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MIXER CONNECT

REFERENCE GUIDE

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Contents

Need help with MixerConnect?

• Visit www.mackie.com/support to find: FAQs, manuals, addendums, and other documents.

• Telephone 1-800-898-3211 to speak with one of our splendid technical support chaps (Monday through Friday, normal business hours, Pacific Time).

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Introduction

Do you want to control a ProDX™ mixer via your Android or iOS device? Of course you do! Well, you've come to the right place! After all, the MixerConnect™ app is designed to be used in conjunction with ProDX.

At this point, you must be well-versed in – or at least *somewhat* familiar with – the ins and outs of ProDX. More information may be found by visiting the **ProDX Owner's Manual**.

MixerConnect is great for mobile freedom to control everything from levels and EQ to linking channels to tools like FX and compression for amazing sound in any situation.

MixerConnect allows control of ProDX mixers via Bluetooth with...

- Compatible Android devices running version 4.1 or higher.

- Compatible iOS devices running iOS 8.0 or higher.

NOTE You should be able to stream audio from any Bluetooth-paired device. However, the MixerConnect app is needed to mix audio, including wireless adjustments of level, EQ, FX and more.

NOTE The MixerConnect app does not mix audio on its own. It requires a ProDX mixer to fully function.

MixerConnect V1.0

This version of the Reference Guide is written and designed for MixerConnect V1.0. With each software update, some screen shots may look slightly different than what you see within these pages and there could be some functional differences, as well.

About This Guide

The entire guide does not need to be read to figure out how to use the MixerConnect app. However, a certain amount of familiarity with ProDX and its features is assumed.

As the saying goes, "a picture is worth a 1000 words". With that thought in mind, we added quite a few illustrations, screen shots and other images throughout to accompany the text.

VERY IMPORTANT This icon marks information that is critically important or unique! For your own good, read and remember them.

A CLOSER LOOK There's an illustration of a microscope, so, of course, you're going to get more detailed information when you see this little guy. There are explanations of features and practical tips listed here.

NOTE It's a good idea to pay attention to text displayed next to a note icon, as this icon draws attention to certain features and functions relating to the usage of the MixerConnect app.

Things to Remember:

- Never listen to loud music for prolonged periods.

- Life is short. Be cool.

Getting Started

There are a few steps to accomplish before messin' around with the MixerConnect app. For starters, we'll take a look at how to download, install and update the app. Next, we'll pair the device with the mixer via Bluetooth. The last step is setting levels.

Part I: Downloading and Installing the MixerConnect App for Android

There are a couple of ways to download and install the MixerConnect app. The easiest and fastest way to download and install it is directly from the device. You've downloaded apps before and it's the same method to download this one, as well. Here's how:

1. Start by turning the device on (if it's not already).

2. With a good data connection open up the Play Store.
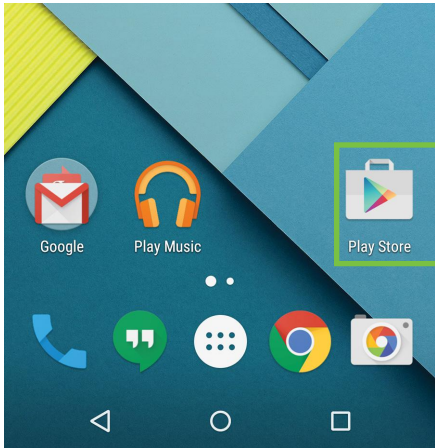
3. Type "MixerConnect" in the search box located at the top of the screen followed by tapping the 'Search' button.
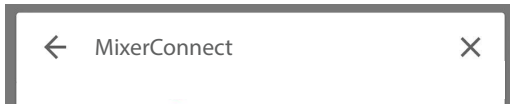
4. Select the MixerConnect app.
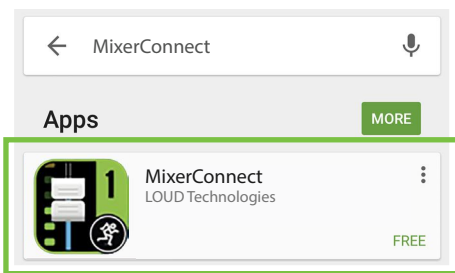
5. Now tap the INSTALL button.

6. Now tap the green ACCEPT button to begin installing the MixerConnect app to a device.
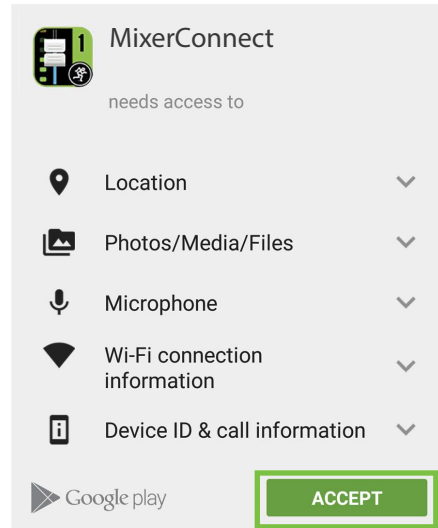
The MixerConnect app is now ready for use. From here, there are two ways to open the MixerConnect app.

First, simply tap the green OPEN button to open the app...
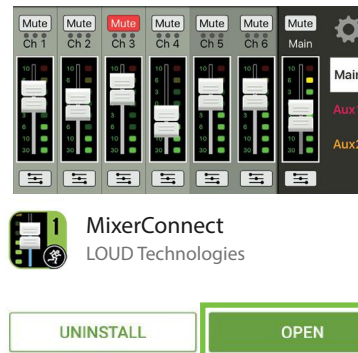
...or second, exit out of the Play Store back to the home screen. Tap the MixerConnect app!
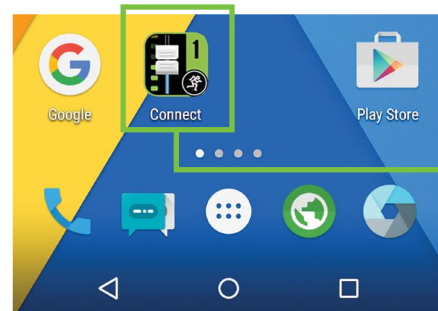
Part II: Pairing and Connecting the Android Device via Bluetooth

NOTE You should have to follow these instructions only once for each device paired via Bluetooth. After that they should remain paired, although you will need to connect manually to the ProDX. If already paired, follow steps 6-8 to connect manually to the ProDX.

These are the steps necessary to pair the device with the ProDX unit.

1. Start by turning both the device and the ProDX on (if they're not already).

2. Tap the 'Tools' icon to open the device's settings.

2:22 PM
Friday, May 22

ENGTEST 5GHz ▼   Bluetooth ▼

3. Tap anywhere on the Bluetooth line to open it.

Settings

Wireless & networks

▼ Wi-Fi

✳ Bluetooth

↻ Data usage

4. From here, enable Bluetooth simply by swiping right. [Tapping also enables / disables Bluetooth].

← **Bluetooth**   🔍 ⋮

Off
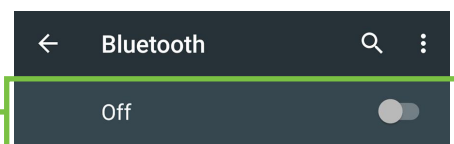
5. To enter pairing mode, press and hold the BT / Line In button on the front panel of the ProDX.

VERY IMPORTANT The button LED will illuminate and flash white while in pairing mode. If it does not, start the pairing process again, and make sure that ProDX and your device are both in pairing mode at the same time.

6. As seen below, ProDX is listed as a device, but is not connected.

← **Bluetooth**   🔍 ⋮

On

Available devices

🎧 ProDX8

7. Since we're trying to connect ProDX via Bluetooth, tap it.

← **Bluetooth**   🔍 ⋮

On

Available devices

🎧 ProDX8
    Pairing...

8. From there, your device should indicate that it is successfully paired and connected.

← **Bluetooth**   🔍 ⋮

On
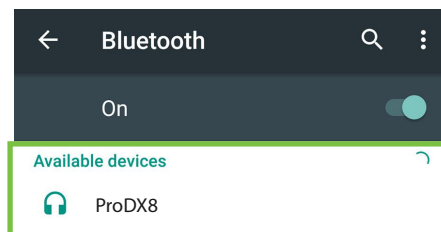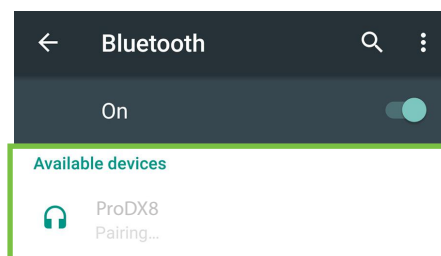
Paired devices

🎧 ProDX8   ⚙
    Connected

9. Now simply return to the home screen on the device, tap the MixerConnect icon to open the app and let the good times roll OR go straight to the app once connected!

ProDX8 Connected   2:23 PM
Tap to return to mixer.

Paired devices

🎧 ProDX8   ⚙
    Connected
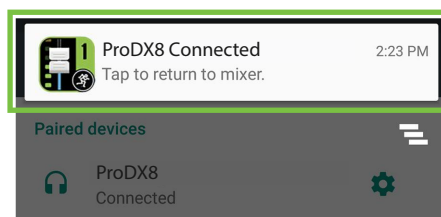
Part I: Downloading, Installing and Updating the MixerConnect App for iOS Devices

There are a couple of ways to download and install the MixerConnect app. The easiest and fastest way to download and install it is directly from the device. You've downloaded apps before and it's the same method to download this one, as well. Here's how:
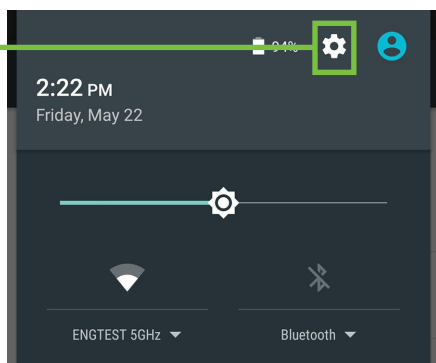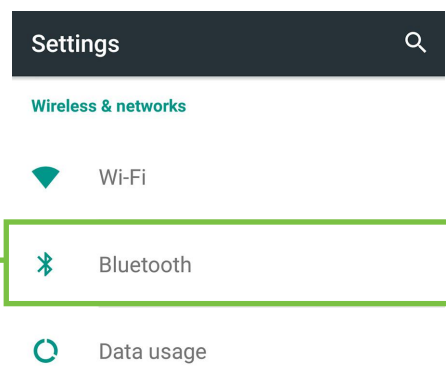
1. Start by turning the device on (if it's not already).

