emagic

Logic 6 platinum

Music Production Software

>> Version 6.0, January 2003

>> English

Reference-Addendum

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1 General

1.1 New Way to Set the Dialog Language

The Mac OS X version of Logic 6 features a new, Mac OS X compliant, way to set the dialog language (the “Display” Preference that was previously used has been removed):

- Select the Logic 6 application in the Finder.
- Press ⌘I (to open the Information dialog).
- Select/Flip open the “Languages” section.
- Choose the preferred language, and uncheck all other languages.

2 Mixer

2.1 Channel EQ

The Channel EQ of Logic 6 replaces the track EQ which you know from older versions of Logic. The new equalizer offers a couple of advantages:

- improved, extremely high sound quality
- eight (rather than four) bands
- expanded range for gain and Q, and a higher frequency resolution (even when compared with the Fat EQ)
- needs less space on the surface of mixer channels
- better clarity (via thumbnails) for EQ curves
- variable position in the signal flow (i. e. can also be placed between plug-ins)
- integrated FFT analyzer (pre/post EQ)
- large graphic display with complete, and intuitive, parameter editing

The integrated precision analyzer (based on Fast Fourier Transformation algorithms—FFT) shows the energy (amplitude) of all frequency components of the signal. The central display of the Channel EQ fulfills multiple display functions: it shows both the curve of the FFT analyzer and the EQ curve. An identically scaled frequency axis is shown for both. This allows you to easily recognize unwanted frequencies in the analyzer curve, while using the EQ to edit them accordingly.

You can switch the analyzer pre or post EQ in order to compare the original signal with your edits. You can, of course, also judge the excellent quality of the Channel EQ with your ears. We are sure you will be as excited with the results as we are!

Using the Channel EQ as the Default

In order to be backwards-compatible with songs created in Logic version 5 or earlier, the old track EQ is still available. All songs that don't make use of the old track EQ are automatically switched to use the new Channel EQ.

If your existing Autoload song uses pre-set track EQs, you should modify it: Remove the track EQs from all channels. Open Options > Song Settings and switch to the Old Songs page. Deactivate the *Use pre-Logic 6 track EQ* checkbox and resave your Autoload song (i. e. replace it). You can now use the Channel EQ in all new songs created with Logic 6.

Please note that the track EQs of older songs are lost by activating this option. If you don't want this to occur, you can use the Channel EQ of Logic 6 as a plug-in in older songs. Doing so will, however, be at the expense of the Thumbnail view and editing via the EQ page of the Logic Control.

Please note that the Channel EQ has four bands in the Audio version of Logic and eight bands in the Gold and Platinum versions. If songs with an 8-band EQ from those versions are opened in the Audio version, the settings for the additional bands are ignored, but preserved. Hence, after being edited in the Audio version, the songs can be reopened in the Gold and Platinum versions without any loss of information.

2.1.1 Inserting a Channel EQ

The Channel EQ is inserted into the first available insert slot by double-clicking the *EQ* area on the upper portion of mixer channel strips. This area will change to a thumbnail view of the Channel EQ display. The thumbnails provide an overview of the EQ settings used in each individual channel.

-double-clicking will insert the EQ as the first plug-in and move all existing plug-ins of this channel one slot down (and redirecting their automation data accordingly, if necessary).

Alternatively, you can insert the Channel EQ in any desired slot as per other plug-ins. You'll find it in the EQ section of the plug-in list. This is the only way to insert multiple Channel EQs. (Remember that only the first Channel EQ can be displayed as a thumbnail).

2.1.2 Setting EQ Parameters

The *Band Type* buttons above the display switch individual bands on or off.

You can set/adjust the band parameters either directly in the central EQ display, or in the parameter area below it. As you move the mouse horizontally over the display, pivot marks for individual bands appear on the frequency axis, while the parameter area of the same band is highlighted. The following possibilities are available for changing the parameters of a band:

- Move the mouse horizontally over the display until the desired band is highlighted. Now click-hold the mouse button on the display background (not directly on a pivot point): vertical mouse movements change the *Gain*, horizontal movements change the *Frequency* of this band.
- Click-hold directly on the (illuminated) pivot point of the desired band: vertical movements (up/down) change the *Q* value. The direction required to increase or decrease the *Q* value depends on whether you are above or below the zero line (this ensures that "up" increases, and "down" decreases the volume in this band—you will find this intuitively "correct"). Again, horizontal movements (left/right) change the *Frequency* of the band.
- Click-hold on the desired parameter in the parameter area below the graphic display (*Frequency*, *Gain/Slope* or *Q*): Moving up increases, and down decreases, the value. In order to prevent accidental changes, this is the only way to change the *Slope* value of the high and lowpass filters (bands 1 & 8).

As long as your mouse arrow is in the access area of a band, its individual curve will be graphically inserted over the resulting curve of the entire equalizer.

You can also edit Channel EQs via the Logic Control—by pushing the EQ button: this will open the first Channel EQ of the selected channel. If no Channel EQ is active/available, it will automatically be inserted in the first free insert slot.

Parameter Description

The maximum *Gain* per channel is ±*24dB* (exception: bands 1 & 8, see below), the *Frequency* ranges from *20Hz* to *20.000Hz*. The range of *Q* values depends on the band. The individual bands are defined as follows:

- Band 1 is a highpass filter and band 8 is a lowpass filter. The *Slope* parameter can either be *6*, *12*, *18*, *24*, *36* or *48 dB/Oct*(ave) and *Q* ranges from *0.10* to *100*. *Q* doesn't affect filters with a *6 dB/Oct* slope. The maximum *Q* value without a resonant peak is *0.71*.
- Bands 2 and *7* are shelving equalizers. Their values for *Q* (steepness of their curves) range from *0.10* to *2.00*.

- Bands 3—6 are so called “bell” or “peaking” equalizers. *Q* can range from *0.10* to *100*. When set to *100*, the equalizers only apply to a very narrow band, and can work in a similar fashion to notch filters.

If *Show EQs* is activated in the parameter box of a channel, it is possible to see a thumbnail view of the Channel EQ displayed in the upper corner of a channel strip.

You can reset all settings of the highlighted EQ band (except frequency) by alt-clicking in the display area.

You can reset individual parameters by alt-clicking in the parameter area.

Master Gain

This fader adjusts the output level of a Channel EQ. This allows you to compensate for level changes introduced by your EQ settings. *Master Gain* has a range of *±24 dB*.

Analyzer On/Off

This button allows you to activate/deactivate the FFT analyzer.

Please note that the FFT analyzer needs additional CPU resources. In fact, resource consumption increases significantly at higher resolutions (see below)! We recommend that you disable the analyzer or close the Channel EQ window after setting the desired EQ parameters. This will free up CPU resources for other tasks.

Analyzer Mode

This flip menu determines the location of the analyzer, either in the Input (pre EQ) or Output (post EQ) of the equalizer section.

The *Analyzer pre EQ* and *Analyzer post EQ* options allow you to visually compare the original and EQ'ed signals.

Analyzer Resolution

This flip menu defines the resolution of the FFT analyzer—or more accurately, the number of frequency bands. This determines not only the precision of measurements, but also the amount of CPU power needed. The options are as follows:

- *Resolution low (1024 points)*
- *Resolution medium (2048 points)*
- *Resolution high (4096 points)*

Higher resolutions are necessary whenever you need reliable results in the area of very low bass frequencies. (The bands derived from FFT analysis are divided in accordance with the frequency linear principle—non-technically, this means that there are far more bands in the highest octave than in the lowest).

dB Warp and Analyzer Top

These two parameters allow you to change the vertical scale of the EQ and analyzer curves.

dB Warp allows you to increase the resolution of the EQ *Gain* parameter in the most interesting area around the zero line. Click-holding in the green *dB* scale on the left side of the graphic display, and moving the mouse up will increase it (down to decrease). The overall range is always ±*30dB*, but small values will be easier to recognize.

As soon as the Analyzer is activated, you can change the *Analyzer Top* parameter, which alters the scaling of the FFT analyzer, on the right side of the graphic display. The visible area represents a dynamic range of 60 dB, but by click-holding and vertically dragging, you can adjust the maximum value between +*20 dB* and −*40 dB*. The Analyzer display is always dB-linear.

2.2 Tape Delay

The additional parameters of the Tape Delay (previously reached via 001011 button) have been integrated into its graphical user interface. As a result, the functionality of these parameters have changed slightly, as indicated in the following text.

There is a new *Sync* button. When the *Sync* button is engaged, the delay is synchronized to the song tempo of Logic 6. In this mode, the plug-in uses the internal tempo of Logic Platinum to determine the delay time. The sole purpose of the *Tempo* box is to display the current *bpm* value. This is as per the use of the Tape Delay in the past.

Disengage *Sync* if you would like to adjust the delay time independently of the song tempo (or change the song tempo without changing the delay time). In this mode, the *bpm* value or *ms* values can be altered freely by click-holding in the *Tempo* or *Delay* (time) parameter fields while dragging up or down with the mouse. Note that click-dragging on the left-hand side of *Delay* field will increment the ms values in large steps. Click-dragging on the right-hand portion of the field will increment the ms values in small steps. Delay time is adjustable between *0* and *1260 ms*.

The *Freeze* parameter captures the current delay repeats, and sustains them until the *Freeze* parameter is released.

The Tape Delay includes an LFO for delay time modulation. Use it to produce chorus-like effects—even with long delays. The LFO offers adjustable *Speed* and *Depth* controls.

Flutter simulates the tape speed irregularities of the tape transports found in analog tape delay machines, and is adjustable in *Rate* and *Intensity*.

Smooth determines how quickly the "analog tape" can change its speed when switching between different note values. It also evens out the effect of LFO modulation and tape flutter. Pitch changes caused by the use of LFO modulation or *Flutter* will sound less pronounced when the *Smooth* value is increased.

2.3 Groups

Logic 6 introduces Groups. A Group allows you to combine multiple channel strips in order to link some of their properties, e. g. their volume faders and mute buttons. If, for example, multiple audio tracks (with individual choir voices) are assigned to one Group, changing the volume of one choir track changes the volumes of all choir tracks. Individual level relationships—at the time the channels assigned to the Group—are retained.

