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DVDlab
* Home
* Screenshots
* Encoder
* Banners

DVDlab PRO
* Home
* Screenshots
* History

DVD-9 DL
* Home

Resources
* Tips & Tricks
* Help 🏴
* Help 🇮🇹
* Help 🟢
* Help 🔴
* Help 🔵
* FAQ
* History

DVD Tools
* Timecode calc
* Re-Aspect

Articles
* H. Theater
* DOF Machine
* 3D Video

Photo-Brush
* Start here

Real-Draw
* Start here

CompactDraw
* Start here

PhotoSEAM
* Start here

Multimedia Builder
* Start here

Other tools
* UltraSnap
* Camera Tools

Using 3D Connexion SpaceNavigator in any, even unsupported application
As an example here I use Hexagon from Daz3D

Intro

There are few devices on the market to compliment the mouse. However only handful are actually of any practical use.

For VideoEditing in EditStudio or DVD authoring in DVD-lab PRO I usually suggest the ShuttleXpress or Shuttle PRO jog-shuttle USB device from countourdesign. It is very easy to setup and its driver is flexible enough to handle any applications that use some keyboard shortcuts for moving in timeline. Shuttle is definitely the best and most flexible device for NLE video editing.

There is another fine USB device on the market oriented more for 3D applications from 3dconnexion, (now Logitech) called SpaceNavigator. It is sometimes bundled with boxed software as well. Unfortunately its official driver doesn't emulate keystrokes or mouse or anything else really, it uses its own SDK that the supported application needs to implement in the code. That is great if your application does indeed implement it (Google SketchUp is a good example), but unfortunately not all applications do that.

So if you happened to have such device for your favorite 3D application, you will not be able to use it for many other purposes, like for example video editing. While it is not as ideal as the Shuttle PRO, it is a fine device and once you have it on your desk it would be shame not to use it.

Fortunately a software author called **RBC9**, created an unofficial driver that can emulate mouse, joystick or keyboard with the SpaceNavigator.

Here is the link to the forum for download and the guide how to install it.

http://www.3dconnexion.com/forum/viewtopic.php?t=336

Here is a direct link to download the driver: *RBC9 - SpaceNav.rar*

Changes: The guide from the link above seems to be for an older version that require you to Browse for the driver during the Driver Update step, but it seems the newest version install the driver to the Windows driver lists, so in my case the installation was as following:

10/06/2010

1. I used the setup.exe from the rar file. In Device manager I used Update driver as the guide describes.

2. Instead of Browse for driver (or on XP Search for Driver) I will select the driver from the list:
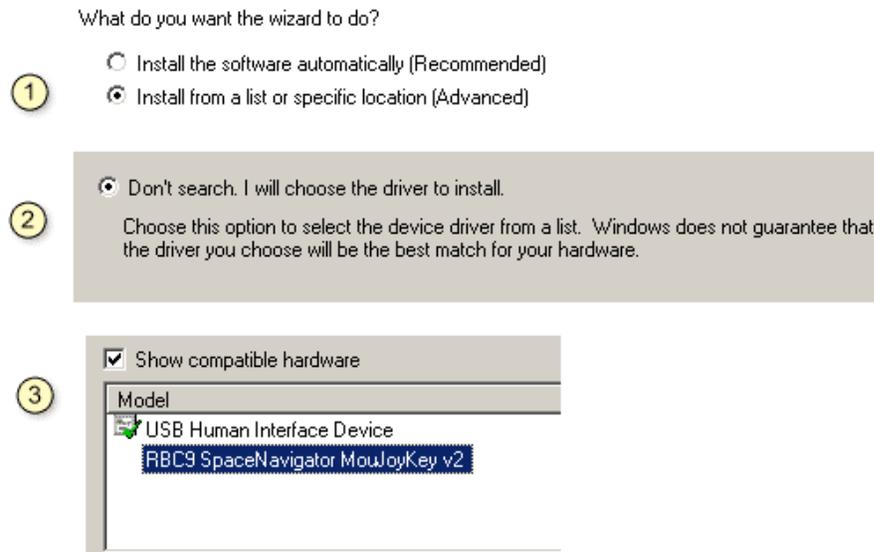
The rest works similarly to the above guide.

I spent some time to tweak various layouts so here is the skinny that could save you some time with your own experimentation:

Create Layout for Daz3d Hexagon:

The driver has no presets for applications (called layouts). To make this an easy task, I will simply describe creating a sample layout for an application.
I could probably choose some 2d application like EditStudio where I will bind the timeline cursor left/right arrow keys to the spin movement of the SapceNavigator which is mostly all what we can use it for in such application.

