

Activate Random, Audio, and Effects Functions

The last item in the EDIT menu is function. This feature allows you to access the six pre-programmed functions originally assigned to USER keys 1 to 6. This is useful if you want to enable a special effect, but the key is now assigned to a macro.

To enable Color modulate, Size modulate, Dim modulate Audio advance (Audio 1), Audio halt (Audio 2), or Random through the EDIT menu function item:

1. From the EDIT menu press the CURSOR Right Arrow key three times to select function. Function changes to capital letters.
2. Then, press the CURSOR Down Arrow key to enter the FUNCTION submenu. The LCD window displays:

COLOR size dim audio1 audio2 random
Press cursor down to enable color mod

Notice that the top line displays the FUNCTION submenu. The bottom line prompts you to press the CURSOR Down Arrow key to perform the selected menu item. When you select menu items with the CURSOR Right/Left Arrow keys the menu items change to capital letters.

3. Select the desired effect with the CURSOR Left/Right Arrow keys. When the selected item is in capital letters press the CURSOR Down Arrow key to enable the effect.

Copying

The *emulator* Controller records all parameters that you program. Therefore, it is easy to repeat certain parts of the controller's Memory by copying parameters.

The copying function of the controller allows you to copy:

- certain parameters of an Address to another Address or range of Addresses.
- the entire contents of a programmed Page to any another Page in any other Memory.
- a group of programmed Pages to any other group of Pages in any other Memory.

Note: You can modify the way the controller copies information from one Address to another through the **Setup** menu. The **Edit/Copy** menu item controls whether the initial “copy” command copies all of the Constructs from one fixture to another or whether no Constructs are copied from one fixture to another until you select specific Constructs. The default setting of the controller is “Share all constructs until selected.” Refer back to the *Edit/Copy* feature described in the Setup section.

Page Copy

Use Page copy to copy the entire contents of a programmed Page to any other Page in any other Memory. This is useful for creating a Loop or Chase of Pages that only contain slight changes, such as movement changes or single parameter changes.

To copy the contents of one Page to another Page:

1. First, ensure you are in IMP mode, the ADDRESS LED is lit on the ADDRESS/PRESET key, and that the SELECT key LED is **not** lit or flashing. Select the Page (source) that you want to copy using the PAGE Up/Down Arrow keys.
2. Press the SELECT key. The LCD window displays: "Select fixtures to edit using A/P keys, or press SELECT to exit."

Select fixtures to edit using A/P keys,
or press SELECT to exit.

3. Select the Memory and Page (destination) where you want to copy the contents of the current page. Press the CURSOR Up/Down Arrow keys to change the Memory number. Press the PAGE Up/Down Arrow keys to change the Page number. When you press the CURSOR or PAGE key for the first time, the LCD window shows the source Memory and Page fields. The destination Memory and Page fields follow your key presses.

Copy M: x P: x to M: x P: x
Press RECORD to save, SELECT to exit.

4. Press the RECORD key. The Page copy is complete. The controller returns to IMP mode. You can repeat this procedure as often as you wish.

Block Copy

Use Block copy when you want to repeat multiple consecutive Pages. This function can save time when you want to repeat multiple chases with slight parameter changes each time the chase repeats.

To copy a block of Pages to the same or another Memory:

1. Use the PAGE Up/Down Arrow keys and select any Page within the group of Pages that you want to copy.
2. Press the SELECT key. The LCD window displays: "Select fixtures to edit using A/P keys, or press SELECT to exit."

Select fixtures to edit using A/P keys,
or press SELECT to exit.

