



# Show Designer 3

Software Revision 1.15

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# **OVERVIEW**

The Show Designer 3 is a stage lighting controller based on the simple to use Show Designer 1 and Show Designer 2. The Show Designer 3 offers all of the same features and much more. It is designed to simplify the programming process as much as possible while still offering lots of power at a low cost. If you are already familiar with the SD1 and SD2 then you will find the SD3 to be an easy step forward. The SD3 gives you control over 1536 DMX lighting channels using three DMX 512 outputs. You can control 48 moving light fixtures plus 128 conventional dimmers. The SD3 supports all popular brands of lighting fixtures. Libraries of fixtures are available for download at [elationlighting.com](http://elationlighting.com).

## **REAR PANEL CONNECTIONS**

The rear panel of the Show Designer 3 features the following:

- **AC input** - using a standard 3 conductor AC cord. A switch is provided for 115-230V selection. The power switch is also located near the AC input.
- **Three DMX 512 outputs** - each with a 3 pin and a 5 pin XLR connector.
- **MIDI in** - used for calling scenes in an automated installation.
- **9 pin RS-232 connector** - used for connection to a PC to update the software, backup the memory or download fixture profiles.
- **Keyboard connector** - used to attach a PS2 style keyboard for data entry.
- **Audio input** - used for syncing chases to an external audio source. This is a line level input for connection to the line output of a mixing console. Do not connect speaker level signals to this.
- **Compact Flash Connector** - This allows you to back up the memory, install lighting fixture profiles or update the software using a compact flash card.

## TOP PANEL

The top panel is divided into four sections. The upper left section contains the flex faders with their flash and page select buttons. The upper right section contains the 48 multi-purpose number switches with their function select switches just above. The lower left section contains the playback masters with their flash and page select buttons. The lower right section contains the display with cursor buttons, joystick, data wheels and performance switches.

The following is a brief summary of the top panel features of the Show Designer 3:

- **Programming and memory switch section** in the upper right, featuring 48 multi purpose switches for assigning and recalling memories, selecting fixtures and other functions using the function select switches.
- **Display section** in the lower right, featuring 8 menu control buttons above an 80 character display used for data entry and most programming functions.
- **Joystick** for controlling pan and tilt on moving light fixtures.
- **4 rotary encoder wheels** for data entry and channel control.
- **Live performance control section** featuring 8 switches for various performance functions.
- **Flex fader section** in the upper left, featuring eight 100mm faders for control of light fixture channels, conventional dimmers or for use as additional playbacks.
- **Playback masters** in the lower left, featuring eight 100mm faders that can be programmed as playbacks for any of the memories.
- **Grand master fader** for overall control of conventional dimmers and dimming channels.
- **Flex master fader** for control of conventional dimmers.

# **MENU AND SETUP FUNCTIONS**

The menu switch, which is located just above the display, is used to access the menus that allow you to configure the Show Designer 3 for your particular lighting setup. Pressing the menu switch displays the message “Select a menu item then press enter” on the top line of the display. You will be given a choice of menu items on the bottom line of the display. You can cycle through the choices using the + and - switches or data wheel 1. Press “enter” to select the desired menu item. The data wheels also have a built in switch that duplicates the enter switch by pressing down on the wheel.

After selecting a menu item, use the cursor switches to select a field on the display then use the + and - switches to change the value in that field. An underline cursor shows the selected field. You can also use one of the four data wheels located under each field to make changes. (The wheels don't require you to select a field using the cursor switches). The enter switch must be pressed following any change made to a menu item to make it permanent. This allows you to look at all of the possible choices first. If a menu requires more than one page to display all of the programming options, use the right cursor button to continue past the last field on the right and a new page will be displayed.

**NOTE:** Several of the menu choices are hidden to prevent unauthorized or accidental changes to the memory. The “memory lock/unlock” function is hidden as well as the “erase all memory” function. These choices can only be selected by pressing and holding down the “add” switch while cycling through the last items from the menu list. This is a safety feature for the benefit of installers who wish to protect the memory from unauthorized tampering.

The menu items are explained in the following paragraphs in the order that they appear.

## **CHOOSE FIXTURES**

This allows you to select from a list of lighting fixtures in the fixture library. First use the + or - switch or data wheel 1 to select the fixture number (from 1 to 48), then select from the fixture library using data wheel 2 or by moving the cursor to the fixture type and using the + or - switch to make the selection. You must press “enter” to record the choice. Press “erase” to select “No Fixture” or as a shortcut to get to the start of the list. After selecting a fixture type, a warning will appear telling you that some DMX start addresses may be changed if auto patch is enabled. Press “yes” or “enter” to confirm or “no” to exit. After confirming, the message “Done” will appear for 1 second. If auto patch is enabled, the start addresses of any fixtures above the selected fixture will be adjusted to accommodate the new fixture.

The Show Designer 3 has a built in library of fixtures to choose from. You can also load in fixture profiles that contain more detailed information about a particular lighting fixture than what is offered by the built in library. Fixture profiles are small files that can be downloaded from [elationlighting.com](http://elationlighting.com) that can then be loaded into the Show Designer 3 using the compact flash or RS-232 port. Read the sections on loading fixture profiles for more information.

When selecting fixtures from the library, any fixture using a profile will be followed by the word “profile” in the display. It is possible to have the same fixture available as a profile as well as from the internal library. For greatest flexibility and programming power, use profiles whenever possible.

## **PATCH FIXTURES**

This menu allows you to turn auto patch on and off or select the DMX output and DMX starting address for each light fixture. Auto patch must be turned off to manually change the start

address or output. To turn auto patch on or off, place the cursor under the words “ON” or “OFF” below “Autopatch”, then use the + or - switch or use data wheel 4 to make the change. You must press “enter” for the change to take effect. If you are turning auto patch on, a warning will appear telling you that some DMX starting addresses may change. Press “yes” to proceed or “no” to exit. Auto patch will automatically assign an address to each moving light fixture in ascending order with each fixture address immediately following the previous fixture. The first fixture will be assigned to DMX out 1 at address 1. After 512 channels have been used, DMX out 2 and then out 3 will be used for any remaining fixtures.

Use data wheel 1 to select fixtures 1-48 to see the starting address and out port assigned to each fixture. You can move the cursor under any of the three digits of the channel number or use data wheel 3 to select a new starting address as long as auto patch is turned off. You must press “enter” to record any change. The message “Done” will appear for 1 second to confirm.

**NOTE:** Autopatch will automatically place any conventional dimmers at addresses just above the last moving light fixture. If the dimmers are already patched at an address higher than the moving light fixtures, they will not be changed.

### **PATCH CONVENTIONAL DIMMERS**

The Show Designer 3 supports up to 128 conventional dimmers, these can be dimmer modules controlling par cans, house lights or even things like fog machines. Conventional dimmers are controlled by the flex faders or by typing in dimmer values using an external keyboard. Please read the chapter on using conventional dimmers for additional information.

Each conventional dimmer can be assigned to one of the flex faders. There are 16 pages of 8 flex faders giving you a total of 128 fader assignments that are available. Each dimmer can also control up to eight consecutive DMX channels allowing you to assign a group of DMX channels to a single fader. The entire group will be locked to the same dimmer level as set by the fader. This is useful when you are controlling house lights or whole sections of stage dimmers as a single unit. In addition to selecting the DMX channel and number of dimmers, you can also choose to put the dimmer into manual mode so that it can only be controlled using its fader or flash button (good for fog machines). You can also select the flash button to operate as momentary flash or latching on/off and you can enter a text name for the dimmer. These last three items are programmed using the second page of the dimmer patching menu. Move the underline cursor on the display to the right to get to the second page.

On the first page of the patch dimmers menu, using data wheel 1, select the fader number and page for the dimmer. You can also select the fader by pressing the flash button over the flex fader. The flex faders must be configured as conventional dimmers for this to work. Until the dimmer is patched, all of the other fields will be blank. Use data wheel 2 to select the DMX out and data wheel 3 to select the DMX channel for the dimmer. As soon as you move one of these wheels the next available DMX address will appear in the field. You can then select a different address if needed. Use data wheel 4 to select the number of consecutive DMX addresses to be controlled by this dimmer. In most cases this will be 1. Use the right arrow switch to move the underline cursor all the way to the right side of the display and past to get to the second page of the menu. There, use data wheel 1 to select the operation mode for this dimmer. “Memory” allows the dimmer to be included in and controlled by any memory, “Manual” will exclude the dimmer from memory functions and only allow it to be controlled using its fader or flash switch. Use data wheel 2 to select how the flash button will function, either as momentary flash or latching on/off. You can also enter a name for this dimmer by moving the cursor under the name field and by using data wheels 3 and 4 to enter characters or you can use an external keyboard. After all fields have been set, press “enter” to save.

## ***COPY FIXTURE***

This menu is used to copy the fixture type from one location to another. This feature saves time by letting you copy a fixture choice rather than searching through the list each time you need to add a fixture. This is also useful when you modify a fixture and need to duplicate it. Use the + and - switches or data wheels 1 and 2 to select a fixture number to copy from and to. You must press “enter” to complete the copy process. If auto patch is enabled you will be given the warning that some addresses may change. Press “yes” to continue or “no” to exit. If a fixture is already at the “copy to” location, you will be asked if you want to copy over the existing fixture, press “yes” to copy over it or “no” to exit.

## ***LOAD FIXTURE PROFILE FROM CF***

This menu loads fixture profiles into the Show Designer 3 from a compact flash card. Fixture profiles are small files that are available from [elationlighting.com](http://elationlighting.com) that contain detailed information about a lighting fixture. These files will allow you to see the name and function of each of channel while programming scenes. Once loaded, a profile can be selected from the fixture list when choosing fixtures. Profiles are most useful when using the data wheels to program your fixtures. The wheels will be able to select preprogrammed steps within a channel such as the colors on a color wheel. These channel steps can also be called from presets, (explained in more detail later in the presets chapter).

You must first download or create the profiles then copy them to a CF card. You can create your own profiles using the profile creator software available from [elationlighting.com](http://elationlighting.com).

When you first select this menu, the message “Load all profiles from CF?” will appear in the display. Press “yes” or “enter” to load every profile that is on the CF card. Press “no” if you want to select individual profiles from the card. The message “Select fixture file, then press enter” will appear on the top line of the display if you press “no”. The bottom line of the display will show the first fixture profile found on the card. Use the + or – switch or data wheel 1 to select a profile (if there is more than one profile on the disk) then press “enter”. The profile will be loaded into memory and will then be available as a selection when using the “choose fixtures” menu. Up to 256 fixture profiles can be loaded into memory.

## ***LOAD FIXTURE PROFILE FROM COM PORT***

This menu loads fixture profiles into the Show Designer 3 from a PC using the COM port. When you select this menu, the message “Ready to receive fixture profile” will appear. You must send the fixture file from your PC to the Show Designer using the “SD backup” program which is available from [elationlighting.com](http://elationlighting.com). The profile will be loaded into memory and can then be selected using the “choose fixtures” menu. Read the chapter on how to use the computer port in this manual for more information.

## ***REMOVE FIXTURE PROFILE***

This menu removes individual profiles from memory to free up memory space. When you select this menu, the message “Select profile to remove, press enter” will appear on the top line of the display. The first profile found in memory will appear on the bottom line, use the + or – switch or data wheel 1 to select from the list of profiles. Press, “enter” to remove that profile.

