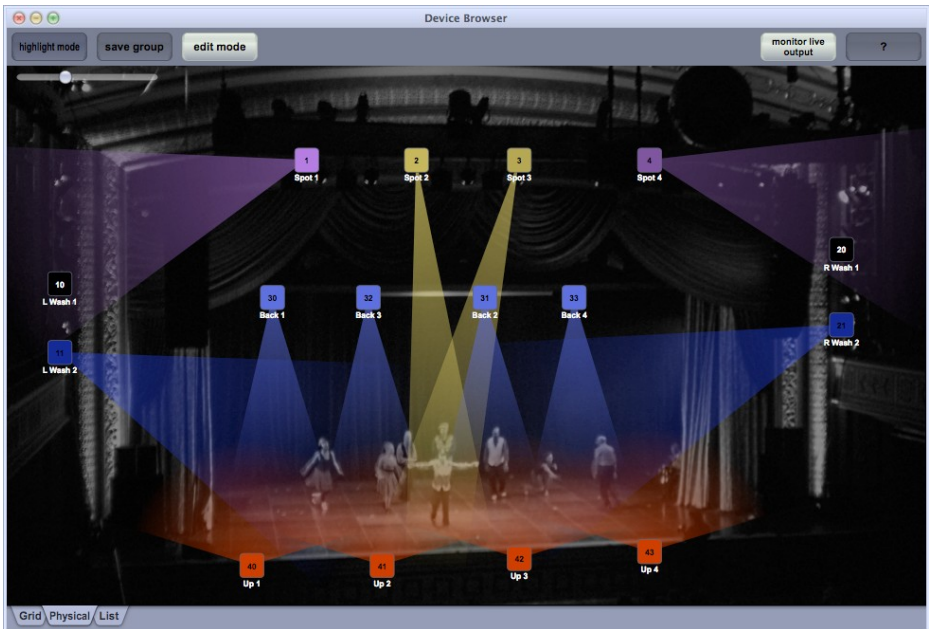


# D-PRO

## Lighting Control System for Mac OS X and PC Windows



Reference Manual – 1.9

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## WELCOME!

D-Pro is a flexible DMX lighting control application for Windows and MacOS computers. D-Pro is both easy to learn and use (making it suitable for smaller installations with less demanding requirements) while being advanced enough to satisfy the demands of multiple-universe theatrical, live event and architectural applications.

This manual contains installation instructions, a quick overview of the workflow (how the various windows relate to each other) and a detailed reference for every feature. Please also see the training videos available at [www.dmxis.com](http://www.dmxis.com) and the inline help available from the “?” buttons within the software itself.

### D-PRO LICENSING SCHEME – 8 UNIVERSE LICENSE

Your D-Pro license is stored permanently on a Unikey USB dongle, which was provided with your purchase. You can install the D-Pro software on as many computers as you wish, but you need to insert your Unikey license into a spare USB socket in order to run the software and generate DMX output.

*When you run D-Pro for the first time, you need to activate your Unikey license. This one-off exercise requires an internet connection. Once activated, you can use your D-Pro Unikey license on any computer without restriction.*

### D-PRO LICENSING SCHEME – 2 UNIVERSE LICENSE

Your D-Pro 2U license must be activated on first use. The activation process requires an internet connection, and will unlock D-Pro 2U on one computer only.

*You can transfer your D-Pro 2U license to another computer at any time in the future by requesting a transfer authorisation from [support@enttec.com](mailto:support@enttec.com).*

*You are permitted to install your license on two computers so long as you are the sole user – for example, if you use one PC for programming and a separate laptop for shows.*

***If you need to run D-Pro 2U on multiple computers simultaneously (for example, running two different live shows on two computers, or running on multiple computers in a classroom environment) you need a separate license for each computer.***

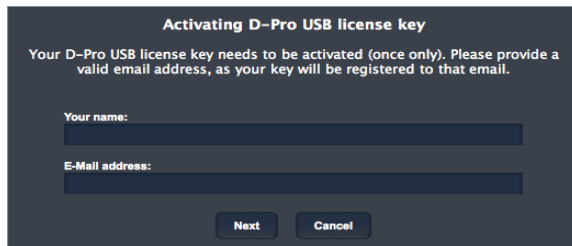


## INSTALLING D-PRO (8 UNIVERSE UNIKEY DONGLE)

Mount the D-Pro CD on your computer, and navigate to the contents.

Now, double-click on the installer (install-windows.exe or install-mac.pkg as appropriate) and follow the instructions.

After installation, insert your Unikey dongle into a spare USB socket and run D-Pro. (You will see the **D-Pro (full version)** icon on your Windows Desktop or the **D-Pro** icon in the main OSX Applications folder). When you first run the application, you will be asked to activate your USB license key.



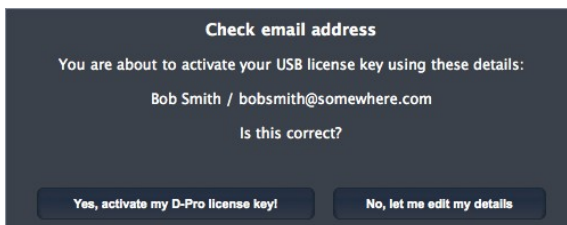
**Activating D-Pro USB license key**

Your D-Pro USB license key needs to be activated (once only). Please provide a valid email address, as your key will be registered to that email.

Your name:

E-Mail address:

Fill your name and email into the dialog box and click 'Next'. You will then be asked to confirm your details:



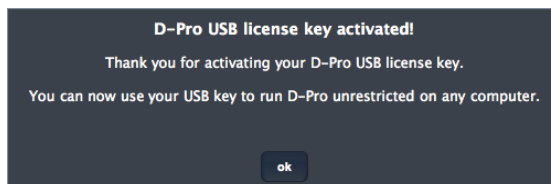
**Check email address**

You are about to activate your USB license key using these details:

Bob Smith / bobsmith@somewhere.com

Is this correct?

Click Yes, and your activation is complete. From this point onwards, your USB license key will work in any computer without any restrictions.



**D-Pro USB license key activated!**

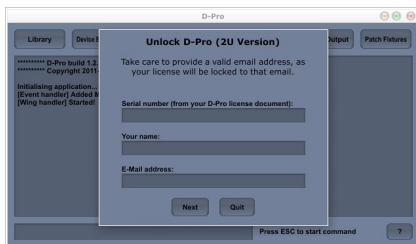
Thank you for activating your D-Pro USB license key.

You can now use your USB key to run D-Pro unrestricted on any computer.

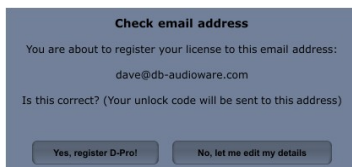
## INSTALLING D-PRO 2U (LICENSE NUMBER)

When you purchased D-Pro 2U, you will have received a license containing your serial number, and download links for the software. First, download the software (for OS X or Windows) then run it and follow the instructions.

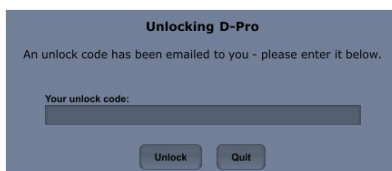
After installation, run D-Pro 2U. (You will see the **D-Pro 2U** icon on your Windows Desktop or the **D-Pro** icon in the main OSX Applications folder). When you first run the application, you will be asked to enter your serial number, name and email address.



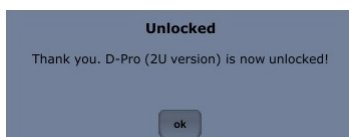
Enter your details and click **Next**. You will then be asked to confirm that your email address is correct. *Please check this carefully - your license will be locked to the email account provided!*



Once you are happy that your details are correct, click **Yes, register D-Pro!** Your license will now be activated via internet, and you will receive an email containing a 6 digit unlock code, to be entered into the final screen:



Your software will now be unlocked and ready to use!



## SELECTING A LANGUAGE

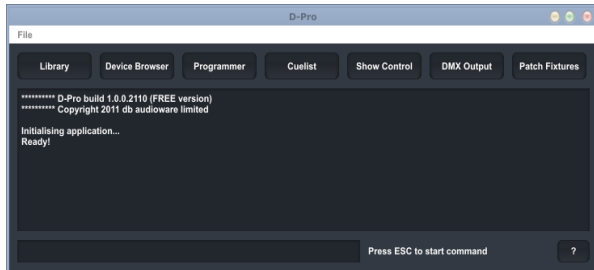
The D-Pro user interface can support multiple languages, selectable from the Help > Language menu option. Please check the D-Pro product page at [enttec.com](http://enttec.com) for available language packs and installation instructions.

## QUICK WORKFLOW OVERVIEW

In this section, we take a whistle-stop tour through the main windows & features of D-Pro, and see how to create a simple show.

### CREATING A NEW SHOW

When you first run D-Pro, you will see the main window. The buttons along the top are used to launch the various other windows for managing the components of your show.



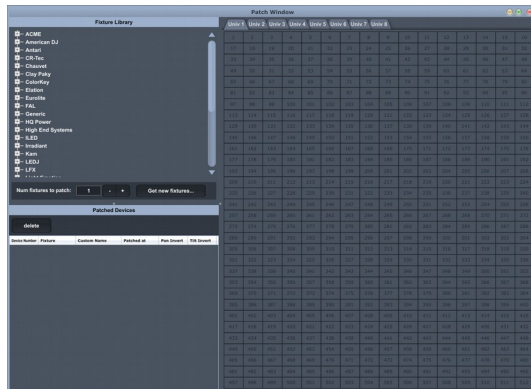
*The command line is used for entering text commands - you can view the full command line reference by clicking on the "?" button.*

The first step is to create an empty show – choose the **File>New Show** menu option, and specify where the show file should be saved.

*In D-Pro, each show is self-contained in a single file.*

## PATCHING YOUR LIGHTING FIXTURES

Once you have created an empty show, D-Pro will open the **Patch Window**. From here, you can drag fixtures from the list of manufacturers on the top-left to the correct address on the grid on the right.



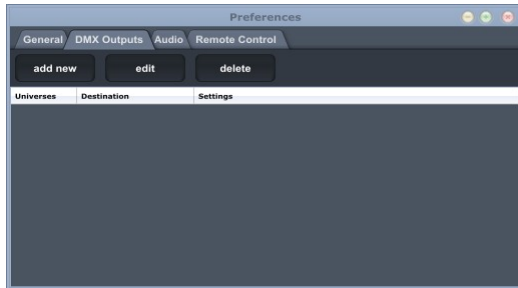
If you cannot see the fixture you need, **Get new fixtures** will connect to the D-Pro online fixture database. If your fixture is available, you can directly download it.

If you still cannot locate your fixture, you can create one by logging into [fixtures.dmxis.com](http://fixtures.dmxis.com). Or you can contact [support@enttec.com](mailto:support@enttec.com) for assistance.

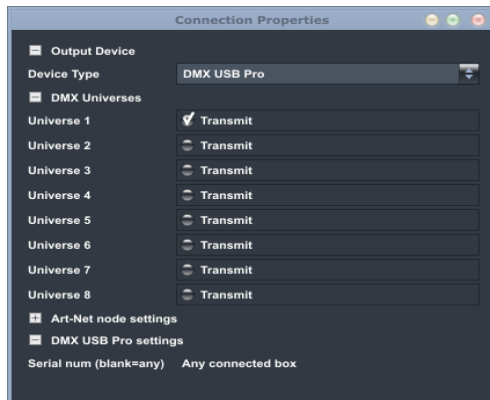
If you want to download a private fixture (i.e. one that you have not shared with the community at [fixtures.dmxis.com](http://fixtures.dmxis.com)) simply enter your login details when prompted. If you only want to download public fixtures, you can dismiss the login window.