3. Press the AUTO key, located just to the right of the joystick. The LCD window displays: "COPY FROM M: x P: x thru M: -- P: -- to M: -- P: -- "

Copy	From M: x P: x	to M:— P:—
	thru M:— P:—	

4. Select the Memory and first Page of the block of Pages you want to copy. Press the CURSOR Up/Down Arrow keys to change the Memory number. Press the PAGE Up/Down Arrow keys to change the Page number. Notice the "From" prompt in the LCD window displays the beginning Memory and Page values as you enter them.
5. Press the AUTO key again. Select the last Page of the block of Pages you wish to copy. Press the PAGE Up/Down Arrow keys to change the Page number. Notice the "thru" prompt in the LCD window displays the ending Memory and Page values as you enter them.
6. Press the AUTO key a third time. Select the first Page of the destination block of Pages you want to copy. Press the CURSOR Up/Down Arrow keys to change the Memory number. Press the PAGE Up/Down Arrow keys to change the Page number. Notice the "to" prompt in the LCD window displays the destination Memory and Page values as you enter them.
7. **(Optional Step)** Pressing the CONSTRUCT Up/Down Arrow keys at this point toggles the controller between Copy and **Copy Reverse**. Copy Reverse reverses the sequence of Pages that you are copying.
8. Press the RECORD key. The SELECT key LED turns "Off" and the controller returns to IMP mode.

Address Parameter Copy

Once you program an Address, you can copy some or all of the parameter settings to other Addresses on the same Page or onto another Page. This saves time when you want many fixtures on a Page or within a Loop of Pages to have the same or similar settings.

Copy Construct Parameters From One Address to Another Address on the Same Page

1. Press the SELECT key. The LCD window displays: "Select fixtures to edit using A/P keys, or press SELECT to exit."
2. Select the Address containing the source Construct parameters that you want to copy.
3. Then, select the Construct parameters in the source Address that you want to copy by pressing the appropriate front panel Construct keys. Also, any Constructs that were edited through the LCD window menus are copied. If you do not select any Construct parameters to copy, then either: 1) all Constructs are copied, or 2) no Constructs are copied

depending on how you defined the Edit/Copy function through the Setup menu.

4. Select one or more destination ADDRESS keys to receive the Construct parameters from the source Address.
5. Press the RECORD key to save the changes or press the SELECT key to discard changes.

Copy Selected Addresses From One Page to Another Page

1. Press the SELECT key. The LCD window displays: "Select fixtures to edit using A/P keys, or press SELECT to exit."

Select fixtures to edit using A/P keys,
or press SELECT to exit.

2. Select the source Addresses that you want to copy. Remember the Page number containing these Addresses.
3. Press the PAGE Up/Down Arrow keys to select the destination Page to receive the selected Addresses. As you press the PAGE key the destination Page value is displayed on the right side of the LCD window. All parameters (whether selected or not) from the source Addresses are copied to the destination Page. Only the selected parameters of the selected Addresses are copied to the new (destination) Page.

GATE dim color cspeed gobo gspeed iris→
GATE: CLOSED P: x

Page Value

4. Press the RECORD key to save changes or press the SELECT key to discard changes.

Editing Pages

When you edit a Page that you previously programmed, one or more Address LEDs are lit, indicating that the gates of these fixtures are open. If you select the Gate Construct of a programmed fixture, you will notice that the second line of the LCD window shows that the gate is open. Modifying the Addresses on a Page can be accomplished in the same fashion as programming previously un-programmed fixtures.

To edit a previously programmed Page:

1. To change the programming of certain Addresses on a Page you must be in IMP (Intensity, Memory, Page) mode. If you are not in IMP mode, press the MENU key to return to IMP mode.
2. Use the CURSOR and PAGE Up/Down Arrow keys to select the Memory and Page that you want to edit.

3. Press the SELECT key. The SELECT key LED flashes. The LCD window displays: "Select fixtures to edit using A/P keys, or press SELECT to exit."

Select fixtures to edit using A/P keys,
or press SELECT to exit.

4. Select one or more Addresses that you want to edit by pressing the desired ADDRESS keys in the Address/Preset area on the controller.
5. The SELECT key LED and the LEDs on all the selected ADDRESS keys flash.
6. Then, edit all of the desired Constructs (color, dim, gate, position, delay, and so on) for the selected Addresses by pressing each CONSTRUCT key (or select from LCD window items) and then set the Construct parameters with the CONSTRUCT Up/Down Arrow keys.
7. To save all of the new parameter settings, press the RECORD key. To cancel the operation press the SELECT key.