## ***SELECT FLEX FADER MODE***

The flex fader section can operate in three different ways; controlling light fixture channels, controlling conventional dimmers, or as additional playbacks. Select the desired operation mode and press “enter”. When you switch back and forth between the flex fader modes, all of the playback or dimmer programming on the faders is preserved.



## **SELECT HOME SCENE**

This menu selects a home scene that will be called automatically whenever you use the “clear all” function. A “clear all” is done by holding down the blackout switch for 2 seconds. This resets all of the channels and empties the scene record buffer. After the clear all is finished, the home scene is then called. This can be used to call up a default lighting configuration for creating new scenes. For example, all beams centered, full intensity at white is useful for building a new scene. Use the menu switches or data wheels 1 and 2 to select the desired page and scene number then press “enter”. You must of course first create the scene and save it before you select it as the home scene. You can use any saved scene as the home scene.

## **PAN AND TILT INVERT**

This menu allows you to invert the output of any of the pan or tilt channels on moving light fixtures. With this menu displayed, use the + and - switches or data wheel 1 to select the fixture then use data wheels 2 or 3 to set the invert states for pan or for tilt. You must press “enter” to save the selection.

## **MODIFY FIXTURE**

This menu lets you modify some of the channel attributes of a fixture. These attributes are automatically set when you select a fixture from the library. There are fifteen fixture attributes that can be modified. The attributes are: fixture name, number of channels, black channel, black value, dimmer channel, shutter channel, grand master channels, crossfade mode, pan channel, pan fine channel, tilt channel, tilt fine channel, cyan channel, magenta channel, and yellow channel. Use the cursor switches to move the underline cursor to the fixture number or use data wheel 1 to select the fixture you want to modify. Next move the cursor to the “attribute” which is displayed immediately to the right or use data wheel 2 to select the attribute. Next move the cursor to the “value” line of the display or use data wheel 3 to select the value for the attribute you are changing. You must press “enter” to record the changes you make to an attribute. The message “DONE” will appear in the display when the change has been recorded. The fixture attributes that can be edited are described in the following paragraphs:

**Name** is the fixture name that appears whenever you select a light fixture. You may want to modify this attribute on each of your fixtures to show fixture purpose or location. Use the cursor and wheels to enter each character or use an external keyboard.

**Channels** is the total number of channels used by the fixture. This can be any number from 1 to 32. When you change the number of channels, be aware that other things such as fixture addresses and number of multi fixtures can be automatically changed when you do this. Fixture attributes such as black channel, pan or tilt will also be automatically disabled if you select a number that is smaller than the channel numbers that are already assigned to those attributes. For example if you already assigned pan to channel 8 and you reduce the total number of channels for the fixture to 4, pan will automatically be set to “none”. Likewise if you increase the number of channels from 8 to 9 and you had previously set up 4 multi fixtures using all 32 channels, the multi fixture setting will automatically be reset back to 1.

**Black Channel** is the channel that will be affected when the blackout switch is pressed. You can choose any available fixture channel or “ALL” which forces all channels to the black value. Normally you would choose the shutter or dimmer channel for this.

**Black Value** is the DMX value that will be used for blackout on the selected black channel(s). This will help accommodate fixtures that use the gobo wheel for blackout using a value other

than 0. You may also want to blackout all channels to a value other than 0 as this is sometimes used as a reset by some fixtures. For some fixtures the value 1 will achieve the same result as 0.

**Dimmer Channel** is the channel used by the fixture for dimming. This will only work for a fixture that has a full range (0 to 255) dimmer channel. The grand master fader will control this channel as well as the playback faders when in HTP mode. If there is no dimmer on the fixture, set this to “none”.

**Shutter Channel** is used by the flash chase effects to flash the fixture on and off. The shutter must operate using a value of 0 as fully closed and 255 as fully open for this to work properly.

**Grand Master Enable** lets you flag any channel in a fixture for grand master control. The grand master will always control the fixture dimmer channels as described in the previous section as well as any conventional dimmers. To add additional channels to this list such as RGB channels on an LED fixture, select any channel using wheel 3, then select “yes” using wheel 4, then press “enter”.

**Fade Mode** is used to set the crossfade method for each of the fixture’s channels. Use the + and - switches or data wheel 3 to select the channel number. Once the channel is selected move the cursor to the value or use data wheel 4 to select the crossfade mode. The choices are “crossfade”, “snap strt” and “snap aftr”. You must press “enter” after each channel has been programmed.

“Crossfade” will cause a channel to smoothly fade from one level to another when changing scenes. The crossfade time will vary depending on how the scene was programmed. Use this setting for channels that control pan and tilt or dimming to achieve a smooth transition from scene to scene. If you use this setting for gobo or color wheel channels, it will cause the wheels to step through all positions between the start and end positions of a long fade. This is usually the default setting for pan, tilt and dimmer channels.

“Snap strt” will cause the channel to jump immediately to the next scene level as soon as the new scene is called. Use this setting for channels that control motor speed so that pan and tilt will move at the correct speed during the fade. You can also use this setting for any channels that you want to change at the start of long crossfades. This is usually the default setting for speed and mode channels.

“Snap aftr” will cause the channel to jump to the next scene level at the end of a crossfade. Use this setting for wheels and effects that you want to take effect at the end of a long crossfade. This is usually the default setting for color and effects wheels.

**Pan Channel** is the channel used by the fixture for pan. This can also be set to “none” if the fixture does not have a pan feature. This is also the pan coarse channel or pan high byte channel for those fixtures that use two channels to control pan. This directs the joystick output as well as other pan functions such as shape chases.

**Pan Fine** is for fixtures that use two channels to control pan. This is also referred to sometimes as the pan low byte channel. Set this to “none” if the fixture uses only one channel for pan. The joystick will control this channel with fine mode turned on.

**Tilt Channel** is the same as described above for pan channel except that it controls tilt.

**Tilt Fine** is the same as described above for pan fine except that it controls tilt.

**Cyan Channel** is used to create color chase effects.

**Magenta Channel** is used to create color chase effects.

**Yellow Channel** is used to create color chase effects.

### ***MULTI FIXTURE***

The Show Designer 3 supports fixtures that use up to 32 DMX channels. Since many fixtures use fewer than 32 channels, this feature will allow you to configure a group of smaller fixtures that are of the same type, under a single fixture number. For example if you have selected a 4 channel scanner for fixture number 1, you can set multi to 8. When fixture 1 is selected you will be able to use all 32 channels that are available for fixture 1 to control 8 of these scanners. This feature is good for controlling large numbers of small fixtures that would otherwise use up too many fixture numbers.

You will be able to control each channel of each fixture individually by using the flex faders in channel mode or the data wheels. When using the joystick, all of the multi fixtures within that fixture number will respond if they have pan and tilt. To control individual pan and tilt levels you will have to use the faders or the wheels.

To put multi fixtures on a fixture number, move the cursor to the fixture number and use the + and - switches or data wheel 1 to select a fixture. Move the cursor to the multi number or use data wheel 2 to select the multi value. You can only choose numbers between 1 and the maximum number of fixtures that will fit into 32 channels. If it is a 4 channel fixture the multi value can be no higher than 8. Press “enter” to record the change. If auto patch is enabled you will be given the warning that some addresses may change. Press “yes” to continue or “no” to exit.

### ***VIEW MEMORY SIZE***

This allows you to see how much memory is left for scenes, shows, etc. It is displayed as the percentage of memory remaining. Memory usage varies depending on the size and complexity of the scenes.

### ***SAVE MEMORY FILE TO CF***

This backs up the memory on a compact flash card. The message “Press enter to save file to CF” will appear on the top line of the display. The default file name will appear on the bottom line. You can use the data wheel or an external keyboard to enter a new file name. Insert a formatted CF card in the slot on the rear of the SD3 and press “enter”. The message “File has been saved to disk” will appear when finished. The content of the entire memory is backed up including all menu settings, scenes, presets, chases and shows. The file is a binary file with the file extension .sdm and is compatible with the Windows file system. The file name can use up to 8 characters. You do not need to add the extension when typing in the file name. Read the section at the end of this manual on using the compact flash for more information.

### ***SAVE MEMORY FILE TO COM PORT***

This allows you to back up the SD3 memory on a PC using the RS-232 port. Press “enter” to start the data transmission. The contents of the memory are encoded in text format and can be recorded by a PC connected to the RS-232 port running the SD Backup software. Read the section at the end of this manual on using the computer port for more information on how to back up the memory this way.

### **LOAD MEMORY FILE FROM CF**

This loads a memory file from a compact flash card. Insert the card with the memory backup file then press “enter” to display the message “Select memory file, then press enter”. The name of the first SD3 memory file found on the card will appear on the bottom line of the display, use the + or - switch or data wheel 1 to select the desired file. Press “enter” to load the file.

**Warning: the current memory will be overwritten.** Read the chapter at the end of this manual on using the compact flash for more information.

### **LOAD MEMORY FILE FROM COM PORT**

This lets you load the memory with a backup file made using the RS-232 port and a PC. Press “enter” to configure the RS-232 port for memory restore. The SD3 will wait for the file to be sent from a PC. Read the chapter at the end of this manual on using the computer port for details on how to back up and restore the memory this way. The only way to exit this menu once it has started, is to turn the SD3 power off.

### **SET MIDI CHANNEL**

This selects the MIDI channel that the SD 3 will receive MIDI messages on. Select channels 1-16 using the + or – switches or use data wheel 1 then press “enter”. Read the chapter on MIDI for more info.

### **UPDATE SOFTWARE**

This allows you to update the Show Designer 3 software using the compact flash or a computer connected to the RS-232 port. The message “DOWNLOAD NEW SOFTWARE OR INSERT CARD” will appear when you press “enter”. The SD3 looks for a CF card with the correct file on it or waits for you to send the file from a PC. The message “RECEIVING NEW PROGRAM” will appear as the new software file is installed. Upon completion, the system will reboot. The only way to exit or abort this menu is to turn the power off. You can also call this menu by pressing and holding “menu” and “erase” together on power up.

### **LOCK/UNLOCK MEMORY (hidden)**

This is one of the hidden menus that can only be selected while holding the add switch when cycling through the menu selections. This feature allows you to lock the memory to prevent someone from changing or erasing anything that has been recorded. The message “MEMORY LOCKED, CAN’T RECORD” will appear if the memory is locked and anyone presses the record switch. All other menu items will also be locked out in order to protect the memory. Use the + and - switches or data wheel 1 to select the desired state, then press “enter”.

### **ERASE ALL MEMORY (hidden)**

This is one of the hidden menus that can only be selected while holding the add switch when cycling through the menu selections. This menu allows you to erase the entire memory of the Show Designer 3. This erases the scene, preset, chase and show data as well as the system parameters such as fixture assignments. The message “This will erase the entire memory. To erase, hold yes for 5 seconds” will appear in the display. Press and hold “yes” until the system reboots or press “no” to exit.

# **CONTROLLING LIGHT FIXTURES**

The SD3 allows you to take direct control of moving light fixture channels at any time. There is no edit mode as with some lighting controllers. You are essentially always in edit mode and can instantly save the current stage settings as a scene. This is one reason the Show Designer is so quick and easy to program.

## **NUMBER SWITCHES 1-48 and FUNCTION SWITCHES**

The switches in the upper right section numbered 1-48 are multi-purpose. The group of 6 switches just above these selects their function. Only one function is active at a time and the LED for the particular function will be lit when selected. These functions let you select light fixtures for programming and memories such as scenes, chases, etc. The following sections explain each function.

