

STAGE DESIGNER 50

Snapshot

Use on Dimmer	⊘
Outdoor Use	⊘
Sound Activated	✓
DMX	✓
Master/Slave	⊘
115 V / 230 V Switch	⊘
Replaceable Fuse	⊘
User Serviceable	⊘
Duty Cycle	⊘

User Manual



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1. BEFORE YOU BEGIN

What is included

- 1 x Stage Designer™ 50
- 1 x DC 12 V, 500 mA output, 100–240 V, 50/60 Hz input auto-ranging power supply
- 1 x Manual
- 1 x Warranty Card

Unpacking Instructions

Immediately upon receiving a fixture, carefully unpack the carton, check the contents to ensure that all parts are present, and have been received in good condition. Notify the shipper immediately and retain packing material for inspection if any parts appear damaged from shipping or the carton itself shows signs of mishandling. Save the carton and all packing materials. In the event that a fixture must be returned to the factory, it is important that the fixture be returned in the original factory box and packing.




Manual Conventions

CHAUVET® manuals use the following conventions to differentiate certain types of information from the regular text.

CONVENTION	MEANING
[10]	A DIP switch to be configured
<Menu>	A key to be pressed on the fixture's control panel
1~512	A range of values
50/60	A set of values of which only one can be chosen
<i>Settings</i>	A menu option not to be modified (for example, showing the operating mode/current status)
<i>MENU > Settings</i>	A sequence of menu options to be followed
ON	A value to be entered or selected

Icons

This manual uses the following icons to indicate information that requires special attention on the part of the user.

ICONS	MEANING
	This paragraph contains critical installation, configuration or operation information. Failure to comply with this information may render the fixture partially or completely inoperative, cause damage to the fixture or cause harm to the user.
	This paragraph contains important installation or configuration information. Failure to comply with this information may prevent the fixture from functioning correctly.
	This paragraph reminds you of useful, although not critical, information.

Safety Instructions



Please read these instructions carefully. It includes important information about the installation, usage and maintenance of this product.

- Please keep this User Manual for future consultation. If you sell the unit to another user, be sure that they also receive this instruction booklet.
- Always make sure that you are connecting to the proper voltage and that the line voltage you are connecting to is not higher than that stated on decal or rear panel of the fixture.
- This product is intended for indoor use only! To prevent risk of fire or shock, do not expose fixture to rain or moisture.
- Make sure there are no flammable materials close to the unit while operating.
- In the event of serious operating problem, stop using the unit immediately. Never try to repair the unit by yourself. Repairs carried out by unskilled people can lead to damage or malfunction. Please contact the nearest authorized technical assistance center.
- Don't connect the device to a dimmer pack.
- Make sure power cord is never crimped or damaged.
- Never disconnect power cord by pulling or tugging on the cord.
- Do not operate this device in more than 104° F (40° C) ambient temperature conditions.



There are no user serviceable parts inside the unit. Do not open the housing or attempt any repairs yourself.

In the unlikely event your unit may require service, please contact CHAUVET® at: 954-929-1115.2.

Introduction

The Stage Designer 50™ is a universal intelligent lighting controller. It allows the control of 48 channels with 96 scene/chase playback faders. Each scene/chase can contain up to 1000 individual steps, or looks. On the surface, when in the CHASE ◀▶ SCENE mode, there are 12 physical faders for the playback of the saved programs. There are 4 pages of Scenes playback on Page A, and an additional 4 pages of playback faders on Page B. Programs can be triggered by music, midi, automatically or manually. Channel assignments can be reprogrammed for ease of controlling different fixtures. On the surface you will find various programming tools such as 24 channels fader, A/B master faders for cross mixing, and Fade and Speed time faders for on the fly adjustments. It also has an LED display for easy navigation of controls and menu functions.