Erasing Pages and Creating Blackout Pages

You may want to erase a Page when there is undesirable or old Pages in Memory. It is often best to clear out these Pages to prevent confusion in future programming. Otherwise, you can record over the old Pages. An erased Page is still an Initialized Page; it acts as a "placeholder" Page in a loop of Pages. Therefore, use this feature to create Blackout pages.

Note: To prevent inadvertent erasing of Presets, you cannot directly erase Pages used as Presets. You record over existing Presets to change them.

1. Select the Page you wish to delete using the PAGE Up/Down Arrow keys.
2. Press the SELECT key. The LCD window displays: "Select fixtures to edit using A/P keys, or press SELECT to exit."

Select fixtures to edit using A/P keys,
or press SELECT to exit.

3. Press the ERASE key once. The LCD window displays: "Press ERASE to un-initialize M:x P:x, or press SELECT to exit."

Press ERASE to un-initialize M: x P: x
or press SELECT to exit.

4. **Do not press the ERASE key** again as stated in the LCD window, instead press the RECORD key. The LCD window briefly displays: "Recording." The controller then returns to the IMP mode. All of the parameter settings are set back to the default settings.

Note: if you inadvertently press the ERASE key a second time you create an Un-initialized Page rather than an erased or Blackout Page. To re-initialize the Page, record any fixture Construct in the Page.

Memory Lock/Unlock

You can protect entire Memories from unauthorized editing or programming.

To lock a Memory:

1. Press the MENU key.
2. Press the CURSOR Right Arrow key three times to select **setup**. **SETUP** is capitalized when selected.
3. Press the CURSOR Down Arrow key.
4. Select mem-lock from the **SETUP** menu by pressing the CURSOR Right Arrow key once. **MEM-LOCK** is capitalized when selected. The second line of the LCD window displays: "Use A/P keys 1-6, off=locked."

```
device-id MEM-LOCK serial port edit/cop→  
Use A/P keys 1-6, off = locked
```

5. The LEDs above ADDRESS/PRESET keys 1-6 are lit (unless a Memory is already locked out).
6. Press the ADDRESS/PRESET key (1-6) corresponding to the number of the Memory that you want to lock out. When the LED above the key goes out the Memory is locked.
7. Press the MENU key to exit back to IMP mode.

To unlock a locked memory:

1. Perform steps 1 through 5 in the previous "To lock a Memory" procedure.
2. Then, press the ADDRESS/PRESET key (1-6) corresponding to the number of the Memory you want to unlock. The LEDs on locked Memories are off. The LED above the ADDRESS/PRESET key turns on when you unlock the Memory.
3. Press the MENU key to exit back to IMP mode.

A locked Memory is protected from all Erase and Record functions. If someone tries to access a protected Memory, the LCD window displays: "Memory x is locked out." Where x equals the locked Memory.

```
LOCKOUT. . . Memory: x      Page: x  
Memory x is locked out
```

When program data is crossloaded between controllers or downloaded from a computer and the controller receiving the data has one or more Memories locked, those Memories will **not** be overwritten by the new data.

For example, if you want to copy Memories 1, 2, and 3 from controller A to controller B, while keeping Memories 4 through 6 on controller B the way they are, you need to lock Memories 4 through 6 on controller B before the program data is transferred. Refer to Chapter 7, *External Memory Storage and Transfer*, for a complete description of the Memory transfer procedures.

Caution: loading controller User Memory from a Memory Card replaces all of the controller's User Memory, *including* locked Memories.



Playback

You can playback a program manually or automatically. Programs consist of single Pages, a sequence of Pages, a loop (chase) of Pages, or a Preset. You can also playback all Pages of all Memories in sequence.

Playing Single Pages — You playback single Pages manually by simply selecting the Memory with the CURSOR Up/Down keys and the Page with the PAGE Up/Down keys. The moment you select the Page it performs the operations recorded in the Page.

