

Chapter 4

Operating the universal Controller

This chapter contains all the procedures to operate your controller. If you are new to programmable controllers you should read this chapter sequentially from the beginning. If you are experienced, or want to just get started creating and playing back programs, then:

1. Perform the *Initial Power Up* procedure on Page 4- 2
2. Select the desired procedure from the following *Procedures* list, go to that page, and perform the procedure.

Otherwise, in this section you:

- power up your system and “home” all connected fixtures
- learn about the universal Controller’s Ready mode
- navigate through and perform Menu Mode operations (Home, Backup, Effects, Copy, Setup, Erase, Help, Allmen, Remote, Page Lock, and Position Memory)
- learn system programming concepts and controller Address/Preset concepts
- create and edit single Page scenes, loops, and Presets
- program User keys 1 through 6
- playback scenes, loops, and Presets
- perform the controller’s master Dim functions

Procedures:

- | | |
|--|-----------|
| <input type="checkbox"/> Initial system power up | Page 4-2 |
| <input type="checkbox"/> Home fixtures | Page 4-6 |
| <input type="checkbox"/> Define fixture types | Page 4-10 |
| <input type="checkbox"/> Create or edit a simple one Page program | Page 4-18 |
| <input type="checkbox"/> Create or edit a loop (chase) of Pages | Page 4-21 |
| <input type="checkbox"/> Create an Uninitialized Page for loops | Page 4-22 |
| <input type="checkbox"/> Create a single Page Preset | Page 4-46 |
| <input type="checkbox"/> Create a loop as a Preset | Page 4-49 |
| <input type="checkbox"/> Create a Position Memory (Preset Focus) | Page 4-24 |
| <input type="checkbox"/> Edit Position Memories (POSMEM) | Page 4-41 |
| <input type="checkbox"/> Record, playback, or edit User Definable Keys | Page 4-53 |
| <input type="checkbox"/> Enable Color, Gobo/Size, and Dim effects | Page 4-36 |
| <input type="checkbox"/> Enable/Disable Remote Enable | Page 4-38 |
| <input type="checkbox"/> Playback a single page | Page 4-59 |
| <input type="checkbox"/> Playback a loop | Page 4-60 |
| <input type="checkbox"/> Playback with Audio Advance (Step/Pause) | Page 4-62 |
| <input type="checkbox"/> Playback with effects (color, gobo, dim, and size modulate) | Page 4-66 |
| <input type="checkbox"/> Playback all Memory (Allmem) | Page 4-37 |

| | |
|---|-----------|
| <input type="checkbox"/> Playback a Preset | Page 4-68 |
| <input type="checkbox"/> Erase a single Page (Create a Blackout Page) | Page 4-70 |
| <input type="checkbox"/> Erase selected fixtures on a Page | Page 4-71 |
| <input type="checkbox"/> Erase a Preset | Page 4-72 |
| <input type="checkbox"/> Erase Memory | Page 4-14 |
| <input type="checkbox"/> Erase User Definable keys (restore) | Page 4-56 |
| <input type="checkbox"/> Use Help | Page 4-16 |
| <input type="checkbox"/> Copy a single Page | Page 4-26 |
| <input type="checkbox"/> Copy a block of Pages | Page 4-27 |
| <input type="checkbox"/> Copy position (and/or Construct) information to another Page | Page 4-30 |
| <input type="checkbox"/> Copy Construct parameters within same Page | Page 4-33 |
| <input type="checkbox"/> Copy Construct parameters to a different Page | Page 4-43 |
| <input type="checkbox"/> Copy an Address from one page to another | Page 4-35 |
| <input type="checkbox"/> Backup Memory to/from Memory Card | Page 4-6 |
| <input type="checkbox"/> Using hot key sequences | Page 4-43 |
| <input type="checkbox"/> Lockout/Unlock a fixture (fixture exclusion) | Page 4-73 |
| <input type="checkbox"/> Lock/Unlock a Page (Page lockout) | Page 4-39 |
| <input type="checkbox"/> Use a Position Memory as a position reference | Page 4-74 |
| <input type="checkbox"/> Adjust Master Dim | Page 4-75 |
| <input type="checkbox"/> Set MIDI Master/Slave status and Device ID | Page 4-9 |
| <input type="checkbox"/> Set LCD Backlight brightness | Page 4-13 |

Initial Power Up

In this section you power up the *universal* Controller and home connected fixtures.

