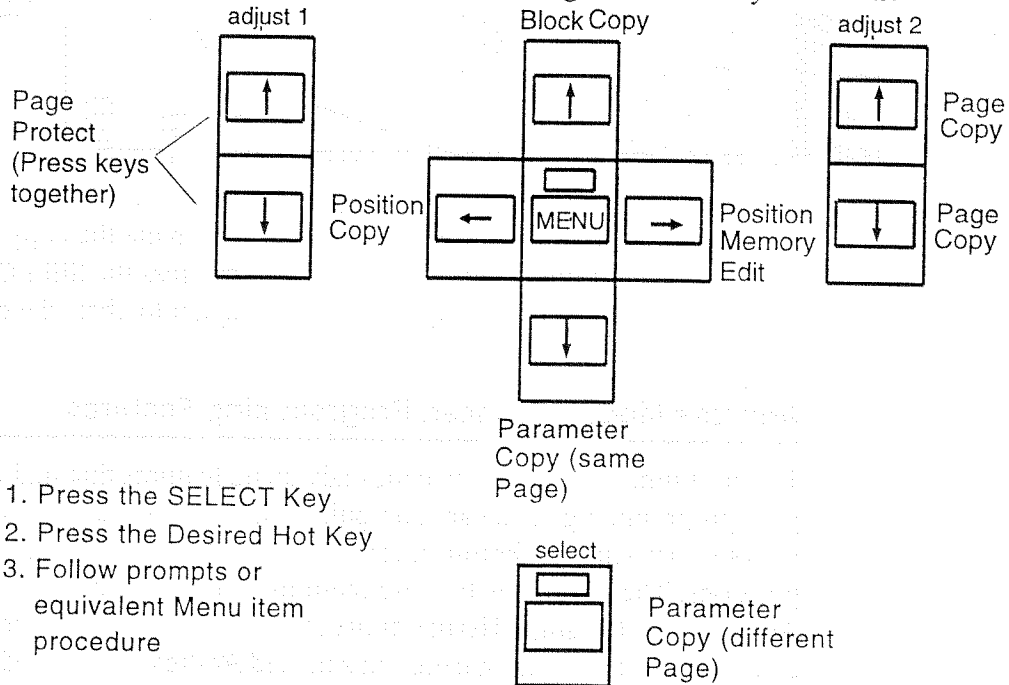


To perform the menu copy operations directly by hot key sequence:

1. Press the SELECT key, the SELECT key LED blinks.
2. Next, press the desired hot key. Then, follow the procedure as outlined under the Menu item for the same item. See Figure 4.1 for key locations.



1. Press the SELECT Key
2. Press the Desired Hot Key
3. Follow prompts or equivalent Menu item procedure

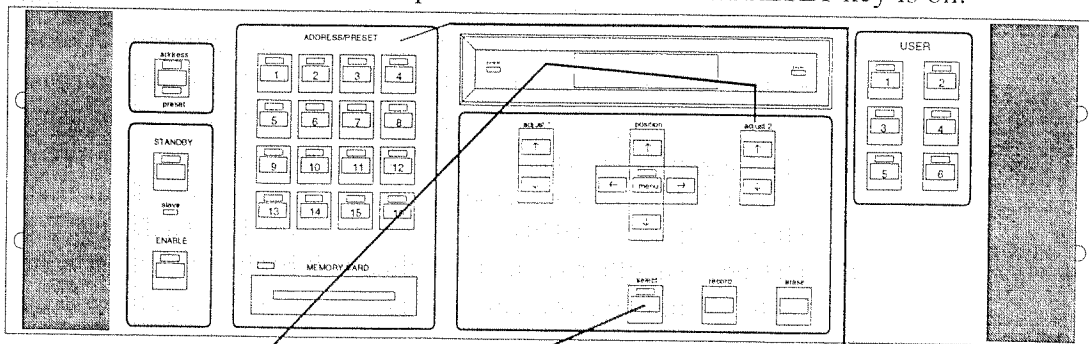
Figure 4.1. Hot Key Functions

Parameter Copy (to Different Page)

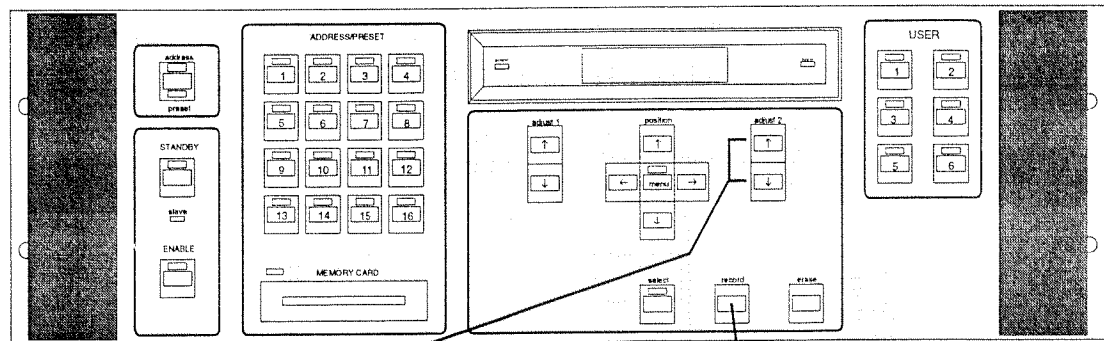
Use this procedure to copy all Construct parameters from a selected Address on one Page to another Page.