Manually playing a sequence of Pages — You can play a sequence of Pages manually. Play them manually by selecting the Memory and first Page in the sequence and then keep “bumping” the Page Up/Down keys to proceed through the sequence.

Automatically playing a sequence of Pages — To play a sequence automatically, select the first Page in the sequence and then press the AUTO key. The sequence will play from the current Page until it finds a Non-Initialized Page. If there is no Non-Initialized Page, then the sequence will wrap at Page 99 and continue with Page 1 running continuously until you deselect the AUTO key; the sequence stays in the same Memory. If there is a Non-Initialized Page anywhere in the Memory other than 0 and 99, the sequence will act like a loop or chase and loop back to Page 1.

Playing a loop — You playback a loop automatically. A loop has a Non-Initialized Page as its first and last page. You select any Page in the loop and then press the AUTO key; the loop runs continuously. When it encounters the ending Non-Initialized Page it loops back to the beginning Non-Initialized Page and continues until you deselect the AUTO key.

Playing a Preset — You playback a Preset in a similar fashion as a loop. That is, when you select a Preset it runs continuously until you select another Preset or exit Preset mode.

Varying Playback rate — To vary the playback rate during Auto mode adjust the RATE knob under the AUTO KEY; clockwise is faster, counterclockwise is slower. If you have a delay programmed into the Page it is added to the time set by the RATE knob adjustment.

Auto mode also provides several audio input override effects where you can advance or halt Pages according to the program information. You can also change fixture colors and light intensity according to the program information.

Page Playback - Manual Advance

To manually playback the Pages within a Memory:

1. If the controller is in Standby mode, remove the controller from Standby by pressing the STANDBY key; the STANDBY key LED turns “Off”.

Note: When the controller exits Standby it immediately plays the Page currently displayed in the LCD window.

2. Then, use the PAGE Up/Down Arrow keys to select any Page that you want to Playback. The fixtures change their settings immediately according to what is recorded on each Page. The controller advances one Page at a time each time you press either the PAGE Up or Down Arrow keys.
3. If you press and hold either the PAGE Up or Down Arrow key, the Pages change quickly until 1 or 99 is reached. If you release and press the PAGE Up/Down Arrow key again, the process repeats.

Page Playback - Auto Mode

To automatically playback Pages within a Memory:

1. If the controller is in Standby mode, remove the controller from Standby by pressing the STANDBY key; the STANDBY key LED turns “Off”.

Note: When the controller exits Standby it immediately plays the Page currently displayed in the LCD window.
2. Select the starting Page within the loop (although you can start from any Page within the loop). Press the AUTO key, it is located to the right of the joystick. As soon as you press the AUTO key the controller begins to playback all of the Pages within the current Memory until it encounters a Non-Initialized Page. When it encounters a Non-Initialized Page it loops back to the starting Non-Initialized Page in the loop and continues with the first programmed Page after the Non-Initialized Page. The controller runs continuously sequencing through the loop until you deselect the AUTO key.
3. To vary the playback rate (speed) turn the RATE knob, located just below the AUTO key. Turn the RATE knob clockwise to speed the playback rate or counterclockwise to slow the playback rate. The RATE knob adds to the Delay time programmed into each Page.

Live Control of Fixtures During Auto Playback

During a playback you may want to have “live” control (override) over the Constructs of one or more fixtures. For example, an activity occurs that you want to track with a “free spot”. You could quickly select a fixture to use as a spot and manually control it with the joystick.

To have “live” control of one or more fixtures:

1. Press the SELECT key. The SELECT key LED flashes.
2. Select the numbers of one or more fixtures that you want to manually control by pressing their corresponding ADDRESS keys on the controller. You now have “live” control over the selected fixtures. You can change (override) any of the fixtures’ Constructs, however, you cannot record the changes made during “live” control.

3. To return from “live” control press the SELECT key. The SELECT key LED stops flashing. The selected fixtures return to their original programmed settings and join the Sequence running.