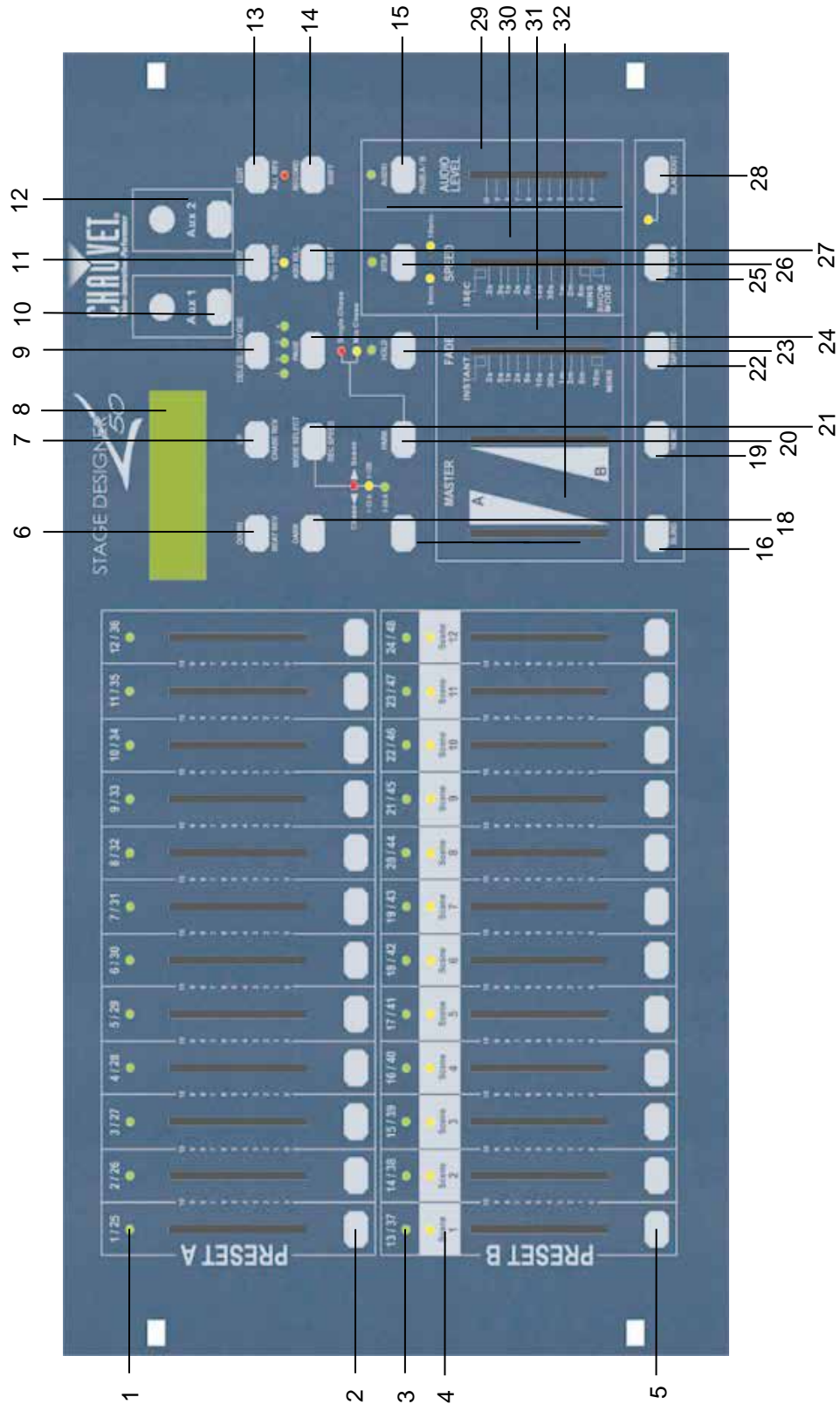
Features

- 48-channel DMX-512 dimming console
- 4 pages with 12 scenes each yields 48 total playback faders (simultaneous playback)
- 48,000 programmable steps
- 2 programmable aux buttons
- Adjustable chase and fade times
- Re-assignable channels

Additional Features

- 3-pin and 5-pin DMX connections
- Built-in cross fader, dark and kill buttons
- MIDI in, out and thru (with file dump)
- Direct audio input
- Sequential linking or simultaneous playback of chases
- Override chases on the fly
- Beat-activation, tap sync, auto run, midi in/out
- 6-space (6 U) rack mount
- Polarity selector

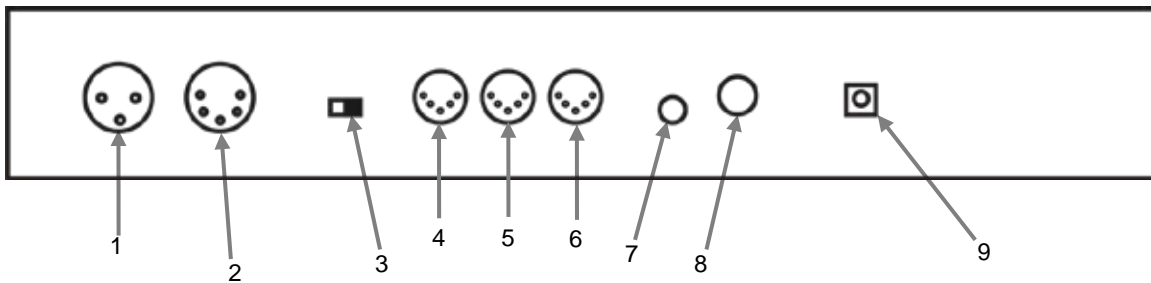
Product Overview (front)



