TC·HELICON

VOICELIVE RACK



Basics Manual

Safety

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 dry cloth.
7 Do not block any ventilation openings.
8 Install in accordance with the manufacturer's instructions.
9 Do not install near heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
10 Only use attachments/accessories specified by the manufacturer.
11 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.

Warning!

- To reduce the risk of fire or electrical shock, do not expose this equipment to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the equipment.
- Do not install in a confined space.

Service

All service must be performed by qualified personnel.

Caution

You are cautioned that any change or modifications not expressly approved in this manual could void your warranty.

EMC/EMI

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 correcting the interference by one or more of the following measures:

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

For the 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.

Table of Contents

Before you get started

1. Download the Details Manual

Your product ships with this "Basics" Manual. To get the latest "Details" manual visit:

www.tc-helicon.com/support

and select VoiceLive Rack in the "Select the product..." dropdown menu. To view the product warranty select Warranty on the same page.

2. Download VoiceSupport

Get the latest firmware for your product, tips and tricks, and videos. Download and install VoiceSupport from www.tc-helicon.com/voicesupport.

3. Register Your Product in VoiceSupport

Click on the ACCOUNT button.

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Introduction

Thank you for purchasing VoiceLive Rack, a complete, programmable mic channel and vocal effects processor. This product is the result of input from customers like you who requested the premium features of VoiceLive 2 in a 19" rack chassis. We hope you enjoy making your music sound even better with VoiceLive Rack.

VoiceLive Rack Features

- High quality, dedicated vocal channel and effects processor
- 8 fully editable effect blocks
- Total recall of mic preamp and Setup menu parameters in up to 10 user profiles
- Unique touch interface on front panel
- Large, bright LCD screen
- Wizard feature to help users find presets
- Up to 4 intervals of NaturalPlay harmony available
- Harmony reference can be guitar, MIDI or MP3 input
- Global adaptive tone and auto-chromatic pitch correction effects
- Mic Control feature allows remote effects control with MP-75 mic
- 400 user presets
- USB for audio streaming, updates, and backup to computer
- Discrete guitar mixing and effects to main output

About TC-Helicon

TC-Helicon is the only pro audio company 100% dedicated to providing creativity and control to singers. We are a dedicated group of engineers, researchers and product specialists based in Victoria BC, Canada, who spend every waking moment of their working lives listening, talking, singing, and interacting with singers and those who have passion for the singing voice.



MP-75 Mic

Touch to access input gain adjustment screen or hold to enter auto input gain feature.

Touch to browse presets based on tags or to load presets on demand.

Touch Home to exit any menu and set screen to show main preset display.

Push in to apply power.

Connect headphones to monitor main output mix.

Touch to access Setup menu and parameters.

Touch Home to exit.

Touch to access Store menu for presets and setups as well as management features.

Touch to access Edit menu and parameters or touch Home to exit.

Front Panel

Displays preset steps if any (Count) and current step in Home mode.

Displays parameter remote controlled by Mic Control feature using optional MP-75 mic.

Main wheel locates presets in Home mode and selects rows in edit modes.

Displays preset name and number in Home mode or all edit parameters in edit modes.



Navigate arrows will increment/decrement presets by 1 in Home mode or select rows in edit modes.

In Home screen, turning Mix knobs 1 detent will temporarily display 4 global mix values then allow adjustment.

In all edit modes Mix knobs are used to adjust parameter values.

Tab/Step arrows cycle through preset step chain (if any) and allow management of step chains in Home mode.

Tab/Step arrows cycle through tabs in edit modes.

Touch any to engage effects or hold to jump directly to the effect's edit menu.

Touch to activate adaptive EQ, compression, de-ess and gate or hold to edit.

Touch to activate auto-chromatic pitch correction or hold to edit correction settings.



Mutes all processing except Tone when Tone is active.

Duplicates the switch on an MP-75 mic to activate switched parameters.

Tap at song tempo to set delay time in Home mode.

Back Panel

Connect dynamic or condenser mic here. Input gain and phantom power on/off located in Setup menu.

Passes dry guitar signal to an amplifier or PA. Connection here will remove guitar from the main mix.

Auxiliary input from mp3 player can be mixed to outputs and be used to guide Harmony and Hardtune.

Main outputs are balanced and default output is stereo. Mono and dual mono modes are configured in Setup menu.

Attachment port for Kensington® lock



Connect TRS balanced or unbalanced cable from mixer here.

