

Positive Grid®

Final Touch

Complete Mastering
System for iPad

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INTRODUCTION

What Is Mastering?

Mastering is a form of audio post-production. It is the last creative step when producing a record album or single for disc, tape, broadcast, digital-file or Internet delivery.

Mastering is a creative process requiring a combination of technical and artistic skills. With proper treatments, the music will sound better—not just louder—and it will better convey what the producer, engineer and artist were trying to capture during recording and mixing. In short, a skillfully mastered mix will have a greater impact on listeners.

Workflow

Final Touch is a complete system of mastering. Its optimized workflow allows you to easily import a mix, dial in the professional sound you want, and export the finished master to your mobile, desktop or cloud-based storage.

Monitoring

There are different philosophies regarding what constitutes accurate monitoring.

The major goal of a professional mastering process is to make subjective judgments as objectively as possible. What accomplishes this most successfully is using an accurate, high-resolution monitoring system—one that is ideally flat, uncolored and transparent—while you work. Mastering on such a system will help make the final version sound the best on all possible sound systems on average. This philosophy is true given that there are a wide variety of consumer speakers, and you can not mix or master for every type of speaker.

All that said, over 90% of music releases are now listened to on MP3 players, mobile phones and streaming devices. Artists and engineers find most of their productions are played using these new mediums, and the “average” speaker system has shifted toward a smaller and more portable form factor. As a result, engineers have started to use different and special treatments that optimize the sound of their productions when played on headphones and smaller speakers.

Stereo and Mid-Side Processing

Final Touch's amazing power comes from its ability to do both stereo and mid-side processing. We all know what stereo processing is, but what exactly is mid-side processing?

Mid-side processing adds powerful control to the Pre and Post Equalizers, Multiband Dynamics and Reverb modules by letting you apply different processing to the center-panned and stereo elements of your mix.

Mid-side processing is a clever technique which, once learned, will probably find its way into all your mixes. Its strength lies in its ability to make surgical changes to tracks deeply embedded in a stereo mix without audibly or significantly affecting other tracks—kinda like removing salt from a cake after it's already been baked! Mid-side processing can also produce subtle and creative changes to the stereo image of your audio tracks, and it has the potential to make you feel like a 'real' audio nerd. It's one of those tricks that never fails to impress.

Mid-side processing works by decoding a stereo signal into two components. The 'Mid' channel contains only audio that is exactly the same in the left and right channels (like center-panned kick drum and bass guitar), and the 'Side' channel contains all the audio that differs between the left and right channels (such as stereo reverb). Once encoded into M/S, these two signals can be processed completely separately before being matrixed back into conventional L/R stereo for delivery.

Useful Tips

- Be sure to put your device in airplane mode to prevent incoming messages from interrupting your playing...or blasting an email notification!
- It is usually a good practice to keep your iPad's volume set to about 8/10 of its full range, while setting Final Touch's Master L/R Output Gain fader to just over the halfway mark to begin with.

GENERAL OPERATION

Global Preset Manager

Final Touch provides presets that are designed to help with specific mastering goals such as improving the vocal's clarity and drum dynamics, or general-purpose mastering for disc, broadcast or Internet delivery. You can access these global presets by tapping the PRESET button in the lower-right corner of the GUI.

The global presets are organized in preset folders for your convenience. You can add or edit preset folders to meet your needs.

Global Module Controls

Module Signal Path and Spectrum Analyzers

The bottom of Final Touch's GUI shows the current signal chain for the mastering modules. In most of the factory global presets, the order of processing is:

PRE EQ - REVERB - DYNAMICS - STEREO-IMG - POST EQ - MAXIMIZER

Drag and drop a module in the signal-chain bar to move it to a different position in the audio path and reorder the processors.

The PRE and POST EQ , REVERB and DYNAMICS modules each include a spectrum analyzer in their GUI. The spectrum analyzer shows your project's spectral balance at the module's output (after the module's processing).

