EK-DZ
<u>Advanced Laser Router</u>
Dual Input Router - Beyond Setup
v1.0

This document will guide you thru configuring Beyond to us the Advanced Laser Router in Dual Input Router mode.

Requirements:
Minimum Beyond version 2.0
Advanced Laser Router in Dual Input Router Mode
Enttec DMX device

Recommended:
iPad with TouchOSC
Artnet device
Korg NanoKontrol 2

The included files are provided as examples of how Beyond may be used to control the Routers. You may use these files any way you like however, they are offered with no warranty or guarantee that they will perform without errors or flaws. The idea is that these files will provide a basic understanding of what's going on between Beyond and the Router and allow you to create your own scripts or modify the ones provided here.

All code provided assumes the Router has a base DMX address of 1. Any base DMX address other than 1 will require changes to the PangoScripts to support the new base address.

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Unit 1
Import Base PangoScript Files

In this unit, we will look at importing the main Beyond PangoScript to support the Router. There are 3 files required:

Dual Input Router Base_OSC.BeyondCode - When executed, this file will set all the output DMX channels to a pre-defined "default" state, define global variables used by some effects cues and output OSC commands to an iPad, if attached.

Artnet to Router.BeyondCode - If needed, this file will allow the Router to be controlled by an external DMX console or other device supporting Artnet. This would be handy in an environment where a Lighting Director may want control over the color output of the laser projectors. When this file is executed, it will run in a continuous loop until manually stopped. When running, it will monitor Artnet for changes in DMX values. This example file is programmed to monitor Artnet for a change in input DMX channels 1, 2 and 3. This corresponds to RGB on all output projectors. This allows a Lighting Director to make simple changes in laser projector output color without give over complete control of the Router or projectors.

Reset All Sources to A.BeyondCode - This is a unique file that is called upon by a specific reset cue in one of the Beyond workspaces.

The first thing we need to do is turn on the PangoScript tab view.

To do this, click on Settings > User Interface > Setup Administrator Mode. Select 'Tabs on the Right' and select PangoScript. Click OK.
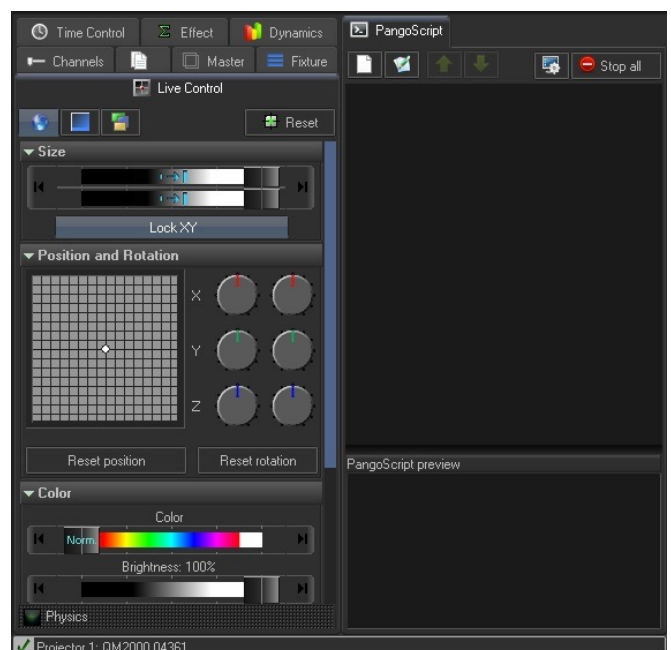
Next, right click within the PangScript Tab and select Load PangoScript…

Be sure to load all 3 PangoScript files.

