4. Press the CURSOR Right Arrow key five times to select the erase user item. The words ERASE USER appears in all capital letters when selected. Notice this time that the LCD window shows a left pointing arrow indicating that the menu items shifted to the left to display ERASE USER. The second line in the LCD window displays: "Hold SELECT & ERASE to clear user keys"

```
←serial port   edit/copy erase all ERASE USER
Hold SELECT & ERASE to clear user keys
```

5. Press and hold the SELECT key and then press the ERASE key. Do not release the SELECT key. The second line in the LCD window now displays: "ERASE again to confirm, SELECT to cancel."

```
←serial port   edit/copy erase all ERASE USER
ERASE again to confirm, SELECT to cancel
```

6. To complete the erase operation, while still holding the SELECT key, press the ERASE key again. The LCD window displays: "ERASING... USER KEYS".

Programming

The *emulator* controller has six separate Memories, each containing 99 Pages. This provides a total of 594 Pages of storage in the controller's memory. You can program each Page individually, in a sequence, or in loops. A Page (traditionally called a scene) consists of Constructs (Color, Gate, Delay, Xfade, Position, Speed, and so on) that you define for up to 24 fixture Addresses and their modifications. You program the controller in IMP mode.

IMP mode provides you with two programming modes, Address and Preset:

Address Mode: In Address mode you directly program one or more fixtures by entering Construct parameters directly into Memories and Pages and then record the parameters. You then playback the information by manually selecting Memories and Pages or automatically by selecting the AUTO (auto advance) key.

Preset Mode: In Preset mode you save a program that you created in Address mode as a Preset program and assign it a keypad number. You then recall the program at any time by its assigned keypad number.

Note: If you are not familiar with the *emulator* Controller's Constructs read or review *Section 3* before programming the controller.

Address Mode Programming

There are 24 Addresses available on the *emulator* Controller that control 24 fixtures. You can assign more than one fixture to an Address, thus configure up to 24 sets of fixtures. If several fixtures are assigned to the same Address, they all share the same Constructs and they all move at the same time in response to the joystick when you select their Addresses.

A Page consists of the Construct parameters and positions for up to 24 fixture Addresses and their modifications. You can compare a single Page to a "scene" in traditional lighting desk nomenclature. An individual Page can be as simple as a single fixture, in plain white light, shooting straight out, or as complicated as multiple fixtures with completely different colors and patterns moving everywhere.

You playback these Pages as static scenes, simple chases, or very complex chases. No individual chase can be longer than 99 Pages. Creating a Page can be accomplished easily by using the simple four-step method as follows:

The Four-Step Method to Create a Page

- To begin Programming, **make sure you are in IMP (Intensity, Memory, Page) mode.** If the LCD window does not show the current Intensity, Memory and Page setting, the controller is in Menu mode. Press the MENU key to exit Menu mode. In IMP mode, you access the Memory and Page where you begin programming.

- Make sure you are in Address mode (the LED under the ADDRESS key will be lit if you are in Address mode.). If you are not in Address mode, press the ADDRESS/PRESET key to change the controller to Address mode. The ADDRESS/PRESET key toggles the controller between these two modes. The ADDRESS/PRESET key is located in the upper left corner on the front panel of the controller. Refer to Figure 5.3.

- Use the CURSOR Up/Down Arrow keys to select the Memory and the PAGE Up/Down keys to select the Page where you want to begin programming. For example, Memory 1, Page 1, or Memory 3, Page 4.

1. Press the SELECT key. The SELECT key LED flashes. Ensure that the Standby lamp is out. Refer to Figure 5.3.

2. Next, select one or more fixture Addresses that you want to program by pressing their respective controller ADDRESS keys.

3. Set the Construct parameters by pressing the desired Construct key. Use the CONSTRUCT Up/Down Arrow keys to set the Construct parameters for the selected Addresses. Refer to *Chapter 3* for information about Construct parameters. Repeat this step for each Construct parameter that you want to change or define.

4. Press the RECORD key. The LCD window indicates recording. To playback the Page refer to the *Playback* section later in this chapter.