Groups can also link the selection of objects in the Arrange window, thereby linking all edit operations you perform on grouped tracks.

Up to 32 Groups can be created. Each channel can be a member of multiple Groups.

2.3.1 Assigning a Channel to a Group

There is a new Group display in the channel—above the automation mode display. Clicking on the Group display opens the Group flip menu where one of the 32 Groups can be chosen, turned "off", or the "Group Settings …" dialog window launched.

Overlapping Groups

One channel can belong to more than one group. To assign an additional group to a channel, press ⇧ while choosing a Group via the Group flip menu.

Fast Assignment

Groups can be quickly set and cleared by holding ⌥ when clicking on the Group display. The last Group setting—also overlapping groups—will be applied to the current channel, without opening the flip menu.

2.3.2 Group Settings

The Group flip menu (of the Group display) also allows you to open the "Group Settings …". In the group setting dialog, the following options can be set for each individual group:

Name
You can name each group.

Enable
A group can be completely disabled here.

Arrange Selection (Edit)
Selecting an arrange object on one member track of a group selects the same horizontal range of all member tracks.

Arrange Track Zoom
Zooming an individual track of a group will zoom all members.

Arrange Track Hide
Hiding an individual track of a group will hide all members.

Arrange Track Record
Record enable/disable of an individual track of a group will record enable/disable all members.

Automation Mode
Changing the automation mode of an individual track of a group will change the automation mode for all members.

Instrument Color
Changing the color of one group member channel will assign this color to all group member channels.

Volume
Changing the volume fader of one group member channel will change the volume of all member channels—while maintaining the level relationships between them. If possible, use a volume fader with a high initial setting

Mute
The Mute status of all member channels is synchronized.

Pan
The panorama setting of all member channels is linked. As per volume, their initial relationships are maintained.

Surround

Send 1—8
You can link the Send levels individually for Sends 1—8. Different initial levels will be maintained.

2.3.3 Group Automation

For mix automation, any Group member can act as a "master" for an automated parameter such as "Volume". When an automation parameter value is written, the corresponding value of all other Group members is also written, depending on their Automation mode (e. g. Touch or Latch). The data is written individually for each channel. As a result, you can disable the Group later, without affecting the automation of any Group member—and can obviously edit or change channels individually.

2.3.4 Temporarily Disable a Group (Clutch)

It is possible to temporarily disable all Group parameter links—e. g. in order to change the volume of an individual channel, even if it is member of a Group with linked volumes. To do so, simply use the *Toggle Group Clutch* Key Command (default G). As long as the Clutch is active, all Group displays will change color—from yellow (normal) to blue (Clutch active, all Groups temporarily disabled).

2.3.5 Group Handling on the Logic Control

Click-holding the GROUP button allows you to use the SELECT buttons to assign the selected channels to the next free (new) group. You can use the BANK switches during this operation.

While in the Group mode (click and release the GROUP button), you can switch between Groups with ↑ and ↓. The Group number (G1—G9, 10—32) is displayed in the 7-segment ASSIGNMENT display; the first characters of the Group name are displayed in the SMPTE/BAR display.

The LC-Display shows the track names in the top line. The bottom line will indicate the Group properties of the selected Group. ← and → switch to further pages of Group properties. The SELECT keys display/edit the assignment of their channel to the currently selected Group.

TRACK+GROUP activates a Track Multi Channel View mode, which allows you to assign each channel to any Group (or turn it "off") via each channel's V-Pot. Alternatively, you can enter this mode by pressing TRACK and then ← or → until you reach the "Group" page.

2.3.6 Supported Control Surfaces

Logic supports various Control Surfaces besides the Logic Control. More information about Control Surfaces can be found in the folder "Control Surfaces Info" in the section "Service" of your Emagic Software CD. Here's an overview over the supported devices.

- CM Labs Motormix
- Emagic Logic Control, Logic Control XT
- Mackie HUI, Baby HUI, Digital 8 Bus (software version 5)

- Radikal Technologies SAC-2K, SAC 2.2
- Roland SI-24
- Tascam US-224, US-428
- Yamaha 01V96, 02R96, DM1000, DM2000
- all other HUI-compatible devices

2.4 Automation Quick Access

This new feature makes Track Automation extremely fast and simple if you only have one hardware MIDI controller available (e. g. one fader on your MIDI keyboard or even just the Modulation wheel). You can use this single hardware controller to access the currently visible Automation parameter of the selected Track in the Arrange window.

2.4.1 Setting Up Automation Quick Access

Open the Automation Settings dialog: Options > Track Automation > Track Automation Settings…

There is a new section labeled: *Automation Quick Access* which can be enabled or disabled via a checkbox. Once enabled, click the *Learn Message* button below, and move the hardware controller that you'd like to use for Automation Quick Access. The other parameters shown here will immediately identify and indicate the type of control element you are using (even quite exotic formats are supported). Disable the *Learn Message* button, by clicking on it a second time, or close the Automation Quick Acess dialog.

Once done, you will have hardware control over any currently visible Automation parameter which is set in the current Arrange track.

Enable/Disable Automation Quick Access

In case you are using the Modulation Wheel for Automation Quick Access (AQA), you might want to switch between using it for AQA and "normal" Modulation Wheel duties—as MIDI controller #1.

This can be done with the global *Toggle Automation Quick Access* Key Command.

2.5 New Options for Digital Mixdown/ Bounce

The *Bounce* function allows you to write the signal of an Output object as an audio file, which would otherwise simply be played live. You can initiate the Bounce process(es) by clicking the "*BNCE*" button on the Output object channel that you would like to bounce.

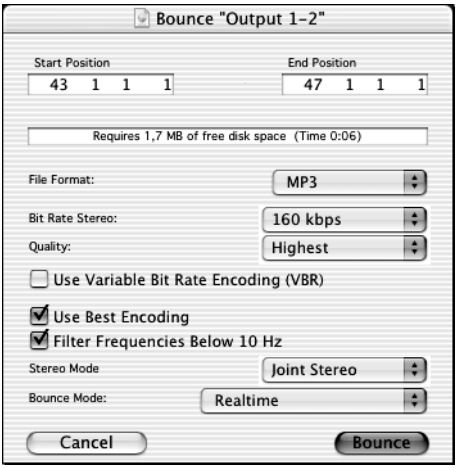
The bounce dialog of Logic 6 has been restructured, and offers a couple of new options …

2.5.1 Bouncing MP3 Format Audio Files

Logic 6 for Mac OS X now allows the bouncing of MP3 (or by its correct name: MPEG-2-Layer-3) format files. This well-known data reduction format for digital audio signals was developed by the Fraunhofer Institute, and allows high compression rates while maintaining quite good audio quality (depending on the compression rate). MP3 is the current standard for audio file exchange via the Internet.

Due to the fact that encoding an MP3 file equates to a loss of audio quality, you should not use MP3 files during a production if you have access to the same audio data in linear formats such as: AIFF, WAV or SDII.

If you set the *File Format* flip menu in the bounce dialog to *MP3*, you will see all available options for the encoder (which translates the PCM linear format into compressed MP3 files).

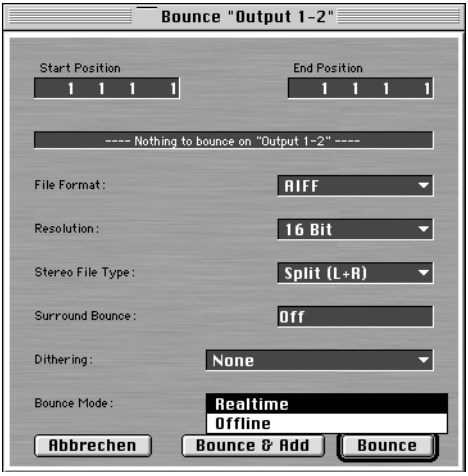


You can change the default settings for the encoding engine via the Preferences > MP3 Export menu.

For details on the individual MP3 encoding parameters see the *MP3 Export Settings* section, on page 40 of this addendum.

2.5.2 Bounce Mode

The new Bounce dialog option *Bounce Mode* is available in Logic 6 for Mac OS X and Mac OS 9.



In older versions of Logic, bounces were always performed in real-time. The new *Bounce Mode* parameter allows you choose between two options:

- *Realtime*: Creates the bounce file in real-time, as in older versions. Use it whenever you wish to bounce audio and audio instrument tracks *plus* external MIDI sound sources that are routed into the Logic Mixer via (Live) Input objects.
- *Offline*: Accelerates the bounce process—depending on the complexity of your arrangement and available CPU processing power. It also allows the bouncing of complex arrangements that would normally exceed the power of your CPU, if trying to play them in realtime. Offline bouncing, however, is limited to internal sources (audio tracks or audio instrument tracks). The MIDI tracks and Input Objects of Logic's mixer are deactivated during offline bouncing.

- Please note that the *Offline Bounce Mode* is only available to the Output objects of mixers that belong to native audio driver systems. DSP-based audio hardware (e. g. ProTools) can not make use of offline bouncing due to the nature of its stream-oriented technology.

- Other software applications, which are fed into your Logic Mixer via ReWire technology are available for offline bounce processes!

During an Offline Bounce, you can see the SPL moving through the song (usually much faster than real-time). A separate "bounce" progress bar is also shown.

Unlike online (realtime) bouncing, audio outputs will be muted during offline bouncing.

3 Arrange Window

3.1 Freeze

Logic 6 introduces a completely new way to save almost 100% of the CPU power used for software instruments and effect plug-ins—namely, the innovative *Freeze* function. You can apply it, individually, to audio tracks or audio instrument tracks.

3.1.1 Concept

Internally, Freeze performs individual offline bounce processes for each "frozen" track. All plug-ins of a track (including software instrument plug-ins, if applicable, along with all related automation data) are rendered into a "freeze file".

As long as a track is frozen—following the freeze process—this freeze file will play back in place of the original track (and its CPU-hungry plug-ins). The original track and plug-ins are temporarily deactivated, and use no CPU resources.

Please note that the Freeze function always bounces *all* of a channel's signals. If you are using more than one track that addresses the same audio or instrument channel, then all tracks of this channel will be frozen, and cannot be edited independently.