## DEFINE THE DMX HARDWARE

Before finally starting on the lighting design, you need to tell D-Pro what hardware you are using for this show. Choose the **File->Preferences** menu option, then the **DMX Outputs** tab.



Click on **Add New** and double-click on the new line that appears in the table. You can then edit the output definition to route any one of the 8 universes to an Enttec device (USB Pro, RDM Pro or DMXIS box), any two universes to a PRO Mk2 box, or multiple universes to Art-Net:



This example shows that Universe 1 data will be transmitted to the first available DMX USB Pro box that is detected.

Note that you can mix & match the outputs – for example output Universe 1 to a PRO box, and Universe 2 to Art-Net.

## THE DEVICE BROWSER AND LIBRARY WINDOWS

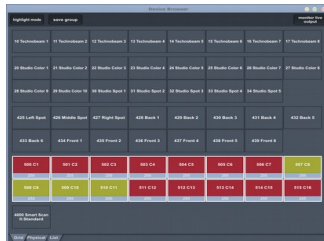
Now we're ready to start creating our show. First, you'll notice that two new windows have opened - the **Library** and the **Device Browser**.

The **Library** is where you can access all the building blocks of your show – groups, palettes, cues and cuelists.

The **Device Browser** displays you all your patched fixtures, along with their current level, RGB colour and Pan/Tilt values. It is also the window where you select devices for editing.

The Device Browser has 3 tabs, which simply display your fixtures in 3 different ways:

- **Grid** displays fixtures as a compact grid of cells, and is particularly useful if you have lots of conventional fixtures (i.e. simple dimmer channels). You can customise the grid layout from the **Preferences** window.



- **Physical** displays fixtures as a 2-dimensional plan. Click the **edit mode** button, and position the fixtures to reflect their actual physical layout. This view lets you intuitively select fixtures based on their physical location in your rig. And since the icons also indicate the level, colour and pan/tilt value of each fixture, it is useful for gaining an overview of the current look.

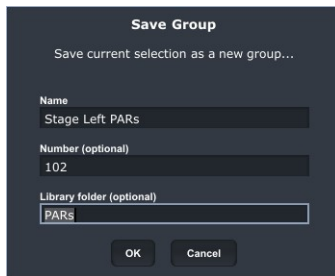


- **List** displays the fixtures as a simple flat list. (No attribute values are reflected in this tab, it is purely a simple list for selecting fixtures)

## CREATING GROUPS

It is possible to design a show without using groups – you can just directly select fixtures in the Device Browser. However, groups are a useful building block that can save you lots of programming time when you later add/remove devices from your rig.

A group is just a short-cut to a list of fixtures. For example, you could select all your parcan dimmers on stage left and save it as a group called “Stage Left PARs”. You then use this group for building cues, rather than specifying device numbers. The advantage of this approach is that if you need to add more dimmers to stage left, you can simply add them to the group, and all cues or palettes using that group will automatically update to include the new dimmers.



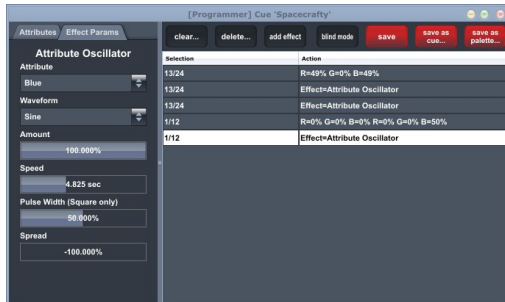
The image shows a dark-themed dialog box titled "Save Group". Below the title is the instruction "Save current selection as a new group...". There are three text input fields: "Name" with the value "Stage Left PARs", "Number (optional)" with the value "102", and "Library folder (optional)" with the value "PARs". At the bottom of the dialog are two buttons: "OK" and "Cancel".

To create a group, simply highlight the fixtures in the Device Browser, then click the **save group** button and enter a name (and an optional reference number and subfolder).



## CREATING CUES AND PALETTES

In D-Pro, a palette is a building block used to assemble full cues. Like groups, palettes are a useful mechanism to speed up programming and ease maintenance. A palette will typically contain all the “reusable” elements of your show, for example the position of a set of movers or a particular combination of colours. If you find at the start of your show that some fixture positions have changed, you simply edit the position in one palette, instead of editing many cues.



Palettes and cues are built in exactly the same manner, using the Programmer window. The Programmer records any changes you make to attributes in the order you made them. You can also add multiple effects (chases, fans etc.) to the palette or look.

To create a palette/cue:

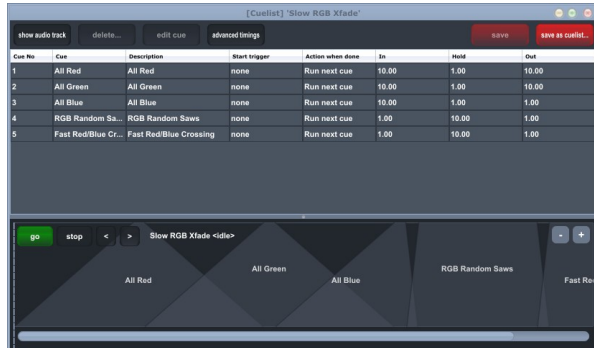
- Open the Programmer from the main window.
- Select devices (manually in the device browser or by double clicking on a group in the library).
- Modify any attributes in the left hand column of the programmer.
- Repeat as necessary and **save as cue** or **save as palette**.

To edit an existing palette or cue, simply double-click on it from the library to load it into the programmer.

To use a palette to build a cue, simply drag the palette from the library into the programmer. If you have selected some devices before doing this, the palette will only be applied to those specific devices.

## CUELISTS

A cuelist is an ordered collection of cues with timing information. In a theatrical setting, a cuelist could contain all the cues for the show, in correct order, to be fired manually (for example via the space bar). For an architectural display, a cuelist could be set up to run automatically on a loop. Later on, we will see how to use the Show Control window to mix multiple cuelists in realtime.



The D-Pro cuelist editor window is activated from the main window. You add cues into the cuelist by dragging them in from the library window.

The timeline shows a graphical representation of the cuelist, along with the controls for playing, pausing and advancing through the cues manually. To zoom in & out of the timeline, use the +/- buttons or the mouse wheel.

Double-click on any cell to edit the contents. You can also use the mouse wheel to adjust selected timing data. Timing data can also be edited by dragging directly on the handles in the timeline.

To edit multiple cells, first select them using the **shift** key, then double-click (while keeping **shift** held down).

### Audio Events

The cuelist window also has an audio track (click on "show audio track"). This allows you to drag audio files onto the cuelist - to playback audio effects synchronised to a lighting cue, or to sync some background music to a light show. (D-Pro supports WAV, AIFF, Ogg Vorbis, FLAC and CAF audio file formats)

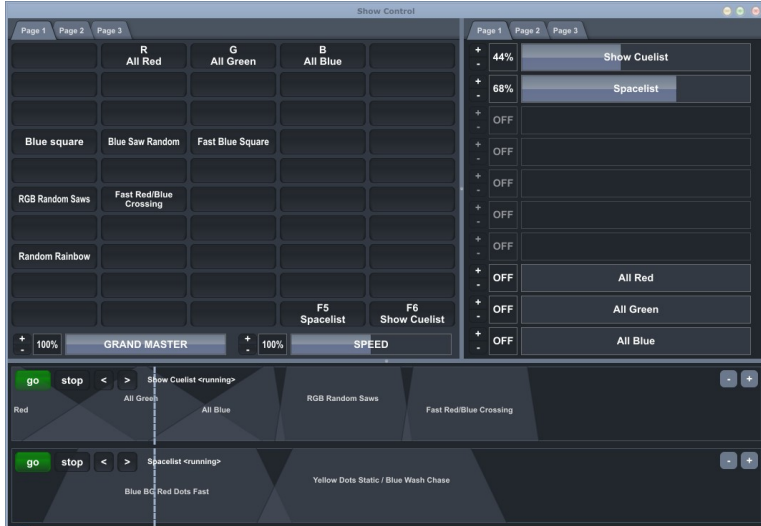
## DMX OUTPUT WINDOW

This window is activated from the main window, and displays a realtime map of the current values of every DMX channel being generated by D-Pro. It is useful as a debug tool.

DMX Output															
Univ 1	Univ 2	Univ 3	Univ 4	Univ 5	Univ 6	Univ 7	Univ 8	9	10	11	12	13	14	15	16
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
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465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480
481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496
497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512

## SHOW CONTROL WINDOW

The Show Control window is launched from the main window. It is the place from where you run your finished show, by clicking on buttons or moving faders to activate cues & cuelists. There is also a Grand Master fader to alter the overall level of the show, and a Speed control to alter the playback speed of cuelists and any effects in the cues.



To add a cue or cuelist to the Show Control, drag it in from the Library and drop it on a blank fader or button.

You can right-click (or click & hold from a touchscreen) on a button or fader to edit various properties, including the name, fade in/out times, the start trigger and the radio group.

Buttons & faders can be remotely activated from keyboard shortcuts:

- Right click in the button/fader and click **Start trigger**
- Select **Click to learn** and press any key on the keyboard.
- Click **OK** and close the properties window.

*In the full version of D-Pro, you can also remotely activate the Show Control window from MIDI control surfaces and Enttec hardware wings.*

## **D-PRO PLAYER**

The D-Pro Player is a simplified app for running your final D-Pro show design. It displays only the Show Control window, maximised to the available screen space. No editing is possible in the player (e.g. Show Control buttons cannot be dragged, and fade times cannot be modified)

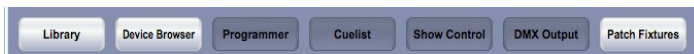
The D-Pro Player is ideal for use in permanent installs such as bars & restaurants, where the end users may not be lighting experts. In this scenario, you (the lighting designer) would create the show using the full D-Pro program, and then leave only the “D-Pro Player” icon available to the user on the Desktop. You might also want to configure the computer to auto-start the D-Pro Player when powered on.

In this way, you can set up a really simple interface for your end-customers. The Preferences > General > Show Control Window options can be used as necessary to limit the functionality of the Player, even simplifying it down to a single page of push buttons.

*By default, the D-Pro Player loads the most recent show that was edited in the full D-Pro application.*

## MAIN WINDOW REFERENCE

### WINDOW BUTTONS



Each D-Pro window has a corresponding button at the top of the main window. Click on these buttons to show or hide the windows.

### TERMINAL

```
[Event handler] Added MIDI input 'Euphonix MIDI Euphonix Port 2'  
[Event handler] Added MIDI input 'Euphonix MIDI Euphonix Port 3'  
[Event handler] Added MIDI input 'Euphonix MIDI Euphonix Port 4'  
[Wing handler] Started!  
[DMX engine] Started!  
Starting Art-Net (node 255.255.255.255 port 6454 universes 1)  
Loaded last show from /Users/davidb/Desktop/Show1.dsf  
[Python engine] Started!  
[Python engine] Initialising DMXIS Python engine...  
[Python engine] Initialising general helpers...  
[Python engine] Initialising RGB helpers...  
[Python engine] Python engine ready!  
Ready!  
Starting Enttec DMX USB interface comms  
Connected to Enttec DMX USB interface 4050373
```

Under the window buttons is the terminal area. In here, you will see diagnostic and error messages relating to the current D-Pro session. Command line activity, and any output generated by Python FX scripts is also displayed here.

