contrast to an ⇒LFO, this curve is not cyclic, it unfolds once only. A standard envelope consists of the phases attack, decay, sustain and release (ADSR).
Feedback	A parameter found on numerous effects that determines how much of the effects signal is routed back to the input of the device. On a delay, the feedback knob determines the number of repetitions, on modulation effects, it dials in a more drastic, tonal sound with more ⇒resonance.
Filter envelope	This is the filter curve of any given audio signal; it determines if a sound fades in muddy and fades out bright. See ⇒envelope.
Frequency	The numbers of periodic oscillations per second; expressed in ⇒Hz oder kHz. Frequencies from 1 to 20Hz are used in ⇒LFOs for ⇒modulation purposes. 20Hz to 20kHz is widely considered to be the range of human hearing.
Frequency band	Defined frequency range with an upper and lower limit, for example, as used by a filter or/and effect with filtering functionality.
Fundamental frequency	In a tonal sound, this is the frequency of keynote that determines its »pitch«; in contrast to the ⇒overtones in the signal, it does influence the timbre of the sound.
Gain	In audio jargon, this term is equivalent to level. For filters, it describes the degree of boost/cut in ⇒dB.
Hz	Short for hertz, the international unit of frequency; equal to one cycle per second; higher values are expressed in kHz (= kilohertz); 1kHz = 1,000Hz

Reference Section

I/O	Short for ›Input/Output.‹
Insert	Signal routing approach where the effect is patched into an ›insert‹ circuit. As opposed to a ›send‹ configuration where a variable amount of a signal is sent to the processor, here the entire dry signal is routed to the effect.
Latency	In general, the delay between audio in- and output caused by the time it takes for an audio system to process these data.
Level	In the audio, this term means the same thing as ⇒amplitude, i.e. the volume of a signal.
LFO	Short for ›Low Frequency Oscillator‹—hardware component or algorithm that produces extremely slow oscillations that are used as a ⇒modulation source.
Loudness	Technical term for the subjectively perceived volume level.
Mac Os	Short for ›Macintosh Operating System.‹
Mastering	Final processing of a completed stereo mixdown to maximize the audio material, for example prior to burning it on CD (which is actually ›pre-mastering,‹ if you wanted to be pedantic about it).
MIDI	Short for ›Musical Instrument Digital Interface‹—MIDI enables synthesizers, sequencers, computers, rhythm machines, etc. to be interconnected through a standard interface and exchange music-related data such as notes controller messages, clock and sounds. MIDI dictates a uniform data format and connector standard for all manufacturers.
Modulation	In acoustics, a variation in the amplitude, frequency or phase of a wave in accordance with some signal. A signal or parameter, the ›modulation source,‹ influences another signal or another parameter, the ›modulation destination‹). Modulations animate effects or to some extent shape the modulation destination in the image of the modulation source.
Mono compatibility	When the mono compatibility of a signal is reduced, the balance of ⇒levels within a stereo mix is different when monitored over a mono system. This is caused by ⇒phase shifting between the two stereo channels.
Noise	Standard ⇒waveform; a random mix of frequencies without a perceptible pitch.
Oscillator	This component generates the audio signals in a synthesizer; its pitch can be modulated.
Overtone	Every sound consists of a fundamental tone that determines its pitch and overtones that determine its timbre. Overtones have a frequency of vibration that is an exact multiple of the frequency of the fundamental. Also called ›harmonics.‹