Due to technical reasons, the Freeze function is not available for the tracks of DSP-based audio hardware systems (e. g. ProTools), tracks that use plug-ins which are calculated on DSP cards (Powercore, UAD-1, Pulsar etc.), or tracks that use external signal processing devices via the I/O plug-in. You can, however, "freeze" tracks that use Sends to Busses that have inserted DSP-based or I/O plug-ins.

3.1.2 Application

In real-world situations, Freeze allows you to:

- use additional plug-ins or software instruments in further audio or instrument tracks, which would normally not be possible as it would exceed the CPU processing limits of your computer.
- play back songs created on computers with greater CPU power.

Freeze was made for very CPU-intensive processes, which are generally (from higher to lower demand) outlined as follows:

- Software synthesizers with a complex voice architecture
- Plug-ins with a complex structure (e. g. reverbs, filter banks or FFT-based effects)
- Software synthesizers with a simple voice architecture
- Software sampler with active filter
- Software sampler with deactivated filter
- Plug-ins with a simple structure

As long as your computer is able to calculate all active processes in real-time, it is not necessary to freeze a track.

Freeze is recommended whenever your system's power runs short *and* one, or multiple, existing tracks with CPU-intensive instrument and/or effect plug-ins are in a final state, or at least seem to require no further changes for the meantime—i. e. "close to final".

As long as a track is frozen, its CPU usage is reduced to that of a high resolution audio track, without any effect plug-ins inserted—regardless of the number, or processing demands, of the plug-ins that were used originally.

3.1.3 How to Freeze a Track

It is extremely easy to freeze a track: simply activate the Freeze button—i. e. the button that features a small ice crystal icon. If the Freeze buttons are not visible, activate the View > Track Freeze Switch menu option in the Arrange window.

The Freeze button of the "Audio 1" track

Logic will create freeze files after receiving the next "*Play*" command. This allows you to activate the Freeze buttons of multiple tracks, and render their freeze files in one go.

During the Freeze process, the SPL will follow the currently rendered position. A floating progress bar window is also displayed.

- Freeze files are always rendered between the song start and end mark—it is recommended that you check the song end mark in the bar ruler before starting a Freeze process. Please note that the end mark should be adjusted to include feedback-dependent delay repetitions or reverb tails. Empty areas (digital zero) at the end of freeze files will automatically be removed after the Freeze process.

- You can abort freeze processes by pressing ⌘.—in this scenario, the portion of the frozen track(s) that has already been rendered will remain in the freeze file(s), and will be used for playback. Frozen tracks will remain silent beyond this point.

- The freeze process uses 100% of available CPU power. If, for example, a track uses 40% of the CPU, its freeze file will be created in 2.5 times the realtime speed. If the original tracks uses 100% of the CPU power, the freeze process will happen in (approx.) real-time—even if offline bouncing is used.

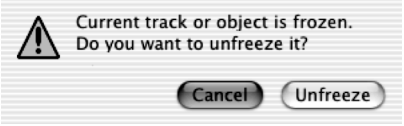
Working with Frozen Tracks

Once a track has been frozen, you cannot edit any instrument or plug-in parameters (or related automation data). You can, however, still edit the:

- effect send levels and destinations,
- panorama and surround parameters,
- volume, mute and solo

of frozen tracks—including their automation data.

Whenever you try to edit "forbidden" parameters of frozen tracks, (e. g. plug-in parameters that were rendered into the freeze file), Logic will display an error message.



Error message if you attempt to edit a frozen track

In this situation:

- deactivate the *Freeze* button of the track,
- This will *delete* the freeze file.

Please note that the track will now use the amount of CPU processing power that it originally required, if you enter "Play" mode.

- perform your edits,
- activate the *Freeze* button again, if required.

It is not possible to cut and re-arrange the freeze files in any way, nor is it possible to mix the freeze files with their originals on a single track—you can use one or the other, not both!

It is also not possible to record audio on frozen tracks. In fact, the *Record* button will be hidden while a track is frozen.

3.1.4 Freeze Files

The temporary freeze files are saved in a folder named “Freeze Files” which is created in the root directory of your song (e. g. the project folder). Usually, you won’t need to access these freeze files directly.

Logic manages these freeze files for you automatically in the background: They are created during the Freeze process, will play back in place of the original tracks (as long as these tracks are frozen), and will be deleted as soon as the *Freeze* button of the corresponding track is deactivated.

In some cases, however, it might be handy to use freeze files directly: e. g. if you want to freeze *all* of your tracks, and use the freeze files for a remix in another studio (on DSP-based systems, for example).

For these situations, it is possible to adapt the bit depth of the freeze files to your needs: in Logic > Preferences > Audio you can change the *Freeze File Format* from the default *32 Bit (float)* to *24 Bit* or even *16 Bit*.

Please note that only the *32 Bit float* setting will ensure that the audio quality of frozen tracks is identical to that of the original tracks.

In many cases, the *24 Bit* setting will have no audible impact—but will reduce the disk traffic, further minimizing CPU usage, and allowing you to access the freeze files as audio files.

3.2 Arrange Channel Strip

In Logic 6, the Channel Strip of the currently selected Arrange track will appear in the parameter area of the Arrange window, provided that there is sufficient space to display it. If there is not enough vertical room, click the upper left triangles in the Sequence Parameter and/or Instrument Parameter Boxes and/or hide the Toolbox (View > Toolbox). The Arrange Channel Strip allows you to access all of the mixer channel functions (volume, pan, sends, inserts, etc) directly from the Arrange window. Any adjustments you make to a track's Arrange Channel Strip will be reflected in the corresponding Track Mixer and Environment Channel Strip as well.

3.3 Hide Tracks

If there are tracks in the Arrange that you do not need or want visible, Logic 6 introduces the Hide Tracks feature.

There is a new global "HideView" button at the top of the Arrange. This is the big "H" button to the right of the Link button. When you activate this button by clicking on it, the Hide (small "H") buttons on each individual track become available

You may now activate the individual Hide buttons on the desired tracks, and when you de-activate the global HideView button, all Arrange tracks with Hide activated will be invisible. When you wish to see the hidden tracks again, simply re-activate the HideView button.

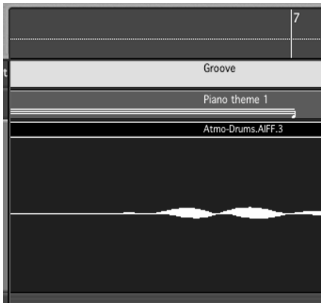
There are a number of Key Commands that relate to the Hide Tracks feature. Even when the global HideView is deactivated, you can still Hide an individual track with View > Hide current track and select next track menu option or Key Command. Finally, there is a Key Command to *Unhide all Tracks* which will reset the Hide buttons of each track, making them all visible.

Note: hiding tracks does not affect their playback in any way. You can also link the Hide functions of all tracks belonging to a Group by selecting *Hide* in the Group Property Settings. Another thing to keep in mind is that there is no Key Command for *Unhide selected Arrange Track* because there is no way that you can select a hidden Arrange track—it is hidden, after all …

The color codes of the global Hide View button:

Gray—no tracks hidden.
Green—setup mode, all tracks with individual hide buttons visible.
Orange—one or more tracks are hidden!

3.4 Sample-accurate Waveform Display



The Arrange window now displays the actual waveform of an audio file, all the way down to single sample resolution at the highest zoom levels. The new *Waveform vertical zoom* Key Commands make this feature even more useful; for precise Arrange edit operations, and for operations on audio regions with low signal levels.

3.5 The Marquee Tool

Logic 6 introduces a new tool to the Arrange window's toolbox: the Tool, which looks like a crosshair. This tool can also be selected via the *Set Marquee Tool* Key Command. You can use the Marquee tool by click-holding within the Arrange window (on the Arrange window background, or directly on objects) to begin your selection. A shaded selection rectangle will appear onscreen as you move the mouse. You can drag the selection rectangle freely, allowing you to make selections—independent of existing part/object boundaries; when you release the mouse, only the area that falls inside the "marquee" is selected. In other words, you can use the Marquee tool to make selections within existing regions and sequences; your selection is completely determined by the selected "marquee" area.

Within the selected area, you can perform almost all regular Arrange edit options, including:

- Delete ([⌫] or click with the eraser tool)
- Move (drag selection or using a Nudge Key Command)
- Copy ([⌥]-drag) using the Arrow tool
- Cut/Copy ([⌘][X], [⌘][C])
- Paste (at SPL, quantized to the nearest bar divisions)
- Copy/Paste via pencil tool (quantized to current format value)
- Cut at selection border (click inside the selection with the scissors tool)

- Mute (Key Command or tool; will also result in a cut at the selection borders)
- Solo (Key Command or tool; will also result in a cut at the selection borders).

If your selected area falls between musically relevant values, the Marquee tool's selection rectangle will automatically "snap" to the nearest musically relevant position, in accordance with the settings of the new "SmartSnap" feature. This facility adjusts the snap resolution according to the current zoom setting. If you make your selection while holding ⌘, the selection will snap to the finest resolution possible within the chosen zoom factor. By holding down ⇧, the current Marquee selection can be altered from either the left or right side, as well as up or down.

The new *Crop objects outside Marquee Selection* Key Command removes all unselected areas from objects which are partly selected by the marquee.

3.6 Time Stretching Regions

Logic 6 allows you to change the length of audio regions (without changing their pitch) directly in the Arrange window—via menu options or key commands.

Adjust Object Length to Locators

Functions > Object > Adjust Object Length to Locators stretches or compresses selected audio regions (or MIDI sequences) to fit between the current positions of the left and right locators. The object's start point is not changed by this function—so don't be overly concerned if the Locators are not precisely above the region or sequence.

Adjust object length to nearest bar

Functions > Object > Adjust object length to nearest bar adjusts the length of selected regions to the closest whole bar. This provides an ideal method for fitting previously trimmed drum loops into songs where small discrepancies between the loop and song tempo exist.

These two functions use the most recently selected Time Stretching Algorithm—set in the Time and Pitch Machine (Sample Editor > Factory > Time and Pitch Machine).