Module Bypass

Drag a module upward in the signal-chain bar to bypass it. Drag a module downward in the signal-chain bar to activate it. Alternatively, you can tap the power button located in the upper-left corner of a module to toggle its bypass status on and off. The module is active when its power button is lit yellow; it is bypassed when the power button is dark (unlit).

Module Presets Manager

In the upper bar of each module, just to the right of its power/bypass button, is the Module Preset button. Tap on the Module Preset button to bring up a menu. The menu allows the following actions:

- **Load** - Tap on a preset in the menu to load an existing module preset.
- **Save** - Tap on Save to overwrite a module preset's current settings.
- **Save As** - Tap on Save As to name and save your custom edits to a preset without overwriting the original preset. Use your iPad's keyboard to type the name of your new preset, then tap Done to finish.
- **Edit** - Tap on Edit to rename an existing preset in the menu. Use your iPad's keyboard to type the new name for the preset, then tap Done to finish.
- **Reset** - Tap on Reset to reset all controls in the module to their default settings at once.
- **Cancel** - Tap outside the menu to cancel loading, saving or editing a preset and to exit the menu.

Additional Controls in the Upper Bar (for Most Modules)

The Pre and Post Equalizers, Reverb and Dynamics modules each include additional controls in their upper bars:

- **STEREO Mode Switch** - Tap the Stereo button to apply the module's processing in stereo mode, allowing independent or linked processing of left and right channels.
- **MID/SIDE Mode Switch** - Tap the Mid/Side button to apply the module's processing in mid-side mode. Mid-side mode allows independent or linked (simultaneous and equal) processing of mid and side channels.
- **Channel-Select Buttons** - When Stereo mode is selected, you can tap on the green L or R button to select the left or right channel for independent processing, respectively. For example, you can tap on L in the Dynamics module, and any control settings you set (including crossover frequencies and output gain for individual bands) will be applied only to the left channel. You can then tap on R in the Dynamics module and apply different control settings to affect only the right channel. Similarly, when Mid-Side mode is selected, you can tap on the blue MID or SIDE button to select the mid or side channel for independent processing, respectively. This very powerful functionality allows you to correct channel-specific problems with your mix without affecting another channel that may need different or no treatment.
- **LINK Button** - Tap the Link button to apply a module's processing and control settings simultaneously and equally to both channels (either left and right or mid and side, depending on whether you're in Stereo or Mid/Side mode). The LINK button will light yellow when the two channels' controls are linked.

- **S (Solo) Buttons** - Each of the two channels for a particular mode (Stereo or Mid/Side) has its own solo button. The solo button for the left and mid channels is located to the left of the LINK button; it serves the left channel in Stereo Mode and the mid channel in Mid/Side mode. The solo button for the right and side channels is located to the right of the LINK button; it serves the right channel in Stereo Mode and the side channel in Mid/Side mode. Tap either S button to solo its respective channel (thereby muting the other channel). A channel is soloed when its S button is lit yellow. A channel can be soloed even when the LINK button is active.

- **B (Bypass) Buttons** - Each of the two channels for a particular mode (Stereo or Mid/Side) has its own bypass button. The bypass button for the left and mid channels is located to the left of the LINK button; it serves the left channel in Stereo Mode and the mid channel in Mid/Side mode. The bypass button for the right and side channels is located to the right of the LINK button; it serves the right channel in Stereo Mode and the side channel in Mid/Side mode. Tap the B button to bypass processing in the current mastering module on the associated channel; for example, tapping the B button to the right of the LINK button in the Post Equalizer in Stereo mode will bypass all filters assigned to the right channel, resulting in flat EQ for the right channel while preserving all filter settings for the left channel. A channel's processing is bypassed when its B button is lit yellow.

