

## Welcome to Strand Lighting's Tutorials for the PaletteOS



PaletteOS is the Palette Operating Software and it runs on all consoles...large and small.

Basic Record is the second tutorial in this series and it is about storing fixture data in cues, groups and submasters then playing it back or recalling the item and editing that data. This is commonly used for scripted environments like theatre, opera and dance as well as unscripted environments like meetings, assemblies and corporate events. This tutorial does assume that you have gone through the Channel Control tutorial and have a firm understanding of that topic.

This tutorial will provide you with comprehensive instruction for the covered topic. Just follow along and look for more tutorials in the future.

Any tutorial syntax for you to follow along will be in bold. An example is...

**RECORD CUE 1 ENTER**

Now relax...power up the console or the Off-Line Editor and let's get started.

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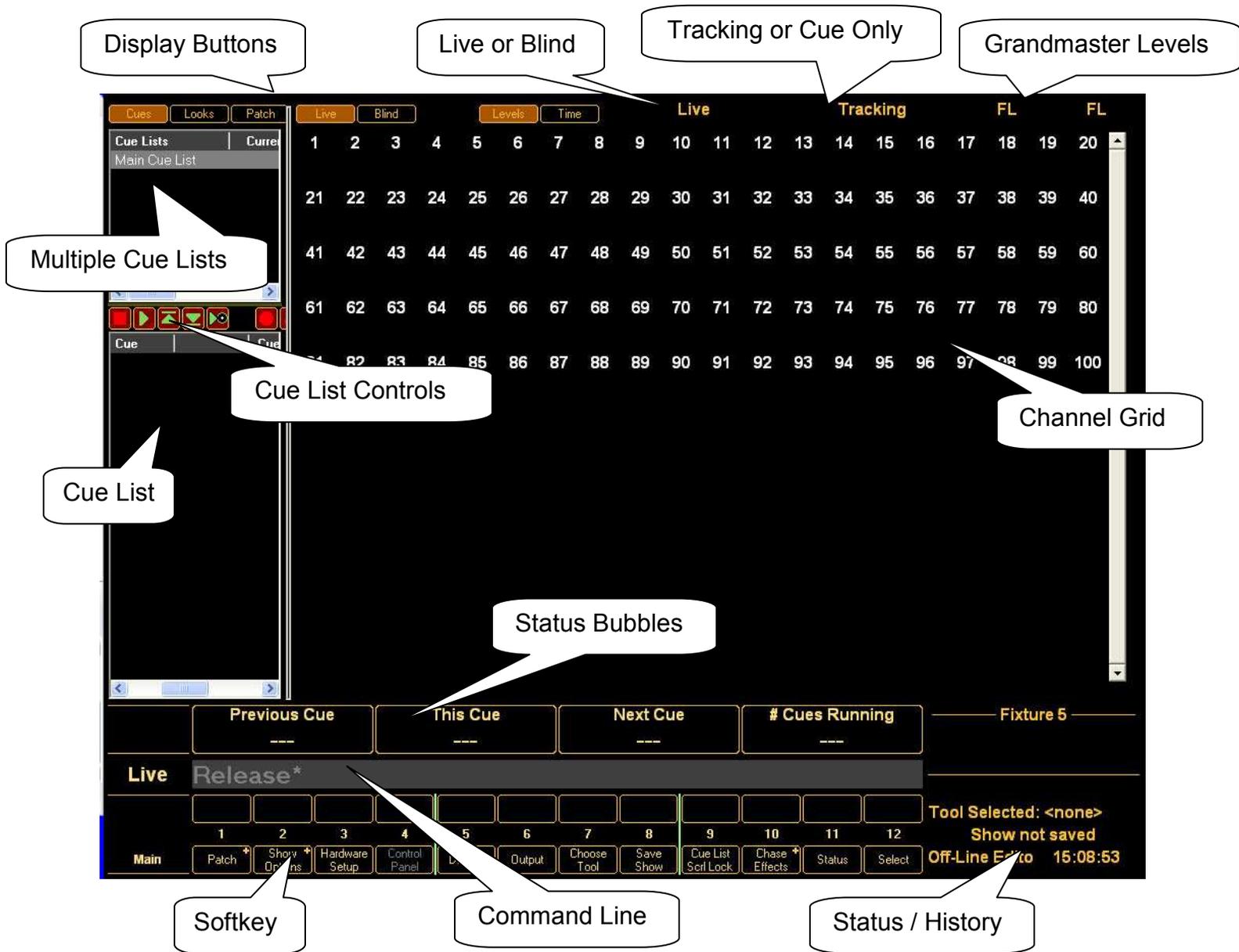
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## Console Screen Layout

In order to get familiar with the console screen, let's identify the key areas of the layout.



Many screen layout items are configurable. Take the cursor to the top of your window and a hidden taskbar will appear. There are 3 pulldown menus; *File*, *Display* and *Help*. In the *Display* pulldown, there are many display options that can be turned on and off. The tutorial will go through these as needed but feel free to experiment.

Softkeys hold many commands and are context sensitive. Notice that some softkeys have a + sign in the corner and that indicates a Shifted version for that key.

Now let's jump right in and record our first cue.

## Recording A Cue

The PaletteOS is very powerful but also can be very simple to use. To emphasize the point, let's quickly record a cue with channel 1 at full.

**1 FULL      RECORD ENTER      Record [Live-Sub] (Cue 1)**

You have now recorded your first cue! Congratulations! Now let's dissect what was present on the command line.

**Record** – this is the action button that was selected. Record means *store data* and by default record will store this data as a cue to be played back in cue time. See *S2 (Show Options)* for default cue record options.

**[Live-Sub]** – status reported that you will be storing Live (storing the entire output of fixtures from the desk) but ignoring any levels coming from subs. You'll note that all subs' levels are yellow. See *S3 (Hardware Setup)* for default settings. This will always be in hard brackets.

**(Cue 1)** – the suggestion of the console software. It is suggesting that you record cue 1 because there are no cues currently recorded. It will always suggest a whole cue number above the one in which you are currently sitting. This will always be in soft brackets.

**Enter** – this will complete the command and grey out the entries on the command line.

Cues allow you to go from one lighting state to another in time. Cues can also have different channels change levels in different times either using parts or independent timing. They can also contain effects, chases, macros, follows, links and loops.

Let's note here that this is a Command Line solution. That is a solution where the action button pressed appears on the Command Line. If you are familiar with previous versions of this software, you may be familiar with a dialogue box solution. That is a solution where a dialogue box appears in the middle of the screen and you can interact with it.

If you are interested in this dialogue box solution for an action like *Record* or *Update* then pressing and holding the *Shift* button while you press the action button, will give you the dialogue box option.

We will talk later about setup options that will affect this. For now, back to discussing cues...

Cue numbers can have 5 digits on the whole number and 3 digits on the point cue so the first cue number can be Cue 0.001 and the last cue number can be Cue 99999.999. However, with multiple cue lists, the quantity of cues that you can have in a show is unlimited!

There is a lot of flexibility in how you can setup the console to function.

Let's now make sure that the desk is setup for the way that we want to work.

## Show Options

First, we want to make sure that the PaletteOS' Show Options are set to work the way you want to function and program. There are lots of opportunities here to help you so let's not overlook anything.

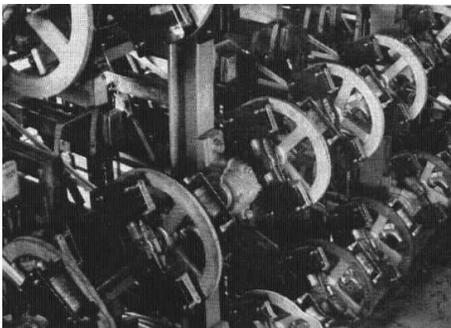
### S9 (General)

#### Cue Only Mode / Tracking

The desk defaults to *Tracking*. If you check this box, the console will now be in *Cue Only* mode. You can see that from the Live screen above the channel grid. I would like to make sure that you understand what tracking means. It is a VERY powerful tool and like any powerful feature, it can easily be misused to disastrous results if it is not understood. For a proper understanding, we need to have a bit of a history lesson.



#### History of Tracking Consoles



*Servo operated resistance dimmers.  
From the Strand archive*

Before computer consoles existed and even before preset consoles, many theatres had resistance dimmers or autotransformer dimmers. Resistance dimmers would use resistance to control the lights that were patched to the dimmers. They required a full load of the dimmer. Autotransformers used electromagnets to dim the lights. Both of these dimmers had large handles that directly drove these large capacity dimmers. These were manufactured in large panels and were typically in the basements of any Broadway theatre.

The electricians (typically 2 to 4 guys) that were running these panels would have a series of cue sheets or tracking sheets that would tell them what to do. Headset communication with a stage manager would let them know when to execute a given cue. Here is an example...the stage manager would call for cue 1 and the electrician would look at the sheet for cue 1 and it would say 1 at Full. So he would bring up dimmer 1 to full. Then the stage manager would call for cue 2. The sheet would have 2 at full written on it so he would bring up 2 to full. What has happened to 1? There was nothing on the sheet for cue 2 telling the electrician to do anything to dimmer 1 so it wasn't touched. It stayed at full. So the result here is that channel 1 has "tracked" into cue 2. If the designer had wanted channel 1 to go out in cue 2, then there would be an instruction in cue 2 for 1 to go to zero. Since there was no instruction, it wasn't touched.

This is the way that computer consoles think about channel control and tracking. If you don't tell the channel to do anything other than what it is currently doing, then it will track into the next cue. This is represented by different colors of the channels' levels.

### Channel Colors

When the console is sitting in a cue, you'll notice that channels' levels appear in different colors. These colors provide information that relate to the previous cue. The colors by definition are...

- Blue** – channel is at a higher level than in the previous cue.
- Green** – channel is at a lower level than in the previous cue.
- Magenta** – channel is at the same level as in the previous cue.



There are some additional colors that should be noted here.

**White** – channel has an instruction to be at the same level that it is at in the previous cue. This is often called a hard value or redundant data.

**Yellow** – channel is at a level from a submaster.

**Red** – channel has been adjusted with channel control from the keypad.

**Amber** – channel that is being driven from DMX IN.

*Note: These colors are dependent on the Console Personality set in S3 (Hardware Setup) S12 (Console). The Palette Classic US will give you original LightPalette colors as noted above. Any 500 series console personality will reverse the up color with the tracking color.*

### Thinking about Tracking

As you start to learn and understand about tracking, you'll discover that it can be a very powerful tool...but only when used correctly.

Here is a scenario. You have 10 cues in your show and you are sitting in cue 1. You are in tracking mode. Give a level to a channel that hasn't been used before. When you update the cue, that channel will now have an instruction in cue 1 (and the level will be blue) and will be at the same level in cues 2 thru 10 (and the level will be magenta for tracked value). Because cue 1 is the top of the cue list and with tracking, that channel will flow down the list of cues like a waterfall. If you had updated the cue in cue only mode, then cue 1 would include that channel but in cue 2, that channel would have an instruction to go out.

We'll look at recording shortly but let's continue to look at some other Show Setup options.

## Default Cue Record (Cue Types)

This setting determines what cue record filter is used by default. The options are...

**Live:** stores the current output state of the desk to the cue that is being recorded. Everything that is being outputted by channel control on the console will be stored in the cue.

**Delta:** stores only changed values to the cue that is being recorded. Anything that has been marked with a delta through channel control will be stored in the cue.

**Block Cue List:** stores values for all channels that are used by the current cue list.

**Block Everything:** stores a hard value on every channel that is currently patched.



Assuming you come from a theatrical background, Live is likely what most programmers are most familiar. It stores the channel output of the desk when you record so if a channel is up, it will get recorded. Doesn't matter if it's coming from a cue that it is in, or channel's that you have brought up or subs. Although we will talk about dealing with submasters later.

Storing Deltaed channels or changed values by default is more familiar to programmers that are used to a moving light console environment. This is also very helpful if you are working with multiple cue lists.

Block Cue List is for a multiple cue list environment when you want the console to function more like a preset desk that has multiple cue lists.

Block Everything is closest to working the way a preset desk thinks as every channel will have an instruction in every cue.

Let's put it in Live mode for theatrical environments.

There are other options here that you can adjust as needed. Now let's take a look at the next Show Setup environment...

## S10 (Cue List)

### Default Times

The majority of these options are about cue list defaults.

**Cue List Assert Time:** the time it takes the cue to complete when the cue is placed live on stage. Double clicking on the cue number with the mouse would accomplish an assert.

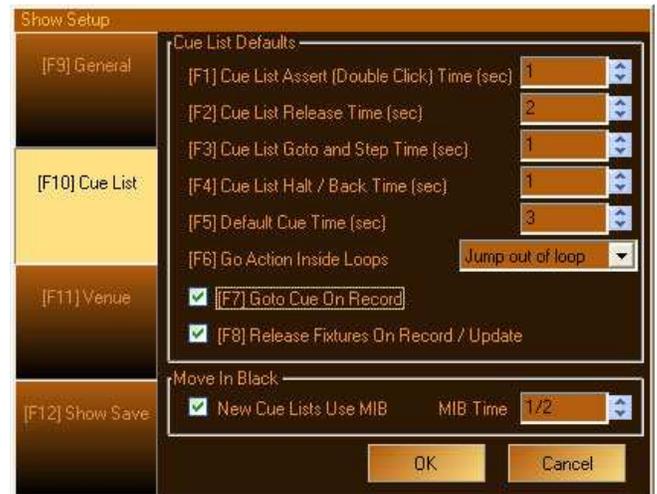
**Cue List Release Time:** the time it takes the cue to go away when it is released. REL PB will accomplish a cue list release.

**Cue List Goto and Step Time:** the time it takes the cue to complete when using the Goto command. GOTO CUE 1 ENTER will accomplish this.

**Cue List Halt / Back Time:** the time it takes for a cue to pause or return to the previous cue when the HALT / BACK button is pressed.

**Default Cue Time:** the time that is recorded into a cue when no other time is specified.

**Go Action Inside Loops:** determines what occurs when a cue loop is running and you press GO. Options are *Next Cue*, *Fall Out of Loop*, *Jump Out of Loop* and *Restart the loop*. The default is *Jump Out of Loop*.



See the section in this tutorial *Pressing GO While a Cue is Running* for more info.

The next two options are very important so make sure you select the correct one for you.

### Goto Cue on Record

With *Goto Cue On Record* checked, the console software will put you in the cue after it is recorded. Most American style consoles (LightPalette and Obsession) work this way. Most European style consoles (GeniusPro, Galaxy and ETC's Expression series) will not put you in the cue when it is recorded. Having grown up on American style consoles, I prefer to have *Goto Cue On Record* checked so that when I record the cue, I'm automatically sitting in it. If you want to be sitting in a cue and record cues without taking you away from the cue that you are in, then unselect this option.

The tutorial will assume that this option is checked.

## Release Fixtures on Record / Update

With *Release Fixtures on Record/Update* checked, the fixtures will automatically be released upon completion of the record or update command. This also follows the basic philosophy of the American style console (checked) and/or the European style console (unchecked).

The tutorial will assume that this option is checked.

## **S12 (Save Show)**

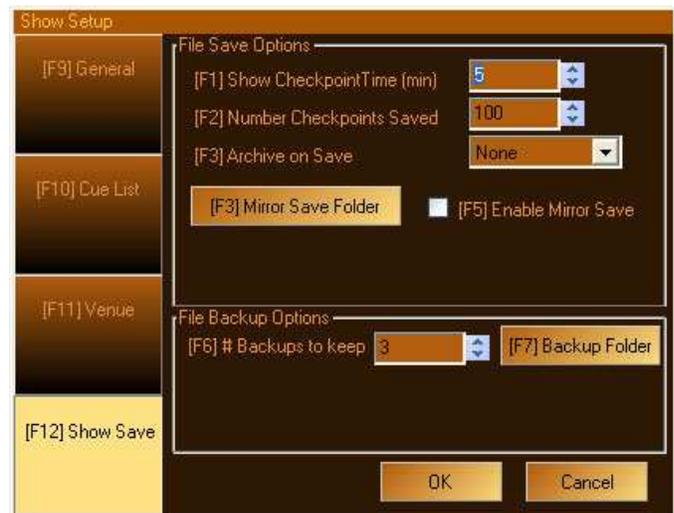
### File Save Options

While this isn't directly related to recording cues, making sure that the show data is safe and secure is. The last thing that anyone wants to do is to be forced to rebuild cues after the data has been lost. Let's talk about the ways that the PaletteOS helps you protect your show data.