3.7 New Arrange Icons

Logic 6 introduces a new icon format, offering high resolution, scalable (from 128 × 128 pixels downwards), and user-definable icons. A few of the new icons are direct replacements for the older Logic icons, but most of the previous icons remain in the program to ensure backwards compatibility. If you vertically zoom a track with new icons sufficiently, you will see the large size icon in addition to the small icon at the top.

3.7.1 User-definable Icons

You can create your own icons for Arrange tracks. These Icons must be at the size of 128 × 128 pixels, and must be saved in the "portable network graphics" format, and must have an alpha channel for transparency. Please note that these files must be saved with the ".png" suffix. The file-name must also start with a three-digit number. If this number is below 325, the corresponding built-in Logic icon will be replaced by your new graphic (you can check the number of existing Logic icons by double-clicking on them in the Instrument Parameter Box).

In OS 9, user icons must be located inside the *Emagic Resources* > *Icons* subfolder within your *Logic* application folder.

In OS X there are two possible locations for user icons:

The *~/Library/Application Support/Emagic/EmagicResources/Icons* folder can contain icons which are only valid for the particular user (~ is the user name).

If you save your icons in the root directory—*/Library/Application Support/Emagic/EmagicResources/Icons*—the icons are valid for all users.

If icons with identical numbers exist in both folders, the icons found in the user folder have priority.

3.7.2 Icon Color

The old, monochromatic icons used to adopt the color of their "parent" Audio Object or MIDI Instrument—which is also still used for newly recorded Regions/Sequences in the Arrange window.

The new high resolution Arrange Icons have their own color and, therefore, can no longer adopt the "parent" object color. To circumvent the overriding color of the new icons, Logic 6 incorporates a small color strip on the right-hand edge of the Track List.

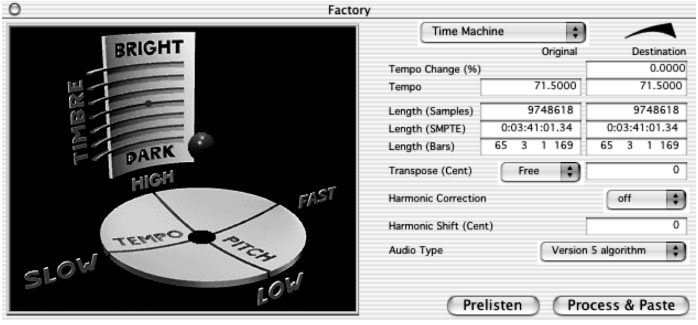
The View > Shadow for Instrument Icons option was removed.

4 Editor Windows

4.1 Improved Time Machine in the Sample Editor

The Time Machine in Logic 6 features four additional algorithms for time and pitch modifications. Each of the new algorithms is specialized for certain types of audio material. All new algorithms deliver the highest precision possible, to avoid alterations to the length of the audio material.

You can still use the Time Machine as per usual: from within the Factory menu of the Sample Editor (see the main Logic manual for instructions).



Audio Type

This new parameter allows you choose between the old and the four new algorithms:

- *Version 5 algorithm*
  this is, obviously, the well-known algorithm of Logic 5 and earlier versions.

- *Any material*
  This is the most universal algorithm which, theoretically, should be able to handle most kinds of material—it is the new "default" setting when using the Time Machine. The following algorithms can, however, deliver better results in cases where the material exactly matches the following criteria:
- *Monophonic*
  A specialized algorithm for monophonic material, e. g. an individual voice, brass or woodwind.
- *Pads*
  Use this algorithm on polyphonic material with harmonic content, e. g. choirs or string sections.
- *Beats*
  This algorithm perfectly maintains the timing of percussive material. It should be your first choice for all kinds of drum loops. It may also be useful on staccato, rhythmic piano or guitar parts—i. e. "comping". Experiment with this, if you find that the default algorithm isn't delivering the desired results.

4.2 Chord Recognition in the Matrix Editor

When selecting multiple notes in the Matrix editor, the information section in the upper left corner now displays the chord name of the note combination being played.

5 Audio Standard Support

5.1 MP3 Support (Mac OS X only)

The Mac OS X version of Logic 6 offers full support for the importing and exporting of MP3 files:

5.1.1 MP3 Import

MP3 files may be imported into Logic using the same methods employed when adding AIFF, SDII, or WAV files: namely by ⇧-clicking with the pencil tool in the Arrange, using the Audio > Add Audio File command, via the Audio File local menu of the Audio Window, or by dragging MP3 files from the Finder into the Audio Window or Arrange.

When you import MP3 files, Logic converts the MP3 file to an AIFF file, and it is the AIFF file that is used in Logic. Logic does this because many functions, such as waveform display, sample accurate editing, and so on, would tax the CPU if Logic had to constantly decode and re-encode the MP3 files in realtime for each change. By converting the MP3s to AIFF on import, Logic ensures the most efficient use of resources.

5.1.2 MP3 Export

Logic can export MP3 files as well, using technology Apple licensed from the Fraunhofer Institute, the developers of the MP3 format. You can select MP3 as a file format for Bouncing, or by using the “Convert to MP3” command in the Audio File local menu of the Audio Window.

Bouncing MP3 Files

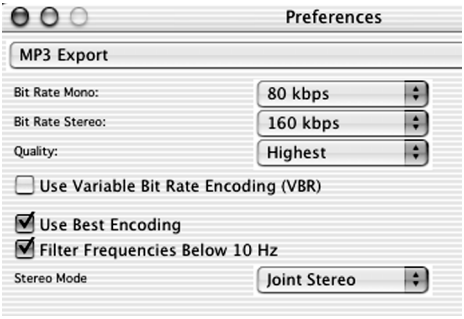
"MP3" is now one of the options in the pull-down *File Format* menu of the *Bounce* dialog. When you select *MP3* as your file format, the bounce options for *Resolution*, *Stereo File Type*, *Surround Bounce* and *Dithering* are replaced by the "MP3 Export Settings" listed below. You can choose to Bounce MP3 files in realtime, or offline.

Convert To MP3

MP3 files can also be created from individual audio files by using the "Convert To MP3" command of the Audio File local menu in the Audio Window. When you create an MP3 file via this command, the encoder uses the Global settings of the MP3 Export Preference dialog, found in the Logic menu.

MP3 Export Settings

Below are the MP3 Export settings found in the Logic > Preferences > MP3 Export menu, along with some usage tips.



Bit Rate (Mono/Stereo)

The bit rates are selectable between *8kbps* and *320kbps*, but default to *80kbps mono,* and *160kbps stereo*. These rates offer acceptable quality and good file compression. If you can afford the extra file size, we recommend 96kbps for mono, and 192kbps for stereo streams, as this provides better audio quality. You can, of course, choose even higher rates, but the quality improvement in bit rates above 96/192kbps is minimal.

Quality
Keep this set to *Highest* whenever possible. Reducing the quality will speed up the conversion process, but at the expense of audio quality.

Use Variable Bit Rate Encoding (VBR)
Variable Bit Rate encoding compresses "simple" passages more heavily than harmonically-rich passages, generally resulting in better quality MP3s. Unfortunately, not all MP3 players can accurately decode VBR-encoded MP3s, which is why this option is turned off by default. If you determine that the listener/s of your MP3 can decode VBR-encoded MP3s, you can switch this option on.

Use Best Encoding
Again, like the *Quality* parameter, you will gain encoding speed at the price of audio quality if this option is unchecked. This should always be left on, unless conversion time is an issue.

Filter Frequencies Below 10Hz
When this option is checked, frequencies below 10Hz (which are usually not reproduced by speakers, and are not audible to human ears, at any rate …) will be removed, leaving slightly more data bandwidth for the frequencies which we can hear, resulting in an improvement in perceived quality. Only uncheck this if you're experimenting with subsonic test tones, or exporting MP3s for whales …

Stereo Mode
You can select joint stereo or normal stereo mode. Depending on the original file, these settings may (or may not) offer any audible difference. Experiment with both settings to determine your preference.

6 Video

6.1 DV Movie Playback via FireWire

If you use a FireWire DV device for displaying QuickTime video (or a FireWire device connected to monitors for video display) we've added a new feature just for you: you can now output the opened QuickTime movie video from your Logic song to a FireWire device.

Important: for technical reasons, only QuickTime movies in DV format are supported.

You can easily activate this option by selecting FireWire as the "DV Output" option in the Global Preferences menu (your FireWire DV device must be connected at the time). You can also access this preference by opening your QuickTime movie as usual (via the *Open Movie* Key Command or the Options menu), and then holding the mouse button down in the movie window. This will launch the Quicktime options pop-up menu.

6.2 Video Thumbnail Track

There is a new track class in the Arrange: the "Video Thumbnail Track", which displays the loaded Quicktime movie as thumbnails on an Arrange Track. You can select this track class from the hierarchal menu of track classes. The number of thumbnails you can see at any given time depends on the current zoom level. The frames are always left-aligned, with the exception of the final movie frame, which is right-aligned. What this means is that left border of every frame (but the final frame) repre-

sents the correct song position for that frame. The final frame is right-aligned to ensure that, regardless of zoom level, at least the first and last frames of a movie will be visible. No editing operations are possible on Video Thumbnail tracks.

7 Project Manager

7.1 Project Manager Window

The Project Manager is launched via the Windows > Open Project Manager menu entry.

7.1.1 Short Description of the Main Functions and Modes

A Logic song can use many different files which are not part of the song itself, but can be found as a variety of file types stored on the computer's disk drives. These are the *audio files*, the *settings* of the plug-ins and software instruments, the *samples* and *instruments* of the EXS24 sampler—and maybe even Quicktime *movies*. Any of these files can be requested by different songs. As an example, the settings for your reverberation plug-ins will often be requested by different songs.

The Project Manager is a new window which can be found in the Windows menu: Select Windows > Project Manager in order to open it. The Project Manager allows you to organize the following types of data on your disk drives:

- Song files
- EXS24 Instruments
- Audio files (and sample files for the EXS24)
- Quicktime Movies
- Setting files for all plug-ins (including software instruments)

The Project Manager recognizes the dependencies and relationships between these files. It recognizes which songs point to which audio file(s), and recognizes which samples are played back by which EXS instrument. (EXS samples are audio files as well. Any audio file can serve as a sample for the EXS24, in fact.)