Positive Grid Power Button

Tap on the Positive Grid Power button in the GUI's lower-right corner to toggle all processing in Final Touch on and off. When processing is globally enabled, the Positive Grid Power button will be lit yellow; in this state, it is still possible to bypass individual modules as described earlier in the section titled Module Bypass. When the Positive Grid Power button is unlit, all processing in Final Touch will be bypassed and your original mix will be outputted.

Audio Import

Tap the Musical 8th-Notes icon in the GUI's very upper-left corner to open the Audio Import menu. Tap an item in the menu to select from where you want to import a mix, to master it in Final Touch. Final Touch supports audio import from:

- iTunes music library
- Dropbox
- FTP
- File Sharing (via iTunes desktop software)
- Audio Paste

(copy audio from another audio app and then tap Audio Paste to import it into Final Touch)

When you import a mix into Final Touch, the audio file's name, channel format, sampling frequency, bit depth, file size and duration (in minutes and seconds) appear in the field immediately to the right of the Musical 8th-Notes icon.

Audio Export

Tap the Audio Export icon (the little rectangle with an up-pointing arrow in it, located in the GUI's upper bar) to open the Audio Export menu. Tap an item in the menu to select where you want to export your finished master to. Final Touch supports audio export to:

- Dropbox
- FTP
- Mail
- File Sharing (via iTunes desktop software)
- Audio Copy (Audio Copy copies the audio so you can paste it into another audio app)

TREANSPORT CONTROLS AND UNDO / REDO

Transport Controls

Tap the transport controls in Final Touch's upper bar (above the waveform display) to respectively play, pause, stop and rewind your imported audio file to the beginning. Tapping the Play button alternately starts and pauses playback. Below the transport controls is a waveform display that provides an overview of your imported audio file. The waveform display also includes a scrolling playback wiper you can drag to any section of the waveform to jump to another section of your mix while the transport is either playing, paused or stopped. An elapsed-time readout is situated to the left of the waveform, while a remaining-time readout sits to the right of it.

Undo/Redo

Final Touch provides unlimited undo and redo functions. Simply tap on the Undo or Redo button in Final Touch's upper bar (above the waveform display) to move respectively backwards or forward in your action history, one step for each tap. Undo and Redo are very useful for comparing your master's sound with each action to how it sounded with previous setups.

MASTERING MODULES

Controls Reset

Most rotary controls and faders for Final Touch's mastering modules can be reset to their default settings by double-tapping them.

The individual modules are discussed immediately below.

PRE EQ and POST EQ (Equalizer) Modules

The Pre and Post Equalizer (PRE EQ and POST EQ) modules are typically placed before and after Final Touch's Dynamics module, respectively. A typical application is to boost with the PRE EQ in a specific band while compressing dynamics in the same band using DYNAMICS, thereby increasing sonic density in that particular spectrum. The POST EQ can then be used to put the finishing touches on the spectral balance for the master. Both the PRE and POST EQ offer eight independent bands, each providing a choice of five different types of parametric filters: Hi-Pass, Low-Shelf, Peak, Hi-Shelf and Low-Pass. These high-end filters exhibit the overshoot response of classic analog hardware. Each band can be independently bypassed. The PRE and POST EQs can operate in either stereo or mid-side mode, and you can link the left and right channels or the mid and side channels for simultaneous adjustments. Linkable output-gain faders allow you to adjust the relative balance of L/R and M/S channels at the output of the module and are accompanied by multi-colored ladder meters and fader and level readouts.

X-Y Display and Band Activation/Bypass

Each Equalizer module's X-Y display plots frequency along the horizontal axis and gain amount (boost/cut, in decibels) along the vertical axis. The numbered yellow and red circles in the X-Y graph mark each of the eight available EQ nodes. If a node is yellow, it is currently selected and ready to edit. If a node is red, its filter is active but currently unselected for editing. If a node for a particular band isn't visible, its filter is currently bypassed; to activate the node and make it appear in the X-Y display, tap on the correspondingly numbered, square-shaped bypass button in the lower control bar (below the X-Y display). A bypass button is lit yellow when its associated band is active and unlit when it's bypassed. The included spectrum analyzer displays the spectral balance at the module's output (after processing).