**Show Checkpoint Time:** a checkpoint file is a showfile that is saved automatically. The time indicates how often a checkpoint file is saved. The default is every 5 minutes. There is no intervention needed by the operator for this to happen.

**Number Checkpoints Saved:** this is the quantity of checkpoint files that are kept.

**Archive on Save:** the pulldown box to the right of this determines where the checkpoint files will be archived.



### File Backup Options

This allows you to determine how many old versions of the saved showfile the console keeps.

As you are programming, you have the opportunity to save the show by pressing *S8 (Save Show)* from a clean command line. Every time you save the show, it will replace the existing showfile with the new one. However, the software will also take the just saved over showfile and rename it a backup file `SHOWNAME_00001`. When you save again, everything gets replaced and moved down one number. This process continues for the number of backups that you have designated the console to keep.

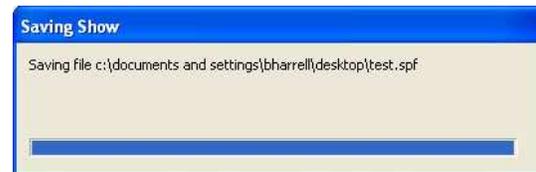
The *S7 (Backup Folder)* will allow you to specify where the backup files are saved. They can even be stored on another hard drive or USB drive.

## ***Common Sense Saving***

One hopes to never have to recover from a loss of data but I have been dealing with the fear of data loss my entire career. It has only happened once or twice but that's enough for me to guard against it from ever happening again. Sometimes data loss is due to operator error, sometimes due to electronic or component failure. All manufacturers strive to give you the most reliable console possible. That being said, my rule below applies to any electronic data. Showfiles, drawing files, Word documents...anything.

My rule of thumb is simple.

***Save your show as often as you don't want to repeat recreating the show data since your last save.***



The PaletteOS is optimized to give you the flexibility to save as often as you want. I know it sounds simple but it's a revolutionary and evolutionary step in lighting console software. With the PaletteOS, you no longer have to wait until a meal break to save because it traditionally takes so long to save. You no longer have to wait until the end of the day because saving locks the memory of the console and interrupts the data stream out of the desk.

***For the first time, you can save whenever you want, as often as you want and it will happen instantly, not interrupt the data stream and not lock the memory of the desk.***

I often save after every single record or update. I know this may sound odd or paranoid but that's mostly because this is a new idea. Try it on your next show and see if you prefer it.

## Hardware Setup

### S12 (Console)

A few items here that need to be discussed to make sure the console will operate appropriately for you.



### Hold Delta Levels

When checked, this option will prioritize holding the level that has been changed (deltaed) even if the cue that was just asserted has an instruction on that fixture's level. When unchecked, this option will let the cue change the fixture's level when the cue being asserted has a level change instruction for that fixture.

I like to leave this option checked. That way, if I have a channel deltaed, it will stay with me rather than reverting to the cue. However, some prefer to have it unchecked so that when you are running a show, the show data will steal it away when you come upon a cue that has the deltaed channels in them. It's your choice.

### Update When Leaving Blind

When making changes in blind, you don't have to manually update. Just go back to Live.

### Record Includes Subs

When recording cues, the record action will either (when checked) pull in levels from the sub or will not (when unchecked).

### Level Entry Mode

This should be set to *Use Enter Key* for this tutorial. Please experiment here if you wish.

## Console Personality

This should be set to *Palette Classic US*. Please experiment here if you wish.

When you upgrade the desk you will get a dialogue box that explains all of the personalities and allows you to choose. If however you have not upgraded and your desk shipped with 10.6.1 or later, let me explain.

The options are...

**GeniusPro (500 Series):** preferred by professional users in the EU that are mostly familiar with the 300/500 series. This allows for traditional Command Line operation where channel levels display in 300/500 series colors. (Purple is up, green is down and cyan is tracking). Language and spelling are British English.

**LightPalette (500 Series):** preferred by professional users in the US that are mostly familiar with the 300/500 series. This allows for traditional Command Line operation where channel levels display in 300/500 series colors. (Purple is up, green is down and cyan is tracking). Language and spelling are American English.

**Palette Classic EU:** preferred by professional users in Europe. This allows for traditional Command Line operation that is faster than the Windows UI solution where the channel levels display in traditional LP and LP90 colors. (Blue is up, green is down and magenta is tracking). Language and spelling are British English.

**Palette Classic US:** preferred by professional users in the US. This allows for traditional Command Line operation that is faster than the Windows UI solution where channel levels display in traditional LP and LP90 colors. (Blue is up, green is down and magenta is tracking). Language and spelling are American English.

If you are interested in a dialogue box solution for an action like *Record* or *Update* then pressing and holding the *Shift* button while you press the action button, will give you the dialogue box option.

## Recording Additional Cues

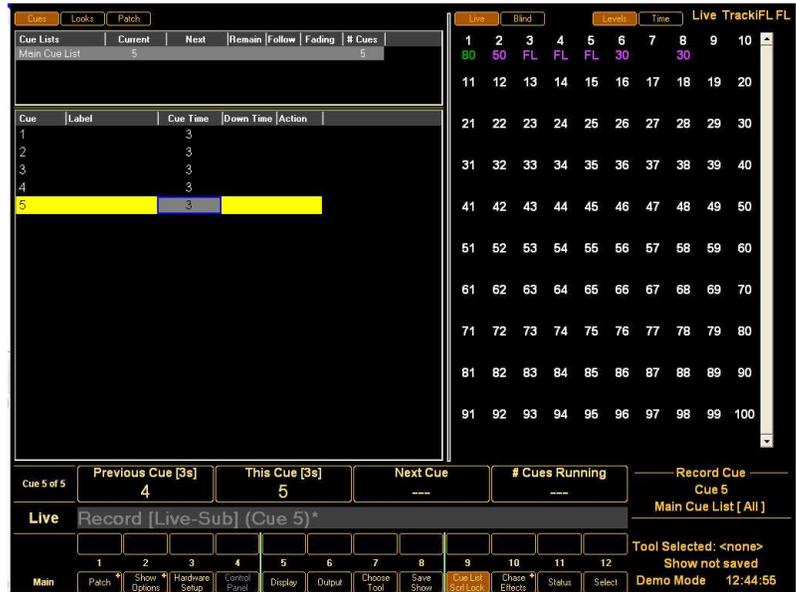
Now that we have our first cue recorded, let's record some additional cues

**2 @ 5 ENTER  
RECORD ENTER**

**3 THRU 5 @ @  
RECORD ENTER**

**6 + 8 @ 3 ENTER  
RECORD ENTER**

**1 DOWN% DOWN%  
RECORD ENTER**



You'll notice from the picture that I have increased the window size for my cue list. Just hover over the vertical line that separates the cue list windows from the channel grid. When the cursor changes you can click and drag to your preferred size or right click for a list of options.

## Inserting Cues

Now let's insert a cue between cue 1 and cue 2. Let's also make sure that the changes that we make here do not track into cue 2.

**GOTO 1 ENTER** **Goto Cue 1**

**11 @ 3 ENTER**

**RECORD 1.5 (S11) CUE ONLY ENTER**



So we have taken the state of cue 1, added channel 11 to 30% and then record a cue 1.5. Since we didn't want the changes that we made to be part of cue 2, you selected the Cue Only softkey prior to pressing Enter. Had we wanted channel 11 to stay up, you could have omitted the Cue Only softkey in your command and 11 would have stayed at 30% for the remainder of the show or until a later cue has an instruction for channel 11. At this point, there is no instruction in a later cue so it would have tracked all the way through the last cue in the cue list.

## ***Accessing Softkeys***

Now that we are starting to use softkeys, they can be accessed differently depending on the hardware that you have. If you are on a LightPalette desk, you have S keys with yellow LEDs and M keys with green LEDs that work for this. If you are on a Palette II series, you have S1 thru S12 for the S keys and Alt S1 thru Alt S12 for the M keys. If you are on a Palette series (silver desks) then you have S1 thru S12 for the S keys and M1 thru M12 for the M keys.

## ***Undo Record***

Don't worry. If you make a mistake, you can UNDO RECORD to start over. Really. We'll talk about the other things that you can do with Undo later.

## ***Recording a Range of Cues***

You can use the record command to record multiple cues at once. For example, RECORD CUE 11 THRU 13 ENTER would record the current state as cues 11, 12 and 13.

## ***Selective Record of A Cue***

Selective recording means that you can have many channels changed (deltaed) but only store certain channels while creating new items. For example, you can bring up 61 THRU 70 to FULL but if you only want 61 THRU 65 recorded, you can type 61 THRU 65 RECORD CUE # ENTER.

Selecting a channel or range of channels prior to pressing a command like record or update is known as a "leading channel list". This means that the action command will only affect the channels that are listed. Very slick indeed.

## ***Changing Recording Types Live***

Now that you know that you have different options for recording types, let me show you how you can change this live for each and every instance of recording or updating.

After you press RECORD, you get a softkey, S3 (Record Type)



Press S3 (Record Type) and now you have your options on the green softkeys.



**Live:** this is your default. It will store all channels that are outputting.

**Delta:** this is best for a multiple cue list environment. It will only store changed values.

**Selected:** will only store fixtures that are selected. The ones that have the red box around them.

**All:** will store all levels and give them an instruction. Essentially a Block Cue.

## **Block Cues**

A block cue is a cue that stops levels from tracking into and through that cue. Blocked cues are a great tool for programmers that use Tracking. Here is an example...

You are programming a dance show and there are 5 pieces being performed. Each of them has a unique visual element and need to be programmed individually. However, it makes sense to program each piece using tracking. Also, every piece will end in a blackout.

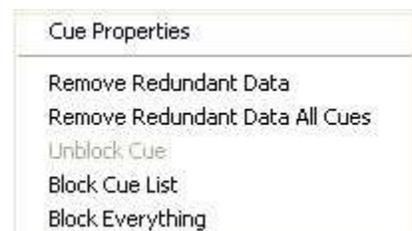
Predetermine what cue number ranges that you will use for each dance. The first dance will be cues 101 thru 199. The second piece will be cues 201 thru 299, the third piece in the 300s and so on. Before you do anything else, record cues 199, 299, 399, 499 and 599 as blackouts and as block cues.

### **RECORD CUE 199 S3 (Record Type) M4 (All) ENTER**

You can repeat this with the other cue numbers or use the + sign and do them all in one command!

### *User Interface Solution*

If, for some reason, you don't have the line above each block cue, you can select the cue and right click to get this box. After that, select **Block Everything**.



The screenshot shows the PaletteOS software interface. On the left, a cue list table is visible with the following columns: Cue, Label, Cue Time, Down Time, and Action. Cue 599 is highlighted in yellow. The main area displays a grid of 100 levels (1-100) with 10 tracks (FL, FL). All values in the grid are zero. At the bottom, a control panel shows 'Previous Cue [3s] 499', 'This Cue [3s] 599', and 'Next Cue ---'. A 'Record Cue' button is active for Cue 599. The bottom right corner shows 'Tool Selected: <none>' and 'Show not saved'.

You'll notice that all block cues have a solid line over them. This let's you know that tracked values, coming from earlier cues, will not track into or through the block cue. You'll also notice that all levels have a white zero. That is known as a hard zero. It's just an instruction to be at that level and usually indicates that it's at that same level in the previous cue.

## Command Line Solution

You also have a command line solution for blocking and unblocking cues that already exist.

Once you press **CUE** then you will see this softkey...



*Note: With the plus in the corner you can hold down Shift and the Unblock softkey will change to the Block softkey.s*

Before we move on past this, let's look at partial block cues.

## Partial Block Cues

A partial block cue is a cue that has redundant data. Let's look at a scenario where this can occur.

**GOTO CUE 5 ENTER**

**21 FULL UPDATE ENTER**

**HALT / BACK**

**21 FULL UPDATE ENTER**

**HALT / BACK**

**21 FULL UPDATE ENTER**

*Note: You can also do UPDATE UPDATE rather than UPDATE ENTER. Same is true for RECORD.*

It is not uncommon for designers to work backwards through a cue list to edit the lighting for a scene. This is essentially what we have just done. If you now look through cues 4 and 5, you'll notice that 21's level is in white. This is known as a hard value or a redundant value.



But now, if I want to track that thru, I can't. So there are a couple of ways around this.

### *Removing a Partial Block - @ ENTER*

@ ENTER traditionally means that you are assigning a "null value". So if you say 21 @ ENTER what that does it take away the level command. Let's make sure you are in cue 5 and then do this...

**21 @ ENTER**

You now see that 21's level is in the tracking color of magenta.



This means that 21 no longer has an instruction and that it is tracking from the previous cue's level. That would be Full from cue 4. Now let's update the cue to get rid of that instruction.

**UPDATE ENTER**

Now that it's updated, you'll see it in magenta...great.

That was pretty simple. But what if you have hard values all over the place? It would be too time consuming to do this manually. So let's look at another way.

## *Removing a Partial Block – Remove Redundant Data*

Another way to do this is to be in the cue that has redundant data.

### **GOTO CUE 4 ENTER**

Now right click on cue 4 and select *Remove Redundant Data*. This is a much more systemic way of dealing with this and allows you to just clean up the cue rather than selecting all of the hard value's channels manually.



Remember, If you find yourself in a situation where you have hard values in a cue that you don't want, right clicking and selecting *Remove Redundant Data* is an easy way to clean up this cue.

Notice you have other options here.

*Note: If you chose to use Remove Redundant Data All Cues save your show first. This is a powerful command that can affect data in every cue of your show. I also recommend caution with any command that is this powerful.*

Now, let's delete these block cues from our tutorial showfile.

## Deleting Cues

Deleting cues will remove the cue(s) from active data.

### Command Line Solution

The command line solution to this task is...

**CUE 199 DELETE ENTER**



You'll get the "Are You Sure?" warning and then you can press ENTER or S1 (Yes) to complete the action. Please complete the deletion.

Or you can GOTO the cue that you want to delete...

**GOTO 299 ENTER**

...and then press...

**DELETE ENTER**



You'll get the "Are You Sure?" warning and then you can press ENTER or S1 (Yes) to complete the action. Please complete deleting the cue.

## Undo Delete

Don't worry... if you make a mistake you can UNDO DELETE and the deleted cue will return! Be careful...as this will only work on the last deleted cue and not on ranges.

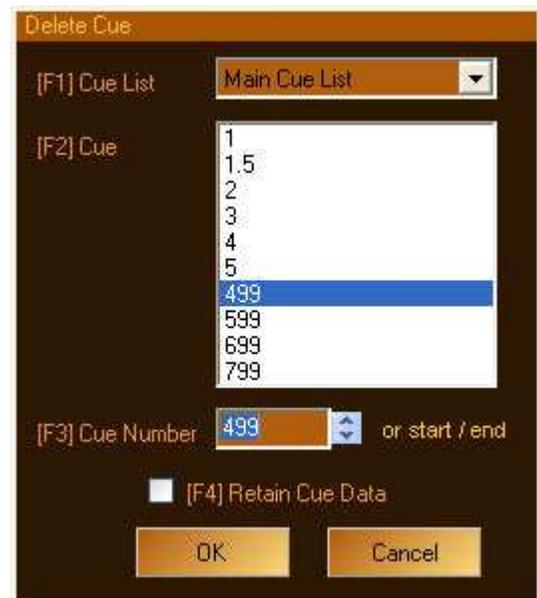
## Graphical User Interface Solution

Move the blue box to the cue that you want to delete and press...

### SHIFT DELETE

A delete cue dialogue box will appear and allow you to type the cue number in if you want to change it.

Check the *S4 (Retain Cue Data)* box if you want this cue to delete Cue Only. This means that the deleted cue will be removed but that any changes that started in this cue and tracked into the next cue will remain in the following cues. Leaving this box unchecked will insure that any changes that were made in the deleted cue will be entirely removed from the show.



## ***Delete Cue Only***

If you delete a cue and it has a tracking instruction in it, the act of deleting takes that instruction away. Thus the instruction **and its tracking** will be removed. So if you have channel 1 at full in cue 1 and it's tracking thru cue 5 and you delete cue 1, then channel 1 will no longer be in cues 2 thru 5. However, if you *Delete Cue Only* then the cue will be removed but channel 1's level in cues 2 thru 5 will remain. Just remember that this will follow the default and if you want the delete action to behave differently than the default tracking setting, you have a softkey, S11, that will give you the non-default option.