Please note that although a Logic song file saves all parameters of each inserted plug-in, the song does not point to independent setting files for each plug-in.

In order to collect all necessary information, the Project Manager must first scan all drives, or at least all folders, used for the abovementioned file types. Dependent on disk(s) size(s) and the number of files, this may take quite a while, but the process runs in the background, allowing you to continue working. The resulting database is global (not song dependent), and is stored separately from Logic's preferences, in a special *Logic PMData* folder, found in the *Preferences* folder.

These are the main benefits of the Project Manager:

- With the Save as Project function, you can save a song with all associated files. This allows you to save all necessary files into a folder that can be burned to CD, enabling easy transport to another location. This avoids any missing EXS24 Instruments, audio files or samples which need to be searched for, or reconstructed, in the studio.
- Once the data has been evaluated by the Project Manager, you can safely delete projects while avoiding the deletion of any files required for the playback of other songs/projects.
- Beyond saving and deleting, moving and copying of all data required for a project is quick and easy.

You can switch between the four basic operating modes of the Project Manager—*Browse*, *Find*, *Log* and *Scan Paths*—via the flip menu in the upper left corner.

Browse

The *Browse* mode displays all file types, laid out in category folders on the left side of the interface. You can set and use bookmarks for any folders.

As soon as you choose a specific file type, you will see all matching files displayed on the right-hand side of the window. All relevant information for each file is also displayed, including: *location* (path) and two optional *comment* fields. Clicking on the triangle icon beside an audio file will display the waveform, and a listing of songs in which it is used. You can use

the monitoring feature (similar to that found in the audio window), or launch the Sample Editor by double-clicking on the waveform overview. Movie files can also be opened by double-clicking on them (linked to the current song).

Click on the triangle beside song file names to view a list of audio files and EXS Instruments that are used in the song. You can read more about this in the *Browse Mode* section, on page 50.

Find Mode

This mode activates a powerful search engine that allows you to search for all kinds of files which fulfill specified criteria, such as: name, file type and size. Further Functions are available for audio files. It is possible to limit searches to up to five definable paths. All search criteria can be saved to personal "filters", with individual names. More on this can be found in the *Find Mode* section, on page 67.

Log File

In this mode, a simple log of all actions previously performed in the Project Manager is displayed. See the *Log File* section, on page 71, for further information.

File > Save as project...

This global command internally uses the Project Manager's database. Use it to Save a Song with all, or specific data types (audio files, EXS instruments, samples, movie files), into a new folder—i. e. the "Project Folder". This is useful for backing up a production, transferring a song to another studio, or simply to organize your hard disk(s) more efficiently ...

Use of this command will launch the "Consolidate Song Functions" dialog window, where you can enter a "Project Folder Name" and choose from several options (mainly regarding choices to copy, move or simply leave certain file types at their current location(s)).

7.2 Scanning

Before you can make use of the Project Manager, you must first scan your disk(s). This process will retrieve all relevant information from all relevant files: all audio files, all songs, all EXS instruments, all Settings (plug-in/software instruments) and all Quicktime movies.

Scan Paths

It is recommended that you define *Scan Paths* prior to the initial Scan. Select *Scan Paths* (not *Find Mode*, *Log File* or *Browse*) in the flip menu to the top left of the Project Manager window. Any drive or folder excluded here will not be scanned. Two buttons allow you to define paths which should never be scanned (*Add exclude path…*). Within these excluded paths, there may be specific sub-folders that you wish to scan, despite the folder that is higher in the hierarchy being excluded (*Add include path…*). If you define nothing, all local volumes will be scanned in their entirety. Dependent on the number and size of the drives, and the number of files contained on these volumes, this may take a while. In using *Scan Paths*, you can speed up the scan significantly. As an example, you can exclude folders that contain thousands of "business" files, that have nothing to do with your audio and music applications.

- Use *Add exclude path…* to define hard disks and folders that are never used for media files, e. g. Library and System folders, or irrelevant volumes.
- Define *Add include path…*, for the Logic folder (for global EXS Instruments), your global sample library folder, and the folder or volume used for your projects and songs. This path will be scanned, even if inside an "excluded" folder or disk.

Please note that you can include sub-folders of excluded folders, or exclude sub-folders of included folders. Put another way: sub-folders can have priority over folders higher in the architecture. This means, for example, that you can define the "Applications" folder as an excluded path, but define the "Logic" folder (inside the "Applications" folder) as an included path. In this case, the "Logic" sub-folder will be scanned while all other sub-folders inside the "Applications" folder will not be scanned.

- If you wish to remove a defined path, select it and click *Remove Path*.

Included paths will be displayed on the right-hand side of the Project Manager window.

- Included paths are indicated by a *(+)* icon that precedes the path name.
- Excluded paths are shown below, and are indicated by a *(-)* icon that precedes the path name.

Scan

Select *Browse* mode via the selector to the top-left of the Project Manager (not *Find Mode*, *Log File* or *Scan Paths*). If you don't select a specific folder in the left half of the Project Manager window, the scan process will scan all disks—in accordance with the defined exclude and include paths, if any. If you can't recall the location(s) that you may have previously saved any of these file types to, you should perform a "global" scan.

You can start the scan process with the Functions > Scan option. The scan process can take some time, depending on the amount of data, and number and size of your hard disk drives. During the scan process, you can continue working in Logic's other windows.

When the scan is completed, a folder structure appears on the left side of the Project Manager window, if *Browse* mode is selected.

Following this initial scan, please select Functions > Save Project Manager data at once. This ensures that—barring unforeseen circumstances—this time-consuming scan procedure will never need to be repeated. The Project Manager's database is automatically saved every time you quit Logic.

During the scan process, the Project Manager checks every filename suffix (e. g. ".aif(f)" for audio files in the *audio interchange file format*) *and* the file type of every file on your disks. Every file that appears to be an audio, song, EXS-instrument, setting or Quicktime movie file will be analyzed for its relationship to other files. As an example: the "relationship" could be between a song file that points to an audio file used as a region within the song. This is the type of information the Project manager deals with, and that is stored in the Project Manager database.

You can rescan at any time. As a tip, we recommend that you only scan specified folders, where you expect to find these files. This saves time. You can choose the desired folders directly in the browser, and select Functions > Scan, or, if the respective folder does not yet appear in the browser, select Functions > Scan folder. Or you can define appropriate include paths, see the *Scan Paths* section, on page 47.

Expanded Scan

Functions > Expanded Scan works much like the standard Scan, but there's a difference. Expanded Scan analyzes absolutely every file, regardless of whether or not the file type or suffix matches one of the file types being searched for. This allows you to select any file, even if its suffix has been changed manually with the operating system file utilities, or if the file type information is invalid. The expanded scan takes much longer to analyze a file. As such we only recommend the use of this function on folders where such files can be expected. The function is especially useful in cases where specific files you expected to find during the normal Scan don't show up.

Scan folder...

Functions > Scan folder is identical to Scan, but with the standard Scan command, you only can scan folders that appear in the Project Manager Browser. What about new folders that the Project Manager hasn't yet noticed? If you select Functions > Scan folder, a folder selection dialog box appears onscreen.

Stop Scan Process

Functions > Stop Scan Process is self-explanatory. This function is especially useful if you accidentally start an expanded scan of your entire disk/system. You'd probably want to stop this. All data detected up until the point when the Stop Scan Process command is initiated will not be lost.

7.3 Browse Mode

In order to follow the Functions described in the following paragraphs, please select *Browse* (not *Find Mode*, *Log File* or *Scan Paths*) in the selector at the top left of the Project Manager window. Use Functions > Scan folder, and select a folder that contains songs and audio files. If these file types are located on different drives, perform two folder scans in order to view the appropriate Project Manager data. You can also scan all of your drives completely, but this may take a while, depending on the number of files/disk(s). Deselect any current selection in the Browse menu, and select Functions > Scan to do so. During the scan, you can continue working in Logic.

You'll find the hierarchical structure of the Browser self-explanatory. After a full scan, the top-most hierarchical entry—above all the disks—is "Media on Disk". The next level of the hierarchy is for the various data types:

- Audio Files
- EXS 24 Instruments
- Logic Plug-in Settings
- Movie Files
- Song Files

Please keep in mind that audio files can be referenced by a Logic song *and* by an EXS24 instrument.

Sub-division of Audio Files

The audio files are sub-divided into:

- AIFF files
- Recycle Files
- Sound Designer I Files
- Sound Designer II Files
- WAV Files

These are different audio data formats that Logic can read/use without conversion.

Left and Right Parts of the Project Manager Window

Every item in the gray Browse section is a folder. This also includes the display of sub-folders (the right-most) in the hierarchy. The contents (the files) are always (and only) displayed on the right-hand (light yellow) side. Click on an item in the lowest level of the hierarchy (one of the right-most items—with no triangular arrow): The files in the selected folder will appear on the right-hand side. To the left of each entry, you will see arrows that display more information about the file and its relationships to other files, when clicked.

- For audio files, the waveform is displayed, along with songs and EXS24 instruments that refer to this audio file.
- For songs and EXS24 Instruments, the audio files they refer to are displayed.

If you are using the Logic 6 default key commands, you can use the cursor keys to navigate the Project Manager window (read more in the *Navigate* section, on page 66).

Meaning of the Colors

On the right-hand side of the Project Manager, the files and their respective information are displayed in different colors.

- *Black*: This is a *resolved* (valid) reference from within a song or an EXS instrument, to an audio file—which means there's a known path that is working fine and is in good order.
- *Green* is used for the name, information and location info for the audio file, if the triangular arrow is clicked.
- *Grey* is the color of duplicates. Logic is intelligent when it comes to recognizing duplicates: Even if the names and info are different, Logic will analyze the files byte by byte. If the audio is identical and the length (duration) is identical, the Project Manager will recognize that the file is a duplicate.
- *Red* is the color of *unresolved* References. This means that there's no file of the respective name in the folder path that was saved with the song or EXS instrument. This is quite common with samples that you have copied from CD to hard disk via the operating system's drag and drop functions. From now on, you should use Functions > Install

from… and you will never again encounter a red, unresolved reference (see the *Install Files From…* section, on page 56). To make your life even easier, the Project Manager features an intelligent function that automatically resolves red references (see the *Find Unresolved Files for Selected* section, on page 62).