### **FIXTURE**

With the fixture switch LED lit, the number switches 1-48 are used to select fixtures to work on. When a fixture is selected its channels can be directly controlled using the flex faders, the wheels or the joystick. If a fixture is not selected it will only be disconnected from these manual controls, the fixture is not turned off or disabled. A fixture does not need to be selected in order to be controlled by a scene or playback.

When a fixture is selected its name will appear in the display followed by the names of its first 4 channels and the current values of those channels. The four data wheels can then be used to adjust the levels of each channel. Pressing the fixture function switch at any time will enable the channel wheel display and the channel wheels. If a fixture profile is installed for this fixture the display will show the names of the channels as well as the current channel values as defined by the fixture profile. Use the left or right cursor buttons located just above the display to view the next group of four channels in the fixture.

If the Solo LED is lit when selecting a moving light fixture, it will move to center (pan and tilt at 128) with the dimmer and shutter set to full value.

### **FIXTURE GROUP**

Fixture groups are selected by pressing “fixture group” then selecting the desired group number from 1-48. You can select a single group or any combination of groups. After a group has been selected, the display will show the channel values for the first member of the group. Adjusting the channel wheels will affect all members of the group as long as they are the same fixture type.

To create a fixture group press “record” then “fixture group”, both LEDs will flash. Next press “fixture” to select which fixtures will be included in the group. Use the number switches to turn the desired fixture LEDs on or off. Next press the fixture switch again to turn off its LED. If you want to name the group, use the cursor switches to place the underline cursor under the character of the name and use the data wheel to select characters or use an external keyboard. Finally select the group number by pressing one of the number switches from 1-48. If a number switch LED is already lit it means that a group is already recorded there. After you are finished recording, press “record” to exit.

To edit a fixture group that has already been recorded, first select the group then press “record” then proceed as described in the preceding paragraph. Make any changes to the group then

save it. To erase an existing fixture group, press the erase switch at any time during the record process and then select the fixture group that you want to erase.

If the Solo LED is lit when selecting a group, any moving light fixtures in the group will move to center (pan and tilt at 128) with the dimmer and shutter channels set to full value.

### **USING THE DATA WHEELS TO CONTROL FIXTURE CHANNELS**

The data wheels are used to increment or decrement the values in the display fields directly above each wheel. They are used for adjusting the channel values of the lighting fixtures as well as for general-purpose programming. Pressing the “fixture” or “fixture group” buttons will bring up the channel display if there are any fixtures selected. You can view and adjust 4 channels at a time using the 4 wheels, and you can access more channels by pressing the left or right cursor button. Because only one fixture can be displayed at a time, the last selected fixture will be the one displayed when more than one fixture has been selected. If a “fixture group” is selected, the lowest numbered fixture in the group will be displayed.

**NOTE:** When more than one fixture is selected, only fixtures **of the same type** that match the fixture in the display will be affected by the wheels. This assures that the display matches the fixtures being edited.

Show Designer 3 will display the channel names for most fixtures that are in the built in library. If a fixture profile has been installed, some channels can display the names of each step within the channel, like color and gobo names. Use fixture profiles instead of the internal fixture library whenever possible.

### **USING THE FLEX FADERS TO CONTROL FIXTURE CHANNELS**

You will find the flex faders in the upper left section of the SD3. These 8 faders can be used for three different functions depending on your personal preference. You can change the function on these at any time without losing anything that you have previously programmed. Use the menu “Select Flex Fader Mode” as explained in the previous chapter to configure the flex faders as fixture channel controls. You can address up to 32 channels per fixture by using the page select. The page at the upper left of the faders is used to select which page of 8 channels is currently active. For example the first fader can control channels 1, 9, 17 or 25 depending on which page is selected. If a fixture has less than 32 channels then some pages and some faders will not be used. Before the flex faders can control a fixture, that fixture must be selected. Any number of fixtures can be controlled at once. If for example all fixtures are enabled, moving fader 1 on page 1 will change channel 1 on every fixture.

If you are using the multi fixture feature of Show Designer 3, the channel faders can be used to control each channel of every fixture within the multi fixture group. If for example you have programmed 8 fixtures having 4 channels each, faders 1-4 will control the first fixture of the multi fixture group, faders 5-8 the second and so on.

### **JOYSTICK**

The joystick controls pan and tilt on all selected fixtures that have a pan or tilt feature. The joystick is the return to center type so it operates by moving it in the desired direction. The greater the joystick angle the faster the pan or tilt movement will be. The fine switch also determines the speed of the pan or tilt movement. If a fixture uses two channels for pan or tilt (16 bit), the joystick will affect the fine channel when fine mode is on. If the fixture only uses 1 channel for pan or tilt, the movement will be slower allowing more precise control when fine mode is turned on.

## ***FINE***

The fine button affects the way the joystick and the data wheels operate. With fine mode on, they will increment or decrement by the smallest possible amount. With fine mode off, they will increment or decrement by larger amounts. If a fixture profile is installed for a selected fixture, selecting fine mode will switch the channel wheel display to number values instead of name values such as color or gobo names. This can be useful for splitting colors or gobos.

## ***SOLO***

The solo switch can be used to locate or center moving light fixtures. When the solo LED is lit, a moving light fixture will be centered with its dimmer and shutter channel set to full when selected. This works when selecting individual fixtures or fixture groups.

## ***COPY FIXTURE SETTINGS***

You can copy the settings from one fixture to one or more fixtures. Only channels that are being used by the original fixture will be copied. First press “record” and then “fixture”, those LEDs will flash. Select the fixture number that you want to copy from, its LED will also flash. Finally, select the fixture number(s) for any fixtures you want to copy to. When you are finished, press “record” and the LEDs will stop flashing.

This feature will only copy static channel values from channels that are currently being used by the original fixture. It will not copy channels that are part of a preset or part of a chase. You cannot copy to fixtures that are different than the original.

# **CONTROLLING CONVENTIONAL DIMMERS**

The Show Designer 3 can control up to 128 conventional dimmers. They can be programmed from the flex faders or by entering percentage values using an external keyboard. Dimmers must first be patched using the “Patch Conventional Dimmers” menu as explained in the menu chapter of this manual. To use the flex faders as dimmer controls, you must go to the “Select Flex Fader Mode” menu and select “conventional dimmers”. You can switch the flex fader mode at any time without losing anything you have already programmed. The flex faders provide 16 pages of 8 faders for a total of 128 dimmers. You can freely switch pages using the page up and down buttons using any fader that is patched to a dimmer.

**NOTE:** The flex master fader and the grand master fader must be at maximum in order to get the full range of output for conventional dimmers. All conventional dimmers will be scaled by first the flex master and finally the grand master faders. All conventional dimmer outputs will also be set to 0 whenever a blackout is in effect.

## ***DIMMER CONTROL USING A KEYBOARD***

If you have a PS2 keyboard attached to the SD3 you can set dimmer levels using the numeric keypad. To do this, first press the F12 key on the keyboard to enable dimmer entry. “Dimmer:” will be displayed on the top line of the display followed by a blank space. Enter a dimmer number from 1 to 128, you will have to convert the page and fader numbers to a single number. For example, dimmer fader 1 on page 3 will be dimmer 17. Press “enter” on the keyboard, “Level:” will appear next to the dimmer number. Enter a percentage value from 0 to 100 followed by the enter key. Do not press the percent key. If you want to select a range of dimmers, type a minus sign (-) between the first and last dimmer number. For example Dimmer: 1-10, followed by “enter” then followed by the level and then “enter”. You can only select a single dimmer or a range of consecutive dimmers.

To exit the dimmer entry display, press F12 on the keyboard or press any function switch on the SD3 when you are ready to do something else.

As when entering fixture channel values, the SD3 will keep track of any changes you make so that you can save the current stage look as a scene at any time.

## ***CREATING A MULTI DIMMER PLAYBACK (Proportional Dimmer Patch)***

To put a group of dimmers on one fader for playback purposes do the following:

First clear the scene edit memory by pressing and holding the blackout switch until the LED goes out.

Then select the dimmers to be used by moving the flex faders to the desired levels or by entering the dimmer values using a keyboard as described above. Record this as a scene by pressing “record” then “scene” followed by an available scene number button. Assign this scene to a playback by pressing “record” followed by any playback flash button, then “scene” followed by the scene number you just saved. If you want to use the flex faders for playback, switch the flex fader mode to playback before assigning the scene to the fader. Make sure the playback is running in “HTP mode”. Refer to the following chapters on scenes and playbacks for more information.



## **WORKING WITH MEMORIES**

The SD3 provides four types of memories: presets, chases, scenes and shows. Presets and chases are used as building blocks along with static channel levels to create scenes. Shows are simply scene lists. All four memory types can be assigned to playback faders or called up directly by selecting their memory page and number.

### **RECORD**

To the far right of the six function switches is the record switch. This is used to start the record process for all of the memories as well as playbacks. The LED above the record switch will flash whenever you are in record mode.

### **SOLO**

To the left of the record switch is the solo switch. This switch's function can vary depending on what you are doing. For memory playback, this switch only affects scenes as explained in the scene chapter below.

### **CLEAR ALL CHANNELS**

Before creating a new scene it is usually a good idea to clear out the scene edit memory and zero all of the channels. To do this press the blackout switch and hold it down for about a second until the LED goes out. Use this function often when you are programming new scenes in order to start with a clean slate. If you have programmed a home scene, it will be loaded into the scene buffer automatically after the clear all procedure has taken place. A home scene is useful for creating a default starting point for new scenes. Refer to the Menu chapter for more information on how to select a home scene.

## **SCENES**

A scene is a recording or snapshot of the entire stage. Show Designer keeps track of all the actions you perform to make the stage appear as it does. All of the actions that affect the look of the stage such as changing channel levels, calling a chase or calling a preset, are saved in the scene buffer so that you can later record these actions as a scene. This method of programming also allows you to recall a recorded scene, modify it and then resave it as a new scene or resave it to the same location allowing quick edits. There is no special edit mode on the SD3, you are always in edit mode for scenes.

Once you have a look on stage that you want to save as a scene, press "record", its LED will flash. Next press "scene", its LED will also flash. The page display will light and any number locations that already contain scenes will also light. You can enter a name for the scene as well as a crossfade time. Use the cursor switches to move the cursor under each character of the name, then use the + or - switch or data wheel 1 or 2 to modify the name characters. You can also use an external keyboard to enter the scene name. Move the cursor under the fade time or use data wheel 3 to change the crossfade time for this scene. You can also use a keyboard to enter the fade time. Fade times are in minutes, seconds, and tenths of a second, displayed as MM:SS.T, where MM is minutes, SS is seconds and T is tenths of a second. The maximum fade time is 99:50:9 or just under 100 minutes.

To record the scene, select the page and scene number. You can use the page switches to select pages 1 to 99 and the number switches 1 to 48. This will give you up to 4752 scenes. If you select a scene number that is already lit, a message will appear asking if you want to write over the existing scene. Press "yes" or "no".

If at any time you wish to exit record mode without recording anything, press the record switch and its LED will stop flashing.

## **RECALLING SCENES**

To play a scene, press the scene switch and turn on its LED. Select the scene page if necessary and then press the number switch for that scene. When a scene is called, any fixture channels as well as any conventional dimmer channels that are included in the new scene will crossfade to the new scene values using the fade time that was recorded when you created the scene. Any chases and presets that are part of the scene will also be called.