## ***Delete Ranges of Cues***

Deleting a range of cues is no different than deleting a single cue. It just applies to multiple cues.

### **Command Line Solution**

**DELETE 499 THRU 799 ENTER ENTER**

### **Graphical User Interface Solution**

Use either your mouse or Shift and the arrow keys to expand the blue box (or selected cell) over multiple cues. Then press...

**SHIFT DELETE**

**OK** or **ENTER** will complete the command.



## Moving Around the Cue List

There are many ways to move through the cue list. Here is a list and how they work.

**GO:** This is probably the most common. Pressing GO will advance to the next cue in the recorded cue time.

*Note: Shift GO: this will reassert the current cue.*

**GOTO:** this command will immediately take you to the listed cue in the *Cue List Goto and Step Time*.

*Note: Shift GOTO: will bring up a dialogue box solution for GOTO.*

**STOP/BACK:** if you press this while a cue is running, it will pause the running cue, if you press it again, it will return to the previous cue. If you press this will static in a cue, it will return to the previous cue in the *Cue List Halt/Back* time.

*Note: Hold down Shift while pressing this button and you will return to the previous cue in cue time.*

**STEP FORWARD** and **STEP BACK:** these commands will advance to the next (forward) cue or the previous (back) cue in the *Cue List Goto and Step Time*.

You can also use the mouse and double click on the cue number. This will assert the cue.

*Note: Shift Step Forward will advance to the last cue in the cue list. Shift Step Back will advance to the first cue in the cue list.*

**REL PB** (Release PlayBack) if you are in a cue, then this will release the cue and you will no longer have any output from that cue list. This is equivalent to GOTO CUE 0 except that it doesn't move the cue pointer. This is actually very handy for meal breaks as you can save, then Rel PB, then when you return after lunch or dinner, just hit go and you are right back where you were!

*Note: Shift Rel PB will release all cue lists, not just the current cue list.*

## Editing Cues

Recording is the action used when you are creating a new item. Update is the action used when you are changing an item that already exists. Update allows you the freedom to change stored information without affecting other active items like cues or subs or cue lists.

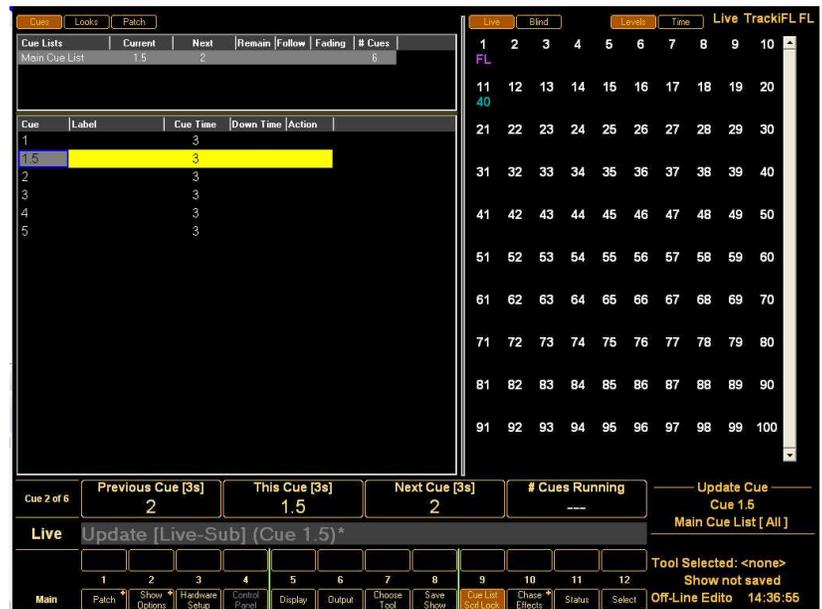
### Updating the Current Cue

Here we sit in Cue 1.5 and we decide that 11 should go to 40% rather than 30%.

**11 UP%**

**UPDATE ENTER**

Update only concerns itself with changed information. It also let's you do things that Record doesn't.



### Update with Trackback

Trackback allows you to update the source cue rather than the current cue. The source cue is the location of a level's instruction in a previous cue when looking at a tracked value. The reason that this feature can be a very valuable tool is it keeps you from concerning yourself which cue is the source cue. For example, you are in the middle of the second scene and there is a chandelier that is on in the set of the drawing room. You need to change its level and have that level updated from the beginning of the scene. Now you could go into Blind and use the up arrow to go from one previous cue to the next previous cue until you find it but that is rather tedious. With the trackback feature, you can let the PaletteOS do the work for you.

Let's go to Cue 2 to demonstrate.

**GOTO 2 ENTER**



## ***Updating a Non-Live Cue***

Now let's look at updating a cue that you are not sitting in live. Let's say that you realize that channel 1's level is too bright at full.

**1 @ 75 ENTER**

And you want to update cue 1 but you are sitting in cue 1.5. No problem.

**UPDATE 1 ENTER**      **Update [Live-Sub] Cue 1**

You have now updated a non-live cue.

## ***Update a Range of Cues***

The designer now wants to make a change that will be stored through a range of cue. You can be in the first cue of the range or not...doesn't really matter to the console.

Now let's change some levels...

**23 THRU 25 @ 5 ENTER**

The designer wants this change to be stored in cues 3 thru 5 and have the levels remain unchanged in any cue before 3 and after 5.

**UPDATE 3 THRU 4 S11 (Cue Only) ENTER**

Since we have Tracking turned on, the S11 (Cue Only) key is needed to stop these changes from tracking all the way through to the end of the show.

## ***Selective Update of Cues***

Selective update allows you update only the channels that are selected prior to updating. That's right...just because the channel has been changed (deltaed) that does not mean that all changed values have to be stored.

While sitting in Cue 1.5, bring up these channels...

**GOTO 1.5 ENTER**

**51 THRU 53 FULL**

This is what you see...



Now let's update channel 51 into the current cue.

**51 UPDATE ENTER**

**51 Selective Update [Selected](Cue 1.5)**

You'll notice that since 51 has now been updated, it no longer shows that it has been changed. But 52 and 53 still show red and the delta.



Selecting a channel or range of channels prior to pressing a command like update is known as a "leading channel list". This means that the action command will only affect the channels that are listed. Very slick indeed.

You can use combinations of channel ranges, cue ranges and cue only / tracking options.

Feel free to try things like 52 UPDATE CUE 1 S11 (Cue Only) or 53 UPDATE CUES 3 THRU 4 S11 (Cue Only).

There is a lot of power here.

## Deleting Levels from Cues

Now here is a completely different way of thinking about it. Let's think about deleting levels from cues. We are sitting in cue 1.5 and we want to get rid of channel 51's level.

### 51 DELETE

Notice what you see on the command line...

<b>Live</b>	<b>51 Remove From</b>											
<b>Cue Lists</b>	Main Cue List	Cue List 1	Cue List 2									
	1	2	3	4	5	6	7	8	9	10	11	12
<b>Delete</b>	▲ Cue List	▲ Look Page	▲ Collapse Part	▲ Delete Part							Cue Only	

From here you can press ENTER to remove 51 from the current cue...

<b>Live</b>	<b>1 Remove From Cue 1.5 &gt;&gt; About to delete! Are you sure? &lt;&lt;</b>											
	1	2	3	4	5	6	7	8	9	10	11	12
<b>Confirm Action</b>	Yes	No										

...or you could have entered a non-live cue - 51 DELETE CUE 2 ENTER.

...or you could have entered a non-live cue to remove the level cue only – 51 DELETE CUE 2 S11 (Cue Only) ENTER

...or you could have entered a cue range to remove the level cue only - 51 DELETE CUE 2 THRU 4 S11 (Cue Only).

There are lots of variations.

Also notice the softkeys when you enter DELETE.

**S1 (Cue List)** – allows you to select a cue or cue range from a different cue list.

**S2 (Look Page)** – allows you to select a submaster, group or palette from which you can remove the level.

**S3 (Collapse Part)** – allows you to remove a part but place the level information that was in that part back in the base cue.

**S4 (Delete Part)** – allows you to remove a part and delete the information in the part at the same time.

## Blind Editing

There are times when you want to make changes to the cue but you don't want to disturb the rehearsal with the change. Editing in Blind is the perfect solution here.

Blind editing allows you to make the change to stored data without affecting the live output.

Now let's make a change to the current cue, but we'll do it in Blind.

### CUE S4 (Blind Preview)

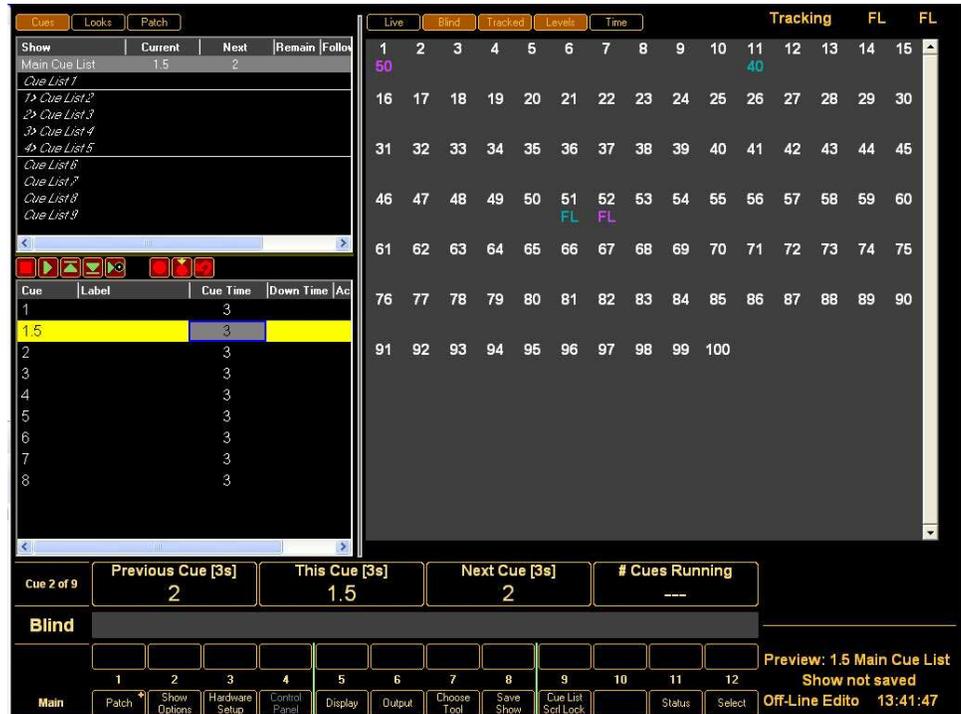
That is the best method for getting to the live cue in blind.

Now that you are here, let's make a change.

### 36 @ 5 ENTER

36 is now at 50 % but you may be surprised to know that it is not stored in Cue 1.5...at least not yet.

Traditionally conventional consoles, would always store the change the moment the value was entered. We have changed that. You'll notice that the change that you made still shows as if it was changed but not recorded in live. You can either update manually, as you would in Live, or you can just go back to Live and the change will be automatically stored. This is true if a hardware setup option is selected.



## Update When Leaving Blind

We give you a choice of how the console responds when editing in Blind. Go to *S3 (Hardware Setup) S12 (Console)* and look for a check box for *Update When Leaving Blind*.

When checked, this feature will automatically update when *leaving* blind. When unchecked, you can navigate between Blind and Live without fear of anything storing until you are ready by updating the cue as if you were updating a Live cue. Just UPDATE ENTER when you are ready to store.

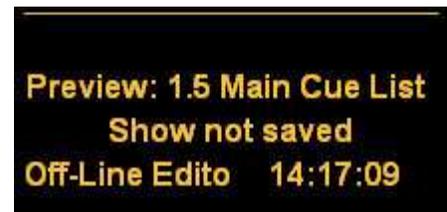


Having come from the conventional world, I like to have this option checked.

## Navigating The Cue List While In Blind

The easiest way to navigate the cue list while you are in blind is to use the inverted T arrow keys. The up arrow will take you to the previous cue number and the down arrow will take you to the next cue number.

*Note: When navigating in Blind, remember to look at the Status window in the bottom right hand corner of your screen. This will always display the fact that you are in blind or preview, the cue number as well as the name of the cue list.*



*Note: Using any playback key like GO, Stop/Back, Step Forward, Step Back and Rel PB will advance cues in the Live cue list NOT in blind.*

## Editing and Moving to the Next Cue in Blind

If you make a change in a cue and then use the arrow key to leave that cue, you'll get a dialogue box asking if want to update the cue or disregard the changes.

## Disregarding Edited Values in Blind

If you have made a change in blind and want to disregard it, just press RELEASE / UNDO three times or until you no longer see a deltaed value.

## Properties of Cues

Cues are only one way that you can store data on a lighting desk. Groups, Submasters and Effects are the other ways. (There’s a big secret about storing these items that I’ll reveal a little later in the tutorial). Cues are used when you want to playback a lighting state in a specific time and you want that time to be used every time you go to that lighting state.

Let’s start with talking about cue timing.

### Cue Timing

Cue timing is the duration of time for the cue to complete from start to finish. There is a default time recorded for every cue in *Show Options > Cue List*. The default on a new show is 3 seconds.

### Changing Cue Time

Cue Time is how long it takes the cue to complete. It doesn’t matter if there are levels going up or down or if there are automated luminaires that are moving, changing color and so on. The cue time will move everything in that cue in the cue time value.

#### CUE TIME 12 ENTER

Cue 2 of 6	Previous Cue [3s] 2			This Cue [3s] 1.5				Next Cue [3s] 2		# Cues Running ---		
<b>Live</b>	Cue Time 12											
<b>Times</b>	Cue Time	Down Time	Follow Time		Position Time	Color Time	Gobo Time	Lens Time	Special Time			Clear Ind. Time
	1	2	3	4	5	6	7	8	9	10	11	12
<b>Cue</b>	▲ Cue List	Follow	Link To +	Blind Preview	Run Next	Unblock +	MIB Time	▲ Collapse Part +	Delay	▲ Time +	Cue Only	Label

This will change the time of the current cue. Note: depending on your hardware, you can use the TIME key or the Time softkey that appears after you press Cue. You will also see that there are many different timing parameters if you look at the green times softkeys. Many of these will be covered later in the tutorial.

Now let’s go into Cue 2 so that we can talk about down time.

### GO

*Note: Other options for getting into the next cue include GO, Step Down, GOTO 2 ENTER and using the mouse to double click on the cue number in the cue list.*

## Down Time

Down time determines how long any levels going down will take to complete. Let's change the down time on Cue 2 to be 0.

### **CUE TIME M2 (DOWN) 0 ENTER**

If you want, press HALT/BACK and then GO to see the results of your handwork. Not only can you see the results by watching the levels in the channel grid, you can also watch the cue counting down by viewing the timing info. Very handy.

Now what if you want to delay the down time so that all fixtures going down pause before they start fading? This is where the fun part starts kicking in...

