TC·HELICON®

Perform-V

TC·HELICON

Safety information

Important safety instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Caution

You are cautioned that any change or modifications not expressly approved in this manual could void your authority to operate this equipment.

Service

► All service must be performed by qualified personnel.
► There are no user-serviceable parts inside.

Warning

► To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture and objects filled with liquids, such as vases, should not be placed on this apparatus.
► This apparatus must be earthed.
► Use a three wire grounding type line cord like the one supplied with the product.
► Be advised that different operating voltages require the use of different types of line cord and attachment plugs.
► Check the voltage in your area and use the correct type.

Voltage	Line plug according to standard
110 to 125 V	UL817 and CSA C22.2 no 42.
220 to 230 V	CEE 7 page VII, SR section 107-2-D1 / IEC 83 page C4.

► This equipment should be installed near the socket outlet and disconnection of the device should be easily accessible.
► To completely disconnect from AC mains, disconnect the power supply cord from the AC receptacle.
► The mains plug of the power supply shall remain readily operable.
► Do not install this device in a confined space.
► For use at an altitude of 2000 m or lower.
► Do not open the unit – risk of electric shock inside.

EMC / EMI

Electromagnetic compatibility /
Electromagnetic interference

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules.

These limits are designed to provide reasonable protection against harmful interference in residential installations. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

▶ Reorient or relocate the receiving antenna.
▶ Increase the separation between the equipment and receiver.
▶ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
▶ Consult the dealer or an experienced radio / TV technician for help.

For customers in Canada

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Explanation of graphic symbols

The lightning bolt triangle is used to alert the user to the presence of uninsulated "dangerous voltages" within the unit's chassis that may be of sufficient magnitude to constitute a risk of electric shock to humans.

The exclamation point triangle is used to alert the user to presence of important operating and service instructions in the literature accompanying the product.

Before you begin

About this document

This reference manual will help you learn understanding and operating your Perform-V.

You can download the most current version of this reference manual from:

tc-helicon.com/support/manuals/

To get the most from your TC-Helicon product, please start by reading the printed quick guide that came with the product. Then proceed with this reference manual. Read it from start to finish, or you may miss important information.

Getting support

If you still have questions about the product after reading this reference manual, please get in touch with TC-Helicon Support:

tc-helicon.com/support/product/

VoiceSupport

VoiceSupport is the application that allows you to fully unlock the potential of your TC-Helicon product and stay in touch with the latest news, tips and tricks.

VoiceSupport key features include:

► Professionally authored preset libraries
► Direct access to product manuals
► Drag & drop Preset management
► Customizable content about your products
► Firmware upgrades
► Account management
► Access to TC-Helicon support

You can download VoiceSupport for Microsoft Windows and Mac OS X from:

tc-helicon.com/products/voicesupport/

Please register your Perform-V

To register your Perform-V using the Voice-Support software, launch VoiceSupport and click on the ACCOUNT button.

You can also go to

account.tc-helicon.com

Registration of your product is NOT required to use VoiceSupport, download Presets, update firmware or contact support.

Introduction

Introduction

Thank you for purchasing Perform-V!

Your new mic stand mount vocal processor opens up a whole new world of performance opportunities.

Starting with our **Adaptive Tone** (automatic EQ, De-Essing, Gating and Compression), your voice will punch through the mix and sound great in any environment. For more information, see "Tone".

Add studio-quality **Reverb, Double** and **Echo** to the party, and you'll easily craft memorable vocal effects that are perfectly suited to your song. For more information, see "Effects".

With the addition of **"beamable" Presets** you can expand the sonic capabilities of Perform-V and include up to four more vocal effects!

Anti-Feedback tames the annoying high pitched squeals we've all experienced at a live show, keeping your performance professional sounding. For more information, see "Anti-Feedback".

Our global **Pitch Correction** gently guides your voice to the nearest note, ensuring that your pitches are spot on. For more information, see "Pitch Correction and Pitch Guide".