Figure 5.3. emulator Controller Front Pane l
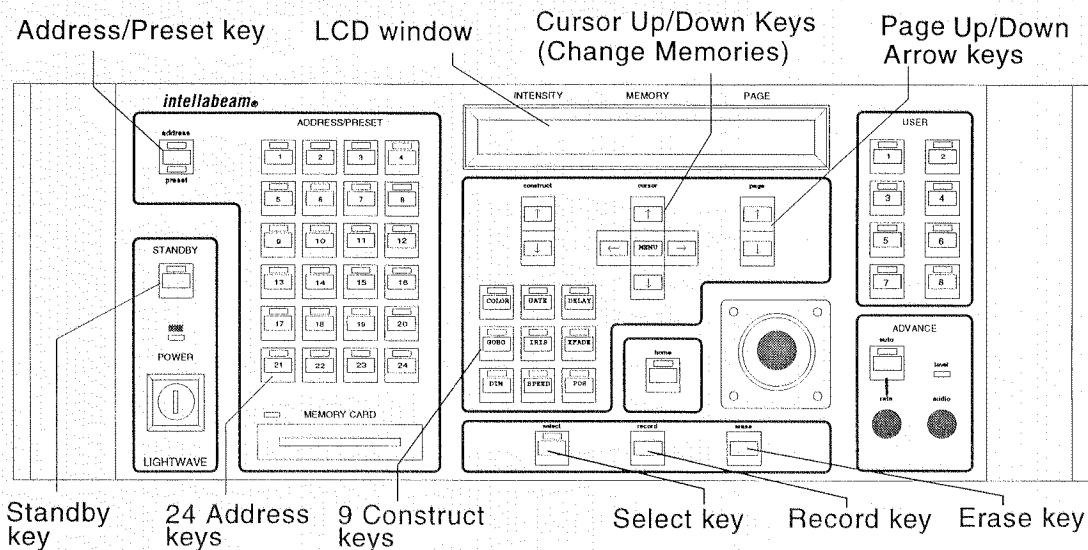
Note: 9 prime Construct keys are on the front panel. Select remaining Constructs through the LCD window.

Selecting a Range of Addresses

To select a block or range of Addresses, simultaneously press both the highest and lowest numbered ADDRESS keys of the desired range. All Addresses from the lowest numbered key to the highest numbered key that you press are selected. For example, to select Addresses 1 through 8, press keys 1 and 8 at the same time.

Editing Construct Parameters

You edit Constructs whenever you want to change the existing parameters for a program. For example, you want to change colors, delay, and so on for one or more fixtures. You edit Construct parameters in IMP mode. In this mode, you set the Intensity (Master Dim), select the Memory to use, and select the Page within the Memory to program. From this mode, you program and edit your light show.

To edit fixture Constructs:

1. Place the controller in IMP mode. If the controller is in Menu mode, press the MENU key to exit Menu mode and enter IMP mode.

   Intensity: 99   **M**emory: 1   **P**age: 1

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 appropriately numbered keys on the Address/Preset keypad to select the fixtures that you want to edit. The 24 ADDRESS keys corresponding to the fixtures with the same Address. That is, ADDRESS key 1 corresponds to the fixture Addressed as 1, ADDRESS key 2 corresponds to the fixture Addressed as 2, and so on.

   The Construct menu appears in the LCD window. There are 16 Constructs available through the LCD window menu: Gate, Color, Position, Program, Speed, Xfade, Delay, Rotate (F2), Scan (F1), Dim, Scale, X-scale, Y-scale, X-function, Y-function, and X-Y sync. The first nine Constructs are also accessible through keys.

   Refer to *Chapter 3* for details on Constructs and their parameters.

4. To select a Construct, press the CURSOR Right or Left arrow keys until the menu item that you want to edit is capitalized. If the Construct is assigned to a key you can press the individual Construct key. Notice that the name of the Construct key you press becomes capitalized in the LCD window.

5. To edit the Construct's parameter, that is change its value, press the CONSTRUCT Up and Down arrow keys. These keys are located just to the left of the MENU key under the LCD window.

6. Press the RECORD key to save your changes. Press the SELECT key to cancel the operation. The controller then returns to IMP mode.

Creating and Running Loops

A loop is a sequence of Pages that runs continuously until you stop it. For example, you may have created a sequence in Pages 5 and 6 that moves the beam from position A to position B, changes program from a rotating triangle to a spinning circle, and then changes colors from red to green. You now want to continuously run these two pages in a loop.

To continuously run a sequence of Pages in a loop you must bracket the Pages that you want to include in the loop with two Non-Initialized Pages. In the previous example, you would make Pages 4 and 7 Non-Initialized pages. Then, when you run the loop, it would run continuously from Pages 5 through 6.