Item	Button or Fader	Function
1	Channel Faders	Indicates channels 1-12(25-36)
2	Channel Flash button	Brings the relevant fader to 100% or DMX value of 255
3	Channel Faders	Indicates channels 13-24(37-48)
4	Scene Playback indicators	Indicates that the scene is playing back
5	Channel Flash button	Brings the relevant fader to 100% or DMX value of 255
6	Down/Beat Rev	Down functions to modify a scene in Edit mode, Beat Rev is used to reverse the chasing direction of a program with regular beat
7	Up/Chase Reverse	Up function to modify a scene in Edit mode, Chase Reverse is used to reverse the chasing direction of a program under Speed Slider control.
8	LCD Display	Shows the current activity or programming state
9	Delete/Rev One	Delete a step in a scene or reverse the chasing direction of any program
10	Aux 1	Patchable; used to control a channel in 1 of 2 modes of operation
11	Insert/%or255	Insert is to add 1 step or steps into a scene; %or255 is used to change the display value cycle between % and 0-255
12	Aux 2	Patchable; used to control a channel in 1 of 2 modes of operation
13	Edit/All Rev	Edit is used to activate Edit mode; All Rev is to reverse the chasing direction of all programs
14	Record/Shift	Record is used to activate Record mode or program a step; Shift functions the alternate function of other buttons only
15	Audio/Page A_B	Audio activate audio sync of chase; Page A_B switches the channel faders BETWEEN 1-24 MODE AND 25-48 MODE. Press and hold Record & Page A_B to switch between the 2 channel pages.
16	Blind	Takes the channel out of a program temporarily in Chase ◀▶ Scene mode
17	Chase Rev	Reverses the direction of the chase playback
18	Dark	Used to temporarily blackout overall output
19	Home	Used to deactivate the Blind on a given channel
20	Park	Used to select Single/Mix Chase, bring Channel 13-24(37-48) to full of current setting, or momentarily program a scene into Master B slider depending on the current mode.
21	Mode Select/Rec Speed	Used to activate the operating mode; Rec Speed sets the speed of any programs chasing in Mix mode
22	Tap Sync	Repeatedly tapping this button will establish the chase speed
23	Hold	Used to momentarily maintain current scene
24	Page	Tap to select pages of scenes from 1-4(Page A) and 1-4 (Page B)
25	Full On	Momentarily bring all channels (1-48) to full intensity
26	Step	Used to go to the next step when the Speed slider is set in Show Mode or in Edit mode.
27	Add Kill/Rec exit	In Add mode, multiple scenes or Flash buttons will be on at the same time; In Kill mode, pressing any Flash button will kill any other scenes or programs; Rec Exit is used to exit from Program or Edit mode.

28	Blackout	Used to kill all output, with exception of Full On.
29	Audio Level Fader	Adjusts the audio sensitivity when in Audio trigger mode of scenes
30	Speed Fader	Used to adjust the speed of scenes/chases running
31	Fade Fader	Adjusts the fade-in, fade-out, and cross-fade times
32	Master A_B	Adjusts overall intensity

Product Overview (rear panel)



Item	Button or Fader	Function
1	3-pin DMX output connector	DMX control signal
2	5-pin DMX output connector	DMX control signal
3	Polarity switch	Used to select DMX polarity
4	MIDI Thru	MIDI port for connecting to a sequencer or MIDI device
5	MIDI Out	MIDI port for connecting to a sequencer or MIDI device
6	MIDI In	MIDI port for connecting to a sequencer or MIDI device
7	Audio Input	This jack accepts a line level audio input signal ranging from 100mV to 1Vpp
8	Remote Input	Blackout and Full On may be controlled by a remote control using a standard ¼" jack
9	DC Input	DC 12-20V, 500mAmin.

Common Terms

The following are common terms used in intelligent light programming.

- § **Blackout** is a state where all lighting fixtures' light output are set to 0 or off, usually on a temporary basis.
- § **DMX-512** is an industry standard digital communication protocol used in entertainment lighting equipment. For more information read Sections "DMX Primer" and "DMX Control Mode" in the Appendix.
- § **Fixture** refers to your lighting instrument or other device such as a fogger or dimmer which you can control.
- § **Programs** are a number of scenes arranged one after another. It can be programmed as either a single scene or multiple scenes in sequence.
- § **Scenes** are static lighting states.
- § **Sliders** are also known as faders.
- § **Chases** can also be called programs. A chase consists of a number of scenes arranged one after another.
- § **Scanner** refers to a lighting instrument with a pan and tilt mirror; however DMX controllers can use this term to control any DMX-512 compatible device as a generic fixture.
- § **MIDI** is a standard for representing musical information in a digital format. A MIDI input would provide external triggering of scenes using midi devices such as a midi keyboard.
- § **Stand Alone** refers to a fixture's ability to function independently of an external controller and usually in sync to music, due to a built in microphone.
- § **Fade** slider is used to adjust the fade time between scenes within a chase.
- § **Speed** slider affects the amount of time a scene will hold its state. It is also considered a wait time.
- § **Shutter** is a mechanical device in the lighting fixture that allows you to block the lights path. It is often used to lessen the intensity of the light output and to strobe.
- § **Patching** refers to the process of assigning faders to a DMX channel within a fixture.
- § **Playbacks** can be either scenes or chases that are directly called to execution by the user. A playback can also be considered program memory that can be recalled during a show.

3. OPERATING INSTRUCTIONS

Setup

Setting up the System

1. Place the Stage Designer 50™ on a level surface. Note! The Stage Designer 50™ can also be rack mounted, occupying six rack spaces (6U).
2. Plug the AC to DC power supply into the system back panel and into the mains outlet.
3. Plug in your DMX cable(s) to your intelligent lighting as described in the respective fixture's manual. For a quick overview of DMX see the "DMX Primer" on page 19.
4. Reset the system using the instructions on page 11 under **ERASE ALL SCENES**.