2. With a good data connection open up the App Store.

3. Select "Search" from the App Store options.
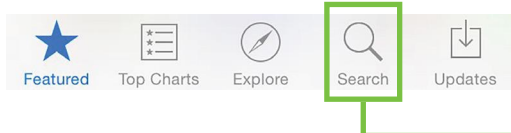
4. Type "MixerConnect" in the search box followed by tapping the 'Search' button.

5. Select the MixerConnect app.

6. Now tap the GET button.

7. This then turns into a green INSTALL button. To install the MixerConnect app to a device, tap the green INSTALL button and enter your Apple ID password when prompted. The button turns into a circle, indicating that MixerConnect is downloading to the device.

As seen in the screen shot below left, the MixerConnect app icon shows the progress of the download.

The download is complete once the entire app is illuminated. The MixerConnect app is now ready for use.

Installing   *Installed*
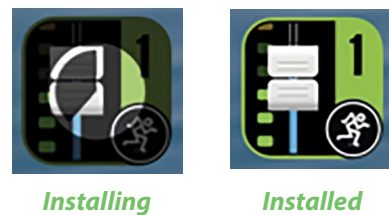
8. It is possible that the MixerConnect app has already been downloaded and installed. In this case, you're *probably* good to go. However, it is a good idea to go to the App Store to check for updates. You will want the latest and greatest version for the absolute best in functionality and versatility.

Once in the App Store, tap the Update button located near the bottom-right of the device.

The first screen shot below shows a device with all apps up to date. The second screen shot below displays two apps that need updating (which may or may not include the MixerConnect app). Tapping the Update button here will horizontally display the icon, name and description of changes of each app needing an update. If you see MixerConnect listed, tap the blue UPDATE button on the far right, followed by typing in your password. Or better yet, tap the blue Update All button in the upper-right corner of the screen. The updates will commence. Don't do anything until the downloads have completed.
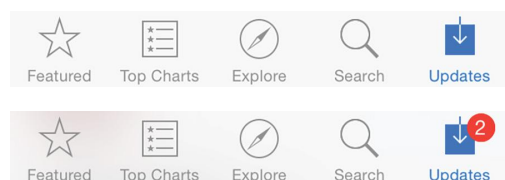
Part II: Pairing and Connecting the iOS Device via Bluetooth

NOTE You should have to follow these instructions only once for each device paired via Bluetooth. After that they should remain paired, although you will need to connect manually to the ProDX. If already paired, follow steps 6-7 to connect manually to the ProDX.

These are the steps necessary to pair the device with the ProDX.

1. Start by turning both the device and the ProDX on (if they're not already).

2. Tap the 'Settings' icon.
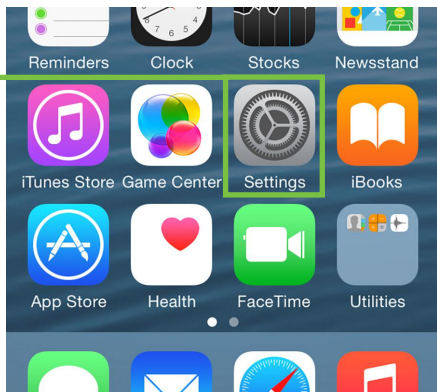
3. If the Bluetooth connection displays "Off" (as seen below) we'll need to turn it on.
Tap anywhere on the Bluetooth line to open it.
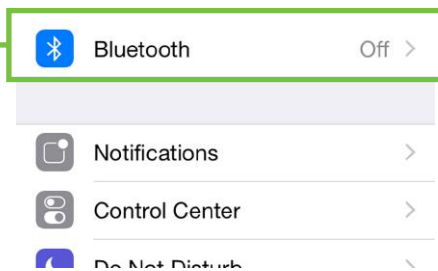
4. From here, enable Bluetooth simply by swiping right. [Tapping also enables / disables Bluetooth].
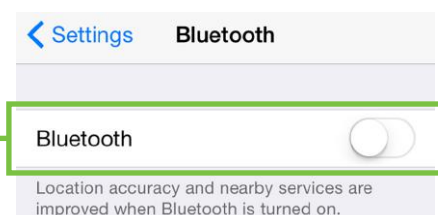
5. To enter pairing mode, press and hold the BT / Line In button on the front panel of the ProDX.

VERY IMPORTANT The button LED will illuminate and flash white while in pairing mode. If it does not, start the pairing process again, and make sure that the ProDX and your device are both in pairing mode at the same time.

6. As seen below, ProDX is listed as a device, but is not connected. Since we're trying to connect ProDX via Bluetooth, tap it.

7. From there, your device should indicate that it is successfully paired and connected.

8. Now simply press the home button on the device to return to the home screen, tap the MixerConnect icon to open the app and let the good times roll!

Additional Bluetooth notes [Android and iOS]:

NOTE If the device had been previously connected to ProDX via Bluetooth, but it displays "Not Connected", it's quite possible that either the ProDX is not powered on or it needs to be manually reconnected (as described in steps 6-8).

VERY IMPORTANT The Bluetooth fader / volume control of the MixerConnect app is not the same as the OS / hardware Bluetooth level control, but rather a supplementary level control. In other words, the volume of the Bluetooth *on the device* need to be up in order to hear audio over Bluetooth. If this does not make sense, please refer to Appendix D: Optimizations for step-by-step instructions.

VERY IMPORTANT The Bluetooth may disconnect when affected by Electrostatic Discharge [ESD] or electrical fast transients (EFT). If this occurs, manually reconnect the Bluetooth connection.

VERY IMPORTANT A Bluetooth connection and 1/8" line-level connection may NOT be used simultaneously. If there is a physical connection to the stereo input, it will take priority over any Bluetooth connection. For example, if you are playing a song from a smart phone (connected via Bluetooth) and connect an MP3 player to the 1/8" jack, the smart phone song will be interrupted and the MP3 player now takes precedence.

Part III: Level Setting Procedure

These instructions may be found on page 4 of the **ProDX Owner's Manual**, but are listed again below:

The following steps will help you set up ProDX quickly.

NOTE These startup instructions are intended for the hardware only. Once proven that ProDX performs as desired, then pair it with a smart phone and control it via the MixerConnect app.

1. Make all initial connections with the power switch OFF.

2. Connect cords from the main outs to powered speakers (or to an amplifier connected to passive speakers).

3. Plug signal sources into the ProDX's Wide-Z™ combo inputs – 1/4" and XLR! – such as:

  • Microphones plugged into the mic inputs.
  • Instrument level sources, such as acoustic guitars w/ active pickups and line-level sources such as keyboards and drum machines plugged into the 1/4" inputs.
  • Music playback source such as a smart phone, computer or MP3 player plugged into the 1/8" input or smart phone paired and connected via Bluetooth.

4. Push the power supply connector securely into the mixer's connector and plug the other end into an AC outlet.

5. Turn the ProDX on.

6. Turn the powered speakers (or amplifiers) on.

7. Be sure that the volume of the input is set correctly. Select the input channel by pressing the corresponding channel button and ensure the level is about halfway. Adjust the rotary knob if you need a different level for your source.

8. Slowly bring up the main output level to a comfortable listening level by selecting the main output on the front panel and slowly turning the encoder to the right.

9. Read the rest of this reference guide and the **ProDX Owner's Manual** for more details!

Welcome – Android

The welcome screen is the first thing you will see after tapping the MixerConnect app. Here you are able to 'Connect', 'Demo' or 'Mix'. Tap the image you would like to connect to or demo: ProDX4 (left) or ProDX8 (right).

Choose a product to Connect or Demo

If MixerConnect **IS NOT** connected to ProDX via Bluetooth, an image similar to what may be seen below is displayed.

As seen above, Android allows you the opportunity to connect via Bluetooth directly from the MixerConnect Welcome screen. Tap the 'Connect' button here to connect, 'Demo' to demo the app or the back arrow – '<' – to return to the previous screen.

After MixerConnect **IS** connected to ProDX via Bluetooth, an image similar to what may be seen below is displayed. Tap the 'Mix!' button here to start mixing, 'Demo' to demo the app or the back arrow – '<' – to return to the previous screen.

NOTE Demo mode works exactly the same as if it were connected, except there are no bouncing meters and no sound. Other than that, it's a great way to get a feel of how ProDX works before buying!

Additionally, you can get back to the Welcome screen by way of System View > About > Welcome.

Welcome – iOS

The welcome screen is the first thing you will see after tapping the MixerConnect app. Here you are able to demo or mix. Tap the image you would like to demo or mix: ProDX4 (left) or ProDX8 (right).

If MixerConnect **IS NOT** connected to ProDX via Bluetooth, an image similar to what may be seen below is displayed.

From here, tap 'Demo' to demo the app or the back arrow – '<' – to return to the previous screen.

After MixerConnect **IS** connected to ProDX via Bluetooth, an image similar to what may be seen below is displayed (a split second before MixerConnect opens).

Connected

NOTE Demo mode works exactly the same as if it were connected, except there are no bouncing meters and no sound. Other than that, it's a great way to get a feel of how ProDX works before buying!

Additionally, you can get back to the Welcome screen by way of System View > About > Welcome.

MixerConnect – Three Main Views

From here on out, operation is virtually identical between Android and iOS although some of the views will differ slightly whether you are operating a ProDX4 or ProDX8.

In addition to the opening Welcome view, there are three main views in the MixerConnect app:
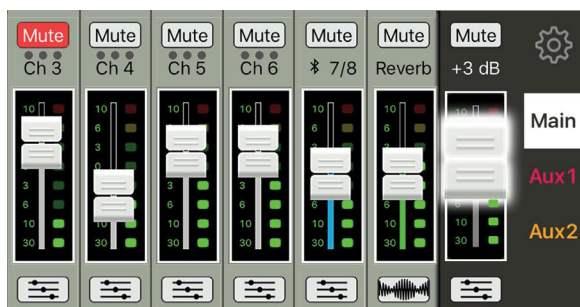
- Mixer View
- Channel View
- System View

This page outlines what may be accomplished with each of these three views. Soon enough we will go through each of these in detail.

Mixer View

As seen in the image below, the Mixer View allows access to key controls such as levels, metering, mutes and more. From here you're able to one-touch navigate to the...

- Channel View / Graphic EQ
- FX View
- System View

Channel View

As seen in the image below, the Channel View allows access to key controls for each channel including EQ and FX send adjustments, channel linking and compressor level. From here you're able to one-touch navigate to the...