There is no limit to the number of scenes that can be running at one time as long as each scene is controlling different channels. A scene's LED will remain lit until any new scenes have overridden its channels. When a scene is called, channels that are not part of the scene will be left at their current levels and any chases that were running will keep running as long as the new scene does not override the channels in the chase. This method of playback allows channels from previous scenes to track through to the next scene. Some controllers refer this to as pile on.

You can use this to combine several scenes into one scene. To do this, call any number of scenes then press record and save it all as a new scene.

## **RECALLING SCENES (solo mode)**

To stop channels and chases from tracking through from one scene to the next, use the solo switch. Turn on the solo LED before calling the scene and any channels that are not included in the new scene will be set to 0 and any other scenes that are currently on will be turned off.

## **RECALLING SCENES (preview mode)**

Preview mode lets you see the name and adjust the fade time of a scene before starting it. The go switch is used to start the scene. Activate preview mode by pressing the preview switch turning on its LED. While in preview mode, you can select the next scene with an external keyboard, the + or – switches or the wheels. You can also adjust the fade time before calling the scene. If you are using an external keyboard to select scenes, move the cursor on the display using the left or right arrow keys to choose the page, scene or fade time. You can enter numbers from the keyboard and then use the enter key or press the go switch on the SD3 to call the scene. The go LED will light up when a valid scene number has been selected indicating that the go switch is ready to call the scene.

## **RECALLING SCENES WITH PLAYBACK MASTERS**

You can assign a scene to a playback master then use the playback fader or its flash button to call the scene. The playbacks offer several different playback modes. Read the chapter on playbacks for more detailed information on how they work.

## **TURN OFF SCENE**

You can turn a scene off by pressing its button when lit. Any channels that are included in the scene will return to 0.

## **ERASE SCENE**

To erase a scene from memory, press “record” then “scene” then “erase”. As when recording a scene, all number LEDs that contain a scene will light. Next select the scene number to erase. That scene name will appear in the LCD along with the message “Erase this scene?”. Press “yes”

or “no”. If you press “yes” the scene will be erased. You can then select additional scenes to be erased or you can press “record” to exit record mode.

## **PRESETS**

A preset is a simple collection of channel settings for a single light fixture or group of fixtures. Presets are used as building blocks for scenes and provide fast and easy programming by giving you instant access to colors, beam settings, etc. Presets can save memory because many scenes can reference the same preset. For example, if a preset defines a pan and tilt location for several scenes, only the preset needs to be edited in order to modify the pan and tilt for all of those scenes. If you want to use the same color or gobo for a group of fixtures, use a preset instead of setting every channel for each individual fixture.

Show Designer 3 allows you to record up to 24 pages of 48 presets for a total of 1152 presets. For your convenience the words “color”, “gobo”, “focus” and “effect” are printed next to the 4 rows of number switches. These types of presets can then be recorded on the corresponding rows if desired. Unlike scenes, which save the look of the entire stage, presets are used to record only several channels worth of information. This is useful for recording things like color, gobo or beam position. Presets can then be recalled and layered to make a scene.

### **FACTORY PROGRAMMED PRESETS**

In addition to the 24 pages available for the presets that you create yourself, there are 4 pages labeled “F1” through “F4”. These pages are for factory presets. These are presets that are already programmed for you when you install a fixture profile. They typically control colors, gobos and effects and their functions will match the row labels along the left side of the number switches. Some controllers refer to these as palettes. Refer to the chapter on fixture profiles for more information on how to install and use them.

### **CREATING AND RECORDING PRESETS**

Before recording a preset you must first do some preparation. In order to be able to view certain moving light channels like color or gobo you will first need to raise the dimmer levels and set the pan and tilt positions in order to see the color or gobo selections. Do this by selecting the fixture or fixtures to be used and then position the beams and turn up the dimmer levels. These things will not be recorded into the preset if they are done before pressing “record”.

To begin recording a preset press “record”, its LED will flash. Next press “preset”, its LED will also flash. The page display will show the current page and any number locations that already contain presets will be lit. Adjust the channel or channels that you want to include in the preset. These adjustments will be recorded into the preset so take care not to change any channels that you don’t want included. You can use the flex faders in channel mode, the joystick or the channel wheels to select the channel levels to be included. Press the fixture switch to enable the channel wheels and to select the fixtures to include in the preset. Turn the fixture switch LED off before saving the preset.

**Note:** When recalling a preset, if some channels are affected that weren’t intended to be part of the preset, chances are that a fader or the joystick was bumped, accidentally adding them to the preset being recorded.

At any time while recording the preset you can enter a preset name. Use the cursor switches to move the cursor in the display under each character then use the + or - switch or the data wheel to select characters. You can also use an external keyboard.

To save the preset, select the page and number where you want to store it. If you select a number that is already lit, a message will appear asking if you want to write over the existing preset. Press “yes” or “no”. You can use the page switches to select pages 1 to 24 allowing you to store up to 1152 presets. You cannot record over or edit the factory presets on pages F1 through F4.

After saving a preset, record mode stays active allowing you to continue to record more presets. Any channel changes that were made since starting the record process will be included in any new presets. To start a new preset from scratch and clear the memory, toggle the preset LED off and then back on while the record LED is still flashing.

To exit record mode, press “record”, all LEDs will stop flashing.

## **RECALLING PRESETS**

Recalling presets is slightly different than recalling scenes. Unlike scenes, you must first select the fixtures that you want to control with the preset. The selected fixtures must also have been part of the preset when it was recorded. To call a preset, press the preset switch then select the page and number of the preset. You can have an unlimited number of presets active at the same time as long as each preset is controlling different channels or fixtures. If two different presets are trying to control the same channel, the last preset that was selected will have control of the channel. If a preset has been completely overridden by another, it will be automatically turned off.

**NOTE:** Fixtures must first be selected before a preset is turned on even if the fixtures were included in the preset when it was recorded. This allows you to include all fixtures into a preset but only select the fixtures you need. For example you could create a preset called “Red” that sets all color channels of every fixture to the color red. Then you can select only the fixtures you want to be red before calling the “Red” preset.

## **RECALLING PRESETS WITH PLAYBACK MASTERS**

You can assign a preset to a playback then use the playback fader or its switch to call the preset. You will still need to select the fixtures to be included before starting the playback. The playbacks offer several different playback modes. Read the chapter on playback masters for more detailed information on how they work.

## **ERASE PRESET**

To erase an existing preset, press “record” then “preset” then “erase”. As when recording a preset, all LEDs that contain a preset will light. Select the preset to erase. That preset name will appear in the display. The message “Erase this Preset?” will also appear along with the preset name. Press “yes” or “no”. If you press “yes” the preset will be erased. You can then select additional presets to be erased or you can press “record” again to exit record mode.

## **EDITING PRESETS**

To edit a preset that has already been recorded, press “record” followed by “preset”. Before making any channel changes, press the preset number of the one you want to edit. The message “Edit this existing Preset?” will appear in the display. Press “yes” and the preset will be called up and you can add to it or modify it by changing any channel levels. After making changes you can store it at the same or at a new location by pressing any preset number. You can also use this method to copy a preset to another location by saving it without making any changes. **Note:** You can’t edit a factory preset.

## **COMBINING PRESETS**

You can add existing presets to any preset you are currently working on. While in preset record mode press the add switch followed by any preset number that has something recorded on it. The channel settings will be added to the preset you are currently recording. You can combine as many presets as you want. You can use this to mix several smaller presets into a single larger one. If two presets control the same channels, the channel levels from the last one added will have precedence. **Note:** You can't add a factory preset.

## **CHASES**

The Show Designer 3 uses chases to create movements and special effects. You can record up to 24 pages of 48 chases for a total of 1152. There are seven different types of chases to choose from; shape, simple flash, complex flash, complex channel, color, gobo and color mix. Each type will be explained in detail in the following paragraphs. In general though, a chase is a sequence of steps, with each step containing channel changes, creating motion or quick repetitive effects. The steps are played back in a continuous loop at a preprogrammed speed. You can have as many as 16 different chases running at once and when you record a scene, any chases that are running will be included in the scene.

### **RECORDING CHASES**

To start recording a chase press “record” and the record LED will flash. Next press “chase”, the chase LED will also flash. The message “Select type of chase to record” will appear in the display. Use wheel 1 or the + and – switches to select the type of chase to record then press “enter”. Read the following paragraphs for a description of each type of chase.

At any time while recording the chase, you can view what you are editing on stage by pressing the go switch. You can stop the chase by pressing “stop” or toggle it off by pressing “go” again. This way you can make edits and adjustments while the chase is running.

All of the chases use step time to set the speed. Step time sets the length of time for each step. You can adjust this time to within 1/100<sup>th</sup> of a second. The longest step time allowed is 60 seconds. To make the chase effect move faster, adjust the step time lower. The overall speed of the chase will depend on the type of chase and the number of steps. Run the chase while you are adjusting the step time to see the desired effect.

After all adjustments are made and all the steps are entered, you can save the chase to a memory location. Turn off the fixture or preset switches if they are lit. With only the chase switch lit, the number LEDs will light for any chase locations that are already occupied. Select the desired page and press one of the empty number switches to save the chase. If you select a location that is already occupied, you will be prompted if you want to overwrite that memory. After the chase has been saved, record mode stays active so you can continue to edit the same chase. This allows you to make several versions of the same chase with modifications and then save them to other locations. Press “record” to exit record mode.

### **SHAPE CHASE**

The shape chase is used to create preprogrammed pan and tilt movements. You can choose from a list of shapes like circle, square, figure 8, etc. You can also adjust the speed, size, direction and location of the center. You can also adjust the offset (explained in the following paragraphs). For shape chases you will need to press the go switch to run the chase while you are adjusting the settings so that you can see your adjustments as they are made.

The first thing to do when creating a shape chase is to select the fixtures to be included. When you select “shape chase” the fixture select LED is lit so that you can begin selecting fixtures right away. The current pan and tilt location of each fixture will be used as the center of the shape. You can use the joystick to move the centers at any time while recording the shape chase. If you are using more than one fixture in the shape, you might want to work with one fixture at a time so that you can position the center for each fixture individually. You can run the chase while you are doing this so that you can see the actual location and size of the shape. Once you have positioned the centers, go back and select all of the fixtures to be included in the shape. The order that the fixtures are selected will also determine the order when using the offset as explained below.

There are a number of parameters that you can adjust for a shape chase. The first field in the display is the shape type, use data wheel 1 to select from the list. The second field in the display is the step time, use data wheel 2 to adjust the speed of the chase. The wheel will increment the value in .1 second steps. Press “fine” to increment in .01 second steps or place the cursor under any of the digits and use the + or – switch to select the step time. Use data wheel 3 to adjust the X size. This is the width of the shape. Use data wheel 4 to adjust the Y size. This is the height of the shape. Press the right cursor switch until you can view the second page of the shape chase display. From there you can use data wheel 1 to select the direction of the movement. Use data wheel 2 to adjust the offset (explained next). Use data wheels 3 or 4 or an external keyboard to enter a name for the chase.

The offset adjustment lets you offset the timing of multiple fixtures across a shape. For example, a circle shape is made up of 48 segments. With an offset value of 1, each fixture will start its circle movement 1 segment ahead of or behind the next fixture, depending on the direction and the order that the fixtures were selected. You will have to experiment with different offset values and fixture orders to see the result. You can turn fixtures on and off in different orders to see what happens without losing any of the center positions. If the offset is set to 0, all fixtures will move in unison.

