



Open Sound Control

By: Richard Cadena



OSC is a powerful and flexible way of controlling a variety of systems, including media servers like Resolume Arena.

If Open Sound Control is really 21 years old—and it is—I have a lot of catching up to do. OSC was completely off of my radar for most of those years; it came to my attention after seeing a wireless remote controller at LDI about six or eight years ago. I was effectively able to ignore it, but now it is seemingly listed in most every media server spec you come across. My fear of missing out got the better of me, so I'm diving in.

Two years ago, I was working on a show with video projection, and it offered the perfect opportunity to use

MIDI Show Control (MSC) to cue video from the lighting console that I was programming and operating. Since the media server was a Mac running QLab, I could have used OSC to trigger the video. But time was short, and while I had used MSC before, I knew virtually nothing about OSC and didn't have time to research it.

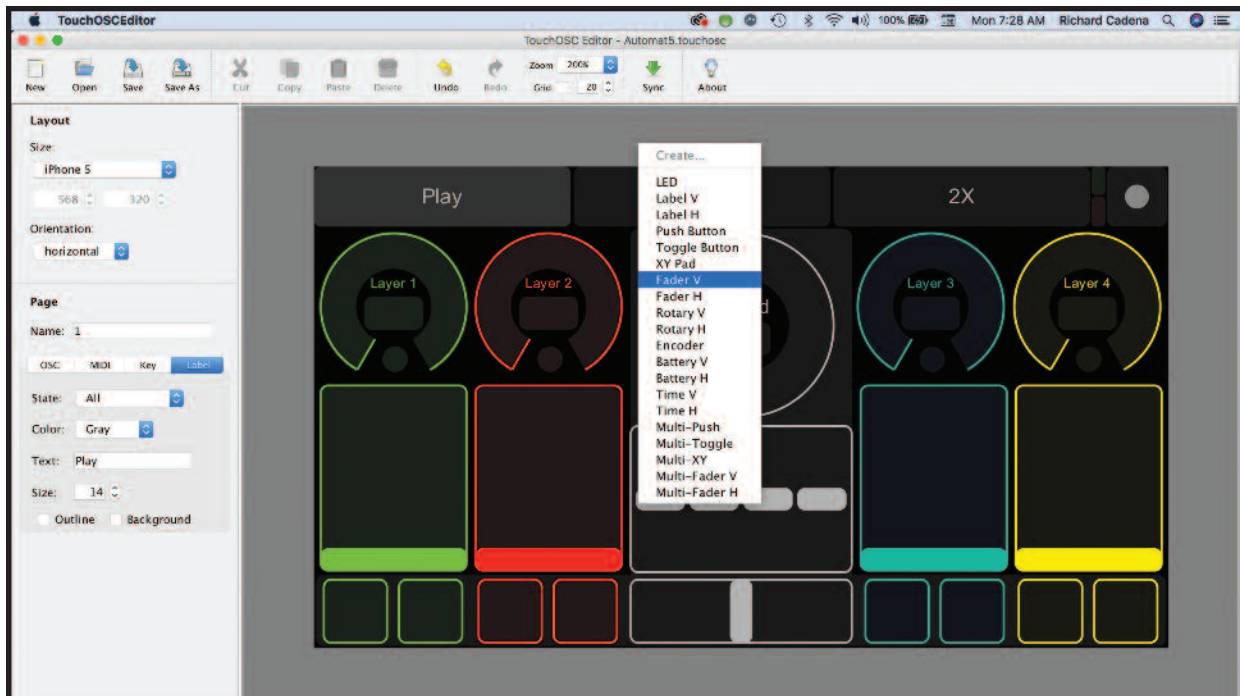
In retrospect, using MIDI was the right choice because it was very quick and easy to set up and use. Had I wanted wireless control using a remote handheld or tablet, or had it

been a more complex system with multiple controllers on an Ethernet network, it would have made more sense to use OSC.