- Mixer View
- System View
- FX View [Delay] [Reverb]
- Adjacent channels [<] [>]
- Graphic EQ
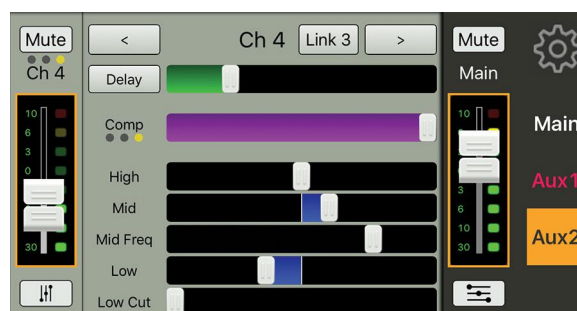
System View

The System View allows access to the Memory screen (seen below), the Phones level and the About view. From here you're able to one-touch navigate back to the previous view.

Mixer View

Input Channels 3 – 6   BT/Aux   FX Return   Main / Aux Mix

Introduction

As mentioned earlier, the Mixer View allows access to key controls such as levels, metering, mutes and more.

1. Mute

Mute buttons do just what they sound like they do. They mute – turn off – the signal on the channel(s). Engaging a channel's mute switch provides the same results as sliding the channel fader all the way down.

Muting a channel mutes it on ALL outputs.

Mute buttons illuminate red when engaged and are gray when disengaged.

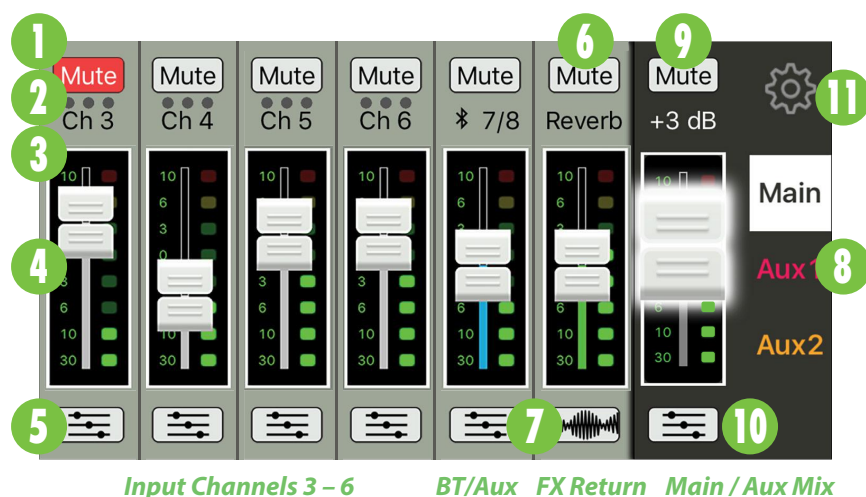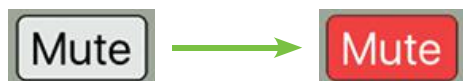## 2. Gain Reduction Meter

It may seem like we placed an ellipsis underneath each channel's Mute button, but no no... these three dots display the input channel gain reduction from the compressor. These yellow LEDs illuminate from right to left. The amount of gain reduction of each LED is listed below:

Compressor engaged
More than 6 dB of gain reduction
More than 12 dB of gain reduction

The compressor level is raised or lowered in the channel view [see page 17].

If your compressor looks similar to this, you might actually be driving and not mixing. Put the phone down and drive!

3. Channel Name

The input and output channels are labeled between the compressor levels and faders and meters. These labels display the fader value as the fader level is adjusted; in this case, +3 dB on the main mix. The FX channel will display the actively selected FX type; in this case, "Reverb".

4. Channel Faders and Input Meters

The touch sensitive faders adjust the level of each channel going to the selected mix [#9, pages 12-13]. Adjustments are made by touching and dragging channel faders up and down. Touched channel faders will "grow & glow" to indicate that they are being adjusted. The fader level ranges from –∞ to +12 dB.

The input meters display the input signal level to the channel before all channel processing. Changes made to the EQ, mute and fader do not affect these meters. In normal use, this meter should remain green with the occasional bump into the yellow zone.

Lower the volume of the source if the input meter remains consistently yellow. If the input is too high [overloading], a clip indicator at the top of the meter will illuminate red. If clipping occurs, lower the volume of the source a little more.

NOTE: You may notice latency with the metering. This is due to the limitations of Bluetooth, not ProDX.

Mixer View continued...

5. EQ / FX Channel View

The buttons located at the bottom of channels 1 and 2 (and 3 through 6 on the ProDX8) and the Bluetooth / Stereo channel strip allow access to the selected channel's Channel View.

When tapped, the entire selected channel strip slides to the left and the selected output strip – main or aux –remains on the right. The middle then becomes occupied with the selected channel's EQ section, FX send level, compressor level and an option to link the adjoining channel. See pages 14-18.

The sliders on the EQ / FX button lie horizontally in mixer view and vertically in channel view indicating where they will take you. Simply tapping this button again returns you to the mixer view.
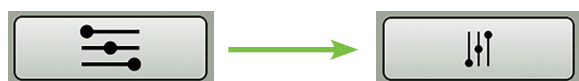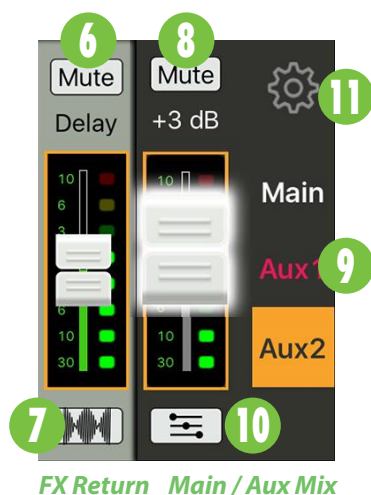
Navigate to Channel View   *Navigate to Mixer View*

6. FX Return

The FX return strip looks and works nearly identical to that of an input channel strip. The only differences are: (1) this fader adjusts the output level of the FX, (2) instead of an EQ or gear icon button at the bottom of the strip, there is an FX button and (3) there is no compressor. This is detailed next.

FX Return   Main / Aux Mix

7. FX Channel Button

The button located at the bottom of the FX return channel strip allows access to the FX channel view for FX selection.

When tapped, the entire FX return channel strip slides to the left and the selected output strip – main or aux –remains on the right. The middle then becomes occupied with the 16 FX from which to select. See page 17.

As seen below, the FX button in mixer view [sound wave icon] and channel view [vertical sliders] differs. Simply tapping this button again returns you to the mixer view.
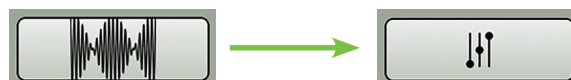
Navigate to FX Selection   *Navigate to Mixer View*

8. Main / Aux Mix

The main mix strip looks and works nearly identical to that of an input channel strip. The only differences are that (1) this mute button mutes the selected output (Main or Aux) and (2) this fader adjusts the main output level of the selected output (Main or Aux).

So you've stated "... the selected output (Main or Aux)" a few times now now. What exactly does that mean? Excellent question...that's discussed next!

9. Mix Selector

The mixer view shows a fader for each channel. Initially, this fader controls the level to the main mix. But how do you control the level going to the aux sends? Or how about the aux master level? Simple. Use the mix selector to switch between mixes.

The currently selected mix is illuminated, but changing the selected output is easy. Simply tap the desired output – Main, Aux 1 or Aux 2 [ProDX8 only] and voilà...MixerConnect now controls a different output.

Once a different mix has been selected, the color surrounding the channel faders will change to show the newly selected output. Similarly, the main fader will display the newly selected mix. Here, the mixer view acts like a window where you may view and change one output's mix at a time. No matter which output is currently selected, the others are still there, as they were.

Mixer View continued...

The thin illuminated strip surrounding the main fader meter also helps indicate which mix type is currently selected; the color varies and is dependent on the selected output. This is the same indicator that is also on display surrounding each input meter. Also note how the selected output is displayed in nice, big text and surrounded by a box of the same color as the selected output.

In the images below, all we did was change the selected output from Main to Aux 1 to Aux 2. Notice how each channel's input meter is surrounded by the color of the selected output.
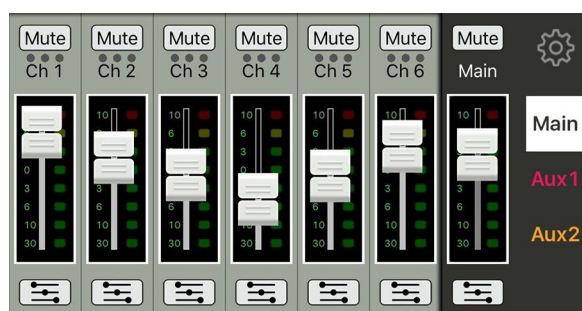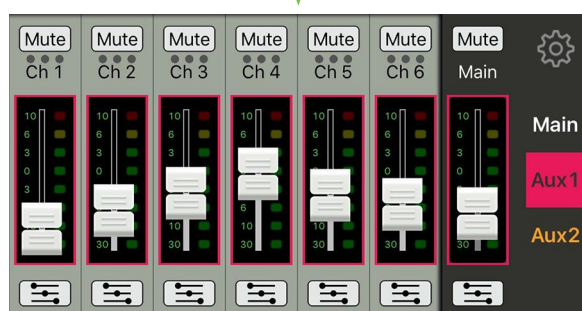
Main

Aux 1
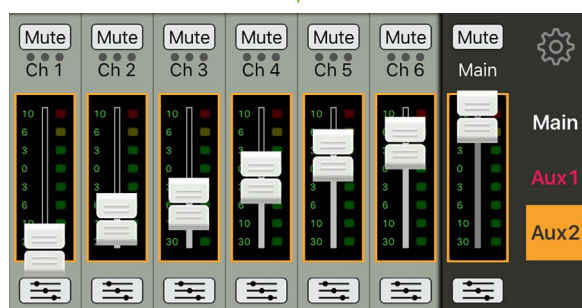
Aux 2

The Main output is used for the PA in nearly every scenario. On the other hand, the Aux output(s) are typically used as stage monitors for the band. However, auxes may be used for external effects devices, headphone amplifiers or a myriad of other uses instead. Separate level controls for separate functions!

10. GEQ Button

The GEQ button is located at the bottom of the output strip and it allows access to the selected output (Main or Aux) GEQ.

When tapped, all channel strips disappear and the selected output strip – Main or Aux – remains on the right. The rest of the screen then becomes occupied with the GEQ settings.

Because the GEQ is part of the (output) channel view, there is much more – text *and* screen shots! – about the GEQ on page 18.