Band and Filter Selection

To select an EQ band for adjustment, tap its node; the node will turn yellow. Select one of the five available filter types for the currently selected band by tapping the Filter Pop-Up Menu on the right side of the lower control bar and then tapping your desired filter type in the menu. Final Touch lets you set the type or shape of each of its eight EQ bands independently. Each band can use a low-shelving, low-pass, peak, high-shelving or high-pass filter. All filters use linear-phase FIR filter topology.

Frequency and Gain Adjustments

Drag the currently selected node left or right to adjust its center or corner frequency lower or higher, respectively; drag it up or down to change the gain (boost/cut) amount in the selected band. You can make fine adjustments to the currently selected band's frequency and gain by tapping and dragging the respective numerical Hz and dB readouts in the lower control bar.

Equalizer Output Gain

Drag the Output Gain Faders to adjust the Equalizer module's output gain. Tap the Link button below the faders to link or unlink the faders. The faders are linked and move in tandem, preserving any existing offset, when the Link button is lit yellow. Tap a fader twice in quick succession ("double-tap") to snap it to 0 dB value. A numerical readout below each fader shows the fader's current setting in dB. The numerical readout above a fader lights red when the associated channel's output level exceeds 0 dBFS (0 dB Full Scale) and the module's output is clipping.

DYNAMICS MODULE

DYNAMICS is a highly flexible stereo/mid-side, multiband compressor/limiter. Each of DYNAMICS four bands can be independently soloed or bypassed and offers separate and continuously variable attack, release, threshold, ratio and output gain controls. Tapping on the All button for any control allows simultaneous adjustment of that control for all bands, facilitating quick global adjustments. The highly-resolved ratio control permits fine-tuned adjustment from 1:1 to 30:1, providing effects ranging from subtle compression to hard limiting. Linkable faders adjust input and output gain for left and right channels in stereo mode, and mid and side channels in mid/side mode. Accompanying each fader set are high-resolution, multi-colored ladder meters and fader and level readouts.

X-Y Display

The DYNAMICS module's X-Y display plots frequency along the horizontal axis and post-compression gain amount (boost/cut, in decibels) along the vertical axis. The yellow, red and gray circles in the X-Y display denote the output-gain nodes for the four bands, each situated at the respective band's center frequency. If a node is yellow, its band is currently selected and active, and you can adjust its output gain by dragging the node up or down. If a node is red, its band is active but currently unselected; tap the node to select it and light it yellow. If a node is gray, its band is currently muted. The included spectrum analyzer displays the spectral (frequency) balance at the module's output (after processing).

Drag the red crossover handles at the bottom of the X-Y display left or right to adjust the crossover frequencies for the module's four bands. A numerical readout (in Hz) will appear at the top of the display while you're dragging a crossover handle, guiding your adjustment.

M (Mute) and S (Solo) Buttons

Tap the M button in the lower control bar to mute the currently selected band; the M button will light yellow when the band is muted. Tap the S button in the lower control bar to solo the currently selected band; the S button will light yellow when the band is soloed, and the background color of the other bands will turn gray in the X-Y display to show that they are muted.

Threshold

Sets the signal level above which dynamics processing takes place, adjustable from -60 to 0 dBFS. A numerical readout above the control notes the parameter's current setting.

Attack and Release

The Attack control determines how quickly the dynamics processor reacts to signal above the set threshold; drag the Attack control to adjust the attack time from 0.5 to 100 milliseconds (ms). The Release control determines the amount of time for the dynamics processor to return the level to normal (no compression) after the signal falls below the threshold; drag the Release control to adjust the release time from 20 to 2000 ms. A numerical readout above the control notes the parameter's current setting.

Ratio

The Ratio control sets the compression ratio, from 1:1 to 8:1. Drag the control to adjust the ratio. Higher ratios will result in more extreme compression. A 1:1 ratio produces no compression. A numerical readout above the control notes the parameter's current setting.