MIDI has been around since 1983 and MIDI Show Control since 1991. They're ancient by technology standards. They work just fine, but they are slow and have limited abilities. OSC, on the other hand, takes a more modern approach. As a result, it has much greater capabilities. It's much faster, it offers much more granular control, it's very powerful, it can be very simple to use, and there are lots of very inexpensive apps that allow you to take advantage of it. And because it's an open protocol, you could roll your own, like Zoltán Pálffy did with his Linear OSC Controller for Resolume Arena/Avenue

(<http://palfyzyoltan.hu/?url=controller>), if you're so inclined. But that requires a pretty deep understanding of computer programming and a considerable investment in time to study the protocol and to write and debug the code. Most users, like me, are happy to take existing solutions and customize them to your heart's content.

For my introduction to the world of OSC, I downloaded and ran Resolume Arena version 6.0.6 (rev 60749) on my MacBook Pro and TouchOSC v1.9.9 on my iPhone 6+ (\$4.99). This is the first time I've ever used Resolume Arena and I'm running the demo version. It has complete functionality, although the video output is watermarked, and, every once in a while, you have to listen to a robotic voice



The TouchOSC Editor allows you to create a custom layout, using a variety of control attributes, and assign OSC addresses to each.

pronounce “Resume,” reminding you how much you would really like to find a gig to justify the \$980 price tag.

To configure and customize TouchOSC for your particular application, you need to download and install TouchOSC Editor. It’s a simple application that allows you to customize a template or create your own layout using a selection of items including LEDs, labels, buttons, XY pads (works like a mouse but uses a cursor), faders, rotary dials, encoders, battery indicators, timers, and more. It comes with 14 templates that can be laid out to fit a variety of Apple devices, including iPads and iPhones. In addition, a custom layout allows you to define the number of pixels in the horizontal and vertical orientations.

The magic is in the ability to assign any of those buttons, faders, or encoders to any OSC function. In the case of Resume Arena, it was very easy to create these assignments. All you do is open the app, click on “shortcuts,” and click on “edit OSC.” It will highlight all functions in the app; clicking on the one you want to control via OSC will give you the OSC address of that function. The address will look something like this: /composition/lay-

ers/1/clips/1/transport/position/behaviour/playdirection/composition/select-edclip/transport/position/behaviour/playdirection

When you select a function, it will also give you the OSC Type Tag, which tells you the possible range of values for that function. This is important, because you’ll need to tell the OSC controller what those legal values are.

Once you have the OSC address, you can copy and paste it into the TouchOSC Editor. First you click on the OSC tab in the editor and then on the button, fader, or encoder that you want to use to control the function, paste the OSC address in the window, and set the value range according to the OSC Type Tag. After assigning functions to all buttons, faders, encoders, etc., in the layout, you can sync your layout over a network to the app that runs on your smartphone.

Once it’s synced, you can test it by opening the app and trying it out. The first order of business is to make sure your computer and smartphone are connected on a network, typically Wi-Fi. Since my computer and phone were on the same Wi-Fi network, TouchOSC automatically discovered

that I was running Arena on my computer through the magic of Bonjour as soon as I enabled OSC in the TouchOSC settings. The same thing would have happened with Zeroconf had I been using a PC. After that, when you load your layout on your phone, you should be able to remotely control Arena using your handheld device, unrestricted by cables or wires.

Using Wi-Fi for control during a show may not be the best idea unless you’ve tested it and are sure you have a reliable connection, even if the conditions change. There are steps you can take to make your connection more reliable, like using a mesh network, positioning the transmitter and receivers with a clear line of sight, and using directional antennas. You can also use a wired network, if you can’t trust Wi-Fi. Either way, having the flexibility to customize the layout of your control surface, having the power to control any aspect of your show, and having the resolution to accurately control each parameter makes using OSC a great experience. I’m not sure if I’m ready to abandon MSC completely, but OSC will likely be my first choice on my next project. 📶