11. System View Button

The gear icon button is located in the upper-right corner of MixerConnect and it allows access to the System View.

When tapped, all channel strips disappear and the selected output strip – Main or Aux – remains on the right. The rest of the screen then becomes occupied with the System View settings. Additionally, the gear icon illuminates green to indicate that the System View is open.

Simply tapping the gear icon button again returns you back to the previous view, be it the Mixer View or Channel View.

Navigate to System View

Navigate to Mixer / Channel View

Stay tuned...the System View will be discussed more on pages 19-20. But first, the Channel View!

Reference Guide

Channel View

Ch 4   **FX Send and EQ**   **Main / Aux Mix**

Introduction

As mentioned earlier, the Channel View allows access to key controls for each channel including EQ and FX send adjustments, channel linking and compressor level.

There are two possible channel views:

(1) The channel view for channels 1 and 2 (and 3 through 6 on the ProDX8) and the Bluetooth / Stereo channel is displayed above and...
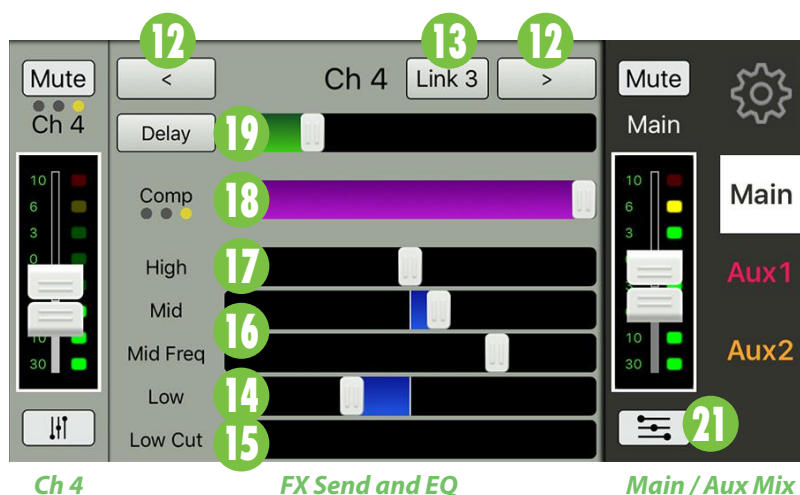
(2) the channel view for the FX channel is displayed on the following page.

NOTE Notice in both views that the controls for the currently selected channel are on the left side and the main mix controls remain on the right.

From here you're able to one-touch navigate to the Mixer View, System View, FX selection / channel, other adjacent channels or the Graphic EQ.

12. < / >

No, this isn't "less than divided by greater than." I'm pretty sure someone's head would explode trying to work out that math problem! Rather, these two channel navigation buttons take you to the previous channel ["<" button] or next channel [">" button].

Additionally, you can switch between channels by swiping left and right on the channel name displayed between these two buttons.

Go ahead and switch between channels by tapping the buttons or swiping left and right. The rest of this Reference Guide can wait!

13. Link

Two adjoining mono input channels may be linked together. This is ideal for stereo input sources such as keyboards, submixer outputs, vocal processors and more. When linked, the level control, EQ, compressor, etc. are adjusted with a single set of controls!

Linking channels is easy. At the top of the Channel View is an option to "Link X". Tap it! As seen below, a popover will ask you to confirm which channel's settings you prefer. Tap your channel choice...or cancel out.
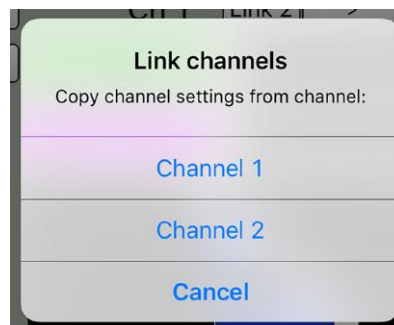
NOTE The new linked channel will take on all of the attributes [EQ settings, compressor level, FX level, etc.] of the tapped channel button. In other words, if you tap the Channel 1 button, the resulting stereo channel will take on all of the settings of channel 1. However, if you tap the Channel 2 button, the resulting stereo channel will take on all of the settings of channel 2.

Channel View continued...

The top two screen shots below display channels 1 and 2 UNLINKED (and therefore still mono), but the next two display the same two channels LINKED.

Notice how the channel 2 settings "disappear" and are replaced with the settings of channel 1. Also, the Link button illuminates green on both linked channels.

UNLINKED CHANNELS

Ch 1 Unlinked

Ch 2 Unlinked

LINKED CHANNELS

Ch 1 Linked

Ch 2 Linked
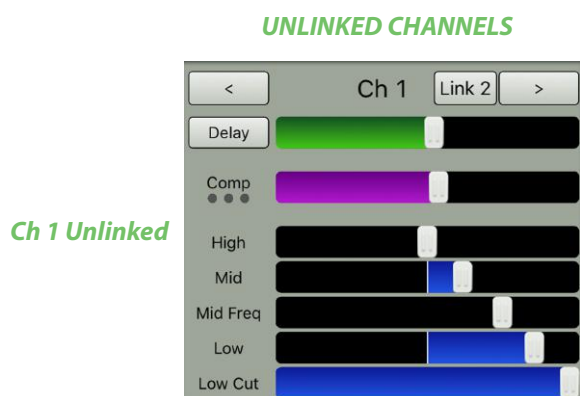
And as seen below, the channel faders are linked and will grow & glow together when raised or lowered. Also of note is the horizontal line that appears between the linked channels' gain reduction meters, which further indicates just how linked they are.
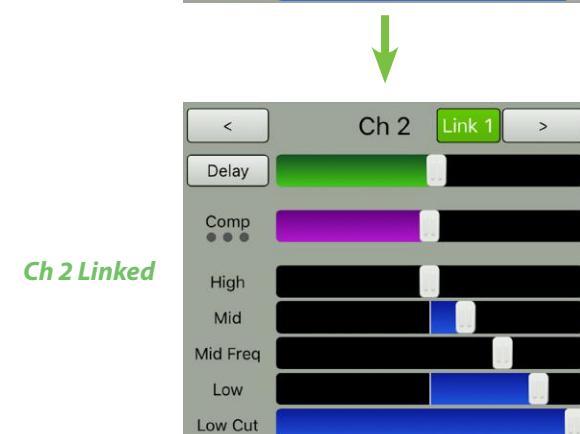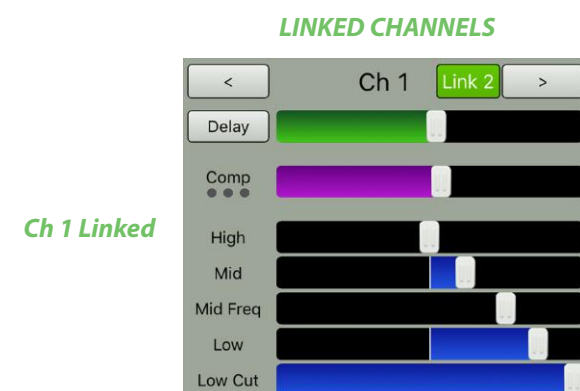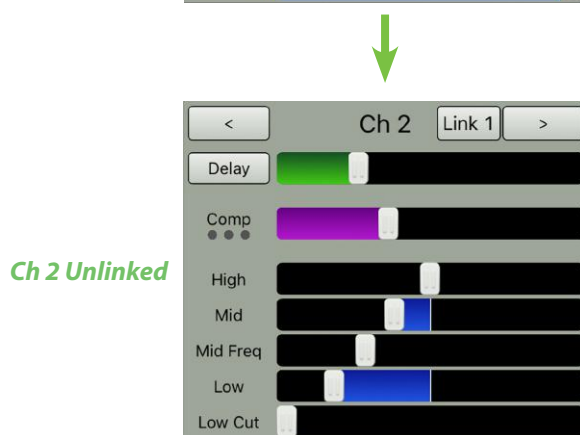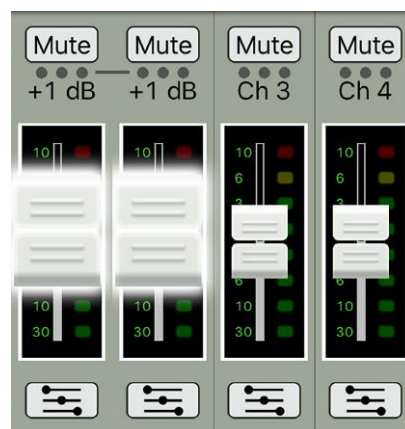

From the Channel View, simply tap the "Link X" button again to unlink channels.

3-Band Mid-Sweep EQ

MixerConnect has 3-band equalization and a low-cut filter at carefully selected points — low shelving at 80 Hz, mid sweep peaking from 100 Hz to 8 kHz, and high shelving at 12.5 kHz. "Shelving" means that the circuitry boosts or cuts all frequencies past the specified frequency. For example, dragging the low EQ slider 12 dB to the right boosts bass starting at 80 Hz and continuing down to the lowest note you never heard and 12.5 kHz on up boosts the treble in the case of the high EQ. "Peaking" means that certain frequencies form a "hill" around the center frequency.

NOTE With too much EQ, you can screw things up royally. We've designed a lot of boost and cut into the equalizer circuit because we know everyone will occasionally need that. But if you max the EQs, you'll likely get mix mush. Equalize subtly and use the left sides of the EQ sliders (cut), as well as the right (boost).

The default channel EQ setting is shown below. EQ with boost and cut may be seen to the left.
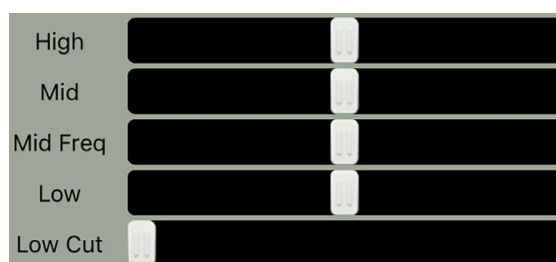
Channel View continued...

14. Low EQ

This slider gives you up to 12 dB boost or cut below 80 Hz. The processing is flat (no boost or cut) at the center position. This frequency represents the punch in bass drums, bass guitar, fat synth patches, and some really serious male singers.

Low EQ
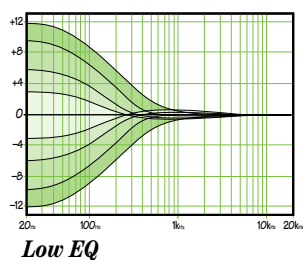
A trick that we like to employ is to boost the lows of the rhythm section of the band (e.g. kick drum and bass guitar), then roll the low off a little on higher frequency instruments (e.g. electric guitar and female vocals). The rhythm section sounds huge, but the higher timbred instruments will still cut through.

