waldorf

QUICKSTART
STVC

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Foreword

Thank you for purchasing the Waldorf STVC.

STVC is a string synthesizer in combination with a vocoder. String synthesizers came up in the 1970s, they aimed to recreate real string ensemble sounds using tricky electronic circuitry. They failed, at least according to todays standards, but the wonderful sound they produced has a lovely character that has been used in many popular recordings of that era. The STVC is Waldorf's 2nd strike (remember the famous Streichfett synthesizer) to bring back this previously extinct species of string synthesizers.

The vocoder, short for voice coder, has originally been developed for transmission of voice signals for telecommunication. It allows speech transmission with very low bandwidth and results in a somewhat distorted, but intelligible speech. If applied to musical signals, the resulting signal sounds more or less like robotic speech or singing, and it is easy to extend it to polyphony. This is what the vocoder in STVC is for.

And now have fun with your STVC!

Your Waldorf Team

About this Quickstart

In this quickstart manual you will find the basic knowledge to get to know STVC.

ⓘ The complete manual can be downloaded here: **www.waldorfmusic.com/stvc**

Notice

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Control Features & Connections

Front Panel
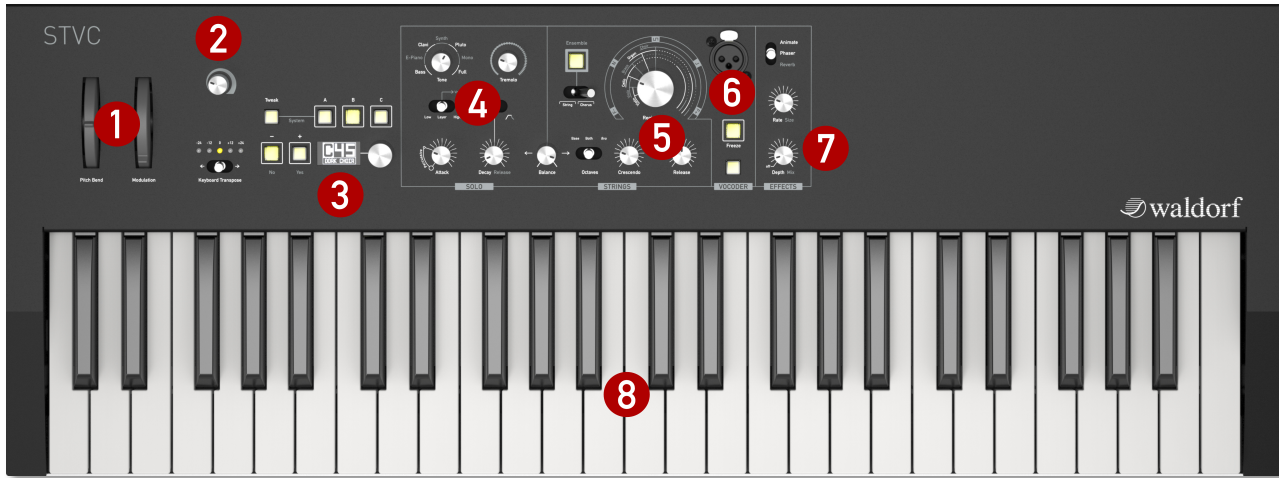
1) Wheel Section

2) Master Volume

3) Control Section + Display

4) Solo Section

5) Strings Section

6) Vocoder Section with Microphone Input

7) Effects Section

8) Keyboard

Rear Panel Connections

1) Audio Outputs

2) Headphones Output

3) Pedal/Line Inputs

4) USB 2.0 Port for power supply and MIDI connection to computer

5) MIDI In / MIDI Out

6) Power Switch

General Safety Guidelines

⚠ Please read the following safety tips carefully! They include several precautions you should always observe when dealing with electronic equipment. Read all of the instructions before operating your device.

Suitable Operating Conditions

- Use the device in enclosed rooms only.

- Never use the device in damp conditions such as bathrooms, washrooms, or around indoor swimming pools.

- Do not use the device in extremely dusty or dirty environments.

- Make sure that adequate ventilation is available on all sides of the device.

- Do not place the device near heat sources such as radiators.

- Do not expose the device to direct sunlight.

- Do not expose the device to extreme vibrations.

Power Supply

- Unplug the device when you are not using it for longer periods.

- Never touch the plug with wet hands.

- Always pull the plug when unplugging the device - never the cable.

Operation

- Never place objects containing liquids on or near the device.

- Place the device on a stable base only. Use a suitable platform.