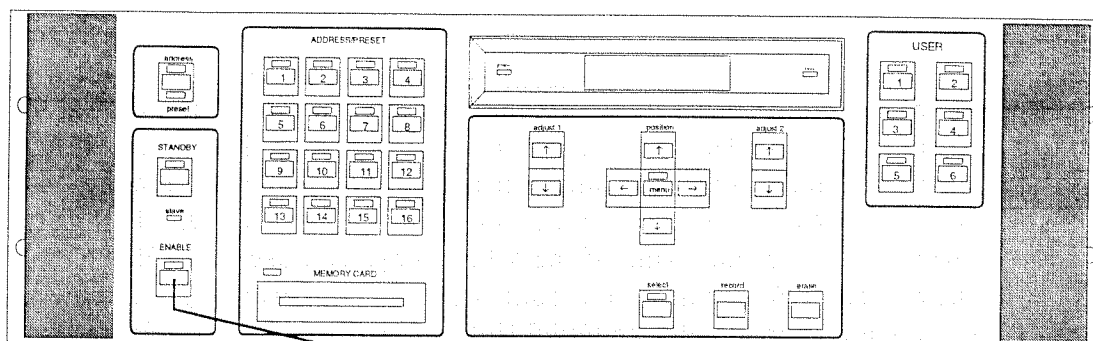
Before You Turn on the Controller

Your system should be completely and properly set up and you should be familiar with the controller's front panel operation, if not, refer back to *Chapter 2*. Ensure that all fixtures are installed according to their respective installation instructions. For example, install *trackspot* fixtures according to the *trackspot User Guide* that comes with the fixture. Ensure that all data cables are constructed, tested, run, and properly connected to the fixtures; refer back to *Chapter 3*. Ensure that all of the fixtures and the *universal* Controller are connected to appropriate power sources; refer back to *Chapters 1 and 3* for instructions.

Turning On the Controller

Perform the following steps to power up your system:

1. Turn on power to all fixtures connected to the *universal* Controller. To turn on the *intellabeam* or *emulator* fixture's power, press the "I" side of the fixture's Power switch. To turn on the *trackspot*, plug the fixture's power cord into the appropriate ac power receptacle. On the *intellabeam*, *trackspot* and *emulator*



2. Next, press the ENABLE key and the LCD window briefly displays some messages and then the firmware version number.
3. At the same time all LEDs briefly flash, the Memory is tested, and in a moment the LEDs on the ENABLE, STANDBY, and ADDRESS keys light. Any initialized or programmed Address/Preset LEDs light.
4. The LCD window displays the Ready mode status: DIM READY PAGE. This is explained in detail later in this chapter.
5. At the same time, the controller remotely initializes all connected fixtures that have their addresses configured for that fixture type. Each fixture turns on its lamp and fan and then performs a homing operation. Refer to the *Menu Mode* section to perform a manual homing operation.
6. Homing a fixture strikes the lamp; turns on the cooling fan; sets the Color and Gobo wheels; and sets the Gate (shutter), Dim, and mirror (pan and tilt or X and Y) to their home (default) positions. You will hear a brief chatter sound while the stepper motors perform their homing operation. If everything checks out, the fixture idles with the Gate closed, waiting for its next command.

Note: If a fixture does not home or power up properly, refer to the troubleshooting section in the user guide of the respective fixture.

The **universal** Controller and all connected fixtures should now be on and homed. If you are new to programmable controllers continue with the *next* section. Otherwise, select the desired procedure beginning on Page 4-1. The following *Homing Fixtures from Controller* section explains how to manually home a fixture at any time from the controller's front panel.

universal Controller Ready Mode

This is where all activity begins and often returns to after performing an operation. The controller reaches this mode after power up and at the completion of the Memory-test; it is ready for operation. In Ready mode the controller is in Address Mode, the SELECT Key LED is off, no advance modes are selected, and the LCD window displays:

| | | |
|-----|-------|------|
| DIM | READY | PAGE |
| 99 | ←M→ | 001 |

| | | |
|-----|-------|------|
| DIM | READY | PAGE |
| 99 | ←M→ | 001 |

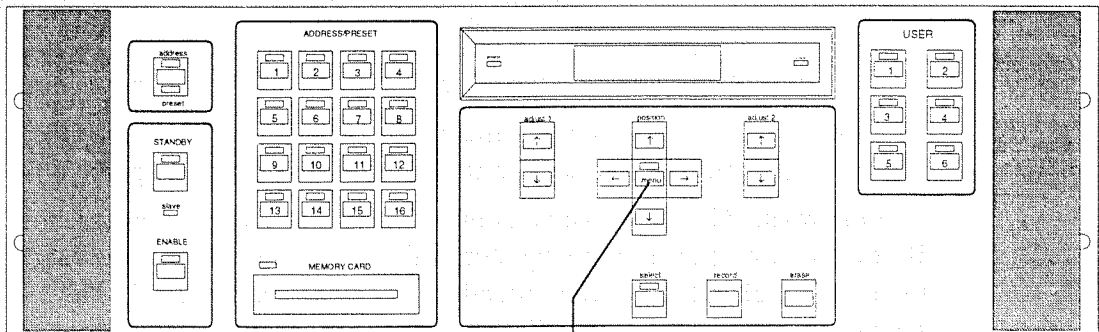
The Dim field shows 99 which indicates that master dim is set at 99 percent. You use the ADJUST 1 keys like a fader to change this value. READY in the center indicates that the controller is in Ready mode. Notice the “←M→” under the READY field. These two arrows direct you to the POSITION Left/Right Arrow keys on each side of the MENU key. You use the POSITION Left Arrow key to enter Audio advance mode and the POSITION Right Arrow key to enter Delay advance mode. The PAGE field show the currently selected Page number. You use the ADJUST 2 keys on the right to select Pages from 001 to 500. Holding in the ADJUST 2 key causes the Pages to rapidly advance.

Menu Mode

This section explains how to navigate and use the Menu mode items and submenus. You enter Menu mode from the Ready mode. The menu items available to you in this mode are:

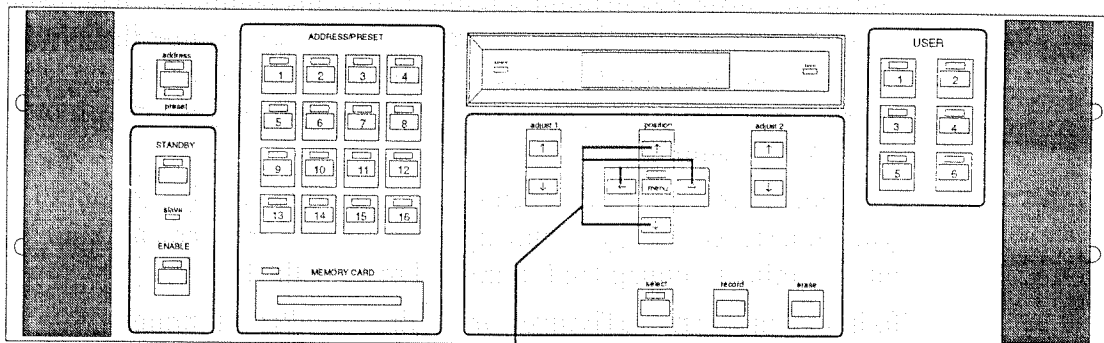
| | | | | |
|-------------------------------|---------|--------|--------|-----------|
| HOME | BACKUP | HELP | SETUP | ERASE |
| COPY | EFFECTS | ALLMEM | REMOTE | PAGE LOCK |
| POSMEM (Position Memory Edit) | | | | |

To enter the Menu:



1. Press the MENU Key from the Ready mode to display the Main menu items.

Menu items are displayed four at a time in the LCD window.



2. Scroll horizontally and vertically through the menu items using the four POSITION Arrow Keys surrounding the MENU key.

The menu wraps horizontally. Press the Menu key again to return to the previous Menu level. If you are in the first level menu, this will return you to Ready mode.

Menu Help Prompts – When you select a menu item the item blinks to confirm the selection. The item blinking is interleaved with two messages about key usage. On the first sequence of blinks the controller prompts you with information about key usage in the form of three blinks of the menu item followed by the message:

POSITION KEYS
NAVIGATE MENU

This sequence then repeats with the second message.

ADJUST KEYS
CHOOSE MENU ITEM

For example, if you select the SETUP item, the LCD window displays:

SETUP SETUP SETUP FIRST MESSAGE SETUP SETUP SETUP
SECOND MESSAGE SETUP ...

You would then press the POSITION Arrow keys surrounding the MENU key to navigate around the menu items or press any ADJUST key to select the current menu item.