### COMMAND LINE PROMPT



Under the terminal is the command line prompt where you can enter text commands. You can press the “Esc” key at any time to automatically switch focus to the prompt.

The “?” button displays an on-screen summary of the command line language. Also see page 49 for a full command line language reference.

### FILE MENU

#### ***File*** → ***New show...***

Creates a new, empty D-Pro show file. You are first prompted to save & close the current show. Then you must specify the name of the new show file. (Each D-Pro show is self contained in a single file with a .dsf file extension e.g. “My Show.dsf”)

#### ***File*** → ***Open show...***

Prompts you to open an existing show file. If necessary, you are first prompted to save & close the current show.

***File → Save show as...***

Saves a copy of the current show to a new file. You are first prompted to save & close the current show. Then you must specify the name of the new show file. If the operation is successful, the newly-saved file will then be open in D-Pro.

***File → Close show***

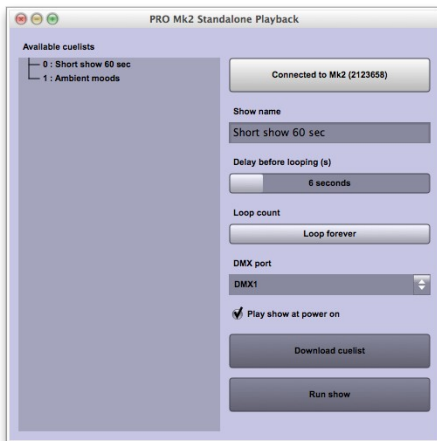
Closes the current show (prompting you to save any changes first if necessary). Following this operation, only the main window will be open.

***File → Open recent show***

Allows you to quickly open a recent show file. If necessary, you are first prompted to save & close the current show.

## File → DMX USB PRO Mk2 standalone mode...

You can export any D-Pro cuelist to a PRO Mk2 box, and then run that show in standalone mode i.e. without a computer being connected. This is an excellent option for installing permanent lighting displays for retail & architectural installs.



Connect the PRO Mk2 to your computer, and click the top button to establish a connection. The "Show name" and other fields will display any standalone show currently loaded in that box.

To download a cuelist to the box:

- Select the desired cuelist under "Available cuelists"
- Configure the "Delay before looping", "Loop count", "DMX port" and "Play show at power on" options as required
- Click "Download cuelist".

The cuelist will then be automatically downloaded using the maximum possible quality. (Higher quality = smoother cuelists & dynamic effects).

Note that longer cuelists will take several minutes to transfer into the PRO Mk2.

A limited amount of memory is available in the PRO Mk2 for standalone shows. If your cuelist contains many long crossfades & dynamic FX, the download may fail, or the quality may be poor (i.e. the resolution of the crossfades would be rough looking). In this case, reduce the complexity of your cuelist by using shorter crossfades, simpler FX (e.g. using squarewave oscillators instead of sinewave oscillators) or reduce the number of DMX channels you have patched in the show.



## PREFERENCES WINDOW

The preferences window is accessed from the *File* → *Preferences* menu option. From here, you can customise the appearance of D-Pro, configure the DMX outputs (USB hardware & Art-Net), configure your audio hardware, and customise the remote control features of D-Pro.

### General tab



Small/large font size – changes the primary font sizes used in the D-Pro interface

Show Control font size – changes the font size of all objects on the Show Control window.

Interface colour & Interface contrast – these change the window colour scheme. The new scheme is displayed instantly as you change the colour selection.

Show Control Window section – this lets you customise the number of buttons, sliders and tabbed pages in the Show Control window. You can also show/hide the major panels.

(Grid) Devices per row – changes the number of devices that are packed into one row in the “Grid” tab of the device browser. Useful if you have a large rig of traditional dimmer channels, plenty of screen space (or multiple monitors) and want to display every dimmer clearly in the grid tab.

(Physical) Show beams – allows you to enable or disable the “simulated light beams” in the “Physical” tab of the device browser.

Cuelist Behaviour/ Play new cue immediately – this allows you to choose whether the new cue should be played immediately, or if the cuelist should pause when using the cuelist next/prev buttons (or when activating cuelist next/prev via remote control).

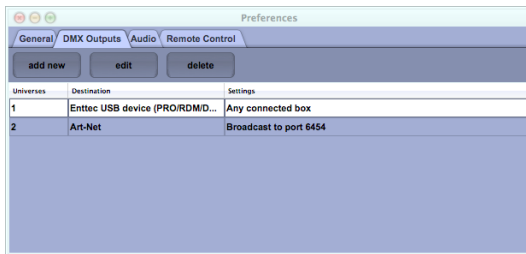
OSC Remote Control / Enable OSC – this enables communications (both send & receive) with an OSC controller on the network.

OSC Remote Control / Receive port – this is the network port number for incoming OSC messages.

OSC Remote Control / Transmit to IP address – this is the network address of the remote OSC controller device.

OSC Remote Control / Transmit port – this is the network port number for outgoing OSC messages.

## DMX Outputs tab

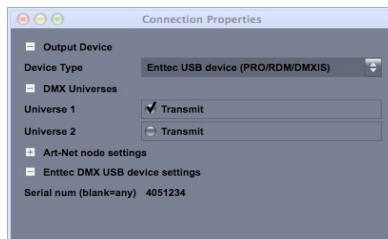


D-Pro can transmit DMX data to the following devices:

- Art-Net (Ethernet protocol). This allows you to transmit DMX data to any Ethernet-based hardware such as Enttec's ODE or Datagate Mk2 products.
- Enttec DMX USB PRO (USB to DMX interface, 1 universe)
- Enttec RDM USB PRO (USB to DMX interface, 1 universe)
- Enttec DMXIS hardware (USB to DMX interface, 1 universe)
- Enttec DMX USB PRO Mk2 (USB to DMX interface, 2 universes)

You can mix and match as needed – for example, output universes 1 thru 4 to Art-Net, universe 5 to a USB Pro box, and universe 6 to a DMXIS box. Each device you are outputting to is represented by a line in this table.

Create one line in the table for each device you want to transmit to (using the “add new” button).



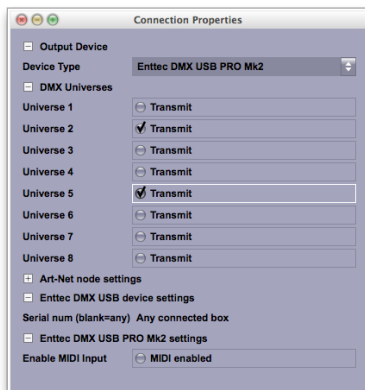
Double-click on a line to open the “Connection Properties” dialog, from where you can configure the connection – which universe(s) to transmit, the network settings (for Art-Net connections) or the hardware serial number (for USB devices).

For hardware connections, you can leave the serial number empty, and D-Pro will connect to the first compatible USB device it can detects. IF you want to use multiple USB devices, you MUST enter serial numbers for each connection.

## Receiving MIDI input from a PRO Mk2 box

Normally, you would tick items in the “Active MIDI Inputs” section of the Audio/MIDI tab to specify which MIDI devices to use. However, while the PRO Mk2 box supports MIDI input, it does not

appear as a regular OSX/Windows MIDI device. Instead, you must tick the “Enable MIDI Input” option in the Connection Properties window for the device:



Note that when this option is enabled, you can only transmit ONE DMX universe of data from the PRO Mk2.

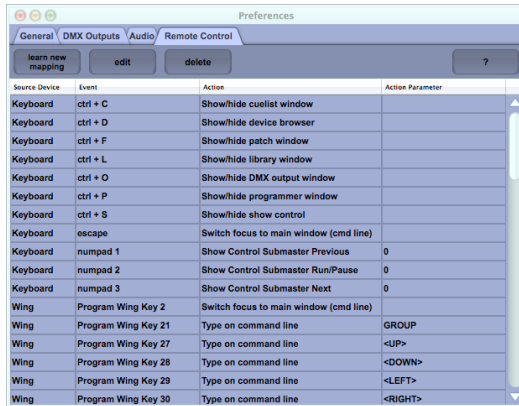
### **Audio/MIDI tab**



This allows you to configure the audio output settings (which are used to play cue list audio events).

The “Active MIDI Inputs” section allows you to select which MIDI devices D-Pro will listen to for remote control purposes.

## Remote Control tab



You can remotely control certain features of DMXIS Pro using external control surfaces - including Enttec Wings, MIDI controllers or your computer keyboard.

Every show includes a standard set of remote control "mappings" (to open/close the various D-Pro windows from the keyboard, and setup default templates for the Enttec Program and Playback wings) but you can modify or extend these with you own custom mappings. Your customisations are stored with the currently loaded show.

A mapping consists of the source device (e.g. the keyboard) and event (e.g. F1), and the resulting action (e.g. "Show patch window") and an optional parameter.

### **To create a new mapping**

- Click on the "learn new mapping" button.
- Press the desired key or move a slider/knob on your wing, MIDI controller or computer keyboard.
- In the dialog that appears, choose the action from the menu, and type in any parameter required.

## Available remote control actions

Action name	Description	Parameter
Type on command line	This automatically enters text onto the main window command line. Use this action for firing quick macros.	<p>The string to be filled into the command line window. (e.g. "GROUP ")</p> <p>Alternatively, you can choose one of the following keyboard shortcuts as the parameter:</p> <p><b>&lt;ENTER&gt;</b> : simulates the Enter key being pressed on the keyboard. In practice, this will execute the command currently in the command line window.</p> <p><b>&lt;UP&gt;</b> or <b>&lt;DOWN&gt;</b> : simulates up/down arrow key presses. This will scroll through the history of previous commands in the command line window.</p> <p><b>&lt;LEFT&gt;</b> or <b>&lt;RIGHT&gt;</b> : simulates left/right arrow key presses. This will move the insert cursor position on the command line window.</p> <p><b>&lt;BS&gt;</b> : simulates a backspace key press. This will delete the character to the left of the current cursor position</p> <p>By default, the above shortcuts are already mapped in every new show to allow an Enttec Program wing to be used for command line duties.</p>
Switch focus to main window (cmd line)	Activates the main window, and readies the command line to receive a text command.	No parameter
Show/hide library window Show/hide device browser Show/hide programmer window Show/hide cuelist window Show/hide patch window Show/hide DMX output window Show/hide show control	Shows or hides the specified window.	No parameter
Show Control: Submaster Run/Pause Show Control: Submaster Next Show Control: Submaster Previous	Controls the execution of a cuelist loaded onto a Show Control submaster slider.	<p>The index number of the submaster slider in the Show Control window. For example, if you have 3 tabs of 10 sliders:</p> <ul style="list-style-type: none"> <li>• 1 is the top slider on the first tab</li> <li>• 12 is the 3<sup>rd</sup> slider down on the second tab</li> <li>• 29 is the bottom slider on the 3<sup>rd</sup> tab</li> </ul>

<p>Show Control: SET GRAND MASTER</p> <p>Show Control: SET SPEED</p> <p>Show Control: TAP TEMPO</p> <p>Show Control: RESYNC FX</p> <p>Show Control: SET TEMPO (60-187 BPM)</p> <p>Show Control: RESET OUTPUT</p>	<p>Controls the various buttons &amp; sliders on the master strip at the bottom of the Show Control window</p>	<p>No parameter</p>
<p>DMX Output: DIRECT CONTROL</p>	<p>Directly controls one or more DMX channels, overriding any current cues &amp; cuelists playing on that channel.</p> <p>An example use would be to directly control Pan/Tilt of a moving head fixture from a MIDI XY controller.</p>	<p>A comma-separated list of DMX channels to be controlled</p>
<p>DMX Output: CANCEL DIRECT CONTROL</p>	<p>Cancel the DIRECT CONTROL action above, and returns control to the active cues &amp; cuelists</p>	<p>A comma-separated list of DMX channels to be controlled.</p> <p>Enter "0" to cancel direct control across ALL DMX channels.</p>

## DEVICE BROWSER REFERENCE

The Device Browser is the focal point of the entire D-Pro application. It displays the devices patched into your show, it allows you to select devices for programming, and it graphically displays the values of key attributes (dimmer levels, colours, and pan/tilt values of intelligent movers).