Creating a Non-Initialized Page

A Non-Initialized Page acts as a "placeholder" to indicate the beginning and end of a chase or loop. To create a Non-Initialized Page you perform a double erase operation to the Page.

The controller automatically places a Non-Initialized "Page" before Page 1 and after Page 99. However, if you want to program a Loop from Page 10 to Page 15 you would make Pages 9 and 16 Non-Initialized Pages in order for Pages 10 through 15 to perform as a Loop.

Page 9	Non-Initialized Page
Page 10	
Page 11	
Page 12	Loop of Pages
Page 13	
Page 14	
Page 15	
Page 16	Non-Initialized Page
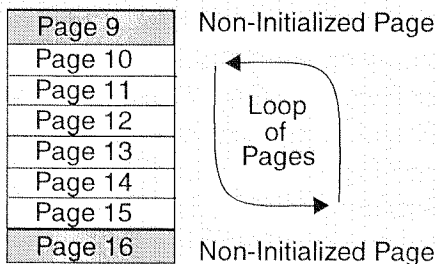
To create a Non-Initialized (un-initialize) page:

1. Select the first or beginning Page that you want to "Non-Initialize." Use the PAGE Up/Down keys to select the Page. Use the CURSOR Up/Down keys to select the Memory.

2. Press the SELECT key to select the Page. The SELECT key LED flashes. Disregard the LCD window display for this step.

3. Press the ERASE key once. The LCD window displays: "Press ERASE to un-initialize M:x (x=current memory #) P:x (x=current page #) or press SELECT to exit."

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

4. Press the ERASE key a second time to un-initialize the page. In a moment the controller returns to IMP Mode.

    Repeat steps 1 to 4 for the second or ending Non-Initialize page.

Note: When you press any A/P key while the controller is on a Non-Initialized Page the LCD window displays:" This page is not initialized."

This completes the Non-Initialize page operation.

Running a Loop

With the loop created and bracketed with Non-Initialized Pages you can now run the loop.

To run a loop:

1. Use the PAGE Up/Down keys to display in the LCD window any Page in the loop.

2. Then, press the AUTO key located over the RATE knob. The auto LED lights and the loop runs beginning from the Page you set in the LCD window.

3. The controller advances the Pages at the rate you set with the RATE knob. Adjust the knob clockwise to run the loop faster and counterclockwise to run the loop slower. Note that any delay times you program increase the Page advance rate.

Position Memory (Position Preset)

The *emulator* Controller has a time-saving feature called Position Memory (commonly called "Position Preset"). Position Memory allows a Page to refer to another Page for X and Y position information. This allows *many* Pages to use the same X and Y position information from another single Page. When that one reference Page is altered, all Pages that refer to it reflect the change. **Memory 6 is the Memory designated as "Position Memory."** You can program all 99 Pages of Memory 6 as position preset Pages. Note that you can still use all Pages not used as Position Memory as regular Memory Pages.

The following scenario is a typical example of Position Memory: A show is programmed for a specific focus (that is, lead singer - down stage center, drummer - up stage center, keyboard player - stage left). In Memory 6, Page 1 is programmed with all fixtures directed towards the lead singer. Since this position is stored in Page 1of Memory 6, it is referred to as "position number one" or "position one." Similarly, positions two and three for the drummer and keyboard player are programmed into Memory 6, Pages 2 and 3 respectively.

A show can be programmed in Memories 1 through 5, or in Pages of Memory 6 that have not been used as position reference Pages. You can now easily adjust the positions of the fixtures by position number instead of by joystick movement on each individual Page.

Position Memory provides for a simple process where you can quickly update a show when it moves from one venue to another. At each venue the fixtures may be mounted in different positions and the stage and trusses may be arranged differently. In the above example, only Pages 1, 2, and 3 of Memory 6 need to be changed in order to update the whole show. All Pages with positions 1, 2, and 3 will be adjusted automatically.

Creating Position Reference Pages in Memory 6

The Pages in Memory 6, where you record position information, become Position Preset Pages 1 to 99. Do not confuse "Position Presets" with "Preset mode programming covered in a following section.

1. Select a Page in Memory 6. The Page number you select in Memory 6 becomes the reference Position Preset number (1 to 99) when you complete this procedure. Use the CURSOR Up/Down keys to select Memory 6 and PAGE Up/Down keys to select a Page.

