



Virtual V-4 Element Manual

VirtualV4 Element

Livid's "VirtualV4" Element is designed to turn an Edirol V4 video mixer into a control surface for Livid Union. Most of the V4's buttons and knobs output some sort of MIDI messages, so, in principle, the V4 could be used to control Union, just like any other MIDI controller, such as an M-Audio Oxygen 8.

However, the V4's MIDI output could be politely described as "non-intuitive." We found that with some additional programming, the V4 is turned into an extremely powerful controller for Union, using an existing interface that is very familiar to V4 users. Once you start using the V4 with Union, you may find your V4 will only need a power source and a MIDI cable to your computer!

Getting Started

Opening the VirtualV4

Once Union is open, select "Elements" from the "Modules" menu, or just press cmd-E. In the Element window, select "VirtualV4" from the "Controls" menu and click the "open" button. This will load the VirtualV4 window in Union.

When first using the VirtualV4, it is best to open the Union application, start with Union's "Sample Project," then open the VirtualV4 Element. This will ensure that the vV4 is populated with it's default effect settings for the "Memory" knob.

Configuring your Edirol V4 for MIDI output

By default, the Edirol V4 does not output MIDI information. Configuring each control can be a time-consuming task of navigating the V4's primitive menu system. In the VirtualV4, we have programmed a process to make MIDI setup as easy as possible, so the only menu item you need to set in the V4 is the "Device ID." You may have already created a MIDI setup for your V4, in which case you will want to configure the VirtualV4 to match your settings.

To avoid future confusuion....please note that the Edirol V4's BPM/CONTROL knob and TAP button do not send out MIDI, and therefore can't be used to control Union or the vV4. The vV4's BPM and TAP functions do communicate with Union's TEMPO module.

The Easy Way

Observe - This "Easy Way" will overwrite any existing MIDI Settings of your V4, via a MIDI sysex dump. If you wish to preserve the MIDI settings of your V4, you will not want to use the "Easy Way."

Long Version

Connect MIDI Hardware - First, you'll need to connect the MIDI input and output from your V4 into a MIDI input/output device. This establishes MIDI communication between your Edirol V4 and your computer.

Set Device ID - Connect a preview monitor (such as a TV) to the V4's "PREVIEW OUT" jack. On your Edirol V4, press the "MENU" button to display the V4 menu on the preview screen. Select "MIDI Setup" and press "ENTER" to enter the MIDI setting screen. Select "Device ID", and set it to "0x00" (which is hexadecimal for "0") You can use any ID you wish - just remember what it is!

Send Setup from Computer to V4 - Click the blue "MIDI" button in the VirtualV4 interface to open the MIDI Configuration window.

In the "DEVICE" panel of this window, select the MIDI output port on which you will be sending data to the VirtualV4.

Set the Device ID of the VirtualV4 you wish to configure (most likely it is "0").

If you have particular controller numbers you would like to configure the Edirol V4 to use, enter those numbers in the "SETTINGS" area of the window.

Press the "send" button to send the current setup to the V4.

Congratulations - your V4 is setup to transmit MIDI to Livid Union!

Move the knobs and click the buttons on your Edirol V4, and the corresponding controls in the VirtualV4 will animate and send data to Union.

If you changed the settings at all, you will probably want to press the bottom "save" button to write the setup as the default MIDI setup. This file is saved in the "Defaults" folder as "VirtualV4MIDI.txt" and is read automatically when the VirtualV4 Element is opened in Union.

The Less Easy Way

If you have an existing MIDI setup programmed in your Edirol V4, you will likely want to configure the VirtualV4 to match that setup. Navigate the Edirol V4's menus to confirm the MIDI settings for all the controllers. If there are any that are off, set them to the desired controller number.

In the Virtual V4's window, select the MIDI port and channel ("Tx Channel") on which the v4 is sending data. Click the blue "MIDI" button in the VirtualV4 interface to open the MIDI Configuration window.

In the "SETTINGS" area of this window, enter the controller numbers that correspond to the settings you noted in the Edirol.

The VirtualV4 is now configured to respond to your Edirol's MIDI output.

Press the bottom "save" button to write the current setup as the default MIDI setup. This file is saved in the "Defaults" folder as "VirtualV4MIDI.txt" and is read automatically when the VirtualV4 Element is opened in Union.

