



## GENERAL PLEAS FROM THE TECHNICAL DEPT.

**Please read this manual before you start calling, paging, emailing, & messenger pigeoning, your friends, family, analysts, and manufacturers about how this board works!!!**

### INTRODUCTION

OK. It's probably about 4 am right now but it may as well be 4 in the afternoon. You couldn't care less because you're probably stuck in some huge black box somewhere in the middle of nowhere programming a jillion fixtures for some band that you wouldn't listen to if you had a howitzer to your head. It's cold, it's dark, you've been breathing diffusion fluid since last Thursday and you're missing out on being first (or last for that matter) on the catering line because you've got to learn how to use this little box that you've never heard of before.

We'll have another cigarette and simmer down because we're gonna get you through this quickly and efficiently. Let's face it, if you can do that the LD's gonna love you. And hey, that's all you really want right now anyway...right? I'm sure that you couldn't care less that you're all out of clean underwear and some rigger has just used up the last of the detergent in the venue's laundry area. We'll have you through this so fast that you'll be the first on line to get some swag off that sales rep from one of those scan companies.

If these first two paragraphs don't sound like your situation at all then you're probably sitting in a nightclub trying to figure this thing out which doesn't make the situation any less aggravating, you've just got the luxury of listening to some music while you do this.

We have divided the manual up into sections. If you have to learn this in a nanosecond there is the Quick, Quick Guide section. It is **basic** but it will get you through an emergency. If you have a few milliseconds, at the back of the manual is a Quick Guide. This will get you through triage but don't consider yourself a surgeon after reading it because in making it quick and simple to read certain functions and concepts had to be left out.

Okay people if you're ready to getting going, we'll "hit the pages"!

# **HARDWARE**

## WHAT ARE WE DEALIN' WITH HERE?

OK, let's take a look at all the raw power that you've got at your disposal.

- **2 DMX-512 OUTPUT PORTS:** that's 1024 channels of unbridled Digital Multiplex baby!
- **MIDI IN & OUT:** for those of you who want to automate your show via MIDI the console accepts MIDI Note information.
- **DMX IN:** for linking another controller to the CP-100. By configuring specific Cues, Chases, Macros, & Hotkeys to respond to external DMX channel feeds, you can trigger events on the CP-100 via an external DMX controller.
- **COM PORTS 1 & 2:** are used for the addition of peripherals. **COM 2** is used for adding any DOS compatible tracking device (mouse, trackball, trackpad, etc.). **COM 1** is for future upgradability.
- **MONITOR OUTPUT:** For any standard color monitor or flat screen.
- **KEYBOARD PORT:** is obviously there so you can plug a keyboard into this thing. With the external keyboard you are able to label Cues, Chases, Fixtures, Presets, etc. as well as program user definable "HOT KEYS". Any IBM compatible keyboard will work with the CP-100.
- **EXTERNAL SWITCHER:** for switching externally! OK, if you're really lazy you can sit in a chair with cocktail in hand just tapping a footswitch to go from Cue to Cue. Those of you who really use this function know how it works so I needn't get into it here.
- **AUDIO INPUT:** is obviously for sending an audio signal from a pre-amp. 1/4" jack, a little music, and you're rollin'!
- **LITTLITE PORT:** for the popular plugin luminaire that allows you to see the "delete" button at all times. The 3 pin XLR version is used here. That snazzy little dimmer knob right next to it is not the Grand Master dimmer for the controller as I was once asked. It is in fact the dimmer for the Littlelite itself.
- **3.5" DISKETTE DRIVE:** for show backups, software upgrades, etc. Why do we use this? BECAUSE WE'RE SICK OF LAYING OUT GOOD BEER MONEY ON EXPENSIVE RAM CARDS, THAT'S WHY!!! (not that we're bitter or anything) With this handy little function, you can make backup upon backup of your show for mere pennies. Not to mention the fact that you can usually "borrow" diskettes from secretaries and other co-workers, which doesn't, cost anything, YEAH BABY!
- **SUBMASTER FADERS:** are on the left side of the controller. The ones at the top are labeled "Dimmers". You are able to add either individual or groups of conventional dimmers to these faders as well as the dimmer functions of your automated fixtures. The ones on the bottom are labeled "Submasters" and they're strictly for the playback of Cues, Chases, and Macros. Both of these Submaster sections are comprised of 99 pages of 6 faders each.
- **GRAND MASTER FADER:** will only control the dimmer function of your conventionals and automated fixtures. It won't vary every DMX channel on the controller. This will prevent your moving lights from drifting back into their zero positions when fading out. This spectacular effect we want to leave as an effect not incorporate into the design of the board!
- **X-FADE FADER:** is used to set the specific crossfade time of Cues as well as set the crossfade percentage for Chases.
- **CHASE SPEED FADER:** sets the Beats-Per-Minute (B.P.M.) time for Chases.
- **A/B FADER:** allows you to manually crossfade from Cue to Cue.

# **SETTING UP THE CONSOLE**

All right, lets start with physically setting up the console.

- 1) Take CP-100 out of the box.**
- 2) Attach any peripherals to the console. i.e.: trackball to COM 2 port, keyboard to the keyboard port, external triggering devices to their respective ports, etc.**
- 3) Plug in its power supply to the outlet and the power input jack on the back panel of the console.**
- 4) Turn the power ON. You'll find the power switch on the back panel of the console directly next to the power input jack.**
- 5) Wait for the console to boot up and validate it's software files. You'll hear a beep first. This tells you that the processor is present and functioning. If you don't hear it turn the board off and try again. Then you'll see a visual representation of the board loading its software followed by a display of the "Main Menu" display on the LCD screen. You're now up and ready. The engine is running**
- 6) Make sure that the "SOLO" button is ON, the "D.B.O." button is OFF and the "GRAND MASTER" fader is all the way up. This is imperative!**
- 7) Chock away, you're officially ready to taxi down to the runway! You've got to get to the runway, do your pre-take off procedures and then apply full power. Just take your time otherwise you're liable to have a take off abort, and that wont be fun for anyone!**

# DISPLAYS

## WHAT ARE WE TALKIN' 'BOUT HERE?

It's no secret that every manufacturer has a different language. Some people call a "scene" a "cue", others call a "chase" a "sequence", some call rap music good, and so on. So let's start by defining just what it is we're talking about.

- **CUES:** are specific looks. What you see is what you get. You can execute Cues with individual Crossfade times as well as use them to comprise chases.
- **CHASES:** are a group of Cues link together and animated. Chases can be run in several different ways. We'll get to that when the time comes.
- **MACROS:** are a group of Cues, Chases, and Blackouts linked together and animated. Each individual step is given a start and end time.
- **PRESETS:** are spots on the stage that the moving lights are positioned on. This concept is most frequently known as "Preset Focus".
- **FEATURE PRESETS:** are combinations of the different features of the lights that you are using. Features such as color, gobo, prisms, gobo rotation, etc. all comprise of a Feature Preset. This concept is sometimes known as a "palette".
- **ROTARIES:** are.....well look at the CP-100. Do you see those 8 round knobs on the top of the board? Well, those are rotaries. You're gonna spin those puppies around a few times to make the lights do pretty things. **DON'T START PLAYIN' WITH 'EM NOW!!!** Be patient for god's sake! (You're zigzagging the plane on the taxiway!).
- **N** The concept of **N** is that it is any number that you want it to represent. So if you something like "add feature preset n", then it means you can call n any number. So n could be 10, 16, 1000, or 1. We also sometimes have to use **X** and **Y**. They are the same thing as **N**. So you'll see statements such as "add feature preset n to fixtures x and y". Sorry for the algebra lesson 101 promise you that's it.

## THE MAIN MENU

The CP-100 MAIN MENU is the first display that you will see upon start up of the controller.

### Main Menu Display

<b>CP-100 MAIN MENU</b>		<b>4:59pm</b>
<b>F-1 Storage</b>		<b>F-4 Miscellany</b>
<b>F-2 Hotkeys</b>		<b>F-5 Triggers</b>
<b>F-3 Clock setting</b>		<b>F-6 Screen Display</b>

Each of the function keys just below the display will access the specific submenus.

The menus are as follows:

- **STORAGE**

This submenu allows you access to the storage of information onto disk.

### *Storage Display*

<b>STORAGE:</b>	<b>Name:</b>
<b>F1 Objects</b>	
<b>F2 Software</b>	
<b>F3 Memory</b>	

Within the STORAGE menu you are able to save & load the objects within the controller. The objects consist of fixtures and show information. You are able to save & load just the fixtures in your show, save & load just the show information itself (Cues, Chases, etc.), or save & load all of your information.

### *Objects Display*

<b>OBJECTS:</b>	
<b>F1 Save all</b>	<b>F4 Load all</b>
<b>F2 Save fixtures</b>	<b>F5 Load fixtures</b>
<b>F3 Save show</b>	<b>F6 Load show</b>

- **SOFTWARE**

The SOFTWARE display allows for the saving and loading of different versions of software. After inserting a software disk into the diskette drive and accessing the SOFTWARE display, the readout will show you which version of software is currently installed into the CP-100 and which version is on the diskette.

## ***Software Display***

**SOFTWARE:**  
**F1 Save software    This version: 1.07**  
**F2 Load software    Disk version: 1.14**

- **MEMORY**

The MEMORY display also allows you to view the amount of total memory that has been used. Since there is no specific limit to the actual number of Cues, Chases, Macros, Presets, etc. that you can store the percentage readout is used to monitor the controllers memory performance.

## ***Memory Display***

**MEMORY USAGE:    NV Objects: 211**  
**Free RAM: 3011840    Free NVRAM: 120672**  
**Used RAM: 130560    Used NVRAM: 10400**  
**% Used: 4            % NV Used: 1**

- **HOTKEYS**

The HOTKEY EDITOR display allows for the quick programming of multiple button press commands that can be accessed through an external keyboard. So a single button on the keyboard could save you multiple keystrokes on the board.

## ***Hotkey Editor Display***

**HOTKEY EDITOR:    Key: Alt+A**  
**F1 Delete            Name:**

**Clear All Enter**

- **CLOCK**

Yeah, this thing's got a clock on it so that you can see just how much overtime you're putting in. To change the time and dates simply use the cursor keys to move the cursor to the appropriate field, either type the desired number and press ENTER or use the +YES/-NO keys to increment the numbers up and down.

## ***Clock Setting Display***

**CLOCK SETTING:**  
**Wed \_3/27/97 \_3:13 pm**

- **MISCELLANY**

This dandy little menu allows access to all sorts of cool stuff.

## Miscellany Display

MISCELLANY:  
Audio sens.: 8      Mouse speed: 5  
Lock: on            Mouse swap: 01  
Record time: no    Footswitch: go

- **AUDIO SENS**

As you may have guessed, this allows you to set the sensitivity of an incoming audio signal when using the external audio trigger port.

- **LOCK**

Allows you lock out the controller's memory to prevent overzealous audience members from messing around with your show information. You are also able to prohibit the alteration of Stage Focus as well. It would be a crying shame if someone were to alter your Stage Focus just before a show.

- **RECORD TIME**

This is used for the recording of MACROS. When set to "YES" the macro will record in real time. So the button presses that you make will be recorded in the actual time that it takes you to press them. When set to NO, you will have to enter the start and end times of each step in the macro.

- **MOUSE SPEED**

This adjusts the sensitivity of your external tracking device from 0 (slowest) through 10 (fastest).

- **MOUSE SWAP**

Your tracking device should have at least 2 buttons on it. One of these buttons will move your light beam in its coarse mode while the other will let you move it in it's fine mode without having to press the FINE button on the controller.

- **FOOTSWITCH**

This function is linked to the EXTERNAL TRIGGER jack on the back of the controller. When set to GO it will accept an external trigger that will step through the Cues one by one. When it is set to KILL a signal from the external trigger will activate a D.B.O. (dead black out), which will shut off all of the light beams. This is mainly used in nightclub venues where law requires the fire alarms to be linked to the entertainment lighting system. By triggering the fire alarm the fixtures will shut off allowing for less confusion during an emergency.

- **TRIGGERS**

This display allows you to configure the triggering of Cues, Chase, Macros, and Hotkeys via either the DMX input or MIDI note information.

### *Triggers*

TRIGGERS:	Cue: 3	5	---
F1 Stop all	Chase: 2	14	D#0
DMX: Norm	Macro: 1	1	C0
MIDI: Norm	Hotkey: Alt+Z		DMX

Triggers are explained in detail on page 76.

- **SCREEN DISPLAY**

This display makes it possible for a mouse/trackball to work either the external monitor or the fixtures. Without it you'd be pointing and clicking a screen and screwing with the fixtures all at the same time. The result is you would go nuts and the lighting plot would go out the window! (No window's pun intended!!). See Monitor section on page 46 for further details.

# **THE QUICK, QUICK INSTRUCTIONS.**

## QUICK, QUICK INSTRUCTIONS

For those impatient sods that don't want to take the time to read this dissertation of a manual word for word, I will cut to the chase and show you how to do the basics. It is basics, so you will not be a programming genius after reading this. So if you want to **understand and use** all the features of the board and not screw yourself up you're going to have to read whole manual.

### ADD A FIXTURE

1) Press **ADD-FIXTURE-ENTER** to bring up the "Add Fixture" display.

```
ADD FIXTURE:      Fixture no.: 2
F1 Add           Vendor: Clay Paky
                  Type: Silverado
```

2) Move the cursor by using the 4 arrow keys to the immediate right of the display to get the cursor beside the word "Vendor". Using the "+YES" or "-NO" keys, scroll through the vendor list to find the appropriate vendor. Having done that use the arrow keys to move down to the "Type" field and once again use the "+YES" or "-NO" keys to choose the appropriate fixture.

3) Then, using the "+YES" or "-NO" keys, scroll through the fixture library to get the fixture that you want. Press "F1" to put it into your list of fixtures to be used. The "Edit Fixture" display will appear:

```
EDIT FIXTURE:      Fixture no.: 1      H
F1 Add another     Name: _
F2 Delete          Type: GoldenScan HPE
                  DMX Port: 1
```

4) Use the < & > buttons to move to the "DMX PORT" field and type in the number of the DMX port that your data cable is hooked into and press ENTER.

5) Use the < & > buttons to move to the "BASE CHANNEL" field and type in the number of the DMX start address for this fixture and press ENTER.

6) Press: F1 to add another fixture and repeat steps 2 through 5.

7) Press: **FIXTURE-n-ENTER** to call up the fixture.

## STORING A CUE

- 1) Move the lights into position & adjust their features to make a pretty look. You can also use your Presets and Feature Presets to do this for you.
- 2) Press STORE-CUE-n-ENTER to save the Cue
- 3) Press CUE-ENTER to see the Cue Editor display

```
CUE EDITOR:          Cue number: 1
Preset (1): 7        Name: _
Fix Filt (0): 0      In time: 2.5
Dim Filt (0): 0      Out time: 2.3
```

- 4) Move the cursor to the respective positions to change the fade In Time, Out Time, Name, etc.
- 5) Press STORE-CUE-ENTER to save the Cue with it's new information.
- 6) Press CUE-n-GO to see the Cue happen.

## STORING A CHASE

- 1) Press CHASE-ENTER to bring up the Chase Editor display.

```
CHASE EDITOR:        Chase number: 10
Step rate: 120        Name: _
Xfade %: 50           Step (8): 1
Mode: forward         Cue (1): 55
```

- 2) Move the cursor to the "Cue" field.
- 3) Press CHASE-RECORD to turn on the "Record" LED

**NOTE:** the "Record" button is located on the right side of the board above the "Grand Master" fader.

- 4) Press CUE-n-ENTER
- 5) The "Step" in the chase editor should increment by one. If it doesn't, make sure that the "SOLO" button LED is lit.

**NOTE:** general rule of thumb...just keep this button on at all times and make sure it stays on! We'll get into it later.

- 6) Repeat step 4 until all the Cues that you want are in the Chase.

- 7) Press the “Record” button to turn the LED off.
- 8) Use the “Chase Speed” & “X-fade Time” faders to set your Step Rate and Cross fade percentage. If a chase has a nonzero rate programmed into it, it plays at that rate, period. If it has a zero rate, then it steps whenever you tap on the ‘Enter’ key, and if the Audio switch is turned on, it also steps whenever the audio input is triggered.
- 9) Move the cursor to the “Mode” field and use the “+YES” & “-NO” buttons to set the desired replay mode.
- 10) Press STORE-CHASE-n-ENTER to save the chase.
- 11) Press CHASE-n-GO to start the chase.

## **STORING THE FRUITS OF YOUR LABOR ONTO SUBMASTERS**

- 1) Press ADD-CUE (or Chase)-TO-SUBMASTER-n.n-ENTER.

This adds the Cue to a specific Submaster page and fader.

i.e.: If you were to press ADD-CUE-1-TO SUBMASTER-7.3-ENTER then Cue number 1 would be placed on Submaster Page 7, Fader number 3.

- 2) Press CLEAR-ALL-ENTER to clear your fixtures.

3) Go to the specific Submaster Page and raise the fader that you stored stuff to. Voila, there it is!

**Well, that’s all folks for the Quick, Quick guide! There is a more detailed Quick Guide added to the back of this manual but if you want to learn more...read the rest of the book. This should be more than enough to make you dangerous on this thing.**

# **SETTING UP YOUR SHOW**

# SETTING UP FIXTURES FOR YOUR SHOW

## ADDING FIXTURES

The first thing that you need to do is tell the controller what fixtures you intend on programming. So let's add some fixtures to our show!