To copy all Address Construct parameters to different Page:

1. Ensure that the controller is in Ready mode and Address mode; the SELECT key LED is off and the top LED on the ADDRESS/PRESET key is on.



1. Press the ADJUST 2 Up/Down keys to select the source Page.
2. Press and hold the SELECT key, its LED flashes.
3. Select at least one Address on this Page that you want to copy to another Page and then release the SELECT key.



4. Press the ADJUST 2 keys to select the destination Page.

5. Press the RECORD key to complete the copy operation. or press the SELECT key again to abort the operation.

Address Mode Advanced Programming Features

The *universal* Controller provides advanced features that add convenience to your programming. You can manipulate and edit Address key Constructs in various combinations before recording their values, this includes mirror positions. The advantage to these features is that you can edit all selected Addresses **of the same fixture type**, then deselect those Addresses in any combination, then continue editing selected Addresses for another fixture type. You only need to press the RECORD key once when done.

As previously explained when you program Pages, you press the SELECT key in Ready mode, then press the desired Address keys that you want to program. Then, you edit the Constructs and press the RECORD key to complete the operation.

The *universal* Controller provides additional flexibility in the way you manipulate Addresses and Constructs on a Page. After you press the SELECT key, indicating programming mode, you can *select* and edit, then *deselect* and edit, *reselect* others and edit, and so on the Constructs for any number of individual Address keys, range of keys, or both, in any combination. You only press the RECORD key once when through with your edits. The controller remembers the Constructs from the first Address key that you press whether it's a single key or part of a range of keys and uses the values as a reference for multiple key activity. That is, the Construct from the first Address key is copied to all selected Addresses if you do nothing more than change one Construct with the ADJUST 1 key and press the RECORD key. You can change a Construct to another value, then change it back to the same value to keep the values the same. This is a convenient and quick way to copy Constructs between fixtures on a Page. If you exit without changing a Construct with the ADJUST 1 key, or if you exit by pressing the SELECT key, the edits do not change from their original values.

For example, you select the range of Address keys 5 through 12 by pressing and holding key 5 then press key 12. Keys 5 through 12 blink to indicate that they are selected. Since Address key 5 was the first key pressed, the controller stores its values and fixture type as the reference. You then add the range of Address keys from 13 to 16 by selecting them in the same fashion. Both ranges of key are now blinking. Then, you make the edits that apply to all selected Addresses of the same fixture type as the first address selected. Next, you want to make edits to Address keys 13 to 16, but not all that are currently selected. To do this, just deselect Address keys 5 to 12. Now, make your edits to the currently selected (blinking) Addresses which are Address keys 13 to 16. If all addresses are deselected, the LCD window displays a message stating "NO ADDRESSES SELECTED." The next address selected will become the reference for any edits made. It is not possible to select *emulator* and *intellabeam* or *trackspot* fixtures for editing at the same time. You can also use deselection to deselect all of one fixture type and then select addresses of a different fixture type for editing. Lastly, press the RECORD key complete the operation.

This flexibility also applies to editing mirror positions. However, only the *change* in mirror position is applied to the selected fixtures' mirror values.

After you press the SELECT key, indicating programming mode, you can *select* or *deselect* any number of individual Address keys, range of keys, or both, in any combination. You then use the digital joystick and edit the positions as required. You only press the RECORD key once when through with your edits.

When you move fixture positions with the digital joystick all selected fixtures move in harmony. That is, as you move the joystick the changing position value is added to or subtracted from the current position value. This mechanism simplifies repositioning multiple fixtures or fine tuning configurations from venue to venue.

Note: The factory ships the *universal* Controller with a demonstration program. If you want to clear all Addresses and set them to a known position value, remove any write protection and perform an erase all Memory operation. This sets the position values to the home position.

Preset Mode Programming

A Preset is a recording of a programmed Page or sequence of Pages that you create in Address mode. This recording is then assigned a Preset number that you use when you want to recall the program. Thus, Presets allow you to immediately recall a programmed Page or sequence of Pages. Presets store all of the Construct parameters, Delay (time) rate or Audio advance, and Effect settings that were programmed with a Page or sequence of Pages. If the Delay advance is active you record the Preset the time rate is stored with the Preset. If the Audio advance is active when you record the Preset then the audio advance mode and level are stored as part of the Preset. These Delay, Audio, and Effect settings can also be adjusted during the playback of a Preset. Preset can hold either a single Page (a

static scene) or a group of consecutive Pages (a chase or loop) that advances automatically.