## Cue Delay

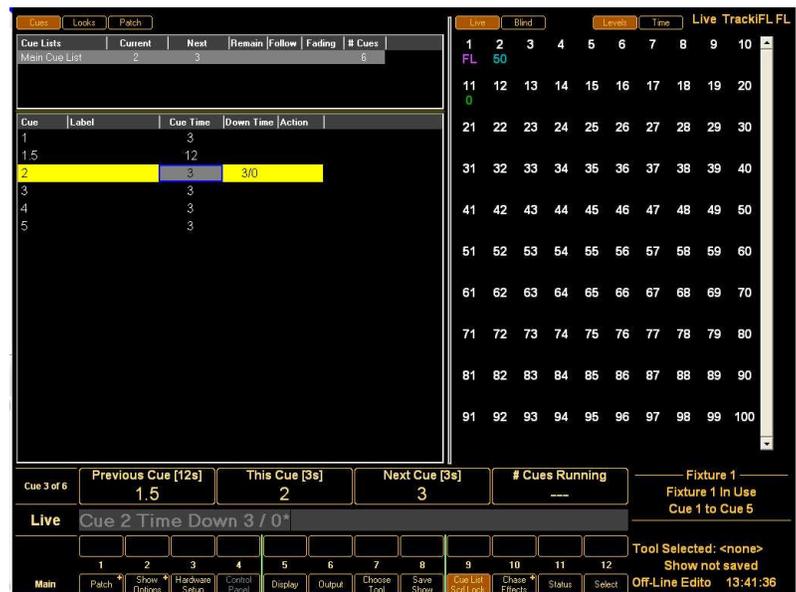
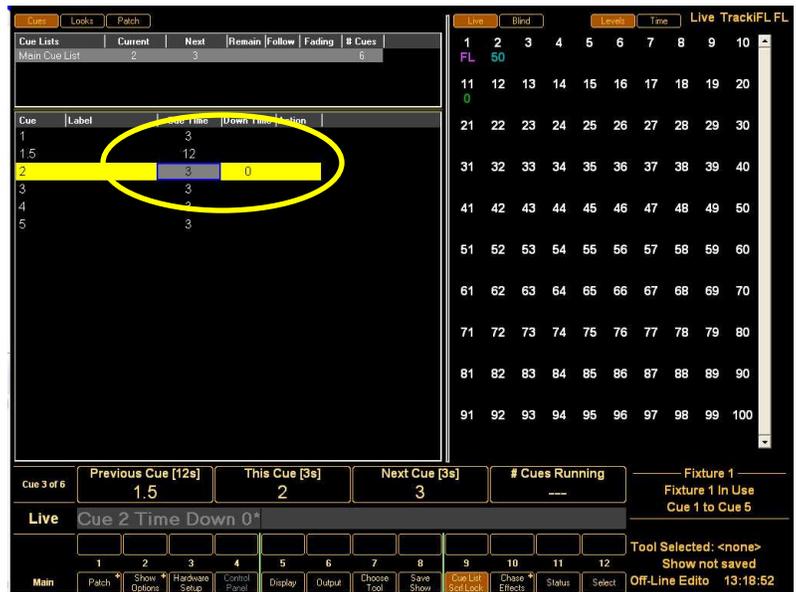
If you want the lights going up begin before the lights going down begin to fade you don't need to use a separate cue, just delay the down.

### **CUE TIME M2 (DOWN) 3 / 0 ENTER**

Again, HALT/BACK and GO if you want to see the results.

Cue delay is always placed in the appropriate time column. You could delay the entire cue if you wanted to by placing a # / # in the cue time cell for that particular cue.

The logic is that it is always DELAY / FADE since that's the way time works in the real world. If you are going to walk across the street you delay (to look for traffic) and then you walk. Not the other way around!



You can use delay in any time column. This will become very useful when we get into attribute family timing with automated luminaires.

## Editing Cue Timing using the Graphical User Interface

One of the nice things about PaletteOS using a Graphical User Interface or GUI, is that you can use the cue list window much like a spreadsheet program. Notice there is a blue box around Cue 2's Cue Time box in the image above. If you use the arrow keys on your console or external keyboard, you can move this box around. When you have the box on the cell that you want to edit, just press EDIT and the info in that box can be edited. Just type in the new cue time number or roll the wheel. The wheel allows you to change time in one second increments. Hold down shift while rolling the wheel and it will change time in 1/10<sup>th</sup> of a second increments!

In addition to that, you can click and drag with your mouse to grab multiple cells, then click again to edit. It's so easy to do!

## Change Time on Multiple Cues

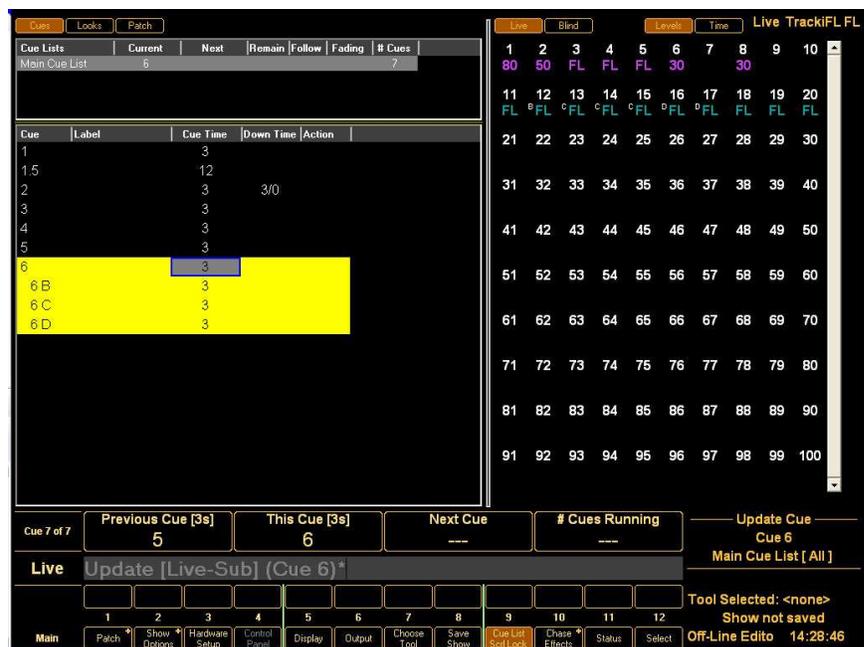
To change time on multiple cues, you can type CUE # THRU # TIME # ENTER or just click and drag the blue box, then press EDIT, insert the new value, press ENTER and you are off and running!

Since we are talking about cue timing let's continue on this topic with Part Cues.

## Cue Parts

Cue Parts allow you to take a cue and break it up into individual components for separate timing purposes. Parts allow you to assign certain channels to certain parts (26 part capacity - A thru Z) and then once the cue is updated, the parts are created and you can now change timing on the individual parts.

Let's go into the last cue that we currently have (Cue 5) and build a new cue for this part of the tutorial.



## **GOTO 5 ENTER**

## 11 THRU 20 FULL RECORD ENTER

You now have a cue 6 where channels 11 thru 20 go to full. Now let's assign certain channels to parts B, C and D.

*Note: Notice the softkeys change to parts after you press (M11) Cue Part*



**12 M11 (Cue Part) M2 (Part B)**

**13 thru 15 M11 (Cue Part) M3 (Part C)**

**16 + 17 M11 (Cue Part) M4 (Part D)**

**UPDATE ENTER**



Once you update, you'll see that each channel that is assigned to a part has a part designator by its level.

## Labeling the Cues

One of the nice things about part cues is that you can label them. Of course, you can label any cue or look but I wanted to use parts as an example of how labeling can help you. See the labeling that I have done on the image below. It's a great help when it's been days since you have actually broken things out into parts and you can't remember how it was distributed.

The screenshot shows the PaletteOS software interface. On the left, a table lists cues and their parts:

Cue	Label	Cue Time	Down Time	Action
1		3		
1.5		3		
2		3		
3		3		
4		3		
5		3		
6		3		
6 B	DC Spec	0		
6 C	Cyc	3/3		
6 D	Gobo Wash	5		

On the right, a track grid shows cue numbers 1-80. Cue 6 is highlighted in yellow, and its parts (6 B, 6 C, 6 D) are highlighted in blue. Below the grid, a control panel shows the current cue (6) and various settings.

You will also notice that I have given different times to each part. Cue 6 Part C even has a delay of 3 seconds. I did this by having the blue box on the cue time column for the part that I wanted to change, press EDIT or click with the mouse (double click if you are also using the mouse to move the blue box) type in the new value and press the down arrow without pressing ENTER first. This is a very slick way of keeping the box in edit mode but moving it down to the next cell. When you have completed all cue time editing, just press ENTER and you are done!

Now let's talk about a very slick but different way to get unique times on individual channels.

## Independent Timing

Independent timing gives you the ability to have every individual channel have its own individual timing. There is no limit. It even works on automated luminaire parameters but that's for another tutorial.

While Cue 6 is live on stage, let's bring up some additional channels and record a new cue to give us something to work with.

### **21 THRU 40 FULL RECORD ENTER**

Now we have a cue 7. Notice that on your console you either have a TIMES or a LEVELS/TIMES button. You'll also notice a Time bubble  on the PaletteOS screen. Press either the hard button or the Time bubble to go into the Times screen.

**TIMES** or **LEVELS/TIMES**



You can now see all the levels that have an instruction in the cue are showing you the cue time info on each channel. Any tracked values will not show up in this screen...because they have no time. Now let's change the time of one channel.

**21 @ 5 ENTER**

**21 Intensity Time 5\***



As you as you pressed "@", you will have seen "Intensity Time" show up on the command line. Since you are now in the time screen, any change you make changes time...not level.

Now if you update the cue...

### **UPDATE ENTER**

...you'll see a clock face appear by the cue time for that cue. Notice that any channel that has independent timing, their time info is in white, (white being the color for an instruction), the grey information shows you the cue default values and also notice that there are channels that have a level in the cue but no timing info. That's because those are tracked values or channel that have no instruction in this particular cue. You only see timing info for channels that have a level instruction in the cue.

The screenshot shows the PaletteOS software interface. On the left, a cue list table is visible:

Cue	Label	Cue Time	Down Time	Action
1		3		
1.5		3		
2		3		
3		3		
4		3		
5		3		
6		3		
6 B	DC Spec	0		
6 C	Cyc	3/3		
6 D	Gobo Wash	5		
7		3		

On the right, a grid of 100 fixture slots is shown, numbered 1 to 100. Fixture 21 is highlighted in yellow. Below the cue list, a status bar shows 'Cue 8 of 8', 'Previous Cue [6s] 6', 'This Cue [5s] 7', and '# Cues Running ---'. At the bottom, a 'Live Times' section displays 'Update [Live-Sub] (Cue 7)\*' and a 'Main' menu with various control buttons.

The powerful thing about independent timing is that there are no limits. Every channel can have its own time in every cue. Now watch while we learn some very powerful ways to use independent timing. We'll start with delay.

### *Delay on Independent Timing*

You can combine the function of delay with the power of independent timing. While you are still in the TIME display, type...

**22 @ 2 / 5 ENTER**



The number on top is the delay and the number on bottom is the time.

## Ranging Independent Timing on a Range of Channels

The following example shows you how to set the timing on the first channel in a range and the last channel in a range, then let the console figure out all of the steps in between.

**23 THRU 30 @ 0 – 7 ENTER**

The screenshot displays the PaletteOS console interface. On the left, a cue list table shows cue 7 selected. The main area shows a grid of channel numbers (1-100) with a yellow oval highlighting channels 23 through 30. Below the grid, a 'Live Times' field shows the command '23 thru 30 Intensity Time 0 to 7\*'. The bottom status bar shows 'Cue 8 of 8', 'Previous Cue [6s] 6', 'This Cue [5s] 7', and 'Next Cue ---'. A yellow oval highlights the 'Live Times' field and the 'Previous Cue' and 'This Cue' values.

Cue	Label	Cue Time	Down Time	Action
1		3		
1.5		3		
2		3		
3		3		
4		3		
5		3		
6		3		
6 B	DC Spec	0		
6 C	Cyc	3/3		
6 D	Gobo Wash	5		
7		3		

Channel	Time								
21	5s	22	3s	23	0s	24	1s	25	2s
26	3s	27	4s	28	5s	29	6s	30	7s
31	3s	32	3s	33	3s	34	3s	35	3s
36	3s	37	3s	38	3s	39	3s	40	3s
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		97		98		99		100	

Live Times: 23 thru 30 Intensity Time 0 to 7\*

Previous Cue [6s] 6    This Cue [5s] 7    Next Cue ---    # Cues Running ---

Fixture 30  
Fixture 30 In Use  
Cue 6 to Cue 7

Tool Selected: <none>  
Show not saved  
Off-Line Edito 17:52:03

Note: that the TO command is overlaid on the minus key. Some consoles just have “-“ on the key, some consoles say “-“ and “to” on the key.

If you break down the syntax, you see that you told channel 23 to have a time of 0 and you told channel 30 to have a time of 7. By ranging this, that let the console figure out all of the timing values for the channels internal to the range. That would be 24 through 29.

You can even add delay to this mix...

## 23 THRU 30 @ 0 TO 7 / 3 ENTER

Now look at your handy work...

The screenshot displays the PaletteOS software interface. On the left, a cue list table shows cue 7 selected and highlighted in yellow. The cue list table has columns for Cue, Label, Cue Time, Down Time, and Action. Cue 7 has a Cue Time of 3 and an Action of 3. On the right, a channel grid shows cues 23 through 30 circled in yellow. Each channel in this range has a red background and contains a timing value (e.g., 3s, 1s, 2s, 3s, 4s, 5s, 6s, 7s) and a small triangle icon. The bottom of the interface shows a control panel with buttons for 'Previous Cue [3s]', 'This Cue [7s]', 'Next Cue', and '# Cues Running'. It also displays 'Live Times' as '23 thru 30 Intensity Time 0 to 7 / 3\*' and 'Fixture 30 In Use Cue 6 to Cue 7'. The bottom right corner shows 'Tool Selected: <none>' and 'Off-Line Edit 08:05:47'.

Note: the channels that have a delay have 2 times. The upper one is delay time, the lower one is fade time.

So you can see that with independent timing you have unlimited control over time of every channel independently!

Now let's update the cue so that we can store this.

## UPDATE ENTER

### Clearing Independent Timing

Now we know that nothing ever changes in a rehearsal...right? Just in case, you ever need to change and clear out independent timing on a cue, here is the sequence.

If you are in the cue in which you want to clear independent timing, just press...

**CUE TIME M12 (Clear Indep Timing) ENTER ENTER**



**Cue 7 Time Clear Independent Timing >> Are you sure? <<**

If you want to clear independent timing for a non-live cue, then insert the Cue number after CUE and before TIME in the syntax above. It's that easy.

From here we will talk about connecting cues with other cues.

## **Follow Cues (Autofollows)**

Follow Cues, sometimes known as Autofollows, allow a second cue to be triggered automatically after the first cue is triggered. Essentially the second cue or follow cue is not triggered by the operator but happens automatically after a set period of time that starts counting after pressing GO on the first cue. Typically a follow cue will happen at the completion of the fade of the first cue but any time is possible.

Let's get back into the levels display and go back into Cue 2 and set Cue 3 to be a follow cue.

**TIMES or LEVELS/TIMES**

**GOTO CUE 2 ENTER**

*Note: GOTO is a hard key on the keyboard and will assert the selected cue in the Cue List Goto and Step Time found in S2 (Show Setup) S10 (Cue List). You can also use the mouse and double click on the cue number itself.*

### *Follow on Current Cue*

Here is the simple way to set a simple follow after fade on the current cue...

**CUE FOLLOW ENTER**

The screenshot shows the PaletteOS software interface. On the left, a cue list table is visible:

Cue	Label	Cue Time	Down Time	Action
1		3		
1.5		3		
2		3		↻
3		3		
4		3		
5		3		
6		3		
6 B	DC Spec	0		
6 C	Cyc	3/3		
6 D	Gobo Wash	5		
7		3		⦿

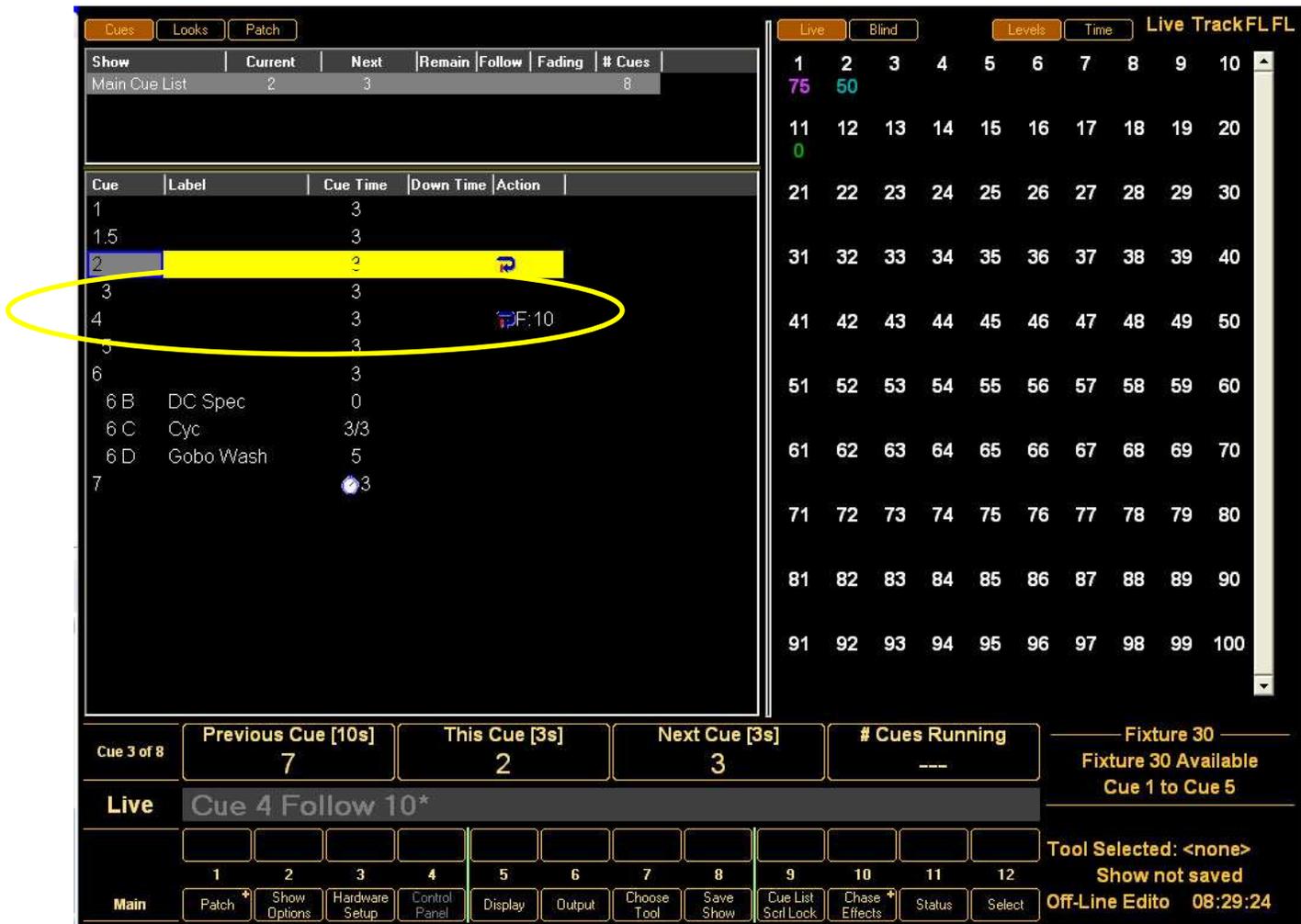
On the right, a track grid is shown with columns 1-100. Cue 2 is at 75% and cue 3 is at 50%. The interface also shows a status bar at the bottom with various controls and a 'Live' indicator.