A guitar connected here can guide Harmony and Hardtune effects. If Thru is not connected, guitar is mixed to main outputs with dedicated effects.

If ground buzz is heard in your PA, push the Ground Lift in. Otherwise leave it out.

Back Panel

S/PDIF output always available. Full Mix or Vocal & Guitar (LR) configured in Setup menu.

Hardware MIDI ports allow remote harmony and preset control from MIDI keyboards etc. Ensure USB Control is set to Off in Setup menu to use this input.

USB I/O connects to a computer for audio I/O and system functions such as preset backup and version updates.

AC cable strain relief minimizes shutdowns due to cable pulling.



S/PDIF digital input can be fed dry to analog mix outs or used as vocal and instrument (LR) inputs for effect processing.

Connect optional TC-Helicon Switch 3 footswitch here for additional control per preset or globally.



Connect supplied AC adaptor here.

a. Connections

1. Turn down your mixer channel or main PA volume.
2. Connect a Mic or Line level input from the mixer to the respective input jack on VoiceLive Rack.
3. Connect the XLR or TRS stereo outputs to your mixer/PA.
4. Connect the supplied AC adaptor to the unit and press the POWER button in.

b. Set input level

1. Touch the Bypass button so it flashes.
2. Touch the Input Gain button.
3. Sing or start playback while watching the IN meter in the display
4. Adjust the IN GAIN setting with the knob below the onscreen parameter until no CLIP message occurs.
5. Touch Home to exit Input Gain setup.

c. First audio

1. Select preset 6: BRIGHT DOUBLE with the large wheel or the Navigate up/down arrows.
2. Sing or start dry vocal playback then raise your monitors/PA level until you hear the VoiceLive Rack output at a comfortable volume.
3. Touch the Bypass button to hear the effect programmed into the current preset.
4. Now you can select different presets and/or touch the effect blocks (µMod, Delay, Reverb etc) to turn them on and off within the current preset.

Using Harmony or Hardtune presets with a connected instrument or music track

Presets that have the Harmony or Hardtune buttons lit require a musical reference in order to sound musically correct. VoiceLive Rack automatically senses which input is connected (see following) in order to use it as a reference.

1. Connect an accompaniment instrument or music player to VoiceLive Rack. This can be either:
- A guitar connected to the GUITAR IN
- A MIDI keyboard (channel=1) connected to the MIDI IN
- An MP3 player connected to the AUX IN
2. Select a harmony-based preset such as 1: Sixth Encore.
3. Play the accompaniment instrument or track while singing into VoiceLive Rack. The harmony intervals will follow the changing chords of the music.

By default, the GUITAR and AUX inputs are routed to the main mix output. Their levels can be muted or adjusted in the GUITAR and I/O tabs of the Setup menu respectively.

Using Harmony or Hardtune presets without a connected instrument or track

This method, which uses a single key and scale generally throughout an entire song, will produce useful musical results for many songs but not all. Experimentation in a rehearsal setting is essential before using this method before an audience.

Quick Start

1. An accompaniment is required so the singer can sing relative to a key and scale. This can be a piano, acoustic guitar, playback etc.
2. Touch the Setup button and navigate to the SYSTEM tab using the TAB/STEP arrows.
3. Set GLOBAL NATURALPLAY to SCALE and GLOBAL KEY/SCALE to ON.
4. Touch the Edit button and navigate to the HARMONY tab.
5. Set the KEY and SCALE* parameters to match the song accompaniment. This is often the first or last chord in the song.
6. Sing while the accompaniment plays.

* There are 3 major scales and 3 minor scales; generally Major 2 and Minor 2 will work for more songs. See the Details manual for specifics.

Touch Home to exit and try different presets, all of which are set to the same key by the Setup parameters changed in step 3.

Selecting presets

There are over 200 factory programmed presets in VoiceLive Rack. Presets are loaded as soon as the name appears in the LCD window.

To select presets:

1. Ensure the Home button LED is lit.
2. Turn the large encoder wheel. Detents in this wheel allow increment and decrement by 1 or;
3. Touch the Navigate up or down arrows to browse by single presets.

Searching for presets using tags

The Wizard function organizes the presets by user-selected tag filters and alphabetically so you can search more effectively for them. The Wizard also allows you to locate *but not automatically load* a new preset while another is currently active.