15. Low Cut

Low cut — often referred to as a high pass filter — cuts bass frequencies below the low cut setting [20 Hz – 400 Hz] at a rate of 12 dB per octave. This ain't no thrown-in dime-store filter — a 12 dB per octave curve requires an elaborate circuit. Nothing but the best for you!

Low Cut

We recommend that you use low cut on every sound source except kick drum, bass guitar, or bassy synth patches. These aside, there isn't much down there that you want to hear, and filtering it out makes the low stuff you do want much more crisp and tasty. Slide the low cut right until you just start to hear it affe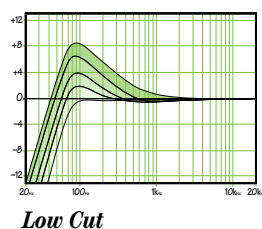ct the signal. This leaves only what you want to hear while removing the unwanted debris. Not only that, but low cut can help reduce the possibility of feedback in live situations.

With low cut, you can safely boost low EQ. Many times, bass shelving EQ can really benefit voices. Trouble is, adding low EQ also boosts the subsonic debris: Stage rumble, mic handling clunks, wind noise and breath pops. Low cut removes all that debris so you can boost the low EQ without blowing your subwoofers.

16. Mid and Mid Freq EQ

Short for "midrange," the mid slider sets the amount of boost or cut, up to 12 dB, and is effectively bypassed at the center. The mid-freq slider sets the center frequency, sweepable from 100 Hz to 8 kHz.

Mid EQ   *Mid Freq Sweep*
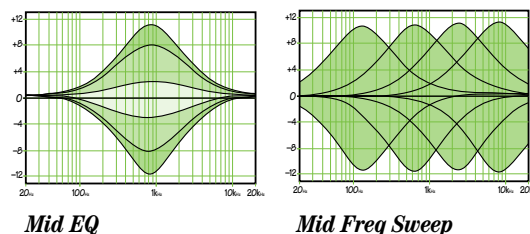
Most of the root and lower harmonics that define a sound are located in the 100 Hz – 8 kHz frequency range, and you can create drastic changes with these two sliders. Many FOH engineers use mid EQ to cut midrange frequencies, not boost them. One popular trick is to set the mid fully up, then set the frequency slider until you find a point where it sounds just terrible, then back the mid down into the cut range, causing those terrible frequencies to disappear. Sounds silly, but it works. Sometimes.

NOTE Unlike the other EQ sliders, the mid-freq EQ slider will not illuminate blue. This is because there is no boost or cut. Rather, it simply sets the center frequency of the mid EQ.

17. High EQ

This slider gives you up to 12 dB boost or cut at 12.5 kHz, and it is also flat at center. Turn it up to add sizzle to cymbals, and an overall sense of transparency, or edge to keyboards, vocals, guitar and bacon frying. Turn it down a little to reduce sibilance, or to hide hiss.

High EQ
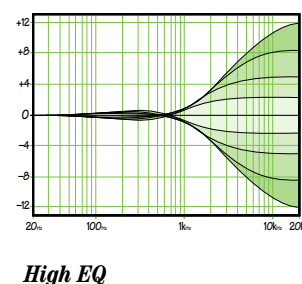
Channel View continued...

18. Compressor

The quick explanation of a compressor is: if it's too hot, turn it down, otherwise leave it alone. A compressor is used to reduce or limit transient peaks in a signal. As the input level to the compressor increases, the output level increases linearly.

Dynamic range is the difference in level between the quietest and loudest parts of a song and a compressor "squeezes" this dynamic range, resulting in an overall steadier, more constant volume level for the signal.

When the incoming signals exceed the threshold level set by this slider, the signal level is automatically compressed. It helps sources, such as vocals, "sit" properly in the mix. More importantly, it adds an overall "punch" to the incoming signal.

The compression ratio varies according to where the slider sits and may be adjusted from off (no compression, slider far left) to max (full compression, slider far right). As with the other features of MixerConnect, experiment with the compressor level until you find the "sweet spot".

The parameters of this compressor are specially chosen to give you the best overall performance.

> **NOTE** There is no compressor on the Bluetooth / Stereo channel.

19. FX Send

The FX send slider controls the level being sent to the effect from the currently selected channel. In other words, drag the FX send slider right on the channels you want to have effects.

For example, you might want reverb on the vocal channel, but none on the other channels. Here you would simply drag the FX send slider right on the vocal channel until you like what you hear and drag this slider to the far left on the other channels.

Tapping the FX button [Delay or Reverb] takes you directly to the the FX channel where FX selection occurs. More information to the right, #20 FX.

> **A CLOSER LOOK** If the FX send slider is up, but no FX are present, be sure to check that the FX return fader is also up and applicable mute buttons are off.

20. FX

We just looked at and dissected the channels 1 and 2 (and 3 through 6 on the ProDX8) and the Bluetooth / Stereo input section of the Channel View, but there is one more channel view to discuss: the FX channel view!

ProDX includes 16 "gig ready" effects, including various reverbs, delays, choruses and combinations of these, as well.

On the ProDX hardware control panel, there are four preset effects to choose from, including Verb 1, Verb 2, Delay 1, or Delay 2.

ProDX	MixerConnect
Verb 1	Plate Reverb
Verb 2	Warm Theater
Delay 1	Tape Slap
Delay 2	Delay 1

Additional effects may be selected via MixerConnect. The app also adds control over the master FX return level.

As seen in the screen shot below, this is where to select an effect to add to the input channel. The button of the currently selected effect will illuminate green.
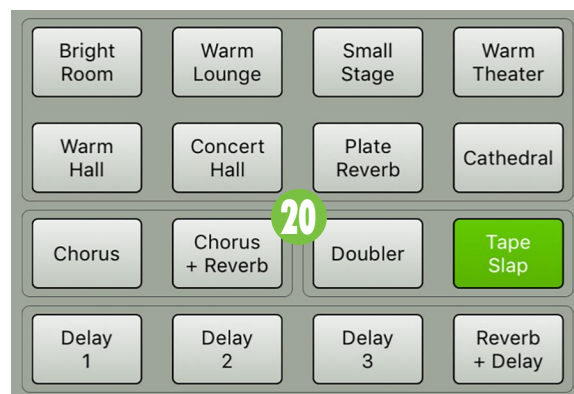
> **NOTE** Only one effect may be selected at one time, but there are separate FX send level sliders for each channel.

> **NOTE** The FX level of each output is set by that output's FX return level [see #6, page 12].

> **NOTE** Be sure to check out a more detailed description of each effect in Appendix C, page 24.

Channel View continued...

21. GEQ View

Graphic EQ is a great tool for really dialing in the response needed for a room [Main GEQ] or to squelch feedback from monitors [Aux GEQ].

As with the channel EQ, just take it easy. Although it may not seem cool to turn down controls, with EQ it is often your best option. There are no prizes for who can EQ the most (or is there?).

Simply turn down any offending frequency range, rather than boosting the wanted range. Having many sliders will allow you to reduce the level of some frequency bands where feedback occurs. Or if a lot of EQ seems necessary, then chances are that the system can be improved by careful re-positioning of the microphones and other equipment.

Getting to the ProDX's GEQ is easy! First, using the Mix Selector, tap the output that you want to dial in the GEQ for, then tap the button located at the bottom of the selected output strip to open it.

Navigate to GEQ   *Navigate to Mixer / Channel View*

When tapped, all channel strips disappear and the selected output strip – Main or Aux – remains on the right. The rest of the screen then becomes occupied with the GEQ settings.

As seen below, there are seven graphic EQ sliders. Moving a slider vertically changes that frequency's gain by up to ±12 dB. Drag these sliders up or down until the desired sound has been achieved. Tapping a band's graphic EQ slider twice will zero it.
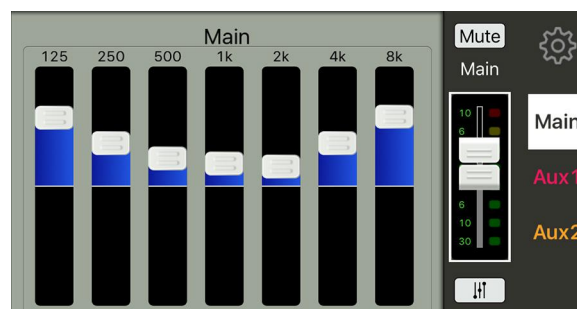
Main GEQ
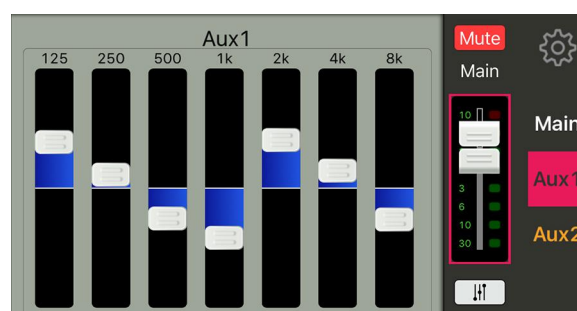
Aux 1 GEQ
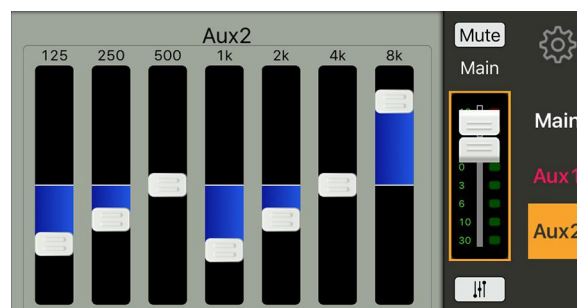
Aux 2 GEQ
[ProDX8 only]

System View

Introduction

As mentioned earlier, the System View allows access to the Memory screen, the Phones level and the About view.

| NOTE | Here the selected input channel disappears, but the output strip and its corresponding controls remain. |

There are multiple system menu buttons from which to choose from. As seen below, the button of the currently selected menu will be backlit black along the top of the view.

| Memory | Phones | About |

| Memory | Phones | About |

| Memory | Phones | About |
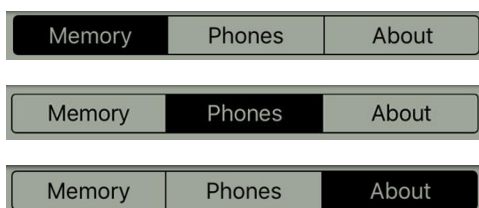
With a simple, single tap of the Tools – gear icon – button you're able to one-touch navigate back to the previous view, be it the Mixer View or Channel View [horizontal sliders displayed] or GEQ [vertical sliders displayed].