The file 'Dual Input Router+OSC' will start automatically when Beyond starts. To prevent this, place '//' in front of the 'Autostart' statement within the PangoScript.
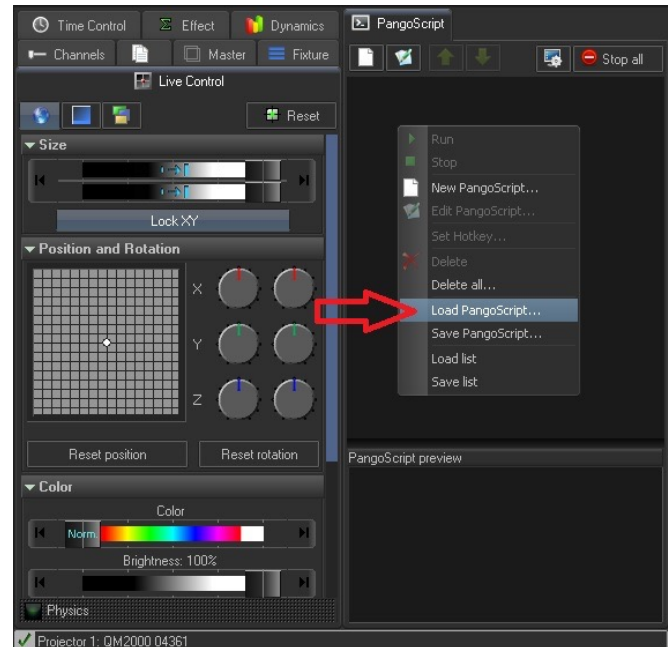
Unit 2

Import Workspace Pages

In this unit, we will discuss adding a few pre-programmed pages to the Beyond workspace that contain a number of effects for the Router.

You will first want to create a new category page by right clicking on the 'All' tab on the left side of Beyond. Select 'Add Category' and type 'Dual Input Router'.

From the Beyond main menu, select File > Open and add new page to workspace. Point your browser to the folder containing the new workspace pages. Select all 6 workspace pages and click open.

Next, right click on the new pages, select 'Page Properties' and change all 6 pages to the 'Dual Input Router' category.
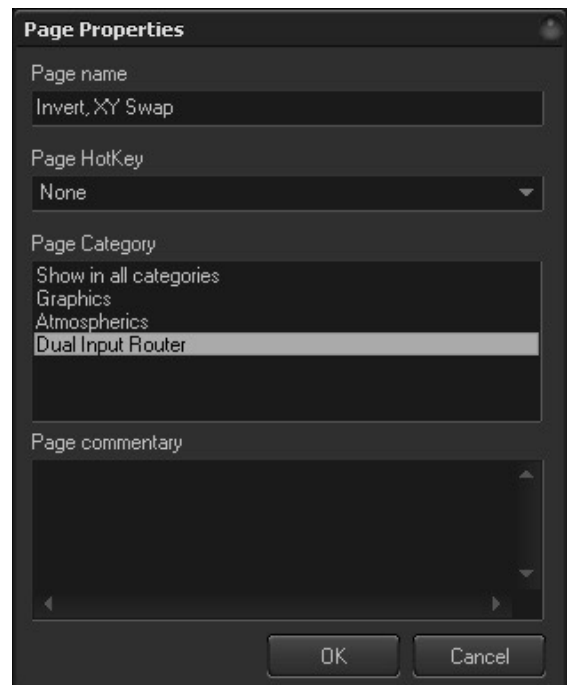
Unit 3

Configure DMX Channel Map

The channel mapping makes programming new cues much easier by labelling each DMX slider within QuickDMX. It also gives a visual representation of the 6 Router outputs within the Pangolin DMX monitor via color coding.

In the above pic, you will see 7 different colored sections. The green section between 109 and 512 are unused DMX channels. The red segment at the top left represents the 18 DMX functions of Router output 1. You may notice channel 1=255, channel 2=127, etc. This shows that X gain is max and X offset is centered. Channel 5, 6 and 7 are all at 255, this indicates that the RGB gain is set to full output.

The file needed for this feature is DmxUserInterface.bdat. There are a couple steps required to import this feature since Beyond doesn't appear to natively allow this, yet.