Physical Fader Assignment (optional setup)

Use this feature to combine or unify fixture control attributes for different fixtures. For example; if you were controlling 4 moving mirrors and 4 moving yokes, the color, gobo and dimmer channels may not line up ideally on the physical faders. Use this function to re-assign the dimmer, color and gobo channels to faders 1, 2 and 3. From now on you will be able to control the same attributes on all fixtures using the same fader location. This is also most useful when needing to combine all colors together.

Action ·

1. Press and hold **RECORD** button.
2. While holding the Record button, press the Flash button #6 (3) times.
3. Press the Flash button that you wish to assign the DMX channel output to.
4. While holding Record, press the Flash button corresponding to the DMX output that you wish to assign the Fader to.
5. Repeat steps 2 ~ 3 as often as necessary.
6. Press and hold Record & Rec Exit to exit the mode.

For example: you wish to assign Fader #1 to output to DMX channel #5.

1. *Hold the Record button & press Fader#6 (3) times.*
2. *Press the Flash button #1.*
3. *While holding the Record button, press the Flash button #5.*

Notes ✕

All physical faders can be re-assigned to output on a different DMX channel. Faders are given a channel number and are labeled on the surface of the controller as such.

You can check to see what the assignment is by pressing the Fader button of the corresponding channel while in this mode.

Here is no limit to the amount of channels that can be assigned to a single fader. One can assign up to all 48 channels of DMX output to a single Fader.

CHNO corresponds to the Physical Fader, while SLDNO corresponds to the DMX output channel.

Switching Between Page A and Page B (channels 1-24 and 25-48)

Action ·

1. Press and hold **Record** & press **Page A_B** button. If you are on Page A, then this will bring you to Page B. If you are on Page B, then this will bring you to Page A.

Notes ✕

When the fixture turns on, it will revert to the previously used page.

***Page A** is used to control channels 1-24, while **Page B** is used to control channels 25-48.*

The screen will display which current page.

*There's an additional set of 4 pages of playback controls on **Page B**.*

4. PROGRAMMING

Entering Record Mode (Record Enable)

1. While holding the **RECORD** button, tap the Flash buttons 1-5-6-8 in sequence.
2. Release the RECORD button. The Record LED lights up;

Create a Scene

A scene is a static lighting state. Scenes are stored in the temporary memory, until they are transferred to one of the playback faders. You may create a single scene or a succession of up to 999 steps per Scene.

Action ·

1. **Record** enable.
2. Select the 1-24 Single mode by tapping the **Mode Select** button. This will give you control of all 24 channels of the first page.
3. Compose a look by moving the **FADERS**. (Changes in fixture attribute such as colors and gobos, or simply dimmer values).
4. Press **Record** to save the look into the temporary memory.
5. Repeat steps 2 ~ 4 until you have your desired scene.
6. Adjust the **Speed** and **Fade** sliders to achieve the desired amount of time a scene will be held in a chase (speed) and the amount of time allowed for the fixtures to move from one scene to the next (fade).
7. Select a Scene master to store your scene. Tap the Page button to select a page (1-4).
8. Press and hold the Record button & tap the Flash button for the scene that you wish to store it to. All LEDs will flash indicating the scene has been programmed into memory.
9. You can continue programming or exit. To exit program mode, press and hold the Record button & tap the Rec Exit button.

Notes ☞

Deselect **Blackout** if LED is lit.

Be sure that you are on the right page by viewing the screen where it displays **Page A** or **Page B**. This will enable 1-24 or 25-48 channel control.

If you just wish to create a static look, then you must create a scene composed of only 1 step.

There are 1000 steps available in every scene.

Edit Enable

Action ·

1. Record enable.
2. Use the **Page** button to select the page the program you wish to edit is on.
3. Tap the Mode Select button to select **Chase ◀▶ Scenes**.
4. Press and hold the **Edit** button & tap the **Flash button** (13-24) of the **Scene** you wish to edit.
5. Release the **Edit** button. The relevant **Scene** Led should light, indicating you are in **Edit** mode.

Notes ☞

When the **EDIT** mode is entered properly, the display will read **EDITING**.

This mode is displayed here for only the initiation of **EDIT** mode. Please see the following sections on the uses of this mode in detail.

Erase a Program

Action ·

1. Record enable.
2. Use the **Page** button to select the page the **Scene** you wish to erase is on.
3. Press and hold the **Edit** button & tap the Flash button (13-24) twice of the Scene you wish to erase.
4. Release the 2 buttons. The LED for the corresponding program should light, indicating that it has been selected.
5. Press the **Delete** button. All LEDs should light, indicating the program is erased.

Notes ✕

Erase all Scenes

Action ·

1. Record enable
2. Press and hold **RECORD**.
3. While holding Record button, tap the flash buttons in the following sequence: 1-3-2-3. Release the Record button.
4. All LEDs should light, indicating all programs have been erased.
5. Press and hold **RECORD & REC EXIT** to exit the mode.

Notes ✕

You must be in Record mode to Reset the controller.