**1) Press ADD-FIXTURE-ENTER to bring up the "Add Fixture display.**

```
ADD FIXTURE:      Fixture no.: 2
F1 Add
                  Type: Silverado
```

**2) Move the cursor by using the 4 arrow keys to the immediate right of the display to get the cursor beside the word "Type".**

**3) Then, using the "+YES" or "-NO" keys, scroll through the fixture library to get the fixture that you want. Press "F1" to put it into your list of fixtures to be used. The "Edit Fixture" display will appear:**

```
EDIT FIXTURE:      Fixture no.: 1
F1 Add another     Name: _
F2 Delete          Type: GoldenScanHPE
                  DMX Port: 1
```

**4) With the cursor buttons you can move around the screen to the following fabulous locations:**

**NAME-** with the external keyboard you can give the fixture an appropriate name such as "Bob" or "Upstage Cyber 1"

**DMX PORT-** 1 or 2 if that's where your data line is feeding out from.

**5) With the right cursor key you can get to the 12 other secret displays as follows:**

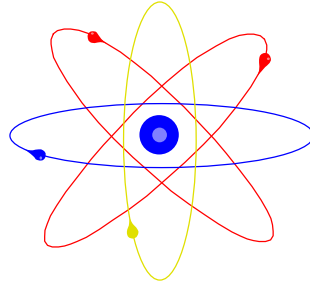
**BASE CHANNEL-** In other words, what's the DMX start address for that particular fixture. The board will automatically default to the next available free address. If you change the channel number then don't forget to press ENTER. This is the ONLY time you'll have to remember DMX number. YEHA!!!

**PAN INVERT-** It's set at normal. To invert it press 1-ENTER.

**TILT INVERT-** See Pan Invert.

**PAN/TILT SWAP-** See Tilt Invert.

**POO, PO1, TOO, TO1, P10, P11, T10, T11-** These funny looking things are the Stage Focus values. Don't worry about them now. Don't mess around with 'em either! We'll go into them later on in the manual. I'd explain all about it here but that would take only slightly longer than trying to split an atom in your backyard with a terminal driver and a pair of dikes!



You would now either press “F1” to add another fixture, “F2” to delete it, or FIXTURE-n-ENTER to play with the pretty lights.

## **MAKING THE FIXTURE THAT'S NOT THERE**

The guys at Elektralite are pretty quick when it comes to upgrading software with the latest fixtures on the market incorporated into it but you've got to give 'em a brake now and then. OK, let's say that Martin has come out with the next best fixture since sliced bread and it's got the usually nominal amount of, oh let's say, **47** channels of DMX.

You're not stuck with nothing to control it with if it isn't in the universal fixture library. You can make a fixture that will control it for you. It won't have all of its channels individually labeled but it will work the unit properly (or to the best of the fixture's abilities) until the next software upgrade comes out. This feature is known as adding a DMX FIXTURE.

In the ADD FIXTURE display simply use the +YES & -NO keys to scroll to DMX FIXTURE and press F1 to add it. The next thing that you'll see is the EDIT FIXTURE display.

```
EDIT FIXTURE:      Fixture no.: 1
F1 Add another     Name: _
F2 Delete          Type: DMX Fixture
                  DMX Port: 1
```

Now if you use the < & > keys you can scroll through the bottom field. The first thing that you'll have to do is assign this fixture a DMX Port and then give it a Base Address. The next field will prompt you to enter a Channel Count number. This is the total number of channels that the fixture will consume. Simply type in the number of channels and press ENTER. Once you've done that press the > key again and you'll then be prompted to assign the fixture a Dimmer Channel. Simply type in the channel that controls the dimmer function of this new fixture. The main reason for doing this is so that the Grand Master Fader knows which channel to dim out for you.

There is now another 'solution' to your problem; **Version 3 Operating System software. Version 3 OS** adds the ability for you to make your own fixture with full support. In other words, you can choose names for every feature. You can also decide how the feature should work, in fact with this OS

you would be able to setup a fixture just like the guys at Group One do. To do this you're going to need to have access to a PC computer and some floppy disks. **Version 3 OS** is what you have in your CP-100 right now. So go and check out from page 56 (User Defined Fixtures).

### **For your knowledge and information**

Version 2 operating system adds a monitor output and all the necessary software to run it.

Version 3 operating system adds what has just been described above. (Outboard fixture customization).

Version 4 operating system adds an effects generator/engine for automatic insertion of circles, ballyhoos etc.

Version 3 & 4 operating system also have the capability of running the expansion submaster panel for a CP-100. The expansion panel adds 12 dimmer submasters and 12 regular submasters. This panel become integral to the CP-100. It is not a stand alone unit. In this way, you end up with a single complete controller not a "hodgepodge" of pieces!

## **GROUPING FIXTURES**

It is possible to put 2 or more fixtures into any given group number. This allows you to access the features of multiple fixtures at one time. It is also possible to place dissimilar fixtures into the same group.

i.e.: You can have 3 of your Cyberlights in Fixture Group 1 and then add 5 of your VL6's into the same group. When you access Fixture Group 1 and change the color rotary, the first color wheel of the Cyberlights and VL6's will begin to increment.

To place fixtures into a group:

- 1) Press ADD-FIXTURE-x-THRU-y-TO-GROUP-n.  
(For example Add Fixture 1thru 12 to group 1).**

There are several variations of this command that you are able to use. See the "Command Set" section of this manual for other options.

To access a Fixture Group:

- 1) Press: GROUP-n-ENTER**

This will display the "Group Features" display. You are now able to use the rotaries to alter the different features of the fixtures within the Fixture Group.

**See the Command Set of the manual for more information on: GROUPING  
FIXTURES**

## **GOOD HOUSEKEEPING**

Listen up people! None of us like authority or discipline but we can't have anarchy reigning with this board. The point is you have to be aware of what channels/features are live when you record a cue. There is a major difference between seeing a value of "0" and seeing "---" on the display. Those three little lines mean that the rotary(s) is cleared and that means that rotary is not going to be recorded in the Cue or Preset. **A value of "0" is a tangible DMX value.** It doesn't clear the channel/feature, it just outputs it at 0%. 0% can have a lot of different meaning depending on the fixture type and feature that it is applied to. For example, if applied to a feature like an iris, the iris could end up being shut or fully open depending on the fixture type. So if you are reviewing your cues and suddenly the iris slams shut and you had it open and you didn't want it to close up, then chance are that you have a wrong value in the iris feature.

So be careful with cues, feature presets and presets. It is easy to forget and accidentally record features that you don't want. Use the clear all function **liberally** to make sure that you start from square one each time before programming a cue, feature preset or preset and this way you will avoid an errors.

# LIGHTS THAT DON'T WIGGLE

## ADDING CONVENTIONAL DIMMERS TO YOUR SHOW

All right, now it's time to add some conventionals to this thing. There are 2 different ways in which you can add a dimmer to the controller. The first is by adding the dimmers as separate fixtures within the show. The second, and much more efficient way, is by simply adding the dimmer as an individual DIMMER. This completely separates your conventional lighting from your automated fixtures.

### **1) Press ADD-DIMMER-ENTER**

This will call up the ADD DIMMER display.

```
ADD DIMMER:          Dimmer no.: 2
F1 Add
                        Type: Dimmer
```

### **2) Press F1 to add the dimmer to your show**

The EDIT DIMMER display will be shown.

```
EDIT DIMMER:          Dimmer no.: 1
F1 Add another        Name: _
F2 Delete             Type: Dimmer
                        DMX Port: 1
```

This display works exactly like the EDIT FIXTURE display. Simply use the cursor keys next to the LCD display to move the cursor from field to field. From here you are able to use the external keyboard to Name the dimmer, assign the DMX Port, and assign the Base Channel of the dimmer.

### **3) Press F1 to add the next dimmer to your show.**

As you add dimmers to your show, the Base Channel will automatically increment by 1. If you need to you can change the Base Channel of any dimmer as you add them.

## GROUPING YOUR DIMMERS

You are also able to group your conventional dimmers as well. This becomes particularly useful when adding dimmers to submasters.

Dimmer Groups are different from Fixture Groups and the commands for adding each to their respective groups don't need specifying. The following command should help explain.

### **1) Press: ADD-DIMMER-x-THRU-y-TO-GROUP-n-ENTER**

This will add the specified dimmers to a specific Dimmer Group without you having to say “ADD-DIMMER-x-THRU-y-TO-DIMMER-GROUP-n”. The controller automatically knows to add conventional dimmers to their own groups. Fixtures 1 & 2 may comprise Fixture Group 1. If you add dimmers to “Group 1” it's not going to put them into the Fixture Group but rather in it's own Dimmer Group.

Once you've made your Dimmer Groups you can then add them to Dimmer Submasters.

**See the Command Set of the manual for more information on: DIMMERS.**

## ADDING THOSE DIMMERS TO DIMMER SUBMASTERS

Dimmer Submasters allow you to set your dimmer levels with the faders instead of the rotaries.

To add Dimmers to Dimmer Submasters:

### **Press: ADD-DIMMER-x-TO-SUBMASTER-n.n-ENTER.**

This will add the selected Dimmer to a specific Dimmer Submaster page and fader. Likewise you may add your Dimmer Groups to specific Dimmer Submasters.

### **Press: ADD-DIMMER-GROUP-n-TO-SUBMASTER-n.n-ENTER**

These commands will add the dimmers to faders at their full percentage. You can limit the maximum output that a dimmer fader will have by specifying it at the end of your command line. Let's say you wanted to add dimmer number 1 to Dimmer Submaster page 2, fader 3 with a maximum output of 75%.

### **Press: ADD-DIMMER-1-TO-SUBMASTER-2.3-@-75-ENTER**

Now when you raise Fader 2.3 all the way up it will only output Dimmer 1 at 75%.

## **ADDING AUTOMATED LIGHTS TO DIMMER SUBMASTERS**

It is also possible to add the dimmers of your automated lighting to Dimmer Submasters. Now that's neat. One fader to bring up both your conventions and automated.....what a concept and all brought to you from the comfort on your own CP-100.

**Press: ADD-FIXTURE-x-TO-SUBMASTER-n.n-ENTER**

**See the Command Set of the manual for more information on: EDITING  
FADER ASSIGNMENTS**

# **MORE ADVANCED STUFF**

# PRESETS & THE HI-LITE FUNCTION

## STORING AND RECALLING PRESETS

Before we jump into this one and show how to create and edit presets and feature presets let's define exactly what is a preset and feature preset.

### **Presets.**

The original idea behind the concept of presets was what was called 'preset focuses'. Preset focuses overcame a real problem when you toured with moving fixtures. The problem was getting the fixtures into exactly the same position every night. In fact it was (and still is) just about impossible to physical have your fixtures in identically the same position in two different venues. You can get them close but not perfect.

In the prehistorical days of the late 80's and early 90's, you would start off the tour with a rehearsal in the same venue for a few days. Here you would program up this unbelievable lighting plot. Come to the first venue on the tour and you would scroll through your 'looks' on stage and the fixtures would not be going to where you had programmed them to in the rehearsal. Now you'd work frantically all afternoon and early evening (yep forget about the dinner call!) going through every cue, chase, and macro touching up the positions for every light. It was a nightmare.....well that's what I was told because, of course, I was too young to remember!

The solution to this problem was preset focuses. They were like special cues that you only stored the position of each fixture. So you would create preset focuses like the following:

Preset 1	All fixtures center stage
Preset 2	All fixtures stage left
Preset 3	All fixtures stage right
Preset 4	All fixtures up stage
Preset 5	All fixtures down stage
Preset6	All fixtures out into the audience

And so on.

Now you would add the preset focus position to the cue and then when you moved from venue to venue all you would need to do was update your preset focus position. [The important point to remember here is you **add presets to a cue**].

The CP-100 allows you to do this, not only for positional information (in other words pan and tilt) but any of the features of the fixture. In fact, it is an idea that when you record presets that you record pan, tilt, focus and perhaps (if it's not in the full open position) iris. Of course that's if your fixture has an iris and focus features! It would be kind of hard if it didn't!

With this in mind let's record a plain old Preset.

For example, "Preset 1" could be all of your Silverados focused on center stage. The easy way to do this is to:

**1) Press: CLEAR-ALL-ENTER to clear all of the rotaries of your fixtures. This starts you with a 'clean' slate.**

**2) Press: HILITE-FIXTURE-n-ENTER to hi-lite your fixture number n. This will open your dimmer, iris, gate, color mixing, etc. but this information will not be recorded that into the**

preset. These features will be transparent to the preset you record. You can also use commands such as **HILITE FIXTURES 1 THRU 12 ENTER**. Hi-lite saves you the problem of turning on the features one by one to 'see' the fixture before you program the preset. An 'H' will appear on you display at the top right. This is to remind you that you have Hi-lite turned on. Do not forget that you've got it turned on and remember that it makes those certain features transparent.

**3) Press: FIXTURE-n ENTER to bring up the Fixture Features display:**

```
FIXTURE FEATURES:  Fixture no.: 1    SH
FPreset (1): 9      Type: Silverado
Color---- Pan=113
Gobo----  Tilt=39
```

**4) Move all of your fixtures into a desired position making sure that you only change the Pan and Tilt values. Everything else should have those three little lines (---).**

**NOTE:** if you change another rotary value accidentally, simply press CLEAR-ROTARY-n-ENTER. If you have any value other than those three little lines (---) the value will be recorded in the preset and will therefore be used when you play back that preset.

**5) Press STORE-PRESET-n-ENTER.**

I would assume that you'd like to see if this actually worked. So take your fixtures and move them to a different position. Then give a CLEAR-ALL-ENTER command.

**6) To call up a preset press PRESET-n-ENTER**

Voila, the fixtures are back into the Preset's position.

You would now combined a preset with a cue by simply pressing **add preset n to cue n**. If you already have the cue up in front of you, then all you would need to press is **add preset n**. The preset will be added to the cue and the features that have a preset will have the letter P added to the display. So you can easily identify what has been added to your cue.

Okay so that's presets. Well what's the problem with them? .....

Times up!

Well, the problem arises when you want to be fixture selective. Say you try to record color or gobo or prisms into a preset. Let's say you do the following

- Preset 7      All fixtures in red
- Preset 8      All fixtures in Blue
- Preset 9      All fixtures with the 9 way prism

What happens when you want to **add preset 7 to a cue** but instead of all fixtures, you only want fixtures 2 and 4? You can't do it! You'd have to make another preset for specifically those fixtures. Now you've opened up Pandora box and are into making a zillion presets to cover all possible combinations of fixtures. And that's the problem with normal presets, they are **fixture specific**. They are stuck rigidly to that group of fixtures that you have chosen. So what's the solution? Enter to the rescue, Feature Presets.

## FEATURE PRESETS

“I want fixtures 1 thru 6 and fixtures 15 thru 21 in red now!” Ever had an impatient LD call that one out?.....and then keep questioning you as to why it is taking so long for you to achieve. Telling the LD to ‘take a hike’ may not be the solution and it could end your job security. The solution to the problem is Feature Preset. You would create a feature preset for the color and then all you would do is add it to the fixtures. Feature presets are like creating palettes. The palettes can be made not only for colors but for any feature of the fixture.

For example, you’ve got 20 Cyberlights in your rig. You’ve put all of your Cyberlights into Fixture Group 1. You then take just one Cyberlight, open the dimmer, iris, and shutter, dial in the “cone” gobo, superimpose the “ribbed glass” gobo rotating slowly, dial in the red dichro on the color wheel and then save this look into Feature Preset 1. Even though you’ve only used one Cyberlight to make this look you can now say

ADD-FEATURE-PRESET-1-TO-GROUP-1-ENTER

BAAAAAM!!! All of your Cyberlights have funky red cones with this weird spinning effect. It’s easy and if you make a load of feature presets you can take them on you disk to your next gig and use them there. Remember it is not fixture dependent. All that the board does is memorize the values for the features you access using the rotaries. This means you can take you board home with one fixture, you’ll be using for the tour or show, and start building a data base of various looks that you like and making into feature presets. As a matter of interest, I have built up a data base over the years such that I have

Feature presets 1 thru to 100 are just color wheel looks.

Feature presets 101 thru to 199 are just fixed gobos looks.

Feature presets 200 thru to 299 are just rotating gobo looks.

Feature presets 300 thru to 399 are just prism looks.

Feature presets 400 thru to 499 are just color mixing looks.

This way I have things organized in an easy to remember manner. Obviously within each section, for example feature presets 400 thru 499, I have color mixing looks for a variety of different types of fixtures.

Okay now for the “do’s and don’t” of making your feature presets.

1. Do always add the feature preset to a fixture or group of fixtures. Do not try to add it to the cue directly. So **Add feature preset 5 to fixture 10**, is a valid command and will be executed. **Add feature preset 5 to cue 10**, is not a valid command.
2. Do use the Hi-lite command to help you record gobos, color wheel, or prism feature presets.
3. Don’t use the Hi-lite command to record dimmer, color mixing, or iris feature presets. The default job of the Hi-lite function is to turn the fixture on, open up the iris and have the fixture in white. Because it does this, you can’t change their values. So if you want to record dimmer, color mixing or iris settings as feature presets, hi-lite must be turned off.
4. Don’t forget, if any of the fixture’s feature has any value is the display other than those three little lines then that value will be stored into the feature preset. The three lines make the feature transparent and it will not be stored into the feature preset. So, if you have a beautiful color mixing setting and you want to record it as a feature preset, make sure that features such as the pan and tilt, dimmer, iris and so on have the three lines. Just to remind you, the way to

get those lines for a feature, is to press **clear rotary n enter**. Remember you can use the all or thru or except commands to speed up the procedure. So if rotaries one and two are pan and tilt and they have numbers on them and you want to make them transparent then press **clear rotary 1 and 2 enter**.