The **Guide** feature lets you see your vocal pitches in real time, letting you know when you're accurate and when you might be sharp or flat. It's a great tool for both live and rehearsal! For more information, see "Pitch Guide".
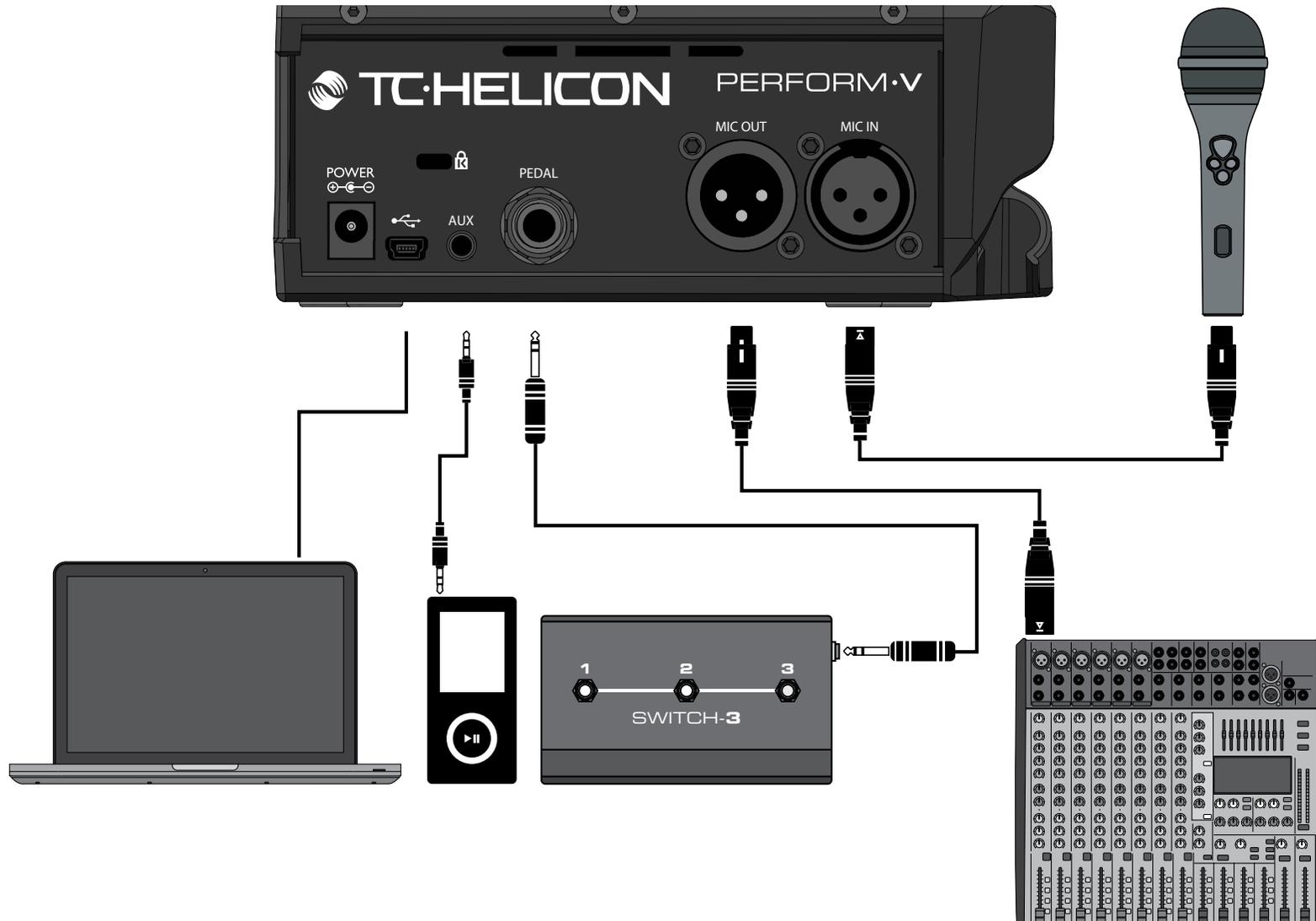
Read the Quick Start!

We will assume that you have already read the **Quick Start Guide** that came with your Perform-V, got things hooked up and you're able to sing through the product.

If you haven't gotten that far yet, please read the Quick Start Guide now and come back to this manual when you're set up.

Don't worry, we'll wait.

Connection Diagram

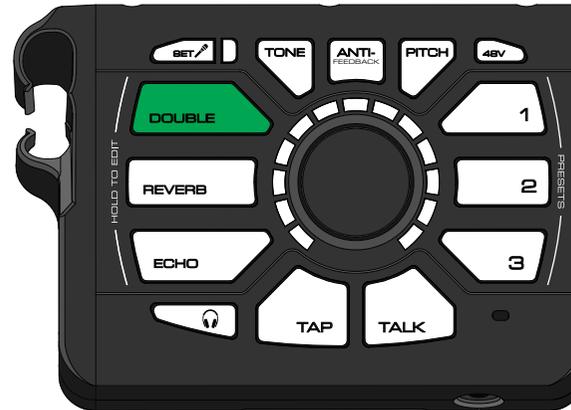# Effects

About Effects

There are three effects available to you in Perform-V, and up to four more effects can be accessed via **beamed Presets**.
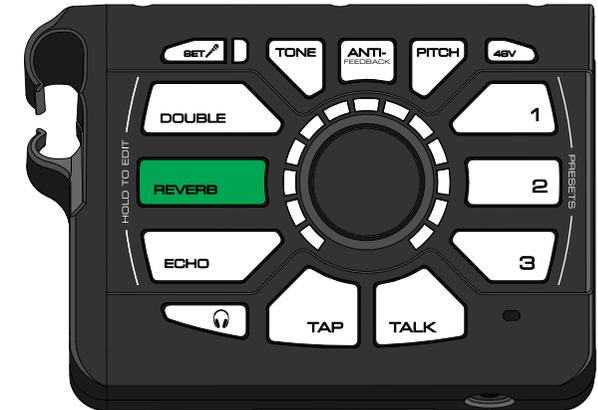
Double (onboard)