Note that when you select devices, the order of your selection is preserved. This is important if you are selecting devices in order to apply (for example) a "chase" FX script.

### GRID TAB



The grid tab is useful for large rigs with many conventional dimmers. Due to the grid layout, you can visualise and select many hundreds of channels easily. You can customise the number of devices displayed on each row from the Preferences window.

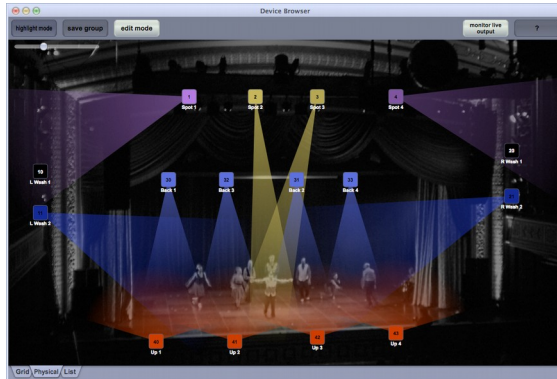
There are a number of ways to select devices in the grid:

- Click on a device to select it.
- Click on one device, then shift-click on a second device to select that entire range.
- Click and drag to select an arbitrary set of devices
- Ctrl-click to add or remove a single device from the selection
- Ctrl-drag to add an arbitrary set of devices to the selection.

The grid will display the current dimmer level and RGB colour value of all devices currently recorded in the current programmer (or of ALL devices in your show when "monitor live output" is selected).



## PHYSICAL TAB



The physical tab is a virtual representation of your rig. Each device appears as an icon against a customisable background image (which can be a picture of your venue, or a simple CAD sketch of the rigging). Each icon can throw a customisable “virtual beam” of light as a simple visualisation tool. The colour & brightness of the icons and virtual beams reflect the actual DMX values being transmitted to the hardware.

You can position your fixtures to reflect their position in the physical lighting rig. This makes complex selections very easy, and lets you visualise (in a simple 2-D manner) the overall look of the current programmer contents (or the entire rig when "monitor live output" is enabled).

As well as displaying the dim levels and RGB colour values, the physical tab will also display the current pan/tilt position of any movers, using simple "virtual beams". It's important to note that the virtual beams do not necessarily represent the actual beam projected by the device, as they do not take account of orientation or degrees of movement. However, the virtual beams are an excellent visual confirmation that (for example) an FX script is performing as you expect.

Selection of devices in the physical tab is the same as for the grid tab (see above for details).

### ***edit mode*** → ***Enable layout mode***

When this is enabled, you can select and reposition fixtures against the background by dragging them. You can also change the zoom level using the slider at the top-left of the window. This allows you to fit more or fewer fixtures into the screen space available.

### ***edit mode*** → ***Layout selected as (submenu)***

This submenu contains a number of automatic layout options, which will affect the currently selected devices. For example, to lay out 4 devices in a horizontal line:

- Select devices 1-4
- Choose *Layout selected as* → *horizontal line*

The devices will be arranged in the order you select them. For example, if you want the devices to appear horizontally as **1 3 4 2**, then select the devices in that order (using Ctrl-click key) before running the layout command.

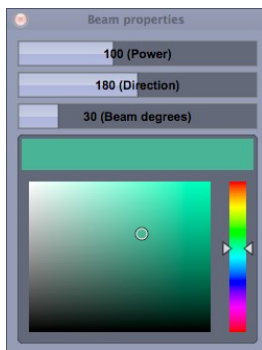
### ***edit mode → background***

Select “Set background image...” then choose any image file. This file will become the background of the physical tab. When you resize the device browser window, the background image is scaled to fit.

Select “Remove background image” to revert to the normal plain background.

Grayscale photos of your venue or installation work best as background images, as the coloured virtual beams will appear more clearly with greater contrast. It can also be useful to use a simple 2D CAD drawing of the rig as a background.

### ***edit mode → configure beams***

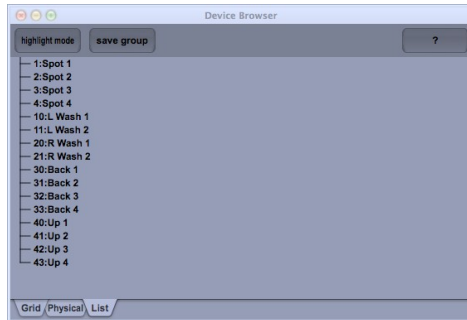


Every patched fixture in your rig – even plain dimmer channels – can display a virtual beam in the browser window. As the screenshot on the previous page shows, this is extremely useful for basic visualisation of fixed devices.

The “Beam Properties” window lets you modify the virtual beam properties of the currently selected devices. For example, let’s assume devices 4-6 are regular parcans with a blue gel. Here’s how to configure the virtual beams:

- Select “edit mode → configure beams” to open the Beam Properties window.
- Select device icons 4-6
- Drag the *Power/Direction/Beam* sliders as desired, so that the beam direction, width & distance looks correct.
- Select the desired shade of blue in the colour selector (to match the real gel colour)

## LIST TAB



In the list tab, all devices are displayed as a simple flat list. Devices can be selected by clicking, shift-clicking or ctrl-clicking. This tab does not display any attributes such as dimmer levels.

## HIGHLIGHT MODE

When highlight mode is enabled, any selected fixtures will immediately illuminate. This is particularly useful during setup & rigging - it lets you quickly activate fixtures for focusing, and lets you verify that the lamps are functioning or that devices have been physically addressed correctly (without using the programmer window).

Highlight mode is also helpful if you are designing cues/palettes which only contain position information. Activating highlight mode will let you see the beam positions without actually recording any dimmer or colour levels.

Note that highlight mode depends on "highlight" information being present in the fixture definition. If you find that highlight mode is not working, then you should log into fixtures.dmxis.com and verify that the highlight values are defined.

## CREATING AND USING GROUPS

You can save the current selection of devices at any time by clicking on "save group". We highly recommend that you use groups for programming cues & cuelists, rather than manually selecting the devices each time.

All of your groups are displayed in the library window. You can create unlimited numbers of groups and organise them into any number of folders in the library window.

To use a group for programming, simply double-click on the group name in the library window. That group will then be highlighted in the Device Window. Now, when you edit attributes or add FX in the programmer, you will see the group name displayed in the programmer.

## MONITOR LIVE OUTPUT

This feature is available in the grid and physical tabs only. It shows you a live preview of the DMX data currently being transmitted by D-Pro.

## PROGRAMMER WINDOW REFERENCE

The Programmer Window is where you design all the looks for your show. Looks can be either static, or can contain dynamic elements (such as colour chases, shutter chases, moving head effects). Once you have finished designing each look, you can either save it as a cue or a palette.

Cues can be loaded directly into the Show Control window, or can be used for building cuelists.

Palettes can be thought of as building blocks, which are used to construct complex looks.

### BASIC PROGRAMMING TECHNIQUE

The programmer window has two main areas:

- On the left is the editor panel (where you see device attributes & FX settings)
- On the right is the recorder.

As you create your look by changing attributes or adding FX, you see each change being added to the recorder. You can click on any line in the recorder to go back to that step and edit it (or delete it completely using the "delete" button).

To edit an attribute (for example, the dimmer level of some fixtures)

- Highlight the fixtures in the device browser (by manual selection or double-clicking a group in the library)
- The attributes for those fixtures appear in the left panel. (If you select mixed fixtures, you will only be able to edit the dimmer levels)
- Modify the attributes as required in the editor panel. You see your changes appearing in the recorder.

To apply an effect script (for example, make some intelligent fixtures move in a circle)

- Highlight the fixtures in the device browser (by manual selection or double-clicking a group in the library)
- Click "add effect" in the programmer, and select the FX script you want (e.g. Shapes->Circles)
- Modify the FX parameters in the editor panel.

You can add unlimited numbers of effects as required.

### BLIND MODE

When blind mode is activated, the changes made in the programmer will NOT be transmitted to the DMX output hardware. This is useful for making changes on-the-fly without affecting the look on stage. Note that the device browser will still display the dimmer, RGB and pan/tilt values - but they will not be actually transmitted.

## CUELIST EDITOR REFERENCE

The cue list window allows you to assemble multiple cues into a timed performance. The show control window allows you to run multiple cue lists simultaneously, but in many cases you may find that a single cue list is all you need to run an entire show.

### ADDING & DELETING CUES

To add a cue, simply drag it in from the library window. You can insert the cue at a specific point in the cue list by dropping it in the middle of the table.

To delete a cue, highlight it in the table and click "delete..." button

### MODIFYING CUE DATA

To modify any of the data in the table, simply double-click on a cell. You can modify multiple cells data simultaneously. For example, to change the start trigger across all cues:

- Click Start trigger in first cue
- Shift-click Start trigger in the last cue (now all cues are selected)
- Double-click on Start trigger in the last cue while holding down shift.

You can modify highlighted In/Hold/Out times by using the mouse wheel, or by dragging on the yellow handles directly in the timeline.

All edits made in the cue list are temporary - until you click on save or save as cue list to record your changes into the show.

### QUICKLY NAVIGATING TO THE PROGRAMMER

If you need to make a quick modification to a cue while in the cue list editor, highlight the cue in the table and click the edit cue button. This will open that cue in the programmer window.

### EDITING CUE DATA

The Cue No column contains the cue numbers, in the format X.Y. Default cue numbers are allocated when you drag in cues - however, you can edit them manually if for example you are working to a script with published cue numbers.

The Description column is the label that is displayed for that cue in the timeline. By default it is the cue name, but can be modified as desired.

The Start trigger is optional. This is the external hardware event (from the keyboard, a MIDI controller or an Enttec wing) that will trigger the cue. For example, if you want to manually advance through the cue list from the spacebar:

- Shift-select "Start trigger" cells, then double-click (while holding the shift key)
- In the Keyboard tab, select "Click to learn" and press the spacebar.

- Press OK.

You will now see "spacebar" as the trigger for every cue in the cuelist.

The Action while done column is by default "Run next cue". In this mode, the cuelist will run & loop forever. You can optionally change any cue to "Stop cuelist", which will effectively give you a "one-shot" cuelist.

The timing columns are used to control the fade in/out & hold time of each cue.

## USING THE TIMELINE

Zoom in & out of the timeline using the +/- buttons, or the mouse wheel

Run & pause the cuelist with the green go button.

The first click of the stop button will fade out the cuelist (using the fade out time of the cue currently playing). A second click of the button will force the cuelist to stop playing immediately.

Use the < and > buttons to move to a different cue in the cuelist.

The current status of the timeline (idle, running, fading out, waiting for trigger) is displayed on the top right.