22. Memory

When the memory tab is selected, settings for ProDX may be saved to memory and recalled at a later time. What's more, each setting may be custom-named! No more having to reset levels, EQ and FX upon every power-up or trying to remember what "Preset #2" is. Hint: it's not "Karaoke"; that's Preset #3...of course!

There are three user presets and a fourth to recall the factory default settings. Left to right are the save button, preset number, recall button and preset name:

Save Button – Tap this button to save the current settings to the corresponding preset.

| VERY IMPORTANT | Be careful when saving presets, as the new settings will replace the currently saved settings. |

Preset Number – While the preset name is user-editable (see above-right), the preset number will remain as-is, in order.

Recall Button – Tap this button to recall the settings of the selected preset.

Preset Name – Tap in the name box to bring up the blinking cursor and keyboard. Simply type in the name you want for that preset followed by a carriage return.

If the name is too long to fit, it will display the first 15 (or so) characters followed by an ellipses... [Actual length varies by ±3 characters depending on device used].
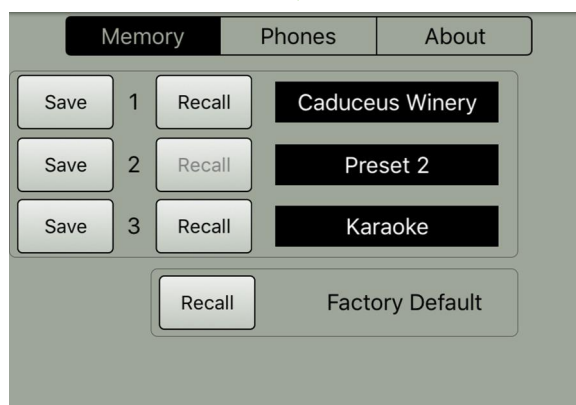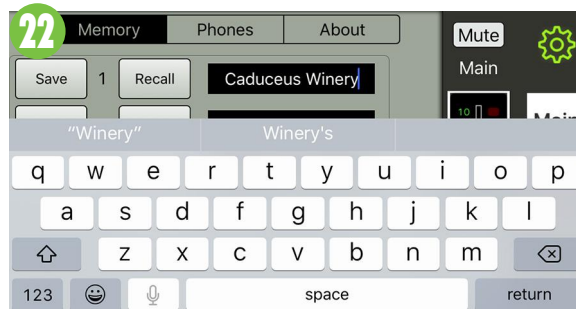
Factory Default Recall Button — Tap this button to return all settings – faders, mutes, FX, etc. – to their original factory settings. It is a convenient way to start with a fresh slate, essentially "zeroing out" the mixer.

| VERY IMPORTANT | This is not the same as the "Vulcan Mind Meld" which will ERASE all settings, as well as the memory of previously paired devices. |

See 'Factory Reset' on the following page.

System View continued...

23. Phones

With headphones connected to the phones jack and the Phones tab selected, you are able to raise and lower the headphone level.
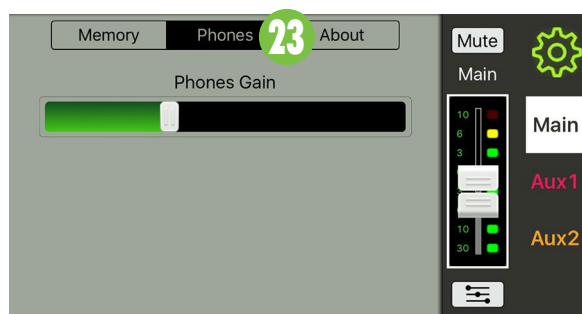
Here, the phones slider controls the level being sent to the headphones. Simply drag the Phones Gain slider right to raise the level on the headphones and left to lower it. The "Phones Gain" label will display the phones value as the phones level is adjusted. The phones level ranges from $-\infty$ to +12 dB.

The phones jack is post-everything, so the signal that is sent to the phones output is the same signal that's sent to the main outputs. But with separate master level controls you're able to cue intermission music via phones before sending the signal to the main PA.

WARNING: The headphone amp is loud and can cause permanent hearing damage. Even intermediate levels may be painfully loud with some headphones. BE CAREFUL! Always turn the phones slider control all t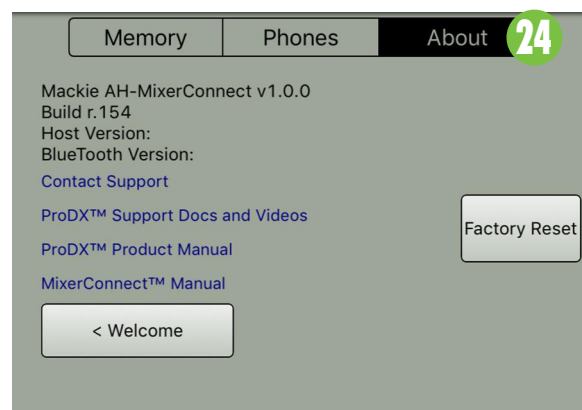he way left before connecting headphones or doing anything new that may affect the headphone volume. Then turn it up slowly as you listen carefully.

24. About

Once tapped, the About tab displays information about the MixerConnect app version that is currently installed on the device.

Additionally, the following list describes all of the goodies as shown in the image above:

Contact Support — So you need to talk to someone and your psychiatrist doesn't know the first thing about ProDX? We've got your back... tap here to contact Tech Support using your device!

ProDX Support Docs and Videos — Several resources – including additional support documentation and videos – have been created for ProDX. Tap this link to check them out!

ProDX Product Manual — Need instantaneous information? Tap 'ProDX Product Manual' to open and review the Owner's Manual...all on your device!

MixerConnect Manual — This link works the same way as the aforementioned 'ProDX Product Manual' link, but instead opens the MixerConnect Reference Guide. In other words, what you're looking at...Right. Now. Creepy. Let's move on.

< Welcome — Tap this button to return to the opening MixerConnect app welcome screen where you'll be able to mix, demo or connect from there (as described on page 9).

Factory Reset — Since settings may be changed via MixerConnect, it may be necessary to reset the ProDX to its factory settings. This process is known around the office as the "Vulcan Mind Meld".

Please keep in mind that this erases all settings, including any levels, EQs, etc. that may have been set. Be sure to power down any amps and/or powered speakers before resetting ProDX.

Simply tap the 'Factory Reset' button or press and hold the following buttons simultaneously for a few seconds to reset the ProDX to its factory settings:

- Channel 1, Channel 2 and MAIN buttons.

You are also wiping the ProDX's memory of previously paired devices. To remedy this, on your smartphone, tablet or other Bluetooth device, you will need to 'forget device' in the Bluetooth settings, then re-pair in order to regain communication and functionality.

Appendix A: Service Information

Troubleshooting

If you think your ProDX has a problem, please check out the following troubleshooting tips and do your best to confirm the problem. Visit the Support section of our website (www.mackie.com/support) where you will find lots of useful information such as FAQs and other documentation. You may find the answer to the problem without having to send your ProDX away.

Here are a few useful tips that could correct any of the issues outlined below (or possibly any other issue that we haven't yet discovered):

(1) — Restart the device. Don't just restart the MixerConnect app. Restart the *device*! Completely power it down, then power it back up.

(2) — Restart the ProDX. This is especially useful after firmware and software updates where the hardware and software aren't quite on the same page. A simple reboot of the hardware can sometimes work great wonders.

(3) — Level setting procedure. If you are having any sound (or non-sound) issues, try following the level setting procedure as outlined on page 8 to verify that all of the volume controls in the system are properly adjusted.

Wait, those didn't work? Ok. Perhaps try one of the two following suggestions:

(4) — Factory Default Recall. Refer to page 18 for complete instructions. And as a last resort...

(5) — Factory Reset. Refer to page 19 for complete instructions.

No power

- Our favorite question: Is it plugged in? Make sure the AC outlet is live [check with a tester or lamp].

- Our next favorite question: Is the power switch on? If not, try turning it on.

- The internal AC line fuse may be blown. This is not a user serviceable part. If you suspect the AC line fuse is blown, please contact Technical Support.

No sound

- Is the input level control for the input source turned all the way down? Verify that all the level controls in the system are properly adjusted. Look at the level meter to ensure that the ProDX is receiving a signal.

- Is the signal source working? Make sure the connecting cables are in good repair and securely connected at both ends. Make sure the output level control of the source is turned up sufficiently.

- Make sure the source(s) are not turned off or muted. If you find something like this, make sure the level is turned down before disengaging the offending switch.

Poor sound

- Is it loud and distorted? Make sure that you're not overdriving a stage in the signal chain. Verify that all level controls are set properly.

- Is the input connector plugged completely into the jack? Be sure all connections are secure.

Noise / Hum

- Make sure all connections to the ProDX are good and sound. Make sure all of the connecting cables work and are securely connected at both ends. Try the same source signal in another channel, set up *exactly* like the suspect channel.

- Make sure none of the signal cables are routed near AC cables, power transformers, or other EMI-inducing devices.

- Is there a light dimmer or other SCR-based device on the same AC circuit as the ProDX? Use an AC line filter or plug the ProDX into a different AC circuit.

- Try disconnecting the cable connected to the main input jack. If the noise disappears, it could be a "ground loop," rather than a problem with the ProDX. Try the following troubleshooting idea:

  o Whenever possible, plug all the audio equipment's line cords into outlets which share a common ground. The distance between the outlets and the common ground should be as short as possible.

Service Information continued...

Bluetooth / Other Issues

- Are you running the latest and greatest
  MixerConnect software? Go to the Play Store
  [Android] or App Store [iOS] and check for
  an update.

- Leave MixerConnect and then return by
  pressing the Home button on the device.

- Force quit the MixerConnect app.

  Here's how via Android:
  - o Tap the menu button.
  - o Swipe the MixerConnect app left or right,
    or tap the "X" in the upper-right corner.
  - o Voilà, you force quite the MixerConnect
    app...nicely done!

  Here's how via iOS:
  - o Double-tap the home button.
  - o Swipe left and right until you find
    the MixerConnect app.
  - o Swipe the MixerConnect app up.
  - o Voilà, you force quite the MixerConnect
    app...nicely done!