So, how do we actually pull off making a feature preset? Well, let's start by clearing all the channels on the controller.

### 1) Press: **CLEAR-ALL-ENTER**

Now that we have a clean slate, call up a fixture and open up it's dimmer, iris, shutter, etc. so that we've got some white light coming out of it. Then move the light beam into a position where you can see it clearly.

Now remember there can't be any values on the Pan or Tilt features. So once you've moved the light beam into position you've got to clear the Pan & Tilt. Look on the display to see which rotary numbers Pan & Tilt features fall on.

### 2) Press: **CLEAR-ROTARY-n-AND-n-ENTER**

You should now have "---" (the little lines) on the Pan & Tilt features.

Now you're ready to make a look. Use the rotaries to dial in some color, a gobo, and whatever else seems to look good to you. When you're finished you can store this look as a Feature Preset. Remember at this stage you will also be recording the dimmer value into the feature preset. If you do not want to have the dimmer channel in the feature preset you will have to press **CLEAR ROTARY n ENTER** for the dimmer channel at this time. Then

### 3) Press: **STORE-FEATURE-PRESET-n-ENTER**

You're done! So now you're going to want to check to see if you've done this right. Take that same fixture and mess up the features. Change the color, gobo, etc. and then do the CLEAR-ALL-ENTER command to make sure that everything's cleared out.

### 4) Press: **ADD-FEATURE-PRESET-n-TO-FIXTURE-n-ENTER**

That fixture should now have the look that you just made using the Feature Preset.

You can now give this Feature Preset a name as well as viewing it and changing the individual parameters of it. To do this

### 5) Press: **FEATURE-PRESET-ENTER**

```
FEATURE PRESETS:   Number: 1
F1 Clear feature   Name: _
                   Pan: 37
```

This display shows you what's in the current Feature Preset. You can change Feature Presets by moving the cursor to the number field and use the +YES & -NO keys to increment up and down or

you can just type in the number that you want and press ENTER. Obviously, you can give the Feature Preset a name in the “name” field by using the external keyboard. The bottom field allows you to scroll through the different features within the Feature Preset. Regardless of where the cursor is, you can use the < & > keys to scroll through the different features. F1 is used to clear the viewed feature from the Feature Preset as well as delete the Feature Preset entirely after all of the features have been cleared. Of course the whole viewing process is a darn sight easier using a monitor providing your CP-100 is equipped with the video hardware and software. This is a worthwhile upgrade to your system. Sorry for the sales pitch here but I got a growing family to support!!

**See the Command Set section for more information on: FEATURE PRESETS & Presets.**

## **COMBINING PRESETS & FEATURE PRESETS TO MAKE A CUE**

The whole point of being able to use this preset stuff is so that you can program and more importantly edit and reprogram your cues faster. So let’s learn how to combine the two of them.

### **1) Press: CLEAR-ALL-ENTER**

This enables us to start from a clean slate. This is always a good thing to do. It is good housekeeping! Now pick which feature preset you want to add to which fixtures you want in the cue you going to make.

**2).Press: ADD-FEATURE-PRESET-n-TO-FIXTURE-n-ENTER.** Or you could do **ADD FEATURE PRESET n TO GROUP n ENTER.** (If you have a fixture group).

Now all of those fixtures should have that specific Feature Preset look. You can now store this as a Cue.

### **3).Press: STORE-CUE-n-ENTER.**

Now we have to get the fixtures into the position you want.

### **4).Press: ADD PRESET-n- TO CUE n ENTER**

Notice anything about this process. It isn’t rocket science!

Now you see in your cue that you have a simple indication of what features are recorded as Feature Presets (F) and what are recorded as Presets (P). Check out you fixture is the display and ‘ow and aw’ at the pretty Fs and Ps. As I said before it ain’t rocket science!!!

Just remember:

1. Presets to cues.
2. Feature presets to fixtures or groups of fixtures.
3. Don’t forget the little lines for transparent features.
4. Use the Clear command all the time to avoid any channels sneaking in without you knowing!
5. Finally remember if a fixture is on and you’re not working with it right now. It does **not** mean it is **not** going to be recorded into the preset or feature preset. If features are on, they are going to be stored in the preset or feature preset.

# **ACTUAL PROGRAMMING**

## Storing a Cue

By now you should be proficient enough to start getting to the heart of programming this thing. That's if you've read this manual step-by-step instead of skimming through it picking and choosing sections to read all the while rocking forward and backward from toe to heel and mumbling things like "why did I take this gig? Why didn't I stay at home?" Well we're sorry that you have made yourself 'certifiable' but if you go back and stop skimming, you'll gain back your sanity.

The first thing you need to do is make a specific look with your fixtures. You can either make one from scratch or you can use those dandy Presets & Feature Presets to make one faster. Once that's done you're ready to store your Cue.

### 1) Press STORE-CUE-n-ENTER to save the Cue

**\*NOTE: It's important to specify a Cue number. The command STORE-CUE-ENTER will simply wipe over whatever Cue was currently in the Cue Editor. If there is already a Cue in there and you specify a Cue number the controller will prompt you with an overwrite warning, asking you if you really want to wipe out the old information and replace it.**

### 2) Press CUE-ENTER to see the Cue Editor display

```
CUE EDITOR:          Cue number: 1
Preset (1): 7        Name: _
Fix Filt (0): 0      In time: 2.5
Dim Filt (0): 0      Out time: 2.3
```

This display gives you information on how many Presets are currently in the Cue & which ones they are, as well as allowing you to Name the Cue. You are also able to give the Cue a specific fade In Time and fade Out Time.

Cue 1 is sort of special in that it is executed automatically whenever the controller is turned on. Because of this we suggest that you make Cue 1 a reset or home Cue for all of your automated lighting.

### 3) Move the cursor to the respective positions to change the fade In Time, Out Time, Name, etc.

Fade In & Out times may have any time value from 0 through 6500 seconds (don't you dare call up asking if we can make it longer). There are two ways to set the In & Out Times within the Cue Editor. First use the < & > keys to move the cursor to the appropriate field. Once you've done that you can either type in a specific time or use the X-FADE TIME fader to scroll through the values from 0 to 6500.

The Cue itself can be given any number from 1 through 99,999. The Cue numbers are also capable of supporting point cues or cue that have a decimal within them

i.e.: Cue 5.2 or Cue 500.992

The highest point cue that the board is capable of supporting is Cue 99999.999 (impressive, aint it?)

**5) Press STORE-CUE-n-ENTER to save the Cue with it's new information.**

You're done! The Cue is now saved with its new information and you're ready to play back the Cue.

**One final thing, oh geniuses of the 'lighting thing', you need to do some good housekeeping.**

You should now type the In time and Out time back to zero. If you leave any value in the In time and Out time fields when you go to create the next cue those times will be put into the next cue. Got it.

**6) Press: CUE-n-GO to play the Cue with it's new information.**

When you playback a Cue by using this GO command you will see the Cue happen with its applicable X-fade time. If you were to simply press CUE-n-ENTER, the Cue would automatically snap in as if it had a 0 second X-fade time. This makes life quicker when you want edit a cue with a long fade In time.

To proceed playing back the following cue, you may press the GO button again or you can manually take control over the fade by using the A/B fader. That's kinda neat when you using the cues to track an artist across a stage. This way you can control the movement speed manually.....even go backwards if necessary.

*(Aside: Listen up people! We don't want to be self-praising but do you know the amount of processing power to do that sort of feat? You've got to compare all 1024 channels of DMX for both the cue you started at and the cue your going to and then track them both. All from a board that's **at least** half the price of it's nearest competitor!....and in fact a lot of more expensive 'pieces of electronics' will avoid doing anything like this type of control. Instead any fader on the controller, will only work the dimmer of the fixture and not even control any other feature. So, pat yourself on the back you didn't get fooled by those 'other boards' out there trying to be a moving light console. You should be very proud of the decision you made to buy a CP-100 and that's no bologna! So next time anyone say to you that they've got the 'best' moving light console, you can throw some serious questions at them and if they don't make it then you can tell them to go eat some bologna!)*

**7) Press: CUE-n-AND-x-AND-y-GO**

i.e.: CUE-1-AND-27-AND-236-GO would execute those 3 Cues simultaneously.

## **ADDING YOUR DIMMERS TO THE CUE**

Once you've added Dimmers to Dimmer Submasters you can set the output of the Dimmers with those faders and then add that particular output to your Cues.

**1) Press: ADD-DIMMER-SUBMASTER-ENTER**

Once you've added the Dimmer Submasters to a Cue you then must re-store that cue.

**2) Press: STORE-CUE-ENTER**

# CHASES

## Storing a Chase.

Now that you've tackled the brute challenges of making cues, you'll probably want to see them loop around a few times. Here's how we make Cues turn into Chases.

### 1) Press CHASE-ENTER to call up the Chase Editor Display

```
CHASE EDITOR:      Chase no: 1
Step rate: 120     Name: .
Xfade %: 0         Step (0):
Mode: forward      Cue (0):
```

This display shows the current Chase in the Chase Editor and all of its information.

- The first time that you make a Chase the **Chase Number** will default to 1.
- The **Name** field is there for you to give the Chase a cute name so you can remember what it does.
- The Step field will show you, in parentheses, how many Steps are in the chase and which one was last entered.
- The Cue field shows you, in parentheses, how many Cues are in the current Step and which one was last entered.
- The **Step Rate** defaults at **120** BPM (Beats Per Minute) and can be altered with the Chase Speed Fader from a value of 0 thru 1200. You can also use the cursor keys to move the cursor to the Step Rate field and manually enter a value with the numerical keypad on the CP-100. . If you set the step rate to zero, you can then manually step through the chase with the 'enter' button. Of course at anytime if you have programmed into your chase a step rate and you want to temporarily change it to another value (including zero) then you can do so. Just use the chase speed fader or the numerical keypad. One other feature added in version 3 upwards, the ability to chose whether the chase will respond to an audio signal. Normally, if an audio signal is present, then the chase will be triggered by that signal. If a chase has a nonzero step rate programmed into it, it plays at that rate, period. If it has a zero rate, then it steps whenever you tap on the 'Enter' key, and if the Audio switch is turned on, it also steps whenever the audio input is triggered.
- The **Xfade %** is simply the Crossfade percentage of the chase. Basically if the Xfade is a 0% your Cues will snap into place and if the Xfade is set to 100% the Cues will crossfade into each other. If you've never used this type of feature before then you should definitely play around with it. Experiment with different Xfade and Step Rate values to see how they interact with each other. It's a very cool feature that you'll end up using a lot.
- Next is the **Mode** field. When you move the cursor to this field, you can then use the +YES and -NO keys to toggle through all the different modes that the chase can be played back in. The modes are:

**Forward-** loops the chase from it's first step through to it's last and then goes back to the first step.  
**i.e.: Step: 1, 2, 3, 4, 1, 2, 3, 4, etc.**

**Backward-** loops the chase from it's last step through to it's first and then goes back to the last step.  
**i.e.: Step: 4, 3, 2, 1, 4, 3, 2, 1, etc.**

**Seesaw-** loops the chase from it's first step through to it's last step and back again.

**i.e.: 1, 2, 3, 4, 3, 2, 1, etc.**

**Wander-** loops the chase forward a few times then backward a few times. Maybe it'll throw in a Seesaw every now and then.

**i.e.: Yeah right, I'm not even gonna try and explain this one any more than that!**

**Random-** loops the chase in absolutely no order whatsoever. It will simply pick steps at random and play them back accordingly.

**i.e.: 2, 4, 1, 2, 3, 2, 4, 1, 4, 1, 2, 4, 3, 2, 3, etc.**

**Hold-** Plays the Chase once and freezes on the last step.

**Once-** Plays the Chase once and immediately goes to Blackout. (Neat for those drum rolls at the end of the song and then blackout).

**2) Use the cursor keys to move the cursor to the Chase no. field and enter the number of the Chase that you want to create.**

**3) Press CHASE-RECORD to put the Chase Editor into record mode.**

The "RECORD" LED will start flashing.

**4) Make sure that the "solo" button is lit.**

**5) Press CUE-n-ENTER to enter in the first step of the chase.**

The STEP field will increment by one number.

**6) Repeat step 5 until all of the Cues that you want to be in the Chase are entered.**

**\*NOTE: if you want a step to execute more than 1 Cue simply press the SOLO button to turn its LED off and repeat STEP 5. In the Cue field you'll see the number in parentheses increment with each entry that you make with the SOLO button off. When you're ready to go onto the next Step simply press the SOLO button again to turn its LED back on. When the Chase is replayed all of the Cues that were entered in that particular Step will be played at once.**

**7) Use the CHASE SPEED fader to give the Chase a Step Rate.**

**8) Use the XFADE TIME fader to set the Xfade percentage.**

**9) Move the cursor to the MODE field and use the +YES/-NO keys to select the playback mode for this chase.**

**10) Press STORE-CHASE-#-ENTER to save the chase.**

**11) Press CHASE-#-ENTER to see the Chase happen.**

**Voila! You've made a Chase.**

# MACROS

## Storing Macros.

**\*NOTE: Before we jump into this go into the Miscellany menu (press: MENU-F4) and set the “Record Time:” to NO. This will disable real-time recording of Macros and allow us to set the exact times that we want events to change.**

### **1) Press MACRO-ENTER to call up the Macro Editor Display**

```
MACRO EDITOR:      Macro no: 1
F1 Go to begin/end Name: _
                   Mode: hold   TB: 10
1> 0:00:00.0   00:00.0
```

OK, now you're looking at a bunch of stuff that you shouldn't have a clue about. If you do then I'm a little frightened for you. Perhaps you should get out more often.

Basically the Macro Editor is broken up into several fields very similar to the Chase Editor.

- The first time that you make a Macro the **Marco No.** will default to 1.
- The **Name** field is there for you to give the Macro a cute name.
- The **Mode** field works exactly as it does in the Chase Editor except here you have some different options.

**HOLD-** steps through all of the events in the Macro and then Holds indefinitely on the last event or step.

**ONCE-** steps through all of the events in the Macro once and then blacks out.

**REPEAT-** continuously repeats the steps in the Macro from first to last over and over.

**STEP-** waits for you to press the ENTER button before moving onto the next event in the Macro and then ends with the last event.

**STEP RPT-** waits for you to press the ENTER button before moving onto the next event in the Macro and then loops back to the first event.

- **TB** is the TIMEBASE. This refers to the way the timecode in the Macro Editor is displayed. The timecode is displayed in SMPTE format to enable you to sync the event changes in a Macro to the event changes in another SMPTE device. **The CP-100 does not accept or transmit SMPTE timecode.** It's not normally our policy to pass the buck when it comes to explaining things but SMPTE is a completely different business and we're not in it! So...if you know how to use SMPTE then you know what TIMEBASE is all about. If you don't then I don't suggest that you start trying to learn it here.
- Next you have 2 time displays. The one on the left ( 1> 0:00:000.0) is the “absolute time” display. This will show you the total time that your Macro is going to take to finish. The one on the right is the “hold time” display. This is where you enter in the length of time that you want the individual steps to run for.

### **2) Press MACRO-RECORD to place the Editor in record mode.**

The RECORD button LED will start flashing. Make sure that the SOLO button is lit as well.

**3) Press CUE (or CHASE)-ENTER**

The Time display will increment from step 1 to 3 automatically. The reason for this is that the Macro editor automatically adds in a “Clear Cue” step to clear the Cue Editor of any extra information that would screw up the playback of your Macro.

**4) Repeat step 3 until everything that you want to be played back is entered.**

The Timecode display will show all zeros in it. We’re going to go back in and edit them in a moment.

**5) Press the RECORD button to stop the record mode.**

The RECORD Button LED will shut off

**6) Press F1 to go back to the beginning step of the Macro**

The first step will be a “Clear Cue” command.

**7) Use the v cursor key to toggle to the second step of the Macro**

**8) Use the < cursor key to key down to the Hold Time display (the one on the right) and enter in the amount of Hours, minutes, seconds, etc. that you want this particular step to run for and press ENTER.**

**9) Use the v cursor key to step to the fourth step of the Macro (note that the third was that automatic “Clear Cue” command)**

The “Absolute Time” display will increment as you enter in the times of the steps.

**10) Repeat steps 7 thru 9 until you have entered times for all of your steps.**

**11) Use the > cursor key to move the cursor to the MODE field and then use the -NO/+YES keys to choose the mode that you want the Macro to run in.**

**12) Press STORE-MACRO-#-ENTER to save the Macro.**

**13) Press MACRO-#-ENTER to see it happen.**

**You are now the proud owner of your very first Macro!**

# **DIRECT ACCESS**

# WANNA PROGRAM FASTER?

## HOW TO DIRECTLY ACCESS FEATURES OF YOUR LIGHTS

The CP-100 supports some direct access functions for your moving lights. Features such as color and gobo can be directly accessed via the Color and Gobo buttons. The trick with these buttons and their commands is that you really have to know your fixtures pretty well. The direct access of colors and gobos is achieved by calling up its number.

If you're using a Cyberlight you should have the ability to choose from 7 colors plus white. The stock position for the red dichro is position 7 in the color wheel. So if you want to immediately call up red all you have to do is press **COLOR-7-ENTER**. There's your red!

Color and Gobo access is applied to whichever individual fixture or fixture group was accessed last. So if all of your Cyberlights are in Fixture Group 1 and you want to make them all red you would access Group 1 first and then press **COLOR-7-ENTER**.

Likewise, the direct access of Gobos works in the same manner.

So the next question is what to do when a fixture has more than one color or gobo wheel. We'll simply tell the console that. Press **COLOR-2-@-7-ENTER**.