Done. You'll notice a few things. A. There is a hairpin turn icon in the action column. This is the Follow Cue icon. B. Cue 3 is now indented letting you and the stage manager know that this is no longer a "called" cue but one that happens without intervention. This is specifically a type of follow cue called "Follow After Fade".

### *Follow In Time on a Non-Live Cue*

Now let's set cue 4 to be a different type of follow cue.

**CUE 4 FOLLOW 10 ENTER**



*Note: Some console (the LightPalette series) have a Follow key labeled Flw, other consoles (like the Palette series) don't have a hard key and S2 (Follow) should be used. It appears after you press the Cue key.*

A couple of things actually happened here. 1. You set a follow on a non-live cue by including the cue number. The first time you programmed a follow cue in this tutorial, you typed CUE FOLLOW... That insures that you are assigning a follow command to the current cue. 2. You gave this follow command a different time. This means that from pressing GO on Cue 4, 10 seconds will go by before Cue 5 is triggered automatically. You'll notice that not only is Cue 5 indented, and the follow icon is there but there is a time listed. This is the Follow Time for that cue. Make note and remember that the follow command needs to be on the previous cue, not the following cue. The reason for this is, you can have a follow cue initiate prior to the completion of the initiating cue. If you want, you can change this and try it. Whether you change it or not, I recommend using the GOTO command to go back to Cue 1 and run through these cues so that you can see how follow cues operate. If you want to change cue 4's follow time so that cue 5 will initiate prior to cue 4's completion, just type CUE 4 S2 (Follow) 2 ENTER. Next we'll discuss setting follow cues using the graphical engine.

## *Follow Cues with the Graphical User Interface*

Use your mouse and double click on the Action column's cell for Cue 2.

Select the pull down box for S1 (Follow Mode)

You can change the type of follow mode used here. Options are...

**Wait for Go:** this is the follow mode of a standard cue.

**Follow After Fade:** this will have the next cue initiate upon the completion of the current cue's fade.

**Follow In Time:** this will have the next cue initiate after a certain time value. That value is set in S2 (Follow Time)

**Follow Immediately:** this will have the next cue initiate immediately. Essentially asserting the current cue and the next cue at the same instant.



Over the years, I have run into some operators that have had some misunderstands about follow cues. I just want to clear these up.

Myth: A follow cue has to have a link command. False. Link is generally used for non-sequence order of cue running.

Myth: A follow cue automatically starts when the previous cue is finished. False. A follow command can have any time associated with it.

A follow cue will also be the next cue number by default. If you want the follow cue to be a cue other than the next in sequence, then you may link.

*Note: You can use the Follow command and the Link To command together to have (for example) Cue 5 be an autofollow to Cue 3 linking around Cue 4.*

## *Removing a Follow Command*

Command line solution for deleting a follow goes like this...

### **CUE 4 FOLLOW ENTER**

This enters a null follow command and thusly gets rid of any follow time that is there. This only works if a follow time is currently programmed onto that cue.

The Graphical User Interface solution has you going back into the Action dialogue box for the relevant cue and changing the *S1 (Follow Mode)* to *Wait For Go*

## Linking Cues

Linking of cues is used when you want cues to run in a non-sequential order. Let's say that you are in a rehearsal and the director is contemplating deleting a scene from the play but wants to look at it prior to making the final decision and you need to go from cue 1.5 to cue 6 without seeing any of the cues in between.

### CUE 1.5 S3 (Link to) 6 ENTER

The screenshot displays the PaletteOS software interface. The main window is titled 'Palette Show: Show.spf'. It features a menu bar (File, Display, Help) and several tabs (Cues, Looks, Patch). The interface is divided into several sections:

- Top Left:** A 'Main Cue List' table with columns: Show, Current, Next, Remain, Follow, Fading, # Cues. The 'Main Cue List' shows 'Main Cue List' with 'Current' 2 and 'Next' 3, and '# Cues' 8.
- Middle Left:** A 'Cue List' table with columns: Cue, Label, Cue Time, Down Time, Action. Cue 2 is highlighted in yellow. The 'Action' cell for Cue 2 contains a chain link icon with 'Q:6' and 'E:3'. A yellow circle highlights the chain link icon.
- Top Right:** A 'Live' grid with columns 1-10 and rows 1-100. The grid shows cue numbers and their status (e.g., 75, 50, 0).
- Bottom Left:** A control panel with buttons for 'Previous Cue [3s]', 'This Cue [3s]', 'Next Cue [3s]', and '# Cues Running'. The 'Previous Cue' is 1.5, 'This Cue' is 2, and 'Next Cue' is 3. Below this is a 'Live' section with 'Cue 1.5 Link 6\*'.
- Bottom Right:** A status bar showing 'Fixture 53', 'Fixture 53 Available', 'Cue 1 to Cue 7', 'Tool Selected: <none>', 'Show not saved', and 'On-Line 10:40:05'.

The Action cell now has a chain link icon with the cue number showing the completion of this. To test this, go back to Cue 1, press GO to get into Cue 1.5 then press GO and you'll see Cue 6 run instead of Cue 2.

Note that you set a link on a non-live cue with CUE # S3 (Link to) # ENTER. If you were sitting in Cue 1.5 at the time, you could have just typed CUE S3 (Link to) 6 ENTER. This would have applied the link to the live cue. You can also assign this using the Graphical User Interface. Place the blue box on the action columns cell for the cue that you want to assign the link to and either press EDIT or click with the mouse.

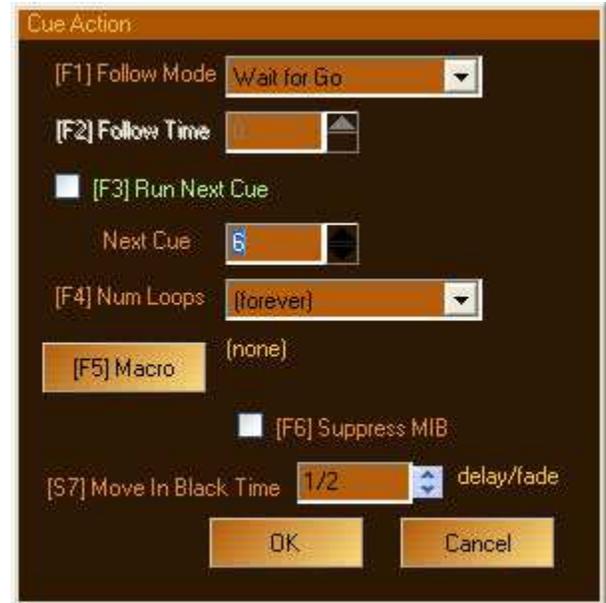
### *Linking Cues using the Graphical User Interface*

In the dialogue box, you'll see that the S3 (Run Next Cue) box is no longer checked and the number in the Next Cue box is 6. These are the parameters that can be set for linking cues using the dialogue box.

In addition to the follow cue myths, over the years, I have run into some operators that have had some misunderstands about linking cues too. I just want to clear these up.

A linked cue does not automatically run. That would be a follow cue.

Linking a cue does not need to occur if you want the next cue to run automatically. Again, this would need a follow command.



### *Removing a Link Command*

The command line solution is...

#### **CUE 1.5 S3 (Link To) ENTER**

*Note: This is only true if the cue in question already has a link command attached to it.*

For the dialogue box solution, open up the Action dialogue box for the relevant cue, then select S3 (Run Next Cue), the Next Cue box will grey out, press OK and you are done.

## Looping Cues

Looping cues allows a set of cues to run as autofollows continuously. When the end of the autofollow sequence is reached, it automatically “loops” back to the beginning. Here is one way to achieve this...

**CUE 4 THRU 6 S2 (Follow) ENTER**

**CUE 6 S3 (Link To) 4 ENTER**

The screenshot shows the PaletteOS software interface. On the left, there is a 'Main Cue List' table with columns: Show, Current, Next, Remain, Follow, Fading, # Cues. Below it is a detailed cue list table with columns: Cue, Label, Cue Time, Down Time, Action. Cue 6 is selected and highlighted in grey. The cue bar on the right shows cues 1 through 100, with cue 6 highlighted in grey. At the bottom, there are various controls and status information, including 'Cue 7 of 8', 'Previous Cue [3s] 5', 'This Cue [6s] 6', 'Next Cue [3s] 4', '# Cues Running ---', 'Live Cue 6 Link 4\*', and 'Tool Selected: <none> Show not saved Off-Line Edito 10:37:29'.

*Note: The cue bar is in grey when the cue has been released using Release Playback (REL PB). When soaking in or running into the cue, the bar will be in a color. The color depends on the status of the cue.*

As you run through your show, when you get to pressing GO on Cue 4, it will complete in 3 seconds then Cue 5 will run automatically and complete in 3 seconds then Cue 6 will run and the longest part is C with a 3 count delay and a time of 3 so after 6 seconds, Cue 6 will complete and Cue 4 will automatically be triggered. This will continue indefinitely or until you press GO.

## *Pressing GO While a Loop is Running*

So now we have our loop running and you realize that you don't quite know how long this should continue. By default it continues indefinitely but certain conditions may have you exploring different options. If you want the loop to run a certain number of times and stop, jump to the next topic. If you want to activate a change to the loop by pressing GO...read on.

By default, pressing GO while a loop is running will run the next cue outside of the loop. In this case, that would be Cue 7. Feel free to experiment by going back into Cue 3 and pressing GO, then somewhere in the middle of the looping sequence, press GO.

But maybe you want a different response. You can determine what the GOs response is by changing a show setting in *S2 (Show Options)*, *S10 (Cue List)*, *S6 (Go Action Inside Loops)*. I mentioned this in the beginning of the tutorial but wanted to wait here until you could see the differences to explain what they are.

Your options are...

**Next Cue:** will run the next cue in numerical sequence.

**Fall Out of Loop:** will simply stop running the loop in the cue where you currently sit.

**Jump Out of Loop:** will run the next numerical cue that is outside the loops sequence. This is the default.

**Restart:** will restart the loop at the top.

Most situations require the loop to run indefinitely (as you rarely know at what point in the loop you need to jump out of it and move on) with the setting *Jump Out of Loop* selected so that pressing GO will move on to the next cue stopping the loop from running.



## Number of Loops

If you are in a situation where you know exactly how many times you want the loop to run, then you can set this either with a command line solution...

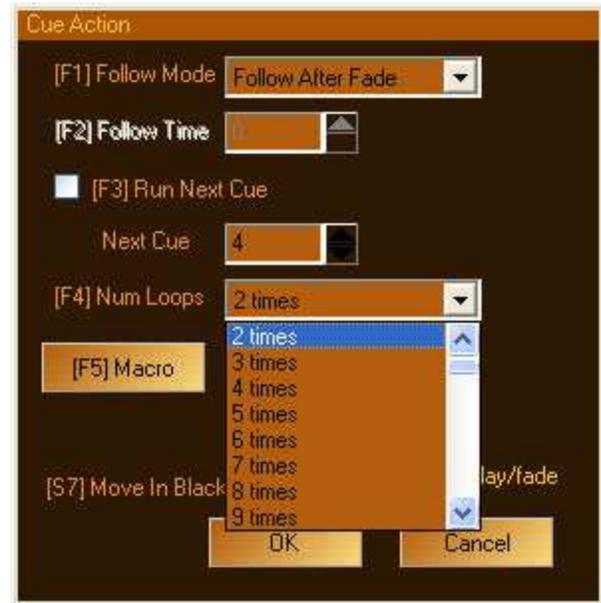
### CUE 6 SHIFT S3 (Num Loops) 2 ENTER



Or use the Graphical User Interface solution by editing the Cue Action cell for Cue 6.

S4 (Num Loops) will set this for you.

*Note: this is a Shifted version of this Cue softkey. Without pressing Shift, it will display the Link To command.*



## Cue Action

We have actually gone thru most of the options in the Cue Action window while going through the Follow and Link parts of the tutorial so please see those if you need info on those topics but I shall summarize.

**S1 (Follow Mode):** sets the action that occurs when you press GO on that cue. See Topic: *Follow Cue with the Graphical User Interface* for more info.

**S2 (Follow Time):** determines amount of time that passes prior to triggering the autofollow cue.

**S3 (Run Next Cue)** if checked, the next cue in sequence runs. If unchecked, uses the cue number in the *Next Cue* box.

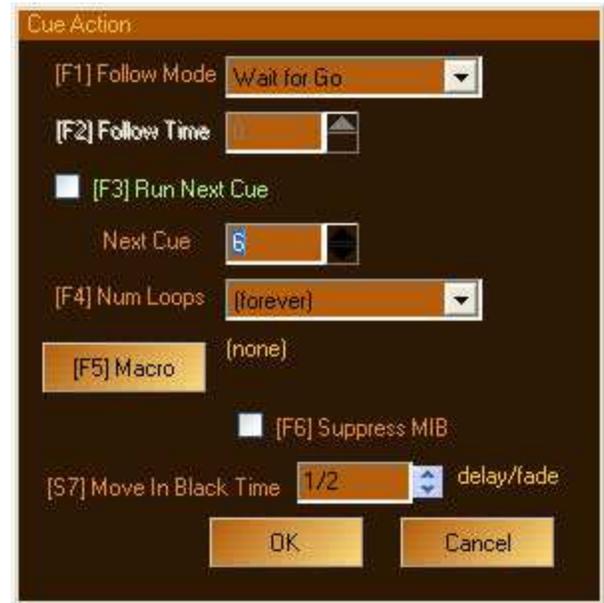
**S4 (Num Loops)** determines how many times a looping of cues will occur when a loop sequence is programmed.

**S5 (Macro)** will allow the user to program scripts or commands that will occur when the cue is triggered. I'll go into Macros in a separate tutorial.

**S6 (Suppress MIB)** will disengage the Move In Black feature that automatically processes the automated luminaire data from the next cue in sequence and prepare the lights for that cue so that no movement is visible. Only works when there is no intensity in the current cue and there IS intensity for those fixtures in the following cue.

**S7 (Move In Black Time):** uses the *delay/fade* format to process MIB for this cue.

MIB will be discussed in a tutorial for automated luminaires.



## **Cue List Window**

This is the graphical window where the list of recorded cues resides.

### *Customizing the Cue List Window*

The cue list window has a lot of common interface parameters with programs like Excel. You can expand and contract the size of each column, you can also increase or decrease the size of the entire cue list window by “grabbing” the right side vertical separator between the cue list window and the channel grid when the icon changes. This allows full customization of this window graphically. You also have the ability to move the blue box around either using the mouse or used the inverted T arrow keys either on the console or on an external keyboard.