- Please email or call Technical Support if you
  are having other issues:

  - o www.mackie.com/support-contact
  - o 1-800-898-3211

Appendix B: Technical Information

Specifications

Supported Devices and OSs

Android	All compatible Android devices running version 4.1 or higher
iOS	All compatible iOS devices running iOS 8.0 or higher

Channel Processing

Low Cut	Off, 20 Hz – 400 Hz, 12 dB / octave
Low Shelving	±12 dB @ 80 Hz
Mid-Peaking	±12 dB sweep 100 Hz – 8 kHz
High Shelving	±12 dB @ 12.5 kHz
Compression	Single slider, off to max

System Processing

FX	16 presets
Output GEQ	7-band, ±12 dB, 125, 250, 500, 1k, 2k, 4k, 8k
Memory Presets	3

Bluetooth Information

Bluetooth Protocol	3.0
Bluetooth Function	Audio Streaming and User Interface Control

About

Reference Guide Version	V1.0
Part Number, Rev and Date	SW1174, Rev A, May 2016

Disclaimer

Since we are always striving to make our products better by incorporating new and improved materials, components, and manufacturing methods, we reserve the right to change these specifications at any time without notice.

Please check our website for any updates to this Reference Guide: www.mackie.com.

Appendix C: Table of Effects Presets

All FX listed below may be accessed via the MixerConnect App. Descriptions and examples of the four effects that are accessed via ProDX [Verb 1, Verb 2, Delay 1 and Delay 2] are noted in the *Title* column.

None of the FX LEDs on ProDX will illuminate when an FX is selected via the MixerConnect App.

	Title	Description	Example of its use
Reverbs	Bright Room	This room has a bright tone with lots of scattered reflections to simulate harder, more reflective surfaces.	Useful on vocals that require a brighter reverb to cut through the mix, or for giving acoustic instruments a livelier vibe.
	Warm Lounge	This preset features a medium sized room sound, with just enough enhancement of the lower mids to produce a warm tone.	Useful for vocals on songs that require a larger, more "wet" sound, or for giving dimension to bright horns without adding harshness.
	Small Stage	This preset simulates the sound of a small concert stage, with a medium reverb time and reverberant space.	Useful for vocals or guitars in fast paced, high-energy songs that call for a "live" sounding reverberation.
	Warm Theater [*Verb 2* on ProDX]	This reverb has a warm bodied tone and medium long reverb time to simulate the live acoustics of a theater space.	Perfect for vocals, drums, acoustic and electric guitars, keyboards and more.
	Warm Hall	This reverb simulates the sound of a spacious, yet cozy, heavily draped and carpeted concert hall with an especially warm tone.	Perfect for adding natural concert hall ambience to close-mic'ed orchestral instruments.
	Concert Hall	This hall reverb is characterized by its large, spacious sound, long pre-delay, and vibrant tone.	Adds life to acoustic instruments and vocals from solos to full-on symphonies and choirs.
	Plate Reverb [*Verb 1* on ProDX]	This preset emulates vintage mechanical reverberation that was generated with a metal plate. Its sound is characterized by lots of early reflections and no pre-delay.	Perfect for thickening percussive instruments, such as a snare drum, or tight vocal arrangements.
	Cathedral	This reverb emulates the extremely long tails, dense diffusion and long pre-delays and reflections that would be found in a very large, stone walled house of worship.	Gives amazing depth to choirs, wind instruments, organs and soft acoustic guitars.
Choruses	Chorus	This preset provides a soft, ethereal sweeping effect that is useful for thickening and for making a particular sound pop out of the mix.	Perfect for enhancement of electric and acoustic guitar and bass, or to add a dramatic effect to vocals, particularly group harmonies and choirs.
	Chorus + Reverb	This preset perfectly combines the chorus effect above with a large, roomy reverb.	This effect thickens the sound with chorus while adding warmth and spaciousness thanks to the smooth reverb.
Delays	Doubler	This effect simulates the sound of a vocal or instrument being recorded twice (double-tracked) on a multi-track recorder.	Provides a vibe that is similar to chorus without the subtle swirl.
	Tape Slap [*Delay 1* on ProDX]	This effect provides a single, relatively rapid delay of the original signal, with the added warmth that vintage tape-based echo units provided.	Often used on vocals for a 1950's era feel, or on guitars for a surf-type tone. Often used by people whose favorite number is 13.
	Delay 1 [*Delay 2* on ProDX]	This preset provides 300 ms delay. The smaller the delay time, the faster the delay.	This FX works best with full, up-beat music like rock where the delay needs to cut through the mix.
	Delay 2	This preset provides 380 ms delay. The smaller the delay time, the faster the delay.	This FX works best with full, up-beat music like rock where the delay needs to cut through the mix.
	Delay 3	This preset provides 480 ms delay. The smaller the delay time, the faster the delay.	This FX works best with full, up-beat music like rock where the delay needs to cut through the mix.
	Reverb + Delay	This effect combines the Warm Theater reverb effect with the echoes of the 3-repeat delay effect.	Perfect for thickening vocals while adding dimensions, it can also be used as a spacey effect on electric guitars.

# Appendix D: Android and iOS Optimizations

Android Optimizations

Below is a list of ways to trick out your Android device to optimize its use with the MixerConnect app. When you have some additional time, use your favorite search engine to search "trick out your Android device" for other ways to optimize your Android device. All of the following tips and tricks may be found by going to Settings on the Android device.

Android Optimization #1 : Mute sounds, including phone calls, email alerts, calendar event warnings, alarms and other extraneous Android noises (except music apps; those will continue to play).

NOTE If a mic is plugged into the ProDX, the person on the other end of a call can't hear you, so they're better off leaving a voicemail, anyway.

Simply tap the 'Sound' button to mute the device.
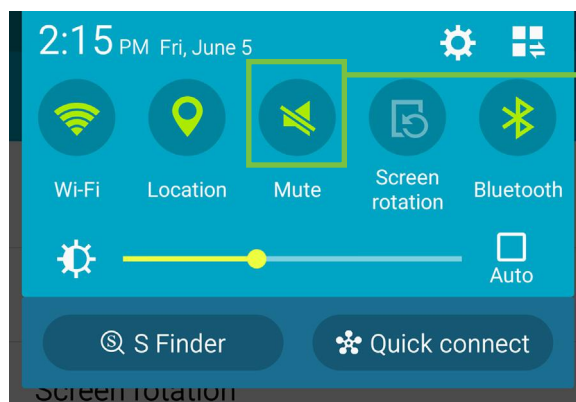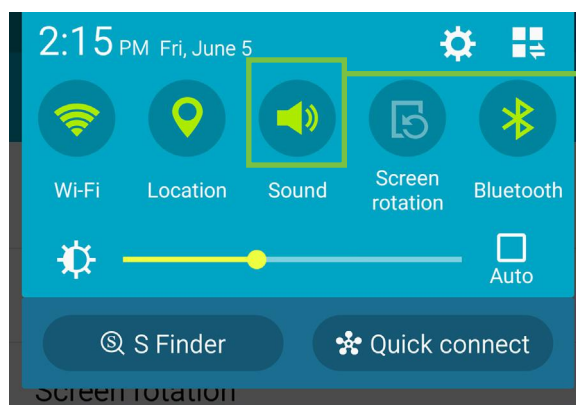
Android Optimization #2 : The volume of the Bluetooth *on the device* needs to be up in order to hear audio over Bluetooth. This is because the Bluetooth fader / volume control of the MixerConnect app is not the same as the OS / hardware Bluetooth level control, but rather a supplementary level control.
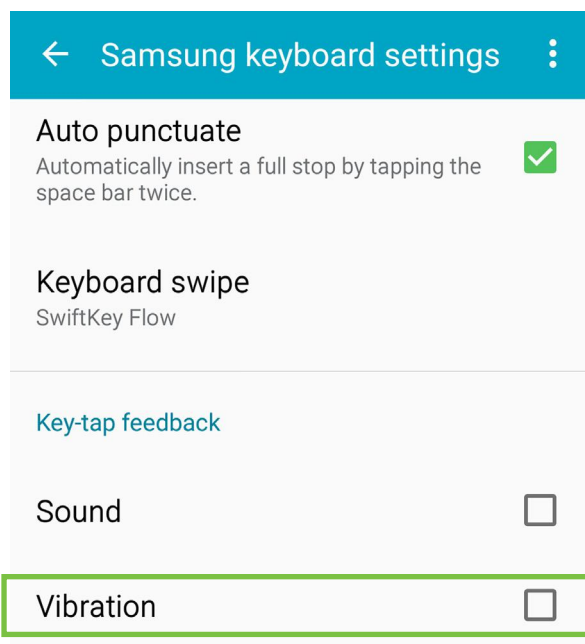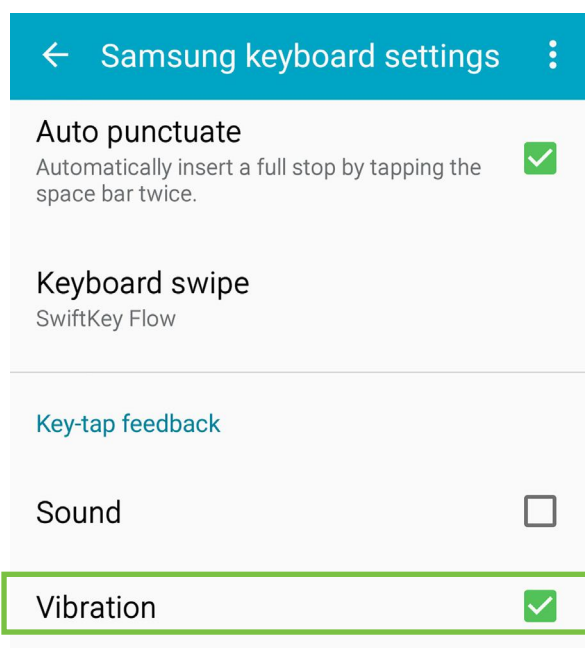
Simply drag the 'Media' slider to the right.

Note that the ringtone, notifications and system levels are all off [sliders fully left].
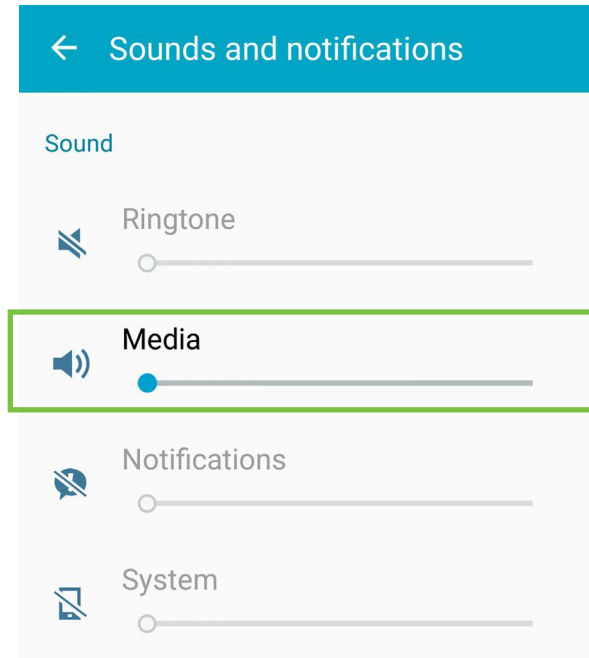
Android Optimization #3 : Turn off 'Vibrate' on Key-tap feedback.