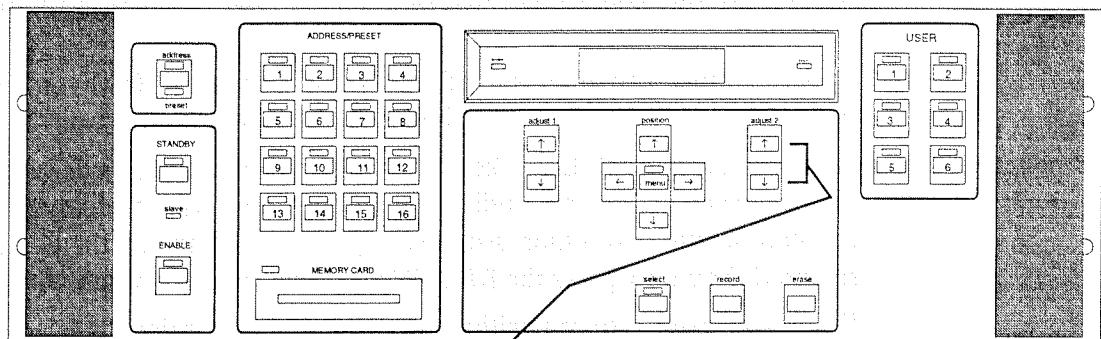
Presets are selected by front panel access, using four banks of 16 PRESET keys, thus providing 64 Presets.

If you have selected the Play All Memory (ALLMEM) option from the menu, this will be recorded in the preset. When this preset is selected, all initialized pages in memory will be played back.

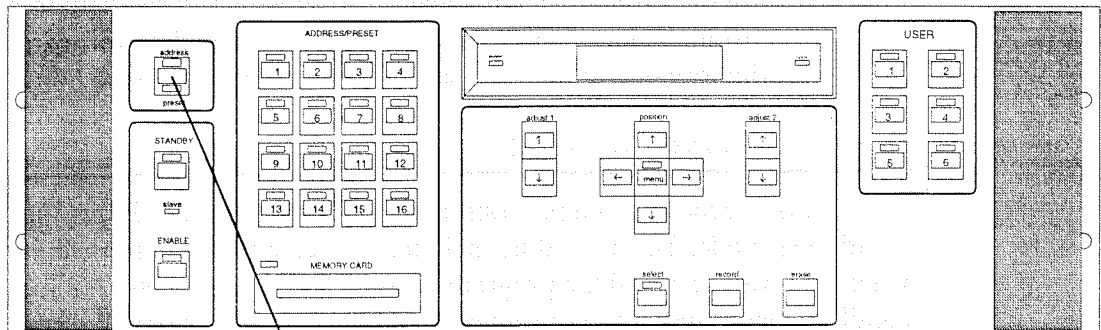
Create a Single Page Preset

To record a single Page (static scene) as a Preset, you do not need to bind the Page on either side by Uninitialized Pages as does a Loop of Pages. Creating or recording a Preset includes the programmed Page, any defined effects, state of Master Dim, and the state of Allmen.

To record a one Page Preset:



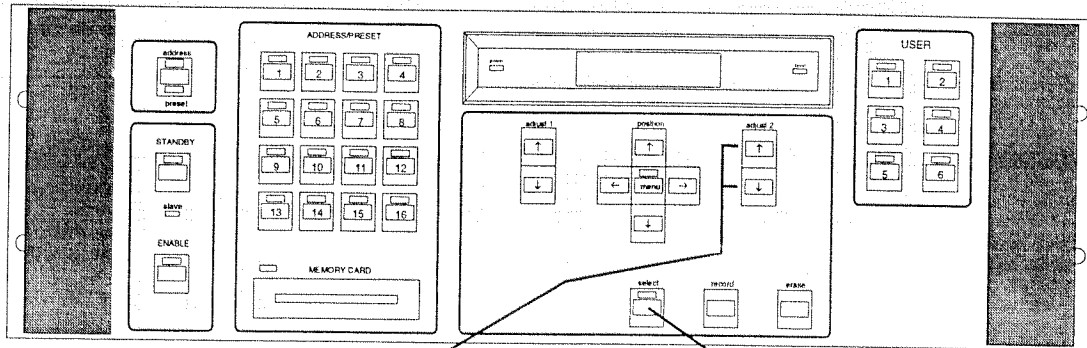
1. In the Ready mode and Address mode, select the Page that you want to record as a Preset. You must have previously recorded the Page in Address mode.