- Make sure no foreign objects find their way into the chassis. If for some reason this occurs, switch the power off, unplug the device, and consult a qualified repair center.

- This device can generate volume levels that may do irreparable damage to your hearing when used on its own or with amplifiers, speakers, or headphones. For this reason you should keep the volume at tolerable levels.

Maintenance

- Do not open the device or remove the cover. Refer all service and repair tasks to qualified personnel. The interior of the chassis contains no components that require user maintenance.

- Use only a dry, soft cloth or brush to clean the device. Never use alcohol, cleaning solutions or similar chemicals. They will damage the surface of the chassis.

⚠ **Warning!** This device can cause sleep deprivation and sudden levitation.

Proper Use

This device is designed exclusively to produce low-frequency audio signals for the purpose of generating sound. Any other use is prohibited and voids the warranty extended by Waldorf Music. Waldorf Music is not liable for damages due to incorrect use.

⚠ This device, used with amplifiers, speakers or headphones, can generate volume levels that may result in irreparable damage to human hearing. For this reason, volume should be kept at moderate levels at all times.

⚠ Do not place your STVC anywhere near children, mothers-in-law or pets. This could lead to critical interactions.

Setup and Connections

The Waldorf STVC comes complete with:

- the Waldorf STVC Synthesizer itself
- an external USB power supply (DC 5V / 1A)
- a gooseneck microphone
- this printed Quick Start manual

Please ensure all the above items were included. If something is missing, contact your local dealer.

We recommend that you save the original packing material for future transport.

Setup

Place the STVC on a clean, even surface.

Connections

In order to get started with your STVC you will need an AC power outlet or a suited computer with USB port, a mixing console, an amp, and/or an audio monitor such as a speaker cabinet or a headphone.

You can also use a computer or sequencer to make use of STVC's MIDI features.

⊘ To connect the devices:

1. Turn all units off.

2. Connect the STVC's **Audio Out** to your mixing console or your computer audio interface. Optionally connect the stereo **Headphones** outputs to a headphone.

3. Connect the USB power supply that came with the STVC to a suitable AC power outlet.

4. If you want to use a computer, connect the STVC's **USB** port with a USB cable to your computer (Windows or macOS). Thereafter, the STVC becomes automatically available as a MIDI device. In this case, the computer delivers the power.

5. Optionally you can connect the STVC's MIDI ports to a MIDI interface or other MIDI devices.

6. Connect the included gooseneck microphone to the **Microphone XLR Input** jack on the front panel of STVC. This is necessary for working with the vocoder.

7. Press the power switch on the rear panel.

8. Then switch on your computer (if connected), the mixing console and finally the amplifier or active monitor speakers.

⚠ The overall volume of the STVC can be controlled with the **Master Volume** dial. This also affects the **Headphones** output.

⚠ If you do not choose to connect a mixing console, you can patch the STVC's output signals directly to an amplifier or an audio interface. Use an input usually called Line, Aux or Tape input.

⚠ The STVC's audio outputs deliver unbalanced line levels. When connecting to an amplifier, a mixing console or an audio interface with automatic balanced/unbalanced sensing inputs, please make sure to use TS mono jack cables and not TRS stereo jack cables.

⚠ Before connecting and disconnecting the STVC to a power supply source, turn your amp's volume control all the way down to avoid damage due to on/off switching noise. The STVC produces a high level output signal. Please take care that the connected playback device is suitable for the high level of an electronic instrument. Never use the microphone or phono input of the connected amp!

The Rear Panel Connections

The STVC provides an analog stereo audio output and a headphones output. Both outputs are affected by the setting of the Master Volume control. Use 2 TS mono jack cables to connect the Audio output to a mixer.

Audio Output

Connect the left and right jack with 1/4-inch mono plugs for using STVC as stereo device. If you want to use it as mono device, only connect the **Right/Mono** jack of the output pair with a 1/4 inch mono plug and make sure not to connect any cable into the **Left/Stereo** jack.

Headphones Output

Here you can connect any headphone with a 1/4-inch stereo plug. The headphone output uses the same signal as the main output.

Pedal/Line Inputs

The **Line** input allows you either to connect any suitable expression pedal or a mono jack to send a line audio signal into the STVC.

> ⚠ The expression pedal won't have any effect unless it is assigned to a destination in the Tweak menu.

The **Line** input can be used as a line signal input for an external vocoder speech or carrier signal.

> ⚠ In the System settings, you can define if the Line input works as speech or carrier signal input. If set to Off, it works as Expression pedal input.