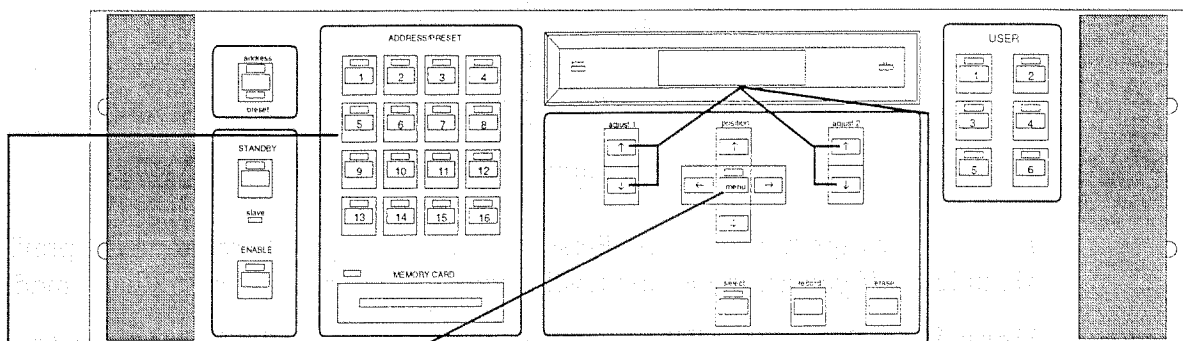
Note: During any of the procedures, if you inadvertently set the wrong value or just want to cancel the operation, press the SELECT key.

Home

This item allows you to home a fixtures from the controller. When you perform a homing operation on a fixture, you cause the fixture to close its light gate, strike its lamp and enable its fan (if off), and return the Color wheel, Gobo wheel (*intellabeam* and *trackspot*), Gate, Dim, and mirror (pan and tilt or x and y) to their home positions.

You should home a fixture when something inadvertently gets out of synchronization. Also, you may try to home a fixture when a fixture's lamp goes out; sometimes homing the fixture will restrike the lamp.

To home one or more fixtures (in Address or Preset mode):



1. At any time, even during a loop, press the MENU key. The first menu item, HOME, is blinking.
2. Next, press any ADJUST key.
3. The LCD window displays:

FIXTURE HOMING
SELECT ADDRESS
4. Then, press the ADDRESS/PRESET keys of the fixtures that you want to home. The selected keys blink. If a fixture fails to home or strike, check the LED indicators on the rear panel of the fixture and refer to the troubleshooting section in the fixture's user guide.

Once homed, the fixtures join the sequence running and open their light gates.

Press the SELECT key at any time to abort the operation.

Backup

Select this item to backup the controller's User Memory to a Memory Card or to restore the Memory Card's contents to the controller's Memory. There is room on the Memory Card for two full backups. You can backup the controller's Memory to transfer programs between local controllers, to transfer programs to other venues, or just to have a security backup for the controller. Memory cards made with versions previous to *universal* controller firmware 2.0 can be read by the new

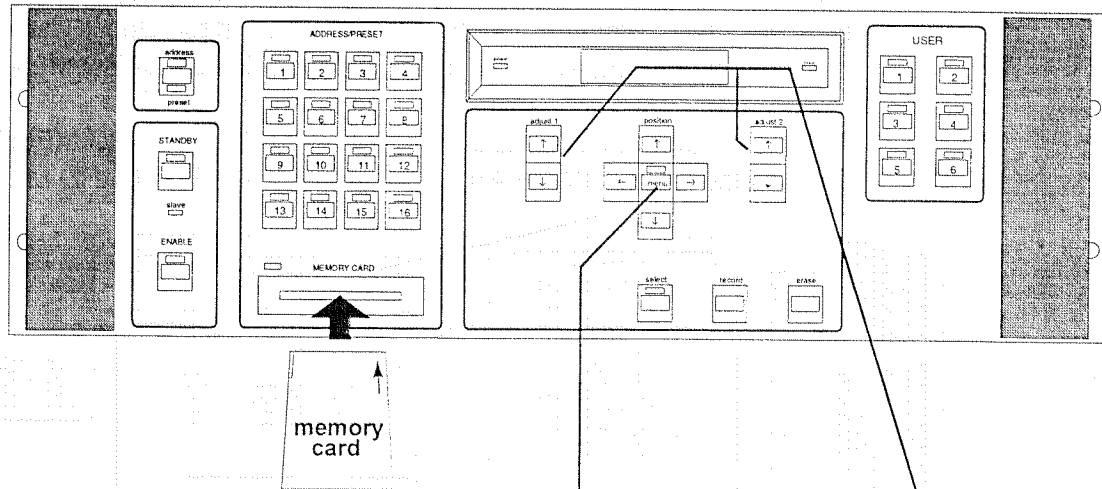
version of firmware. However, because older versions only dealt with one fixture type, all of the data will be read as **intellibeam** values. *If the controller is being used to control **trackspot** fixtures, do not change the fixture type that is recorded on memory cards made with older firmware because the memory for those addresses will be reset to default values for the new fixture type.* When you backup a controller you copy the User Memory (500 Pages), 64 Presets, 32 Position Memories, Fixture Types, and the six User Definable keys. When a blank card (or a card with an unrecognized format) is written to, the half of the card not written to is marked as empty. If you try to read from the unwritten half of a card, a ramcard error will be displayed informing you that the half you are trying to read is empty, and that no data is being read into memory.