**See the Command Set of the manual for more information on:  
EDITING IN THE CUE EDITOR**

# HOTKEYS

## HOTKEYS

It's no secret that some of the commands on this console require more than just a few button presses. The answer to this is the HOTKEY. These fun little devices allow you to program a series of button presses onto one of the keys of an external keyboard. Here is how you make 'em!

**1) Press: MENU to get to the Main Menu display.**

```
CP-100 MAIN MENU                               4:59pm
F1 Storage                                     F4 Miscellany
F2 Hotkeys                                    F5 MIDI
F3 Clock setting
```

**2) Press: F2 to access the Hotkey Editor**

```
HOTKEY EDITOR:      Key: Alt+A
F1 Delete           Name: _
```

**3) On The Keyboard Press: the ALT key and any other letter or number to select the appropriate Hotkey to be programmed**

**4) Press: RECORD to start recording the button presses**

**NOTE: the RECORD button's LED will start rapid flashing and the display will read \*\*\*RECORDING\*\*\***

**5) Press: the command that you want to record on this Hotkey**

**6) Press: RECORD to stop the recording process**

**7) Press: the V cursor key to move the cursor to the "Name" field.**

Use the keyboard to type in a name for this particular Hotkey and you're done!

Now every time that you press the ALT key with the other key the CP-100 will automatically execute that command. This becomes particularly handy when editing a pre-existing show. Re-storing a ton of Cues becomes a real hassle when you've got to press STORE-CUE-ENTER over and over and over again. Now you could just hit ALT+S and the command happens automatically.

The next step is to tackle number specific commands. These are commands that require you to input a specific number.

Creating a Hotkey that simply adds a specific Cue to a specific Submaster is pretty useless unless you can specify the Cue and Submaster numbers every time. **Well, we've got that covered.**

Let's say that you want to create a Hotkey command that will allow you to add Cues to Submasters. Follow all the steps above as normal. When you get to step 5 you would press the command: **ADD-CUE-UNDO-TO-SUBMASTER-UNDO**. The "undo" becomes a sort of pause prompt when you replay this Hotkey. When you press the Hotkey the first part of the command will automatically appear on the display.

### **ADD-CUE**

Then you type the number of the Cue and press ENTER. At this time the second part of the command will appear.

### **ADD-CUE-n-TO-SUBMASTER**

Then you type the number of the Submaster and press ENTER. The display will quickly read DONE. You've just created a **multi-part Hotkey**.

**COPY AND MOVE**

## **COPYING AND MOVING THINGS** *the in-depth explanation*

Once you've created all these wonderful Cues, Chases, Macros, Submasters, Dimmer Submasters, etc. you may find that you want to move them to different places within the console's memory or copy them for multiple use during your show. Copying and Moving can be accomplished through many different commands, all of which can be found within the **COMMAND SET** section of this manual.

*(Is that the easiest in-depth explanation you've seen people.....come on lighten up!)*

# Monitor Screen Displays

## User Interface Modes

The CP-100 keyboard and mouse/trackball inputs have two basic modes, Panel Mode and Screen Mode. Panel Mode is all there is, if there is no screen plugged in. In this mode, the keyboard and mouse/trackball are connected to the regular CP-100 input, and may be used to enter commands or hotkeys and manipulate Pan and Tilt.

Screen Mode, (which is only usable if you have a VGA screen connected), connects the keyboard and mouse/trackball to the screen display, so it can be used to do editing and control on the screen. In this mode, the CP-100 panel continues to function normally. Screen Mode is entered by selecting Screen Mode from the MAIN MENU display. Press F6 on the CP-100. Panel Mode is returned to by selecting Panel Mode from the MAIN MENU display (it replaces the Screen Mode item and so you would press F6 again on the CP-100), or by selecting Panel Mode from the Window menu on the screen (or by pressing F10 on the computer keyboard). Using the F10 button on the keyboard to toggle back and forth between Panel Mode and Screen mode is quicker. If you use F6 on the board you must remember to always be in the Main Menu Screen before hitting F6.

When in Panel Mode, the screen retains whatever windows were last placed on it while in Screen Mode, and these windows continue to be updated as necessary. When the unit is turned on, it powers up in Panel Mode, but remembers the screen layout from when it was last on.

Okay you're sitting there asking, "Why do I need to go from Panel mode to screen mode?" The answer lies in the mouse/trackball. This device either works the screens on the monitor or the movement of the fixtures. It is not allowed to do both at the same time because that would bring chaos to your life and you would be "royally upset". So whacking F10 on the keyboard, will let you toggle between working the screen displays or whizzing fixtures all over the place. Damn clever these programming guys, they try to think of everything. "Espresso to go please!"

## Screen Layout

Across the top of the screen is a menu bar, which works pretty much like the menu bar in most Windows or Mac programs. A menu can be pulled down by clicking on the name of the menu with the mouse, or by pressing Alt and the highlighted letter in the menu name. For instance, Alt+L pulls down the List menu. Once a menu is pulled down, an item may be selected by clicking on it with the mouse, by typing the highlighted letter in the item (without Alt), or by using the cursor keys to select the item and then pressing Enter. For instance Alt+L, C selects the Cues item in the List menu. Along the bottom of the screen is a status line, which currently does nothing.

The rest of the screen is used for displaying windows containing useful information. As with any windowing user interface, there can be many overlapping windows on the screen, but at any time, most key presses (except the Alt keys that activate menus) are directed to one particular window. This window is said to be the "active" window, and is indicated by having a double-line border. As long as there is at least one window on the screen, one of them will be active at any time; closing that window will cause another window to become active, if there is one.

## **Using Windows**

If there are multiple windows on the screen, an inactive window may be activated by clicking it with the mouse. The first nine windows put on the screen are assigned single-digit identifiers, shown to the right of the title; pressing Alt and the corresponding digit may activate each window. From the keyboard, one can cycle through the active windows using Ctrl+F6, or cycle backward through the list using Shift+F6. The Window menu also contains Next and Previous items that do this. Last, activating menu items can open some windows; in this case, activating a menu item for a window that is already on the screen activates that window.

Windows may be moved by grabbing their title bar (the top line of the window) with the mouse or trackball, and dragging it. They can also be resized vertically by grabbing the lower right corner of the window and dragging it until the size is what you want. Windows can also be moved by holding Ctrl and using the cursor keys, or resized by holding Ctrl and using the PgUp and PgDn keys.

Windows may be enlarged to the full height of the screen by clicking on the up-arrow icon near the right end of the title bar; they can be returned to their previous size by clicking the same icon, now a double-headed arrow. The Window | Zoom menu item does the same thing. Last, windows may be closed by clicking on the square button icon near the left end of the title bar. They can also be closed by typing Ctrl+F4, or all windows can be closed by typing Alt+F4.

Some of the items in windows are more than just information: they can also do something. Double-clicking on it with the mouse may usually activate an item of this sort. Alternatively, an item may be activated from the keyboard by first selecting it and then pressing Enter.

What the item does when “activated” depends upon what the item is. This is explained fully in the descriptions of the various kinds of windows.

### **Window Categories**

So far, the CP-100 has two kinds of windows:

- |      |   |
|------|---|
| List | This lists all objects of a particular type, in tabular form.   |
| DMX  | This shows the current output values for a DMX port. There may be one of these windows for each port. |

### **List Windows**

List windows are organized into rows and columns, like a spreadsheet. The first line contains a header, listing the names of the columns. There is a vertical scrollbar down the right edge, but no horizontal one, so the window may only be resized vertically. At any time, one of the items in the list is highlighted, and this highlighted row can be moved either by clicking on another row with the mouse, using the scrollbar on the right side of the window, or using the cursor keys on the computer keyboard. The ↑ and ↓ keys move the selection up and down by one item, PgUp and PgDn move the selection up and down by the number of rows in the window, and Home and End move to the first and last items.

A list window is called up by selecting an object type from the List menu. Activating an item from a list window (for instance, by double-clicking on it) selects that object in some manner on the CP-100 panel:

- Fixtures and dimmers are brought up in the FIXTURE EDITOR or DIMMER EDITOR display, so their attributes can be accessed.
- Fixture and dimmer groups become the currently selected group, and are shown in the FIXTURE GROUPS or DIMMER GROUPS display.
- Cues, dimmer cues and presets are loaded into the cue editor (with no crossfade), and the CUE EDITOR display is selected.

- Chases and macros are loaded into their respective editor (stopping any playing chase or macro), and the CHASE EDITOR or MACRO EDITOR is displayed.
- Feature presets are shown in the FEATURE PRESETS display.
- Submasters are shown in the SUBMASTER VIEWER display.
- Hotkeys are shown in the HOTKEY EDITOR display.

### DMX Windows

They show the current state of the DMX outputs, in ten columns. They can be scrolled and resized vertically, just as with list windows. To find a particular fixture in the DMX window, open the Fixtures or Dimmers list window and note the port and channel in the last two columns. The arrangement of the rows and columns in a DMX window makes it easy to find the corresponding output channel values. If the system is “sitting still”, the easiest way to find a particular channel is to bring up the fixture in the cue editor and move the rotary control to see which number changes.

### Menus

The menu tree looks like this. (Boldface indicates that a character is highlighted, and may be used to select the menu with the Alt key, or select the item once in the menu.)

#### List

<b>F</b> ixture	Opens the fixture list window.
<b>D</b> immer	Opens the dimmer list window.
Fixture <b>G</b> roup	Opens the fixture group list window.
Dimmer <b>G</b> roup	Opens the dimmer group list window.
<b>C</b> ue	Opens the cue list window.
<b>D</b> immer <b>C</b> ue	Opens the dimmer cue list window.
<b>P</b> reset	Opens the preset list window.
<b>F</b> eature <b>P</b> reset	Opens the feature preset list window.
<b>C</b> hase	Opens the chase list window.
<b>M</b> acro	Opens the macro list window.
<b>S</b> ubmaster	Opens the submaster list window.
<b>H</b> ot <b>k</b> ey	Opens the hotkey list window.

## Window

<b>P</b> anel <b>M</b> ode	Switches back to Panel Mode.
<b>N</b> ext	Activates the next open window. (Same as Ctrl+F6.)
<b>P</b> revious	Activates the previous open window. (Same as Shift+F6.)
<b>Z</b> oom	Toggles between full-screen size and normal size. (Same as icon in top right corner of window.)
<b>C</b> lose	Closes the currently active window. (Same as icon in top left corner of window.)
<b>C</b> lose <b>A</b> ll	Closes all windows.
<b>D</b> MX <b>P</b> ort <b>O</b> ne	Brings up the DMX Port 1 window.
<b>D</b> MX <b>P</b> ort <b>T</b> wo	Brings up the DMX Port 2 window.

# THRESHOLDS

# START AND END THRESHOLDS EXPLAINED

## WHAT ARE THEY AND HOW DO THEY WORK?

When you're in a Fixture or Group Features display you are able to access the Start and End Thresholds by using the up & down cursor keys. You will notice that Start Thresholds have a default value of 0% and End Thresholds have a default value of 100%.

So just what the hell are they? **A Threshold is the percentage of time within a Cue's crossfade that each individual feature will change.**

i.e.: You have 2 cues. The first is a white spot at one end of the room. The second is a 10 second crossfade into a blue star at the other end of the room. With the Thresholds set at the default values you are going to see all of the features slowly change. The color wheel will slowly scroll through all the colors until it gets to blue and the gobo wheel will scroll through all of its gobos until it gets to the star.

What we really want to see is an immediate color and gobo change and then watch the beam slowly move across the room. So we want the color and gobo channels to "end" right away, but the pan & tilt channels should crossfade throughout the full 10 seconds. All that we have to do is call up the Cue that we want to change, use the cursor keys to go to the "End Threshold" display of the fixture, and, using the rotaries, change the color and gobo features to 0%. If they are told to "End" at 0% then that means that they will finish making their changes right away. After all is said and done, you have to re-store that Cue so the changes that you just made are recorded for playback.

When we playback these 2 Cues the first becomes our white spot at the one end of the room. Then, when we play the second Cue the fixture's color and gobo snap immediately into a blue star and then start to slowly move across the room.

Start and End Thresholds are terrific ways to create multi-part Cues and lend themselves to some very unique programming. We admit that they can be a little tricky to figure out at first but once you've got the hang of it you'll be pulling off some pretty complex maneuvers in a fraction of the time of what it normally would take to prepare. The key is to play around with them. Don't try to tackle some wild programming maneuver that you saw on a Pink Floyd video. You'll more than likely become rather postal and start waving Uzis around fast food restaurants. Take it slow by trying out some basic color and gobo changes like the one described above. Once you've got it down you'll be unstoppable!

# **STAGE FOCUSING**

# STAGE FOCUS FOR THE TOURING TYPES

## WHAT IS IT?

Stage Focus, sometimes referred to as a Global Focus, is the combination of Cartesian Coordinates that comprise the geometry of your venues platform.

OK, this time in English! **It's the 4 corners of your stage.**

Basically, you use Stage Focus to set the movement limitations of your moving lights. I realize that limiting the movement of a moving light is usually the last thing that you'd want to do but Stage Focus is also what we call "Cue specific". That means that you have to tell individual Cues to read the Stage Focus limitations.

## WHY IT'S USEFUL

The main purpose for Stage Focus is to globally edit all of your preset focuses. i.e.: Let's say that you're programming for a tour. This particular tour is scheduled to be in all different size venues with a wide variety of ceiling heights. Now, we're gonna give you a choice here. You can either spend every afternoon of the tour reprogramming all 75 of the presets that you have for all 200 moving lights in your rig **OR** you could show every moving light the 4 corners of your stage just once and let the CP-100 do all the bloody work for you! The choice is yours. Personally, I like getting the chance to make it to catering before the show. But hey, that's just me. I get hungry sometimes.

## HOW IT WORKS

### **1) Press: STAGE FOCUS - ENTER**

This brings up the "Stage Focus Display".

```
STAGE FOCUS          Fixture no.: 11
Name:                Type: Silverado
P00=1731  T00=2932  P10=8923  T10=2811
P01=1833  T01=7746  P11=8210  T11=7615
```

Now here we see a bunch of stupid looking letter/number combinations. These are known as Cartesian Coordinates. The "P"s and "T"s stand for Pan and Tilt. The numbers represent the stage as if it were split up into four sections.

- 1: Upstage Right = 00
- 2: Upstage Left = 10
- 3: Downstage Right = 01
- 4: Downstage Left = 11

Each of the Pan and Tilt Cartesian Coordinates in the display correlate to the respective rotaries.

i.e.: P00 = rotary 1, T00 = rotary 3, P01 = rotary 2, T01 = rotary 4, etc., etc.

Basically, your rotaries are laid out to be the four corners of your stage:

Rotaries 1 & 3 = Upstage Right  
Rotaries 2 & 4 = Downstage Right  
Rotaries 5 & 7 = Upstage Left  
Rotaries 6 & 8 = Downstage Left

So, now that we've got the Pan & Tilt split up into these four sections we're ready to set our Stage Focus. Notice that the cursor is in the "Fixture no.:\_" field. You can use the "-NO" & "+YES" keys to scroll through the different fixtures in your show. This will allow you access to their Pan & Tilt channels automatically.

Let's start with your first fixture.

**2) Move rotaries 1 & 3.**

The fixture automatically goes into HILITE mode with it's iris down for accurate positioning. It will also move to it's furthest point down & left.

**3) Move the light beam into position at the upstage right corner of the stage.**

NOTE: when you set the Stage Focus only work with one section of the stage at a time.

**4) Move rotaries 5 & 7 and position the beam at the upstage left corner.**

**5) Move rotaries 2 & 4 and position the beam at the downstage right corner.**

**5) Move rotaries 6 & 8 and position the beam at the downstage left corner.**

You've just set the Stage Focus for your first fixture!

**6) Use the "-NO" & "+YES" keys to call up your next fixture.**

**7) Repeat steps 2 through 6 for all of the fixtures in your show.**

**8) Press CLEAR-ALL-HILITE to turn off the automatic Hi-Lite function**

Once you've shown all of your fixtures the 4 corners of your stage you are then able to add that Stage Focus into Cues as you make them.

Let's say, for instance, that you're working on Cue 1. This particular Cue is all of your lights in Preset 1 (downstage center). If this particular position needs to be exactly precise every night of the tour then all you have to do is add the Stage Focus to the Cue after you have stored it.

**1) Press: ADD - STAGE FOCUS - ENTER**

**2) Press: STORE - CUE- # - ENTER**

Now whenever the Stage Focus is changed that particular Cue will change with it.

# **USER DEFINED FIXTURES**

# User Defined Fixtures

## Overview.

The CP-100 contains a universal fixture library within its internal memory. It is from this library that you choose the fixture types that will be in your light show. Until now, the programmer would need to use the “DMX Fixture” profile when programming fixtures that were not in the fixture library. Although the “DMX Fixture” is a fine way of controlling your lights it simply does not have the ability to label individual features, set the color and gobo numbers, and isolate Pan & Tilt channels for simultaneous hi-resolution control and Stage Focusing. Creating a fixture within the **User Defined Fixtures Library** file enables the programmer to set those functions as well as many others!

The CP-100 fitted with Version 3 software will have the 3 individual files that make up the software. To check to see if you have V3 software fitted to your CP-100 press F1 : storage from the Main Menu. Then press F2 : software. The screen will now display the version of software you have fitted in the CP-100. If it says “this version : 3. xxx”, then you have got the right version. If it says “version :1. xxx” or “version 2: xxx” then you will need to upgrade your software using the disk drive

When upgrading the CP-100 to version 3 software, you will begin with 3 individual files. The first file is “CP100.exe”. This is the main operating system for the CP-100 console accompanied by one called “Filelist”. The third file is “stndlib.txt”. This is the Standard Fixture Library that comes with every CP-100 console. **It is imperative that you never change this file! Just stay away from it as if it contained the ebola virus!!!**

Once you have loaded these files into your CP-100 you will create another file all by yourself and become a CP-100 programmer. This fourth file will be called the “**userlib.txt**”. This is the User Defined Fixtures Library. Because you are going to make this yourself we will be encouraging you to experiment with it.