## AUDIO EVENTS

You can enable the show audio track button, and then drag audio files into the timeline for synchronised playback along with your cuelist. Audio events can be precisely positioned by dragging on the audio file in the timeline.

To delete an audio event, highlight it on the timeline and click delete.

If you play back multiple cuelists in the show control window simultaneously, the audio files will be mixed together in realtime, synchronised to the multiple cuelists.

D-Pro natively supports wav, AIFF, CAF, Ogg Vorbis and FLAC audio files formats, along with any audio format supported by the underlying OS X CoreAudio or Windows DirectShow libraries. At the time of writing, both these libraries support mp3 playback.

## ADVANCED TIMINGS

Say you want a cue to fade up the dimmer level over 5 seconds, but you want the pan/tilt values to fade up over 1 second:

- Set the "In" cell for the cue to 5.00.
- Click on the "advanced timings" button and select Position
- Three new columns appear in the table.
- Set the "Pos:In" cell for the cue to "1.00".

## SHOW CONTROL REFERENCE

Show Control is the top-level window used to execute your finished show. Typically, after creating a bunch of cues & cuelists, you drag them onto the buttons/sliders of the show control window, maximise it, and run the whole show from there.

It consists of a grid of buttons and a column of faders (the actual quantity of which can be customised in Preferences), two global sliders for changing grand master (i.e. the overall rig dim level) and speed (of the cuelist playback and FX).

Finally, when you run one or more cuelists, their timelines will be displayed in realtime at the bottom of the window.

You can simply use your mouse to drive the show control buttons & sliders - however there are some nice alternatives:

You can program each button & slider to be triggered from the computer keyboard, a MIDI controller and/or any Enttec hardware wing.

The show control window is designed to be very usable when combined with a standard touchscreen.

Using an iOS app such as iDisplay, you can use an Apple iPad to run the show (if you are happy with the risks/limitations of using WiFi technology in a live performance!)

**New in release 1.7** – The snapshot panel lets you record the full Show Control state onto buttons, for fast programming & recall of full looks.

### POPULATING THE SHOW CONTROL WINDOW

To load cues or cuelists onto buttons or faders, simply drag them in from the library window.

To clear buttons, faders & snapshots:

- Click the config button (gear icon) to go into config mode. The Properties window appears.
- Select the buttons & sliders you want to clear (using shift key if necessary).
- Click "Reset" and then "Yes".
- Click the config button (gear icon) to exit config mode.

Buttons can be repositioned simply by dragging & dropping (while in config mode).

### CHANGING THE TAB NAMES

Right-click on any tab to edit its name.

## CHANGING BUTTON/FADER NAMES

By default, the label on a button or fader is the same as the loaded cue or cuelist. To edit the button/fader name:

- Click the config button (gear icon) to enter config mode. The Properties window appears.
- Click on the button, fader or snapshot button to highlight it.
- Edit the first field in the Properties window to contain your custom label.
- Repeat as required for other buttons, faders or snapshot buttons.
- Click the config button (gear icon) to exit config mode.

## ADDING TRIGGERS

You can trigger buttons, faders & snapshots from a variety of controllers as follows:

- Click the config button (gear icon) to enter config mode. The Properties window appears.
- Click on the button, fader or snapshot button to highlight it.
- Click on "Start trigger". The Trigger Properties window appears.
- Click on the tab (Keyboard | MIDI | Enttec Wing) you want to use.
- Select "Click to learn" and move/press the keyboard or control on the hardware.
- Click OK to close Trigger Properties
- Repeat as desired for other buttons & sliders.
- Click the config button (gear icon) to exit config mode.

Now the buttons & faders will display their triggers above the label.

***New in release 1.7*** – if you highlight multiple buttons/sliders and learn from a MIDI controller, you will be asked if you want to trigger those buttons/sliders using a range of MIDI Notes or CCs.

For example, say you highlight 8 buttons in edit mode, click to learn, and send MIDI Note 20. You will then be able to trigger the 8 buttons using MIDI Notes 20,21,22...27.

## CHANGING FADE TIMES FOR BUTTONS & SLIDERS

You can modify the fade in & out time of all buttons & sliders. This work for both cues & cuelists:

- Click the config button (gear icon) to enter config mode. The Properties window appears.
- Select the buttons & sliders you want to clear (using shift key if necessary)
- Drag the "fade in" and "fade out" sliders to the desired value (or click and type a value in seconds)
- Click the config button (gear icon) to exit config mode.

Note that fade times cannot be defined for snapshot buttons.



## ADDING MOMENTARY (FLASH STYLE) BUTTONS

Buttons can either latch on & off (default mode) or behave like flash buttons on a traditional console (momentary mode). To activate momentary mode:

- Click the config button (gear icon) to enter config mode. The Properties window appears.
- Select the buttons you want to modify (using shift key if necessary)
- Enable the "Momentary" button to change those buttons to flash mode.
- Click the config button (gear icon) to exit config mode.

Momentary (flash) buttons can be identified by a small arc in the lower left corner.

Note : you cannot have momentary buttons in a radio group.

## ADDING RADIO GROUPS

Sometimes you will want buttons to behave in a "radio box" manner - that is, only one button can be active at any time. For example, you might have "Red", "Yellow" and "Green" cues, which control the colour of your whole rig. You don't really want to MIX these cues, so the radio box is the answer:

- Click the config button (gear icon) to enter config mode. The Properties window appears.
- Click the "Red", "Green" and Yellow" buttons (using shift key)
- Use the +/- buttons to set this to "Radio group : 1"
- Click the config button (gear icon) to exit config mode.

Now you will see all 3 buttons highlighted in a different colour (to indicate that they are a radio group). When you switch on any button in the group, all others will switch off, with any fade in/out times providing a nice smooth crossfade.

## RADIO GROUP "ROUND ROBIN" BUTTONS

If you setup an identical trigger on every button in a radio group, then you can automatically advance from one button to the next using that trigger.

For example, say you are using D-Pro to run lighting for a live band, and you have one cuelist with a backing track for each song. You can load those songs onto Show Control buttons, then set them all to belong to the same radio group, and set them all up to trigger from a MIDI Note on a keyboard. Now, you can advance through the set simply by bumping the MIDI Note at the end of each song. And with easy drag/drop of buttons in the Show Control window, you can quickly change the order of the "set".

## ADDING OVERRIDE BEHAVIOUR

By default, Show Control buttons & sliders behave as follows:

- Dimmer & colour channels fade in & out according to the fade times defined.
- All other control channels snap directly to their target value.
- Colour & dimmer channels are HTP (Highest Takes Priority) behaviour. That is, when several cues are currently active, the highest available value for the channel (across all active cues) is output.
- Control channels are LTP (Latest Takes Priority). That is, when several cues are currently active, the most recently modified value (across all active cues) is output.

Sometimes you may need direct control over some fixture channels, overriding the default HTP/LTP behaviour. For example, you may want to directly manipulate a Colour Wheel from a fader on the Show Control window. To do this, activate Override for that fader or button:

- Click the config button (gear icon) to enter config mode. The Properties window appears.
- Select the buttons & faders you want to modify (using shift key if necessary)
- Enable the “Override” button to change those buttons to override mode.
- Click the config button (gear icon) to exit config mode.

## USING THE TIMELINE

As with the cuelist window, you can:

- zoom in & out of the timeline using the +/- buttons, or the mouse wheel.
- run & pause the cuelist with the green go button.
- click the stop button once to fade out the cuelist (using the fade out time of the cue currently playing) and a second time to force the cuelist to stop playing immediately.
- use the < and > buttons to move to a different cue in the cuelist.
- see the current status of the cuelist (idle, running, fading out, waiting for trigger) is displayed on the top right.

## AUDIO EVENTS PLAYBACK

If any of the cuelists playing back have audio events, these will be played in sync with their parent cuelists. Multiple audio events from multiple cuelists can be played back simultaneously.

See the help page on the cuelist window for more information about audio events.

## TAP TEMPO & FX RESYNC EXPLAINED

You will notice the speed slider is marked in both percentage and musical bpm. You can change the relative speed of the cuelists and cue FX by moving this slider, or clicking and entering a new bpm figure.

The tap tempo button next to the speed slider allows you to manually tap in a rhythm, in order to match the FX speed with live music. You can tap the tempo using the mouse, or set up a keyboard/MIDI/wing remote controller (the event type is "TAP TEMPO" in the Preferences|Remote Control window).

The FX resync button (to the left of tap tempo) will re-trigger all currently running FX. This is used to periodically re-sync the cues with the live music (as they will inevitably drift apart over time).

So, how do you actually create your cues in the programmer to create nice tempo-synced FX? Rather conveniently, with a tempo of 120bpm, half a second is *exactly* 1 beat. So, to create a shutter chase that cycles exactly every 8 beats, just set the shutter chase time slider (in the programmer FX panel) to  $8 * 0.5s = 4s$ .

Then, when you adjust (or tap) the tempo in Show Control, the FX will adjust automatically to lock to the new tempo.

## SNAPSHOTS PANEL

### *New in release 1.7*

The snapshot panel allows you to quickly save & recall the overall state of the Show Control window (i.e. the current state of every button & slider) onto a single button. Snapshot buttons can then be used to recall full looks at a single click. This is a very powerful way to design & record complex looks during show programming.

Like normal Show Control buttons, snapshots can be triggered from external MIDI controllers, Enttec wings or via the OSC interface.

### ***Configuring the snapshot panel***

- Select File > Preferences.
- Under General > Show Control Window, edit the snapshot panel options as required.
- Close the Preferences window and close/open the Show Control window.

### ***Saving a new snapshot***

Simply click on any empty snapshot button and enter the name for that snapshot.

### ***Overwriting an existing snapshot***

Click & hold on the snapshot button to overwrite it with the current state. You can optionally edit the name whilst doing this.

### ***Deleting one or more snapshots***

- Click on the Show Control gear icon to enter edit mode.
- Shift-click on the snapshot buttons to highlight them
- Click “Clear” in the Properties window.
- Click the gear icon to exit edit mode.

### ***Changing the grid position of snapshots***

- Click on the Show Control gear icon to enter edit mode.
- Drag & drop the snapshots into the positions required.
- Click the gear icon to exit edit mode.

## ***Assigning an external controller to a snapshot***

You can trigger snapshots from a variety of controllers as follows:

- Click the config button (gear icon) to enter config mode. The Properties window appears.
- Click on the snapshot button to highlight it.
- Click on "Start trigger". The Trigger Properties window appears.
- Click on the tab (Keyboard | MIDI | Enttec Wing) you want to use.
- Select "Click to learn" and move/press the keyboard or control on the hardware.
- Click OK to close Trigger Properties
- Repeat as desired for other snapshots.
- Click the config button (gear icon) to exit config mode.

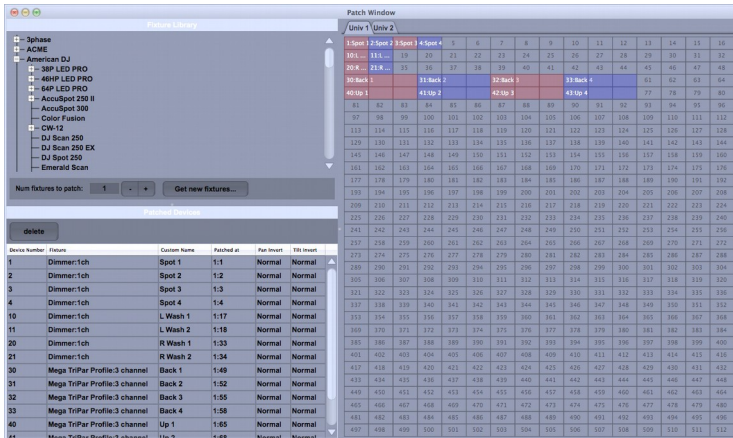
Now the snapshots will display their triggers above the label.

if you highlight multiple snapshots and learn from a MIDI controller, you will be asked if you want to trigger those buttons/sliders using a range of MIDI Notes or CCs.