**NOTE:** The X and Y size settings as well as the direction settings affect all fixtures in the chase. The only individual setting for each fixture is the center of the shape.

After you have finished adjusting the shape chase parameters, turn off the fixture switch so that you can select the page and memory number to save the chase. Any locations that are currently occupied by other chases will be lit. Select an empty location or press a number that is lit if you want to overwrite it. After you have saved the chase, the record and chase LEDs will continue to flash, allowing you to continue to add to or edit the chase. This will allow you to save a slightly different version of the chase at another location. To exit record mode, press “record” and the LEDs will stop flashing.

### ***SIMPLE FLASH CHASE***

The simple flash chase is a quick and easy dimmer/shutter chase that flashes a single light fixture or a single conventional dimmer at each step. Begin by pressing fixture numbers or flex fader flash buttons in the order that you want them to be chased. The flex faders must be configured as conventional dimmers for the dimmer flash buttons to work and a light fixture must have a dimmer or shutter channel to be included in the chase.

Press the go switch to view the chase as you are creating it. You can adjust the step time and the fade time, which allows the dimmers to fade up and down rather than flash on and off instantly. You can also enable the speed lock, this prevents the beat or audio buttons from controlling the speed of the chase. In some cases when running many chases at once, you may

want to use the beat control for some chases but not for others. You can enter a name for the chase on the second page of the chase record display.

Turn off the fixture LED in order to view the available memory locations then press the number switch where you want to save the chase. After you have saved the chase, the record and chase LEDs will continue to flash, allowing you to continue to add to or edit the chase in case you would like to save a slightly different version at another location. To exit record mode, press “record” and the LEDs will stop flashing.

Depending on how the chase is programmed either the dimmer or the shutter will be used to flash a fixture. For chases that use a slow fade time the dimmer will be used and the shutter will be opened to full. For quick flashes, the shutter will be used to flash the fixture with the dimmer set to full. When controlling the chase using HTP playbacks, the playback fader will control the brightness of the dimmer.

### **COMPLEX FLASH CHASE**

The complex flash chase is a dimmer/shutter chase that lets you to flash more than one fixture or conventional dimmer at each step. Press any combination of fixture numbers or dimmer flash switches that you want to include in the step then press “enter” to move on to the next step. You can toggle fixture switches on or off while programming each step. Use data wheel 1 to select and view the steps that have been entered. Use data wheel 2 to adjust the step time. Use data wheel 3 to adjust the fade time. Use data wheel 4 to enable or disable beat and audio for this chase. Press the right cursor to get to the second page of the menu to enter a name for the chase.

While editing, you can use the erase switch to erase the contents of a step. If the step is already empty, press “erase” to remove the empty step from the chase. You can use the add switch to insert an empty step at the current step number. After the empty step has been added you can select fixtures or dimmers to fill the step.

**NOTE:** Don’t press “enter” after finishing the last step. This will only add a new empty step at the end of the chase.

Turn off the fixture LED to view the available memory locations before pressing the number switch where you want to save the chase. After you have saved the chase, the record and chase LEDs will continue to flash, allowing you to continue to add to or edit the chase in case you would like to save a slightly different version at another location. To exit record mode, press “record” and the LEDs will stop flashing.

### **COMPLEX CHANNEL CHASE**

The complex channel chase lets you to create a chase using any channel from any light fixture. Those who are familiar with the SD1 and SD2 will recognize this as being the same chase editor used by those controllers.

To start recording the first chase step, select the fixtures to include and then adjust the channel (s) to include. You can use the wheels, the flex faders (in fixture channel mode) or the joystick. To select fixtures to include in the chase or to use the data wheels, press the fixture switch first. Any channel adjustments will be recorded into the step so take care not to move any channels that you don’t want included in the chase. You can also include presets in the chase step.

After you have finished adding channels or presets to a step, press “enter”. **Note:** The fixture LED must be turned off before pressing “enter” to move on to the next step. The step indicator on the display will automatically increment to the next step. Repeat the previous actions to

record up to 256 steps. You can enter empty steps by pressing “enter” before changing any channels. These empty steps can be used to lengthen the time between steps or you can record something into these empty steps later.

As you are recording steps you can at any time move from step to step by using data wheel 1. You can select and edit each recorded step this way.

When you press “enter” while at the last recorded step of a chase, you will add an additional step to the end. If you press “enter” while the step number is at a lower step you will advance to the next step number, the same as when you increment data wheel 1.

If you make a mistake while recording a chase step, press “erase” and you will be prompted whether or not to erase the contents of the chase step. Press “yes” to clear the step’s contents. If you press “erase” a second time, you will be prompted whether or not to remove the empty step from the chase. This will shorten the chase by one step.

At any time while recording the chase you can adjust the step time value, adjust the fade value or enter a name for the chase. Use the cursor switches to move the cursor on the display under the item to be changed then use the + or - switch or a data wheel to modify it. To view page two of the menu, continue to move the cursor to the right, past the speed lock setting and the screen will change to show the name. To edit the name, move the cursor under each character then use the + and - switches or the data wheel to select the letters. You can also use an external keyboard to enter the name.

The fade value is displayed as a percentage and will be the same for every step in the chase. You cannot set a separate fade time for each step. This will control the amount of fade between steps. If set to 100% the crossfade time will be equal to the length of the steps giving you a smooth continuous motion. If the fade time is set to 0% the steps will snap to their settings with no fade. Any settings between 0% and 100% will give varying amounts of fade time depending on the speed of the chase.

The speed lock and unlock feature will tell the chase whether or not to ignore the audio or beat switches while the chase is running. When set to “No Beat” the chase will only run at the programmed speed and will not be affected by the beat or audio input. This is useful when you have a chase that must always run at a certain speed to create the desired effect.

After you have finished recording all of the steps for a chase, turn off the fixture or preset switches if they are on and then save the chase by selecting a page and number. If you select a chase number that is already lit, you will be prompted to write over the existing chase. Press “yes” or “no”. After you have saved the chase, the record and chase LEDs will continue to flash, allowing you to continue to add to or edit the chase in case you would like to save a slightly different version at another location. To exit record mode, press “record” and the LEDs will stop flashing.

## **COLOR CHASE**

A color chase steps through the color presets of a light fixture. It uses fixture profiles to find the correct channels and values to use. For a color chase to work you must use fixture profiles to define the fixtures used in the chase. The fixture LED will be lit when you first start to record a color chase. Select the fixtures to be included in the chase. Use wheel 1 to adjust the step time. Use wheels 2 and 3 to adjust the start and end points of the chase. The start point will select the color in the color list for the first step, the end point will be the last color used in the chase. Often times the first color in a profile is open or white while the last color is one of the spin settings. This allows you to pick a valid range of colors to use in the chase. Run the chase



while you are adjusting these settings to see the result. If you are using a mixture of fixtures that don't match, make sure the range is within the limits of all fixtures. If you set the end beyond the range of a fixture it will simply pause while the unused steps are being called.

Use wheel 4 to adjust an offset if desired. Offset works similar to the shape chase offset so that each fixture will be offset from the next by the number of steps you select. The order of offset across the fixtures will be determined by the order that you select the fixtures for the chase.

Enter the chase name on page two of the menu using the cursor buttons and data wheel or an external keyboard. To save the chase, first turn off the fixture switch and then select a page and a number that is not occupied. After you have saved the chase, the record and chase LEDs will continue to flash, allowing you to continue to edit the chase in case you would like to save a slightly different version at another location. To exit record mode, press "record" and the LEDs will stop flashing.

### **GOBO CHASE**

The gobo chase is similar to the color chase except that gobo steps are used instead.

### **COLOR MIX CHASE**

The color mix chase uses the cyan, magenta and yellow channels of a fixture to create a rainbow effect as it fades through the various CMY combinations. It will also work with RGB channels. It will only work with fixtures that have CMY or RGB channels defined. These channels will be defined by the fixture library or by the fixture profile when the fixture is selected. You can also use the "modify fixture" menu to select the 3 fixture channels to use in the color mix chase.

The fixture LED will be lit when you first start to record a color mix chase. Select the fixtures to be included in the chase. Use wheel 1 to adjust the step time. Use wheel 2 to adjust the offset between fixtures. Offset works similar to the shape chase offset in that each fixture will be offset from the next by the number of steps you select. The order of offset across the fixtures will be determined by the order that you select the fixtures for the chase. Run the chase while you are adjusting these settings to see the result.

Use the data wheels 3 and 4 or an external keyboard to name the chase. To save the chase, first turn off the fixture switch and then select a page and a number that is not occupied. After you have saved the chase, the record and chase LEDs will continue to flash, allowing you to continue to edit the settings for the chase in case you would like to save a slightly different version at another location. To exit record mode, press "record" and the LEDs will stop flashing.

### **EDITING CHASES THAT ARE ALREADY SAVED**

To edit a chase that has already been recorded, press "record" followed by "chase". Choose "Edit Existing Chase" instead of a chase type, this is the last selection in the list of types. The number switches will be lit for all existing chases. Select one of these and the chase will be called up. You can then add to it or modify the steps. After you have finished editing the chase you can store it at the same memory location or at a new location by selecting a page and by pressing a number switch. You can also use this method to copy a chase to another location by saving it without making any changes.

### **ERASE CHASE**

To erase an existing chase from the memory, press "record" then "chase" then "erase". As when recording a chase, all LEDs that contain a chase will be lit. Next select the chase to erase. The message "Erase this Chase?" along with the chase name will appear in the LCD. Press "yes" or

“no”. If you press “yes” the chase will be erased. You can abort chase erase at any time by either pressing “no” or by exiting record mode by pressing the record switch.

### **RECALLING CHASES**

To run a chase, press the chase switch, and then press the desired page and number switch. The chase will begin to run at the speed that was selected when it was recorded. Pressing the same switch again will turn the chase off. You can run more than one chase (up to 16) as long as they are chasing different channels. If a new chase is selected that completely overrides one that is running, the overridden chase will be automatically turned off. A chase is canceled when another one is called that controls all of the same channels. A chase will not be canceled if only some of its channels are overridden. The channels that are still available will continue to chase.

Whenever you press the chase switch, the names of any chases that are running will be displayed along with the speed and fade time of the chase. You can use data wheel 1 to cycle through the chases if there is more than one running. You can use data wheel 3 to adjust the step time and data wheel 4 to adjust the fade rate of the chase that is shown in the display. Any speed changes that are made will be saved if you record the current scene. This allows you to reuse a chase in different scenes at different speeds.

### **RECALLING CHASES WITH PLAYBACK MASTERS**

You can assign a chase to a playback master then use the playback fader or its flash switch to call the chase. The playbacks offer several different playback modes. Read the chapter on playbacks for more detailed information on how they work.

# **SHOWS**

A show is a list of scenes that can run on a timer or play manually using the “go”, “stop” and “back” buttons. This is sometimes referred to as a stack or cue list by other controllers. Show Designer 3 lets you record up to 24 pages of 48 shows for a total of 1152. Shows are good for running the controller without an operator or for productions that don’t require changes on the fly. To create simple effects and repetitive movements use chases rather than shows.

## **RECORDING SHOWS**

Before recording a Show you must first record the scenes that will be included in the show. Consult the previous chapters on how to do this.

To start recording a show press “record”, the record LED will flash. Press “show”, the show LED will also flash. The page number will display the current Show page and any locations that already contain Shows will be lit.