2. Press the SELECT key, the SELECT key LED flashes.

3. Press the ADDRESS keys of all the fixtures that you want to include in this Position Preset. To select all Addresses press keys 1 and 24 together.

4. Use the joystick to position the fixtures on a reference point (for example, lead singer - center and front.)

5. Press the RECORD key. The position information for this Position Preset is now recorded. The assigned Position Preset number is the same number as

the Page you selected in step 1. For example, if you selected Memory 6, Page 5, in step 1, then when you apply this Position Preset at a later time, it will be Position Preset 5.

Using the Position Reference Pages in Memory 6

1. Select the Memory and Page that you want to program.
2. Press the SELECT key, the SELECT key LED flashes.
3. Press the ADDRESS keys for the fixtures that you want to reference to the Position Presets recorded in the Position Memory Page in Memory 6.
4. Press the POS (Position) key and the LCD window now displays either "JOYSTICK", or "POSITION: PRESET 1- 99" for Position Preset numbers which refer to positions in Memory 6. If the display shows "JOYSTICK," it means that the position of this fixture is determined by the positioning of the joystick on the **current** Page and that no Position Preset in Memory 6 is referenced.
5. Use the CONSTRUCT Up/Down arrow keys to select the desired Position Preset number in Memory 6 that you want to reference.
6. Press the RECORD key.

   The fixtures that you selected in step 3 now use the position information recorded in the Position Preset reference Page in Memory 6. Any time you change the position of the Addresses on the Position Preset reference Pages in Memory 6, the Pages that refer to that Page for position will also change.

Address Lockout (Fixture Exclusion)

This feature enables the **temporary** removal of one or more fixture Addresses from all sequences. This might be necessary in the event of a malfunction or if you want to remove an Address from a program for a special event or effect. Removing a fixture in this manner requires no reprogramming because no Memory is actually changed. Use Address Unlock to return the fixture to normal operation. Locked Addresses are returned to unlocked position at controller power up.

To lockout an Address:

1. Press and hold for 30 seconds the ADDRESS key of the Address that you want to lock out. The LCD window displays the current parameter settings for that Address while you hold in the ADDRESS key.

Dim	Clr	Gbo	Gat	Irs	Spd	Pos	Xfd	Dly	Pag
99	1	1	CL	99	99	JS	0.1	0.0	1

2. After 30 seconds the bottom line in the LCD window displays: "Address x is locked out." The lamp of the locked out fixture turns off.

```
Dim  Clr  Gbo  Gat  Irs  Spd  Pos  Xfd  Dly  Pag
Address x is locked out
```

Note: Anytime you press an unlocked ADDRESS key, the LCD window displays the abbreviated parameter titles and their values.

Address Unlock

You can return any locked out Addresses to normal operation by using the same procedure that locks out an Address. Also, all Addresses are returned to their un-locked settings upon power up of the controller. The LCD window displays: "Address x is locked out."when you select a locked Address.

To unlock a locked Address (fixture):

1. Press and hold the locked out ADDRESS key for 30 seconds.

2. The settings programmed for that Address appear in the LCD window. The lamps of the fixtures turn on when unlocked. The Address is now unlocked.

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, Advance, and Effect settings that were programmed with a Page or sequence of Pages. You can change the Advance and Effect settings during the Preset recording process. The Page Advance rate is stored with each Preset. These Advance, and Effect settings can also be adjusted during the playback of a Preset. The Audio level is independent of the Presets. 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 the 24 PRESET keys. In addition, the *emulator* Controller is capable of storing up to 1023 Presets by using a remote analog input device.

Note: If you lock out any Memories you also lock out Presets from those Memories.

Recording A One Page Preset (Scene)

To record a single Page (static scene) as a Preset, the Page does not need to be bound on either side by Non-Initialized Pages as does a Loop of Pages.

To record a one Page Preset:

1. Select the Memory and 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. Press the SELECT key.

4. Press the numbered Preset key (1 to 24) where you want to store the Page as a Preset. The ADDRESS keys become Preset keys in Preset mode.

5. Press the RECORD key. You can now recall this Preset by the PRESET key number you assigned in step 4.

Recording A Sequence (Loop or Chase) as a Preset

To 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 a Non-initialized Page before the group of consecutive Pages and a Non-initialized Page after the group of consecutive Pages. Refer to *Creating a Non-initialized Page* earlier in this section if you are not familiar with this concept.