Caution: The **universal** Controller's Memory Card is not compatible with the **intellibeam** or **emulator** LCD Controller's Memory Card. The **universal** Controller cannot read a Memory Card from the LCD Controller, but it will write over the existing contents of the Memory Card. This will destroy the Memory Card's contents.

Note: When you restore or transfer the User Memory from the Memory Card to the controller, you overwrite the existing 500 Pages in the controller's Memory. To selectively copy Pages from the Memory Card to the controller, lock the Pages (see Page Lock menu item) in the controller that you want to keep. Then, copy the Memory Card to the controller. Only the unlocked Pages in the controller will be restored.

To backup the controller's Memory to a Memory Card, or to restore the Memory Card to the controller's Memory:

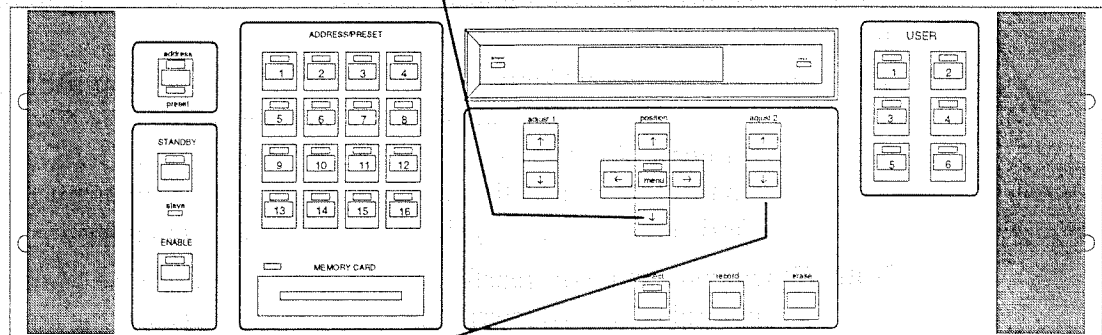


1. Insert the Memory Card into the front panel Memory Card slot.
2. Press the MENU key, then press the POSITION Right Arrow key once to select the BACKUP menu item.
3. Press any ADJUST keys to enter the BACKUP submenu.

- The LCD window displays:

Blinking — MEMORY ->CARD
CARD -> MEMORY

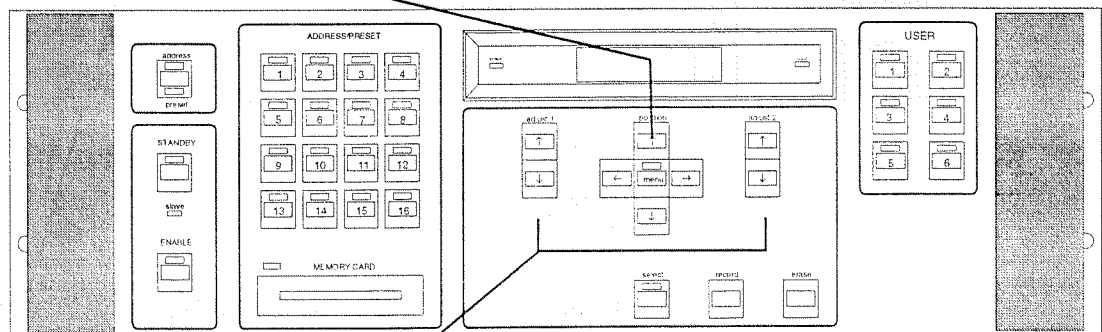
- Notice that the top entry, MEMORY -> CARD, is blinking (default).
 - If you want to backup the controller's Memory to the Memory Card, accept this entry as displayed and go to step 6.
 - If you want to restore the Memory Card's content to the controller's Memory, press the POSITION Down Arrow key to select CARD -> MEMORY.