To create the file, from the Main Menu press F1 : storage, then press F1 (again) : Objects. This will now give you a screen with 6 options.

F1 : save library	F4 : load library
F2 : save fixtures	F5 : load fixtures
F3 : save show	F6 : load show

You need to put a disk into the drive and Press F7. Okay just kidding. You need to press F1. The CP-100 will now automatically create, on your disk, the file called “userlib.txt”. You will use this in your computer to create your very own personal fixtures.

## **BEST WAY TO LEARN**

The absolute best way to learn and use the User Library is to read the Quick Guide section following and then to print out the Standard library file (stndlib.txt). If you know how a particular fixture already works in the CP-100, then looking at the way it was 'constructed' in the standard library entry will help you to understand how to create your own User Library entry for a new fixture or to modify an existing fixture.

The way in which the CP-100 looks at the two library files (userlib.txt & stndlib.txt) is very simple. First, it loads in the Standard library. Then it looks for the user library. In the user library it looks for new fixtures and also any fixture that was in the Standard library that may have been changed by you to work a different way. There is no restriction on the number of fixtures or number of changes you want to make. Once it has loaded the files, you're ready to go to work.

Finally, read the section "issues you should know about" at the end of this chapter. This is definitely a must as well.

## **QUICK GUIDE.**

**WARNING:** The following parts of this section have the potential to be very intimidating to most people because they deal with a computer subject matter. This Quick Guide is intended for immature audiences. Those with a weak heart, nominal computer experience, or very little patience for techno-babble are encouraged to work with this section before moving on. Very few of us in the lighting industry ever intended to need a degree in computer programming just to make some lights wiggle the way we need them to. On that note let's just make a very simple fixture without all the bells and whistles.

We're gonna create a basic wiggle light fixture so that the features of the light are displayed on our LCD screen, the color and gobos can be accessed by the Color & Gobo buttons and the dimmer will be controlled by the Grand Master. In many cases that's all we really need anyway.

For the purposes of this exercise I'm going to assume that you are working on a Windows based computer with Microsoft Notepad software. If you are not sure if you have Microsoft Notepad don't worry! It's part of Windows and will definitely be there so long as you haven't been snooping around your hard drive deleting files at random. If you've been doing that then you're a very naughty person! However, if you don't have Notepad, then any text editor that is capable of reading IBM formatted disks can be used.

The easiest way to learn how to work the UDF software is to create a 'new' fixture. So, we're going to create a fixture called a Trackspot made by a manufacturer called High End Test.

Written in bold below is ultimately, what we want to see in the text file:

**vendor High End Test**  
**type Trackspot**  
**channel Pan**  
**channel Tilt**  
**channel Color**  
**steps 0 129 142 156 170 185 200 215 228 242 255**  
**channel Gobo**  
**steps 0 165 184 194 203 214 220 229 239 247 255**  
**channel Shut**  
**channel Dim**  
**channel Speed**

So, how do we do it....well, it's pretty easy. Sit down at you computer and

- 1- Grab hold of a disk with the userlib.txt file on it.
- 2- If you don't have a disk with the file labeled userlib.txt You can create it in one of two ways.  
First way: . To create the file, from the Main Menu press F1 : storage, then press F1 (again) : Objects. This will now give you a screen with 6 options.

F1 : save library	F4 : load library
F2 : save fixtures	F5 : load fixtures
F3 : save show	F6 : load show

You need to put a disk into the drive and Press F7. Okay just kidding. You need to press F1.

The CP-100 will now automatically create, on your disk, the file called "userlib.txt". You will use this in your computer to create your very own personal fixtures.

Second way : Simply create a new text file and label it as "userlib.txt". (in Windows it's "right-click"- "NEW"- "TEXT FILE").

- 3 Open up the userlib.txt file in your computer and
- 4 Type in **vendor Lightwave Test**
- 5 Under that put in **type Trackspot**
- 6 Under that type in **channel Pan**
- 7 Then **channel Tilt**
- 8 Now put in **channel color**
- 9 Under the our color channel we're gonna add some steps. This will enable each click of the color rotary to snap to a full color. Type in **steps 0 129 142 156 170 185 200 215 228 242 255**
- 10 next type in **channel gobo**
- 11 Now let's set some gobo steps. Type in **steps 0 165 184 194 203 214 220 229 239 247 255**
- 12 And for the last 3 channels we'll need:  
**channel shut**  
**channel dim**  
**channel speed**
- 13 Now perform a "Save As" and make sure that the file is name "userlib".
- 14 Put the file on a floppy disk if it isn't already and insert the floppy into the CP-100 console
- 15 Press "Menu" to get to the CP-100 Main Menu
- 16 Press F1 for Storage
- 17 Press F1 for Objects
- 18 Press F4 to Load the Library

- 19 Press Yes to proceed with installing the new library
- 20 Press Enter and reboot the console for the changes to take affect

If written properly, your CP-100 will reboot and go straight to the CP-100 Main Menu. You may then add your newly created fixture just as you would any other.

If you haven't written this correctly you are probably getting error messages displayed in the LCD display. They will warn you of bad commands that have been entered on certain lines of your userlib.txt file. Simply take note of which line numbers are fouled, put your floppy disk back in your computer and start counting down the lines of the userlib.txt file to see where your mistake was.

If you've completely screwed things up (which is HIGHLY unlikely here but VERY possible when doing things in the following section) you will need to delete the userlib.txt file from the CP-100 itself. For doing that you will need your SVGA monitor and external keyboard hooked up to the console. See "Deleting the Userlib.txt File from the CP-100 Console" at the end of this document.

### Sample Fixture.

If you download from your CP-100 or if you have the software already on disk you can 'look' at the Standard fixture library. The file is called **stdlib.txt** Please refer to this text file, as you read through the Syntax section.

```
vendor Clay Paky
type MiniScan
channel Color
  steps 0 16 33 50 66 82 98 114 130
channel Gobo
  master 127
  htp
  dbo
  clear
  hilite 128
  steps 255 -68 -127 155 175 195 215 235 255
channel Pan
channel Tilt
```

### Syntax

(We'll come back to this sample listed above, once we have explained a few things. However keep referring back the example because it will help you to understand the terminology and what it means). Okay so you want to know how to create a perfectly defined new fixture entry with all the 'bells and whistles' of a fully blown Formula One racing car. Well here it is.

Both fixture library files (the standard fixture file and the User library file) are plain text files. This enables them to be viewed and altered on a computer by standard text viewers such as Microsoft Notepad or WordPad or even Word itself. While you should **never** modify the **stdlib.txt** file, it is instructive to read it to see how library entries are structured, as a guide for building your own **userlib.txt file**.

A block of text represents each type of fixture. The first block is the manufacturer or **Vendor** name. Next is the model or **Type** of fixture that your are creating. After that we have the individual DMX

channels of the fixture laid out line by line followed by any special actions that work along with those individual channels.

**Note:** Although the descriptions below show both upper and lower case letters, the text file is completely case-insensitive, except that the actual names of fixture types and features appear in the CP-100 display the same as they appear in the file. All consecutive whitespaces (blanks, tabs, form feeds, etc.) are converted into single blanks.

Carriage returns, line feeds or cr/lf pairs are interpreted as line breaks, and are counted so that error messages can show the line number (starting with one). A comment can be added to any line by preceding it with an apostrophe.

Individual DMX channels or **Features** are specified as a keyword followed by a value.

Values can have several types, indicated below by words in italics:

*number* A decimal integer, possibly preceded by a minus sign.

*numbers* A list of integers.

*switch* This must be **true**, **yes** or **on** to turn a parameter on, or **false**, **no** or **off** to turn it off, or left out entirely to toggle the current state of the parameter.

*string* Any series of characters extended to the end of the line (or to the apostrophe that starts a comment). A *string* can include blanks, but leading and trailing blanks are ignored.

There are many possible parameters, mostly for fine-tuning the behavior of individual features, but they all have reasonable default values, so in most cases you won't have to specify any parameters other than simply to name the features.

In software version 3.00 and higher, Fixture Types are associated with Vendor names, to make them easier to select. The Vendor name is set with the `vendor` parameter:

**vendor** *string* the name of the fixture manufacturer, up to fourteen characters.

For example : **Clay Paky**

The vendor name is associated with all subsequent fixture types, up to the next `vendor` parameter. If a fixture type is defined before the first **vendor** parameter, its vendor is assumed to be **Generic**.

**Note:** Vendor names are listed only in the library, and are not part of the fixture objects themselves in nonvolatile RAM. There is therefore no problem with creating a type in the userlib.txt file under the Generic vendor name, and later changing it to the correct vendor name—any fixtures of this type will continue to work.

A fixture type begins with the following parameters pertaining to the fixture as a whole. The first one must be the type parameter, but the other two are optional and can appear in either order:

**type** *string* the name of the fixture type, up to fourteen characters.

*For example: Miniscan*

**stage** *switch* *yes* if the fixture supports stage focus. If this isn't specified, the default is *yes*, although if the fixture type doesn't have both pan and tilt features, it has no effect. If a fixture type has pan and tilt features and this is on, the attribute list includes the Stage Focus coordinates P00, P01, P10, P11, T00, T01, T10 and T11.

**stage** equivalent to *stage off*.

**scale** *number* the ratio between the scaling of the coarse pan or tilt feature to the fine, for high-resolution steer-able fixtures. The range is 2 to 256, and the default is 256. This is ignored if the fixture doesn't have high-resolution pan and tilt features. Next, the features are listed, in order of physical channel. Each feature is represented by any combination of the following optional parameters in any order, except that the first one must be the *channel* parameter which names it. No two channels may have the same name.

**channel** *string* the name of the feature corresponding to this fixtures DMX channel, up to five characters.

*For example: color, gobo, iris, prism, etc.*

**short** *switch* *yes* if the feature's maximum value is 100, *no* if it is 255. The default is *yes* if the feature is called *Dim*, *no* otherwise. If the feature is pan or tilt, its maximum value is 9999 regardless of this. Use this if your dimmer channel will be labeled something other than "dim".

**short** toggles the *short* parameter. That is, it sets the feature's maximum value to 255 if it is called *Dim*, 100 otherwise.

**master** *number* zero if the feature is unaffected by the Grand Master fader, nonzero if it is scaled by the fader. The fader scales the output only if its DMX value (on a zero to 255 scale, before scaling) would be less than or equal to this value. Thus, it should be 255 for most dimmers, or 128 for the split feature on some fixtures that acts like a dimmer from zero to 128, and then strobes beyond that point. The default is 255 if the feature is called *Dim*, zero otherwise.

**master** disables master control if the feature is called *Dim*, enables it over the full range otherwise.

**fos** *switch* *yes* if the full feature range corresponds to a DMX output range of 15 to 255, instead of the usual zero to 255. This is a special mode used for some FOS fixtures; its default value is *no*. If this is specified without a *switch*, it is turned on.

**fos** equivalent to *fos yes*. *htp* *switch* *yes* if HTP, *no* if LTP. The default is *yes* if the feature name is *Dim*, *Shut*, *Red*, *Green* or *Blue*, *no* otherwise.

**htp** toggles the HTP parameter.

**dbo** *switch* **yes** if gated by the D.B.O. switch, **no** otherwise. The default is **yes** if the feature name is `Dim`, **no** otherwise. You may want to use this feature for your shutter channels.

**dbo** toggles the state of the DBO parameter.

**color** *switch* **yes** if this is a color feature, **no** otherwise. The default is **yes** if the feature name is `Color` or starts with `Colr`, **no** otherwise.

**color** toggles the state of the color parameter. That is, it forces the feature to be interpreted as a color feature if its name isn't `Color` and doesn't start with `Colr`, or forces it not to be interpreted as the tilt feature if its name is `Color` or starts with `Colr`.

**gobo** *switch* **yes** if this is a gobo feature, **no** otherwise. The default is **yes** if the feature name starts with `Gobo`, **no** otherwise.

**gobo** toggles the state of the gobo parameter. That is, it forces the feature to be interpreted as a gobo feature if its name doesn't start with `Gobo`, or forces it not to be interpreted as a gobo feature if its name starts with `Gobo`. You may want to use this feature if you label your gobo feature something like "litho".

**pan** *switch* **yes** if this is the pan feature, **no** otherwise. The default is **yes** if the feature name is `Pan`, **no** otherwise. An error results if there is already a pan feature.

**pan** toggles the state of the pan parameter. That is, it forces the feature to be interpreted as the pan feature if its name isn't `Pan`, or forces it not to be interpreted as the pan feature if its name is `Pan`.

**tilt** *switch* **yes** if this is the tilt feature, **no** otherwise. The default is **yes** if the feature name is `Tilt`, **no** otherwise. An error results if there is already a tilt feature.

**tilt** toggles the state of the tilt parameter. That is, it forces the feature to be interpreted as the tilt feature if its name isn't `Tilt`, or forces it not to be interpreted as the tilt feature if its name is `Tilt`.

**invert** *switch* **yes** if the output range for the feature should be reversed. That is, a feature value of zero corresponds to a channel output value of 255. The default is **no**. Use this, for instance, if one manufacturer's `Zoom` or `Iris` feature is backward relative to another's.

**invert** equivalent to `invert yes`.

**sudden** *switch* **yes** if the initial end threshold is zero, **no** if it is 100. This is the end threshold that is automatically selected when a new feature is brought into a cue, before the user has adjusted it. The initial start threshold is always zero. Thus, a `sudden` feature snaps to its value instantly, while a non-`sudden` feature glides smoothly, unless the user manually adjusts the thresholds. The default is **yes** if the feature name is `Ctrl` or `Lamp`, **no** otherwise.

**sudden** toggles the state of the sudden parameter. That is, it is turned off if the feature name is `Ctrl` or `Lamp`, on otherwise.

**fine number** fine rotary step size, from one to 255. The default is normally one, but is forty for pan and tilt features, or the maximum feature value if `steps` is specified. This is the step size when the rotary is initially turned, not the step size when `Fine` is turned on; the latter is always one. Note that if this is set to something greater than one, it also sets `coarse` (below) to one; if you wish to set both, `coarse` must therefore follow `fine`.

**coarse number** ratio of coarse to fine step size, from one to 255. The default is normally ten, but is set to one if `steps` or `fine` is specified. This determines the step size after the rotary has been turned eight clicks in the same direction. If the rotary is to have a fixed step size, without changing scaling after it has been turned eight clicks, set `fine` to the desired size, and leave `coarse` equal to one.

**clear number** value to set feature to when cleared. The default is zero if the feature name is Dim, Shut, Red, Green or Blue, off (meaning the feature is unaffected by clearing) otherwise.

**clear switch** disables the clear function if the switch is off, clears it to zero if it is on.

**clear max** sets the clear value to the maximum feature value.

**clear** sets the clear value to zero.

**narrow number** value to set feature to when narrow Hi-Lited. Narrow Hi-Lite occurs when setting Stage Focus coordinates. The default value is the maximum value if the feature name is Dim, Shut, Red, Green or Blue; zero if the feature name is Cyan, Mag, Yel, Eff, Frost, Prism, or has Rot as its 2<sup>nd</sup> through 4th character; or off (meaning the feature is unaffected by Hi-Lite) otherwise.

**narrow switch** disables narrow highlighting if the switch is off, sets the feature's narrow highlighting value to its maximum value if it is on.

**narrow max** sets the feature's narrow highlighting value to its maximum value.

**narrow** sets the feature's narrow highlighting value to zero.

**wide number** value to set feature to when wide highlighted. It has the same defaults and variations as `narrow`.

**hilite number** Sets both `narrow` and `wide`. It has the same defaults and variations as `narrow`.

**steps numbers** list of feature values on which the rotary stops, and which can be addressed with the `Color` or `Gobo` command. The default is none. See below for details.

The explanations above indicate that there are certain feature names that are treated specially:

**Pan, Tilt** `pan` or `tilt` is turned on.

**Dim**            `dbo`, `htp` and `short` are turned on, `clear` is set to zero, `hilite` is set to 100, and `master` is set to 255.

**Shut, Red, Green, Blue**    `htp` is turned on, `clear` is set to zero, and `hilite` is set to 255.

**Cyan, Mag, Yel,**  
**?Rot, ?Rot?,**  
**Eff, Frost,**  
**Prism**        `hilite` is set to zero (? is any character).

**Ctrl, Lamp**    `sudden` is turned on.

**Color, Colr?**        `color` is turned on, `clear` and `hilite` are set to zero. (? is any character).

**Gobo, Gobo?**        `gobo` is turned on, `clear` and `hilite` are set to zero. (? is any character).

There are also four special channel names, distinguished by the fact that they are more than five characters.

None of these special channels may have any additional parameters.

**PanFine**        Indicates a channel used for the `Pan` feature's extra resolution, in a high Resolution fixture. This channel does not appear in the feature list, as it is controlled by the `Pan` feature.

**TiltFine**        Same as `PanFine`, but for the extra `Tilt` channel.

**Nothing**        Indicates an unused channel that does not appear in the feature list. (Unlike other names, this may be applied to more than one channel if necessary.)

**ExtDim**        Indicates a `Dim` feature that is rerouted to an external dimmer. This appears in the feature list, but doesn't actually use up a channel. Instead, it is routed to a completely independent channel specified by the `Dimmer Port` and `Dimmer Channel` attributes.