7.4 Edit menu

Cut, Paste and Clear

When you copy, move or delete files from within the operating system (on the desktop), the Project Manager isn't aware of these changes, and therefore can't recognize the new locations of the files. As such, we recommend that you perform these operations with the Cut, Paste and Clear functions of the Project Manager Edit menu. This ensures that the Project Manager database is always up to date, regarding the location (and existence) of any relevant file(s).

Note that it is possible to update the database at any time (see the *Check For Modified Or Deleted Files* section, on page 54).

Cut allows you to select files that shall be moved. Paste is used to define a destination folder for these "cut" files.

If you move (Cut and Paste) audio files, all songs and sampler instruments referring to these files will automatically be updated to reflect the new file locations.

The Clear function actually deletes the files from disk.

Caution! "Cleared" files will not only be removed from the Project Manager database, but will be moved to the Trash folder. Next time you empty the Trash, the files will be deleted and can not be recovered!

If you wish to define a new folder (which is not yet known by the Project Manager) as destination for the move or copy process, make use of the Functions > Move Selected or Copy Selected functions. (More information can be found in the *Move Selected* section, on page 64 and also in the *Copy Selected* section, on page 64).

Select All

Use this command to apply operations to all files that are visible in the right-hand side of the window. Note that this function does not select all files in all folders. Only the entire contents of the folder selected on the left-hand side of the Project Manager window will be selected.

Select Unused/ Unreferenced Audio Files

Edit > Select Unused Audio Files and Select Unreferenced Audio Files are functions that can be used to select particular audio files that are not currently in use. Most commonly, this function will be used when you wish to delete them, or place them in a folder where they can be stored for possible future use.

So what's the difference between the selection of unused and unreferenced files?

This function looks for all song and EXS instrument files, and then checks if these songs or EXS instruments can/cannot find their related audio files. Select Unused Audio Files selects all audio files that are not referenced by any song or EXS instrument. Put another way: These are "orphaned" files that have no "used by:" info when you click on the triangular arrow alongside their names.

Select Unreferenced Audio Files is a little smarter. This function also selects the unused audio files, but goes one step further. It also checks for songs or EXS instruments that attempt to point to audio files with identical *names*. Their path reference might be wrong, but this could be re-established by performing Functions > Find unresolved files for selected!

Edit > Select Unreferenced Audio Files will not select unreferenced files with "suspect" names—i. e. files of a suitable (used) name that "could" be in a song/belong to an EXS instrument, thus protecting them from being deleted accidentally (see the *Find Unresolved Files for Selected* section, on page 62).

This type of disorganization is typically created by copying folders manually from a sampling CD ROM to the hard disk, via the operating system's drag and drop facilities. From now on, you can avoid this from happening: Whenever you want to add folders from sampling CD ROMS or firewire hard disks, use Functions > Install files from… (from within the Project Manager). This will ensure that all references are up to date.

Find Duplicates for Selected

This is a smart function that finds and selects duplicated files. The files may even have totally different names or file types—but will nonetheless be recognized as duplicates, as long their length and content (audio data, comments etc.) is identical. The slightest difference in content means that a file won't be regarded as a duplicate.

Delete Duplicates for Selected

The function name explains its use. The algorithm used for the detection of duplicates is as per that mentioned above.

7.4.1 Renaming Files

If you hold ctrl, and double-click on a file in the right half of the Project Manager window, you can enter a new name for the file. In doing so, the new name information will automatically be updated in the references of all other related files. You should never rename audio files on the desktop, as this will destroy all existing references. All file types can be renamed as desired.

7.5 Functions Menu

Check For Modified Or Deleted Files

This function is used to ensure that all scanned data is still present, and has not been changed. This process also runs automatically from time to time. This function is useful for updating the selected data in the Project Manager's database, should you have deleted, moved or copied files using the operating system. Normally, this isn't recommended, but in the real world, these situations sometimes occur. As an example, copying a number of songs and audio into a folder in order to burn the folder onto a CD

ROM, for backup purposes. After the burn procedure, you might want to move the original folder to the Trash. Through use of Check For Modified Or Deleted Files, you can ensure that the Project Manager doesn't expect to find, or look for, the existence of this folder.

Thanks to the Project Manager database, it's much more convenient to backup projects systematically: Use Logic's File > Save as project… feature to backup songs, associated audio and settings data to a folder that can be copied to a CD ROM. This feature is, in fact, the major benefit of the Project Manager. If you always work systematically, you normally won't need to use the Check For Modified Or Deleted Files option.

Clear Scanned Data

This function, as its name implies, clears the scanned Project Manager data. If you select nothing, the entire database will be cleared. This would normally not be desirable, but may be useful if you had totally reorganized the contents of your disk. This may be the case if you've backed up all of your data to CD ROMs, following the production of an album, and have cleared all songs and audio files used for the album.

If you select a folder in the Project Manager Browser, the Project Manager data related to the contents of that folder will be cleared. This is useful if you wish to exclude a folder from being associated with any file. Also take a look at the *Scan Paths* section, on page 47.

Save Project Manager Data

This option allows you to save the Project Manager's database manually, even though this occurs automatically whenever you quit Logic. For power users who never quit Logic, this is a good option for saving the database, especially after the completion of longer scan procedures.

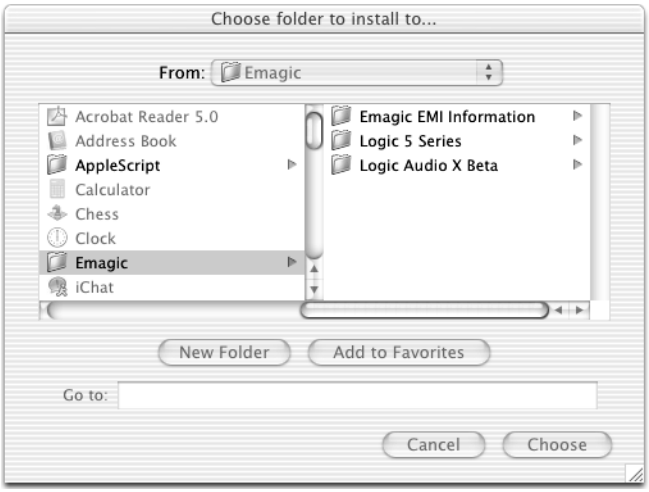
Remember that the Project Manager data is not saved with songs. The database is independent of song files as it is related to *all* files.

Install Files From...

This is the function to use when importing sampling CDs which contain both audio files and EXS instruments. It's also appropriate for the importation of songs (with all related audio) from a CD ROM which has been burnt on another computer running Logic. The import function is not restricted to CD. It can be used for any media type, including FireWire disks, or any folder that's accessible from your system.

- Selecting Functions > Install files from… opens the following window:

- Select the medium and folder you wish to install. This does not necessarily have to be a sampling CD with EXS instruments. Importing songs and their related audio (and settings and Quicktime movies) works in the same way.
- Press *Choose*.
- A similar window appears, allowing you to define the destination folder. The destination must, of course, be a hard disk—not the source CD ROM which can't be written to:



- You may wish to create a new folder by clicking on the dedicated button. Either way, the following dialog will provide an opportunity to define the sub-folder that you wish to save the Project into.
- Press *Choose* and this dialog will appear:

❖ If you Check *Don't install duplicates*, no files (audio, EXS instruments or songs …) will be installed, where duplicates already exist on the destination disk. The algorithm is intelligent, but can take a while to analyze the data. It recognizes duplicates even if the filenames are different, by analyzing each byte of the files. You should

only use this function if you suspect that the audio files to be installed already exist on your destination disk.

- ❖ Only install needed files looks for the names of files which are missing, according to the Project Manager database, and only installs files with matching names. This is particularly useful for sampling CD ROMs that have been installed manually, but improperly.
- ❖ *Copy*, *Move* or *Leave* Instruments to global folder relates to the global EXS *Sampler Instruments* folder, and only deals with EXS "Sampler Instrument" files (.EXS). It's recommended that all EXS instruments only be placed in this "global" folder ("Sampler Instruments" in the Logic application folder). For CD ROMs, copying and moving is identical, but this is not the case with exchangeable media such as FireWire disks. If you select *Move*, the originals (on the FireWire disk) will be deleted. If *Leave* is used, the EXS Instruments will remain on the medium (FireWire disk), and only the audio files will be "installed".
- ❖ *Subfolder Name* allows you to create (and name) a new sub-folder for copied or moved EXS Instruments. If you delete all characters in the *Subfolder Name* entry, no sub-folder will be created, and the installation will be performed directly into the selected "destination" folder.

- Pressing Enter ("OK") will execute the installation. The current status of the data evaluation and copying process is displayed as a small progress bar window.

Consolidate Selected Songs

In these days of big, fast hard disk drives, it's recommended that all files used by a song be stored in a single folder. Within that folder, a standardized structure for every song is desirable.

Traditionally, many Logic users saved audio files and song files in different folders, partitions or disk drives. This approach was reasonable in the "dark ages" of slow internal IDE and fast external SCSI disks, when only the latter offered good audio and video performance. These were also the days when audio was viewed as an "extra" to mainly MIDI-based productions. These days, there's no need to seperate the information across multiple drives. This, however, does not mean that it's no longer useful to backup all of your data—this is still a must!