Instead I will choose a 3D application (that is not directly supported by the official driver) so I can set up various movements like spin and tilt. It will be easy to modify this to any other applications, 3D or not. The software of my choice is **Hexagon** from Daz3D. (The current version 2.5 doesn't support SpaceNavigator, maybe future version will do it directly)

1. Open the RBC9 Space navigator Control panel

2. To create a new layout (or the preset for an application) right click on the Layout Box and Select **Add**
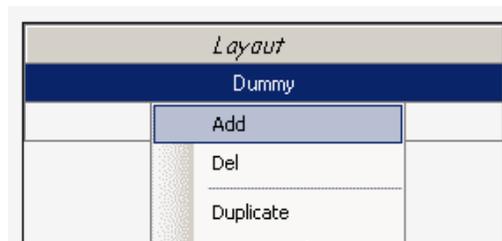
Then simply click on the New Layout text and rename it to Hexagon.

The RBC9 driver can emulate mouse, joystick and keyboard.

I initially tried to bind the various movements of the SpaceNavigator to emulating mouse with keyboard - for example to rotate canvas in Hexagon I normally hold Alt + Left Mouse Button and Move mouse - however I quickly realized this is not very good idea for any normal windows application. Emulating mouse movement will obviously move the cursor, which is pretty distracting when you are not actually doing it with the mouse. Then you have to actually move the mouse cursor back with the mouse. Mouse emulation is more for DirectX games where you have no cursor.

So I will bind the driver to Hexagon only by using keyboard.

Spin

To rotate the canvas (around vertical axis) I can use left and right arrow keys inHexagon, and I want to bind it to the SpaceNavigator Spin movement.
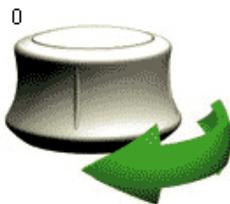
To do this, click on the Spin image. Now in the *Bind To* listbox, right click and Add. This will be entry for Left Arrow. In the *Bind Type* select Keyboard, use *Key press* and select *Left Arrow*. I want to repeat the movement so I will check Repeat Key, and set the repeat rate to bit higher, like 28 ms.

I need to make the SpaceNavigator press left and right arrow depending on the spin direction. I want to emulate the left arrow only when the SpaceNavigator is spinning counter clock wise, so in the Space Axe select **Semi Axe < 0**

The Space Navigator is rather sensitive thing and you don't want to start rotating just by a slight touch. For that I move the DeadZone to above 100.

Here is the settings for left arrow.

On the same Spin image I add another Bind, right click on the *Bind To* box and select Add. This will be for Right arrow when the SpaceNavigator turns clock wise. Same as before, but this time I select *Right Arrow* and **Semi Axe > 0**, like the image below:

That's about the Spin.

The Tilt
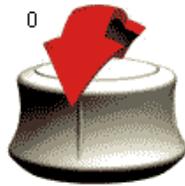
To map the Tilt I can use the Up and Down arrow in Hexagon. This is very similar to the Spin, again I will have to bind two keys:

and

I then also added similar keys for Pan Left/Right and Pan Up/Down using Shift Arrows, but then I decided to remove it in actual application. I can comfortably Pan in Hexagon by pressing the mouse-wheel while moving the mouse or Zoom with the mouse-wheel so there is no need to do it using SpaceNavigator. In fact doing too many things with SpaceNavigator makes it less comfortable to use as I have to be more careful with the movement of my left hand. I found out during the time that doing the Spin and Tilt is all what is needed.

It seems to work very well, but it is a bit fast. To slow it down, I go to Hexagon, open the

Preference Editor in menu Edit, Misc and set the Rotation speed to 0.3
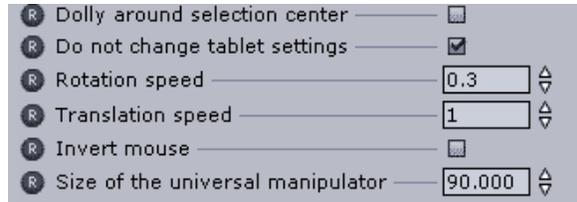
Buttons

I need to use Enter and Esc in Hexagon. After various ideas I settled for this: I will add Enter as Pan Down and Escape as Pan Up.