For example, say you highlight 8 snapshots in edit mode, click to learn, and send MIDI Note 20. You will then be able to trigger the 8 snapshots using MIDI Notes 20,21,22...27.

# PATCH FIXTURES REFERENCE

Before you can start programming your light show, you need to tell D-Pro what DMX devices you have available to control. This is done from the Patch Window, which is accessed from the toolbar on the main window:



The top left is the Fixture Library panel, which lists all manufacturers and fixtures that are available for patching. These fixture profiles are stored locally on your computer. The “Get new fixtures...” button allows you to import extra manufacturers and fixtures into your D-Pro installation.

At the bottom left is the Patched Devices panel, which is a list of all fixtures that are patched in the currently loaded show.

On the right is the patch grid, which shows a visual map of all the patched fixtures and their offsets within their DMX universe.

## PATCHING A NEW FIXTURE

- First, locate the correct manufacturer and fixture in the fixture library. (Note that many fixtures have several different operating modes, so be sure to choose the one that matches the mode actually selected on your lights.)
- Next, specify the quantity of fixtures that you need to patch in the “Num fixtures to patch” field.
- Then select the appropriate universe tab in the grid. (The number of available tabs will depend on the version of D-Pro that you own)
- Drag the fixture name to the grid. As you move the pointer, you see a preview of where the devices will be patched. Drop the fixture name to patch the devices
- Finally, you are asked to enter a device number – do NOT enter the channel number where you patched the device! This is an arbitrary number that helps you to identify your fixtures while you are programming your show. So choose numbers that will be helpful to you - for example you could patch your parcans from 1-20, your scanners from 50-60...

## DELETING PATCHED DEVICES

To delete one or more patched devices:

- Select the device in the *Patched Devices* list. Use Shift-click or Ctrl-click to select more than one device if necessary.
- Click the *delete* button and select “Yes”.

The deleted fixtures will disappear from the patch grid and the *Device Browser* window. However, references to the deleted device are NOT deleted from your cues, palettes and cuelists. Thus, you can delete a device and re-patch it at a later date, and your cues will be unaffected.

## MOVING A PATCHED DEVICE TO A NEW DMX ADDRESS OR UNIVERSE

You can modify the DMX universe and address of a patched device by double-clicking on the “Patched at” column of the Patched Devices table and entering a new universe and channel number.

## CUSTOMISING DEVICE NAMES

Each patched device has a custom name (visible in the *Patched Devices* table). Since these names appear in the Device Browser, you probably want to rename the defaults (e.g. “AccuSpot 250 II:9ch 2/3”) to something more useful like “RGB Left A”.

To do this, double-click on the custom name in the *Patched Devices* table and change it.

If you have a logical group of identical fixtures (say 8 pinspots over a drum kit) you can quickly rename them in one step as follows:

- Click on the first custom name, then shift-click on the last one (to select all 8).
- With the shift key held down, double-click on the last custom name.

- Enter the custom name (e.g. “Drum Spot”)

The custom names of all 8 fixtures will change to “Drum Spot 1” to “Drum Spot 8”.

## **IMPORTING NEW FIXTURES**

A basic fixture library is shipped with D-Pro. More fixtures are available from our online database located at [fixtures.dmxis.com](http://fixtures.dmxis.com). You can also create your own customer fixtures, and optionally share these with other D-Pro and DMXIS users.

To import a fixture from the online database:

- Make sure you have a live internet connection.
- Click on the “*Get new fixtures...*” button.
- To import a private fixture that you have created with the online editor, enter your username & password then click “*Log In*”.
- To import a fixture from the public database, click “*No thanks*”.
- Locate the manufacturer and fixture required in the tree and click “*Import fixture...*”

The selected fixture will be imported from the online database directly into D-Pro, and will immediately be available for patching.

Note: if you need to re-import the fixture from the public database again (for example, to grab a bug fix to the definition) simply go through the above process again.



## COMMAND LINE REFERENCE

### GENERAL GUIDANCE:

- You can quickly switch to the command line from any window by pressing the "Esc" key.
- Recall and execute previous commands by using the up/down arrow keys.
- Commands are case insensitive (e.g. "RECORD GROUP 23" and "record group 23" are identical).
- Most commands have shorthand versions, see documentation below. (e.g. "RECORD CUELIST 100" and "REC CL 100" are identical).
- You can use the Remote Control tab of the Preferences window to record custom command line shortcuts, to perform common tasks for specific shows.

### SELECTING DEVICES

Type the fixture number to select it in the Device Browser.

Command	Meaning
2	Select fixture 2 in the Device Browser

Use "/" to select a range of fixtures

Command	Meaning
2/5	Select fixtures 2,3,4 and 5

Use "+" to select multiple fixtures

Command	Meaning
2+5+7	Select fixtures 2,5 and 7

Use "-" to unselect fixtures

Command	Meaning
2/6 - 4	Select fixtures 2,3,5 and 6

Type GROUP/G followed by a group number or name in quotes to select that group

Command	Meaning
GROUP "Scanners Left"	Select fixtures contained in the group named "Scanners Left"
GROUP 23	Select fixtures contained in group 23

## CREATING GROUPS

To create a new group, select the required devices in the Device Browser (as described in Selecting Devices above) then use the RECORD GROUP command:

Command	Meaning
RECORD GROUP 12	Save current selection as new group number 12
REC GROUP "My Group"	Save current selection as new group called "My Group"

## EDITING CUES & PALETTES

Select your devices followed by "@" and the level specified as a percentage, fixed DMX value or real number. All level changes are recorded into the cue or palette currently open in the programmer. (Note that the programmer window must be open before you can change levels).

Command	Meaning
20/30 @ 75	Set dimmer level on devices 20 through 30 to 75%
23 @ 190D	Set device 23 dimmer level to 190 (in the DMX range 0-255)
GROUP 12 @ 0.6	Set dimmer level for devices in group 12 to 0.6 (60%)
G "House Lights" @ FULL	Set dimmer level for group "House Lights" to maximum.

Quickly set device levels on & off as follows:

Command	Meaning
10/15-12/13 ON	Turn up devices 10,11,14 & 15 to full.
G 200 OFF	Turn all devices in group 200 to minimum level.

Nudge device levels up & down (relative to their current level) as follows:

Command	Meaning
70 @ +10	Turn up device 70 by absolute amount 10. For example, if the level is currently 140 (on the DMX scale 0-255) it will increase to 150.
G 200 @ -5%	Turn all devices levels in group 200 down by 5%.

Add FX scripts to the programmer as follows:

Command	Meaning
FX "Figure 8"	Apply the "Figure 8" FX script to the devices currently selected.
FX "Circles" 75 20 33	Apply the "Circles" FX script, and set the first 3 script parameters to 75, 20 and 33.

To save the current contents of the Programmer window as a new cue or palette:

Command	Meaning
RECORD CUE 33	Save programmer as new cue number 33
REC PALETTE "P 123"	Save programmer as new palette called "P 123"

## EDITING CUELISTS

To append a cue into the cuelist (currently displayed in the cuelist window):

Command	Meaning
ADD CUE 33	Add cue number 33 to the current cuelist
A C "Blue Wash"	Add the cue named "Blue Wash" to the current cuelist

To save the current contents of the Cuelist window as a new cuelist:

Command	Meaning
RECORD CUELIST 33	Save cuelist window contents as new cuelist number 33
R CL "Sunrise"	Save cuelist window contents as new cuelist called "Sunrise"

## PATCHING SIMPLE DEVICES (SINGLE CHANNEL DMX DIMMERS)

To patch one simple device:

Command	Meaning
PATCH 50 @ 2:325	Patch a single device (device 50) into DMX address 325 of Universe 2.

To patch a range of simple devices:

Command	Meaning
PATCH 150/199 @ 1:300	Patch 50 devices (devices 150-199) into Universe 1, from DMX address 300 up to DMX address 349.

## PARKING DMX ADDRESSES

You can park specific DMX addresses, which will lock those DMX addresses at their current values (regardless of what cues or cuelists are currently active). Parked addresses are visible in the DMX Output window as e.g. \*143\*.

To park and unpark a single address:

Command	Meaning
PARK 3:221	Park address 221 in universe 3
UNPARK 3:221	Unpark address 221 in universe 3

To park a range of addresses:

Command	Meaning
PARK 1:50/1:60	Park addresses 50-60 in universe 1
UNPARK 1:50/1:60	Unpark addresses 50-60 in universe 1

To unpark all addresses across all 8 universes:

Command	Meaning
PARK CLEAR	Unpark all addresses
PARK C	Unpark all addresses

## OSC REFERENCE

An OSC controller (such as TouchOSC or Lemur on iOS) can be used to remotely control D-Pro. This offers some significant advantages over MIDI, including higher resolution control and visual feedback of the D-Pro Show Control settings.

OSC communications are configured from the General tab of the Preferences window, see earlier section.

The following tables list all OSC messages that can be sent or received by D-Pro.

### SHOW CONTROL GENERAL

Command	Transmit (TX) or Receive (RX)	Description
<b>/sc/gm [level]</b> [level] = float from 0.0 to 1.0	TX+RX	Sets the Grand Master level. e.g. <b>/sc/gm "0.35"</b>
<b>/sc/gm/label [string]</b> [string] = the current GM level represented as a percentage.	TX	A string representing the Grand Master level. e.g. <b>/sc/gm/label "35.1%"</b>
<b>/sc/speed [speed]</b> [speed] = float multiplier from 0.25 to 4.0	TX+RX	Sets the global Speed value. e.g. <b>/sc/speed/label "35.1%"</b>
<b>/sc/speed/label [string]</b> [string] = the current show speed represented as a percentage.	TX	A string representing the Grand Master level. e.g. <b>/sc/speed/label "35.1%"</b>
<b>/sc/tempo [tempo]</b> [tempo] = float multiplier from 30.0 to 480.0	TX+RX	Sets the global Speed value using a tempo. e.g. <b>/sc/tempo "145"</b>
<b>/sc/tap</b>	RX	Call repeatedly to set the tempo. Equivalent to clicking repeatedly on the Show Control 'Tap Tempo' button.
<b>/sc/sync</b>	RX	Call to restart any cues with oscillators. Effectively, this retriggers any chases.
<b>/sc/reset</b>	RX	Call to immediately stop all active cues & cuelists. Equivalent to clicking the red Show Control 'Reset' button.