### *Navigating the Cue List Window*

Most shows that get programmed have more than a few cues. Let’s record up to Cue 100 so we have a longer cue list to manipulate. I want to show you some tricks that enable you to keep the window where you want it...with you!

### **RECORD CUE 8 THRU 100 ENTER**

You have now taken your current state and recorded that as cues 8 through 100.

## *Keeping the Cue List Window With You*

I want to setup the scenario that you are in a technical rehearsal and you are not only running through the show with the full cast, director and staff but you are also making modification because you are still working with the lighting designer. These are the most valuable of rehearsals and the lighting designer needs to make the most out of them. Therefore you, as the programmer, need to make the most out of your console.

You are in a run of the show and you are following the GOs of the stage manager to stay with the cast. Please go ahead and press GO several times here. You may notice that the cue list window will reset itself and that every time you press go, the cue list scrolls with you and the current cue will always be the third cue in the window. This is the Cue List Scroll Lock feature and it is turned on and off with *S9 (Cue List Scrl Lock)*

If Cue List Scroll Lock is not highlighted, then you will see this...  
the focus stays with the current cue.



When in this state,

If Cue List Scroll Lock is highlighted, then you will see this...  
the focus stays with the blue box.



When in this state,

So if you need to stay with the stage manager, make sure that Cue List Scroll Lock is not highlighted. But while running through the show, the designer may wish to make changes to cue times that he/she has just seen. If you use your inverted T arrow keys and press the UP ARROW (assuming that the blue box was on cue time of the current cue), you can now press GO and the cue list will advance but without moving the cue list in the window. Now the focus of the cue list window is with you and the blue box. You can now use your right hand to stay with the designer and change the cue time (press EDIT, then the new time, then ENTER) while the left hand is pressing GO to stay with the called cues by the stage manager.

When you are done and you want to go back to having the cue list window automatically scroll with the called cues, just press *S9 (Cue List Scrl Lock)* and you are back! I've yet to find a faster way of doing these two things at once. Now you have saved valuable time at the end of the rehearsal as all of the designer's timing notes are done.

We are going to take a little break from cues because the next cue section would go into more advanced features.

I want to continue on the basic track and now talk about Groups and then Submasters. After that, we'll get back to more advanced cue programming.

## Groups

So far we have concentrated on cues. Groups are another place where channel's levels can be stored. (I'm still not ready to reveal the big secret...keep reading for a peak behind the curtains of the software).

Groups allow 2 things to happen...

1. To collect a specific set of channels into a single entity.
2. To set those channels at specific levels.

Now many people only know about the first item. Here's the scenario. You have two sets of front lights. One set is warm. One set is cool. They are on channels 1 thru 10. The odd channels are the warmes and the even channels are the cools.

## Recording A Group

If you don't use groups, then you would be constantly typing 1 + 3 + 5 + 7 + 9 or 2 + 4 + 6 + 8 + 10. So let's build our first group. Release the playback so that we have no levels on stage.

### REL PB

Let's turn on our first set of channels.

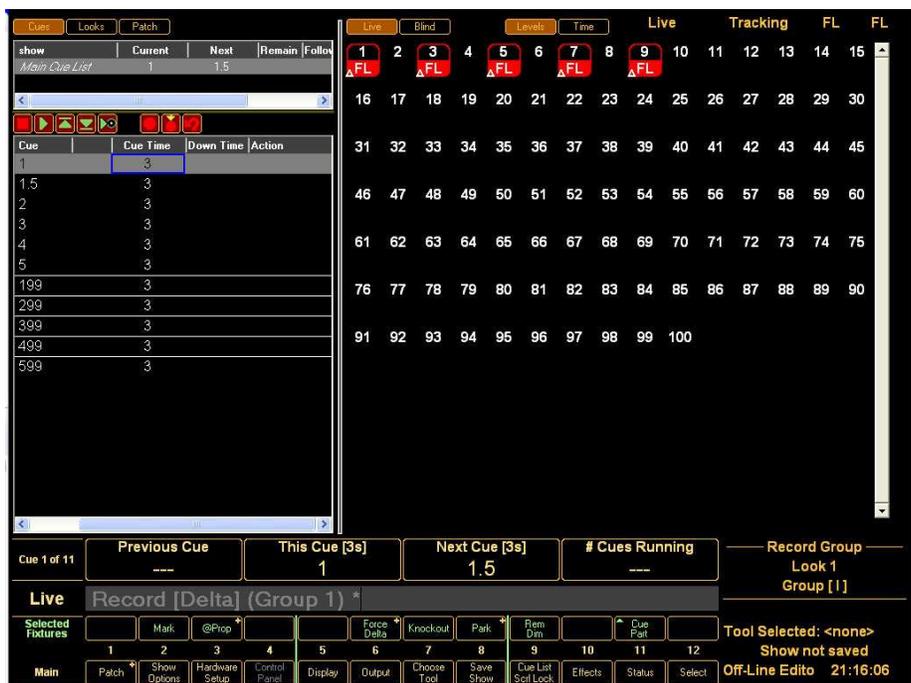
**1 + 3 + 5 + 7 + 9 FULL**

Now record our first group.

**RECORD GROUP ENTER**

You'll notice that you didn't have to tell it Group 1. This auto-incrementing works the same as it does with cues.

To try it out, release all fixtures and set Group 1 to Full.



**RELEASE RELEASE or UNDO UNDO**

**GROUP 1 FULL**

---

Now you can access your warm front light as a group...great!

You can repeat the process as necessary to create all of your groups. But let's talk about other scenarios.

## **Recording a Group With Channels Not at Full**

Let's say that you want your group to not only hold a set of channels but you want some of those channels at different levels.

**RELEASE RELEASE or UNDO UNDO**

**15 THRU 20 @ 5 ENTER**

**RECORD GROUP 15 ENTER**

Two things that are different here. You set the channels to a level other than full. You gave it a specific group number rather than letting it auto-increment. Now release everyone and let's take a look.

**RELEASE RELEASE or UNDO UNDO**

**GROUP 15 FULL**

Notice that 15 through 20 are not at full. But they are at the full value that is recorded in the group...50%

If you were to say...

**GROUP 15 @ 5 ENTER**

You'll now see those channels at 25%. Why? Because half of 50% is 25%.

## **Common Sense Use of Groups**

When you are always storing your groups with the levels at full, you are really only thinking about groups as a collection of channels. But when you are storing your groups with channels at different levels, you are thinking about that as a lighting state. Why not do both?

If you record your groups as a lighting state you can still use it as a collection of channels. Release everyone and I'll show you.

**RELEASE RELEASE or UNDO UNDO**

**GROUP 15 ENTER          FULL**

You see...GROUP 15 ENTER selected the channels. After they were selected, pressing FULL set them at a true 100%. I call this double dipping the groups.

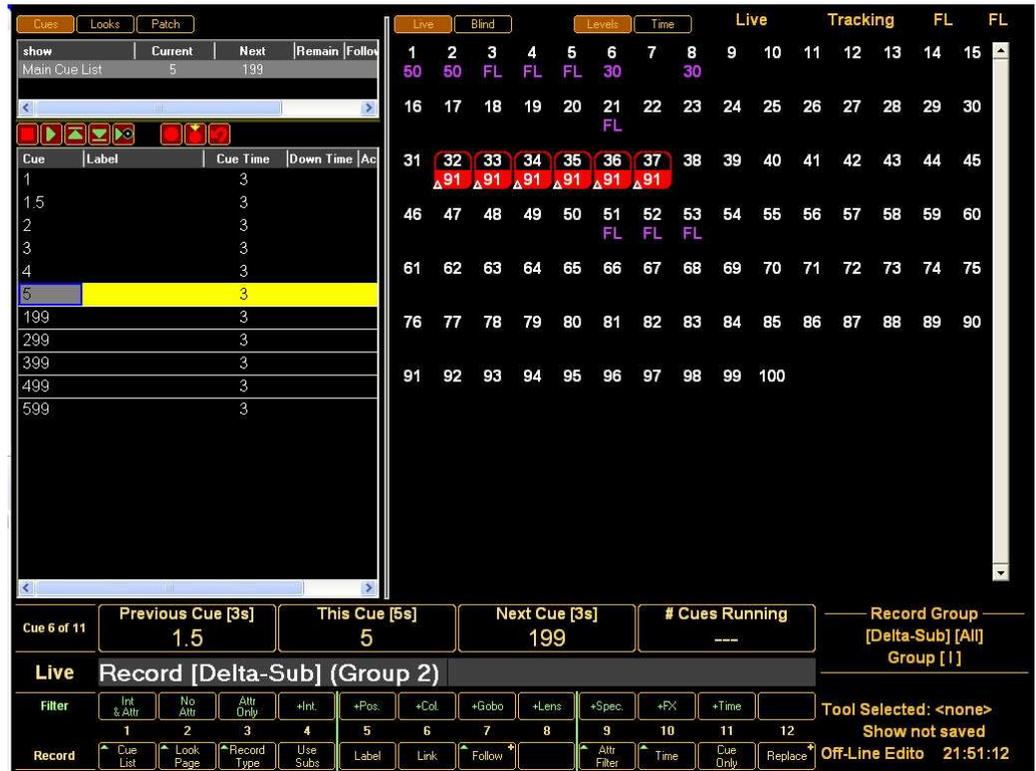
## Recording Groups While Sitting in a Cue

You can also record a group while sitting in a cue.

Set some channels at a level.

Notice from the screenshot to the right that I have typed in RECORD GROUP...

Note that it says *[Delta-Sub]*? Remember that is telling you that it's only storing changed values so it won't take any levels coming in from a cue. It's also excluding subs.



Now you don't have to interrupt the cue writing process just to create a group or two!

## **Updating a Group Live**

Updating a group is much like updating a cue. Put the group on stage.

### **GROUP 1 FULL**

Change the levels or add channels. (I'll let you be creative here)

### **UPDATE GROUP 1 ENTER**

*Note: You'll need to include the group number here.*

### ***Editing Groups in Blind***

Now I'm going to talk about structure for a moment and here is where the big secret gets revealed. From previous generations of lighting desks, we are familiar with the fact that there were 4 different places to store information: Cues, Groups, Submasters and Effect Steps (or Elements depending on the console). We have simplified things in the PaletteOS. There are now only two places to store data. Cues and Looks. The data that is stored in a Look is the data that is contained on a sub, in a group and in a palette. Within the world of Looks, there are different pages of Looks and the Groups page is just a page of Looks that is filtered to only affect intensity. So let's go into Blind.

#### **BLIND**

Blind will allow you to edit stored data without interrupting the Live state.

And now go into Looks

#### **LOOKS**

Here you will see a list of Looks' pages.

Now click on the Groups page.

The screenshot displays the PaletteOS software interface. On the left, there is a 'Look Page' list with columns for '# Looks' and 'Attributes'. Below it is a 'Look Type' table with columns for 'Number', 'Name', and 'Look Type'. The main area is a channel grid with columns for 'Live', 'Blind', 'Blind', 'Tracking', 'FL', and 'FL', and rows for channel numbers 1 through 100. The grid shows 'FL' in some cells, indicating a global indicator. At the bottom, there is a control panel with buttons for 'Previous Cue [3s]', 'This Cue [5s]', 'Next Cue [3s]', '# Cues Running', and various fixture controls. The status bar at the bottom right shows 'Preview: 1 Group', 'Show not saved', and 'Off-Line Edito 22:06:51'.

Note: The grey background of the channel grid is a global indicator that you are in Blind.

You can see the list of the look pages at the top left. For the group page, there is only 1 group recorded so far and that is Group 1. Quantity of looks appears in the # Looks column. The Attribute column let's you know what attribute families are included. For groups, it says "I" for Intensity.

To edit the group, just adjust the values. If the *Update When Leaving Blind* option is checked in S3 (*Hardware Setup*) S12 (*Console*) then all you have to do is go back to Live and you are done. If this option is not checked, then you will need to manually update the group.

## Group Page – Right Click

Right click on the attribute cell for groups and you get this...

**New:** create a new look page.

**Delete:** delete the selected look page.

**Move Up:** move the selected look page up one place.

**Move Down:** move the selected look page down one place.

**Properties:** open up the properties dialogue box for the selected look page.



## Group Page Properties

Here is the properties dialogue box for the group page.

**S1 (Page Name)** is where you change the name of this look page.

We'll talk about **S9 (Attributes)** when we get into moving lights. Just note that groups only stores intensities by default.

**S10 (Delete)** allows you to delete a page.



Now let's talk about submasters.

## Submasters

Submasters are a potentiometer that contains stored levels that allow live manipulation of level and time. Information can be stored in many places, cues, groups, palettes and subs. The reason to use a sub over one of the others can vary but are often limited to these conditions...

1. You need to control the levels of the stored values proportionally.
2. You need to control the time in which the stored levels are applied to the stage.
3. You need to control the order in which different sets of stored levels are applied to the stage.
4. You are more comfortable with live “handle” control over the stored values.

For proportional control, this simply means that you have master control over the levels that are stored in that sub. If 1 is at Full and 2 is at 50% in sub 1 and you have the sub pushed up to half (50%), then 1 will be at 50% and 2 will be at 25%. The submaster is applying the values to the stage proportionally.

For time control, it's about how fast or slow you manipulate the submaster.

For order control, you have all the podium lights stored onto sub 1 for a meeting. You also have a stage wash programmed onto sub 2 and an audience wash programmed onto sub 3. The president of the local PTA is going to come to the stage and go to the podium for a speech but you don't know if they are in the audience or backstage. If they are backstage you don't know if they are stage right or stage left. In this situation, you'll need to react quickly to determine if you need audience light first and then the podium or if they are going to walk across the stage and therefore you need the stage wash up before the podium. Submasters are perfect for this scenario and others like this.

## ***Recording a Submaster – Command Line***

Let's start by programming a few subs with a black stage. So release all channels and release all cue lists.

**RELEASE RELEASE** or **UNDO UNDO**

**SHIFT REL PB**

*Note: Shift Rel PB will release All playbacks and is something that I have gotten into the habit of doing when I want to go to black...just to make sure.*

**1 THRU 5 FULL RECORD LOOK ENTER**



This auto-incremented just the same way that cues and groups do.

Now run your submaster hardware up and you will see all the values in yellow.



## ***Recording a Submaster – Bump Buttons***

Now let's record values to a submaster using the bump buttons. Let's start simple by having no levels on stage, release all channels, release any and all playbacks and pull any subs down to zero.

**6 THRU 10 FULL**

**RECORD** press the bump button under **Submaster 2**.

You have now stored 6 thru 19 into Submaster 2. Release all channels and run it up and down to test.

## Virtual Submasters

When you are working with the Off-Line Editor or a RackPalette that doesn't have a face plate, you still have access to your submasters.

Take the mouse pointer to the top of your screen and reveal your hidden task bar. Click on the *Display* pulldown. You'll get this...

Check off virtual subs and you will see them appear at the top of your screen.

*Note: The visible quantity of virtual subs will match your hardware.*

If you left click on a recorded submaster, the virtual submaster will pop up and you can set the level as if it were the actual hardware.



*Note: If you use both the virtual sub and the actual sub, you will get <> in the corner of the box indicating a mismatch between the virtual and the actual.*

## Updating a Submaster

Updating a sub is the same as updating a cue. Just remember that you are updating the content of the sub, which is a look.

With Sub 2 at full,

**6 @ 88 ENTER**

**UPDATE LOOK 2 ENTER (or UPDATE and press the appropriate bump button)**

## RELEASE RELEASE or UNDO UNDO

Once you release, you will see that the channel's value automatically goes to yellow to let you know that it is now coming from the submaster.

## Editing a Submaster in Blind

Just like editing cues in blind, you can also edit submasters in blind. Go into Blind then click on the Looks display button top left.

The screenshot shows the PaletteOS software interface in 'Blind' mode. At the top, there is a grid of cue numbers from 1 to 48. Below this is a 'Looks' panel with tabs for 'Cues', 'Looks', and 'Patch'. The 'Looks' panel contains a table with columns for 'Look Page', '# Looks', and 'Attributes'. Below this is another table with columns for 'Number', 'Name', and 'Look Type'. The 'Blind' mode is selected, and the main display area shows a grid of cue numbers from 1 to 100. The status bar at the bottom includes fields for 'Cue 1 of 11', 'Previous Cue', 'This Cue [3s]', 'Next Cue [3s]', and '# Cues Running'. There are also buttons for 'Blind', 'Main', 'Patch', 'Show Options', 'Hardware Setup', 'Control Panel', 'Display', 'Output', 'Save Show', 'Status', and 'Select'. A preview window at the bottom right shows 'Preview: 2 FOH Sub Page 1' and 'Show not saved'.