Gain

The Gain control sets the output gain (post-compressor) for the currently selected band. Drag the control to adjust the band's output gain. A numerical readout above the control notes the parameter's current setting. You can also adjust the output gain of a band by dragging its output-gain node up or down in the X-Y display.

All Buttons

Tapping an All button for the Attack, Threshold, Release, Ratio or Gain control allows simultaneous adjustment of that control for all bands, facilitating quick global adjustments. When all All buttons are lit yellow, its associated control becomes a master control for all four bands.

INPUT and OUTPUT Faders

Drag the INPUT and OUTPUT gain faders to adjust the DYNAMICS module's respective input and output gain. Tap a Link button below the faders to link or unlink the associated faders. Faders are linked and move in tandem, preserving any existing offset, when their Link button is lit yellow. Double-tap a fader to snap it to 0 dB value. A numerical readout below each fader shows the fader's current setting in dB. The numerical readout above a fader lights red when the associated channel's level exceeds 0 dBFS (0 dB Full Scale) and the module is clipping.

STEREO-IMG (STEREO IMAGER) MODULE

The STEREO-IMG module adjusts the width of your mix, corrects L/R channel imbalances and checks mono compatibility. The continuously variable Stereo Width control adjusts the relative balance of mid and side channels and includes a level readout in dB to help guide your hand. Other continuously variable controls—each featuring an attendant readout—adjust the pan position of the left and right channels and provide a Mono Filter for the entire mix. The Mono Filter collapses to mono all frequencies below a high-pass filter's cut-off, producing a more focused bottom end. Tap separate buttons to flip the left and right channels' positions in the soundstage, alternately monitor in mono and stereo, and independently invert the phase of the left or right channel.

A Lissajous Vectorscope displays inter-channel correlation in an easy-to-read format that helps you assess stereo width and mono compatibility. Linkable faders—accompanied by high-resolution, multi-colored ladder meters—adjust output gain independently for left and right channels and can be linked for simultaneous adjustment while maintaining offsets. Readouts are provided for L/R fader settings and channel output levels.

Flip Channels

Tap the Flip Channels checkbox to toggle its operation on and off. When the checkbox is lit yellow, audio in the left channel is routed to the module's right output, and audio in the right channel is routed to the left output. When the checkbox is unlit (dark), L/R-channel routing is not flipped.

Mono/Stereo

Tap the Mono/Stereo checkbox to toggle between mono and stereo output. When the checkbox is lit yellow, the module's output is mono. The module's output is stereo when the checkbox is unlit.

Mono Filter

Drag the Mono Filter control to adjust the cut-off frequency for a high-pass filter from 1.0 to 430 Hz; all frequencies below the cut-off will be collapsed to mono, lending greater focus to your mix's bottom end. An attendant numerical readout displays the cut-off frequency you've set.

Stereo Width

Drag the Stereo Width control clockwise from the noon position to widen your mix's stereo image, counter-clockwise to make it more narrow. A numerical readout situated above the control shows your setting in dB.

Left Pan and Right Pan

Drag the Left Pan control clockwise to progressively route left-channel audio to the module's right-channel output. Drag the Right Pan control counter-clockwise to progressively route right-channel audio to the module's left output. Double-tap either control to snap it to nominal setting (left channel hard-panned to the left output, right channel hard-panned right). A numerical readout is provided above each control to show its associated channel's pan position in the stereo field.

L phase (Left Phase) and R phase (Right Phase) Inversion Checkboxes

Tap the L phase checkbox to flip the left channel's phase 180 degrees; the phase is inverted when the checkbox is lit yellow. Tap the R phase checkbox to flip the right channel's phase 180 degrees; the phase is inverted when the checkbox is lit yellow.