A sustain pedal switch connected to the **Sustain** input enables you to hold played notes as long as you press the pedal.

The USB Connection

The USB connection of the STVC allows:

- Power supply via USB when connected to a suitable computer

- Power supply via the USB power supply

- Transmitting and receiving MIDI data

- Dumping of firmware updates to the STVC

> ⚠ Make sure that you use a USB 2 port on your computer and a USB 2 compatible cable to avoid problems with data transmission.

The **USB** port connects the STVC to your computer with the following system requirements:

- Windows PC: Windows 7 or newer, a USB 2 port

- Apple: Intel Mac with macOS 10.9 or newer, a USB 2 port

MIDI In/Out Jacks

Although we can hardly believe it, the STVC might not be enough for some people, so we added an elegant way to control external sound modules with the STVC keyboard: just connect the DIN MIDI out to your external gear and play. For use with a computer we recommend the **USB** port.

First Start

Switching On / Off

⟩ Switch the STVC on:

- Press the Power switch on the back of the STVC. After this, the display shows the software version and the STVC is ready to play.

⟩ Switch the STVC off:

- Press the Power switch again to switch off the STVC.

Master Volume

Use the **Master Volume** to control the STVC's overall volume. The volume setting is global and affects the level of the audio outputs including the headphones output.

Playing and Selecting Sounds

Move the **Rotary** dial right of the display or press the **Plus/Minus** buttons and the buttons **A/B/C** of to navigate through sounds and banks. When leaving the factory, bank **A** and **B** contain factory presets and bank **C** is unused so you can put your own sounds there. Note that whenever the vocoder button is lit, you might not hear anything unless you speak into the microphone and press at least one of the keys.
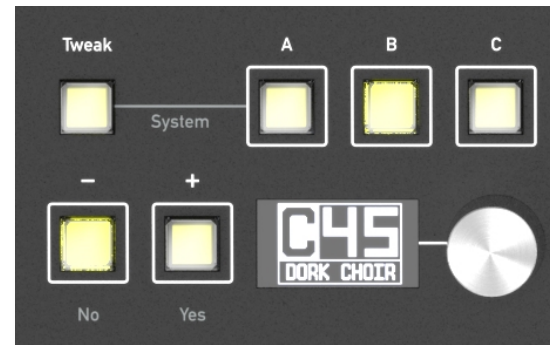
Editing Sounds

The front panel offers easy access to the most important aspects of the sound. Turning a dial clockwise increases the corresponding value; turning it counterclockwise decreases it. Move a switch to its desired position. Keep in mind that most of the switches offer more than two states.

(!) More specific control is offered by the tweak functionality, which is explained in the full manual.

Saving Sounds

Press and hold any of the Bank buttons **A/B/C** until the display offers to store the sound and **Plus/Minus** buttons are flashing. You can select a new destination with the **Rotary** dial. Press **Yes** to store to the selected destination, or **No** if you have made up your mind and decided not to store this sound.

What about MIDI and System settings?

To access system settings, please hold **Tweak** and press the **A** button. Select item to be changed by the **Plus/Minus** buttons and change the setting using the **Rotary** dial.
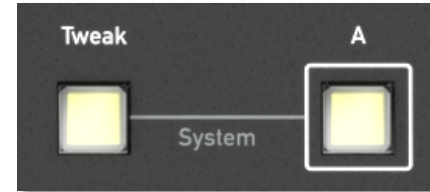
(!) A complete overview of all system settings can be found in the full manual.

(!) Hold **Tweak** and press the **NO** button to send an All Notes Off message. This ends all sounding voices.

The Control Panel

The Wheel Section

Use the Pitch bend wheel to alter the pitch of the played notes. It will jump to the center position when you release it.

The Modulation wheel sets the vibrato level and speed of Strings and Solo sections. The state of the Modulation wheel is stored with the sound program. When you recall a sound program, the vibrato settings are also restored. As soon as you move the Modulation wheel, this replaces the stored setting.
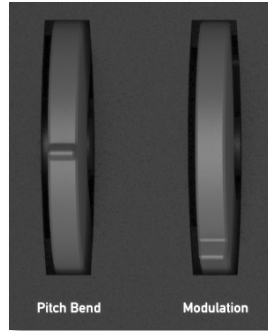
ⓘ If you select the Pluto tone in the Solo section, which contains an additional vibrato, this is synchronized to the vibrato of the Modulation wheel.

The Keyboard

You might have used a similar one before, but as it is rarely described elsewhere, this is how you use it: Hit any black or white key to hear a sound. Also the pitch of the sounds are usually higher the more you play on the right side and lower on the left side. The white keys consist of notes from the C major scale, if you use another scale you will very likely have to use some of the black keys as well.