The display will show the current step that is ready to be recorded along with the scene page and scene number in that step. The word “Empty” will appear in place of the scene page and number if there is nothing recorded at this step. The hold time for the step is displayed in minutes, seconds and tenths of a second. For example 00:05.1 represents 5.1 seconds.

To record a show step, press the scene switch and the scene LED will be lit. Next, choose a scene for this step by selecting the page and pressing the desired scene number. Next, select the hold time for this step. If you plan to step the show manually, you do not need to enter a hold time. The time that you select is the time that this scene will be held until the next step is called. You can select a new time by moving the cursor to the minute or second number then press the + or - switch or use data wheel 3 to change the time.

Once a scene has been selected and the hold time set, press “enter”. The step number will automatically advance to the next step. You can enter up to 255 steps in the show. If you press “enter” without selecting a scene, the step number will advance leaving the step empty.

As you are recording a show you can view any step by moving the cursor under the step number and using the + or - switch or by turning data wheel 1. You can edit the scene number or hold time for any previously recorded step this way. If you press “enter” while at the last recorded step you will add an additional step to the end of the show. This lets you quickly enter a list of scenes. Pressing “enter” while the step number is not at the end simply advances to the next step. You can also use the erase switch to remove a step and the add switch to insert an empty step at the current step number.

There are three other parameters that you can adjust while recording the show that will affect how it will play: loop, manual, and link. Loop can be set to on or off and as the name implies, will determine whether the show will loop continuously or play through one time and then stop. Manual can be set to on or off. Set to off, the show will be played using the programmed hold times. Set to on, it will be advanced using the go switch. Link lets you select another show that will automatically follow this show after it has played through one time.

At any time while recording the show you can adjust the loop or manual settings, select a link or enter a name for the show. To set manual mode or program the link, use the right cursor switch to move the cursor on the display to the right, continuing past the “loop” field. The screen will switch to page two of the menu, showing these additional items. To enter the show name, continue the cursor to the right past the “link” field until the “show name” field appears on page 3 of the menu. Edit the name by putting the cursor under each character then use the

+ or - switch or data wheel 1 to change the character. You can also use an external keyboard to enter the name characters.

If you want another show to automatically be called when this one ends, set the link to “on” and select the page and show number for the linked show. If you enable a link, looping will be turned off. If you are running in manual mode, make sure the linked show is also set to manual, otherwise the clock will restart when the linked show is called.

After you have finished recording the steps and setting the show attributes, save the show by selecting a page and number where you want to store it. Make sure that the scene LED is off. If you select a show number that is already lit, a message will appear prompting you to overwrite the existing show. Press “yes” or “no”.

After you have saved the show, record mode will remain on allowing you to continue to edit the show. To exit record mode, press “record”, the LEDs will stop flashing.

## ***ERASE SHOW***

To erase an existing show, press “record” then “show” then “erase”. As when recording a show, all LEDs that contain a show will be lit. Next select the show to erase. That show name will appear in the LCD. The message “Erase this Show?” will also appear. Press “yes” or “no”. If you press “yes” the show will be erased. You can only erase an entire show when there is no show currently being edited. While editing a show, “erase” is used to erase show steps. You can abort show erase at any time by either pressing “no” or by exiting record mode by pressing the record switch.

## ***EDITING EXISTING SHOWS***

To edit a show that has already been recorded, press “record” followed by “show”. Instead of entering steps for a new show, press the show number of the one you want to edit. The message “Edit this existing Show?” will appear in the display. Press “yes” and the show will be called up and you can add to it or modify it by selecting steps and changing any value. After editing, a show can be saved at the same or at a new location by pressing any number switch. You can use this method to copy a show to another memory location by calling it for edit and then saving it without making any changes. Please note that the scene LED must be turned off before you can save the show.

## ***PLAYING SHOWS***

To start a show, press the show switch, and then select the desired page and number switch. The display will show the page, show number and name of the show along with the current step, the current scene and hold time. If the show is set to run in manual mode, the hold time will display “manual” and you will have to press the go switch to advance the show steps. If not set to manual, it will run on its internal clock. You can only run one show at a time from the number switches. If you select another show it will replace the one that is running. You can however run more than one show at a time when using the playback faders. The shows that are running on the playbacks will not be shown in the display. You can run up to 16 shows at one time using all the playback faders. Read the playbacks chapter later in this manual for details on how to run shows this way.

A show that is called using the number switches is the main show and is displayed on the LCD as it runs. There can only be one main show running at a time. Any shows that are running on the playbacks are side shows and won’t be displayed on the LCD. The main show can be controlled using the go, stop and back switches. Pressing “stop” will pause the main show if it is running on its clock. The stop LED will be lit to indicate the show is paused. You can use

“go” and “back” to manually step forward or backwards in the show while it is paused. Press “stop” again to turn off the LED and restore the clock. If you programmed the show as manual, you must use the go and back switches to step forwards or backwards. If you press “go” while the clock is running the show will jump ahead to the next step.

If the show is set to loop, it will play continuously, restarting after the last step’s hold time has counted down to 0 or when you press “go” (manual mode). If loop is set to “off”, the show will end after the last scene has been called. If there is a link assigned to the show, the linked show will start as soon as the last step’s hold time has elapsed or after the go switch is pressed in manual mode following the last step.

If the solo LED is lit while any show is running, each new step will solo its scene. This works the same as when calling a scene in solo mode. Channel track through (pile on) is disabled, any channels that are part of the new scene will be updated, all other channels will be set to 0 and any chases that were called by previous scenes will be turned off.

# **PERFORMANCE CONTROLS**

To the left of the four wheels are eight buttons that are mostly used for live performance. The following describes the functions for each of these.

## ***PREVIEW***

The preview switch is used along with the go switch to preview memories before calling them. With the preview LED lit, you can select scenes, presets, chases or shows using the 48 memory select buttons and the display will show the page and number as well as the name of the selected memory. The go switch is then used to call the memory in the display. The go LED will light up when a valid memory is selected. This allows you to search for a particular memory name without calling it until you are ready. You can also preview the contents of a playback fader by pressing its flash button.

You have several more options for calling scenes in preview mode. In addition to being able to select scenes with the number switches you can also use an external keyboard, the + or – switches or the wheels to select the page and scene number. You can also change the fade time. If you are using an external keyboard, move the cursor on the display using the left or right arrow keys to choose the page, scene or fade time. You can also enter numbers from the keyboard's number pad and then use the enter key to call the scene. Only scenes can be called this way using an external keyboard.

## ***BACK***

The back switch is used to step backwards through the scene list in a show.

## ***STOP***

The stop switch is used to pause the clock while playing a show. It is also used to pause a chase that you are currently editing.

## ***GO***

The go switch is used to step forward when playing through the scene list in a show. It is also used in preview mode to call any type of memory and also to run a chase that is being edited.

## ***FINE***

The fine switch enables the joystick and the data wheels to operate in fine mode. When using the joystick, the pan or tilt will move in smaller increments allowing finer pan and tilt control. When using the data wheels, they will increment or decrement their values by the smallest amount allowed. For example, when adjusting light fixture channels, they will change the values by 1 step.

## ***AUDIO***

The audio switch enables the audio input as a trigger for chases. Pressing the audio switch turns on its LED. It will flash off briefly whenever an audio beat is detected at the audio input. Any chases that are running will sync to this beat unless the speed has been locked for the chase. Read the previous chapter on recording chases as to how to lock the chase speed. Turning on “audio” will automatically turn off “beat”. The audio switch is manually controlled and can't be turned on by a scene.

## **BEAT**

The beat switch lets you override the step time or beat of a chase by tapping on the switch in time to music that is playing. The LED will flash in time to the beat that is tapped in. Any chases that are running will sync to this beat unless the speed has been locked for the chase. Read the previous chapter on recording chases as to how to lock the chase speed. Pressing the beat switch will automatically turn off audio. To turn off the beat, press and hold the beat switch for one second. The beat switch state and beat tempo are not stored when recording a scene.

## **BLACKOUT**

Pressing the blackout switch will stop all chases, shows and temporarily blackout all fixtures. Depending on the type of fixture and its capabilities, blackout will either close the shutter or set the dimmer to 0. The blackout will remain in effect as long as the blackout LED is lit. Pressing the blackout switch a second time will toggle the LED off, restart any chases or shows and restore all channels to their previous settings.

**Clear All Channels Function:** Pressing and holding the blackout switch for 2 seconds will force all DMX channels to 0 and clear the scene buffer. This function is useful when programming new scenes. You can also select a default home scene that will be called whenever you do this. Refer to the menu chapter of this manual under “Select Home Scene” for instructions on how to do this. You can use any scene that you have already saved as the home scene.

## **GRAND MASTER FADER**

The grand master fader is used to scale the outputs of all conventional dimmers as well as the dimmer channels of your light fixtures. You can program any channel within a fixture to allow grand master control. Consult “modify fixture” in the menu chapter for more details.

The grand master flash switch operates as latching on/off and brings the grand master level to the maximum setting. If for any reason the grand master fader breaks or wears out, press the grand master flash to override the fader so you still have dimmer output.

## **FLEX MASTER FADER**

The flex master fader is used to scale the outputs of all conventional dimmers. It is also subject to the level of the grand master fader. The flex master flash switch operates as latching on/off and brings the flex master level to the maximum setting. If for any reason the flex master fader fails, turn on the flash switch to override the fader.

# **PLAYBACK MASTERS**

Scenes, presets, chases and shows can all be assigned to playback faders. There are 32 pages of 8 faders giving you a total of 256 playbacks. In addition you can configure the flex faders as playbacks giving you 256 more. Each playback fader has a flash button just above it that is used for programming and performance functions. For performance, it can be set to operate in flash, latch or go mode. Each playback can be configured individually to operate in LTP or HTP mode. The performance modes of the playbacks are selected when you assign memories to them. If you plan to use the flex faders as playbacks, look at the menu chapter under “Select flex fader mode” for instructions on how to do that.

## **ASSIGNING A MEMORY TO A PLAYBACK**

Assigning a memory to a playback is quick and easy. Press “record” and the record LED will flash. Select a playback by pressing its flash button, the playback’s LED will start to flash. Now select the memory type by pressing “preset”, “chase”, “scene” or “show”. Finally press one of the 48 number switches from any memory page to assign one of these memories to the playback. After assigning the memory to the playback, the LEDs will stop flashing except for the record LED. This will allow you to continue to program more playbacks if needed. You can press “record” to exit record mode.

At any time during the playback record process you can select a different playback to work on. If you need to change to a different playback page, toggle off any flashing playback before changing the page number. Before selecting the memory assignment for the playback, you can use data wheels 3 or 4 to set the playback modes for the fader or button.

To edit a playback you have already programmed, select that playback while the record LED is flashing. You will be asked if you want to edit it, press “yes” to edit. If you only want to change the fader or button mode without changing the memory that is assigned to the playback, press “enter” after making the mode change.

To erase a playback, press “erase” after selecting a playback for editing.

## **USING THE PLAYBACKS**

Each playback can perform quite differently from the next depending on the type of memory assigned and the playback mode. The following paragraphs will describe each case in detail. In general though, the faders must be reset to 0 (pulled to the bottom of travel) before they will start. The playback will begin when the fader is moved just slightly above the 0 position and then released once it is brought back to 0. Once started, the memory will be attached to that fader until released, even if the page is changed.

**NOTE:** If the preview LED is lit, pressing a playback flash button will show what’s assigned to a playback without playing it.