Lissajous Vectorscope

The Lissajous Vectorscope shows the degree of correlation between left and right channels, providing a graphic display of your stereo image. A mono signal is displayed as a narrow vertical line. Stereo signals become more horizontally dispersed in the vectorscope as the image becomes progressively wider.

OUTPUT Gain Faders

Drag the OUTPUT Gain Faders to adjust the STEREO-IMG module's output gain. Tap the Link button below the faders to link or unlink the faders. The faders are linked and move in tandem, preserving any existing offset, when the Link button is lit yellow. Double-tap a fader to snap it to 0 dB value. A numerical readout below each fader shows the fader's current setting in dB. The numerical readout above a fader lights red when the associated channel's output level exceeds 0 dBFS (0 dB Full Scale) and the module's output is clipping.

REVERB MODULE

The REVERB module offers flattering room, hall and plate algorithms to sweeten overly dry mixes. Each algorithm provides continuously variable controls for independently adjusting pre-delay time, decay time, early reflections gain and room size. Draggable nodes on a graphic display adjust the corner frequencies for high- and low-pass filters that affect only the reverb, preserving the dry sound's full bandwidth. Reverb can be applied in different amounts to the left and right channels in stereo mode, and to the mid and side channels in mid-side mode. Separate faders adjust the output levels of dry and wet (reverb) audio and include associated percentage-based readouts. Tap on the Solo Wet button to hear only the reverb portion of the module's output.

Reverb Type

Tap a reverb type in the module's lower control bar to select a reverb algorithm. Three algorithms are offered:

- **Room** - Emulates a small acoustic space with strong and distinct early reflections.
- **Plate** - A classic reverb effect that emulates the vibration of a sheet-metal plate excited by audio played through a transducer attached to the plate. The plate algorithm creates a dense reverb with a characteristically strong attack.
- **Hall** - Simulates a large acoustic space with darker and more highly diffused reflections.

Low Pass and High Pass Filters

Adjust the low and high cutoff frequencies for the reverb signal by dragging their respective nodes left and right in the display located above the lower control bar. The currently selected node is lit yellow. A red node is active but not selected for editing. Readouts in the lower left and right corners of the display show the current cutoff frequencies for the high-pass and low-pass filters, respectively. The included spectrum analyzer displays the spectral (frequency) balance of the combined dry and wet signals after the high- and low-pass filters have been applied (at the module's output).

Pre-Delay

Drag the Pre-Delay control in the module's lower control bar to adjust the time that elapses between the original, dry signal and the onset of the reverberated signal. Higher settings create the perception of a larger acoustic space with its nearest boundary located farther away from the listener. A numeric readout above the Pre-Delay control indicates the amount of pre-delay in milliseconds.

Decay Time

Drag the Decay Time control in the module's lower control bar to set the amount of time it takes for the reverb to fully decay. The attendant numeric readout is in relative units, as the exact decay time depends on the type of reverb chosen.

Reflect

Drag the Reflect control in the module's lower control bar to set the gain of discrete early reflections from -30 dB to 6dB, as indicated in the attendant numeric readout.

Room Size

Drag the Room Size control in the module's lower control bar to adjust the amount of feedback applied to the reverb algorithm. The attendant numeric readout is in relative units, as the exact room size depends on the type of reverb chosen.

Dry and Wet Sliders

Drag the Dry and Wet sliders to control the mix between the original, unprocessed signal (Dry) and processed reverb signal (Wet). Double-tap the Dry fader to snap its value to 100%. Numeric readouts above each fader show their current settings in percentage terms.

Solo Wet Button

Tap the Solo Wet button to toggle its function on and off. When the Solo Wet button is lit yellow, the reverb signal is soloed.