The LED over the Record button will light, indicating the Record mode operation.

Warning: this will reset the controller to its factory defaults. This will erase all programs and settings.

Record Clear

Action ·

1. Record enable.
2. Record a scene with 1 or more steps.
3. If you are not satisfied with the scene, you may press and hold the **Record** button & tap the **Page/REC CLR** button. All LEDs will flash, indicating the scenes have been cleared.

Notes ✕

All scenes stored in the temporary memory of the controller will be erased by this process.

This process will not affect the scenes already programmed into a Scene fader.

Delete a Step or Steps

Action ·

1. Enter the **EDIT** enable.
2. Tap the **Step** button to scroll to the step you wish to delete.
3. Tap the **Delete** button when you reach the step you wish to delete. All LEDs will light, indicating the deletion of the step.
4. Repeat steps 2 and 3 until all of the unwanted steps have been deleted.
5. Press and hold the **Record & Rec Exit** button. The **Scene** button LED will turn off, indicating that the Edit mode has been exited.

Notes ☞

Insert a Step or Steps

Action ·

1. Record a scene or scenes you wish to insert.
2. Be sure you are in **Chase ◀▶ Scene** and enter the **Edit enable**.
3. Tap the **Step** button to scroll to the step which you wish to insert the step before. You may read the step from the display.
4. Tap the **Insert** button to insert the step you've created before.
6. Exit **Edit enable**.

Notes ☞

Part of entering the Edit enable is selecting which scene you wish to Edit. See section on Edit enable for further instructions.

All LEDs will flash to indicate a successful Insert of the step.

Modify a Step or Steps

Action ·

1. Edit enable.
2. Press and hold the **Up** button if you want to raise the intensity. Press the **Down** button if you want to lower the intensity.
3. Tap the **Step** button to scroll to the step which you wish to insert the step before. You may read the step from the display.
4. While holding the **Up** or **Down** button, tap the **Flash** button corresponding to the DMX channel of the **Scene** you wish to modify until you reach the desired intensity value read from the display. Then, you may tap the **Flash** buttons until you are satisfied with the new **Scene**.
5. Repeat steps 2, 3, and 4 until all the steps have been modified.
6. Exit **EDIT** enable.

Notes ☞

Part of entering the Edit enable is selecting which scene you wish to Edit. See section on Edit enable for further instructions.

All LEDs will flash to indicate a successful Insert of the step.

5. PLAYBACK

This controller uses the Channel Faders and Channel Flash buttons for multiple uses. In this occurrence, Channel Faders 13-24 (37-48) are used for the playing back of Scenes already recorded. This is only when the controller is in the **Chase ◀▶ Scene** mode. In this instance, **Master Fader A** will control the manual fader controls, while **Master Fader B** will control the Scenes being played back.

Playing a Scene

A Scene can contain up to 1,000 steps. The term steps and scenes are used interchangeably in this manual.

Action ·

1. Tap the Mode Select button to select **Chase ◀▶ Scene** mode.
2. Tap the **Page** button to select the correct page the program you wish to run is located.
3. Push master Slider B to its maximum position (fully down).
4. Move the desired **Channel** slider (13-24) to its maximum, and the **Scene** will fade in depending upon current fade time.
5. Move the channel slider to adjust the output of the current program.

Notes ✕

*The current mode is indicated by the 3 LEDs. Red is the **Chase ◀▶ Scene**. Yellow is **2-scene preset A/B**. And, Green is **1-24 single mode**.*

*You may press and hold down the relevant **Flash** button for the **Scene** to trigger the button momentarily.*

Playing a scene with audio triggering

Action ·

1. Select your **Scene** as described in the above section.
2. Tap the **Audio** button until its LED lights, indicating **AUDIO** mode is active.
3. Use the **Audio Level** slider to adjust the sensitivity.
4. To return to normal mode, tap the **Audio** button a second time, causing its LED to go out. **AUDIO** mode is disengaged.

Notes ✕

*This is the process of using the built-in microphone, or using the audio jack located on the rear of the controller to use an alternative audio source for triggering of the **Scenes**.*

Playing a Scene with the Speed Slider

Action ·

1. Select your Scene as described in the above sections.
2. Move the Speed slider to SHOW MODE position (fully down).
3. Press and hold the Rec Speed button & tap the corresponding Flash button (13-24). The Scene tapped will no longer run with the standard beat.
4. Now, you may move the Speed slider to select your desired speed.

Notes ¥

Be sure **AUDIO** mode is disengaged.

Step #3 is not necessary if the selected **Scene** is not recorded with the **Standard** beat.

Playing a Scene with the Standard Beat

Action ·

1. Tap the Mode select button to select Chase ◀▶ Scene mode.
2. Tap the Park button to select Mix Chase mode. The LED lights, indicating the selection.
3. Select your Scene as described in the previous sections.
4. Move the Speed slider until the display reads your desired value.
5. Press and hold Rec Speed button & tap the Flash button (13-24) to store the Scene. The Scene will now run with the set time or beat when engaged.
6. Repeat steps 4 & 5 to set a new beat time.

