Cloning with macros (rev. 1 - 8/8/2002)

1. The general syntax of cloning

Cloning information from one fixture(-group) to another fixture(-group) is a nice timesaving tool when you program on the wholehog 2 that is often overlooked since it does not have a dedicated button. The idea is to copy information that is assigned to one or more fixtures in the programmer and copy it to another selection of fixtures.
It is important to understand that the information has to be in the programmer. You can not clone from the playback!
To bring in information from the playback into the programmer use the ACTIVE syntax of the board, or load a cue into the programmer. Be aware that using ACTIVE will loose the timing information that is assigned to the parameters. So Load will be our choice for now.

The general syntax of cloning is:

- Bring the information you want to clone into programmer
- Select the destination fixtures (e.g. select a group)
- Hold PIG and press Copy, the screen reads 'clone from'
- Mask the desired parameters (Focus, Colour, Beam,Time)
- Select the source fixture(s) (e.g. Studiocolor 10)

Now you have both source and destination fixtures in the programmer, and the information is cloned. Clone works between all fixturetypes, but if there are parameters that do not exist between the fixturetypes, this information will not be touched.

The source and destination fixture can be the same. That makes it very easy to reverse e.g. spread colours or timing information. For instance, the washlights in a truss are spread over a colorrange, so that on the the left end of the truss the wash starts in blue and gradually changes to the right end of the truss in red.
To reverse the colourwash, so that it is red (left) to blue (right) you have to do the following steps:

- Bring the original wash into the programmer (lets say fixture# 1-15)
- PIG+COPY: the commandline says 'clone from'
- Type : '15-1'
- Mask 'use C'
- Hit ENTER

The wash is now reversed, and you can save it into a cue, a palette or whatever you decide to do with it. Reversing staggered timing works the same way. During cloning, mask 'use T' instead.
All parameters can be masked.

2. Cloning palettes with macros

Some cloning needs can get very laborious. Let's say you programmed 100 color-palettes for a MAC600 that operates in DMX-Mode 4. If for some reason you have to use MAC's in Mode 2, these palettes won't work, although it is the same fixture, same CMY-system etc. The wholehog uses fixture and manufacturer-numbers in the rom-library to assign the palettes (and the entire programming) to the fixtures. MAC 600 can be patched in Mode 2 or Mode 4, therefor these are completely different fixtures for the console, because they have different fixture numbers. So do you have to reprogram all pallettes and cues to use the MAC's in the different mode?
Yes, but you can nearly automate this process.

First of all, have at least one 'new' fixture patched to the board that you want to use instead of the existing fixture. If you are cloning palettes that contain more than one fixture, you have to patch all the fixtures you need. An example would be a position-palette.
In our case, we have a bunch of 600's in Mode4, and we add one 600 in Mode2 in the fixture schedule; then patch it somewhere on an output. You don't have to have the fixture live on stage to go through this process. Give each fixture a unique usernumber (My Mode4 has #1, the Mode2 has #100). Store fixture #1 in Group 1, and store fixture # 101 in Group 2. If you are cloning palettes that are the same on ALL fixtures, like maybe a color on a colorwheel, have only one fixture in the group, so that the palette is autoexpanding on all fixtures of that type. If your has several fixtures, like a position-palette, have all necessary fixtures in the group. You may need to reprogramm the groups. Depending on your palettes, you may even have to clone them manually.

Before you start the cloning process, close all windows on all screens. Open the programmer on the left touchscreen and open the palette window (in our case colour) on the right touchscreen in fullscreen. Be carefull not just to maximize the window, resize it with the resize-window button above the right touchscreen. Save this view and name it e.g. 'cln-pal'

For each pallette (e.g. Color 5) you would like to clone, it is the same syntax as explained before.
Load the pallette in the programmer (what will select all Mode4 units),

GROUP 2 PIG+COPY GROUP 1 ENTER UPDATE

Group 2 = destination fixture
PIG+CLONE = clone from
Group 1 = source fixture
ENTER = execute the commandline
UPDATE = updates the paletteand clears the programmer

Reload the palette into the programmer and you will find that both Modes are part of the palette now.

For the next 99 palettes you could do the same manual steps, but it would take some time… and what about Focus and Beam?

To automate this process, we have to 'trick' the console a bit. There is no way to tell the board:
take palette xy, clone it, update then take palette xy+1 , clone it and so on.
Instead, we have to write a macro, that contains all steps necessary to clone one entire row of a touchscreen, then shift the whole touchscreen one row down (Pig+ ARROW DOWN of the window controls), and have the macro restart itself through a loop-command with a counter that reflects the amount of rows we want to clone (e.g. count 10 for 10 rows of colors, or count 30 for 30 rows of positions…). You could also choose a high number that will most likely cover everything like 100 (= 1000 palettes) and go for a cup of coffee in the catering if you like…
If a palette is empty or does not contain any information for the desired unit (the Mode2's) it will just ignore the adjustment, since there is nothing to clone.
If parameters do not exist between the source and destination (in our case the timing channels of the MAC's) they will just be ignored by the console.

To execute a macro from the command line type MACRO X ENTER, subsitute X with the place your cloning macro is stored. It will only execute the macro stored in position X of the macro window, regardless of it's name. Just the same thing as firing virtual cuelists (and a macro is pretty much the same). You could also move it on a master and hit GO.