2. Select Preset mode by pressing the ADDRESS/PRESET key. The Address LED turns "off" and the Preset LED turns "on".

3. The LCD window displays:

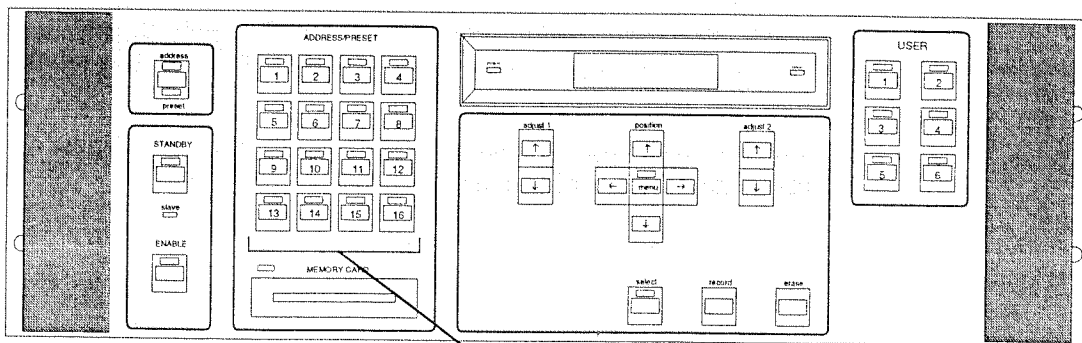
DIM PRESET BANK
99 PLAY 1



4. Press the ADJUST 2 Up/ Down keys to select Bank 1, 2, 3, or 4.
5. Press the SELECT key.

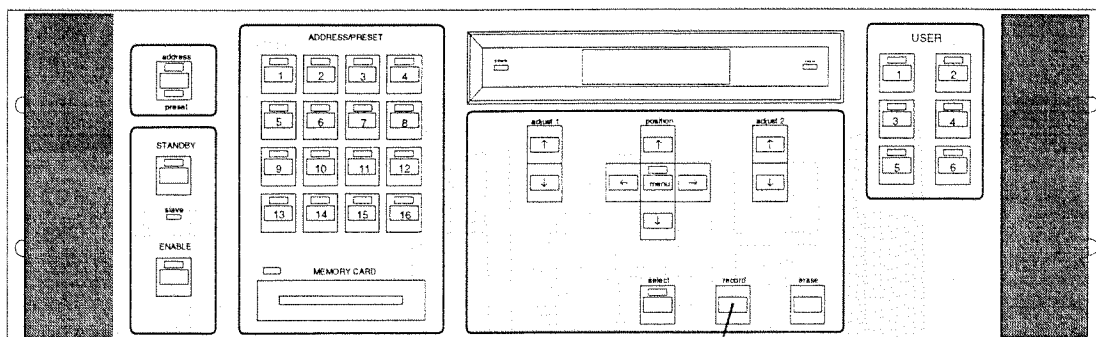
6. The LCD window displays:

DIM PRESET BANK
99 RECORD 1



7. Press the numbered Preset key (1 to 16) where you want to store the Page as a Preset. The Preset key blinks to confirm selection.

The ADDRESS keys become Preset keys in Preset mode.



8. Press the RECORD key.

The LED on the defined Preset key is now on solid to let you know this key is a defined Preset. You can now recall this Preset by the PRESET key number you assigned in step 7.

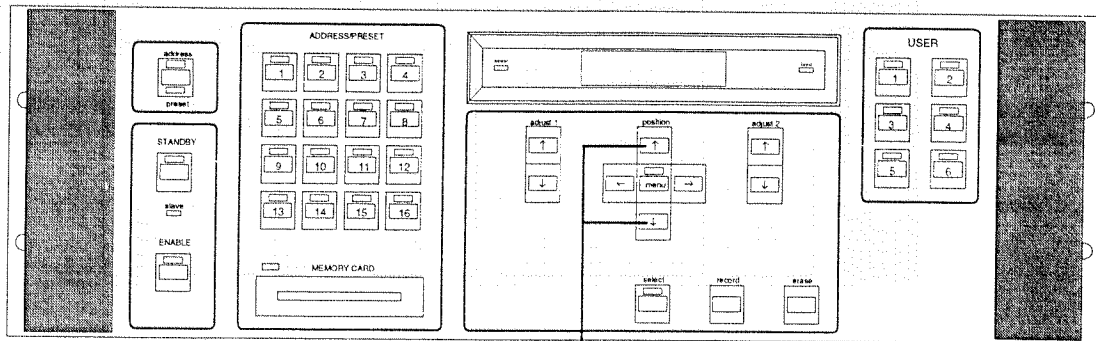
When you select a Preset for playback the Preset key blinks to let you know the Preset is running. When you switch banks with a Preset running, the PRESET LED blinks to let you know a Preset is running somewhere.

Create a Loop (Chase) as a Preset

To create or record a Loop (Chase) as a Preset, the Loop must be running. That is, the Pages must be advancing in auto playback mode or in audio playback mode. A Loop is a group of consecutive Pages bound by Uninitialized Pages. Refer to *Create an Uninitialized Page* section earlier in this chapter if you are not familiar with this concept.

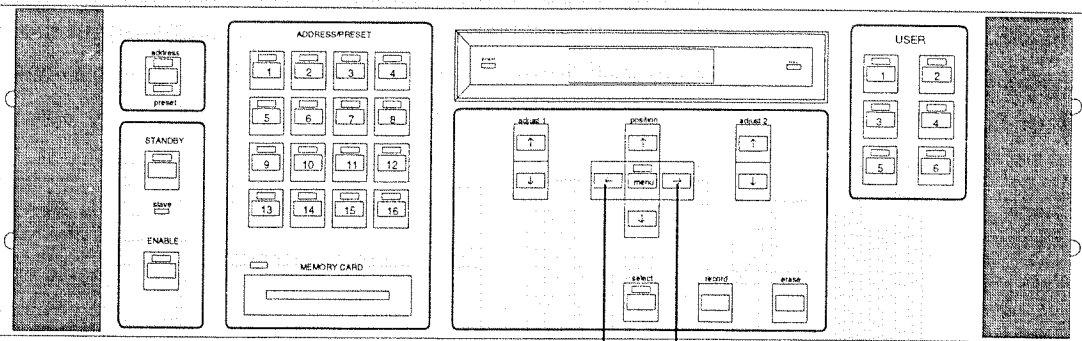
Creating or recording a Preset includes the programmed Pages, any defined effects, state of Master Dim, and the state of Allmen.