To search for presets using the Wizard:

1. Touch the Wizard button
2. Use the Mix knobs to select the Sort function and/or to choose up to 3 tag criteria.
3. Turn the large encoder to view the filtered results.
4. Press the Wizard button to load the highlighted preset.

Modifying presets

The effect block buttons, the arrow buttons and tabbed menus allow you to make changes to the current preset quickly.

To modify a preset by enabling and disabing effect blocks:

1. Touch any one or a group of effect blocks to reverse their on or off state. The buttons' LEDs will show their status.

To edit effect block parameters including preset mix:

1. There are two ways to enter the effects editing menu -

a. Hold any effect block button for 1 second. This will present its editing menu. The on/off status of the effect will not change however.

b. Touch the Edit button and use the Tab/Step arrow buttons to locate the tab of effect you want to edit.

2. Adjust parameter values on the highlighted row with the Mix knobs.
3. Select another row with the wheel or the Navigate up/down arrows.
4. To finish, either touch Store twice to save your changes or touch the Home button to allow further preset navigation without saving.

Changing the global mix

There are 4 global mix levels adjustable with the front panel Mix knobs. When you adjust these controls at the Home level, the mix screen will show values for the controls as well as Mic/Line input, Guitar input and main output levels.

- Voices - Combined level of the Harmony and Doubling voices.
- Delay/Reverb - Combined level of the Delay and Reverb effects.
- Guitar - If a guitar is connected to the Guitar input and no Guitar Thru connection is made, this control varies the level of the guitar in the main output mix.
- Output - Adjusts the overall output level to the main outputs and the Headphone output.

Adjusting the Guitar features

The Guitar input has its own Reverb and µMod processors, 3 band EQ and compressor. As long as the Guitar Thru has no jack inserted, the guitar will be routed to the main output mix with these effects added.

To adjust the Guitar effects:

1. Touch the Setup button.
2. Use the Tab/Step arrow buttons to navigate to the GUITAR tab.
3. Select and adjust parameters within the GUITAR tab using the Navigate arrows and the Mix knobs.

All changes are recalled automatically the next time the unit is powered.

Phantom, Mono, MIDI etc. - the Setup menu

Global parameters are adjusted in the Setup menu. Changes made in this menu are automatically stored as they are made. Note that some settings of parameters such as DIGITAL IN and LEAD MUTE can result in unexpected sound (or lack thereof) from the unit. Consult the Details manual before adjusting these.

To adjust global setup parameters:

1. Touch the Setup button to enter the Setup menu.
2. Use the Tab/Step and Navigate arrow buttons to locate parameters then make changes with the Mix knobs.
3. Touch Home to exit.

Adjusting the Tone settings

The goal of the single Tone button, with its adapting Shape EQ, compression, de-essing and gate is that adjustment is done automatically. If, however, you want to make manual adjustments, they are easy to perform.
To change the Tone settings:

1. Hold the Tone button to reveal its menu in the display.
2. In the first TONE tab, sing while you make general adjustments such as adjusting brightness and bass rolloff via the SHAPE control or increasing or reducing compression amount with the COMPRESS control.
3. Use the Tab/Step arrows to tab over to the individual effects and disable the ADAPTIVE parameter if desired. This will reveal additional manual adjustment settings.

Preset chaining with the Step feature

Each preset can consist of up to 10 steps that you can step through using the Tab/Step arrow buttons or a footswitch. Steps can be edits of the starting preset or other presets copied into the slots.

To add a step to a preset:

1. Locate the desired starting preset and hold the right Step arrow button.
2. Follow the onscreen prompts to insert and delete steps in your chain.

Note that inserted steps are automatically stored. See "Restoring..." below to return the preset to its original state.

Performing a global reset

This can be performed to initialize all presets and system parameters back to their factory defaults.

To perform a global reset:

1. Power up the unit.
2. When the first text is displayed in the LCD window, hold the 4 buttons listed below and continue to hold until the reset prompt is displayed:

- µMod
- Delay
- Reverb
- Tone

This procedure can take up to 2 minutes.

Restoring individual presets to factory settings

To reset a preset to its original settings:

1. Locate the Manage Preset tab in the Store menu.
2. Use Erase User Preset to select the preset to restore and set Confirm to Yes.
3. Touch the Store button.

Mic Control and Footswitch assignments

External control of parameters via the MP-75 microphone and Switch 3 footswitch can be assigned uniquely per preset or globally.