The Control Section + Display

Here you can select factory or user sounds, save edited sounds and make basic settings for STVC.
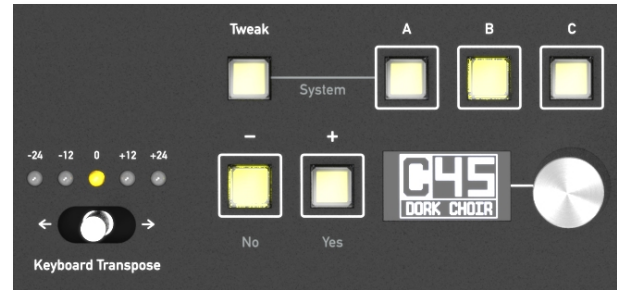
> ⚠ Sound selection and storing sounds is described in the previous chapter.

> ⚠ More specific control is offered by the tweak functionality, which is explained in the full manual.

Keyboard Transpose

Although the MIDI standard requires 128 keys, STVC offers only 49 of those. To compensate this limitation, we added this switch to enable you to reach more keys that physically accessible. Switch to the left to go one or two octaves lower, right switch to go one or two octaves higher.

The Balance Dial

The sound engine consists of two parts: Strings and Solo, clearly labeled on the panel. **Balance** controls the mix of these two. The leftmost position selects the Solo section only, while on the far right only the Strings section is audible. In the middle position, both Strings and Solo are mixed with full scale.
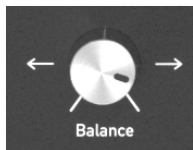
Strings Section

The Strings section mimics string and other sounds, similar to how string machines of the 1970 did this. Don't expect realistic string sounds here - expect realistic string machine sounds.

Registration Knob

This is the oscillator bank, equalizer and formants setting for the sound of the Strings section. For string sounds, this fades smoothly through Violin, Viola, Cello, Brass, Organ, Choir as well as combinations of the registrations. If the vocoder is active, the registrations are as follows:

- **F-** Formants lowered, resulting in a more male or monster like voice

- **N** – Neutral setting

- Squarish carrier signal

- **J** – Jitter applied to carrier, resulting speech sounds hoarse or noisy

- **F+** Formant frequencies increased, resulting in a more female or childish voice

Octaves Selector

Three octave positions are available here:

- **Base**: Normal octave setting

- **Both**: Normal and 8va octave mixed

- *8va*: One octave higher than base octave

Crescendo

The attack rate for the strings envelope. We called it crescendo to honour a well-known instrument.

Release

This is the release rate for the strings envelope. Sustain is always at 100%, so there is no need for a decay setting.

Ensemble Button

This button controls the Ensemble effect, an advanced chorus with multiple delay lines and modulation LFOs. It is an essential part of the typical string sound.

String/Chorus Switch

Three modes for the ensemble effect can be selected here:

- **String** (left position): The classic ensemble effect for string machines with LFOs at two different frequencies.

- **String + Chorus** (middle position): Combination of string and chorus for maximum depth and width of the sound.

- **Chorus** (right position): Normal chorus effect with only one LFO.

Solo Section
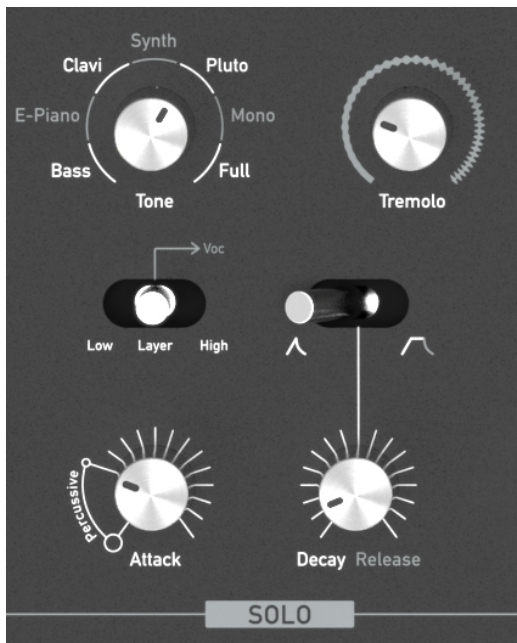
The Solo Section is a 16-voice synthesizer that comple-ments the strings.

Split/Layer Selector

Sets the keyboard range for the solo section:

- **Low** (left position) played on keys lower than the split key. Holding down a key while selecting "Low" sets the split key to highest note for the solo layer.