Double effect active/highlighted

Simulates the classic "double tracked" studio sound that's common on recordings of all genres. Double can include Octave Up and Octave Down voices, too.
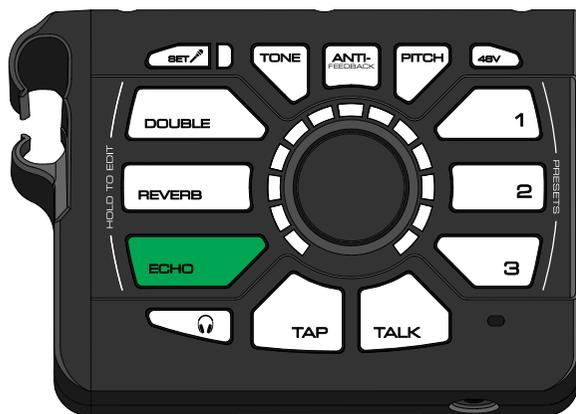
Reverb (onboard)

Reverb effect active/highlighted

Creates a simulated physical space for your voice. It can be something small, like a shower, or something big like a concert hall. It's common to use a smaller (shorter) Reverb for faster songs and a larger (longer) Reverb for slower ones.

Echo (onboard)

Echo effect active/highlighted

Otherwise known as "Delay", Echo effects repeat your voice back to you in various ways and amounts, just like shouting into a mountain range or very large space. Some Echoes can have effects applied to the "taps" or repeats of the Echo, like Megaphone or Radio.

Harmony (beamable)

Additional voices, created from your own, provide harmony as your own personal backup singers. We use a combination of the built-in RoomSense microphone and music coming into the AUX input to automatically pick the right key for the harmony voices. You'll need to have a chorded instrument near the RoomSense mic and/or music with chord information coming into the Aux input for this to work.

Megaphone (beamable)

Anything that filters or distorts your voice falls into the Megaphone category. You can sound like you're on an old radio or distort your voice for an edgy attack. Be careful with Megaphone effects when you've got a loud PA. We need to adjust EQ a lot to create these sounds, so they're a bit more prone to feedback than other effects.

HardTune (beamable)

The name of this effect can be a bit misleading, because it covers both subtle and T-Pain™ style tuning. There are several styles to help you hit the pitch perfectly, but some sound much more natural than others. Conveniently enough, our natural style is called…well… "Natural". The "Pop" style covers the other end of the spectrum.

HardTune requires Key information to work correctly, so just like Harmony you'll need a chorded instrument and/or AUX input.

µMod (beamable)

Here's where you'll find effects like Flanger, Chorus and other similar effects. These effects are typically used sparingly, but can add a great point of interest to your performance.

Turning Effects On and Off

To activate or deactivate an effect, simply tap the Reverb, Double or Echo button. The button will illuminate GREEN when active and WHITE when inactive.
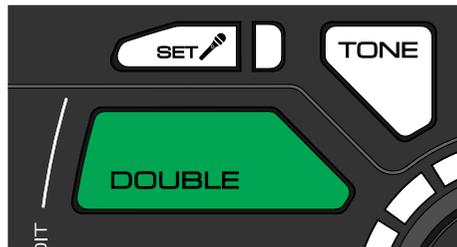
Double effect active
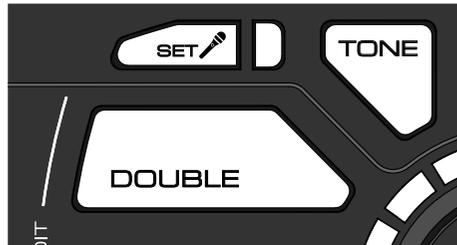
Double effect inactive

Editing Effects

Don't like the Reverb, Double or Echo that you hear? You can adjust both the Level (volume) and Style (sound of the effect) to dial in just the right combination for your music.
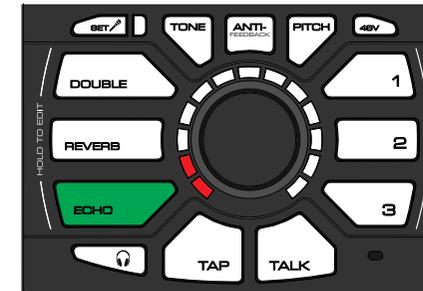
To edit an effect, simply press and hold the respective effect button.

You will know that you are in EDIT mode because the LED ring surrounding the Control Knob will illuminate and the effect button will pulse.