Notes ¥

Be sure **AUDIO** mode is disengaged.

As an alternative to using the Speed slider to input the speed, you may use the Tapsync button (2) times to define your beat.

Change the Speed Mode Between 5 & 10 Minutes

Action ·

1. Press and hold the Record button.
2. Tap the Flash button 5 or 10 three times while holding down the Record button.
3. The 5min or 10min LED should light, indicating the Speed the slider is set to run.

Notes ¥

Auxiliary Controls

This is the process of assigning the Auxiliary controls. These will act as shortcuts and are most commonly used for DMX strobe lights or DMX fog machines. However, they are not limited to these functions, such as Pan/tilt control-very useful for remote followspot controls.

Action

1. Press & hold RECORD & tap the Flash button 7 or 8 (3) times. The display should indicate activation of the mode.
2. There are 3 functions. **FUNC 1** states that the Auxiliary control is not assigned to any channel. **FUNC 2** refers to the auxiliary controls working much like the channel fader along with the flash buttons. **FUNC 3** is somewhat different. The rotary knob acts to set the total output of the flash button below it.
3. While holding down the **RECORD** button, select the function you wish for the auxiliary control by pressing **Flash** button 1, 2, or 3. Release the buttons.
4. To assign the auxiliary to a channel, press the **Flash** button for the channel you wish to assign the auxiliary control to. This sets the channel assignment. The corresponding Led above the channel will light, indicating that the channel has been assigned.
5. Record exit.

Notes

You may refer to the display for the functions being edited.

*Press 7 (3) times for **AUX 1** patching, and 8 (3) times for **AUX 2** patching.*

*While assigning an auxiliary to **mode 2**, the Channel Fader for that channel will not function. It will act as moving the channel.*

*While assigning an auxiliary to **mode 3**, the channel fader and the auxiliary controls will both work for that channel on an **HTP** (highest takes precedent) operating principle.*

Midi Operation

The controller will only respond to MIDI commands on the MIDI channel that it is assigned to. All MIDI control is performed using Note on commands. All other MIDI instructions are ignored. To stop a chase, send the **blackout on** note.

Setting MIDI IN

Action

1. While holding down the **RECORD** button, simultaneously tap Flash button #1 three times. The display reads MIDI CHANNEL IN to indicate channel setup is available.
2. Select the MIDI control channel (1~16) by tapping Flash buttons 1~16. The relevant channel LED lights indicating MIDI IN channel is set.
3. While holding down **RECORD**, tap the **REC EXIT** button to exit MIDI setting.

Notes

This is the Channel that the controller will receive MIDI note commands.

The MIDI controller will take precedence over the Stage Designer 50's functions. For example, for notes 25-48, the LEDs for each channel on the DMX board will not light up when a MIDI controller is being used unless the mode on the DMX board is changed to Page B. The products being controlled will still respond to MIDI commands.

The Blackout button on the DMX board will always override any other function, including an attached MIDI controller.

MIDI NOTE	FUNCTION (TURN ON/OFF)
22-69	Trigger scenes 1-48 (100%)
70-117	Activate Channel 1-48
118	FULL-ON
119	DARK (momentary blackout)
120	HOLD
121	Turn on or off AUDIO
122	MODE: CHASE ◀ ▶ SCENE
123	MODE: 1-12A_1-12B
124	MODE: 1-24A
125	Step
126	BLACKOUT
127	Channel page (1~24, 25~48)

Setting MIDI OUT

Action ·

1. While holding down the **RECORD** button, simultaneously tap Flash button #2 three times. The display reads MIDI CHANNEL OUT to indicate channel setup is available.
2. Select the MIDI control channel (1~16) by tapping Flash buttons 1~16. The relevant channel LED lights indicating MIDI OUT channel is set.
3. While holding down **RECORD**, tap the **REC EXIT** button to exit MIDI setting.

Notes ☒

This is the Channel that the controller will transmit MIDI note commands.

Receiving MIDI File Dump

Action ·

1. While holding down the **RECORD** button, simultaneously tap Flash button #3 three times. The display reads MIDI FILEDUMP RECVING 000% when the device is in the correct mode.
2. While holding down **RECORD**, tap the **REC EXIT** button to exit MIDI setting.

Notes ☒

This is the process of copying your entire show to another STAGE DESIGNER™ 50. This will not work with any other device.

This process can take several minutes to complete.

The controller will automatically begin sending the FILE DUMP once the mode has been selected. Therefore, be sure that the other device has previously been setup to receive the transfer.

During FILE DUMP, all other operations will cease to function.

If errors or power failure occurs, FILE DUMP will be interrupted and stop.

Sending MIDI File Dump

Action ·

1. While holding down the **RECORD** button, simultaneously tap Flash button #4 three times. The display reads MIDI FILEDUMP SENDING 000% when the device is in the correct mode.
2. While holding down **RECORD**, tap the **REC EXIT** button to exit MIDI setting.

Notes ☒

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This process can take several minutes to complete.

The controller will automatically begin sending the FILE DUMP once the mode has been selected. Therefore, be sure that the other device has previously been setup to receive the transfer.