If your colour-palettes where successful cloned, you might close the colour-window, open the position-window (PIG+FOCUS) have it sitting in the exact same touchscreen in the same fullscreen-size and start your macro again. The macro we made contains only touchscreen-presses and does not know what is displayed at the time you start it, so it is universal for all palette-windows. It won't work for any other type of window though.

3. Cloning cuelists with macros

When you programmed a show with certain fixtures, there is no way build into the board to swap them for a different type, not even if they are very similar, like our example of the MAC 600's. You have to load the cue, give the new fixture the information the 'old' one had (with cloning or other ways of programming) and update the cue. You can knock out the 'old' units, but I highly recommend leaving them in unless you have a seriuosly big rigg where the console would have significant trouble refreshing the information for twice the fixtures. Don't bother to knock out the information if you swap 30 fixtures or so. You might find yourself in the need to swap the units again.

There are some things you have to prepare before you can start cloning your cues. I will use the same 600's from chapter 2 to explain this.

Make sure all palettes of the Mode4's have the same information for the Mode2's, either by running the macro over the palette window or manually updating the palettes. Save **ALL** Mode4's in Group # 11 and **ALL** Mode2's in Group# 12.

In general:
Everything that does not sit in palettes will end up in raw values, and updating palettes later on won't affect the cuelists anymore. If for instance you can't do Focus-Palettes because the rigg is off or you are just sitting in the back of a warehouse without any fixtures hooked up, put the units in 50-50, but have them sitting in a palette. Even edge-focus for gobo's should be in palettes, since the swapped units will have slightly different optics. Be very precise about all this before cloning a single cue or palette.

The syntax we use for cues is very similar to the palettes:

Load x/y, GROUP 12, PIG+COPY, GROUP 11, ENTER, UPDATE

Load x/y = Loads cue y from master x into the programmer
Group 12 = destination fixtures
PIG+COPY = clone from
Group 11 = source fixtures
ENTER = execute command line
UPDATE = updates the cue and clears the programmer

To automate this process, we have to change the view we used before. Close the palette-window, and open the cuelist window of master 1 (PIG+CHOOSE) and have it sitting in the right touchscreen. Activate 'Follow current' in the cuelist window.
Save it as a view (like 'cln-list')
PIG-RELEASE the console and have cue 1 sitting in the first row.

The macro will have the following syntax:
Load cue (hit the first cue on the touchscreen) clone the fixtures, update the cue
Unfortunately we have to include the first page of cues into the macro before we start having the console stepping down automaticly.
After 13 cues (that's how many fit on the screen) the macro will step one row down (PIG+ARROW DOWN) and from then on use the same position on the touchscreen over and over again, until the loop count is done (the count should be the total # of cues-13)

That's the macro already. Put a cuelist on master one and execute the macro#
Next cuelist, macro and so on.

3. Summary and comments

Be very carefull with macros. Never run a macro if the screen is not sitting in the correct view. It is possible to add the view in the beginning of the macro, but I personally prefer not to.
Running macros on the HOG-PC can freeze your system. Save often when you use macros. You can speed up or slow down the macros by changing all wait times. My experience is that a wait-time of 0.2 s can be handled safely by the board. If you speed further up, you might start loosing steps.
For cloning more diverse fixtures, like between a Studiospot and a Mac500, you may have to spend more time building palettes for the two fixtures. Try to have as much as possible in palettes, and of course use them always during programming. It's a good habit anyhow. The 'automatic' cloning will not produce reliable results when parameters do not sit in palettes.
A good example is the strobe channel of the fixtures. Cloning the %-value will give competely different results of strobe speeds or, since the MAC's reset-commands are on the same channel, a ramp-strobe on the Spot might reset your Mac or turn off the bulb. Try to match the strobe speeds and put them in palettes that contain both fixtures. When you clone, the console will go by the palette, not by the dmx-value. The Wholehog III will go this way automaticly by abstratcting the fixtures from the dmx-values, so that a 5 hz strobe will be 5 hz on whatever fixture you choose.
To open a macro, hold PIG and press the macro-button in the macro-window. The macro looks like a cuelist, and you can do changes in there. To prevent the maro from running when you press it on the touchscreen, you should activate 'Guard cuelists' in the control-panel. If a you want to stop a macro from running, you can hold RELEASE and press the macro# in the macro-window (not the MACRO-Key), or PIG-RELEASE the console, what is the fastest way.

The zip-file contains a show that has several macros.

Macro 1 is the palette cloning, and macro 2 will clone the quelists. I patched three types of Mac600's into the show, and have around 60 colourpalettes that when you look at them the first time will only work for Mac600 Mode4. The groups are made for Mode2 and Mode4, and the macro will run correctly rightaway when you select the correct view first. I included two more macros 11 and 12, that are just copies of 1 and two, but have the wait-time between the steps set to 1s, so you can follow the steps on the screen.
I added macro 21: You have to load the values first (load palette or load cue), then execute the macro with MACRO 21 ENTER. It will use Group1 as the source and Group2 as the destination.

You can merge the macros into existing shows and use them there. Set up the necessary views and groups before you run them.

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