## **LTP MANUAL MODE**

LTP stands for “latest or last takes precedence or priority”. This means that when calling a memory any new channel changes will override previous settings. This is standard operation for most moving light controllers. In the case of the SD3, the playback fader will manually control all fades between the old channel settings and the playback’s new settings. There is no timed crossfade when using LTP mode. Any channel that is included in the playback’s memory will have its starting value captured at the start of playback, allowing you to pull the fader back, returning any channels to their starting positions. This will allow you to bring the values



back to where they were in case you have started a playback in error. Any chases will begin when the playback starts and then stop when the playback fader is pulled back to 0. Pressing a flash button is the same as moving a fader to its highest level. Channels that are set to “snap before fade” will change at the start of the playback, those set to “snap after fade” will change when the fader is at the top position.

When the fader reaches the top of its travel, the return values are reset to 0 so that when you pull the fader back to the bottom, all channels on the playback will be completely turned off. This gives you the ability to kill the playback by pulling the fader back down to 0. Unlike the fader, if you press the flash button the channels will return to their previous levels when the button is released. So be aware that using the flash button is more like a bump effect and will be slightly different than just moving the fader up and down. “Go” mode is not available for the playback buttons in LTP mode because there are no timed fades, only manually controlled fades.

When there is a show assigned to a playback, LTP mode operates somewhat differently than it does with scenes, presets and chases. A show is a list of scenes therefore the fader will call the next scene in the list each time it is moved from the 0 position. The scene will fade in as you move the fader up and then be locked in position when the fader reaches the top. You can then pull the fader back to 0 to get the next scene in the list. No channels will be changed as you move the fader back down to pick up the next scene. This process can be repeated for each step of the show. You must move the fader all the way to the top of its travel to be able to call the next scene in the show. If the show is set to loop, this process will continue until you release the show by pressing the flash button. When running a show on a playback in LTP mode, the flash button can only be used to turn off the show and release the playback.

## **HTP DIMMER MODE**

HTP stands for “highest take precedence or priority”. When a playback is set to this mode, all conventional dimmers as well as any fixture dimmer channels that are assigned to the playback will follow the level of the playback fader. Any non-dimming channels assigned to the playback will either snap or fade to the settings of the memory assigned to the playback after the playback has been triggered. If a chase is part of the playback it will start when the playback is triggered. The playback will be triggered when its fader is moved up from 0 or when its flash button is pressed. Bringing the fader back to 0 or releasing the flash button will release the playback memory and end any chases attached to the playback.

If more than one playback fader is active, the highest one will have priority when both control the same dimmer. That is where the “highest takes priority” rule applies. This rule also applies when a playback fader tries to take control of a dimmer that is already active. Before any dimmer will attach itself to a playback fader, the fader must match or exceed the current level of the dimmer. That way if a dimmer is already on, it won’t just jump down to the fader level when you start the playback. You can also override any dimmer attached to a playback fader by setting its level directly from any of the controls or by calling a scene.

If you have a preset or chase assigned to a playback in HTP mode, the fixture dimmer channels needed to view the preset or chase will be attached to the fader automatically for you. That way you will be able to view the preset or chase when you raise the playback fader. If you have a scene assigned to a playback in HTP mode, only the dimmers included in the scene will be attached to the playback fader, all other channels will begin a timed fade at the programmed fade time once the playback is triggered.

If you have a show assigned to a playback in HTP mode, the show timer will start when the playback is triggered. If the show is set to manual there is no show timer so the flash button is

used to advance the show steps. The playback button must be set to “go” mode for this to work properly. The dimmers that are part of the show’s scenes will follow the level of the playback fader.

The playback buttons can be set to “flash”, “on/off” or “go” modes. A button set to “flash” or “on/off” mode is essentially a bump button. Pressing the button triggers the playback memory and brings the HTP levels to max, the same as if you moved the fader to the highest level. A button set to “go” mode will trigger the playback, starting a timed fade for the non-dimming channels. Any dimmer channels that are part of the playback will be under the control of the playback fader. This lets you start a scene by pressing the button and then bring the dimmers up later when you move the fader.

# **MIDI**

Show Designer 3 allows you to call scenes and blackouts from the MIDI input. The scene page and number can be encoded in a MIDI continuous controller message sent to the MIDI input by a computer or MIDI sequencer. You will have to use the tools provided with the MIDI program you are working with to create and send the correct MIDI message. The MIDI channel for the SD3 is selected using the setup menu as explained earlier in this manual. The MIDI message is a 3 byte MIDI continuous controller using the following format:

To call a scene (decimal number format):

byte 1: 175 + MIDI channel (1-16)

byte 2: scene page (0-98)

byte 3: scene number (0-47)

The hexadecimal version of the scene message using MIDI channel 1 looks like this:

B0 pp nn

where pp is the page minus 1 and nn is the scene minus 1

Please note that the scene and page numbers used are one less than what is displayed on the SD3.

To start or stop a blackout (decimal format):

byte 1: 175 + MIDI channel (1-16)

byte 2: 99

byte 3: 127 for blackout, 0 to release

The hexadecimal version of the blackout message using MIDI channel 1 looks like this:

B0 63 7F – blackout on

B0 63 00 – blackout off

## **USING THE COMPACT FLASH**

The Compact flash uses CF cards that are formatted using the Windows FAT16 file system. Cards formatted using FAT32 will not work. You will get the error message “format error” if you try to use the wrong type. When reformatting a card with your PC select “FAT” rather than “FAT32” for the file system. This will format the card with FAT16. Card sizes up to 2G are supported.

Not all manufacturers’ CF cards have been tested on the SD3. We recommend using San Disk cards. They have been tested and work well. You don’t need a very large capacity card, the SD3 files are not large. Long filenames (longer than 8 characters) and folders are not supported on the card’s directory. All files must reside in the root directory to be accessible.

Since the cards are formatted using the Windows FAT16 file system they are also compatible with your PC allowing you to make copies and download software updates and fixture profiles from the Elation website.

All of the compact flash functions are run from the SD3 menu.

### **MEMORY BACKUP**

Go to the menu function “Save memory file to CF”, the message “Press enter to save file to disk” will appear on the top line of the display when you press “enter”. The default file name will appear on the bottom line. You can use the data wheel or an external keyboard to enter a new file name. Insert a CF card in the slot and press, “enter”. The message “File has been saved to disk” will appear when finished. The entire contents of the Show Designer 3 memory are backed up including all menu settings, fixture profiles, scenes, presets, chases and shows. The disk file is a binary file and will have the DOS file extension .sdm and is compatible with Windows as long as you adhere to Window’s file naming rules. The file name can use up to 8 characters. Show Designer 3 does not support long filenames (names with more than 8 characters).

**NOTE:** This file type is different than the text file type used to back up the memory using the COM port as described in the next chapter. The two file types are not interchangeable even though they are both used for the same purpose. You can’t take a memory file that you made with a COM port backup and load it in using the CF. You must use the COM port to reload that file.

### **MEMORY RESTORE**

Insert the CF card with your memory backup file in the slot. Go to the menu “Load memory file from CF” and press “enter”. The message “Select memory file, then press enter” will appear on the top line of the display. The name of the first Show Designer 3 memory file on the CF card will appear on the bottom line of the display. Use the + or - switch or data wheel 1 to select the desired file if there is more than one memory file on the card. Press, “enter” to load the file. You will get a warning that this will replace the entire memory. If you press “yes” to continue, **the entire memory will be overwritten.** The Show Designer 3 will reboot after the file has been successfully loaded.

### **FIRMWARE UPDATE**

To update the firmware inside the SD3, download the latest version from [elationlighting.com](http://elationlighting.com). Copy the new firmware file to a CF card and then insert the CF card into the SD3. The file must have the name SD3Vnnn.txt (nnn is the version number, for example SD3V115.txt). Go to the

setup menu “update software”, and press “enter”. The Show Designer 3 will begin reading the file. The message “receiving new program” will appear in the display. After the software is successfully updated the Show Designer 3 will reboot with the new version installed. If there are any errors, an error message will appear and you will have to start over.

### **INSTALL FIXTURE PROFILES**

Fixture profiles are small files that are available from [elationlighting.com](http://elationlighting.com) that contain detailed information about a lighting fixture such as the name and function of each of the channels as well as the name and DMX values of steps within a channel. Once loaded, a profile can be selected from the fixture list when choosing fixtures. Fixture profiles are helpful when using the data wheels to program fixture channels. The display will be able to show the function and current setting for each channel. The wheels will be able to select from preprogrammed steps within a channel such as the colors on a color wheel. Fixture profiles also contain factory presets that allow you to quickly select colors, gobos or effects using the preset switches instead of the channel wheels or faders.

To load a fixture profile or a group of profiles using the compact flash, first insert a card that contains the fixture profile(s) on it then go to the setup menu “Load fixture profile from CF” and press “enter”. The message “Load all profiles from CF?” will appear in the display. Press “yes” or “enter” to load every profile that is on the CF card. Press “no” if you want to select individual profiles from the card. The message “Select fixture file, then press enter” will appear on the top line of the display if you press “no”. The bottom line of the display will show the first fixture profile found on the card. Use the + or – switch or data wheel 1 to select a profile then press “enter”. The profile will be loaded into memory and will then be available as a selection when using the “choose fixtures” menu. Up to 256 fixture profiles can be loaded into memory.

**NOTE:** Fixture profile file names end with the file extension .sdf.

## **USING THE COM PORT (RS-232)**

The RS-232 port can be used to connect the SD3 to a personal computer to do memory backups, software updates and to load fixture profiles. You will need to get a 9 pin null modem cable. Use this cable to connect the RS-232 port on the Show Designer 3 to the COM port on your PC. If you don't have a COM port on your PC, you will have to get a USB to COM port conversion cable. Follow the instructions that come with the cable to set it up as COM 1 or 2.

### **CONFIGURING YOUR COMPUTER**

Elation offers a program that can be downloaded from [www.elationlighting.com](http://www.elationlighting.com) called "SD Backup" that is designed to handle communication between a PC and the Show Designer lighting controllers. You will have to determine which COM port you are connected to on your PC. The SD Backup program supports COM 1 or COM 2. After you have installed the SD Backup program, follow the directions on the help file included with the program.

### **MEMORY BACKUP USING THE COMPUTER PORT**

In the SD Backup help file, follow the instructions for "Receive File. It will explain how to name the memory backup file and how to get the program ready to receive. Next, go to the menu on the Show Designer 3 "Save memory file to COM port" and press the enter switch. An encoded copy of the entire memory will be transmitted to your PC. This will take several minutes to complete.

### **MEMORY RESTORE USING THE COMPUTER PORT**

To copy a memory file from your PC back to the Show Designer 3, first go to the menu in Show Designer 3 "Load memory file from COM port". Press "enter" and the display will read, "Waiting for file from COM port". Show Designer 3 is now ready to receive the file from your PC. If you decide to abort the process, the only way to exit this screen is to turn off the SD3.

Follow the "Send File" instructions in the SD Backup help file. When you start the transmission, the SD3 display will show the message "receiving file". After the file has been sent, the SD3 will reboot. If any errors have been detected you will be prompted to retry. It can take several minutes to complete the transfer.

### **UPDATING THE SD3 FIRMWARE**

To copy new firmware from your PC to your SD3 using the COM port, go to the SD3 menu "update software". Press "enter" and the SD3 display will read, "Download new software or insert card". The SD3 is now ready to receive the file from your PC. As an alternative you can access this menu by holding down the menu and erase switch while powering up the SD3.