To record loop (or chase) as a Preset:



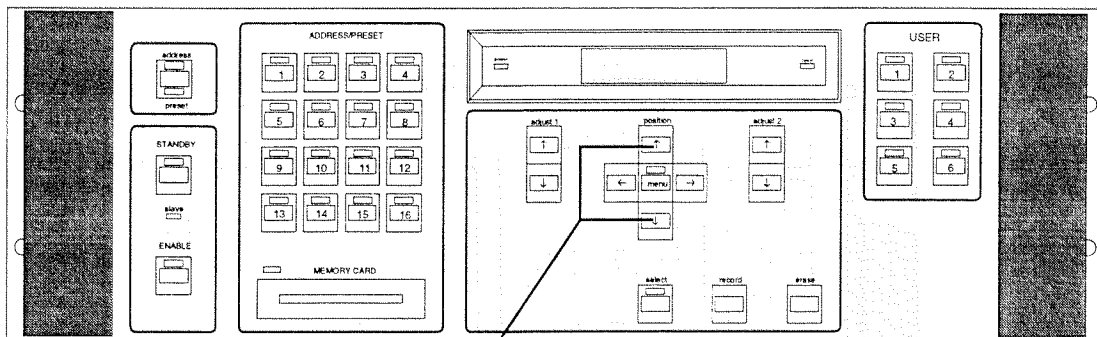
4

1. From Ready mode and Address mode, use the ADJUST 2 Up/Down Arrow keys to select any Page within the loop that you want to record as a Preset.



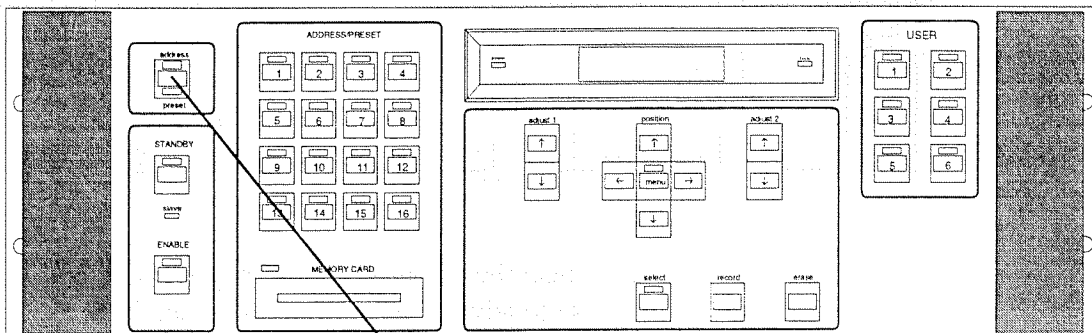
or

2. Select the advance mode that you want to use to advance Pages in this Preset. That is, press either the Delay (POSITION Right Arrow key) or Audio (POSITION Left Arrow key) key to start advancing Pages in the loop at the rate you set while advancing Pages.



3. Adjust the Delay or Audio advance parameters to their desired values as you run the loop.

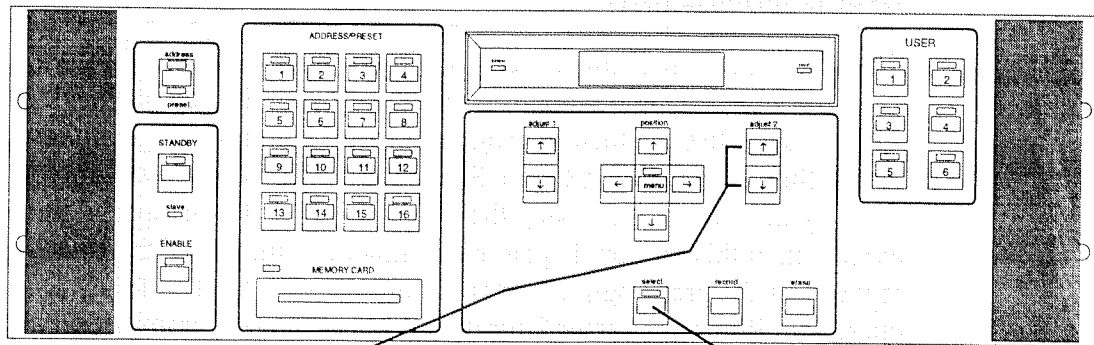
Note: The Delay advance value is considered when using the pause-on-beat feature. For example, if the Delay value is set to 0.5 seconds between Pages and the pause-on-beat value is set to (P10), then the Pages will advance at the 0.5 second rate, pause on the beat relative to the beat width, then continue advancing at the 0.5 second rate again waiting for another beat.



4. Press the ADDRESS/PRESET key to change the controller from Address Mode to Preset Mode. The Preset LED below the ADDRESS/PRESET key lights to indicate that the controller is in Preset Mode.