Changing effect level and styles

The LED ring serves as both a Level and Style control.

As you turn the knob, the LED segments will fill up, indicating that you are turning up the *Level* of the current style.
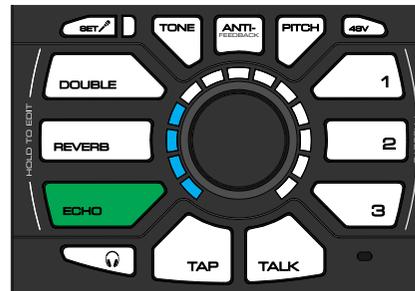

Changing the Echo level

Echo level set to maximum

When you completely fill the LED ring, the color will change, letting you know that you have now changed the *Style* of the effect.

Color change indicates a new Echo Style has been selected

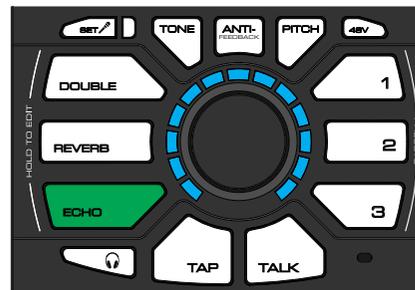Continuing to turn the Control Knob will increase the Level of *that* Style and so on.

You can also turn the control knob counter-clockwise. E.g., if you lower the level for Echo Style 3 by turning the control knob counter-clockwise and you reach zero, Perform-V will jump to Echo Style 2 at full level, as indicated by the LEDs.

Style selection "wraps" in both directions. I.e., if you keep on turning the control knob, you will go from the last to the first style for the currently edited effect and vice versa.

Each effect has four different styles to choose from. Three of the styles are available "out of the box" and one is reserved for a Beamed Preset Style (described next).

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Reverb

- ► Room
- ► Club
- ► Hall
- ► Beamed Preset Style

Double

- ► 1 Voice Tight
- ► 2 Voices Tight
- ► Octave Up and Down
- ► Beamed Preset Style

Echo

- ► ¼ Note
- ► 1/8 Note
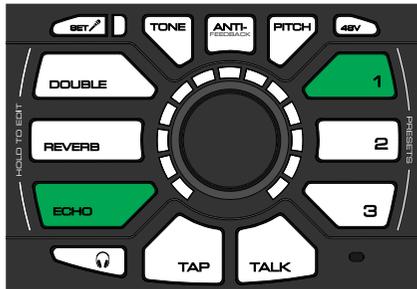- ► Slap
- ► Beamed Preset Style

Saving Changes

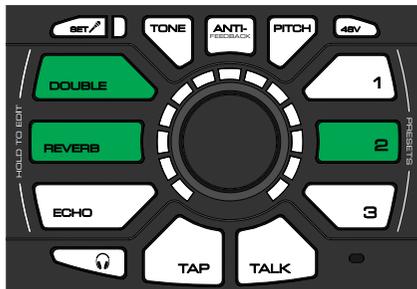Any changes you make to an effect are stored in real time. There are no extra steps to take.

Presets

About Presets

A Preset is a "complete sound" created by a combination of effects. For more information about effects, see "Effects".

Preset 1 with Echo effect activated

Preset 2 with Double and Reverb effects activated

You'll notice that the active effects change between Preset 1 and Preset 2 in the images above. Presets can be configured however you like. The state (on/off), style and level for each effect in a Preset can also be different from Preset to Preset.

Using Presets

With three available Presets, you might want to set up something like:

▶ Fast songs
▶ Slow songs
▶ *Death Metal Engelbert Humperdinck Covers*

Recommendations for creating Presets

▶ Try shorter Reverbs and single Double voice for fast songs.
▶ Choose a longer Reverb and add a bit of Echo for slower songs and/or ballads.
▶ Crank up the levels and choose the craziest styles for a special effect Preset.

Importing (Beaming) a Preset

Your Perform-V also has the ability to "beam" or import a Preset sound to each of the 1, 2, 3 buttons.

The imported Preset can contain up to seven effects:

► Harmony
► HardTune (pitch correction)
► Megaphone
► Modulation (chorus, flange etc.)
► Reverb
► Double
► Echo

There are two ways you can import a Preset.

Using the Preset app

First, you can use your smartphone and our Preset app to "beam" a Preset into Perform-V.

► Simply press the button for the Preset location (1, 2 or 3) that you'd like to assign the Preset to.
► Then, follow the instructions in the app to send the Preset data to your Perform-V.

Download the **Perform-V Preset app** here:

tc-helicon.com/products/perform-v/support/

Using VoiceSupport

Second, you can use our VoiceSupport application (available for Microsoft Windows and Apple OS X).

► Install VoiceSupport on your computer.
► Connect your computer via USB to your Perform-V.
► You can now add Presets by drag & drop from our available online libraries.