Follow the "Send File" instructions in the SD Backup help file. Find the drive and folder where the new firmware file is located, select the file and click "Open". The SD3 display will read, "receiving new program". After the file has been sent, The SD3 will reboot. If any errors have been detected you will be prompted to retry. It will take several minutes to transfer the file.

### **LOAD FIXTURE PROFILE**

Go to the SD3 menu item "Load fixture profile from CF". The message "Ready to receive fixture profile, press enter to cancel" will appear on the display. Use the "Send File" function on the SD Backup program to send a fixture profile to the SD3. The SD3 will wait until you send the file or until you press the enter switch to cancel.



## **FIXTURE LIBRARY**

The following is a list of fixtures in the internal library. The internal library is only used when you don't have a profile installed for a fixture. Whenever possible, use a fixture profile when choosing fixtures.



32 DMX Channels  
 Elation Active Scan/Wave  
 Elation Alkalite 6 Channels  
 Elation CMY Zoom 250  
 Elation CMY Zoom 575  
 Elation LED 12 Brick, LED 60 Strip  
 Elation Design LED 36  
 Elation Design LED 36MH  
 Elation Design LED 36UV, 36WA  
 Elation Design LED Brick 36 – 6 chan. mode  
 Elation Design LED Panel 72IP – 6 chan. Mode  
 Elation Design LED Panel 72WA  
 Elation Design LED 108 IP  
 Elation Design PAR 575H  
 Elation Design Promo DMXAC  
 Elation Design Spot 250  
 Elation Design Spot 300E  
 Elation Design Spot 575E  
 Elation Design Spot 1400E  
 Elation Design Wash 300E  
 Elation Design Wash 575E  
 Elation Design Wash 1200E  
 Elation Easy Color 7 Channel Mode  
 Elation Focus Spot 250  
 Elation Fog/Haze 1 Channel  
 Elation Impression  
 Elation Opti RGB  
 Elation Power Spot 250  
 Elation Power Spot 575  
 Elation Power Spot 575IE  
 Elation Power Spot 700  
 Elation Power Spot 700CMY  
 Elation Power Wash 250  
 Elation Power Wash 250B  
 Elation Power Wash 575E  
 Elation Protron Color  
 Elation Protron Star  
 Elation Stage Color  
 Elation Streamer  
 Elation Vision Color 250  
 Elation Vision Scan 250  
 Elation Vision Scan 575  
 Elation Waterfall 250 Pro  
 Elation Waterfall 250  
 Elation Xcelon 575

American DJ 64B, LED Pro 7 Chnl.  
 American DJ Accu Color 250  
 American DJ Accu LED  
 American DJ Accu Roller 250  
 American DJ Accu Spot/Scan 250  
 American DJ Accu Spot 300  
 American DJ Accu Spot Hybrid

American DJ Accu UFO  
 American DJ Accu Wash 250  
 American DJ Auto Spot 150  
 American DJ Color Fusion  
 American DJ Concept 1 and 2  
 American DJ Concept Color  
 American DJ Deco 250  
 American DJ Deluxe 250 Scan  
 American DJ Deluxe Scan 250  
 American DJ DJ Scan 250 EX  
 American DJ DJ Spot 250  
 American DJ Emerald Scan II  
 American DJ Fantasy 250  
 American DJ Fantasy Scan 250  
 American DJ Fireburst  
 American DJ Fusion Scan 250  
 American DJ Fusion Scan 250 EX  
 American DJ Illusion 250  
 American DJ Mega-Strobe/DMX  
 American DJ P36, P64  
 American DJ Scantron 250/Rollertron 250  
 American DJ Ultra Scan 250  
 American DJ XP-3

High End Cyberlight 20 Channel Mode  
 High End Studio Beam  
 High End Studio Color 250  
 High End Studio Color 575  
 High End Studio Spot 250  
 High End Studio Spot 575  
 High End Studio Spot CMY  
 High End Technobeam 18 Channel Mode  
 High End Trackspot  
 High End Trackspot 2

Martin CX10  
 Martin Entour Mode 2  
 Martin Krypton Mode 2  
 Martin Mac 250 Mode 4  
 Martin Mac 300 Mode 4  
 Martin Mac 500 Mode 4  
 Martin Mac 550 Mode 2  
 Martin Mac 600 Mode 4  
 Martin Mac 600 NT Mode 4  
 Martin Mac 700 Profile  
 Martin Mac 700 Wash  
 Martin Mac 1200 Mode 4  
 Martin Mac 2000 Performance  
 Martin Mac 2000 Profile  
 Martin Mac 2000 Wash  
 Martin Mac TW1  
 Martin Mania SCX600  
 Martin Mania SCX700  
 Martin MX-1, MX-4

Martin MX10

Robe ArcPower 270  
Robe ArcPower 36  
Robe ArcPower 72  
Robe Beam 250 XT  
Robe Clubroller 150 CT  
Robe Clubroller 250 CT  
Robe Clubscan 150 CT  
Robe Clubscan 250 CT  
Robe Clubspot 150 CT  
Robe Clubspot 160 CT  
Robe Clubspot 250 CT  
Robe Clubspot 300  
Robe Clubspot 500 CT  
Robe Clubspot 600 CT  
Robe Clubwash 250 CT  
Robe Clubwash 300 CT  
Robe Clubwash 500 CT  
Robe Clubwash 600 CT  
Robe Color Mix 150AT Profile  
Robe Color Mix 150AT Wash  
Robe Color Mix 240AT Mode 1  
Robe Color Mix 250AT Mode 1  
Robe Color Mix 550AT  
Robe Color Mix 575AT  
Robe Color Spot 170AT  
Robe Color Spot 250AT Mode 3  
Robe Color Spot 575AT Mode 3  
Robe Color Spot 700E AT Mode 2  
Robe Color Spot 1200AT Mode 2  
Robe Color Spot 2500E AT Mode 2  
Robe Color Wash 250AT Mode 3  
Robe Color Wash 575AT Mode 3  
Robe Color Wash 575AT Zoom Mode 3  
Robe Color Wash 700E AT Mode 3  
Robe Color Wash 750 AT Mode 3  
Robe Color Wash 1200AT Mode 4  
Robe Color Wash 2500E AT Mode 4  
Robe DJ Roller 150XT

Robe DJ Roller 250XT  
Robe DJ Scan 150XT Mode 1  
Robe DJ Scan 250XT Mode 1  
Robe Dominator 1200XT  
Robe Ecolor 250XT  
Robe Euphoria  
Robe Faze 1000  
Robe Fiber Beam 250  
Robe Flare  
Robe Fog 1500 / Haze 400  
Robe Funky  
Robe Fusion  
Robe Hip-Hop  
Robe Image Spot 250 AT  
Robe Media Fusion Layer Mini 1.0  
Robe Media Fusion Layer Tiny 1.0  
Robe LED Blinder 148 LT  
Robe LED Blinder 196 LT  
Robe Media Spinner  
Robe MSZoom 250XT Mode 2  
Robe Recessed Spot 170  
Robe Recessed Wash 150  
Robe RED Power 1-36  
Robe RED Power 1-144  
Robe RED Power 1-72  
Robe RED Wash 2-36  
Robe Scan 250XT Mode 2  
Robe Scan 575XT Mode 2  
Robe Scan 1200XT Mode 2  
Robe Spot 150XT Mode 2  
Robe Spot 160XT Mode 2  
Robe Spot 250XT Mode 2  
Robe Spot 575XT Mode 2  
Robe Stage Faze 1500 AT  
Robe Wash 150XT Mode 2  
Robe Wash 250XT Mode 2  
Robe Wash 575XT Mode 2  
JB Varyscan P3, P6, P7

# **FIRMWARE REVISION HISTORY**

There are two types of firmware on the SD3, micro and flash. The micro is located on the microprocessor and contains the basic functions needed for startup plus some essential operating system routines. This is programmed into the microprocessor at the factory and can only be updated by changing the microprocessor. The revision of the micro firmware is displayed on the power up screen right after the flash firmware revision, preceded by the letter “M”. The latest version is M3.

**M1** – This was the first release and works with flash revision 1.00 through 1.08.

**M2** – This version is required to update to flash revision 1.10 and higher and won’t work with earlier revisions. Some routines were added to accommodate new features.

**M3** – This is the latest version and works with flash revision 1.10 and higher. It allows compatibility with more brands of CF cards as well as 2GB cards.

The bulk of the firmware for the SD3 is in the flash memory and can be updated using the CF drive or COM port. This file can be downloaded from [elationlighting.com](http://elationlighting.com) from the download section of the web site. The SD3 displays its current flash memory revision on the power up screen as “Revision X.XX”. The following is a list of the revisions with any changes and fixes.

**Rev. 1.00 through 1.04** – Prototype.

**Rev. 1.05** – First release.

**Rev. 1.06** – Fix flashing LED digit problem.

**Rev. 1.07** – Add SD Monitor software routines. Fix problem when exiting dimmer entry mode. Fix chase event problem when calling scene. Fix preview preset problem. Fix preview mode off display problem. Fix Go LED when selecting show in preview mode. Fix problem with display cursor.

**Rev. 1.08** – Add routines to support Show Page on SD Monitor software. Fix problem with show name entry. Add home scene feature.

**Rev. 1.09** – Not used.

**Rev. 1.10** – Make changes to accommodate micro Rev 2 and higher.

**Rev. 1.11** – Add shutter and CMY channel tables. Include shutter channels in flash chases. When turning off HTP playback containing a flash chase, zero all chased channels. Chases and shows no longer started on power up. Fix fade time problem with scenes that contain chases. Add solo fixture and solo fixture group feature. Display channel values after selecting a fixture group using the first fixture in the group.

**Rev. 1.12** – Add color mix chase feature.

**Rev. 1.13** – Add copy fixture feature. Move shutter and CMY table location in memory. Move fixture group memory location. Add “erase” feature to fixture groups and playbacks. Add ability to allow playback modes to be set for each individual playback fader and button. When using LTP playback mode, reset all return channel values to 0 when fader reaches top of travel. Fix problems with shows on LTP playbacks.

When updating to software revision 1.13 from earlier versions, certain features need to be reset to work properly. If you can erase the entire memory, this will reset everything for you as long as you are able to give up everything that is in the memory. If you need to keep what is in the memory or need to load in a memory file from an earlier version, you will have to manually reset the following things. Any fixture groups will have to be re-recorded since the previous ones will be lost after the upgrade. The shutter and CMY tables for each fixture need to be reset. This can be done by removing each fixture and then re-selecting the same fixture at the same location. Do this by going to the “select fixtures” menu, select each fixture one at a time and choose “no fixture” by pressing “erase” and then “enter”. Then re-select the same fixture that was there before and press “enter”. If you have any playbacks recorded, you will have to edit each one and select a playback mode. Do this by pressing “record” then a playback button. If there is a playback previously recorded you will be prompted to edit the existing playback. Press “yes” to continue, then select the playback mode for the fader and flash button using data wheels 3 and 4, then press “enter” to save the edited playback.

**Rev. 1.14** – Add “load all profiles from CF” feature.

**Rev. 1.15** – Add ability to assign any fixture channel to grand master control. Add a menu in the modify fixture section to do this. Update crossfade mode menu to work like the new grand master channel menu. When selecting a profiled fixture, it will be scanned for LED color channels to be added to the grand master control. This will allow the GM to dim LED fixtures that don’t have a dimmer channel.