I will set big DeadZone so it is not trigered accidentally.
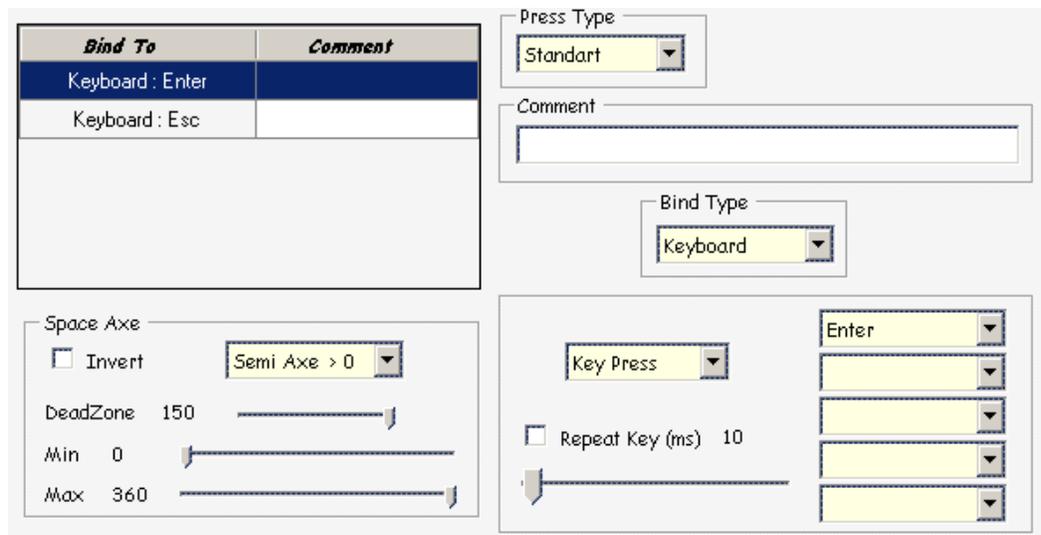
I mapped Shift to the the SpaceNavigator right button.

Now I set the settings to apply for the Hexagon application only. I click on the Application AutoSwitch tab, click Add and type Hexagon.exe
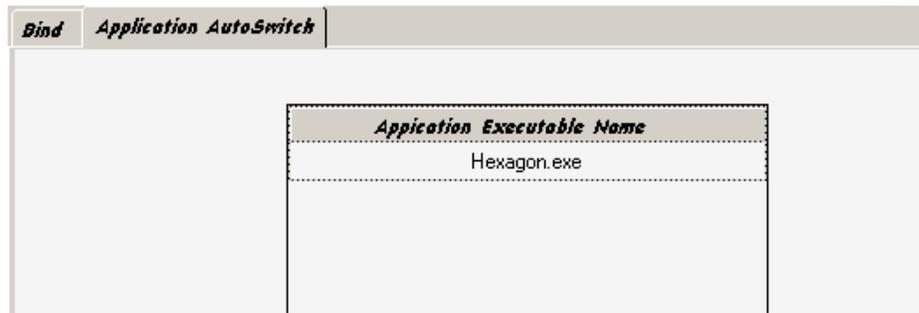
That's all, now I can set the AutoSwitch in the RBC9 so the driver will automatically switch to the layout depending on which application has the focus. Or I can manually Switch the Layout.
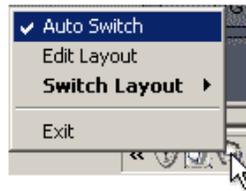
Similarly you can adjust it for your own application.

Here is the whole Hexagon Bind file I created.

A good think is that this driver doesn't affect the applications that are already supported by the 3dconnexion SDK. To avoid any conflict with other supported application, you can create a Dummy layout that will not bind to anything. just simply, Add new Dummy layout, do not set anything, just make it Default Layout. This way by the supported application will use its own SDK implementation without anything else mixing in.
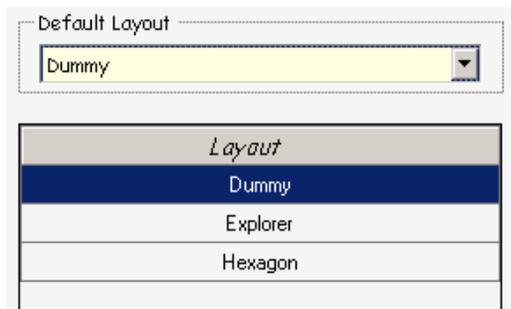
Thanks to RBC9 for wonderful driver.

Advertisement (for our own product)
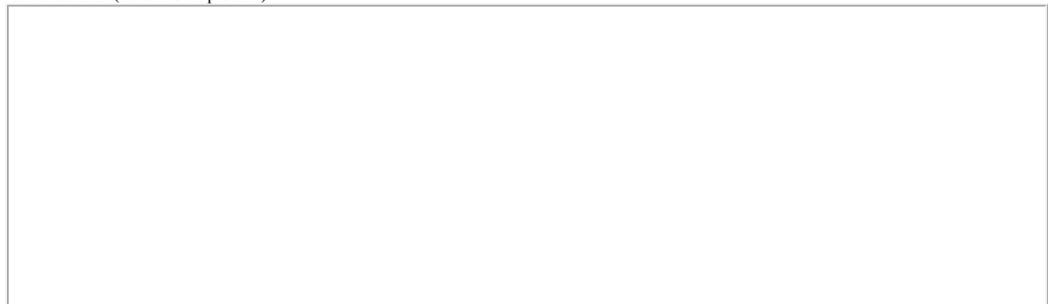
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