5. The LCD window displays:

DIM	PRESET	BANK
99	PLAY	1

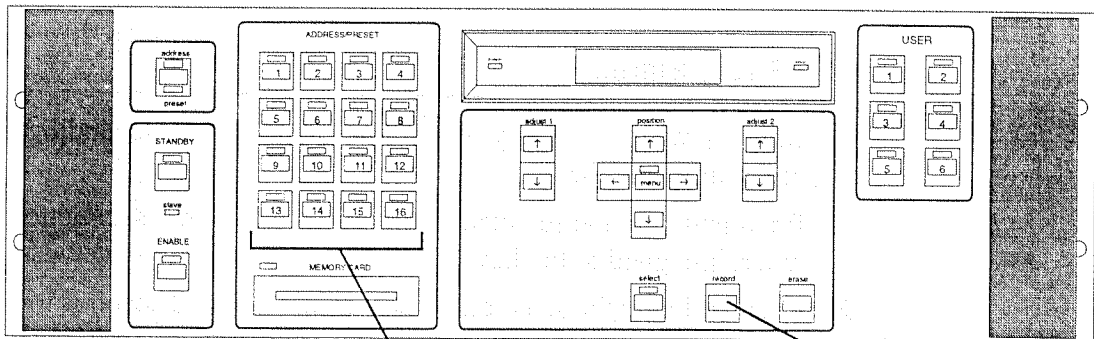


6. Select Preset Bank 1, 2, 3, or 4 using the ADJUST 2 Up/Down keys.

7. Press the SELECT key. The SELECT key LED flashes and

8. The LCD window displays:

DIM	PRESET BANK
99	RECORD 1



9. Press the PRESET key (1 to 16) on the front panel where you want to store the Loop. The selected PRESET key flashes.

10. Press the RECORD key. You have now recorded a Loop as a Preset.

Whenever you playback a Preset, the Preset advances through its Pages according to the Advance and Effect settings you set when you recorded the Preset.

If you ever want to change the Advance or Effect settings during the Preset playback, you can do so manually while the Preset is playing. These manual adjustments do not permanently change the way the Preset plays back. The Preset returns to the settings that you defined when you recorded the Preset.

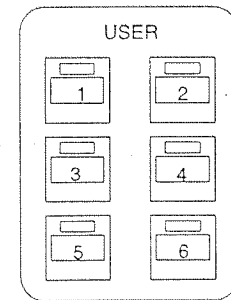
Note: To revert back to the original Preset rate after manually adjusting the rate, press the PRESET key again.

User Definable Keys

This section explains how to record, playback, and edit the six front panel USER keys. This section also explains how to abort a USER key playback operation. USER Keys 1 to 6 are factory programmed for common usage of these keys, that is, Audio Step/Pause, Color, Gobo, Size and Dim Effects. However, you can easily record your own macros using these six keys to suit your special purposes as explained in this section. If you record macros with any of the USER keys, you can still access the pre-programmed functions through the USER key *function* menu operation. Refer to Chapter 2 for details on the pre-programmed functions of these keys and how you can easily restore the six keys back to the factory pre-programmed values.

User keys 1 through 6 are factory programmed as follows:

- User 1 – Step on Beat Advance Key
- User 3 – Pause on Beat Advance Key
- User 5 – Size Modulate Key for *emulator*
- User 2 – Effect 1 Color Modulate Key
- User 4 – Effect 2 Gobo Modulate Key
- User 6 – Effect 3 Dim Modulate Key



USER Key States

When you press a USER key one of three states occur depending on how long you press and hold the key.

1. Press and hold the selected USER key in for up to 1 second to playback the macro assigned to the key.
2. Press and hold the selected USER key in for 1 to 2 seconds to enter the Edit menu where you can abort, playback, record, or perform one of the pre-programmed functions.
3. Press and hold the selected USER key in for 2 seconds or more to abort the Playback of the User Key macro.

Playback User Key Macros

Follow this procedure to playback a macro assigned to USER keys 1 to 6.

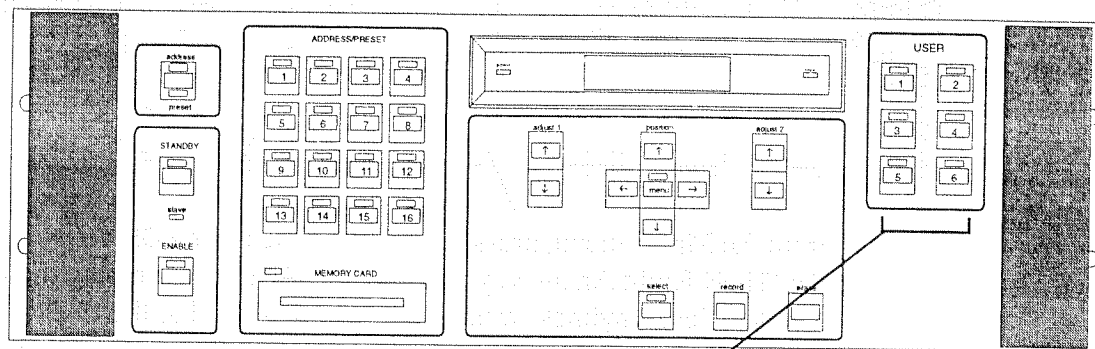
- Simply press and release the desired USER key within 1 second and the macro begins playing back.

You can also playback macros through the USER Key EDIT menu.