Select the Look that you want to edit by clicking on the correct look page and then the correct look number in the Look list. Remember that the name of what you are editing will show up in the status box bottom right. Just grab and edit the levels. When you go back to Live, then it's done. Assuming *Update When Leaving Blind* is selected in S3 (*Hardware Setup*) S12 (*Console*).

## Labeling a Submaster

Labeling a submaster can be accomplished in the command line way or the graphical way.

### Command Line

LOOK 2 S12 (Label) FOH ENTER

Cue 1 of 11	Previous Cue ---	This Cue [3s] 1	Next Cue [3s] 1.5	# Cues Running ---								
<b>Live</b>	Look 2 Label FOH											
	1	2	3	4	5	6	7	8	9	10	11	12
<b>Look</b>		Look Page			Input				Attr Filter			Label



Once that is done, look at the virtual sub and you'll see the info there.

### Graphical Solution

Right click on the virtual sub's button and you get this...

S1 (Label) will allow you to type in a label.

The property dialogue box is also where you can change the look type.



## Changing the Submaster Type (Look Type)

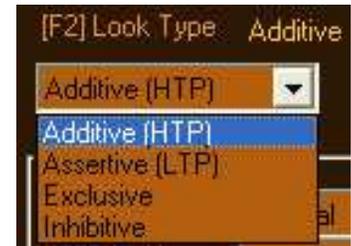
There are 4 look types to select from...

**Additive (HTP):** this will add the levels on a highest takes precedence level. This is a normal theatrical sub.

**Assertive (LTP):** this will add the sub's level on a last takes precedence level. So it's about the last action...not the highest level.

**Exclusive:** this takes control of the subs' channels away from anything else. Only the sub will control it. Not cue control, not even channel control from the command line is available. Contents of an exclusive sub cannot be recorded but they can be edited in blind.

**Inhibitive:** this allows the sub to function normally at full and when you pull it down it will inhibit the value accordingly.



I recommend that you play with setting up a few subs and set them to different types and play with this. You will likely discover how an Assertive submaster's settings work differently than an Additive type. Especially notice how an Additive submaster takes over and rescinds its control over levels when they are also controlled by another submaster that is Additive.

In fact, let's set one up now. Program 11 through 15 at 50% in submaster 3 and leave it as an additive submaster. Now program 13 through 18 at full in submaster 4 and change that to an assertive submaster. While sub 3 is at full, push sub 4 up and watch what happens. Sub 4 starts taking over for the channels that have overlapping channels immediately. Not when the value gets higher because sub 4 is a "Last Takes Precedence" sub, not a "Highest Takes Precedence" sub.

## Creating a New Submaster Page

If you need to control more submasters than what is available on hardware, you can program more submasters on another page. By default there are 3 pages but there is no limit to how many pages you can have. You can create a new submaster page by hovering the mouse pointer over a submaster page like Sub Page 1 and right click.



Select new and you now have a new sub page at the end of your list. You can right click and select Move Up or Move Down to set your order.

*Note: I won't spend time talking about working in multiple sub pages but I will tell you that you need to remember that only one page can be active at a time. If a sub is active from Sub Page 1 and you change to Sub Page 2, that sub will still hold it's levels from Sub Page 1 (the bump button LED will flash) until you take the sub all the way out, then it will automatically load for the current page.*

## ***Changing Submaster Pages***

If you have a need to change submaster pages there are 2 ways or doing it.

### **Command Line**



### **LOOK M2 (Sub Page 2)**

It's that simple. Now for the graphical solution.

### **Graphical Solution**

With the Virtual Submasters showing, click on the box that says Sub Page 1 in the upper left and pick the page that you want.



### ***Shifting Submasters***

Just because you have a console that has 16 or 32 or more, does not mean you are limited to having on the number of subs that match your hardware. Let's say you are on a ClassicPalette that has 32 subs. You can program subs 1 through 32 or continue and program subs 33 through 64 or more!

Notice the softkeys when you press LOOK. S11 (Sub Page >) and S12 (Sub Page <) will shift those subs up or down.

## Properties of Submasters

Let's talk about properties of submasters.

**Look Type:** see *Changing The Submaster Type* earlier.

**Priority:** this allows you to assign a higher or lower priority to a submaster. Priority 1 is the highest priority and 100 is the lowest. There is a default set of priorities in S3 (*Hardware Setup*) S7 (*Priority*)

**Attribute Behavior:** this pertains to how each attribute family behaves. The options are...

*Manual:* normal behavior.

*Snap At Start:* will snap to full when the sub is moved off of zero.

*Snap At End:* will snap to full when the sub reaches full.

These do more with moving lights.



## Command Line Options for Submasters

Let's not forget that you can use the subs via command line after they are recorded.

### LOOK 2 FULL

This lets you use submasters like groups! There are lots of ways to work in the PaletteOS.

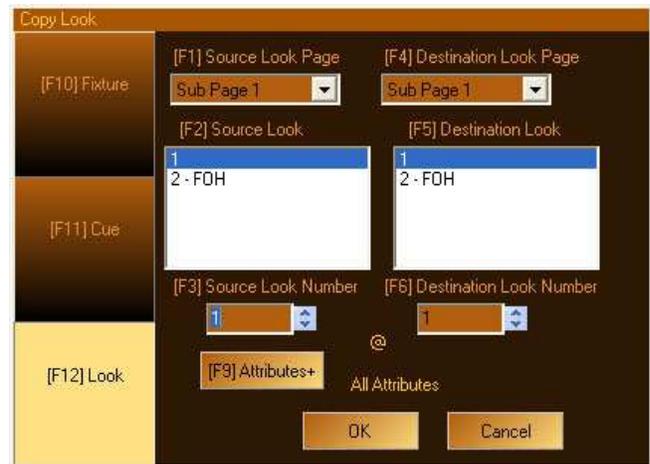
Here is a slick little advanced feature. Let's say you have many subs up and want them all to go to zero, quickly, immediately AND together. Hmm...I don't have enough hands and fingers to make that happen. You can type `GOTO LOOK 1 THRU 24 @ 0 @ 1 ENTER`.

This grabs the first 24 submasters and takes them to zero in a time of 1. Handy!

## Move and Copy Submasters

There is a very quick and slick way to move and copy submasters. Press *Move* or *Copy* and then press the bump button of the source submaster (try submaster 2) then press the bump button of the destination submaster (try submaster 12). If you used the Move button then the sub was moved, if you pressed the Copy button, then a copy of it was made. Very slick and very fast.

You can always use the graphical solution, *Shift Copy* will bring up the dialogue box. Just follow along and move or copy!



This finishes groups and subs. Now let's get back to looking at advanced properties of cues.

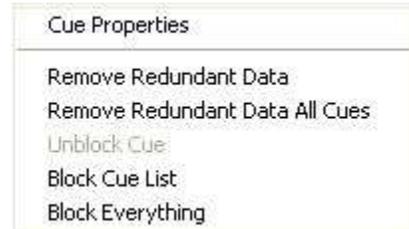
## Advanced Cue Properties

Advanced cue properties are things that you may not need everyday but I want to cover them so that you understand what options you have, where these options are and how to use them.

### Cue Properties

If you take your mouse and hover over any cue number, then right click, you will see this properties box...

Please select the *Cue Properties* item from this right click menu and we'll talk about the options here.



### Cue Properties Dialogue Box

- S1 (Label):** add a label for this cue.
- S2 (Cue Time):** value of the cue time in seconds. The *Profile* pulldown box to the right allows you to assign a profile to each timing parameters for the cue.
- S3 (Down Time):** value of the down time in seconds.
- S4 (Position Time), S5 (Color Time), S6 (Gobo Time), S7 (Lens Time), S8 (Special Time):** are all timing options for each attribute family that will be discussed in the moving light tutorial.
- S9 (Follow Mode):** allows modification of the Follow type.
- S10 (Follow Time):** value of the follow time when *Follow In Time* is selected above.
- S11 (Run Next Cue):** determines whether the follow command goes out of order. More commonly known as *Link To*. The *Next Cue* box goes along with this.
- S12 (Num Loops):** value of the number of loops an autolooping sequence will run.
- Macro:** pressing this button takes you into the macro creating and editing environment.
- Supress MIB:** will suppress Move In Black so that any moving light changes for lamps that come on in the next cue will not be processed.
- Move In Black Time:** values of the delay/fade of MIB for this cue.



## Remove Redundant Data

Will remove all redundant data or “hard values” from the existing cue. You may need to reassert the cue to see the results on screen.

## Remove Redundant Data All Cues

Will remove all redundant data or “hard values” from all cues. This is a powerful command that can affect data in every cue in your show. I recommend saving your showfile prior to initiating this command.

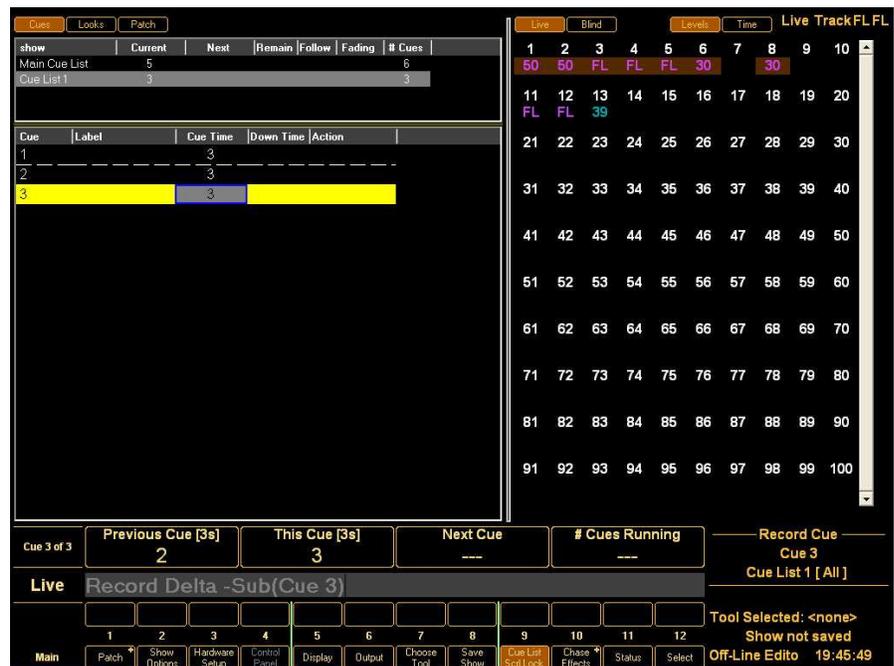
## Unblock Cue

Will return a block cue to a trackthru cue. Trackthru is the normal mode for most cues. This is only available if the cue is blocked.

## Block Cue List

This will block only the channels that are currently in use by the current cue list. This only applies if you are using multiple cue lists.

Here is a screen shot showing a cue where I used the *Block Cue List* command on Cue 2. Notice the dashed line. Also notice the second cue list above as well as the copper colored background for certain channel numbers. This indicates that those channels are being asserted from a cue in another cue list. More about multiple cue lists later.



## Block Everything

This will perform a standard Block Cue command so that the current cue is now blocked and nothing will track into or through this cue.

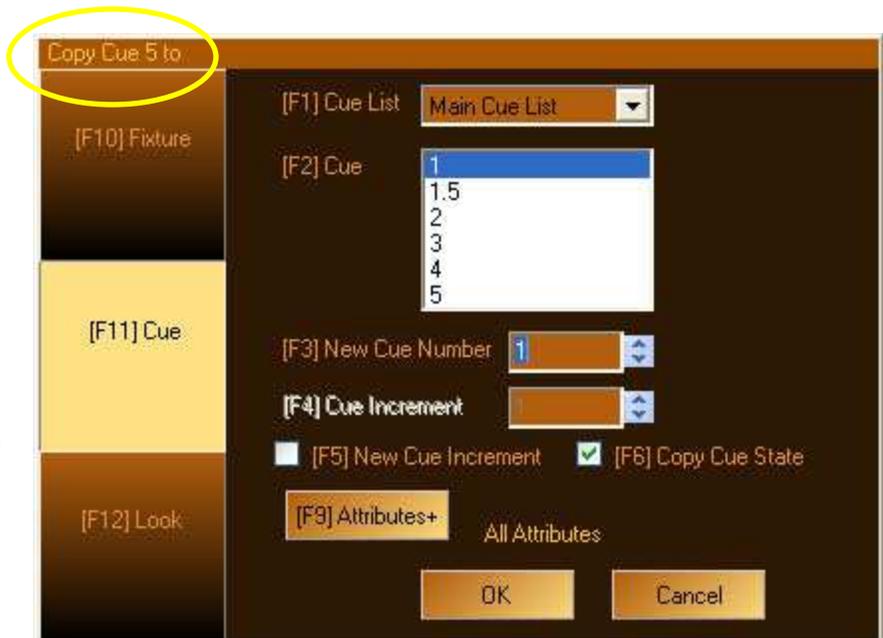
## Advanced Cue Editing

### Copy Cues

Press the **COPY** key then press the **S11 (Cue)** environment and you'll get a dialogue box for cues.

Notice that what cue is being copied is at the very top of this box. Just put the destination cue number in the **S3 (New Cue Number)** box.

Anything dealing with cue increments has to do with copying multiple cues. Yes. If you had selected multiple cues with your mouse or shift and the arrow keys by expanding the blue box, you can copy multiple cues and set a cue increment number.



**S6 (Copy Cue State)** will force all values to be copied so that you have redundant values. Without this checked, the desk will work out any tracking that takes place.

The **S9 (Attribute+)** will allow you to copy only certain fixture attribute families. Something for the moving light tutorial. The default is All Attributes.

### Move Cues

Moving cues allows you to essentially renumber any cue to place it in a different numerical location. The move cue dialogue box is similar to the *Copy* cue dialogue box. See previous section for details.

Just use the *Move* action key rather than the *Copy* action key.

## ***Cue List' Properties List***

We have talked about a cue's properties, now we will talk about the properties of a cue list.

Take your mouse and hover over the name of your cue list. You will find this in your cue list windows on the upper left. It will be called *Main Cue List*. When there, right click

**Move Up:** with multiple cue lists, the selected cue list will move up one space in the cue list order.

**Move Down:** with multiple cue lists, the selected cue list will move down one space in the cue list order.

**Playback Page:** with multiple cue lists, will assign a break in the playback page assignment. Only valuable for LightPalette consoles with the playback wing.

**New:** will add a new cue list.

**Delete:** will remove the selected cue list.

**Release Cue List:** will release the current cue list from outputting to the stage.

**Release All Cue Lists:** will release all cue lists from outputting to the stage.



For the moment, let's select *Properties*.

## Cue List' Properties - Overview

This is the properties dialogue box for the entire cue list. Things that are set here affect the entire cue list itself.

**S1 (Cue List Name):** label for the cue list.

**Cue List Type:** This is a new way to turn a cue list into an effect. See discussion below.

**S2 (Auto Run):** if on, this cue list will execute its lowest numbered cue automatically when the PaletteOS starts or the show is loaded.

**S3 (Reset to Start on Release):** when the cue list is released (either manually or by macro) it will automatically reset the cue pointer to the top of the list. This is a very important feature if you are using a cue list as an effect.

**S4 (HTP):** cue list will run as Highest Takes Precedence.

**S5 (Lock for Editing):** the cue list cannot be recorded to, updated or in any way changed.

**S6 (Priorities):** allows you to change the priority of the current cue list.

**Rate %:** will adjust the playback rate of all cues on the affected cue list.

**S10 (SMPTE):** will set the source for SMPTE time code. External SMPTE refers to the optional MIDI/SMPTE card.

**Offset:** will offset the time for the SMPTE clock by the set amount.

**Cue List Synchronization:** will allow you to sync cue lists either across cue lists of the same showfile or across multiple showfiles on multiple consoles.

**Remote Master Cue List:** is only active when Cue List Synchronization is active. Identifies the cue list that is being synchronized when the master is coming from another cue list or console.

### **Override Value in Show Options**

This area allows the cue list properties to override all time settings in Show Options. Please see Show Options above for specifics in this area.