First, open Beyond and open the DMX Monitor shown above by clicking Settings > DMX > DMX Monitor. On the monitor page, right click any DMX address and select 'Rename'. Type the word test, then click ok and close Beyond. This will force Beyond to create a DMXUserInterface file in the Beyond/system folder.

With Beyond closed, open windows explored and navigate to C:\Beyond\System folder and replace the DmxUserInterface.bdat with the new file downloaded with this document, it will have the same name.

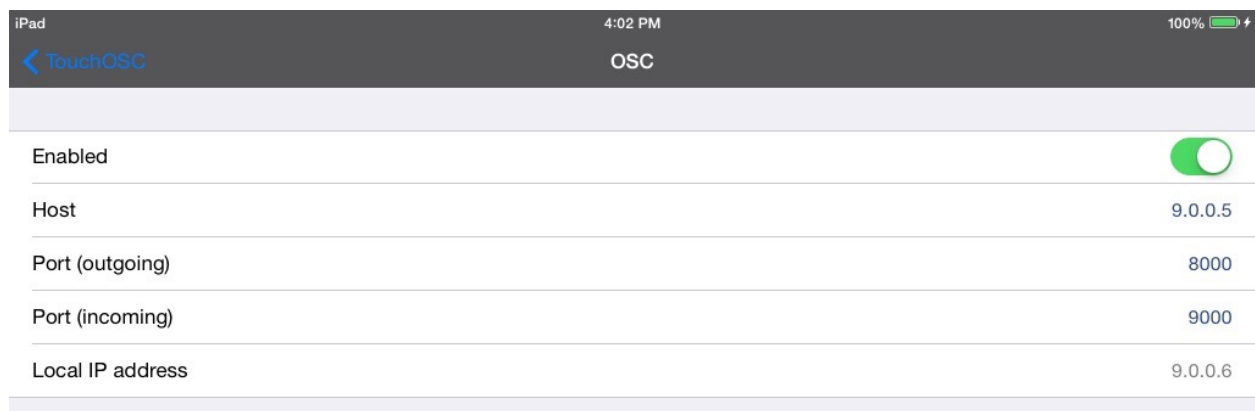When complete, open Beyond and the DMX channel mapping should show up.

Unit 4
Beyond OSC Server Code and TouchOSC

Using an iPad with TouchOSC is not a requirement to run the Router with Beyond however, it does make things more convenient! OSC is the Open Sound Control standard used by TouchOSC. TouchOSC will send pre-defined channel information and values from an iPad over a wireless network to Beyond. Beyond will then act on that data with a pre-defined response. TouchOSC also support bi-direction communications so that buttons and sliders defined on the iPad may be controlled via PangoScript commands.

TouchOSC is not a free application, it must be purchased from the app store and installed on your iPad. More information about the TouchOSC program may be found here: http://hexler.net/software/touchosc

What we provide is the TouchOSC template for your iPad. After purchasing and downloading the TouchOSC app, you will need to download the TouchOSC editor software for a PC or MAC, load the template and transfer the template to your iPad. The template file provided is Dual Input Router_iPad.touchosc.