Simply tap the 'Vibration' button so it is *unchecked*.

← Samsung keyboard settings ⋮

Auto punctuate
Automatically insert a full stop by tapping the
space bar twice. ☑

Keyboard swipe
SwiftKey Flow

Key-tap feedback

Sound ☐

Vibration ☑

← Samsung keyboard settings ⋮

Auto punctuate
Automatically insert a full stop by tapping the
space bar twice. ☑

Keyboard swipe
SwiftKey Flow

Key-tap feedback

Sound ☐

Vibration ☐

Android Optimization #4 : MixerConnect and Auto Updating Apps

A new feature allows apps to be updated in the background. This is great for consumer apps like games, etc. However, you use apps like MixerConnect and auto-updating your apps can cause problems if the process is not properly understood. Before you update that app, let's first understand how updates generally work.

1. You are notified of a MixerConnect update through the App Store.

2. You download and install the update. Boom. The app is updated.

But now, the operating system can update an app in the background automatically, including the MixerConnect App. While highly unlikely, it is possible that this could cause serious problems during a presentation or performance. Obviously this is not something you want to happen.

To avoid this, we strongly recommend you disable automatic updates for Apps.
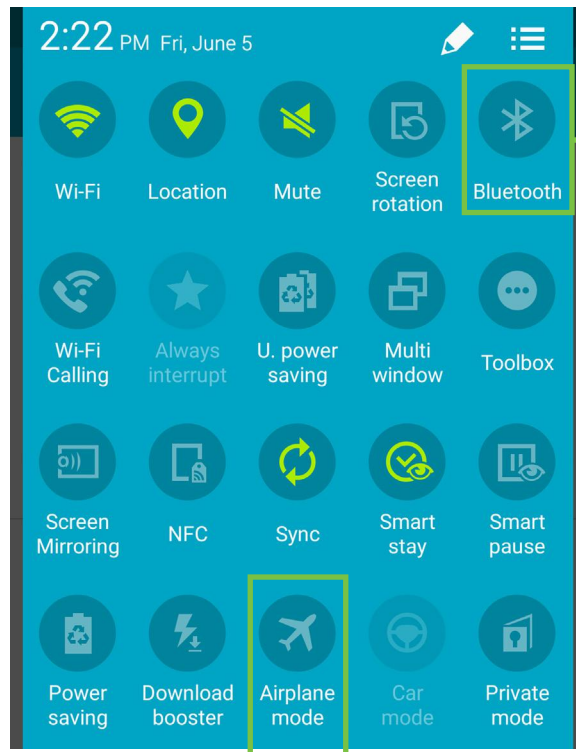
Here's how:

Go to Settings > App Store Home.

Select "Do not auto-update apps".
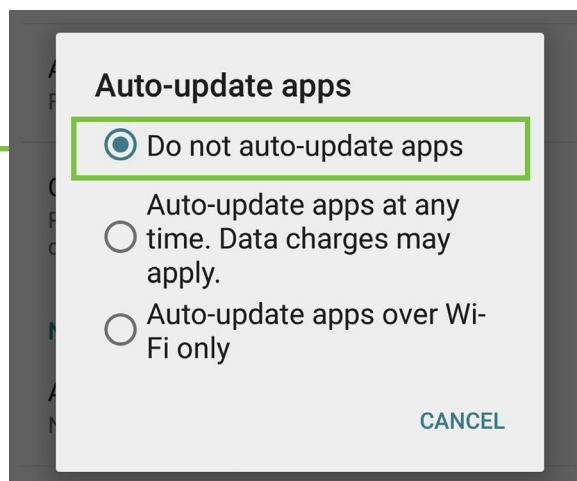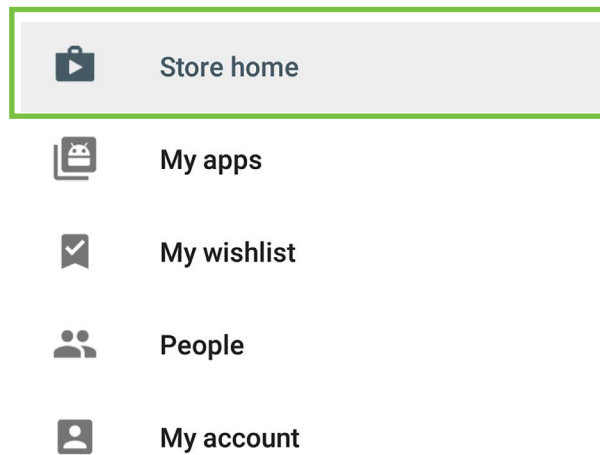
Android Optimization #5 : Blocking calls.

To block calls, put the phone into 'Airplane Mode', then turn Bluetooth back on.
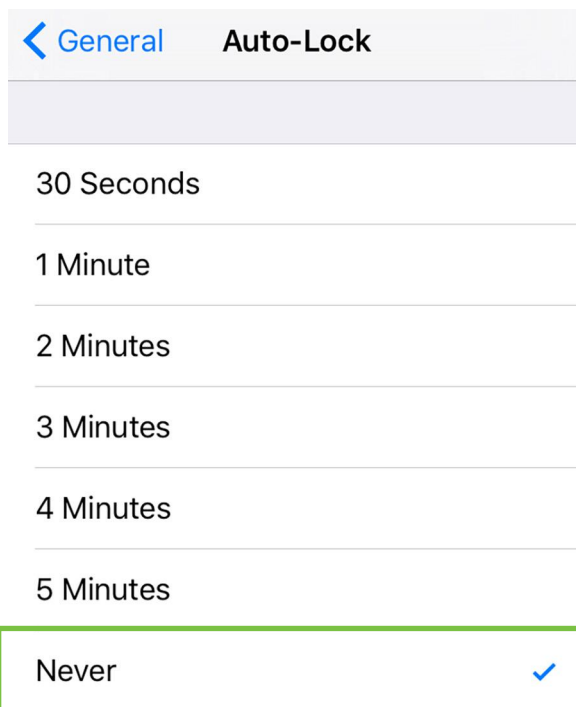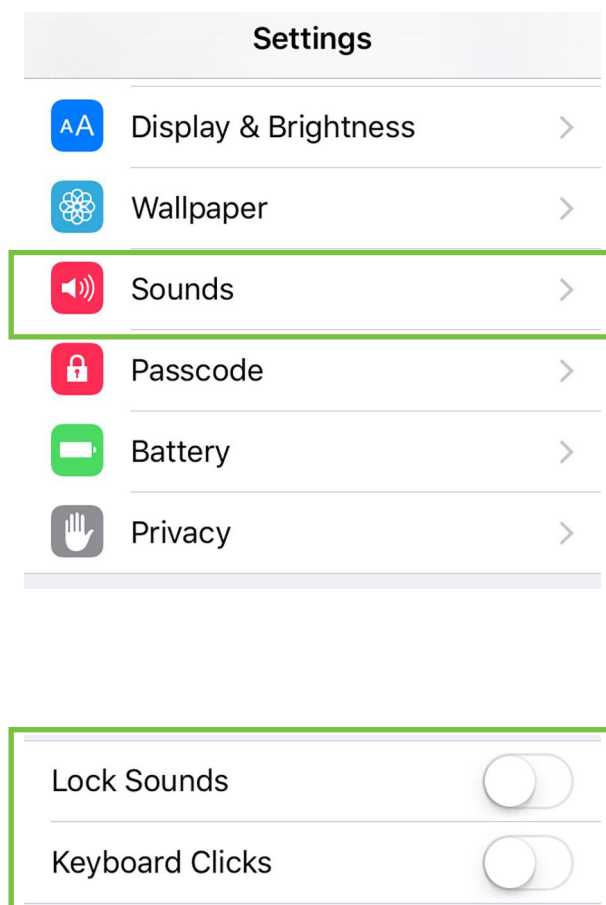
iOS Optimizations

Below is a list of ways to trick out your iOS device to optimize its use with the MixerConnect app. When you have some additional time, use your favorite search engine to search "trick out your iOS device" for other ways to optimize your iOS device. All of the following tips and tricks may be found by going to Settings > General on the iOS device.

iOS Optimization #1 : Prevent the device from turning off in the middle of a presentation (or worse yet, a rockin' karaoke performance!).

Simply change the Auto-Lock from its current selection to "Never".

< Settings **General**

Accessibility >

Storage & iCloud Usage >

Background App Refresh >

Auto-Lock 2 Minutes >

Restrictions Off >

< General **Auto-Lock**

30 Seconds

1 Minute

2 Minutes

3 Minutes

4 Minutes

5 Minutes

Never ✓

iOS Optimization #2 : Turn off Lock Sounds and Keyboard Clicks.

Settings	
🄰🄰 Display & Brightness	>
✸ Wallpaper	>
🔊 Sounds	>
🔒 Passcode	>
▭ Battery	>
✋ Privacy	>

Lock Sounds	⬭
Keyboard Clicks	⬭

iOS Optimization #3 : Mute sounds, including email alerts, calendar event warnings, alarms and other extraneous iOS noises (except music apps; those will continue to play).

Use Side Switch to: Mute

Flip the side switch on the device (next to the volume up/down switch) so that the orange dot is visible. It indicates that the device is indeed muted (except for the music apps).

iOS Optimization #4 : MixerConnect and Auto Updating Apps in iOS8

iOS adds an interesting feature that allows apps to be updated in the background. This feature is great for consumer apps like games, etc. However, you use apps like MixerConnect and auto-updating your apps can cause problems if the process is not properly understood. Before you update that app, let's first understand how updates generally work.

1. You are notified of a MixerConnect update through the iOS App Store.

2. You download and install the update. Boom. The app is updated.

But now, the operating system can update an app in the background automatically, including the MixerConnect App. While highly unlikely, it is possible that this could cause serious problems during a presentation or performance. Obviously this is not something you want to happen.

To avoid this, we strongly recommend you disable automatic updates for Apps.

Here's how:

Go to Settings > iTunes & App Store.

Simply turn App Updates off.

MACKIE.