Download **VoiceSupport** here:

tc-helicon.com/products/voicesupport/

Editing a Beamed Preset

Changing the sound of Reverb, Double and Echo within a Preset is exactly the same as you did it without a Preset, with one small exception:

When you press/hold a button to edit the respective effect (Reverb, Double, Echo) in a Preset, you'll notice that the LED ring is now white. This indicates the new Style imported by the Preset. You can control the level of that Style, or change back to one of the "factory" Styles that you have used before by turning the Control Knob counter-clockwise.

Controlling additional parameters in Beamed Presets

As described in "Editing Effects", you can edit an effect's level and style by pressing and holding the respective effect button. For Beamed Presets, you can also adjust the settings for the other effects within that Preset.

To adjust the settings for the other effect, press and hold the **Preset** button (not an effect button) and then turn the control knob.

Here is a table showing you what you can control, depending on which effects are contained in the Preset:

	Harmony	HardTune	Megaphone	µMod	Modifier
1	X				Harmony Level
2		X			HardTune Gender
3			X		EQ Filter
4				X	µMod Level
5	X	X	X	X	Harmony Level
6		X	X		HardTune Gender
7		X		X	µMod Level
8			X	X	µMod Level

In case you find that table confusing as heck, here are two examples:

▶ If the Preset contains both Harmony and HardTune (table row 5) the "Modifier" is Harmony Level.
▶ If the Preset contains Megaphone and µMod (table row 8) the Modifier is for µMod level.

Make sense? Good. Moving on…

HIT

Beamed Presets (see "Importing (Beaming) a Preset") are capable of turning on one or more effects with a single button press. We call the additional effects "HIT". A common example of HIT is a Preset that starts out with a simple Reverb, then adds both Harmony and Echo via HIT.

You can use HIT either for subtle variations (e.g. between verse and chorus settings in your ballads) or for really dramatic changes. Feel free to experiment!
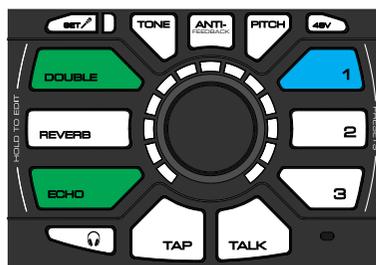
Activating and deactivating HIT

► To toggle HIT on/off, press the Preset button.

The beamed Preset's green light will change to blue to indicate that HIT is on.
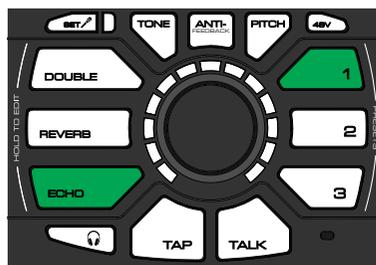
HIT off

HIT on

When you have beamed a Preset to your Perform-V, HIT is turned *on* by default.
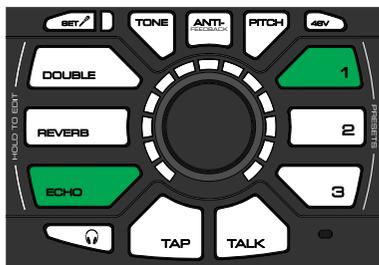
Editing HIT

HIT is controlled *dynamically* – which means you can make changes to each HIT "state" (by switching effects on and off) whenever you choose.

As before, you don't have to save anything manually – the changes are automatically stored.
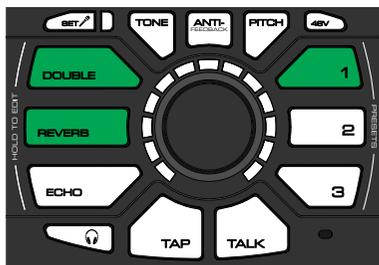
Example: Changing HIT Off settings in a Preset

Let's use a Preset (1) where the **Echo** effect is active while HIT is off:

HIT off – Echo active

Turn Echo *off* and activate **Double** and **Reverb** instead:

HIT off – Double and Reverb active

Now, Double and Reverb will be active when HIT is *off* in Preset 1.

You can configure the HIT *on* state in the same way.

Tone

About Tone

The Tone module automatically adds

▶ EQ (equalization),
▶ Compression,
▶ De-Ess and
▶ Gate

to your overall vocal sound.

To activate Tone, press the Tone button.

DOUBLE

▶ Tone button white: Tone module is off.
▶ Tone button green: Tone module is on.

Turning Tone off

Although you can turn Tone off, we recommend you leave it on.

At the mixer you plug Perform-V into, you'll want to make sure that…

▶ any EQs are *flat* (i.e., neutral and not altering any frequencies) and
▶ any effects are turned off.