- Next, press any ADJUST key to enter the Upper/Lower Card submenu. The LCD window displays:

Blinking — UPPER CARD MEM
LOWER CARD MEM

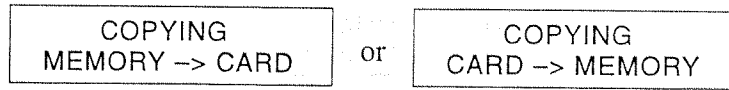
- The Memory Card holds two sets of controller Memories; one set is stored in the Lower Card (default) and the other is stored in the Upper Card.
 - If you want to transfer data to or from the LOWER CARD MEMORY, then accept this entry as displayed and go to step 8.
 - If you want to transfer data to or from the UPPER CARD MEMORY, then press the POSITION Up Arrow key to select UPPER CARD MEM.



- Next, press any ADJUST key to enter then next LCD window display:

Press RECORD
to COPY

6. Press the RECORD key to begin the copy operation. The LCD window displays:



In a moment the copying operation is complete and the controller returns to the Ready mode.

Setup

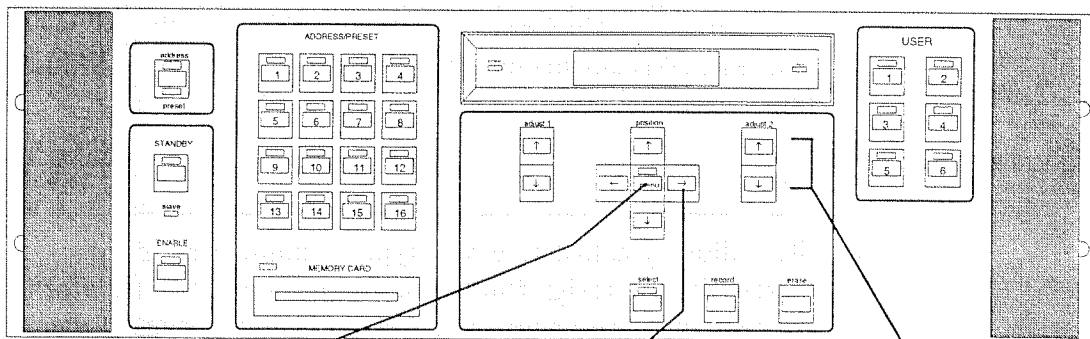
This item provides a submenu that allows you to:

- set controller's Master/Slave status and MIDI device ID number
- set the fixture type assigned to an Address (*intellabeam*, *trackspot*, or *emulator*)
- set the LCD window backlight level to Off, Low or High

MIDI

This item allows you to define the controller as either Master or Slave and set the MIDI Device ID numbers for Master/Slave operation. The Master/Slave option allows you to greatly expand your system by using the *universal* Controller's MIDI Show Control feature. Refer to the *Master/Slave Configuration* section in *Chapter 3* for an overview and operating details. Normally, you set all the controller's to the same Device ID number. For example, set all controllers to MIDI Device ID = 001. If you have more than two controllers, one is set as Master and all remaining controllers are Slaves.

To define the controller's Master/Slave status and MIDI Device ID number:



1. Press the MENU key,
2. Then press the POSITION Right Arrow key three times to select the SETUP menu item.
3. Press any ADJUST key to enter the SETUP submenu.

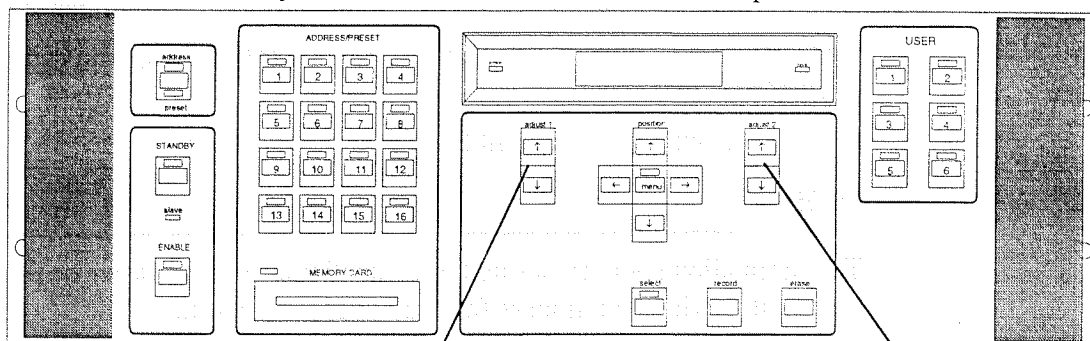
- The LCD window displays the following submenu:

Blinking — MIDI FIXTURE
LCD

- Since the MIDI item is blinking, it is the default item. Press any ADJUST key. The LCD window displays:

Blinking — MASTER SLAVE ID
no no 000

- Next, use the POSITION Left/Right Arrow keys to select the option that you want to modify, Master, Slave, or ID; the selected option blinks.



- If you select either the Master or Slave item, then press the ADJUST 1 Up/Down Arrow key to change the status between yes and no.

- If you select the ID item, then press the ADJUST 2 keys to change the number to the desired value.

Note: You cannot set both Master and Slave items to yes. For example, if Master = yes, and you try to change the Slave item to yes, then the controller will toggle the Master = yes to Master = no, and vice versa.

- Press the RECORD key to complete the operation. Press the SELECT Key at any time to abort the operation.

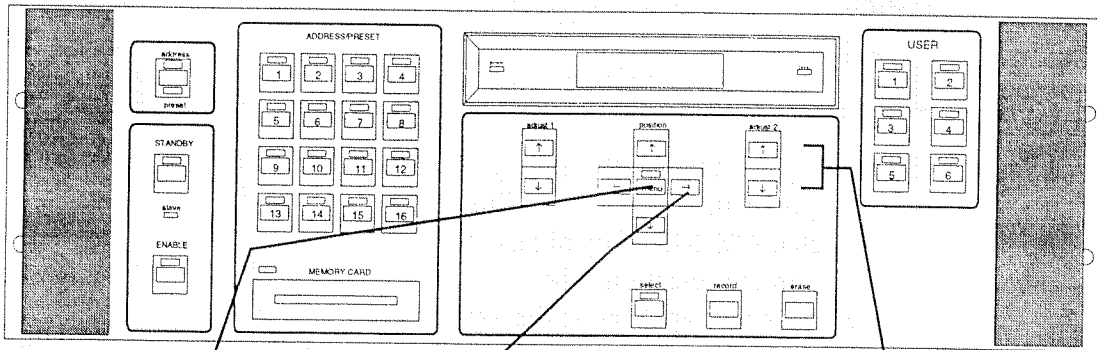
Fixture

This item allows you to define what type of fixture is assigned to each of the 16 Addresses. You can assign *trackspot*, *intellabeam*, or *emulator* fixtures to any Address, but please note that this address, in all pages of memory, will be filled with default values for that fixture type, regardless of any page protection you might have in place. The only exception to this is if an address has data stored for a particular fixture type, and you change to the same fixture type, the data stored at that address on all pages will be left alone and will not be initialized. You could assign *intellabeam* and *trackspot* fixtures to Addresses 1 and 3, an *emulator* to Address 2, and so on. You can assign multiple fixtures to an Address, but they must be the same type fixture. The exception is that you can mix *intellabeam* and *trackspot* fixtures on the same Address. Because you have to chosen *trackspot* or *intellabeam* configurations for that address,

you will get slightly different results from different fixtures at that address. For example, if you configure address 7 as **trackspot**, any **intellabeam** at that address will use 10 of its 12 gobos and colors, because **trackspot** has only 10 positions on its color and gobo wheels. If you configure address 7 as **intellabeam**, any **trackspot** will remain on color or gobo 10 when told to move to colors or gobos 11–12.