Panorama	Position of the audio signal in the stereo picture.
Performance	Overall computing power determined by the ⇒CPU, ⇒clock, ⇒RAM and ⇒bus, among other factors.
Phase	Also called phase position or phase angle; specified in 0 to 360. It describes an attribute of an oscillation that is especially significant when signals overlap.
Ping-pong effect	An effect that causes the signal to bounce back and forth between the two stereo sides.
Plug-in	Modular expansion software that enhances the capabilities of a host program. In audio sequencers, plug-ins are usually used for adding effects from third-party developers.
PPQ	Short for ›Pulses Per Quarter‹—determines how many increments a quarter note is divided into; essential for sequencer timing, among others.
Pulse	Standard ⇒waveform.
Q factor	Like ⇒quality and ⇒slope, Q factor is a measure of filter ⇒bandwidth: the higher the Q factor, the narrower the ⇒frequency band.
Quality	Like ⇒Q factor and ⇒slope, quality is a parameter that defines the ⇒bandwidth of a filter: the higher the quality, the narrower the ⇒frequency band.
RAM	Short for ›Random Access Memory‹—this is the memory that handles your working data; its capacity is expressed in MB (megabyte). Normally this memory is ›volatile,‹ which means that the contents are only saved for as long as the device is powered up.
Real time	All Logic plug-ins compute effects in ›real time.‹ This means that, just like a hardware signal processor, they deliver an effect as soon as an input signal is patched into it without any perceptible delay.
Release	The last phase of an audio event in which the signal fades out. A parameter of an ⇒envelope, it describes the length of time that the signal fades after the ⇒sustain phase has ended.
Resolution	In the context of digital audio data, this term generally refers to the ⇒amplitude resolution (bit depth or word width), but it can also mean the ⇒sample rate.
Resonance	A frequency at which a material object will vibrate. In a filter with variable resonance, a signal will be accentuated at the cutoff frequency. Resonance lends the filter a colored, more ›electronic‹ sound.
Ring modulation	Mathematically, multiplication of two signals; produces distorted to metallic sounds.

Reference Section

Routing	Generally refers to how a signal is sent through signal circuits; is often used to describe specific input and output assignments.
Sample rate	Also called sampling frequency. The term describes the frequency at which analog audio material is sampled. According to the so-called Nyquist Theorem, the highest frequency which can be accurately represented is one-half of the sampling rate—which means that at a sampling rate of 44.1kHz, the maximum frequency would be 22kHz, although in practice this figure is somewhat lower.
Sampling	General term for conversion of analog to digital audio data. Tiny samples are taken of an analog waveshape at regular intervals, whereby each sample represents a specific numeric value. These numeric values constitute the digital audio data stream.
Sawtooth	Standard waveform
Sine	Standard waveform
Slope	Like quality and Q factor, this is a dB/oct. unit of measure of the steepness of a filter curve. The greater the slope, the narrower the bandwidth of the filter. Higher values such as 24 dB/oct. sound more drastic and are often used for sound synthesis.
Stereo balance	Position of a stereo signal within a stereo bandwidth.
Stereo spread	Enhances the stereo effect, generally by shifting the phase, which in turn reduces mono compatibility.
Sustain	Parameter of an envelope; it describes the level of a signal once it has run through its decay phase.
Transients	Extremely brief signal peaks, for instance a kick drum impulse with a great deal of click.
Tremolo	Cyclic modulation of volume level to create a pulsating effect; rapid alteration of a given level.
Triangle	Standard waveform
Trigger	A trigger is a single pulse that fires off an event. For example, if on a synthesizer a trigger is sent to an envelope or LFO, it causes the envelope or LFO to start.
Vibrato	Cyclic modulation of pitch; rapid alteration of a given tone.
Waveform	The characteristic curve of a cycle generated by an oscillator. Standard waveforms include sine, triangle, sawtooth, pulse and noise. In oscillations with audible frequencies, the waveform determines the timbre of the sound, in LFO oscillations, the modulation envelope.

And this Year's WIZOO Winners Are...

...Dr. Gerhard Lengeling, Sven Junge, Jan-Hinnerk Helms, Andreas Dedring and the entire Emagic team for their innovation and support,

Anja Henkel for motivation, inspiration and stress-sharing,

Monika Ferfers for vocal demos (13), Dieter Roesberg for guitar demos (19, 20, 21) and Tom Schäfer for percussion demos (3, 4),

Uwe Senkler for text-mastering wizardry and the finest last-minute service under the sun,

Peter Gorges, the ›The Grand Wizoo,‹ for the inspiration to this book, looping control and delicious cabbage catering.

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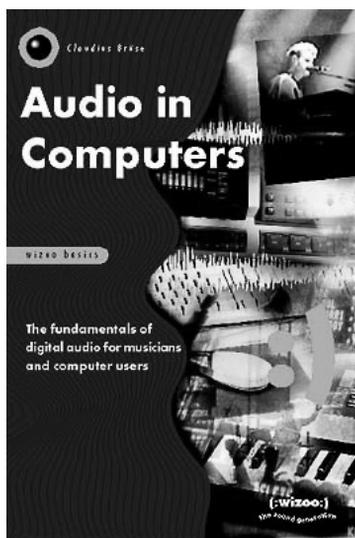
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Claudius Brüse

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