Functions > Consolidate Selected Songs is a function that organizes all song-related files into a well-sorted, standardized file structure—which will hopefully be adopted as a convention by all Logic users for all projects. This is how it works:

- Be sure to select *Browse* mode (not *Find Mode*, *Log File* or *Scan Paths*) in the panel to the top left of the Project Manager window. Navigate to the folder that contains the song that you wish to consolidate. Remember that in the Browser, you'll find it in the "Song files" sub-folder!
- Select the desired song in the right-hand side of the Project Manager window. If no song is selected, the Functions > Consolidate Selected Songs option will be grayed out.
- Select Functions > Consolidate Selected Songs. A file selector will be displayed. Feel free to create a new folder, and/or select the desired folder for the project, then press Enter. The following dialog will provide you with the opportunity to define the sub-folder into which the project will be saved. A dialog, offering several options, will appear onscreen:

- Create a sub-folder for the entire project by typing an appropriate name into the *Project folder name* field. If you don't enter a name, no sub-folder will be created in the folder selected beforehand.
- The following functions allow you to determine the type of data you'd like to save into the destination folder.
  Please note that the approach is quite different if you wish to consolidate a project for transport to another studio location (burning a CD with everything on it), or whether you just want to reorganize the files on your disk. The *Copy*, *Leave* and *Move* functions are self-explanatory: If you select *Move*, the original file will be deleted.
- When you want to export projects to a folder which is destined for CD ROM burning, select *Copy* for all file types. It's rare that the audio files used by the song should not be copied or moved to the new project.
- If just keeping order on your hard disk, select *Leave* for any EXS samples and sampler instruments that are not specific to the song (drums, strings, bass and so on …). When song-specific samples are being utilized, all the EXS24 data (Sampler instruments and samples) should be copied into the dedicated folder.
- Whether to copy or move the Quicktime movie depends on your video data structure, and whether or not the CD ROM has the capacity for all audio and video data.

- For the *Unused Audio*, there are different options available. Unused Audio indicates audio files present in the song's Audio window, which are not used as regions in the Arrange window. In practise, this might be vocal takes that weren't used in your arrangement, but that are still present in the Audio window. The *Unused Audio* parameter determines how these files are handled. If you choose *Like Used*, they are handled like the used audio files, and will appear in the same folder. If you select *Separate*, a dedicated sub-folder for the unused audio files will automatically be created. This allows the unused files to be easily identified, which is convenient when deciding on which files should be moved to the Trash. Choosing *Separate* for the *Unused files* is a good option when you're unsure of whether or not these files may be used later. The other plus is that Logic won't ask for missing files when the song is reopened—even if the files are not used in the arrangement. Consolidated song files "know" where these files are saved. If you select *Leave*, the files will be left where they are, which makes it easy to delete the old version of the song, along with all unused files.
- *Include songs sharing files with this song* is a smart function that automatically collects and collates all related song versions into a single dedicated project folder, along with all other versions that share the same audio data. You may want to uncheck this option in cases where an audio file is used in a variety of totally different song projects. The function is only relevant to audio files in the Audio window, not to the sample files used by the EXS24.
- *Delete empty folders after moving*. In cases where you decide to *Move* files, you may wish to automatically delete any empty folders that remain. You should leave this smart function checked, as long as you don't intend to "refill" these original folders.
- *Set Song's audio recording path*. If you're not yet finished with all recording sessions for a song, it's a good idea to allow the *Consolidate* function to set the song's audio record path for you. Future recordings will automatically be placed in the "right" folder structure, if this option remains checked.

- Execute the Consolidate process by pressing *OK* (or Enter). A small progress window is shown at the top left of the screen. Have a look at the new structure after consolidation!

Add Selected Files To Audio Window

Most Project Manager functions don't relate to the song that is currently opened. This option is an exception: As the name implies, Functions > Add selected Files To Audio Window adds the audio files selected in the right half of the Project Manager to the Audio window of the currently opened song. From there, they can be dragged to the Arrange window as per any audio file.

Find Used Files for Selected

The "selected" files of the following functions refer to songs or EXS instruments. In other words, this functionality is only available if you have selected one or multiple song(s) or EXS24 instrument(s).

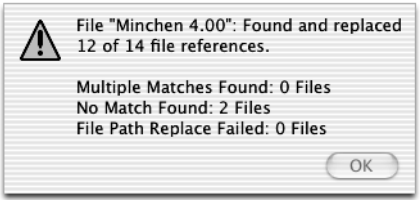
Remember that you must first select a file in the right half of the Project Manager window—or a folder on the left.

The Functions > Find Used Files for Selected option searches the audio files for a given song or EXS instrument, even if valid references already exist. On occasion, different files can have the same name, which can lead to incorrect resolutions of file relationships. By using Find Used Files for Selected, all files with the appropriate name(s) will be recovered, and you can select the desired one(s) manually in the dialog.

Find Unresolved Files for Selected

In cases where a song or an EXS instrument cannot find their related files (unresolved file references), Functions > Find Unresolved Files for Selected forces the Project Manager to search for any file with the right names that are missed by the song or EXS instrument. These references can be easily identified by color (red—along with the triangular arrows that point to them). In cases where only one appropriate file name is found for an unresolved reference, the Project Manager will automatically choose that file. The referenced file will then be shown in blue.

- This function is intelligent. If there's more than one matching file name, and the found files are identical, Find Unresolved Files for Selected chooses the file with the folder path that best matches the song (or EXS instrument). If there are several matches of the file name, but the found files are not identical, a dialog will open, allowing you to select the desired file. The files are compared byte by byte in order to define whether or not they are identical.



- In the example shown, Find Unresolved Files for Selected has found 12 references, leaving two unresolved, which do not exist on the drives. These two files have been deleted with the desktop Trash function—which is not recommended, but happens in real life.

Move Used for Selected EXS-Instruments

This function is used forEXS instruments only. It allows you to move all audio files (samples) that an EXS instrument utilizes into another folder—and change the respective references in one pass.

- *Create Subfolders* creates a dedicated subfolder.
- Delete empty subfolders removes empty folders, which may be left after a move. Normally, it's recommended that you leave this parameter checked.

Set Comment 1 for Selected

For info on this option, please read the *Comments* section, on page 73.

Set Comment 2 for Selected

For info on this option, please read the *Comments* section, on page 73.

Move Selected

This option allows files to be moved from folder to folder, with the Project Manager keeping track of how all the references of respective files change. This ensures that they will "find" each other, next time you open a song or load an EXS instrument. The function works much like the Copy and Paste functions in the Project Manager Edit menu. The difference is that Functions > Move Selected opens a folder selection dialog, allowing you to create new folders and to select folders that are not yet present in the Project Manager Browser.

Copy Selected

Same as above, but copies of the selected files remain in their old location. Any references will be updated to the copy destination. If you wish to make copies without changing existing references, copy the files outside of Logic, with the operating system's copy feature.

Start/Stop Preview

Audio files displayed on the right-hand side of the Project Manager window can be auditioned. The display of audio files in the Project Manager is much like that of the Audio window, except that you can see and audition any audio file (including all samples) on any disk, without first having to add it to your song. The *Start/Stop Preview* function starts playback of the selected file. Playback is stopped with the same command. Playback makes use of the audio channel (audio object) that has been selected in the Audio window.

It is recommended that you select a stereophonic channel (without plug-ins) in your autoload song, routed directly to one of the main outputs that you're permanently monitoring.

The Project Manager's Start/Stop Preview is available as a key command! The Logic 6 default is the Space key.

7.6 View Menu

Show Details for Selected

This function is used to enhance the display of audio files. You may have already noticed the triangular arrow which is used to open the waveform display and the green reference information (the display of the songs and EXS instruments pointing to the file). By clicking on the triangular arrow to the left of the audio file name, you switch on/off the display of the details (waveform and references). The View > Show Details for Selected option switches the arrow on/off for all selected audio files, simultaneously.

In order to speed up the "Creating Waveform Display" progress bars that might appear, double-click on one, and press *Finish*.

The green reference information is also available for EXS instrument files. In this case, it lists all songs which make use of the selected EXS instrument.

You can also apply Show Details for Selected to folders (selected on the left side of the Project Manager window) if they only contain audio or EXS instrument files.

Hide Details for Selected

Having read the preceding paragraph, this is self-explanatory. This View function closes the detailed information (waveform and references) for the selected audio files, so that a greater number of file names can be seen simultaneously.

Sort ...

Allows you to determine the criteria by which you would like the entries sorted:

- Date
- Size
- Name
- Info
- Location

- Comment 1 or
- Comment 2

The order can be changed via View > Sort > Up or Down, respectively.

Sorting, by name, info, location or comment, is alphabetical.

For comment, please read the *Comments* section, on page 73.

Show Comment 1

For details on this view option, please read the *Comments* section, on page 73.

Show Comment 2

For more on this view option, please read the *Comments* section, on page 73.

7.7 Navigate

You will generally navigate the Browser with the cursor keys.

The Navigate menu allows accelerated navigation in the Browser through the use of bookmarks.

Bookmark Selected Folder

If you select a folder, no matter what its level in the hierarchy, and click Navigate > Bookmark Selected Folder, this folder will appear in the Navigate menu from now on. You can easily access the sub-folders and files in it, by clicking the desired entry in the Navigate menu.

Current

Selecting a folder and clicking Navigate > Current Folder hides all other folders, providing more room for the display of sub-folders within the folder. This offers you a better overview of the folders and files you intend to work without the irritation of, say, video and settings folders that you don't intend to work with at the moment.

Up

This navigate function moves the Browser one folder higher in the hierarchy level, showing all other folders sharing the same location/at the same level as the currently selected top-most folder.

Top

This makes all folders visible and moves the browser to the top level of the hierarchy, allowing navigation to all files.

Back

By double-clicking a duplicate, a used file, or the song or EXS24 Instrument, the respective folder will be browsed to. By selecting Navigate > Back, you can easily return to the folder that contains the file that was previously selected.

7.8 Find Mode

As a Logic user, you can easily collect, collate and create tens of thousands of files on your disks, organized in dozens and dozens of folders. Even for the most methodical of musicians, it's hard to maintain a flawless overview of the location of every single file. That's why the Project Manager features a smart find mode. Find Mode allows you to find any file, using any search criteria, instantaneously. The analysis process of the Project Manager database is so fast, you don't even have to press an execute button.

Another major benefit of the Find mode is that it's a great tool for the selection of multiple files residing in multiple folders. If you select these (using Edit > Select all/⌘A), you can apply any of the Project Manager's functions to the files returned by the Find.