*For example: Vari\*Lite VL-5*

**Note:** if the fixture has an unused channel that is intended to be reserved for an external dimmer, whether or not you use that channel or some other channel for the dimmer, you must also include a channel `Nothing` in order to skip over that channel.

For instance, most high-resolution steer-able fixtures use the following order:

channel `Pan`        ' has rotary

```
channel PanFine      ' has no rotary
channel Tilt        ' has rotary
channel TiltFine     ' has no rotary
```

The channel name **Null** is also special, in that you can have more than one feature of this name, but you may not specify any parameters for it. A **Null** channel appears in the list of features, but always has a value of zero, and does nothing. In general, unused channels in a fixture are better handled by specifying a channel name of **Nothing**, but this is provided for backward compatibility.

## Specifying Feature Step Values.

The **steps** parameter is used to list specific values that the rotary steps through so that one “click” of the rotary snaps to the next specified value. This is particularly useful for Color and Gobo features, enabling you to click through solid colors with accuracy. In this mode the “Fine” button is used to access values in between steps. Step numbers may be specified in any order, and are separated by spaces. All values must be between zero and the maximum value of the feature (normally 255). Note that the rotary stops on zero and the maximum value even if these are not explicitly included in the list.

For color and gobo features, the list also determines what values may be selected with the **Color** or **Gobo** commands. In this case, the order is important: the first specified value is color or gobo position zero (which by convention means white or wide open), the second is position 1, the third is 2, and so on. If you want color or gobo zero to correspond to a value of zero, then you must include zero at the beginning of the list. If you want color or gobo zero to be some other value (e.g., some fixtures number the positions in reverse), then the list must begin with that other value.

If the fixture supports in-between colors, the in-between values can be included in the list, but as negative numbers. This causes them to be included in the step values for the rotaries, but left out of the numbering of positions for the **Color** and **Gobo** commands. Normally, the **fine** parameter should be made large enough so that the rotary only stops on values specified explicitly in the **steps** parameter. If, however, the **steps** list only covers part of the range, the **Fine** parameter can be used to introduce evenly-spaced steps in the rest of the range.

For instance:

```
steps 0 16 31 44 60 72
fine 15
```

causes the rotary to stop on 0, 16, 31, 44, 60, 72, and then jump to the next multiple of 15 that is at least 15 higher than 72, which is 90, and then continue in steps of 15 all the way to 255. The rotary actually stops on multiples of the **fine** parameter if their distance from the nearest value explicitly specified in the **steps** parameter is at least as large as the **fine** parameter itself. Note that specifying **steps** sets **fine** to the maximum feature value and **coarse** to one. If you want to specify different values for these parameters, they must therefore follow the **steps**.

## Special Fixture Types.

There are several special fixture types that are built into the CP-100 software, and are not listed in either the **stdlib.txt** or **userlib.txt** file. Their vendor name is **Generic**, and they include:

- **Dimmers.** Since dimmers have only one feature, the CP-100 treats them separately from fixtures. This allows up to eight of them to be controlled by the rotaries at once.
- **Dimmer fixtures.** You can also treat a dimmer as a fixture, in which case it looks like any other fixture, except that it has only one feature, called `Dim`. The type name, naturally, is `Dimmer`. In general, though, it is preferable to treat dimmers as distinct from fixtures.
- **Generic DMX fixtures.** These are fixtures that have an adjustable number of features (up to 32), and no special semantics other than that one channel may be designated as a dimmer channel. A generic DMX fixture is useful for quickly trying out a new fixture type, without having to build a new library entry. Its type name is `DMX Fixture`.
- **DMX pass-thru fixtures.** These pseudo-fixtures continuously copy a contiguous range of channels from the DMX input to one of the DMX outputs. They are created like regular fixtures, but since they have no features, they do not appear in any cues, and cannot be manipulated during performance. Their type name is `DMX Pass Thru`.

### Sample Fixture

Here is that example of a simple fixture from the standard library again:

```

vendor Clay Paky
type MiniScan
  channel Color
    steps 0 16 33 50 66 82 98 114 130
  channel Gobo
    master 127
    htp
    dbo
    clear
    hilite 128
    steps 255 -68 -127 155 175 195 215 235 255
  channel Pan
  channel Tilt

```

The indenting is ignored by the CP-100, but makes it easier for a human to read the library. The `Color` and `Gobo` features are accessible under the `Color 1` and `Gobo 1` commands, even though the `color` and `gobo` parameters weren't specified, because the CP-100 recognizes those feature names. For the `Color` feature, the rotary stops on the specified values, plus 255 (since it always stops at the minimum and maximum values). For the `Gobo` feature, the rotary stops on zero and on the specified values, including 68 and 127, but the `Gobo` command skips the values of zero, 68 and 127.

The only reason the `Gobo` feature has so many parameters is that it is an atypical gobo channel, acting as a shutter and a strobe as well for this particular unit. The `Pan` and `Tilt` channels work as expected because the CP-100 recognizes those names as well. Of course, the best way to familiarize

yourself with the fixture description language is to examine the fixture library that comes with the software.

### **Editing the Library.**

Whenever you get a new version of the CP-100 software, it will include the latest version of the library, in a text file called **stdlib.txt**. You may read this file and copy things out of it for further editing, but you should never edit this file, because it is considered part of the software. If you wish to tweak the way some of the fixtures work, you should copy their definitions out of the `stdlib.txt` file and put them into a **userlib.txt** file where they can be edited and loaded into the CP-100 separately.

Any plain text editor (such as Windows Notepad) may be used, as can any word processor that allows a file to be stored as plain ASCII. You can edit the file on a Mac as long as you have the necessary software for reading and writing MS-DOS format diskettes. The **userlib.txt** file can be transferred between the flash ROM and a floppy disk via commands executed from the CP-100 front panel, in the **OBJECTS** menu. Any changes, however, won't take effect until the CP-100 is turned off and on again, since the file is only read from the flash ROM once, on startup. If you've introduced any errors into the library, the CP-100 will pause on each one and show an error message in the display, along with the line number of the error. When you press **Enter**, it continues processing as best it can:

If the error was in a fixture type name, it will skip the rest of that fixture type definition.

If the error was in a channel name, it will skip the rest of that channel definition.

Otherwise, it will skip the rest of the line, which is why it is a good idea to put one parameter on each line.

If you press **Undo** instead of **Enter**, it will continue reading the file and handling errors as just described, but it won't pause on each one.

If you've created a **userlib.txt** file, and receive a new version of the CP-100 software, you may wish to examine the new **stdlib.txt** file to see if any of your changes and additions have been incorporated. If so, you may remove them from your **userlib.txt** file, although it isn't necessary to do so.

### **Issues that you should know about.**

Internally, the CP-100 uses a number to identify the type of each fixture, rather than a name, in order to save memory. Previous versions of the CP-100 assigned numbers to each fixture type starting with zero; whenever a new type was added to the software, the next available number was assigned. Almost two hundred type numbers were assigned in this manner!!!!!! It was a royal pain!!!!!!!

Starting with version 3.0, the CP-100 no longer assigns arbitrary numbers to types. While it retains the assignments for types that were known prior to version 3.0, any new types are assigned numbers by "hashing" the name. This means that the numeric codes for the characters in the name are run through a mathematical formula that is designed to be unlikely to produce the same value for two different names. This has some ramifications that the user should be aware of.

First, before hashing, the fixture type name is converted to upper case, and blanks are stripped. This means that if you add a new fixture type to the library whose name differs from an existing type only in the case of the letters, or in the presence or absence of blanks, it will be considered to be the same type, and will overwrite the previous one.

Second, it is theoretically possible for the CP-100 to reject a particular fixture type name, and require that the user choose a different one. This happens when two names differ, but happen by accident to produce the same hash value. Since there are over 65000 possible values, this is very unlikely, but then again there was the Titanic!!! So, if it does happen, simply change the name of the fixture slightly, and try again. (It isn't sufficient to change the case of a letter.)

Another consideration is what happens if fixture data (a **fixture.dat** file) is imported from a CP-100 that doesn't have the same fixture library (the **stdlib.txt** and **userlib.txt** files), and the former contains fixture types that are unknown. In this case, all the CP-100 sees is some fixtures that have numeric type codes that it doesn't understand. It has no way of knowing what the actual names of these undefined fixture types were, since the hashing algorithm can't produce the name from the number.

In this case, the CP-100 shows the unrecognized fixture type in the form 'unknown xxxx', where xxxx is the unknown fixture type code in hexadecimal notation. It is encoded in apostrophes to make it impossible to enter such a fixture name in the library file. When selected for display, this fixture appears to have one Dim feature but any existing feature values in cues are maintained, unless the cue is edited and stored again.

Last, it maybe desirable to rename a fixture type. Perhaps an error was made in naming a fixture type, or perhaps a new version was released and one wishes to append V1 to the first version's name. However, changing the name of a type will render any fixture data referring to that type unusable, since fixtures are bound to their types by name. This situation is dealt with by including the old type name in the library equated to the new one:

```
type      old-string
is       new-string
```

This tells the CP-100 to convert any fixtures whose type matches *old-string* to *new-string*. No other parameters or feature definitions may follow. When the CP-100 finds an entry of this sort in its **stdlib.txt** or **userlib.txt** file, it treats any fixtures whose hash value matches the old name as being of the same type as the new name. It doesn't, however, alter the hash value stored in those old fixtures. (Note that `type` and `is` must be on two separate lines.)

## Deleting the Userlib.txt File from the CP-100 console

If you need to do this then you really deserve a gold star! Actually, this is not uncommon because you probably get constant interruptions from all sorts of idiots. The result is you have written something completely wrong in the userlib.txt file you may end up with the console locking itself up. With the VGA monitor on, you'll notice that the monitor is displaying a "goto loop" message, thus rendering your CP-100 Console useless. The board is now continuously referencing a bad user library file and can't get past it in the boot up process. To delete the **userlib.txt** file follow these steps using an external keyboard hooked up to the console:

- 1- When you see the "Starting ROM-DOS", hit F8.
- 2- It will ask you whether to execute each startup command in sequence.
- 3- Answer Y up to and including the PATH command.
- 4- Then answer N to the rest of the commands until you get an A> prompt.
- 5- Then, enter the "del c:userlib.txt" command to get rid of the user-defined fixtures.
- 6- Then, enter "c:cp100" to start the CP-100 software.

At this point your console will continue booting up. You will need to take a very close look at your userlib.txt file to see where you went wrong. A common gremlin is misplaced commas. Make sure you haven't put any commas in between your **step** values.

**WORK THAT DISK  
DRIVE BABY**

Now let's discuss our handy little disk drive on the back panel of the console. This will allow us to do several things. First we'll be able to save our show, second we can load a new show, third we can load in a software upgrade, and fourth we can save the current software that's in the console's memory.

## TO SAVE YOUR SHOW

**1) Insert a blank, formatted IBM compatible, 3.5" diskette into the drive.**

**2) Press the MENU button to call up the "Main Menu" display**

**3) Press F1 to access the "Storage" display**

This display is broken up into 3 sections:

- **Objects:** The actual fixtures in the show
- **Software:** The current version of the operating system
- **Memory:** The display of memory usage in percentages

**4) Press F1 for Objects**

This will call up the "Objects" display and give you 3 more choices:

- **F1 SAVE ALL:** saves the entire contents of the show fixtures, cues, chases, presets, feature presets, etc.
- **F2 SAVE FIXTURES:** saves only the fixture information.
- **F2 SAVE SHOW:** saves only the show information.
- **F4 LOAD ALL:** loads the entire contents of the show
- **F5 LOAD FIXTURES:** loads just the fixtures
- **F6 LOAD SHOW:** loads just the show information

**5) Press F1 to save the entire contents of the show.**

Likewise, you can press the other function keys to perform their various operations.

*(Okay Listen up people! For years this author and his friends at Elektralite went out on the road and had to contend with expensive little PCMCIA cards that lots of lighting console manufacturers insist on using. These cards are very expensive and difficult to find in your local high street electronics shop! When we sat down to design the CP-100, the number one feature that this console would have was the disk drive. We didn't care how much or how difficult it would be to do the software (hardware is cheap) we were going to have a disk drive on the CP-100. Now then, don't disappoint us with all our hard work! As disks are dirt cheap, **there are absolutely no excuses as to not backing up all your show and fixture information lots and lots of times. Make us feel proud of you and back it up; not once, not twice, but as many times as makes you feel secure. Thank you!**)*

## **TO UPGRADE YOUR SOFTWARE**

Software upgrades for more recent upgrades of Operating System Version 3 software are available at no charge to those people who have a previous copy of Version 3 software. You can contact Group One Ltd. directly by e-mail but please supply the following information:

The serial number of your board.

The version of V3 software that you have in the board.

The dealer/distributor from whom you purchased the board

You can also upgrade to Operating System Version 4. Version 4 operating system upgrades the board by adding an effects generator/engine for automatic insertion of circles, ballyhoos etc.

Before installing any upgrade into the CP-100 console it is strongly recommended that you make a copy of the current software that you are running. Electronic forms of communication such as the world wide web, and email can be susceptible to corruption during a transfer. If you load in a software upgrade that has been corrupted you can at least revert back to the old version and still run your show. Don't jump down our throats about this one. All lighting consoles that accept disk drive software upgrades are susceptible no matter how much money you spend on them. We're just being blatantly honest about it!

- 1) Insert a blank diskette into the disk drive on the back panel of the console.**
- 2) Press "MENU" to call up the "Main Menu" display**
- 3) Press F1 for the "STORAGE" display**
- 4) Press F2 for the "SOFTWARE" display**
- 5) Press F1 to save the current version of the software.**
- 6) When finished, take the disk out of the drive and label it.**
- 7) Insert the diskette that contains the software upgrade into the disk drive.**
- 8) Press F2 to load the software upgrade.**

The changes to the software will not take effect until you power down and re-start the console. A warning prompt with this information will be displayed upon completion of the software loading.

## **THE SECONDARY METHOD OF SOFTWARE UPGRADE**

There is a secondary method in which you can upgrade the software. However great care has to be taken when utilizing this 'backdoor' method. Please go to the section towards the end of this manual called "Forcing software into a CP-100".

# DMX - Input

The CP-100 has a single DMX input port which may be driven by the output of another DMX controller. There are three different ways that the DMX input can operate.

- DMX input channels may be simply passed through as DMX output channels. (Pass Thru)
- DMX input channel values can be captured and turned into cues. (Called 'snap-shot')
- DMX input can be used to trigger the playing of cues, chases, macros or hot keys in the CP-100. (Triggers from Main Menu F5).

### **DMX input as a simply pass thru.**

The DMX input is passed through to the DMX output by using a special fixture type found in the CP-100's library. The special fixture is named "DMX Pass Thru". This fixture has four attributes that must be assigned during the set up of the fixture. The four attributes are DMX port, Base channel, Input channel and Channel count. DMX port and base channel are the same as for a normal fixture set up and they refer to the output side of life. In other words, you need to tell the board which DMX channel is the first channel for the output fixture and also which of the DMX ports (one or two) you have the output fixture connected to. Then, you need to set the two new attributes which refer to the input side of life. The starting input channel and the total number of channels respectively of the fixture. That's all there is to it! The DMX input for those channels will now be automatically and continuously coupled through to your chosen output channels. Of course, you can 'link' different DMX input channels to output channels.

There is no need to add the DMX Pass Thru fixture to cues because this fixture has no user controllable features. The DMX pass thru fixture is on 'Auto Pilot' since its output merely mimics the input.

### **Snap-shot.**

Ever found yourself in the situation where the board running the current show, needs to go do another show and you're going to have to reprogram another board to do the current show. Think it doesn't happen? Let me know if it does because I'm coming to your Utopia! Meanwhile in the real world, the swapping of boards happens all the time. (One scenario goes like this. In comes an LD complete with his own PCMCIA (Smart) card for one of those "other" boards. His show is in the card so he must use 'that' board. Enter CP-100 to save the day with Snap-shot. I can give other scenarios, like why 'leave' a very expensive "other" lighting board doing an automatic industrial show when you could use it to program the show and then dump it into the CP-100?).

Snap-shot allows the DMX input to be captured and stored in a cue by setting up the CP-100 to have the same set of dimmers and fixtures on the same channels as the input lighting board. Then you must select the dimmers and fixtures to be captured into the Cue Editor. To do this press 'fixture' followed by the fixture number or numbers. For dimmers simply press 'add dimmer' followed by the dimmer number or numbers. Once the correct set of fixtures and dimmers are selected the 'copy all feature' command does the capturing. The CP-100 is also intelligent enough to rescale parameters where necessary and to combine the coarse and fine channels of high-resolution fixtures.

So, for instance, if you want to capture DMX inputs 20 through 27 for later playback on the DMX outputs 20 to 27, you need to have an eight channel fixture to play these channels. The 'DMX fixture' entry will work, although it would be better if you used the fixture that matches what you have got. So if it is an Intellabeam working in eight channel mode, you should use that library entry in the CP-100. Then you do the normal set up routine. So for example you may assign the Intellabeam to fixture 21, port one, DMX output base channel 20. Having done the set up you just press the usual command "Fixture 21 enter". Having selected the fixture, all you do is press "copy all feature enter" and

instantly the CP-100 snap-shots the DMX input. You can now store this information into any cue. Now it would be pretty labor intensive if you had to do it fixture by fixture. It would defeat the whole idea of making life easier. No Margaritas for you in Key West!! So, the CP-100 allows you to select as many fixtures or dimmers as you want. Instead of pressing “Fixture 21 enter” you could press say “Fixture 21 thru 50 enter”.

### **Triggers F5.**

Pressing F5 from the Main Menu accesses the Triggers editor. Cues, chases, macros and hotkeys maybe triggered externally by two methods: A DMX-input signal or a Midi note input.