Audio Input Playback Modes

You can use a musical source to control *emulator* auto playback through five *emulator* playback modes. Plug your musical source into the 6 mm (1/4 inch) Stereo Audio Input jack on the *emulator* Controller’s rear panel. Although the input jack is a stereo connector, the controller accepts a monaural input on one of the stereo connections. Then, follow the directions as explained for the applicable mode: Audio 1, Audio 2, Effect 1, Effect 2, and Effect 3. The five keys associated to these modes are labeled User keys 2 through 6 as explained in the following. USER 1 key is used for the Random Advance feature.

- Audio 1:** Press USER 3 key; its LED lights. This Auto playback method *advances* **USER 3** *Pages with the amplitude of the musical information*. You can adjust the strength of the audio input signal by using the AUDIO (level) knob located directly to the right of the RATE knob. The strength of the signal is indicated by the Audio level LED located just above the AUDIO knob. Turn the AUDIO knob counterclockwise to decrease signal strength and clockwise to increase signal strength. Full counterclockwise is “off” and full clockwise is maximum signal.
- Audio 2:** Press USER 5 key; its LED lights. This Auto playback method *halts the* **USER 5** *advance of Pages with the amplitude of the musical information*. You can adjust the strength of the audio input signal by using the AUDIO (level) knob located directly to the right of the RATE knob. The strength of the signal is indicated by the Audio level LED located just above the AUDIO knob. Turn the AUDIO knob counterclockwise to decrease signal strength and clockwise to increase signal strength. Full counterclockwise is “off” and full clockwise is maximum signal.
- Effect 1: Color Modulate:** Press USER 2 key to implement this feature; its LED **USER 2** lights. The color modulate effect instructs all active fixtures to begin changing colors from their current settings with the *beat* of the audio input signal. The color modulate effect overrides the Color program information. You can adjust the strength of the audio input signal by using the AUDIO (level) knob located directly to the right of the RATE knob. The strength of the signal is indicated by the Audio level LED located just above the AUDIO knob. Turn the AUDIO knob counterclockwise to decrease signal strength and clockwise to increase signal strength. Full counterclockwise is “off” and full clockwise is maximum signal.
- Effect 2: Size Modulate:** Press USER 4 key to implement this feature; its LED **USER 4** lights. The size modulate effect causes each active fixture to change pattern size with the *amplitude* of the audio input signal. The size modulate effect overrides the size program information. You can adjust

the strength of the audio input signal by using the AUDIO (level) knob located directly to the right of the RATE knob. The strength of the signal is indicated by the Audio level LED located just above the AUDIO knob. Turn the AUDIO knob counterclockwise to decrease signal strength and clockwise to increase signal strength. Full counterclockwise is “off” and full clockwise is maximum signal.

Effect 3: Light Modulate: Press USER 6 key to implement this feature; its LED lights. The Light Modulate effect causes the light intensity of all active fixtures to follow the *amplitude* of the audio input. When the light modulate effect is engaged, all fixtures are dimmed to their minimum intensity level until it senses an audio input. You can adjust the strength of the audio input signal by using the AUDIO (level) knob located directly to the right of the RATE knob. The strength of the signal is indicated by the Audio level LED located just above the AUDIO knob. Turn the audio knob counterclockwise to decrease signal strength and clockwise to increase signal strength. Full counterclockwise is “Off” and full clockwise is maximum signal.

Preset Playback

Presets store a Page or group of Pages and their Advance, Effect, Master dim, and RATE knob settings. However, you can alter the Advance and Effect controls by implementing “live” control over the Preset playback. Any changes made to the Advance and Effect selections during Preset playback do not affect the Advance and Effect selections stored in the Preset Memory. When you playback a Preset, it continues to playback indefinitely until another Preset is selected or you exit Preset mode. You playback Presets in the same manner as playing back a loop of Pages within a Memory.