Contains:, Comment: and + Comment

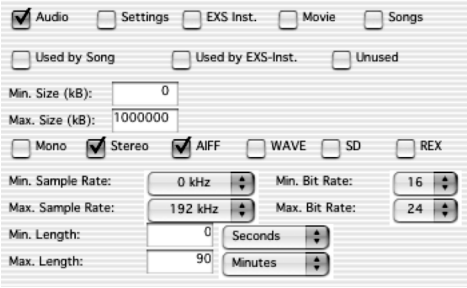
If you don't enter any text string in the *Contains* or *Comment* parameters, all files meeting the criteria defined by the switches will be displayed. This makes it possible to limit your search to short audio files or files with a specific sample rate, regardless of name, for example.

- Type in a text string in the *Contains* field and all file names that feature the text string in their name will be found (as long as they meet the other criteria below).
- Type in a string of text in the *Comment* field and all files with comments containing the text string will be found (as long as they meet the other criteria below). Whether the text string is in Comment 1 or 2 doesn't matter. The text string is not case-sensitive.
- If you type in a text string in *+ Comment* only files that contain the text string under *Comment and* the text string under *+ Comment* in their comments will be displayed. Again, whether the text string is in Comment 1 or 2, nor the order of both text strings is relevant.

Read more about the Comments feature in the *Comments* section, on page 73.

Type

The Project Manager can show different file types simultaneously or can exclude any file type. If you click *Audio*, as in the example below, more audio-specific criteria can be selected.



Size

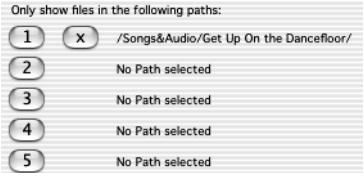
If you look for Settings, EXS24 Instruments, movie files or songs, only the size can be defined in order to exclude certain files. These file types are usually searched for by (part of) their names, or by comments. For audio files, however, the file size is a good search criteria in some cases—albeit normally, defining the minimum or maximum length is more convenient, if you're specifically looking for short drum sample files, for example.

Audio Search Criteria

- You can search for mono, stereo or both audio file types. At least one, or both, must be selected.
- You can search for AIFF, Wave, SD (SD1 and SDII) or REX audio files. At least one of these buttons must be checked. Leave all checked if you don't remember what file type the required file is stored as.
- You can specify the sample rates of the files you're looking for, thus excluding 22.05kHz, or 96kHz, for example. *0kHz Min sample Rate* and *384kHz Max sample Rate* are the values to choose, if you want to see all audio files.
- Similarly, you can define the bit rate of the files to be searched. Again, select a minimum of *0* and a maximum of *32* Bit if you wish to see all files.
- You can define the length of the files that you wish to find. If you're only searching for drum samples (or similar short files), you can easily exclude all long recording takes, for example—or vice-versa. Please note: you have the choice of four time units, that are counted: *Hours*, *Minutes*, *Seconds* and *Sample Words* (1/44, 100th sec., depending on the sample rate). Only full values (without a comma or decimal point) can be typed into the number field.
- You can restrict the search to audio files that are used (by a song or an EXS instrument).

Only Show Files In The Following Paths

You can restrict the search to specific folders. If you check nothing here, the entire database is searched for the file. If you click one of the *1—5* buttons, a folder selector box will be displayed, allowing you to define the desired path.



The restriction to the specified folder becomes active immediately, with no need to engage any further switches. The folder path is displayed. The *X* button allows the deletion of the folder search definition. If you wish to search another folder, click the *1* button (or the respective number) again. You can search up to five folder paths in parallel. This is more than sufficient as you can always decide to search higher folder hierarchy levels and, of course, switch off the search restriction to the five folders.

7.8.1 Find Mode Filter

In the Project Manager's *Find Mode*, an additional Filter menu allows you to program, and save, the settings of the *Find Mode*. These Find Mode settings are called *Filters*.

So, what does it bring to the party?

To give you an example, you may sometimes happen to search for 24 Bit audio files in the AIFF format, that are mono and shorter than one second, at a sample rate of 44.1kHz. Why? Because you're preparing a collection of samples for a new EXS instrument. You can store the Find Mode setting for this specific type of search as a "filter". As another example, you may often search for songs which have a "playback version" comment.

- When all the parameters of the *Find Mode* are set to your liking, select Filter > Save Filter Definition as…
  Enter the filter's name in the ensuing window.

The programmable filters include the text string parameter settings *Contains:*, *Comment:* and *+ Comment:* as well as the *Only Show Files in the Following Paths:* settings.

The filter definition appears in the Filter.

- If you want to delete or rename a filter definition, select the respective functions in the Filter menu.

7.9 Log File

The Log File mode is nothing but a simple list of the actions performed in the Project Manager, allowing you to reconstruct what you did. The Project Manager manages a multitude of files in parallel. Therefore, there's no undo function. But if you, say, moved a file to the wrong location and didn't quite remember where that was, here's a way to retrace your steps.

The Log file also is accessible for other applications that can display ASCII files—e. g. TextEdit. You can find the *PM.log* file in HOME > Library > Preferences > Logic > PMData.

7.10 Project Manager Preferences

Automatically load Project Manager Database upon Program Start

In the Logic > Preferences > Global Preferences, there are two preferences for the Project Manager. *Automatically load Project Manager Database upon Program Start* simply defines when the database is loaded. As this takes a few seconds, you can launch Logic without reading the database immediately, thus starting Logic a little faster. The database is loaded as soon as you open the Project Manager window for the first time. Engaging this parameter is simply a matter of taste, and of how often you use the Project Manager. It has no effect on Logic's functionality—apart from the time taken for the database to be loaded.

Always check for deleted Files after loading Project Manager Database

Always check for deleted Files after loading Project Manager Database does exactly what the parameter name says. The check for files that have been deleted by dragging them to the Trash with the operating system shouldn't be necessary, if you're disciplined enough to only "trash" files

from within the Project Manager. If your working style isn't quite so "proper", you can ensure that the Project Manager doesn't miss a thing by checking this option. Needless to say, this procedure always takes a little time. If you're relatively disciplined, and only move things to the Trash from within the Project Manager, you can reassure yourself that nothing's been lost by periodically checking for deleted files manually (Function > Check for modified or deleted files). If you can maintain this level of discipline, then you can leave this preference unchecked, and save yourself some time.

For searching files use

The following search functions affected by the *Select for searching files use* preference only deal with a case that should never happen. The case in question involves files that aren't in the location that's been saved with the song or EXS instrument, when loading a song or EXS instrument. That's what the Project Manager is for, to prevent this!

In the real world, however, you may occasionally and inadvertently moves file on the desktop, without using the Project Manager's copy and move functions (see the *Move Used for Selected EXS-Instruments* section, on page 63).

When opening a song or EXS24 instrument, Logic expects its audio files to be found in the locations saved with the song or EXS file. Even in versions prior to 6, Logic didn't just offer a file selector box, in cases where files couldn't be found where they should reside. In such instances, Logic would automatically search for the appropriate files with the right names on all disks, in every folder. As you may already know, this procedure could take a little while, especially with complex EXS instruments. This behavior still is possible.

Select for searching files use Search engine Only tells Logic to search for every file on all disks, when a song or EXS instrument is opened, and its respective audio files cannot be found. Thus, every possible matching file with the right name will be found, but the search process takes a relatively long time depending on the number of files and number and size of disks to be searched. This search method was used by Logic 5 and earlier versions.

Select for searching files use Project Manager Database Only instructs Logic to search for the file using the Project Manager's "knowledge" about the location of every file. If you haven't scanned the appropriate folders or haven't performed Functions > Check for modified or deleted files since the problem was created, the search may fail. The benefit of this setting is that *Select for searching files use Project Manager Database Only* is fast. If a song or EXS instrument fails to find its files, you should rescan and Check for modified or deleted files.

Select for searching files use Project Manager Database and Search Engine instructs Logic to use both strategies for searching. The advantage: Logic will not display an error message (while opening a song or EXS instrument) asking if the necessary audio files are on your disk at all. The disadvantage: you will not realize that an audio file is missing in the Project Manager's Database.

7.11 Comments

A feature introduced by Logic 6 is the "Comments" fields for each file: Each song, EXS instrument, and each audio file can have two comments as a part of the file structure itself. There's one exception: The setting files for plug-ins do not inherit comments in their file structure. The Project Manager, however, also remembers comments for setting files. The Project Manager retains the comments that are part of every audio file, EXS instrument, song and video, as well as for the settings files (which don't allow comments in their own file format). The Project Manager is the tool used to display and edit these comments.

7.11.1 Displaying and Editing Comments

In the Project Manager's *Browse* or *Find Mode*, select View > Show Comment 1 and Show comment 2. There are always two comments. Use them as you like. There's no functional difference between them—in fact these comments have no function at all, despite reminding you of something. When displaying both comments, you may wish to enlarge the window a little, or to move the borders between the columns of the table. To do so, just grab and drag them.

Double-click on the Comment entry of the respective file, and a box will appear onscreen. Type the comment into the text box and press Enter when done.

Set Comment for Selected

You can simultaneously enter a text Comment for all selected files. A "comment text" window appears, allowing you to type in the information. There are separate functions for the first and second comment.

Write Comments to Files if Possible

The Project Manager allows two explanatory comments of your choice for all files. Select View > Show Comment 1 and Show Comment 2 respectively, in order to display these comments. Often, it's desirable to write comments for multiple files in one pass. This is what Functions > Set Comment 1 for selected… (and Functions > Set Comment 2 for selected…) are designed to be used for.

The comments can become part of the files, and thus recoverable whenever you perform a new scan, even after you should have selected Functions > Clear scanned data. But there is one exception to this rule: The comments cannot be written into setting files. With setting files, the comments only reside in the Project Manager's database (and would be lost, in cases where you cleared the scanned data). With all other file types (all audio, instruments, and songs) the comments become part of the Project Manager's database along with the files themselves.

In order to transfer comments which have been typed in the Project Manager to the files themselves, use Edit > Write Comments to Files if possible. The process only applies for files that you have actually selected on the right-hand side of the window—or to all files inside the folder that you have selected on the left side.

Remove Existing Comments from Files

Having read the paragraph above, this function is self-explanatory. Again, the operation only applies to files that you have actually selected in the right half of the Project Manager window.