For mixer setup recommendations, see this "Craig's Corner" video:

youtube.com/watch?v=qq0AOtafIjs

Let's take a look at Tone's various components.

EQ

Equalization (EQ) helps to shape the tone of your voice to fit into a musical mix. It removes some of the low "mud" frequencies and boosts the highs for "sparkle" or "air". Every recording you hear these days has some manner of EQ on the lead vocal (and pretty much everything else too).

Compression

Compression reduces the difference in volume between the loudest and quietest notes. This gives you a more even sound that can blend into the music better. It's almost unheard of for vocals to go uncompressed in modern music, both recorded and live.

De-Ess

De-Ess gets rid of harsh "S" sounds and makes them sound more pleasing to the human ear.

De-Ess goes hand in hand with **Compression**, since Compression can make "S" sounds a bit more pronounced in the mix.

Gate

Gate is commonly used to "shut off" an audio input when it falls below a certain volume.

This works great on sound sources such as drums where you want the drum hits to "come through", but then have the mic silent in between hits.

For vocals, we don't want to go as far as shutting your mic completely off – but we *do* want to reduce the volume (gain) of the mic when you're not singing so that feedback becomes less likely.

Anti-Feedback

About Anti-Feedback

Everyone loves that amazing squealing sound coming out of the speakers right? Yeah, not so much.

Anti-Feedback automatically adapts to your environment and removes frequencies that can cause feedback. It is not a silver bullet: You still have to set up your gear with reasonable volume levels and not point the mic at the speakers, but Anti-Feedback can help when you're "on the edge" and getting some squealing here and there.

To activate Anti-Feedback, simply press the Anti-Feedback button.

▶ Anti-Feedback button white:
  Anti-Feedback is off.
▶ Anti-Feedback button blue:
  Anti-Feedback is on.

You'll see the LED light red when it's working to get rid of offending frequencies. If the LED is flashing constantly, it's done all it can do and you'll have to look at the rest of your audio setup to reduce things further.

Here is a Craig's Corner video about feedback: youtube.com/watch?v=VlN1RJ4gcAo

Pitch Correction and Pitch Guide

About Pitch Correction

Nobody is perfect, so Perform-V gives you the option to add a little bit of transparent pitch correction to your voice. It gently guides you to the nearest semi-tone when you sing.

To activate Pitch Correction, press the Pitch button.

▶ Pitch button white: Pitch correction is off.
▶ Pitch button green: Pitch correction is on.

About Pitch Correction-related "Phasing"

Something to note about Pitch Correction is that it's normal to hear "phasing" between your head voice *(not to be confused with "the voices" in your head…)* and the corrected voice coming from speakers or headphones. This is simply the audible collision of the two signals creating the phased effect. Your audience (or a recording) does not experience this effect.

You can actually use the phased sound to improve your pitch over time. The less of the phased sound you hear, the closer you are to perfect pitch.

Here is a Craig's Corner video about Pitch Correction Phasing:

youtube.com/watch?v=KWrEIuiDXsA

Pitch Guide

Speaking of feedback – sometimes it's nice to get some about your singing. With the Pitch Guide, you can see how close to the "true" note you are when you sing. It's great to know that you typically sing sharp or flat, or simply struggle with a particular note or two.

To activate the Pitch Guide, press and hold the Pitch button. To deactivate the Pitch Guide, press and hold the Pitch button again. When the pitch meter turns on, you'll see the LED ring light from red (at the bottom) to green (at the top). When the pitch meter turns off, the LED's will move from green to red.

The Pitch Guide shows whether…
► you are "on the note" (green LEDs),
► "flat" (yellow/red LEDs on the left hand side of the ring) or
► "sharp" (yellow/red LEDs on the right hand side of the ring).
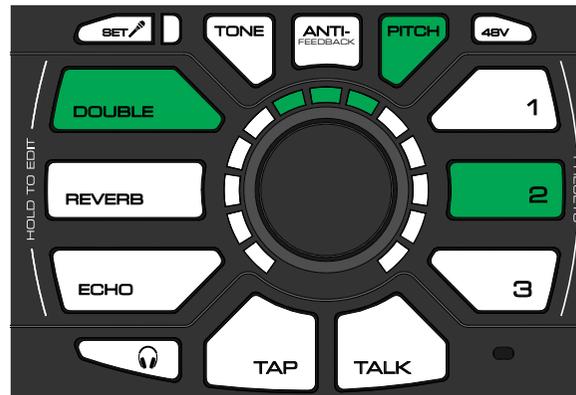
Correct Pitch
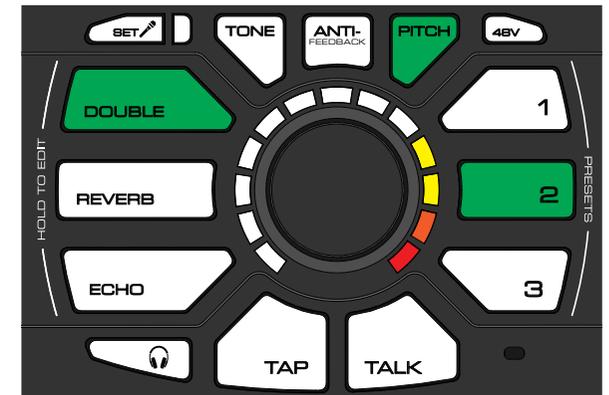
Sharp Pitch
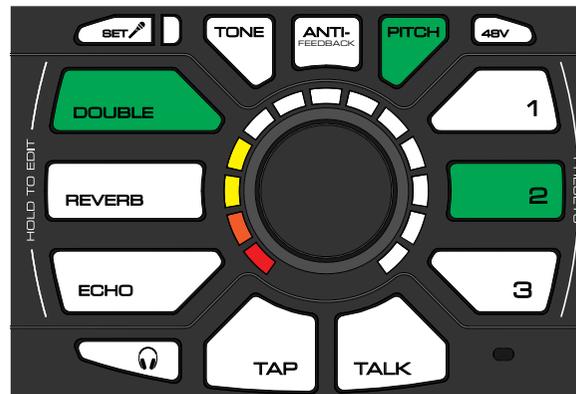
Flat Pitch