Once this template is loaded, you will need to attach the iPad to your PC running Beyond over a wireless network. In my case, I have a dedicated wireless network on my PC, creating an ad-hoc network with a 9.0.0.5 address. As you can see below, the iPad is configured with a 9.0.0.6 address and the host is defined with the 9.0.0.5 IP address.
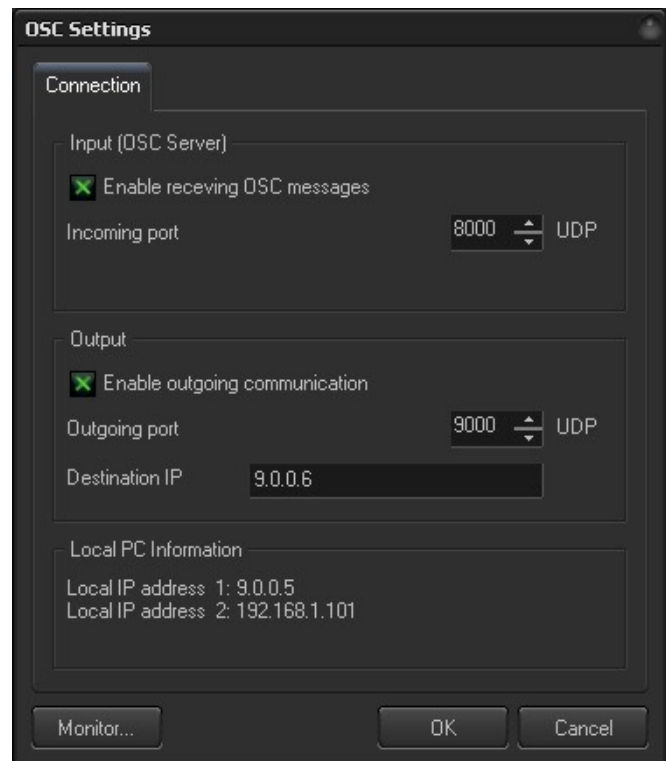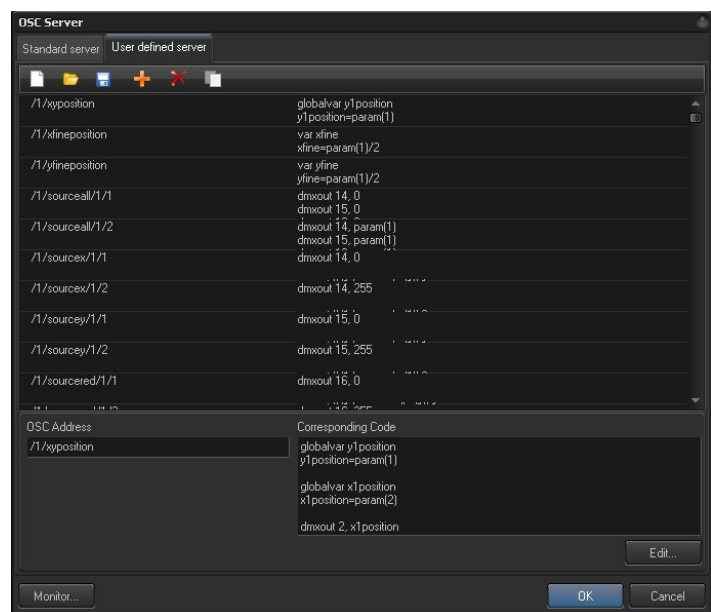
In Beyond, select Settings > OSC >
OSC Settings…

From here, define the IP address of
the iPad.

Your iPad should now have a
connection to Beyond for the OSC
network. The problem is, Beyond
has no idea what to do with the
OSC commands it receives! Next
we will define the OSC Server
configuration and load OSC map.

To load the OSC Server
configuration, click Settings >
OSC > OSC Server.

From here, click the yellow folder and point your browser to the
Dual_Input_Router_OSC_Server.BeyondOSCMap file. This will load the
configuration file needed by Beyond to know how to respond to incoming OSC
commands.

Unit 5

Import NanoKontrol 2 Midi Map

In a way to show the versatility of the Router when combined with Beyond, we have implemented a simple midi mapping for use the the NanoKontrol 2. This midi controller is a very simple and inexpensive device and offers very convenient control over the Router.

The setup is rather simple, the NanoKontrol 2 has a knob and three buttons for each slider. We have assigned the slider to control X/Y gain, the knob to control RGB gain, one button controls X invert, button two turns a projector on and button three is 'flash'. When the 'flash' button is pressed the RGB gain values for that projector are set to max, when released the RGB gain values go to zero.

To load the mapping, click Settings > MIDI > "nanoKONTROL2" settings…

From the menu, click 'Open…' Find the file:

Dual Router MidiMap.BeyondMidiMap

Once loaded, the sliders, knobs and buttons for section 1-6 will control the Router output 1-6.