During FILE DUMP, all other operations will cease to function.

If errors or power failure occurs, FILE DUMP will be interrupted and stop.

6. APPENDIX

DMX Primer

There are 512 channels in a DMX connection. Channels may be assigned in any manner. A fixture capable of receiving DMX will require one or a number of sequential channels. The user must assign a starting address on the fixture that indicates the first channel reserved in the controller. There are many different types of DMX controllable fixtures and they all may vary in the total number of channels required. Choosing a start address should be planned in advance. Channels should never overlap. If they do, this will result in erratic operation of the fixtures whose starting address is set incorrectly. You can however, control multiple fixtures of the same type using the same starting address as long as the intended result is that of unison movement or operation. In other words, the fixtures will be slaved together and all respond exactly the same.

DMX fixtures are designed to receive data through a serial Daisy Chain. A Daisy Chain connection is where the DATA OUT of one fixture connects to the DATA IN of the next fixture. The order in which the fixtures are connected is not important and has no effect on how a controller communicates to each fixture. Use an order that provides for the easiest and most direct cabling. Connect fixtures using shielded two conductor twisted pair cable with three pin XLR male to female connectors. The shield connection is pin 1, while pin 2 is Data Negative (S-) and pin 3 is Data positive (S+).

3-pin to 5-pin Conversion Chart

If you use a controller with a 5-pin DMX output connector, you will need to use a 5-pin to 3-pin adapter. The chart below details a proper cable conversion:



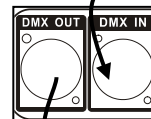
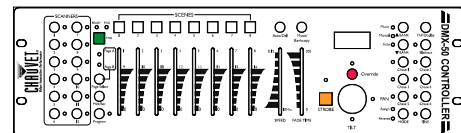
3-PIN TO 5-PIN CONVERSION CHART

Conductor	3-Pin Female (Output)	5-Pin Male (Input)
Ground/Shield	Pin 1	Pin 1
Data (-) signal	Pin 2	Pin 2
Data (+) signal	Pin 3	Pin 3
Not used		Pin 4
Not used		Pin 5

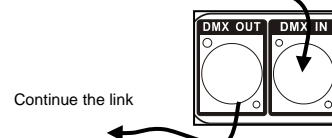
Setting up a DMX Serial Data Link

1. Connect the (male) 3-pin connector side of the DMX cable to the output (female) 3-pin connector of the controller.
2. Connect the end of the cable coming from the controller which will have a (female) 3-pin connector to the input connector of the next fixture consisting of a (male) 3-pin connector.
3. Then, proceed to connect from the output as stated above to the input of the following fixture and so on.
4. After the last fixture, connect a DMX terminator.

Universal DMX Controller



This drawing provides a general illustration of the DMX input/output panel of a lighting fixture.



Data Cabling

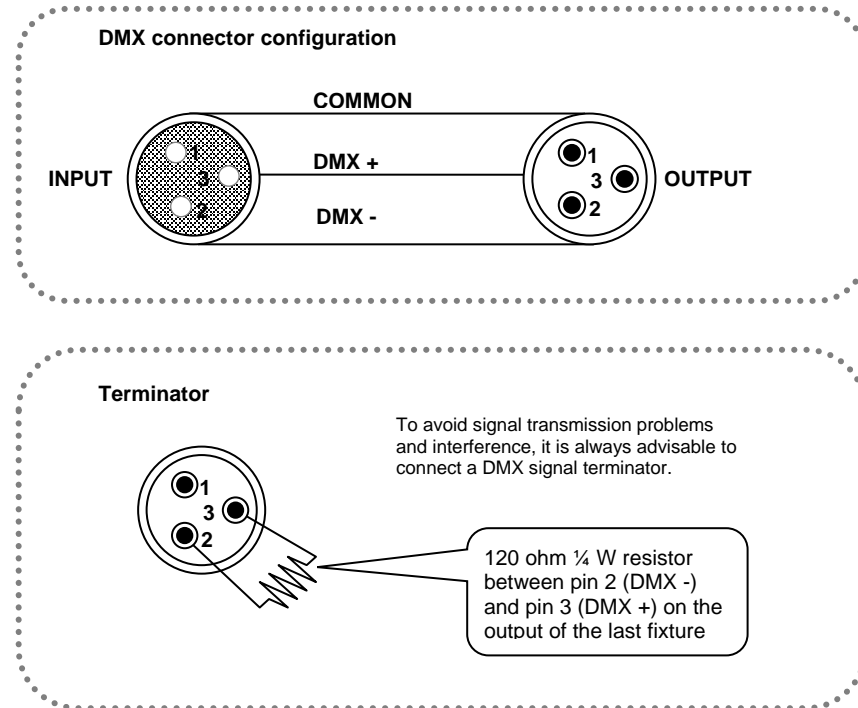
To link fixtures together you must obtain data cables. You can purchase CHAUVET® certified DMX cables directly from a dealer/distributor or construct your own cable. If you choose to create your own cable please use data-grade cables that can carry a high quality signal and are less prone to electromagnetic interference.