**Cue List Properties**

[F1] Cue List Name:

Cue List Type:

[F2] Auto Run       [F3] Reset to Start on Release

[F4] HTP             [F5] Lock for Editing

[F6] Priority:       Rate %:

[F9] Attributes+:       Offset:

[F10] SMPTE:        [F11] Suppress MIB (Move In Black)       [F12] Midi Out

Cue List Synchronization:

Remote Master Cue List:

**Override Value in Show Options**

Override	Value
<input type="checkbox"/> Cue List Assert (Double Click) Time (sec)	<input type="text"/>
<input type="checkbox"/> Cue List Release Time (sec)	<input type="text"/>
<input type="checkbox"/> Cue List Goto/Step Time (sec)	<input type="text"/>
<input type="checkbox"/> Cue List Back Time (sec)	<input type="text"/>
<input type="checkbox"/> Go Action Inside Loops	<input type="text" value="Jump out of loop"/>
<input type="checkbox"/> Goto Cue on Record	<input type="checkbox"/>
<input type="checkbox"/> Release Fixtures on Record / Update	<input type="checkbox"/>
<input type="checkbox"/> Default Color	Background <input type="text"/> Foreground <input type="text"/>

OK      Cancel

This also includes the ability to override *Goto Cue On Record* and *Release Fixtures on Record/Update*. You can also change the cue list' background and foreground colors here.

## Cue List' Properties – Details

Here I will go into the cue list property items that need additional explanation.

### *Cue List Type*

This allows you to quickly playback an existing cue list as different types...

**Normal** – will run as programmed.

**Preset** – will run with timing as programmed however, no tracking values will playback.



All remaining cue list type options are for running a cue list as an effect. The cue list will use cue timing and each cue will be treated as a step in the effect.

**Chase Forward** – will run as an effect but no tracking values will playback. The cue list will run in numerical order.

**Chase Reverse** - will run as an effect but no tracking values will playback. The cue list will run in reverse numerical order.

**Chase Bounce** - will run as an effect but no tracking values will playback. Will do one pass forward and then one pass in reverse order. Like watching a tennis match.

**Chase Random** - will run as an effect but no tracking values will playback. The cue list will run in a random order.

**Build Forward** – will run as an effect but tracking values will playback. The cue list will run in numerical order.

**Build Reverse** - will run as an effect but tracking values will playback. The cue list will run in reverse numerical order.

**Build Bounce** - will run as an effect but tracking values will playback. Will do one pass forward and then one pass in reverse order. Like watching a tennis match.

**Build Random** - will run as an effect but tracking values will playback. The cue list will run in a random order.

If follow times are not present, then each cue will follow after the fade of the previous cue is complete. This is the same as all cues having a *Follow After Fade* follow command. Each step can have its own timing (allowing syncopated chases).

## SMPTE

This stand for the Society of Motion Picture Television Engineers and it is a communication protocol that allows an exterior source to trigger the lighting console.



*Note: The optional MIDI/SMPTE card must be installed to accept an external MIDI/SMPTE signal.*

**Media Player:** Media Player is installed on the console and can trigger cues using time settings from the SMPTE clock when a media file is played.

**External A:** allows a cue list to be externally triggered from a single source using the time settings from the SMPTE clock. This would go through the optional MIDI/SMPTE card.

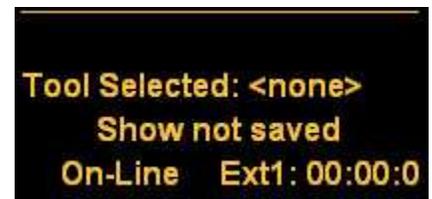
**External B:** allows a cue list to be externally triggered from a second source using the time settings from the SMPTE clock. This would go through a second optional MIDI/SMPTE card.

**Internal 1 thru 16:** allows a cue list to be internally triggered from a maximum of 16 different triggers using the time settings from the internal SMPTE clock.

Once a SMPTE source is selected, a SMPTE clock column appears in the cue list. It is looking for time information in the format of HH:MM:SS.FF (Hours, Minutes, Seconds and Frames)

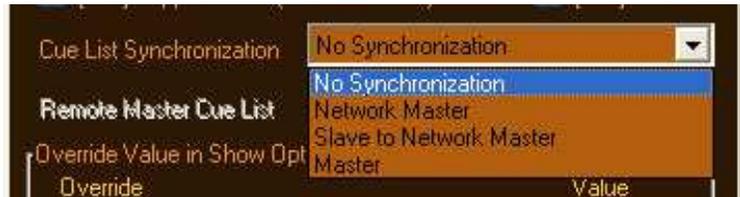
*Note: If a SMPTE source is selected and a the SMPTE clock column does not appear, just right click on the cue list column heading and check SMPTE. The other columns will be discussed in the moving light tutorial.*

With a SMPTE source selected, you'll see that the clock in the status window is replaced with the SMPTE clock. Note that it also tells you the source being used. This is External 1 or A.



## *Cue List Synchronization*

A very powerful tool for multiple console programming. Cue List Synchronization allows the consoles to synchronize so that one cue list can trigger another without the need for duplicating all cue numbers.



Traditionally many theatre's have used MIDI for connecting a conventional console and a moving light console. The drawback has been that if you have a cue 1.5 on the moving light desk then you have to have a cue 1.5 on the conventional desk whether you need it or not. Now with cue list syncing, all of that is history. This feature will only trigger a cue of the same number on the slave desk eliminating the need for all those duplicate cues!

Here's how it works, you set your primary console's primary cue list as the Master. Then you set the cue list that you want to be triggered as the Slave. Choose the appropriate option if you are synchronizing across the network. On the primary console that would be Network Master.

After that it's automatic. The slaved cue list will automatically fire as the same cue number is triggered from the primary cue list. If the primary cue list has a cue number that the slave cue list doesn't have, there is no action on the slave. It's that simple. Here is an example...

The primary console is programming all of the lighting for a musical. Conventionals and automated fixtures. A second console is brought in to program the effects. Snow, low lying fog and haze for atmosphere.

While both programmers are being used, both consoles are needed. Set the lighting console to be the Network Master and set the effects console to be the Slave to Network Master. When you need an effect cue, have the effect programmer communicate with the lighting programmer or the lighting designer, to discover what cue number the effects programmer needs to use. Remember, it's the lighting console that triggers this so you need to match the cue number from the lighting console. After programming is done and the second console is no longer needed, import the effects console's showfile into the lighting console's showfile. Make sure that when you select all necessary cue lists from the effects console that the box is checked to "import a copy". After that, the synchronization link is changed from a network connection to a simple Master and Slave connection in each cue list's properties page.

Now that you understand it, it's really a different approach but can often be comparable to multi-user in certain circumstances.

## Multiple Cue Lists

Growing up as a single cue list programmer, I was very hesitant to ever see the need for them. My how things have changed. Now I see a need for them constantly. Previous generations' consoles dealt with things differently. Many consoles gave you 4 places to store things: cues, groups, subs and effect steps. PaletteOS has simplified things by giving you 2 places to store things. Cues and Looks. Effects are generally stored as cues or a cue lists. Subs, Groups and Palettes are just different pages of Looks. With that in mind, it makes it a lot easier to see the value in multiple cue lists.

Need to write the check out cues, create a new cue list. Need an effect that may be called up several times during the show...create a cue list. There are lots of scenarios.

I want to talk a bit about how you go about navigating multiple cue lists.

First thing is about changing the default settings.

### Show Setup – Changing Defaults

When working in multiple cue lists, you will often find yourself with one or more cue lists outputting to the stage at the same time. Even though you can only program on one cue list at a time. It's important to continue to keep the stored data separate so that one set of fixture data from one cue list doesn't get recorded into another cue list that is controlling a different set of lights.

The way to do this is to change the default cue recording state from Live to Delta. By changing this setting, you will ensure that ONLY changed data (deltaed values) will be stored into the cue list that you are recording too. I have also changed the *Default Look Record* to *Delta* as well.

Now you can experiment with recording cues in a multiple cue list environment. As long as you are recording delta, it will not capture live values that are coming from another cue list. Below I'll discuss creating and navigating in a multiple cue list environment.

After you finish, please experiment and have fun!



## Creating A New Cue List

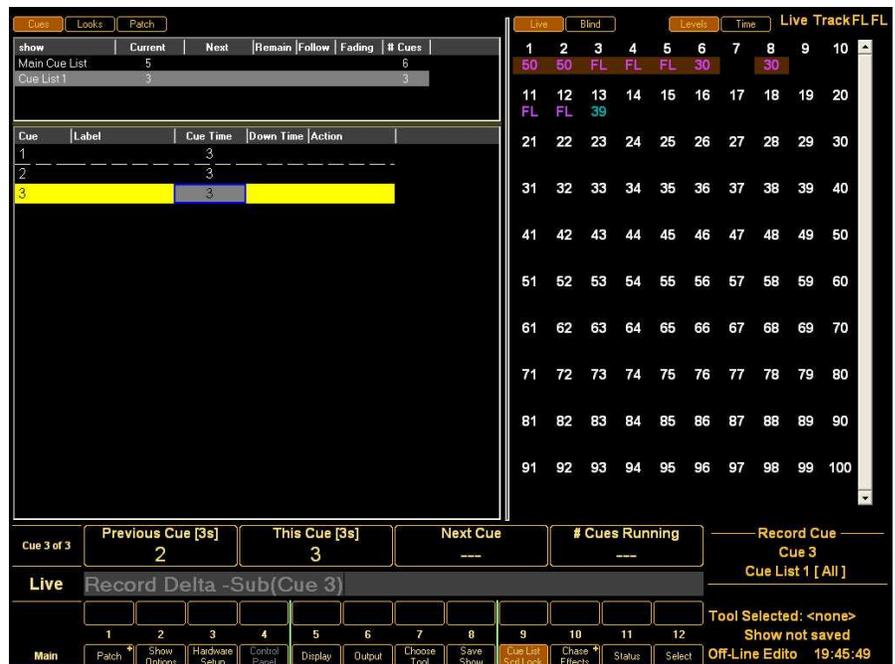
Move the mouse pointer to hover over the main cue list label that says *Main Cue List* and right click. You will see the list to the right. Select *New* and now you have a second cue list. Earlier in the tutorial, I talked about *Cue Lists' Properties*. We will now learn a little more about them through learning about multiple cue lists.



## Screen Information

Here is a screen shot from earlier in the tutorial. From this, we will learn about multiple cue list information on the screen and then start building our own.

The multiple cue list window (top left) will show you a list of all the cue lists that are built into your showfile. The cue window (center left) will always display the list of cues for the active or currently selected cue list. In the channel grid, you will notice that there are many channels that have a copper colored background. This alerts you to the fact that these levels are coming from another cue list.



There is no difference in level background colors if channels are coming from multiple cues in multiple cue lists. The software only differentiates between levels coming from the active cue list and levels coming from any non-active cue list.

I'm now going to delete the cues that I have in my second cue list so that I can start fresh. If you have any cues there, please do the same.

*Note: if you did delete an active cue, you'll notice that the cue's levels did not change. For any change to occur on stage, you would need to initiate an action that would change levels on stage. In this case, Release Playback for Cue List 1 would be the correct thing to do. I accomplished this by selecting the displayed icon with my mouse.*



Now that we have a second cue list let's look at navigating through them.

## Navigating Through Multiple Cue Lists

### *Palette, Palette II or Palette VL*

There are different ways of navigating through multiple cue lists depending on the hardware that you have. If you are on a Palette or Palette VL, then you likely have only one or two playbacks. For those of you with a console that has a single playback, use the SELECT button to activate the primary cue list. GO will always run the next available cue on the primary cue list...not the selected one.

If you have a console with an A/B and C/D, then you have 2 sets of playbacks and can use the SELECT button for the A/B to activate the primary cue list or use the SELECT button on the C/D to activate the second cue list. The A/B's GO will always run the next available cue on the primary cue list and the C/D's GO will always run the next available cue on the second cue list.

If you are navigating more cue lists than you have the playbacks to support, don't worry. You can always use the icon bar of *Cue List Controls*.



*Note: If the Cue List Controls is not present, go to S3 (Hardware Setup) S12 (Console) to check the box for Show Cue List Controls.*

### *LightPalette (Classic, Live or VL)*

If you are on a LightPalette desk you have an A/B, C/D and the playback wing of 12 playback faders for a total of 14. Just like the smaller desks, you can use the *Select* button for the playback that you want to activate.

In fact, let's create several cue lists so that you can see how to manipulate a showfile with more than two cue lists.

Create a total of 10 cue lists by right clicking in the multiple cue list window and selecting *New* until you have a total of 10 cue lists.



*Note: At some point, I recommend that you grab the horizontal bar between the multiple cue list window and the cues window and increase the size so that you can see the complete list of 10 cue lists.*

The horizontal line that separates the first two cue lists and the next 8 are there to delineate between hardware. The *Main Cue List* is on the A/B, *Cue List 1* is on the C/D and *Cue List 2* through *Cue List 8* is on the playback wings' faders 1 through 8.

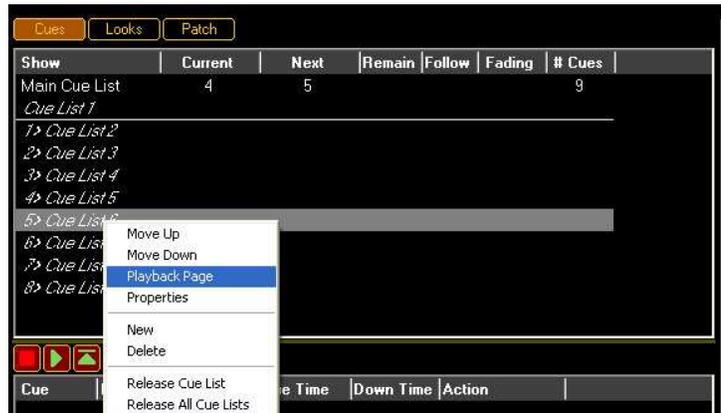
Notice in front of *Cue List 2* is a 1>, this tells you that Cue List 2 is on playback wing fader 1.

## LP Playback Wing

The playback wing consists of 12 faders each with 4 buttons. The button above the fader is the select button, the top button below the fader is Halt/Back and the lower button of the two below the fader is GO. The bottom button is the bump button. If in playback mode, it will act as a Bump Playback Master, if it is set to submaster mode, it will act as a bump button for the appropriate submaster. (*Looks on Playbacks in Hardware Setup>A/B C/D*) In addition there are 2 paging buttons to the left of the far left playback wing fader. A page up and a page down button. Let's talk about how to use those.

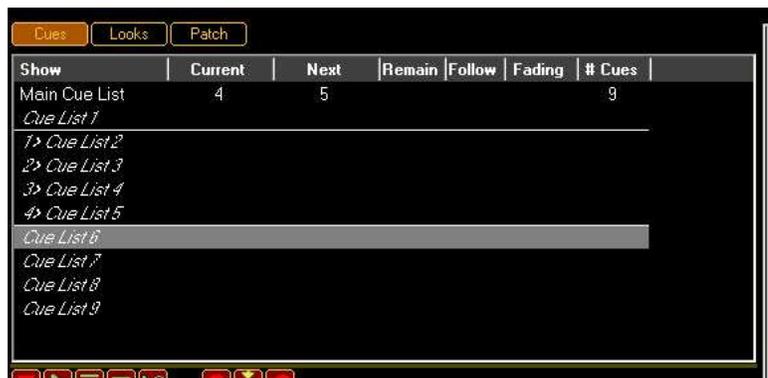
Select *Cue List 6* and then right click. You'll see what's showing on the right. Now select *Playback Page*.

You have now added a playback page so that the first four cue lists on the playback wing are on one page and the second four are on another playback page.



Notice that the active playback page is Cue List 2 through 6. You know that because of the 1> in front of the active playback page's cue lists.

You can now "page" between the two with the page up and page down buttons.



*Note: As you experiment here, remember that a playback fader acts as an inhibitive sub for that cue list so the slider must be in the up position (at 100%) for the cue list's active cue to output.*

## Summary

There is a lot more to discover so experiment and learn. Combine what you know within different areas of the console software to discover how the logic applies to different areas.

If you run into something that doesn't make sense to you, you can join an entire community of users on our development forum. Just sign up and log in at [www.strand-dev.com](http://www.strand-dev.com) . Post your comment or question and you may be surprised at the answer you get.

Happy Programming!