To set Mic Control and Footswitch assignments:

1. Locate the Mic-Control and/or Switch3 tabs in either the Setup menu (for global assignment) or in the Edit menu (unique per preset).
2. Make the changes required.
3. If you have made a preset assignment it will need to be stored with the preset. Global assignment does not require storing.

Basic Operation

Storing and loading user profiles

There are 10 slots in which you can save an entire configuration of the Setup menu parameters which is called a Profile. This is useful when you need to recall different settings for a live performance with a mic versus a studio application with a digital input for example.

To store a user Profile:

1. Adjust parameters in the Setup menu tabs to your requirements.
2. Press the Store button once.
3. Tab over to Store Setup tab.
4. Input a name and choose a numbered location.
5. Press the Store button to complete the operation.

To recall a user Profile:

1. Press the Store button.
2. Tab over to the Load Setup tab.
3. Adjust the number below the Load From parameter to see the names of various setups.
4. Press Store to load.

Frequently Asked Questions

Where can I find support for this product?
TC-Helicon has a comprehensive support system for our products. Go to www.tc-helicon.com/support and click on the links below either Support by Product or FAQ and Contact.

I can't set Tap tempo for some presets, what's happening?
These are set to a specific time. To make them Tap-able, find the Delay edit tab in the Edit menu and set the Source parameter to Tap. Store if desired.

Why am I hearing distortion?
The Transducer effect has distortion styles but if that effect is off, press the Input Gain button while you sing to check that your input is not clipping.

I'm hearing feedback when I use VoiceLive Rack, how can I minimize that?
Adjust the gate in the Tone menu by increasing the Lead and Harmony attenuation and/or setting the Gate parameter to Manual and raising the Threshold. Ensure that monitors are pointing at the dead area of the mic. As a last resort, turn off Tone or reduce stage and monitor levels.

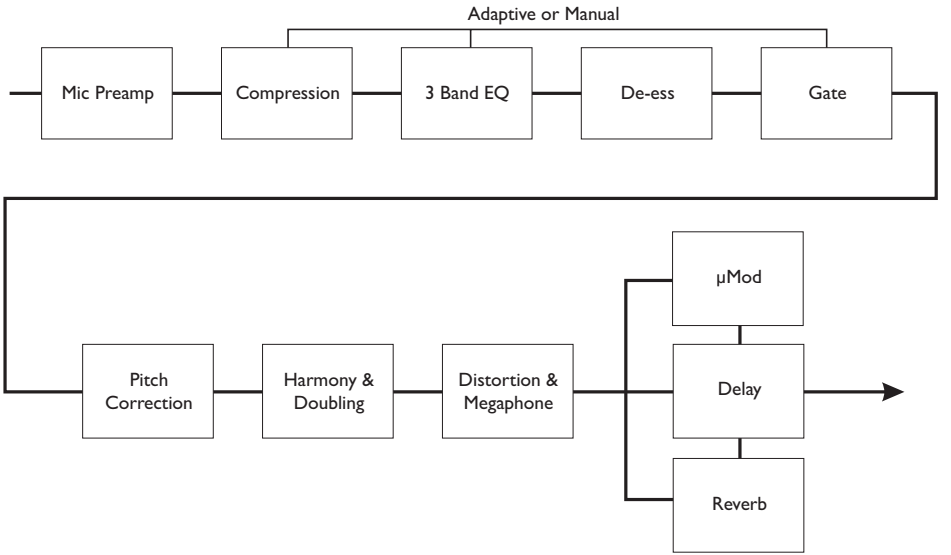
I'm hearing chorusing when I sing but no effects blocks are on, why is that?
This is due to the Pitch effect being active. It constantly adjusts your pitch to make you more in tune and you are hearing the difference between your voice through head resonance and the pitch corrected version in your PA or monitor.

The Mic Control parameter seems to be triggering on its own when I sing, what's happening?
A few input devices may cause this. You can a) switch mics b) turn off Mic Control in the Setup menu.

I have a MIDI keyboard connected to the MIDI In jack and both are on the same channel but still nothing's happening, do I need to adjust something?
Set the USB Control parameter in the System tab of the Setup menu to Off.

I've connected the input and output to my PA but I'm not getting any signal into or out of VoiceLive Rack, what's up?
Confirm that the Output mix control is turned up. Note that 0dB means "full" not "off". Check that the Digital In parameter in the I/O tab of the Setup menu is set to either USB Stereo or S/PDIF Stereo.

Signal Path Diagram



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