To record a sequence or loop as a Preset:

1. Use the PAGE Up/Down Arrow keys and select any Page within the loop that you want to record as a Preset.

2. With the controller in Address mode, press the AUTO key. The Pages start advancing, playing back the loop at the rate set by the RATE knob.

3. 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.

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

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

5. Press the PRESET key (1 to 24) on the front panel where you want to store the Loop.

6. Adjust the Advance, Rate, and Effect settings if required; these settings are recorded as part of the Preset. Whenever you playback a Preset, the Preset advances through its Pages according to the Advance, Rate, and Effect settings you set when you recorded the Preset.

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

   If you ever want to change the Advance, Rate, 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.

Programming a Preset in Twelve Level Preset Access Mode

Twelve Level Preset Access is a way of expanding the number of available Presets from 24 (that is, the 24 Preset buttons on the front panel of the *emulator* Controller) to 288 by using an auxiliary controller. Programming in Twelve Level Preset Access is similar to programming Presets with the *emulator* Controller with one exception; one of the twelve Analog Inputs on the rear of the *emulator* Controller must be activated during programming. Before beginning, make sure the *emulator* Controller is configured for Twelve Level Preset Access by setting Personality DIP Switch B on the rear of the *emulator* Controller to Switch 3 "On." Also, make sure an analog controller is correctly patched to the Analog Inputs connector on the rear of the controller. Refer to *Twelve Level Preset Access* in Chapter 6 for additional information.

To program a Preset using Twelve Level Preset Access:

1. Put the controller in Preset mode by pressing the ADDRESS/PRESET key until the Preset LED lights.

2. Press the PAGE Up/Down Arrow key to select any Page within the loop that you want to record as a Preset.

3. Press the AUTO key. The Pages start advancing, playing back the loop.

4. Press the SELECT key. The SELECT key LED flashes.

5. Activate the 0-10 volt analog input channel where you want to store the desired Preset. For example, to program the first level of 24 Presets, turn on channel one on the auxiliary controller. To program the second level of 24 Presets (25 to 48), turn on channel two on the auxiliary controller, and so on through the 12 levels. Twelve levels times 24 equals the maximum 288 presets.

   Note: The table in Appendix E contains a time saving list of Preset numbers, keys, and levels.

6. Press the PRESET key number (1-24) on the front panel where you want to store the Preset. You can now adjust the Advance, Rate, and Effect settings. These settings are recorded as part of the Preset. Whenever you playback a Preset, the Preset advances through its Pages according to the Advance, Rate, and Effect settings you set when you recorded the Preset. However, if you ever want to change any of the Advance or Effect parameters when playing back a Preset, you can do so manually while the Preset is playing. These manual adjustments do not permanently change the Preset. It automatically reverts back to the initial settings as recorded.

7. Press the RECORD key. The Select LED stops flashing and the Preset is now recorded.

Recalling a Preset in Twelve Level Preset Access Mode

To recall the Preset, press the ADDRESS/PRESET key, the PRESET key LED lights. This puts the *emulator* Controller in the Preset mode. Turn on the channel on the auxiliary controller where you recorded the Preset. On the *emulator* Controller press the PRESET key number of the Preset you wish to recall.

Programming a Preset in Binary Preset Access Mode

Binary Preset Access is a way of expanding the number of available Presets from 24 (the 24 Preset buttons on the front panel of the *emulator* controller) to 1023 by using an auxiliary controller.

Programming in Binary Preset Access is similar to programming Presets as usual with the *emulator* Controller with one exception; any combination of the first 10 of the 12 Analog Inputs on the rear of the *emulator* Controller must be activated during programming. Before you begin, ensure that the controller is configured for Binary Preset Access by setting Personality DIP Switch B on the rear of the controller to: Switches 3 and 5 "On." Also, make sure an analog controller is correctly patched to the Analog Inputs connector on the rear of the *emulator* Controller. Refer to *Binary Preset Access* in Chapter 6.

To program a Preset using Binary Preset Access:

1. Select Preset mode by pressing the ADDRESS/PRESET key; the Preset LED lights.

2. Use the PAGE Up/Down Arrow keys to select any Page in the loop of Pages that you want to record as a Preset.

3. Press the AUTO key. The Pages start advancing, playing back the loop.

4. Press the SELECT key. The SELECT key LED flashes.

5. Press a numbered PRESET key on the front panel of the *emulator* Controller. The PRESET key that you press is not important; this action only alerts the controller that you are about to record Presets. You can now adjust the Advance, Rate, and Effect settings. These settings are recorded as part of the Preset. Whenever you playback a Preset, the Preset advances through its Pages according to the Advance, Rate, and Effect settings that you set when you recorded the Preset. However, if you want to change any of the Advance or Effect parameters while playing back a Preset, you can do it manually. These manual override operations do not permanently change the Preset.