- **Layer** (middle position) plays on all keys. If the vo-coder is active, solo is mixed to the vocoder carrier and the inherent filter is bypassed.

- **High** (right position) played on keys higher or same as the split key. Hold down a note while switching to set the split key.

Tone

This is the sound setting for the Solo section. Moving this knob blends smoothly through sounds named Bass, E-Piano, Clavi, Synth, Pluto, Mono and Full. Note that sounds only have a faint resemblance to their names, which is common for the genre of String synthesizers. Bass plays an octave lower, Mono and Full are monophonic sounds.

Tremolo

Rate and depth of the stereo tremolo effect. If the Solo section is played through the vocoder, tremolo reverts to mono.

Attack

In addition to setting the attack rate of the envelope, the first quarter controls how much of a percussive click sound is added on the start of a note.

Decay/Release

The release or decay rate of the envelope, depending on the selected **Envelope Mode**.

Envelope Mode Selector

This switch controls the envelope operation:

- In the left position, the envelope has no sustain and decays immediately after the initial attack. This is perfect for clavinet or bass sounds.

- In the right position, notes are held at full sustain level until keys are released.

The Vocoder Section
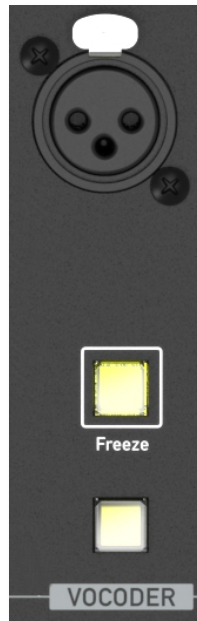
Vocoder Button

Press this button to activate/deactivate the vocoder. When active, this button lights up.

⚠ To hear the Vocoder in effect you need to talk into a connected microphone and press at least one key on the keyboard simultaneously. Instead of the microphone input signal you can use a line signal coming through the pedal input or a recorded freeze loop (see below).

Microphone XLR connector

Here you can connect the inlcuded gooseneck microphone or any other suited microphone.

> ⚠ Note that only 2.4 V phantom power is supplied, microphones requiring 48 V or 12 V are not supported.

Freeze Button

Press and hold the **Freeze** button to record the microphone singal. To specify this, only the filter coefficients, not the audio signal itself is recorded. The recorded signal is then played back in a loop. With the **Save** function you can save the audio loop, so that it remains after switching off. Otherwise everything is gone after switching off the STVC. Keep in mind that only one audio loop can be saved.

> ⚠ The maximum recording capacity depends on the incoming audio signal and should be about 20 seconds.

> ⚠ If you want to use a recorded Freeze signal again, press both the **Vocoder** and the **Freeze** button. Otherwise a new recording procedure starts and overwrites the internal memory.

The Effects Section

The effect section offers three effects, which can be used simultaneously.

Effect Selector

This switch selects which effect can be adjusted by the **Depth** and **Rate** dials. Note that all three effects can be combined simultaneously.

• **Animate:** A Low Frequency Oscillator (LFO) modulates the Strings registration. Depth and rate are controlled by the **Depth** and **Rate** potentiometers.

• **Phaser**: Classic phase shifter effect. Feedback and depth are adjustable with **Depth** according to the most pleasing settings we could find. Rate is controlled, as you can certainly understand it, by **Rate**.

• **Reverb**: Reverberation with adjustment of size and dampening of the ambient room according to

useful settings by the **Rate/Size** knob, while **Rate/Mix** controls the wet/dry mix.

Rate/Size

Controls Rate for the **Animate** and **Phaser** effects and room size for **Reverb**.

Depth/Mix

Controls Depth for the **Animate** and **Phaser** effects and mix for **Reverb**.

Additional Information

Technical Data

Power Supply

Maximum current consumption:	200 mA
Input Voltage:	5 V DC

Dimensions and Weight

Width:	740 mm
Depth:	280 mm
Height (including knobs):	100 mm
Total weight:	7,5 kg

Product Support

If you have any questions about your Waldorf product, feel free to contact us via one of the three options listed below:

① Use the support form at our website. This is the most efficient and fastest way to contact us. Your questions will be forwarded immediately to the resident expert and you will quickly receive an answer.

https://support.waldorfmusic.com

② Send us a letter. It will take a bit longer, but it is just as dependable as the support form.

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Lilienthalstr. 7
53424 Remagen, Germany

③ Visit our support forum at www.waldorfmusic.com