The trigger editor will display any stored cues, chases, macros and hotkeys. If you have not stored a hotkey or macro, for example, then it will not be displayed in the screen. To set up the trigger is very simple. Let's set up a cue, for example. Using the cursor buttons to the right of the display, move the cursor to the right of the word 'cue' and using the keypad numbers chose the cue you wish to trigger, then press 'enter'. Now using the right arrow cursor button again, move to the right '---'. Now choose which channel you want to trigger the cue; for example 10, then press 'enter'. Move the cursor to the right again, so that you are over the word 'DMX'. DMX is the default setting. Use the -No and +Yes keys to change to a Midi note. If you choose a midi note then the number before the note refers to the Midi note channel. Each *object* (cue, chase, macro or hotkey) can be assigned to a single DMX channel or to a single Midi channel and Midi note number. (You knew those music lessons would be useful one day!!). An *object* can be disconnected from the inputs entirely by setting the channel parameters to zero.

### **Norm or Alt.**

There are two modes of operating the triggers (DMX or Midi) Normal or Alternative. No, this is not reference to different types of Rock'n'Roll music. Instead it is for two different ways we let the input trigger *objects*.

### **DMX NORM Mode.**

Let's say you have a 12 channel simple fader board triggering as follows:

- Fader 1 linked to cue 1
- Fader 2 linked to cue 2
- Fader 3 linked to chase 1
- Fader 4 linked to Macro 1
- Fader 5 linked to Hot key 'Alt X'.

In the **Norm** mode whenever the fader moves above zero the *object* is **activated**. Whenever the fader returns to zero the *object* is **deactivated**. So moving fader one up **activates** cue 1. If a cross fade is stored in the cue then the time is activated. Moving the fader down makes the cue crossfade out (if it has an 'out' time fade) and in this way the cue is **deactivated**. Because cue 1 is now **deactivated**, you can move cue 2 up and **activate** it. You're now wondering why we have underlined and made bold the words **activate** and **deactivate**. Well the reason is this. Just because a cue is not active doesn't mean that you have darkness on stage. Let put it another way. If your fixtures were turned on and pointing to stage left before you **activated** cue1, then after you pull fader 1 down after you have **activated** it, the fixtures are going back to the stage left position.

### **DMX ALT Mode.**

Here we going to save you the bother of remembering to keep that DMX-input channel activate ( in other words, using our example, keeping the fader up!) and outputting a value all the time you want your *objects* to be working! With ALT mode, as long as the *object* receives a dmx signal above zero, then the *object* will be active. Moving that channel back down to zero, will have no effect on the

*object*. In effect, it is latched on. If you want to turn it off, then simply move that channel's value above zero again. The important word here is 'again'. In our example if we had fader 1 linked to cue 1, then the procedure would be as follows:

Move fader 1 above zero activates cue 1.

Move fader 1 back to zero has no effect.

Move fader 1 above zero again deactivates cue 1.

Now we realize a lot of you are sitting there and saying I don't get it! What's the purpose of this? I'll never use ALT mode.

Well, if instead of faders on a manual controller, you think of using an automatic dmx input signal from a 'master controller' (a show controller) then the ALT mode is a real asset. Here, all you would do, is send a flash signal to turn on cue 1. Then later in the show, you would send it a second flash signal to turn it off. There would be no need to keep the signal latched on to keep the cue active. Kinda Neato!!!

### **Midi NORM mode.**

If the *object* is assigned to a midi note, it is activated whenever a Note On is received by the CP-100. With midi, usually it is the case that, the midi device will normally keep sending the Note On until you tell it to turn off. (Just like the fader example with DMX triggers, if the fader is up the cue is active if you want to deactivate it pull the fader down). To deactivate a Midi triggered cue, you must send a signal to turn the Note Off. So don't forget to send the Note Off command, otherwise you are going to just piling *objects* on top of one another! It not a pretty sight when it goes wrong!

### **Midi ALT mode.**

In the Alternative mode the CP-100 makes life even easier! You don't have to remember to send the Note Off command! The Midi Note On toggles the *object* on and off. Midi Note Off signals are ignored.

### **Midi Note names and numbers.**

If you studied any musical instrument at school you know the principle of notes and octaves. Remember Middle C?! Well the only problem with that system is that you have to remember the note and the octave. So you have to write down things like "octave 2, D sharp". There is an alternative to this and that is Midi numbers. The numbers system is just a map crossover for the Midi note names. The Midi note that corresponds to our "octave 2, D sharp", would be number 15. At the back of the manual is a Midi names and numbers map to help you.

### **Midi Channels.**

Midi channels are just like DMX ports. Each DMX port can control 512 channels. If you need more than 512 channels of DMX, you need a second DMX port.

With Midi the maximum number of notes (which is the equivalent of DMX channels) is 127. So there are 127 notes per Midi 'port'. The correct terminology for a Midi 'port' is called a Midi **channel**.

There is also a limit to the number of Midi channels that you can have and that number is 16.

So in summary available to you using Midi is 16 channels each channel having 127 notes.

### **Linking CP-100s.**

Linking CP-100s (Yes, it has been done!!) is done using the Midi In and out ports on the back of the board. The Midi output port echoes everything received on the Midi input port. This is a software "THRU" function, so there is at least a one byte time delay.

**Summary of Triggers.**

In general, whenever a trigger (DMX-input or Midi Note On) is received, the CP-100 scans all its *objects* (cues, chases, macros and hotkeys) and activates any that have matching channel and note. Cues are activated by crossfading them in, at their programmed crossfade time. Chases and macros are simply started at the beginning. Hotkeys are executed, unless one is already in progress. When the trigger is released (in other words, the DMX input is returned to zero or Midi Note Off), cues begin to crossfade out. Chases and macros are stopped while hotkeys remain in the same state. If a cue hasn't finished crossfading out when a second trigger is received, the crossfade turns around and goes forward again, rather than starting at the beginning.

# **THE COMMAND SET**

## Global Deletion

<b>All Delete</b>	deletes all objects in non-volatile memory.
<b>Clear All</b>	clears the cue editor, chase editor and macro editor
<b>Delete All</b>	deletes all show objects in non-volatile memory.

## Copying, Deleting and Moving Fixtures

<b>Copy Dimmer n To n ...</b>	makes multiple copies of a dimmer
<b>Copy Dimmer n ... To n</b>	copies multiple dimmers to a contiguous range
<b>Copy Fixture n To n ...</b>	makes multiple copies of a fixture
<b>Copy Fixture n ... To n</b>	copies multiple fixtures to a contiguous range
<b>Delete All Dimmer</b>	deletes all dimmers and dimmer groups
<b>Delete All Fixture</b>	deletes all fixtures (except dimmers) and fixture groups
<b>Delete Dimmer n ...</b>	deletes specific dimmers
<b>Delete Fixture n ...</b>	deletes specific fixtures
<b>Move Dimmer n ... To n</b>	moves multiple dimmers to a contiguous range
<b>Move Fixture n ... To n</b>	moves multiple fixtures to a contiguous range

## Grouping Fixtures

<b>Add All Fixture [To] Group</b>	adds all like-type fixtures to current group
<b>Add All Fixture [To] Group n</b>	adds all like-type fixtures to specific existing group
<b>Add Dimmer n ... [To] Group n</b>	adds dimmers to specific group
<b>Add Fixture n ... [To] Group</b>	adds fixtures to current group
<b>Add Fixture n ... [To] Group n</b>	adds fixtures to specific group
<b>Clear Dimmer n ... (from) Group n</b>	removes dimmers from specific group
<b>Clear Fixture n ... (from) Group</b>	removes fixtures from current group
<b>Clear Fixture n ... (from) Group n</b>	removes fixtures from specific group
<b>Copy Dimmer Group n To n ...</b>	makes multiple copies of a dimmer group
<b>Copy Dimmer Group n ... To n</b>	copies multiple dimmer groups to a contiguous range
<b>Copy Fixture Group n To n ...</b>	makes multiple copies of a fixture group
<b>Copy Fixture Group n ... To n</b>	copies multiple fixture groups to a contiguous range
<b>Delete All Dimmer Group</b>	deletes all dimmer groups
<b>Delete All Fixture Group</b>	deletes all fixture groups
<b>Delete All Group</b>	deletes all dimmer and fixture groups
<b>Delete Dimmer Group n ...</b>	deletes specific dimmer groups
<b>Delete Fixture Group n ...</b>	deletes specific fixture groups
<b>Move Dimmer Group n ... To n</b>	moves multiple dimmer groups to a contiguous range
<b>Move Fixture Group n ... To n</b>	moves multiple fixture groups to a contiguous range

## Selecting Displays

<b>Add Dimmer</b>	selects ADD DIMMER display
<b>Add Fixture</b>	selects ADD FIXTURE display
<b>Chase</b>	selects CHASE EDITOR display
<b>Cue</b>	selects CUE EDITOR display
<b>Dimmer</b>	selects DIMMER VALUES display
<b>Dimmer Group</b>	selects DIMMER GROUPS display
<b>Dimmer Group n</b>	selects DIMMER GROUPS display for specific group
<b>Dimmer Submaster</b>	selects DIMMER SUBMASTERS display for fader 1
<b>Dimmer Submaster p.f</b>	selects DIMMER SUBMASTERS display for specific fader
<b>Edit</b>	selects CUE EDITOR display, completes crossfade
<b>Edit Dimmer</b>	selects EDIT DIMMER display
<b>Edit Dimmer n</b>	selects dimmer, selects EDIT DIMMER display
<b>Edit Fixture</b>	selects EDIT FIXTURE display
<b>Edit Fixture n</b>	selects fixture, selects EDIT FIXTURE display
<b>Feature Preset</b>	selects FEATURE PRESETS display
<b>Feature Preset n</b>	selects FEATURE PRESETS display for specific preset
<b>Fixture</b>	selects FIXTURE FEATURES or GROUP FEATURES display for current fixtures
<b>Fixture n ...</b>	selects FIXTURE FEATURES or GROUP FEATURES display for specific fixtures
<b>Fixture Group</b>	selects FIXTURE GROUPS display
<b>Fixture Group n</b>	selects FIXTURE GROUPS display for specific group
<b>Group</b>	selects FIXTURE FEATURES or GROUP FEATURES display for fixtures in last mentioned group
<b>Group n ...</b>	selects FIXTURE FEATURES or GROUP FEATURES display for fixtures in specific groups
<b>Macro</b>	selects MACRO EDITOR display
<b>Preset</b>	selects PRESET VIEWER display
<b>Stage Focus</b>	selects STAGE FOCUS display
<b>Stage Focus [Fixture] n</b>	selects fixtures, selects STAGE FOCUS display
<b>Submaster</b>	selects SUBMASTERS display for fader 1
<b>Submaster p.f</b>	selects SUBMASTERS display for specific fader

## Highlighting Fixtures

<b>Clear All Hilite</b>	un-highlights all fixtures
<b>Clear Hilite (from) All [Fixture]</b>	un-highlights all fixtures
<b>Clear Hilite (from) [Fixture]</b>	un-highlights currently selected fixtures
<b>Clear Hilite (from) [Fixture] n ...</b>	selects fixtures, un-highlights them
<b>Clear Hilite (from) [Fixture] Group</b>	selects fixtures in current group, un-highlights them
<b>Clear Hilite (from) [Fixture] Group n</b>	selects fixtures in groups, un-highlights them
<b>Hilite [Fixture]</b>	highlights currently selected fixtures
<b>Hilite [Fixture] n ...</b>	selects fixtures, highlights
<b>Hilite [Fixture] Group</b>	selects fixtures in current group, highlights them
<b>Hilite [Fixture] Group n ...</b>	selects fixtures in groups, highlights them

## Loading the Cue Editor

<b>Cue n.n ...</b>	loads or merges specific cues without crossfade
<b>Cue n.n ... Go</b>	loads or merges specific cues
<b>Dimmer p.f ...</b>	loads or merges dimmer fader assignments
<b>Edit Back</b>	loads previous cue without crossfade
<b>Edit Cue</b>	reloads current cue without crossfade
<b>Edit Cue n.n ...</b>	loads specific cues without crossfade
<b>Edit Go</b>	loads next cue without crossfade
<b>Edit Preset</b>	loads current preset as cue
<b>Edit Preset n ...</b>	loads specific presets as cue
<b>Preset n ...</b>	loads or merges specific presets as cue

## Editing in the Cue Editor

<b>Add All Dimmer Submaster</b>	merges dimmer submaster outputs into cue editor
<b>Add All Feature</b>	adds all features to the selected fixtures
<b>Add Dimmer n ...</b>	adds specific dimmers at 100%
<b>Add Dimmer n ... @ n</b>	adds specific dimmers at specific level
<b>Add Dimmer n ... @ Full</b>	adds specific dimmers at 100%
<b>Add Dimmer Group n ...</b>	adds specific dimmer groups at 100%
<b>Add Dimmer Group n ... @ n</b>	adds specific dimmer groups at specific level
<b>Add Dimmer Group n ... @ Full</b>	adds specific dimmer groups at 100%
<b>Add Dimmer Submaster</b>	merges all dimmer submaster outputs into cue editor
<b>Add Dimmer Submaster p.f ...</b>	merges specific dimmer submaster outputs into cue editor
<b>Add Feature n ...</b>	adds specific features to the selected fixtures
<b>Add Fixture n ...</b>	selects specific fixtures in addition to current ones
<b>Add Group</b>	selects current group in addition to current fixtures
<b>Add Group n ...</b>	selects specific groups in addition to current fixtures
<b>Add Rotary n ...</b>	adds specific features of current fixture
<b>All Dimmer @ n</b>	sets all dimmers to specific level
<b>All Dimmer @ Full</b>	sets all dimmers to 100%

<b>Clear All Dimmer</b>	clears all dimmers
<b>Clear All Feature</b>	clears all features of current fixture
<b>Clear All Feature Except n ...</b>	clears all but specific features of current fixture
<b>Clear All Fixture</b>	clears all fixture features
<b>Clear All Rotary</b>	clears features connected to specific rotaries
<b>Clear All Rotary Except n ...</b>	clears features connected to all but specific rotaries
<b>Clear Cue</b>	clears cue editor
<b>Clear Dimmer n ...</b>	clears specific dimmers
<b>Clear Dimmer Group n ...</b>	clears specific dimmer groups
<b>Clear Feature n ...</b>	clears specific features of current fixture
<b>Clear Fixture</b>	clears all features of current fixture
<b>Clear Fixture n ...</b>	clears all features of specific fixture
<b>Clear Fixture Group n ...</b>	clears all features of specific group of fixtures
<b>Clear Rotary n ...</b>	clears specific features of current fixture
<b>Color n</b>	sets first color wheel to specific color number
<b>Color n @ n</b>	sets specific color wheel to specific color number
<b>Copy All Feature</b>	captures all features in Cue Editor from DMX input
<b>Copy All Feature [To] Fixture n ...</b>	copies all features of current fixture to specific fixtures
<b>Copy All Feature [To] Group n ...</b>	copies all features of current fixture to specific groups
<b>Copy All Rotary [To] Fixture n ...</b>	copies eight features of current fixture to specific fixtures
<b>Copy All Rotary [To] Group n ...</b>	copies eight features of current fixture to specific groups
<b>Copy Feature n To n ...</b>	copies specific feature to other features within same fixture
<b>Copy Feature n ... [To] Fixture n ...</b>	copies specific features of current fixture to specific fixtures
<b>Copy Feature n ... [To] Group n ...</b>	copies specific features of current fixture to specific groups
<b>Copy Rotary n To n ...</b>	copies specific feature to other features within same fixture
<b>Copy Rotary n ... [To] Fixture n ...</b>	copies specific features of current fixture to specific fixtures
<b>Copy Rotary n ... [To] Group n ...</b>	copies specific features of current fixture to specific groups
<b>Dimmer n ... @ n</b>	sets specific dimmers to specific level
<b>Dimmer n ... @ Full</b>	sets specific dimmers to 100%
<b>Dimmer Group n ... @ n</b>	sets specific dimmer groups to specific level
<b>Dimmer Group n ... @ Full</b>	sets specific dimmer groups to 100%
<b>Feature n ... @ -n</b>	sets specific features to specific value
<b>Gobo n</b>	sets first gobo wheel to specific gobo number
<b>Gobo n @ n</b>	sets specific gobo wheel to specific gobo number
<b>Rotary n ... @ -n</b>	sets specific rotaries to specific value

### Using Presets

<b>Add Dimmer n ... [To] Preset</b>	adds specific dimmer filters to current preset
<b>Add Dimmer n ... [To] Preset n</b>	adds specific dimmer filters to specific preset
<b>Add Dimmer Group n ... [To] Preset</b>	adds filters for specific dimmer groups to current preset