## SHOW CONTROL BUTTONS

Command	Transmitted or Received by D-Pro	Description
<p><b><i>/sc/btn/run/t/r/c [state]</i></b>  <i>t/r/c</i> = tab/row/column of the button  <i>[state]</i> = 0 (stop) or 1 (start)</p>	TX+RX	<p>Start &amp; stop the cue or cuelist on the specified button.            e.g. <b><i>/sc/btn/run/2/4/7 "1"</i></b></p>
<p><b><i>/sc/btn/label/t/r/c [name]</i></b>  <i>t/r/c</i> = tab/row/column of the button.  <i>[name]</i> = string containing the button name</p>	TX	<p>Sends the name of a Show Control button to the connected OSC controller.</p> <p>When the Show Control window is opened, this message is sent for every button in the window. This allows remote OSC controllers to display the real names of the Show Control buttons. The message is also transmitted when the name or position of a Show Control button is changed.</p> <p>e.g. <b><i>/sc/btn/label/2/4/7 "Blue Stage Left"</i></b></p>
<p><b><i>/sc/btn/speed/t/r/c [value]</i></b>  <i>t/r/c</i> = tab/row/column of the button.  <i>[value]</i> = float multiplier</p>	RX	<p>Sets the relative speed of oscillators running in the cue on this button.</p> <p>This allows the speed of oscillator-based chases to be adjusted on a cue-by-cue basis, in addition to the global speed control.</p> <p>e.g. to halve the speed of button on tab 1, row 6, col 3: <b><i>/sc/btn/speed/1/6/3 "0.5"</i></b></p>
<p><b><i>/sc/btn/phase/t/r/c [phase]</i></b>  <i>t/r/c</i> = tab/row/column of the button.  <i>[phase]</i> = float between 0.0 and 1.0.</p>	RX	<p>Sets the phase (chase starting point) of the cue on this button.</p> <p>Only affects buttons containing cues/cuelists with active oscillators</p> <p>e.g. start cue at fixture #7 of a 10 fixture chase: <b><i>/sc/btn/phase/2/3/1 "0.7"</i></b></p>

## SHOW CONTROL FADERS

Command	Transmitted or Received by D-Pro	Description
<p><b><i>/sc/fade/run/t/r [level]</i></b>  <i>t/r</i> = tab/row of the fader.                      [level] = float level from 0.0 (stopped) to 1.0 (running at full level)</p>	TX+RX	<p>Run the cue or cuelist on the specified fader, with the specified level.                      e.g. run fader on tab 2, row 7 at 30% level:  <b><i>/sc/fade/run/2/7 "0.3"</i></b></p>
<p><b><i>/sc/fade/label/t/r [name]</i></b>  <i>t/r</i>= tab/row of the fader.                      [name] = string containing the fader name</p>	TX	<p>Sends the name of a Show Control fader to the connected OSC controller.                      When the Show Control window is opened, this message is sent for every fader in the window. This allows remote OSC controllers to display the real names of the Show Control faders. The message is also transmitted when the name of a Show Control fader is changed.                      e.g. name fader on tab 2, row 4: <b><i>/sc/fade/label/2/4 "Blue Stage Left"</i></b></p>
<p><b><i>/sc/fade/speed/t/r [value]</i></b>  <i>t/r</i> = tab/row of the fader.                      [value] = float multiplier</p>	RX	<p>Sets the relative speed of oscillators running in the cue on this fader.                      This allows the speed of oscillator-based chases to be adjusted on a cue-by-cue basis, in addition to the global speed control.                      e.g. halve the speed of the fader on tab 1, row 6: <b><i>/sc/fade/speed/1/6 "0.5"</i></b></p>
<p><b><i>/sc/fade/phase/t/r [phase]</i></b>  <i>t/r/c</i> = tab/row of the fader.                      [phase] = float between 0.0 and 1.0.</p>	RX	<p>Sets the phase (chase starting point) of the cue on this fader.                      Only affects faders containing cues/cuelists with active oscillators.                      e.g. start at fixture #7 of a 10 fixture chase: <b><i>/sc/fade/phase/1/6 "0.7"</i></b></p>

## SHOW CONTROL SNAPSHOTS

Command	Transmitted or Received by D-Pro	Description
<p><b><i>/sc/snap/run/t/r/c [state]</i></b>  <i>t/r/c</i> = tab/row/column of the snapshot button                      [state] = 0 (stop) or 1 (start)</p>	TX+RX	Run the specified snapshot. e.g. <b><i>/sc/snap/run/2/4/7 "1"</i></b>
<p><b><i>/sc/snap/label/t/r/c [name]</i></b>  <i>t/r/c</i> = tab/row/column of the snapshot button.                      [name] = string containing the snapshot button name</p>	TX	Sends the name of a Show Control snapshot button to the connected OSC controller.  When the Show Control window is opened, this message is sent for every button in the window. This allows remote OSC controllers to display the real names of the Show Control buttons. The message is also transmitted when the name or position of a snapshot button is changed.  e.g. <b><i>/sc/snap/label/2/4/7 "Blue Stage Left"</i></b>



## REVISION HISTORY

### RELEASE 1.9

- New single installer for 2U, 8U and demo modes of operation.
- New fully functional demo mode (with intermittent blackouts of DMX data).
- Windows can now be positioned across multiple displays. Snapping of windows can be disabled if required via Preferences.
- New "Default layout" button returns windows to their default size & position on the primary display - handy if you lose a window! (Also available via Cmd-Shift-R keyboard shortcut)
- Improved project file naming. Automatically add ".dsf" extension if necessary. Display user supplied name on retries. Prevent overwrite of existing projects.
- Removed redundant double warning on programmer reset.
- Alt-F4 will now close the current window (PC only).
- Bugfix : UI was slowing or locking up when large volumes of incoming MIDI CC data received.
- Bugfix: fixed Device Browser grid layout problem.
- Bugfix: programmer now reflects device browser selection when first opened.
- Bugfix: random buttons highlighted when first opening Show Control config window.
- Bugfix: crash following import of a modified fixture which is already patched in the show.
- Bugfix: 16 bit channels were not crossfading correctly within cuelists.

### RELEASE 1.8

- D-Pro 2U license now includes the PRO Mk2 Standalone Playback feature.
- Added **momentary** feature to Show Control. Allows flash buttons to be created. Works with mouse, keyboard & MIDI control.
- Added **override** feature to Show Control buttons & submaster faders. Allows direct control of one or more DMX channels, overriding all other current cues & cuelists.
- Art-Net **sub-net** and **universe** parameters added to the Preferences window.
- DMX output refresh rate can now be customised (per-show) from the Preferences window.

- Improved speed of multiple cell edits in cuelist editor. Start triggers were taking several minutes to save with long cuelists.
- Improved Show Control mouse handling. Buttons activate immediately upon mouse key presses.
- Increased max Show Control fade times from 60s to 10 minutes.
- Patch window : can now edit ***universe:channel*** for multiple fixtures simultaneously. Handy for shifting blocks of RGB pixels around.
- Fixed keyboard handling on OS X - the system 'alert' sound is longer heard when pressing a key.
- Bugfix : in Patch window, fixed crash (and possible show file corruption) when a newly patched fixture exceeds channel 512.
- Bugfix : fixed ESC key handling (was not switching from command window back to original window)
- Bugfix : Fix 16 bit pan/tilt editor in programmer window, when 'fine' channels appear after the main 'pan/tilt' channels in the fixture definition.
- Bugfix : display help message when DMX USB PRO box running (incompatible) 2.4 firmware is connected.
- Bugfix : D-Pro Player displays error message if last-opened D-Pro project not found.

## RELEASE 1.7

- Added Show Control snapshots. (Allows you to quickly record & recall the state of the Show Control window)
- Improved usability of config window in Show Control. (Multiple buttons & sliders can now be edited simultaneously)
- Added multiple selection to Library window:
  - Multiple items can be dragged between folders.
  - Multiple cues can be dragged into a cuelist.
  - Multiple palettes can be dragged into the programmer.
  - Multiple cues & cuelists can be dragged into show control.
- Added "DIRECT CONTROL" option (Preferences > Remote Control screen) which allows an external controller to override the value of any DMX channels. Useful for e.g. manual control of moving head positions from an XY MIDI controller.
- [File > New Show...] displays a default project filename.
- Bugfix: [Preferences > Remote Control] operation was broken if OSC disabled.

- Bugfix: current MIDI trigger was not displayed in Event window.
- Bugfix: Fixed problems with 16-bit moving head fixtures with pan/tilt channels higher than channel 3. (Bug manifested itself as random zeroing of DMX channels 0-3 when playing a cuelist)

## **RELEASE 1.6.2**

- Added OSC remote control.
- Oscillator pulse width resolution increased to 0.01% (was 1%)
- Bugfix: fixed intermittent startup crash on OS X.
- Bugfix: fixed MIDI latching behaviour for radio buttons on Show Control.
- Bugfix: MIDI control of Show Control speed slider was broken.
- Bugfix: fixed crashes when a device is set to "Not Patched" (0:0) in the patch window.
- Bugfix: prevent Show Control buttons from activating following a drag/drop operation.

## **RELEASE 1.5.6**

- Added support for OS X 10.11 (El Capitan) and Windows 10
- Enhancement: Added support for the standard OS X serial FTDI driver on OS X 10.8+. The FTDI Driver Control utility is now redundant, and D-Pro is now compatible with other hardware (e.g. Arduino) that needs access to serial FTDI drivers. If required, the serial drivers can still be disabled via the driver control utility, and D-Pro will revert to using the D2XX drivers as in previous releases.
- Bug fix: Fixed intermittent flashing on DMX outputs when editing in the programmer.
- Bug fix: oscillators not working on channels higher than the RGB channels on an RGB fixture.
- Bug fix: Show Control sliders were not setting DMX channels to maximum range.
- Bug fix: intermittent glitches in DMX output when running a cuelist from a Show Control radio button.
- Bug fix: crash in Device Browser grid tab when shift-selecting fixtures in reverse order.

## **RELEASE 1.5.3**

- Fixed to work with MIDI input feature of the DMX USB Pro Mk2 hardware.

- Modified installers to check for minimum OS requirements (Windows Vista, OS X 10.7)

## RELEASE 1.5.2

- Bugfix: fx scripts now work reliably in D-Pro Player.
- Cuelist window: Improved editing workflow. Cues can be selected by clicking in the timeline. The current playback position can be set by clicking in the table/timeline. Playback will not rewind following every edit.
- Cuelists: Fixed glitching in cuelist audio playback.
- Cuelist bugfix: Fixed fade problems with long in/out times. (Channels were jumping around with fade times > 10 seconds),
- Show Control: Added 'Buttons latch via MIDI' global option (selected from Preferences window). When active, buttons will toggle on/off in response to MIDI NoteOn and CC (value>64) messages. NoteOff and CC<64 are ignored. This lets you use MIDI controllers with no "latching" button behaviour. When the option is disabled, buttons will activate as before, via NoteON & NoteOFF messages and switch at CC level 64.
- Bugfix: Show Control buttons now react properly to MIDI Note On/Off and CC messages. Previously, the buttons could flicker on/off unreliably.
- Show Control: Added MIDI Out option. Sliders & buttons on Show Control can report their current settings in realtime to any chosen MIDI controller. (Configured from the Preferences window),
- Show Control: Tap Tempo and Resync buttons can now be controlled from keyboard (via Preferences > Remote Control).
- Show Control: 'Reset Output' button can now be remotely controlled (via Preferences > Remote Control).
- Show Control bugfix: When a Show Control cuelist button was repeatedly activated by MIDI CC data, the CPU would overload.
- (Mac only) FTDI driver conflicts are now handled by D-Pro. The Apple FTDI driver, which causes comms problems with Enttec hardware, is automatically disabled whenever necessary. The Apple driver can also be manually enabled/disabled as required from the Preferences window. (It is still necessary to enter the OS X admin password when prompted).
- D-Pro on Mac is now a universal 32/64-bit application.
- Fixed 'Attribute Oscillator' FX script to work with any combination of RGBAW channels. (In previous releases, white channels could not be controlled FX scripts).
- Added reconnect all button to Preferences window (to allow Enttec hardware comms to be refreshed).