Phantom Power, Mic Control and talking to your audience

48V (Phantom Power)

If you have a condenser mic that requires power to operate, you'll need to press and hold the 48V button for two seconds to turn phantom power on.

Phantom Power on

If you're not sure what kind of mic you have, but you don't hear any sound, it's OK to try 48V. This won't damage a dynamic microphone.

Mic Control

Activating Mic Control

To enable Mic Control, you'll first need to activate Phantom Power – see "48V (Phantom Power)".

Then, you'll need to select your **Mic Control Mode**. This is done by holding the 48V button and then pressing the 1, 2 or 3 button.

Deactivating Mic Control

Hold the 48V button and press Preset button 1 to **deactivate** Mic Control.

Use this setting when you have a regular condenser mic. If you have another Mic Control mode set, you could inadvertently activate Perform-V buttons as you sing.

MP-75 Mode

Hold the 48V button and press Preset button 2 to set Mic Control to MP-75 mode.

MP-75 button assignment
The MP-75's Mic Control button cycles **Presets** on your Perform-V by default. You can change that behavior by *holding* the Mic Control button and then pressing the button on Perform-V that you'd like to control.

For example, if you hold the Mic Control button and then press the Reverb button, you can use the Mic Control button on your MP-75 microphone to switch the Perform-V Reverb on and off.

If you have an MP-76 connected but choose MP-75 mode, the "top" button on the MP-76 will function just like the MP-75 button. The other buttons will not do anything.

MP-76 Mode

Hold the 48V button and press Preset button 3 to set Mic Control to MP-76 mode.

In this mode,

▶ the "Top" button controls the Double effect,
▶ the "Left" button selects Preset 1,
▶ the "Right" button selects Preset 2 and
▶ the "Bottom" button selects Preset 3.

Controllable parameters

In MP-75 and MP-76 Mode, you can control the following parameters:

▶ Double
▶ Reverb
▶ Echo
▶ Tap Tempo
▶ Talk
▶ Preset 1
▶ Preset 2
▶ Preset 3
▶ Tone
▶ Anti-Feedback
▶ Pitch

Assigning a Preset (1-3) to a button allows you to control the HIT function if this Preset slot contains a Beamed Preset. For more information, see "Importing (Beaming) a Preset" and "HIT".
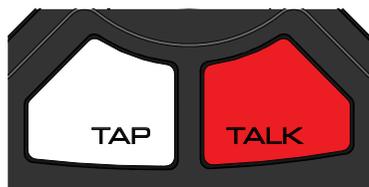
Talk

During a performance, especially between songs, you might want to speak with the audience. In that case, you probably don't want all the effects on your voice. This is where the Talk button comes in.

When active, Talk bypasses all Perform-V effects (except Tone) so that you can speak with the crowd and be heard clearly.

Aux signals are still passed to the XLR out in Talk mode.

To activate Talk, press the Talk button.

► Talk button white: Talk is off
► Talk button red: Talk is on

Talk on

Lock/Mute

Press and *hold* the TALK button to enter Lock/Mute mode.

In Lock/Mute mode, all outputs (including XLR and Headphone) are muted and the Perform-V front panel is disabled. This prevents people messing with your gear while you've stepped away.
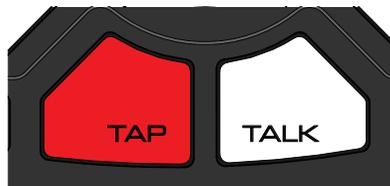
The TALK button will *flash* when in Lock/Mute mode.