<b>Add Dimmer Group n ... [To] Preset n</b>	adds filters for specific dimmer groups to specific preset
<b>Add Fixture n ... [To] Preset</b>	adds specific fixture filters to current preset
<b>Add Fixture n ... [To] Preset n</b>	adds specific fixture filters to specific preset
<b>Add Fixture Group n ... [To] Preset</b>	adds filters for specific fixture groups to current preset
<b>Add Fixture Group n ... [To] Preset n</b>	adds filters for specific fixture groups to specific preset
<b>Add Preset n ...</b>	adds specific preset numbers
<b>Clear All Dimmer (from) Preset</b>	clears all dimmer filters from current preset
<b>Clear All Dimmer (from) Preset n</b>	clears all dimmer filters from specific preset
<b>Clear All Fixture (from) Preset</b>	clears all fixture filters from current preset
<b>Clear All Fixture (from) Preset n</b>	clears all fixture filters from specific preset
<b>Clear All Preset</b>	clears all preset numbers
<b>Clear All Preset Feature</b>	clears all features from cue that are in all presets
<b>Clear Dimmer n ... (from) Preset</b>	clears specific dimmer filters from current preset
<b>Clear Dimmer n ... (from) Preset n</b>	clears specific dimmer filters from specific preset
<b>Clear Dimmer Group n ... (from) Preset</b>	clears filters for specific dimmer groups from current reset
<b>Clear Dimmer Group n (from) Preset n</b>	clears filters for specific dimmer groups from specific preset
<b>Clear Fixture n ... (from) Preset</b>	clears specific fixture filters from current preset
<b>Clear Fixture n ... (from) Preset n</b>	clears specific fixture filters from specific preset
<b>Clear Fixture Group n ... (from) Preset</b>	clears filters for specific fixture groups from current preset
<b>Clear Fixture Group n ... (from) Preset n</b>	clears filters for specific fixture groups from specific preset
<b>Clear Preset n ...</b>	clears specific preset numbers
<b>Clear Preset n ... Feature</b>	clears all features from cue that are in specific presets
<b>Copy Dimmer n ... (from) Preset</b>	copies specific dimmers from current preset into cue editor
<b>Copy Dimmer n ... (from) Preset n</b>	copies specific dimmers from specific preset into cue editor
<b>Copy Dimmer Group n ... (from) Preset</b>	copies dimmers in specific groups from current preset
<b>Copy Dimmer Group n ... (from) Preset n</b>	copies dimmers in specific groups from specific preset
<b>Copy Fixture n ... (from) Preset</b>	selects specific fixtures, copies them from current preset
<b>Copy Fixture n ... (from) Preset n</b>	selects specific fixtures, copies them from specific preset
<b>Copy Fixture Group n ... (from) Preset</b>	selects fixtures in specific groups, copies them from current preset
<b>Copy Fixture Group n ... (from) Preset n</b>	selects fixtures in specific groups, copies them from specific preset
<b>Copy Preset</b>	merges the current preset into the cue editor
<b>Copy Preset n ...</b>	merges specific presets into the cue editor

## **Stage Focus**

<b>Add All Stage Focus</b>	turns on Stage Focus for all fixtures in the cue editor
<b>Add Stage Focus [To] All [Fixture]</b>	turns on Stage Focus for all fixtures in the cue editor
<b>Add Stage Focus [To] [Fixture]</b>	turns on Stage Focus for the selected fixtures
<b>Add Stage Focus [To] [Fixture] n ...</b>	selects fixtures, turns on Stage Focus

<b>Add Stage Focus [To] [Fixture] Group</b>	selects fixtures in current group, turns on Stage Focus for them
<b>Add Stage Focus[To] [Fixture] Group n ...</b>	selects fixtures in specific groups, turns on Stage Focus for them
<b>Clear All Stage Focus</b>	turns off Stage Focus for all fixtures in the cue editor
<b>Clear Stage Focus (from) All [Fixture]</b>	turns off Stage Focus for all fixtures in the cue editor
<b>Clear Stage Focus (from) [Fixture]</b>	turns off Stage Focus for the selected fixtures
<b>Clear Stage Focus (from) [Fixture] n ...</b>	selects fixtures, turns off Stage Focus for them
<b>Clear Stage Focus(from) [Fixture] Group</b>	selects fixtures in current group, turns off Stage Focus for them
<b>Clear Stage Focus(from) [Fixture] Group n ...</b>	selects fixtures in specific groups, turns off Stage Focus for them

### Feature Presets

<b>Add Feature Preset n ... [To] [Fixture]</b>	adds specific feature presets to selected fixtures
<b>Add Feature Preset n ..[To] [Fixture] n. .</b>	selects fixtures, adds specific feature presets to them
<b>Add Feature Preset n ...[To] [Fixture] Group</b>	selects fixtures in current group, adds specific feature presets to them
<b>Add Feature Preset n ...[To] [Fixture] Group n ...</b>	selects fixtures in specific groups, adds specific feature presets to them
<b>Clear All Feature Preset(from) [Fixture]</b>	removes all feature presets from selected fixtures
<b>Clear All Feature Preset(from) [Fixture] n ...</b>	selects fixtures, removes all feature presets from them
<b>Clear All Feature Preset(from) [Fixture] Group</b>	selects fixtures in current group, removes all Feature presets from them
<b>Clear All Feature Preset(from) [Fixture] Group n ..</b>	selects fixtures in specific groups, removes all feature presets from them
<b>Clear Feature Preset n ...(from) [Fixture]</b>	removes specific feature presets from selected fixtures
<b>Clear Feature Preset n ...(from) Fixture n ...</b>	selects fixtures, removes specific feature presets from them
<b>Clear Feature Preset n ...(from) [Fixture] Group</b>	selects fixtures in current group, removes specific feature presets from them
<b>Clear Feature Preset n ...(from) [Fixture] Group n ...</b>	selects fixtures in specific groups, removes specific feature presets from them
<b>Copy Feature Preset n To n ...</b>	makes multiple copies of a feature preset
<b>Copy Feature Preset n ... To n</b>	copies multiple feature presets to a contiguous range
<b>Copy Feature Preset n ... [To] Fixture</b>	copies values from specific feature presets to selected fixtures
<b>Copy Feature Preset n ... [To] Fixture n ...</b>	selects specific fixtures, copies values from Specific feature presets to them
<b>Copy Feature Preset n ...[To] [Fixture] Group n</b>	selects specific fixture groups, copies values from specific feature presets to them
<b>Delete All Feature Preset</b>	deletes all feature presets

<b>Delete Feature Preset n ...</b>	deletes specific feature presets
<b>Move Feature Preset n ... To n</b>	moves multiple feature presets to a contiguous range
<b>Store Feature Preset n</b>	stores current fixture's features as a feature preset

### Copying, Deleting and Moving Cues

<b>Copy Cue n.n To n.n ...</b>	makes multiple copies of a cue
<b>Copy Cue n.n ... To n.n</b>	copies multiple cues to a contiguous range
<b>Copy Preset n To n ...</b>	makes multiple copies of a preset
<b>Copy Preset n ... To n</b>	copies multiple presets to a contiguous range
<b>Delete All Cue</b>	deletes all cues
<b>Delete All Preset</b>	deletes all presets
<b>Delete Cue n.n ...</b>	deletes specific cues
<b>Delete Preset n ...</b>	deletes specific presets
<b>Move Cue n.n ... To n.n</b>	moves multiple cues to a contiguous range
<b>Move Preset n ... To n</b>	moves multiple presets to a contiguous range

### Storing the Cue Editor

<b>Store Cue</b>	stores cue editor over current cue
<b>Store Cue n.n</b>	stores cue editor as specific cue
<b>Store Dimmer n.n</b>	stores cue editor as dimmer fader assignment
<b>Store Preset</b>	stores cue editor over current preset
<b>Store Preset n</b>	stores cue editor as specific preset

### Loading the Chase Editor

<b>Chase n</b>	loads specific chase into chase editor
<b>Chase n Go</b>	loads specific chase into chase editor and starts it
<b>Chase Go</b>	starts current chase
<b>Chase Record</b>	starts recording a new chase
<b>Edit Chase</b>	reloads current chase into chase editor
<b>Edit Chase n</b>	loads specific chase into chase editor

## Playing Chases

<b>All Chase Stop</b>	stops all chases in the system
<b>Chase n Go</b>	loads specific chase into chase editor and starts it
<b>Chase Go</b>	starts current chase
<b>Chase n ... Stop</b>	stops specific chases wherever they are being played
<b>Chase Stop</b>	stops the chase editor

## Editing the Chase Editor

<b>Add Cue n.n ... [To] Chase</b>	adds new step containing specific cues
<b>Add Cue n.n ... [To] Step</b>	adds specific cues to last step
<b>Add Cue n.n ... [To] Step n</b>	adds specific cues to specific step
<b>Add Step</b>	adds new empty step at end
<b>Add Step n</b>	inserts new empty step, moving others up
<b>Clear All Cue (from) Step</b>	clears last step without removing it
<b>Clear All Cue (from) Step n ...</b>	clears specific steps without removing them
<b>Clear All Step</b>	removes all steps
<b>Clear Chase</b>	clears the chase editor
<b>Clear Cue n.n ... (from) All Step</b>	clears specific cues from all steps
<b>Clear Cue n.n ... (from) Step</b>	clears specific cues from last step
<b>Clear Cue n.n ... (from) Step n ...</b>	clears specific cues from specific steps
<b>Clear Step</b>	removes last step
<b>Clear Step n ...</b>	removes specific steps, moving others down

## Copying, Deleting and Moving Chases

<b>Copy Chase n To n ...</b>	makes multiple copies of a chase
<b>Copy Chase n ... To n</b>	copies multiple chases to a contiguous range
<b>Delete All Chase</b>	deletes all chases
<b>Delete Chase n ...</b>	deletes specific chases
<b>Move Chase n ... To n</b>	moves multiple chases to a contiguous range

## Storing the Chase Editor

<b>Store Chase</b>	stores chase editor over current chase
<b>Store Chase n</b>	stores chase editor as specific chase

## **Loading the Macro Editor**

<b>Clear Macro</b>	clears the macro editor
<b>Edit Macro</b>	reloads current macro into macro editor
<b>Edit Macro n</b>	loads specific macro into macro editor
<b>Macro n</b>	loads specific macro into chase editor
<b>Macro n Go</b>	loads specific macro into macro editor and starts it
<b>Macro Go</b>	starts current macro
<b>Macro Record</b>	starts recording a new macro
<b>Macro Step n</b>	selects specific step in macro editor

## **Playing Macros**

<b>All Macro Stop</b>	stops all macros in the system
<b>Macro n Go</b>	loads specific macro into macro editor and starts it
<b>Macro Go</b>	starts current macro
<b>Macro n ... Stop</b>	stops specific macros wherever they are being played
<b>Macro Stop</b>	stops the macro editor

## **Editing the Macro Editor**

<b>Add Chase n ... [To Macro]</b>	appends Chase n events to macro editor
<b>Add Chase Stop</b>	appends Stop chases event to macro editor
<b>Add Chase n ... Stop</b>	appends Stop chs n events to macro editor
<b>Add Clear Cue [To Macro]</b>	appends Cue Clear event to macro editor
<b>Add Cue n.n ... To Macro</b>	appends Cue n events to macro editor
<b>Clear Macro Step</b>	removes the current macro event
<b>Clear Macro Step n ...</b>	removes specific macro events

## **Copying, Deleting and Moving Macros**

<b>Copy Macro n To n ...</b>	makes multiple copies of a macro
<b>Copy Macro n ... To n</b>	copies multiple macros to a contiguous range
<b>Delete All Macro</b>	deletes all macros
<b>Delete Macro n ...</b>	deletes specific macros
<b>Move Macro n ... To n</b>	moves multiple macros to a contiguous range

## **Storing the Macro Editor**

<b>Store Macro</b>	stores macro editor over current macro
<b>Store Macro n</b>	stores macro editor as specific macro

## **Selecting Fader Assignments**

<b>Dimmer Page n</b>	selects dimmer page
<b>Dimmer Submaster Page n</b>	selects dimmer page
<b>Submaster Page n</b>	selects submaster page

## Editing Fader Assignments

<b>Add Chase n ... [To] Submaster p.f</b>	adds chases to submaster fader
<b>Add Cue n.n ... [To] Submaster p.f</b>	adds cues to submaster fader
<b>Add Dimmer n ... [To] Submaster p.f</b>	adds dimmers to dimmer fader
<b>Add Dimmer n ... [To] Submaster p.f @ n</b>	adds dimmers to dimmer fader with scaling
<b>Add Dimmer n ... [To] Submaster p.f @ Full</b>	adds dimmers to dimmer fader
<b>Add Dimmer Group n ... [To] Submaster p.f</b>	adds dimmer groups to dimmer fader
<b>Add Dimmer Group n ... [To] Submaster p.f @ n</b>	adds dimmer groups to dimmer fader with Scaling.
<b>Add Dimmer Group n ... [To] Submaster p.f @ Full</b>	adds dimmer groups to dimmer fader
<b>Add Fixture n ... [To] Submaster p.f</b>	adds Dim feature of fixtures to dimmer fader
<b>Add Fixture n ... [To] Submaster p.f @ n</b>	adds Dim feature of fixtures to dimmer fader with scaling
<b>Add Fixture n ... [To] Submaster p.f @ Full</b>	adds Dim feature of fixtures to dimmer fader
<b>Add Fixture Group n ... [To] Submaster p.f</b>	adds Dim feature of fixture groups to dimmer fader
<b>Add Fixture Group n ... [To] Submaster p.f @ n</b>	adds Dim feature of fixture groups to dimmer fader with scaling
<b>Add Fixture Group n ... [To] Submaster p.f @ Full</b>	adds Dim feature of fixture groups to dimmer fader
<b>Add Fixture Group [To] Submaster p.f</b>	adds Dim feature of current fixture group to dimmer fader
<b>Add Fixture Group [To] Submaster p.f @ n</b>	adds Dim feature of current fixture group to dimmer fader with scaling
<b>Add Fixture Group [To] Submaster p.f @ Full</b>	adds Dim feature of current fixture group to dimmer fader
<b>Add Fixture [To] Submaster p.f</b>	adds Dim feature of selected fixtures to dimmer fader
<b>Add Fixture [To] Submaster p.f @ n</b>	adds Dim feature of selected fixtures to dimmer fader with scaling
<b>Add Fixture [To] Submaster p.f @ Full</b>	adds Dim feature of selected fixtures to dimmer fader
<b>Add Macro n ... [To] Submaster p.f</b>	adds macros to submaster fader
<b>Clear All Chase (from) Submaster p.f</b>	removes all chases from submaster fader
<b>Clear All Cue (from) Submaster p.f</b>	removes all cues from submaster fader
<b>Clear All Dimmer (from) Submaster p.f</b>	removes all dimmers from dimmer fader
<b>Clear All Fixture (from) Submaster p.f</b>	removes all fixtures from dimmer fader
<b>Clear All Macro (from) Submaster p.f</b>	removes all macros from submaster fader
<b>Clear Chase n ... (from) Submaster p.f</b>	removes specific chases from submaster fader
<b>Clear Cue n.n ... (from) Submaster p.f</b>	removes specific cues from submaster fader
<b>Clear Dimmer n ... (from) Submaster p.f</b>	removes specific dimmers from dimmer fader
<b>Clear Dimmer Group n ... (from) Submaster p.f</b>	removes specific dimmer groups from dimmer fader
<b>Clear Fixture n ... (from) Submaster p.f</b>	removes Dim feature of specific fixtures from dimmer fader
<b>Clear Fixture Group n ... (from) Submaster p.f</b>	removes Dim feature of specific fixture groups from dimmer fader
<b>Clear Macro n ... (from) Submaster p.f</b>	removes specific macros from submaster fader

## Controlling Submasters By Command

<b>All Submaster Stop</b>	stops all running submasters, with fade out
<b>Dimmer Submaster p.f ... @ n</b>	sets dimmer submasters to specific level
<b>Dimmer Submaster p.f ... @ Full</b>	sets dimmer submasters to maximum level
<b>Submaster p.f ... @ n</b>	sets submasters to manual mode at specific level
<b>Submaster p.f ... @ Full</b>	sets submasters to manual mode at maximum level
<b>Submaster p.f ... Go</b>	starts submasters, with fade in
<b>Submaster p.f ... Stop</b>	stops submasters, with fade out
<b>Submaster Stop</b>	stops all submasters immediately

## Copying, Deleting and Moving Fader Assignments

<b>Copy Dimmer Page n To n</b>	copies a page of dimmer faders
<b>Copy Dimmer Submaster p.f To p.f</b>	copies a single dimmer fader
<b>Copy Dimmer Submaster Page n To n</b>	copies a page of dimmer faders
<b>Copy Submaster p.f To p.f</b>	copies a single submaster fader
<b>Copy Submaster Page n To n</b>	copies a page of submaster faders
<b>Delete All Dimmer Submaster</b>	deletes all dimmer fader assignment pages
<b>Delete All Submaster</b>	deletes all submaster fader assignment pages
<b>Delete Dimmer Page n ...</b>	deletes specific dimmer fader assignment pages
<b>Delete Dimmer Submaster p.f ...</b>	deletes specific dimmer fader assignments
<b>Delete Dimmer Submaster Page n ...</b>	deletes specific dimmer fader assignment pages
<b>Delete Submaster p.f ...</b>	deletes specific submaster fader assignments
<b>Delete Submaster Page n ...</b>	deletes specific submaster fader assignment pages
<b>Move Dimmer Page n To n</b>	moves dimmer fader assignment page
<b>Move Dimmer Submaster p.f To p.f</b>	moves single dimmer fader assignment
<b>Move Dimmer Submaster Page n To n</b>	moves dimmer fader assignment page
<b>Move Submaster p.f To p.f</b>	moves single submaster fader assignment
<b>Move Submaster Page n To n</b>	moves submaster fader assignment page

## **Stopping Playback and Record**

<b>All Chase Stop</b>	stops all chases in the system
<b>All Macro Stop</b>	stops all macros in the system
<b>Chase n ... Stop</b>	stops specific chases wherever they are being played
<b>Chase Stop</b>	stops chase editor playback
<b>Cue Stop</b>	stops cue editor crossfading
<b>Macro n ... Stop</b>	stops specific macros wherever they are being played
<b>Macro Stop</b>	stops macro editor playback
<b>Record</b>	stops chase or macro recording
<b>Stop</b>	stops chase editor playback, cue editor crossfading