Dmx Data Cable

Use a Belden© 9841 or equivalent cable which meets the specifications for EIA RS-485 applications. Standard microphone cables cannot transmit DMX data reliably over long distances. The cable must have the following characteristics:

Type:	shielded, 2-conductor twisted pair
Maximum capacitance between conductors:	30 pF/ft
Maximum capacitance between conductor and shield:	55 pF/ft
Maximum resistance:	20 ohms/1000 ft
Nominal impedance:	100 ~ 140 ohms

Cable Connectors



Cabling must have a male XLR connector on one end and a female XLR connector on the other end.

Do not allow contact between the common and the fixture's chassis ground. Grounding the common can cause a ground loop, and your fixture may perform erratically. Test cables with an ohm meter to verify correct polarity and to make sure the pins are not grounded or shorted to the shield or each other.

Fixture Linking

You will need a serial data link to run light shows of one or more fixtures using a DMX controller or to run synchronized shows on two or more fixtures set to a master/slave operating mode. The combined number of channels required by all the fixtures on a serial data link determines the number of fixtures the data link can support.



Fixtures on a serial data link must be daisy chained in one single line. To comply with the EIA-485 standard, no more than 32 fixtures should be connected on one data link. Connecting more than 32 fixtures on one serial data link without the use of a DMX optically-isolated splitter may result in deterioration of the digital DMX signal.

*Maximum recommended serial data link distance: 500 m (1640 ft)
Maximum recommended number of fixtures on a serial data link: 32*

Returns Procedure

Returned merchandise must be sent prepaid and in the original packing, call tags will not be issued. Package must be clearly labeled with a Return Merchandise Authorization Number (RMA #). Products returned without an RMA # will be refused. Call CHAUVET® and request RMA # prior to shipping the fixture. Be prepared to provide the model number, serial number and a brief description of the cause for the return. Be sure to properly pack fixture, any shipping damage resulting from inadequate packaging is the customer's responsibility. CHAUVET® reserves the right to use its own discretion to repair or replace product(s). As a suggestion, proper UPS packing or double-boxing is always a safe method to use.

Note: If you are given an RMA #, please include the following information on a piece of paper inside the box:

- 1) Your name
- 2) Your address
- 3) Your phone number
- 4) The RMA #
- 5) A brief description of the symptoms

Claims

Damage incurred in shipping is the responsibility of the shipper; therefore the damage must be reported to the carrier upon receipt of merchandise. It is the customer's responsibility to notify and submit claims with the shipper in the event that a fixture is damaged due to shipping. Any other claim for items such as missing component/part, damage not related to shipping, and concealed damage, must be made within seven (7) days of receiving merchandise.

Setting the Starting Address

This DMX mode enables the use of a universal DMX controller device. Each fixture requires a "start address" from 1 to 512. A fixture requiring one or more channels for control begins to read the data on the channel indicated by the start address. For example, a fixture that uses 6 DMX channels and was addressed to start on DMX channel 100, would read data from channels: 100, 101, 102, 103, 104, and 105. Choose start addresses so that the channels used do not overlap, and note the start address selected for future reference.

If this is your first time addressing a fixture using the DMX-512 control protocol, we suggest jumping to the Appendix Section and reading the heading "DMX Primer". It contains very useful information that will help you understand its use.

General Troubleshooting

Symptom	Solution(s)	Applies to			
		Lights	Foggers & Snow	Controllers	Dimmers & Chaser
Breaker/Fuse keeps blowing	Check total load placed on device				ü
Chase is too slow	Check user manual for speed adjustment	ü		ü	ü
Device has no power	Check for power on Mains. Check device's fuse. (internal and/or external)	ü		ü	ü
Loss of signal	Use only DMX cables Install terminator Note: Keep DMX cables separated from power cables or black lights.	ü	ü	ü	ü
No laser output	Bounce mirror motor may have shifted during shipping; readjust	ü			

If you still have a problem after trying the above solutions, please contact CHAUVET® Technical Support.

Contact Information

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CHAUVET®

General Information

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World Wide Web

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Technical Specifications

WEIGHT & DIMENSIONS

Length..... 19 in (483 mm)
Width 10.5 in (267 mm)
Height..... 3.5 in (89 mm)
Weight 10.3 lbs (4.7 kg)

POWER

Supplied Voltage Adapter.....DC 12 V, 500 mA
Adapter (100–240 VAC, 50/60 Hz)..... 2-pin Edison
Internal fuse..... F 0.5 A, 250 V

THERMAL

Maximum ambient temperature.....104° F (40° C)

CONTROL & PROGRAMMING

3-pin DMX:

Data output..... locking 3-pin XLR female socket
Data pin configuration pin 1 shield, pin 2 (-), pin 3 (+)
Protocols..... DMX-512 USITT

5-pin DMX:

Data output..... locking 5-pin XLR female socket
Data pin configuration pin 1 shield, pin 2 (-), pin 3 (+), pins 4+5 (not used)
Protocols..... DMX-512 USITT

ORDERING INFORMATION

Stage Designer™ 50 STAGEDESIGNER50

WARRANTY INFORMATION

Warranty 2-year limited warranty