To Playback a Preset:

1. Press the ADDRESS/PRESET key to select Preset mode. The Preset LED lights. The controller is now in Preset Mode.
2. Select the number of the Preset that you want to play back by pressing the corresponding key on the ADDRESS/PRESET keypad. The Preset immediately begins to playback and runs continuously. Refer to the previous *Programming a Preset in Twelve Level Preset Access Mode* section for information on selecting Presets in this mode.
3. If you want to change to another Preset during the currently running Preset, select another Preset. To quit Preset playback press the ADDRESS/PRESET key and exit back to Address mode. The currently running Preset stops at the Page that is active when you press the ADDRESS key. Back in Address mode the LCD window displays the Preset mode Page that was active when you returned to Address mode.

Note: When you return from Preset mode to Address mode the rate remains at the Preset level. Turn the RATE knob slightly in either direction to reestablish the existing Address mode rate.

Automatic All-Memory Playback

The *emulator* Controller can automatically sequence through (playback) all 99 Pages in all nine Memories.

To perform an all-Memory playback:

Press the Menu CURSOR Up/Down Arrow key until the LCD window “Memory:” field displays either: 1-all or 6-all.

The Initialized Pages in Memory 1 begin sequencing according to the Advance and Rate setting. When the controller completes playing back Memory 1’s highest Initialized Page, the controller advances to Memory 2, and plays back all of its Initialized Pages. This playback process continues through Memory 6, Page 99. When all Pages in Memory 6 playback the operation wraps around and continues with Memory 1 and runs continuously until you disable All-Memory playback.

Each Memory number will be followed by “-all” as the Memories playback.

To disable All-Memory Sequencing:

Press the CURSOR Up/Down Arrow key until “-all” no longer appears as part of the Memory value in the LCD window.

Controller Address Monitoring

You can instantly inspect the Address Construct parameters at any time while in IMP mode. To inspect the Construct parameters just press and hold any ADDRESS key. A summary of the parameters for that Address is displayed in the LCD window. The top line identifies the Constructs as Figure 5.1 shows; the bottom line provides the parameter value (not shown). The Gate field displays “Cl” for closed and “Opn” for open. The Position field displays “JS” for joystick or the defined preset number. For detailed information about Constructs refer to Chapter 3.

If an Address is locked out, the bottom line displays the message:

“Address xx is locked out.”

While holding the Address key, you can step through Memories and Pages and observe the Address values change to the new Memory and Page values.

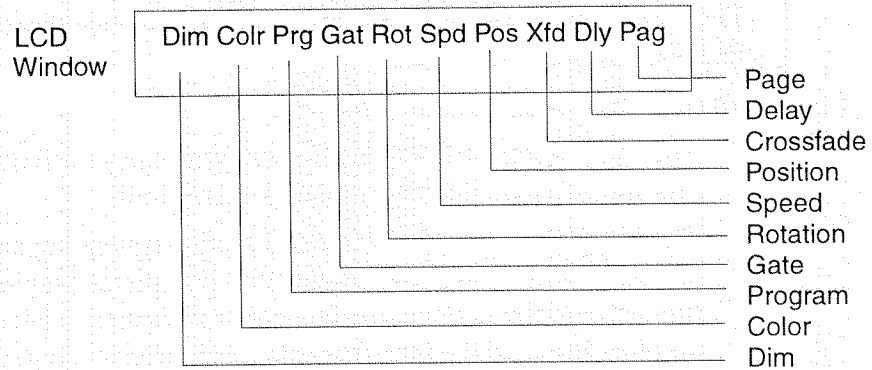


Figure 5.4. Address Summary Construct Fields

Master Dim

You can easily perform Master Dim operation from the front panel that affect all fixtures. The Intensity field displays the current state of the Master Dim. The default value is “99” which equates to full bright. The “0” value equates to off or full dark (off). To adjust the Master Dim press the CONSTRUCT Up or Down key. Notice that the dim value in the Intensity field follows the CONSTRUCT Up/Down keys similar to using a fader control. Press and hold the CONSTRUCT Up/Down key to quickly change the dimming value.