Using the VirtualV4

The "VirtualV4" is designed to replicate the experience of mixing analog video sources on an Edirol V4. The basic architectures of Union and the V4 are quite similar: two channels of video (A/B), four layers of effects per channel, and instantaneous control of your media. Once you have configured your Edirol V4 for MIDI, you can use its buttons, knobs, and Tbar to mix and effect video and Union, with onscreen feedback of the controls actions. You can, of course, mix analog video inputs with the Edirol V4 while controlling Union's digital media at the same time!

Following are explanations of each area of the V4's interface and how they relate to controlling Union.

Transition & Transform Buttons

The three buttons "Mix", "Wipe", and "EFX" change the action of the Tbar as follows: "Mix" will crossfade between A and B. "Wipe" will engage the "Metrics Position X" effect in Union, moving Channel A's image from left (offscreen) to center. "EFX" will engage the "Metrics Zoom" effect, changing the size of Channel A's image from 0x to 3x normal size.

The "BPM Sync" button will automate the action of the Tbar according to the BPM in the VirtualV4's display. Note that the Edirol V4's BPM display is irrelevant for this program, since there is no way to transmit BPM information from the Edirol hardware to Union.

The transform buttons behave as you would expect: if the Tbar is leaning to Channel B, the Transform A button will result in only Channel A's image output, until the Transform A button is released.

Effects and Memory

Each channel has four effects buttons, corresponding to Union's four Effects layers. Just like the sliders and knobs in Union's Main interface, you can assign any Effect Parameter to these four buttons. To activate an effect, press one of the buttons on your Edirol V4, then use the "Control" knob to change the value of that parameter. The Control knob will change the value of the most recently activated effect.

The Virtual V4 emulates the effect button behavior on the Edirol V4. As a result, you are not able to simultaneously use all four layers of effects that Union offers. (If this bothers you, let us know! We decided it was more important to emulate exactly the V4 to reduce performance time-confusion.)

Of course, the memory knob can be used to store and recall different arrangements of effects on the A and B channels. Just assign some effects and parameters on A and B, then turn your Edirol V4's "Memory" knob to a new location number.

These setups are saved with your Union Project, and restored when a project is open. When you first open the Virtual V4, it will automatically load the Virtual V4 settings in that project.

Input Select

The input buttons can be used to select different video clips to play on Channels A and B, as well as turn on video digitizer input. Buttons 1-3 on will select video clips 1 thru 3 on Channel A, and button 4 will turn the Video Input on, much in the same way the "Clips/Video In" buttons work in Union's Main interface. Channel B's input select buttons will work similarly, but input select 1-3 will trigger movies 4-6.

There are probably a million different maps that could be used for the Input Select buttons, each satisfying a different performer's desire. Let us know your ideas, or download the source code (see below) and make your own in Max/MSP!

BPM Control & Tap

BPM control is tied to the "Tempo" module in Union, and can only be controlled onscreen with your mouse or "tab" key. It is unfortunate that the Edirol V4 does not send MIDI clock or tap information, but that's the way it is! As a result, the BPM display of the Edirol won't match the display in the Virtual V4.

If you want everything to look matched and you are using an external MIDI clock to sync Union, you can send that clock to the Edirol V4 by turning the "Sync V4 to MIDI Clock" switch on in the Virtual V4's MIDI

configuration window. If you are using the V4 to mix analog source AND Union at the same time, then this will be a functional bonus!

Output Fade

By default, the output fade knob will affect Union in same way the knob works on analog source for the Edirol V4. Turned all the way to the left, output will be black. In the middle, images will display at normal brightness. Turned all the way to the right, the output will be fully white. But because the Virtual V4 is so damn cool, you can of course remap this knob to any effect parameter you want, and it will act on whatever the current layer is, as assigned in the main Union interface.

Previews

On computer systems with smaller monitors, the Virtual V4's window will likely cover the preview windows of Union's main interface. If this is the case for your setup, you will probably want to turn the preview windows on, using the "V-4 Previews" button in the top right of the window.

About

The VirtualV4 is merely a patch designed in Max/MSP, saved as a collective. You can download the source code for the VirtualV4 from

<http://www.lividinstruments.com/elements/virtualv4/VirtualV4-src.zip>

Special thanks to Brian Dressel of OVT Visuals for testing and inspiration!

You will need cycling74's Max/MSP programming environment. For more information on Max/MSP, visit <http://www.cycling74.com/products/maxmsp.html>

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