Edit User Keys

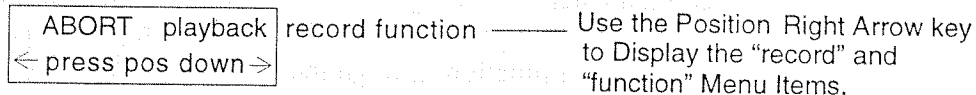
The Edit state provides a submenu where you are provided with an alternate method to abort and playback macros. More importantly though, this is where you record (create) the USER key macros. This is also where you can activate the pre-programmed special effects (Step/Pause, Color, Gobo, Size and Dim) without performing the restore (erase) procedure. Thus, you can define all six USER keys and still have access to the original pre-programmed special effect functions.

To enter the EDIT state:



1. Press and hold the desired USER key from 1 to 2 seconds. If you exceed 2 seconds you enter the Abort state.

2. The LCD window displays the EDIT menu:



Notice that the top line displays only the first two entries in the EDIT menu. The bottom line prompts you to press the POSITION Down Arrow key to perform the selected menu item. When you select menu items with the POSITION Right/Left Arrow keys the menu items change to capital letters.

3. Then, go to the following section associated to the menu item that you want to perform. For example, to record a macro go to the following *Record User Key Macros* section.

Abort Playing Macro

Select this menu item to abort the currently running macro. This operation has the same effect as pressing the USER key for more 3 seconds or more.

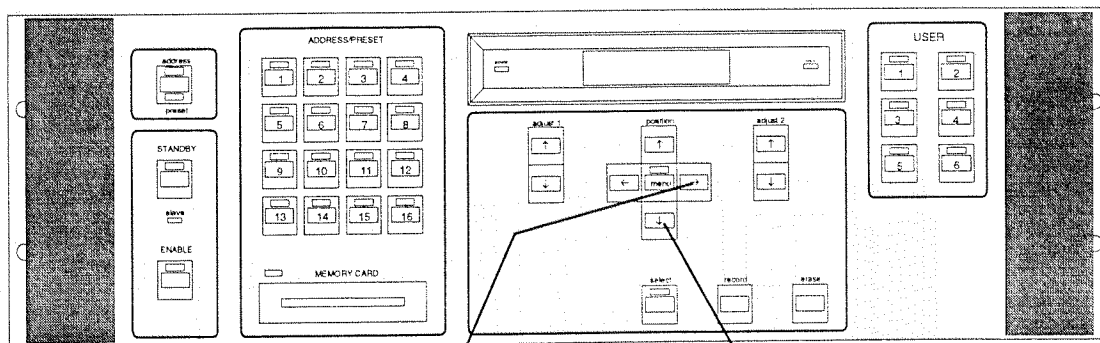
To perform an abort operation:

- Since abort is the first item in the EDIT menu it is selected by default, just press the POSITION Down Arrow key and the macro aborts.

Playback Macros

Select this item to playback macros from within the EDIT menu. Otherwise, you playback macros by just pressing the appropriate USER key.

To playback macros from the EDIT menu:



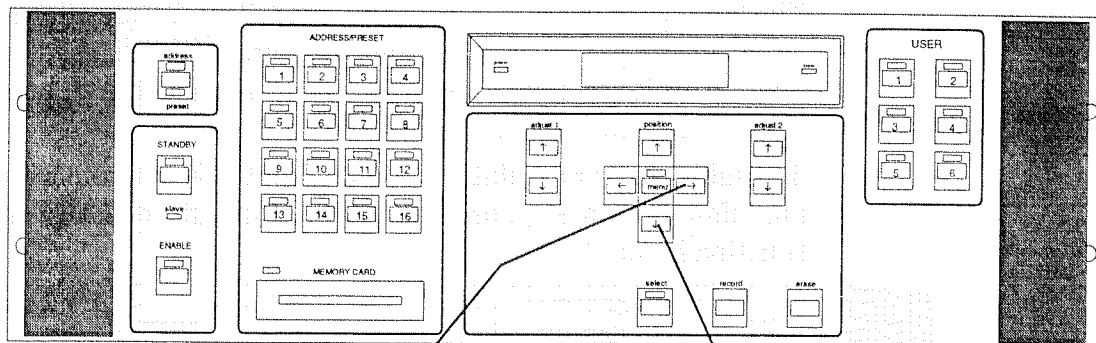
1. From the Macro menu, press the POSITION Right Arrow key once to select playback, which changes to PLAYBACK (all capitals).
2. Press the POSITION Down Arrow key to play the macro assigned to the USER key that you pressed to enter the EDIT menu.

Record User Key Macros

You can program any one or all of these six keys as desired. When you record a macro and assign it to a USER key, you cannot then use the key to recall its pre-programmed function. However, you can still recall the pre-programmed function through the EDIT menu *function* item; see the following section. When you decide to restore the pre-programmed values remember that the controller restores all six keys.

A macro is a recording of key presses that you assign to one of the six USER keys. Then, you simply press the USER key once to playback the macro.