- Bugfix: fixed intermittent lock-ups of DMX output data,
- Reworked 'Import Fixtures' dialog (in Patch window). Now displays basic help and links to the online library.
- Improved reliability of hardware comms, DMX engine timing accuracy & general reliability.

## RELEASE 1.4.2

### New features & improvements

- Added support for PRO Mk2 MIDI input.
- Added PRO Mk2 standalone shows. (*D-Pro 8U only*)
- Added D-Pro Player (simple show player which displays only the Show Control window @ full screen. Ideal for use by staff in permanent installs at bars/restaurants etc)
- MIDI input devices can be selectively enabled & disabled from Preferences window.
- Improved CPU performance of Device Browser Physical panel.
- Improved performance when saving groups, opening cues into programmer, resetting the programmer.
- Various performance improvements for shows with large numbers of patched devices e.g. pixel arrays.
- Device Browser now hides text when zoomed small. Looks better for pixel mapping setups.
- Added French & Spanish language support
- Improved audio playback reliability and timing accuracy with longer cuelists.

### Bug fixes

- Show Control bug fix - the round-robin feature broke the scenario where you have multiple blackout cues sharing the same trigger across multiple radio groups (only the first cue was triggering)
- Fixed glitches in DMX output when crossfading between cues in cuelists.
- Fixed memory leak when working with cuelists containing multiple audio files.

## RELEASE 1.3.1

### New features & improvements

- Added support for multiple languages.
- Added pan/tilt faders to programmer XY pad (allows keyboard entry of pan tilt values).
- New look Show Control window.
- Improved cuelist behaviour. By default, only dimmer/colour/pan/tilt channels cross fade between cues. Other channel types (gobo, control, beam etc) will snap to their target value. The advanced timing menu still allows full customisation if necessary.
- Added tap tempo and resync FX buttons to Show Control.
- Added remote control support for FX resync and direct tempo control (60-187bpm on a simple CC).

- Buttons in Show Control can be re-ordered by drag/drop.
- Panels in Show Control can now be hidden (Preferences window).
- Added “round robin” radio groups to Show Control.
- Improved CPU performance.
- Added “UNPARK” command.
- Added "play immediate" cue list option to Preferences window (when next/prev is selected in the timeline, the cue plays immediately instead of pausing the cue list)

#### Bug fixes

- Fixed intermittent programmer crash following an edit in the patch window.
- Bugfix – Show Control stopped responding to trigger events following a change in Preferences|Remote.
- Bugfix - allow fade outs to complete in cue lists when pausing between cues (Previously, fade-outs were pausing as well).
- Bugfix - 'fine' channels of 16 bit oscillators were not running accurately.
- Fixed reliability issues with 2U licensing system.
- Fixed corrupted message dialogs in Windows 8.
- Fixed USB hardware connection issues (serial number was not being initialised correctly in preferences window)
- Fixed 8U USB key issues on Windows 8.
- Fixed startup crash when no network connection available.
- Fixed intermittent Programmer crash in Python FX engine
- Fixed crash when shift-selecting first device in List tab of Device Browser.
- Fixed crash pressing Playback Wing flash button in learn mode.
- Cue lists - the existing cue now holds at the right level when waiting for a trigger. In particular, the level does not drop to zero when a trigger point is reached and the existing cue has a 0ms fade time.
- Apostrophes may now be used in cue names, cue list names etc.
- Prevent programmer from transmitting DMX changes for attributes that have not explicitly been modified. Fixed the problem where default values (e.g. Pan/Tilt = 127/127 in the fixture profile) were being reset to 0/0 when the device is selected.
- Fixed OS X installer signing so that installer runs correctly on 10.6 (Snow Leopard).

### **RELEASE 1.3.0**

#### New features & improvements

- OS X installer now supports Mountain Lion (gatekeeper)
- 8U and demo versions can be installed side-by-side on OS X. Allows offline editing when the 8U license key is unavailable. (Already possible on Windows)
- Device Browser can now display a background image (e.g. a picture of a stage or bar/restaurant)
- Every patched fixture can now display a fixed beam in the Device Browser (with custom colour, direction, throw & beam angle). Greatly enhances the visualisation of rigs with

traditional or LED parcans, especially when combined with the ability to load a background image

- Added scrollbars & zoom control to Device Browser (value is saved per-show).
- Added support for CMY, RGBA, RGBW and RGBAW fixtures to the programmer (colour editor), device browser and online fixture editor.
- Each attribute in the programmer has an "active" button, showing at a glance which attributes have been modified.
- Clicking on a lit "active" button in the programmer will delete that attribute value from the recorder.
- Added display of audio waveforms (Cuelist and Show Control windows).
- Cue numbers are now displayed in cuelist timeline (as well as cue names)
- During cuelist playback, the current cue is highlighted (in both the timeline and the cuelist table)
- Added support for DMXIS footswitch input. A DMXIS footswitch can now start/stop Show Control buttons, drive cuelists and perform any global remote control actions.
- Programmer : the priority order of palettes & attributes can now be edited (via drag/drop directly in the recorder table)
- Show Control GM and SPEED controls can now be controlled from MIDI (from Preferences window)
- When a show is loaded, missing fixture definitions can now be automatically downloaded from the online library.
- Added support for Enttec PRO2 box (new option in hardware preferences, allows 2 universes to be output).
- Improved window colour scheme (now generates more visible contrasting colour for darker schemes)
- Added HH:MM:SS running clock to cuelist status text
- Improved layout & appearance of attribute panel in Programmer
- Drastically improved startup time of "Get new fixtures" dialog in Patch Window.
- A single-click on a group in the library window now loads it (previously required double-click)
- Added support for 16 bit crossfading in cuelists.
- Increased resolution of MIDI loop (to decrease MIDI controller latency)
- Window positions & sizes are now saved per-show. (Previously, window positions were global)
- Reduced CPU load of DMX Output window.
- Programmer "Save" button no longer prompts user.
- "Delete" button in Programmer now allows deleting single row or full table.
- Warn user before closing Show Control window, closing current show file, or closing application that the DMX output will be stopped.
- Ambiguous "clear" button in Programmer replaced with "reset" (which does a full reset of the window)
- Colour editor in Programmer now has clear 0-255 sliders
- Added crosshairs to Pan/Tilt pad in programmer.

- Improved performance when changing levels of multiple devices from the command line.
- Show Control now updates automatically on palette changes.
- Cuelists now update (following programmer/cuelist window saves) without stopping cuelist playback.
- Display generic faders in percent, not 0-255.
- Remember Library node openness when saving new cues, cuelists etc. (Previously, all child folders would close)

#### Bug fixes

- Cuelists: fixed errors in timing & playback of audio files.
- Fixed OS X file permissions on fixture database. (In some cases, a write error prevented new fixtures from being added).
- Can now add a palette multiple times to a cue (with different device selections). Previously gave an SQL error.
- Command line: Fixed double character when first typing (windows only)
- Command line: Deselect all devices when clearing the line following a selection
- Command line: Typing "G10" would select both groups G1 and G10.
- Fixed command line bugs on Mac: dynamic parsing (where device selections happen as you type) was broken. This in turn broke the overall group/device selection mechanism.
- Show Control window now updates automatically when underlying cues or cuelists are modified.
- Pan/Tilt LSB values were not being recorded in cues.
- Improved Programmer window handling. Now prompts user consistently to save edits before closing or reloading.
- Last selected group in device browser could not be reselected following a programmer reset.
- Programmer window intermittently prompting for save even when nothing was edited.
- Fixed crash opening Show Control when Library window is closed.
- Values were not saved properly when clicking and typing a value on an attribute fader.
- The Grand Master fader now fades RGB channels.
- Can now edit universe:channel in the patch window.
- Fix crash on exit.
- Fixed crash when selecting "edit" in preferences/output tab after deleting an output.
- Fixed crash when selecting devices e.g. 4-1 in the grid or list tab of the device browser.
- Can now assign a group number "0" (previously, group 0 would not load from cmd line properly)
- Output data is cleared when Programmer blind mode is activated.
- Fixed timing inaccuracies in cuelists. Each event was slipping by 40ms (1 frame). With long cuelists the inaccuracies would get worse as the show progressed.



## RELEASE 1.2.2

- Added 'File > Save Show As' menu option.
- Added 'File > Recent shows' menu.
- *Main window*: Fixed error when trying to save a new show using the name of an existing file.
- *Enttec wing support*: added support for Back/Go buttons on Playback wing..
- *Command line*: fixed crash when Device Browser window not open and command is typed.
- *Show Control*: fixed bug where cuelists could not be dragged onto pages 2 or higher.
- *Command line*: fixed crash when trying to adjust dimmer levels of devices with no dimmer channel

## RELEASE 1.2.1

### New features

- *Device Browser*: Added **arrange** menu to physical tab (horizontal/vertical/grid layout of selected devices).
- *Show Control*: Added **Reset** button to Show Control window (returns all channels to default and stops all cues/cuelists).
- *Patch window*: Window contents are updated immediately when new fixtures imported (previously a reload of the show was required).

### Issues fixed

- *Cuelist/Show Control windows*: fixed problem where FX from the next cue were loading too early, when a cuelist is paused waiting for a hardware event.
- *Show Control*: Devices with additional colour channels (e.g. RGBAW) now crossfade correctly.
- *Cuelist window*: Improved cuelist **save** time.
- *Programmer*: Improved time taken to open complex cues.
- *Device Browser*: Improved response times in physical tab (when moving devices).
- *Show Control*: When crossfading between buttons in a radio group, dimmer levels no longer "dip".
- *Cuelist window*: Improved behaviour of audio event playback.
- *Patch window*: Login dialog now hides the password.
- *General*: Fix crash when fixtures unpatched from a show. Now warns when unpatched devices are found in a cue/palette.
- *File handling*: Switched to standard file>open and file>new dialogs (more reliable operation, allows creation of folders).
- *File handling*: Allow shows to be loaded & saved with any file extension (do not enforce use of '.dsf').
- *Patch window*: Removed **Import All** button. Too slow to be useful.
- *General*: Added support for fixtures with multiple dimmer channels
- *DMX output*: Improved accuracy of DMX timing.

## RELEASE 1.2.0

### New features

- Patch window: Private fixture definitions can now be imported (simply click on "Get new fixtures..." then enter your fixture editor login details)
- Cuelist window: Added support for dragging WAV, AIFF, FLAC, CAF audio files into timeline.
- Progress dialog is now displayed when connecting to Enttec DMX hardware.
- Programmer window: Added RGB faders.
- Main window: simplified PATCH command and updated associated help text.

### Issues fixed

- Show Control & Cuelist windows: Fixed lock-up when cuelist stops playing at a cue with 'Action when done' = 'Stop cuelist'.
- Show Control window: Fixed crash when modifying properties of a button which is running;
- Show Control & Cuelist windows: Cues in a cuelist with 'Out' = 'No Fade' were not holding their values.
- Cuelist window: Fixed timeline rendering of cues where 'Out' = 'No Fade'.
- DMX engine: Fixed glitches in DMX output when Speed>100%.
- Programmer window: Fixed crash when displaying attributes for a device which has errors in its fixture definition.
- Show Control window: Fixed intermittent lockup.
- Programmer: Fixed error when trying to modify & save a cue containing palettes.
- DMX engine: Fixed playback of cues with multiple palettes (when device filters are applied)

## RELEASE 1.1.0

- Initial public release