MAXIMIZER MODULE

The MAXIMIZER module should always be placed last in the signal chain. (Each module can be dragged and dropped to change their order in the chain.) The module's maximizer limits peaks and raises the average level of your mix, thereby increasing loudness. Comprehensive dither and noise-shaping options are also provided in this module. The MAXIMIZER module provides separate, linkable input and output faders for left and right channels; multi-colored ladder meters and fader and level readouts accompany the faders. THRESHOLD and RELEASE faders tailor the limiter's action, while the CEILING slider adjusts the master's ceiling, or maximum peak level. Multi-colored ladder meters in the THRESHOLD and CEILING faders' slots help guide your adjustments, and an attenuation meter and associated readout display the amount of gain reduction applied to your master. The MAXIMIZER module also lets you choose rectangular or triangular dither (or no dither) and any of three types of noise-shaping (or no noise-shaping). The dither amount (1 or 2 bits) and bit depth (8, 12, 16, 20 or 24 bits) are also each selected with one tap.

L/R Input Faders

Drag the L/R IN faders to adjust the Maximizer module's input gain. Tap the Link button below the faders to link or unlink the faders. The faders are linked and move in tandem, preserving any existing offset, when the Link button is lit yellow. Double-tap a fader to snap it to 0 dB value. A numerical readout below each fader shows the fader's current setting in dB. The numerical readout above each fader shows the input level for the associated channel. Each input fader includes a multi-colored ladder meter in its slot.

L/R THRESHOLD Faders

Drag the L/R THRESHOLD faders to adjust the level at which the maximizer will begin limiting. Turning down the threshold limits more of the signal which in turn will create an overall louder mix. In other words, by turning down the threshold you limit the dynamic range of the mix, and the maximizer automatically adds makeup gain proportionally to maximize the output level.

Tap the Link button below the L/R THRESHOLD faders to link or unlink the faders. The faders are linked and move in tandem, preserving any existing offset, when the Link button is lit yellow. Double-tap a fader to snap it to 0 dB value. A numerical readout below each fader shows the fader's current threshold setting in dB. The numerical readout above each THRESHOLD fader shows level peaks for the L/R input signals (after L/R IN fader adjustments), with a one-second peak-hold time. Each THRESHOLD fader includes a multi-colored ladder meter in its slot; refer to the meters to determine whether your threshold settings—indicated by the THRESHOLD faders' positions—are below signal peaks or not.

L/R CEILING Faders

Drag the L/R CEILING faders to adjust how much the maximizer will boost the output signal after limiting. If the CEILING is set to 0 dB, the output signal will be boosted all the way to 0 dBFS (0 dB Full Scale). If the CEILING is set to -0.3 dB, makeup gain will be applied to raise the maximum output level to -0.3 dB.

Tap the Link button below the CEILING faders to link or unlink the faders. The faders are linked and move in tandem, preserving any existing offset, when the Link button is lit yellow. Tap a fader twice in quick succession to snap it to 0 dB value. A numerical readout below each fader shows the fader's current ceiling setting in dB. The numerical readout above each CEILING fader shows level peaks for the L/R output signals, with a one-second peak-hold time. Each CEILING fader includes a multi-colored ladder meter in its slot.

RELEASE Fader

Drag the RELEASE fader to adjust the release time for the maximizer's limiter. More extreme limiting will generally sound better if you use relatively long release times. The release time is displayed in the numeric readout above the RELEASE fader. The release time can be adjusted from 0.01 to 1000 ms.

ATTEN (Attenuation) Meter and Readout

- **Meter** - The ATTEN meter shows the current output-gain attenuation effected by the maximizer.
- **Readout** - The ATTEN readout shows the current output-gain attenuation numerically. Reset the readout's value by tapping the readout.

DITHERING (MAXIMIZER MODULE)

Dithering Type

Final Touch lets you choose among three different dither-type settings. Tap the button for the Dithering Type selection you wish to use. The button for the currently selected dither type will be lit yellow. The available dither-type selections are:

- **None** - No dither is applied.
- **Rectangular** - Dither is applied using a "rectangular" distribution function.
- **Triangular** - Dither is applied using a "triangular" distribution function.