To record a macro for the selected USER key:



4

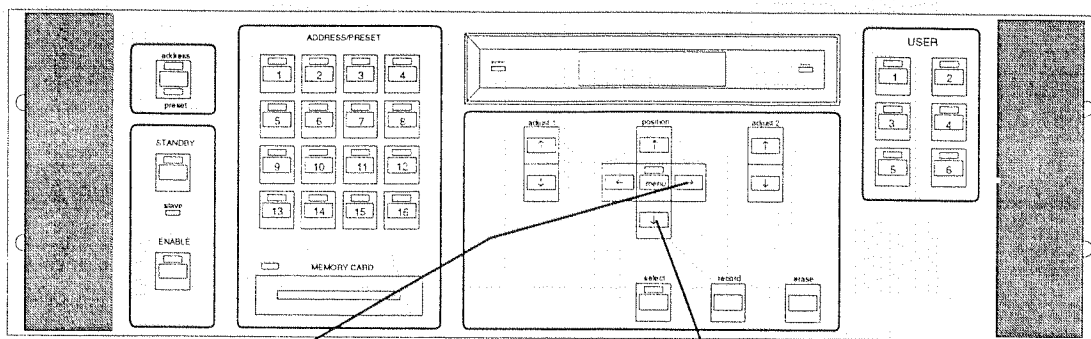
1. From the Macro EDIT menu press the POSITION Right Arrow key twice to select record. Record changes to capital letters.
2. Next, press the POSITION Down Arrow key to open the macro recorder.

Note: when you complete your macro key presses you will reenter the EDIT menu again to stop the macro recorder.

3. Now, every key press you make is recorded in this macro. The macro accepts up to 128 key presses. Note, however, that if a single key is pressed repetitively, after three presses the information is compressed in the following manner: 3–255 presses take the space of two presses, 256–16,535 presses take the space of three presses.

Note: While recording a macro, address range selection and automatic scrolling associated with changing pages and master dim are disabled. So if you want to record a macro to advance the current page by 100, you must press the ADJUST 2 up key 100 times.

4. When you have completed your macro press the same USER key again that you started with to re-open the EDIT menu. That is, the USER key that you want to assign to this macro. This time the EDIT menu displays stop recording rather than recording.

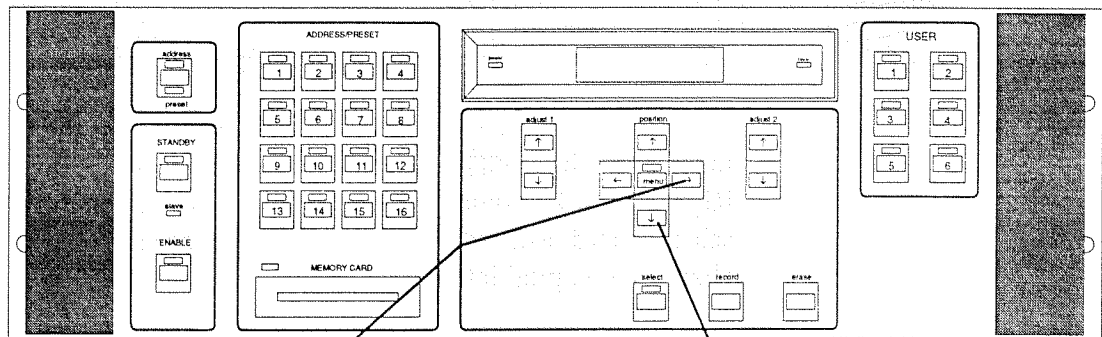


5. Press the POSITION Right Arrow twice to select the stop recording item.
6. Then, press the POSITION Down Arrow key to complete the operation.

Activate Delay, Step, Pause, 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, Gobo modulate, Size modulate, Dim modulate, Audio Step, or Audio Pause through the EDIT menu function item:

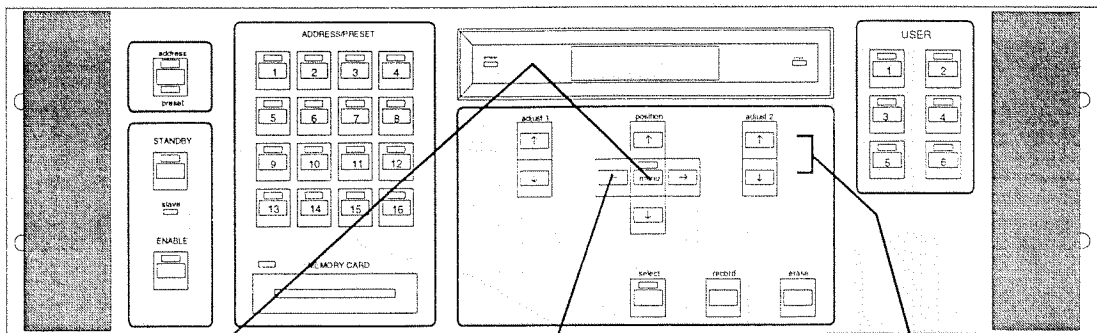


1. From the EDIT menu press the POSITION Right Arrow key three times to select function. Function changes to capital letters.
2. Press the POSITION Down Arrow key to activate/deactivate the user key's function.

Erase User Definable Keys (Restore)

This item allows you to erase or restore USER DEFINABLE keys 1 to 6 to their pre-programmed values. That is, Audio Step/Pause, Color, Gobo, Dim, and Size effects. You may want to perform this operation to restore the keys after redefining the keys for macros. Note that when you perform this operation that all six keys are returned to their pre-programmed values.

To erase all six User Definable keys:



1. From Ready mode press the MENU key.
2. Press the POSITION Left Arrow key twice.
3. Press any ADJUST key to enter the ERASE submenu.