6. Activate any combination of the first 10 of 12, 0-10 volt, input channels. This unique combination of activate and non-activate channels can be represented as a binary number with 10 digits where the Preset is stored.

    Appendix E provides a chart listing the Analog Input Channel values for all 1023 channels. For example, you may store Preset 1 as the binary equivalent of 1(1000000000). This is channel 1 "On" and channels 2 to 10

"Off." Preset number 948 is stored as the binary equivalent of 948 (0010110111), which is channels 3,5,6,8,9, and 10 "On" and channels 1, 2, 4, and 7 "OFF.".

7. Press the RECORD key. The SELECT key LED stops flashing and one of the PRESET key LED's on the front panel lights up indicating that you recorded a Preset. The LED that lights is not necessarily the one that you pressed, but the one corresponding to the remainder (long division) of the decimal equivalent of the binary Preset number divided by 24. In the above example, decimal Preset number 948 divided by 24 is 39 with a remainder of 12 which causes the LED for Preset key number 12 to light up.

Recalling a Preset in Binary Preset Access Mode

To recall the Preset, press the ADDRESS/PRESET key, the PRESET key LED lights. This puts the *emulator* Controller in the Preset mode. On the auxiliary controller, turn on the channel for the recorded Preset that you want to recall.

User Definable Keys 1 Through 8

This section explains how to record, playback, and edit the eight 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, Random advance, Audio 1 advance, Audio 2 advance, and Color, Gobo, and Light Effects. However, you can easily record your own macros using these eight 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 3 for details on the pre-programmed functions of these keys. Refer to the SETUP submenu earlier in this chapter on how you can easily restore the eight keys back to their factory pre-programmed values.

User keys 1 through 6 are factory programmed as follows:

User 1 – Random (time) Advance Key
User 3 – Audio Advance 1 Key
User 5 – Audio Advance 2 key
User 2 – Effect 1 Color Modulate Key
User 4 – Effect 2 Gobo Modulate Key
User 6 – Effect 3 Dim Modulate Key
User 7 – Undefined
User 8 – Undefined
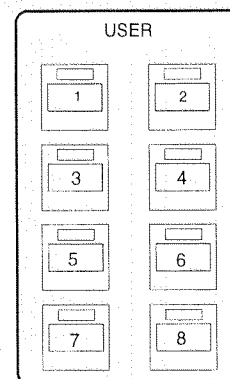
User Key States

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 2 to 3 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 3 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 8.

• 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 (Random adavance, Audio 1 and 2 advance, color, size, and Dim) without performing the restore (erase) procedure. Thus, you can define all eight 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 2 to 3 seconds. If you exceed 3 seconds you enter the Abort state. The LCD window displays the EDIT menu:

EDIT Menu ———
ABORT playback record function
Press cursor down to abort macro play
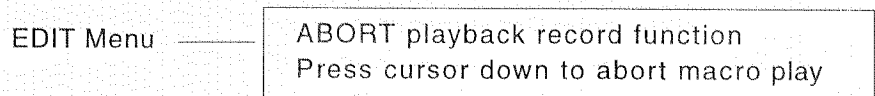
The top line lists the available item that you can perform from this menu. When you select menu items with the CURSOR Right/Left Arrow keys the menu items change to capital letters.The bottom line prompts you with the required action to perform the selected menu item. It will usually request that you press the CURSOR Down Arrow key to continue.

2. 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. Then, just press the CURSOR 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 EDIT menu press the CURSOR Right Arrow key once to select playback. Playback changes to capital letters.

2. Then, press the CURSOR 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 eight 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 the six pre-programmed 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:

1. From the EDIT menu press the CURSOR Right Arrow key twice to select record. Record changes to capital letters.

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

2. Next, press the CURSOR Down Arrow key to open the macro recorder.

3. Now, every key press you make is recorded in this macro. The macro accepts up to 256 key presses.

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 that recording.

5. Press the CURSOR Right Arrow twice to select the stop recording item.

6. Then, press the CURSOR Down Arrow key to complete the operation.