To re-activate (unmute) Perform-V, press and *hold* the TALK button again.

Tap (Tempo)

Displaying the current tempo

When you press the Tap button, it will flash in time with your Echo effect – i.e., it will show you the current tempo of the Delay repeats.

Tap button

Adjusting the tempo

You can re-tap the tempo at any time to sync up the Echo with your current (or upcoming) song.

Keep in mind that you can also tap at *half-time* or *double-time* to make your Echo sounds more flexible.

If you have selected and activated an Echo effect, but the Tap button is dark, this means that the currently active Echo Style is a "slap" style that doesn't use Tap Tempo.

RoomSense and Aux

RoomSense

Did you notice that little hole on the front of your Perform-V? It's a microphone!

*The built-in microphone –
right below the Preset 3 button*

This microphone is there for two reasons:

▶ If you beam in a Preset into your Perform-V that contains Harmony or HardTune effects and you're not using an Aux In music source to guide key/scale, the built-in mic will listen for chords in the room (like a nearby guitar or piano) and try to figure out key and scale from that! Pretty cool.
▶ If you don't plug in a microphone and have headphones connected, you can use the onboard mic to sing into. It makes for a great way to practice with virtually no other equipment.

If you're using the RoomSense mic to sing into, the Mic Out jack will be muted to prevent feedback.

Aux Input

Connecting a music player to the Aux input

When you connect a music player or a smartphone to the Aux input and play a song, any incoming chord information will be used to determine key/scale for Perform-V's Harmony or HardTune effects (in beamed Presets only – see "Importing (Beaming) a Preset").

You will hear the Aux input signal mixed with your Mic input (vocals). If the Aux signal is too loud or too quiet, use the volume control on the external music player to mix to taste with your vocals.

Don't use Aux for live instruments

Audio from the AUX input is slightly delayed from input to output – this improves chord detection. This delay won't have any effect on music you're singing along with – but it does mean this input isn't intended to support instruments that you'd play live. They'd feel strangely "laggy".

Switch-3 / Switch-6 remote control

About the Switch-3/Switch-6 (Pedal) Input

When you have connected a Switch-3 or Switch-6 to your Perform-V's pedal jack (using the TRS cable that came in the Switch-3/Switch-6 box) you can control various features remotely.

Connecting a Switch-3 or Switch-6 to your Perform-V's pedal input

Connecting a Switch-3 or Switch-6

In order to correctly detect a Switch-3 or Switch-6, it must be connected to Perform-V before you power up the unit. If you change between Switch-3 and Switch-6, you must power your Perform-V on and off again.

Using Switch-3

The default behavior for Switch-3 is to change Presets according to the numbers on Switch-3.

▶ Switch 1 = Select Preset 1
▶ Switch 2 = Select Preset 2
▶ Switch 3 = Select Preset 3

Reassigning footswitches

You can reassign any of the Perform-V buttons to be activated by a footswitch, with the following exceptions:

▶ Trim
▶ 48V
▶ Headphone Level
▶ Lock/Mute (TALK *is* assignable)

▶ Press and hold the footswitch you want to re-assign.
▶ Press the button on Perform-V that this footswitch should control.
▶ Release both buttons.

Using Switch-6

Switch-6 acts in the same manner as Switch-3 but adds buttons 4, 5, and 6.

The default controls for the three extra buttons are:

▶ Switch 4 = Double effect on/off
▶ Switch 5 = Reverb effect on/off
▶ Switch 6 = Echo effect on/off

Appendix

Factory Reset

To reset the unit back to factory settings, press and hold the ECHO and DOUBLE buttons when powering up your Perform-V.

Technical Specifications

Analog Inputs	
Microphone Input	
Connector	XLR
Input Impedance	2.8 kOhm balanced, 1.4 kOhm unbalanced
Max Input Level	-28 dBu to +2.8 dBu
EIN @ max gain, 150 Ohm Zsource	-128 dBu A-weighted
Microphone SNR	> 105 dB A-weighted
Phantom Power	+48V
A to D Conversion	24 bit, 128 x oversampling bitstream, 115 dB SNR A-weighted
Aux Input	
Connector	1/8" stereo mini jack
Input Impedance	20 kOhm
Max Input Level	+2.5 dBu
A to D Conversion	24 bit, 128 x oversampling bitstream, 102 dB SNR A-weighted
Analog Outputs	
Microphone Output	
D to A Conversion	24 bit, 128 x oversampling bitstream, 115 dB SNR A-weighted
Connectors, balanced	XLR
Output Impedance Balanced/ Unbalanced	66/33 Ohm
Output 0 dBFS	-1.5 dBu
Dynamic Range	> 109 dB, 20 Hz to 20 kHz
Frequency Response	+0.50/-0 dB, 20 Hz to 20 kHz
Headphone Output	
Connector	1/8" mini stereo jack