Bit Depth

Tap one of the five Bit Depth buttons to select the target bit depth for your master. When mastering for CD release, for example, you would want to select the 16 button. The button for the currently selected bit depth will be lit yellow.

Dither Amount

Tap one of the two Dither Amount buttons to set the number of bits or amount of dither that will be used for the dither source. The button for the currently selected dither amount will be lit yellow.

Noise Shaping

Final Touch lets you choose among four different noise-shaping settings for the dither. Tap the button for the Noise Shaping selection you wish to use. The button for the currently selected noise-shaping selection will be lit yellow. The available noise-shaping selections are:

- **None** - No noise shaping is applied to the dither noise.
- **Normal** - High-pass filtering is applied to the dithered noise.
- **Nyquist** - The dither noise is shifted toward the Nyquist frequency, near the upper limit of human hearing range.
- **Psych** - A psychoacoustic shaping curve is applied to the dither across the audio spectrum. The shaping is designed to move the noise away from frequencies that the human ear is more sensitive to at low signal levels, making the dither noise less audible.

MASTER SECTION

All the modules, with the exception of the Stereo Imager and Maximizer, can have their left, right, mid or side channel soloed or bypassed, and either mode's two channels can be linked. Four high-resolution faders for master left- and right-channel inputs and outputs are accompanied by multi-colored ladder meters, fader and level readouts, and clip indicators. The faders can be linked, maintaining any offsets you created beforehand. Global and module-based presets, transport controls, a waveform overview, undo and redo functions, and import and export facilities complete the mix.

Master L/R Input and L/R Output Gain Faders

Drag the Master Section's IN and OUT gain faders to adjust the respective input gain (before the first processing module) and output gain (after the last processing module) for Final Touch. A numerical readout below each fader shows the fader's current setting in dB. Tap a Link button immediately below a fader set's readouts to link or unlink the faders. Faders are linked and move in tandem, preserving any existing offset, when their Link button is lit yellow. Double-tap a fader to snap it to 0 dB value; its paired fader will also jump to 0 dB if the two faders are linked to one another. Tap the bottom-most Link button to link all four input and output faders so that they move in tandem, preserving any offsets; all four input and output faders are linked when the bottom-most Link button is lit yellow. Each fader includes separate numerical readouts for both RMS and Peak levels for its associated channel, above the fader. A numerical readout and an associated clip indicator above a fader lights red when the associated channel's level exceeds 0 dBFS (0 dB Full Scale) and the Master Section is clipping. Each fader slot has a multi-colored ladder meter embedded in it.

GLOBAL UTILITY SETTINGS

Tap the Wrench Icon in the upper-right corner of Final Touch's upper bar to access the Global Utility Settings menu. Global utility settings affect Final Touch's overall configuration. The following menu items are offered:

Knob Gesture

Final Touch provides three knob gestures:

- **Linear(Vertical)** - The knob will respond when you drag up or down.
- **Rotary** - The knob will respond when you drag in a rotating manner.

Auto Detect - The knob will automatically switch to Linear or Rotary mode by detecting your most recent gesture.

Run in Background

Enabling the Run in Background option allows Final Touch to continue processing audio when the app is in the background. Disable this option if you want to stop processing when Final Touch enters the background.

Latency

Latency sets the internal audio buffer size. Low latency mode uses more CPU power but provides shorter latency. Select Normal latency mode if you hear clicks or pops.

Support

Tap the Support menu item to go directly to the Positive Grid Help site.

App Information

Tap on App Information to view the App Version, Credits and other riveting information you're dying to see!

TROUBLESHOOTING

Q: Why can't I hear sound?

A: This might be caused by any one of (or several) things:

- Your iPad's volume is turned off.
- You haven't granted permission for Final Touch to access your microphone. Go to iOS settings -> Privacy -> Microphone to enable the microphone for Final Touch.

Q: What volume should I have my iPad's volume set to?

A: We recommend you set your iPad's volume to 8/10 of maximum for optimal performance.

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