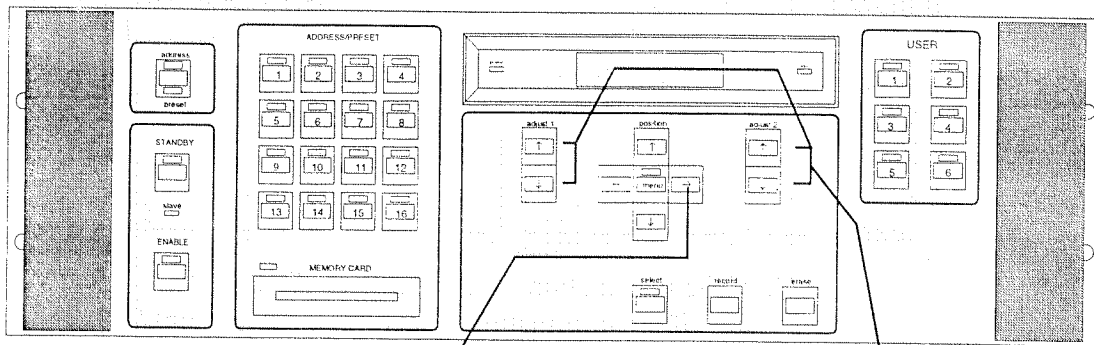
Shortcut: If you plan to configure more than one address, record the keystrokes with a user key when you configure the first address (see Record User Key Macros section.) Subsequent fixture type selections can then be reduced to a one-button operation.

To define which type of fixtures are assigned to each Address:



1. In Ready mode, press the MENU key.
2. Press the POSITION Right Arrow key three times to select the SETUP menu item.
3. Press any ADJUST key to enter the SETUP submenu.

4. The LCD window displays the following submenu:

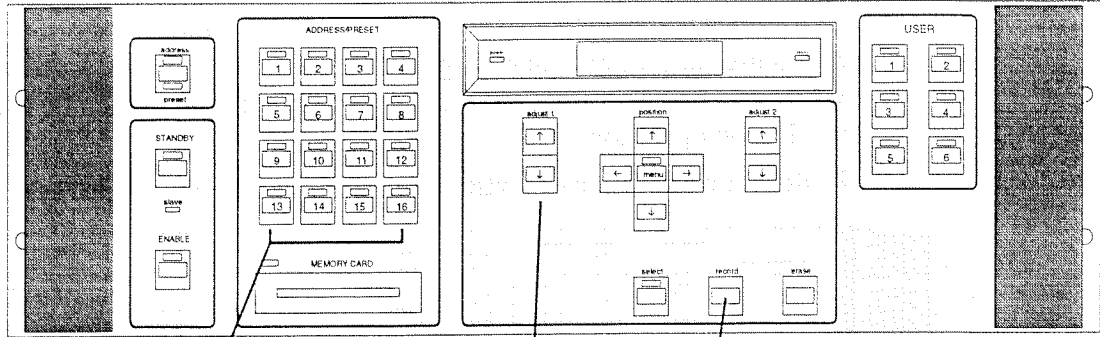


5. Press the POSITION Right Arrow key once to select FIXTURE.
6. Press any ADJUST key.

7. The LCD window displays:

ADDRESS: nn
TRACKSPOT

The “nn” value in the above display example indicates the currently selected ADDRESS key. If no keys are pressed it defaults to ADDRESS: 01.



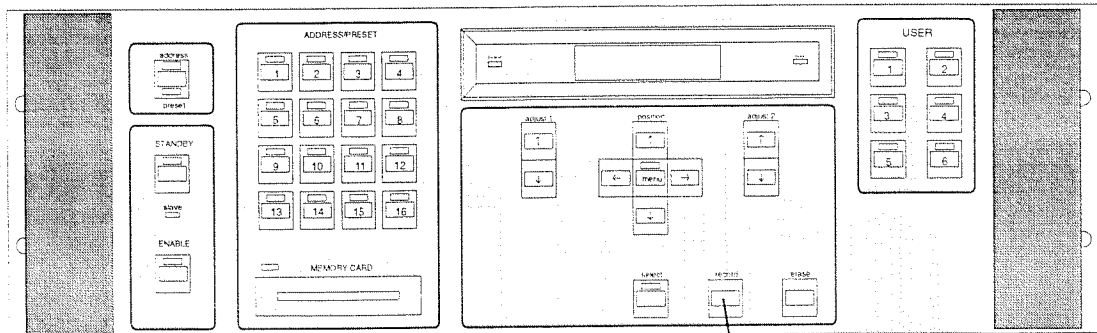
8. Next, press the ADDRESS key that you want to configure. The selected ADDRESS key blinks to confirm the selection. The selection also appears on the top line in the LCD window.

9. Next, press the ADJUST 1 keys to scroll through the available fixture types: TRACKSPOT, INTELLABEAM or EMUALTOR.

10. When the desired fixture type is displayed on the bottom line in the LCD window, press the RECORD key. Press the SELECT Key at any time to abort the operation.

11. The LCD window will display:

ARE YOU SURE
nn=fixture type



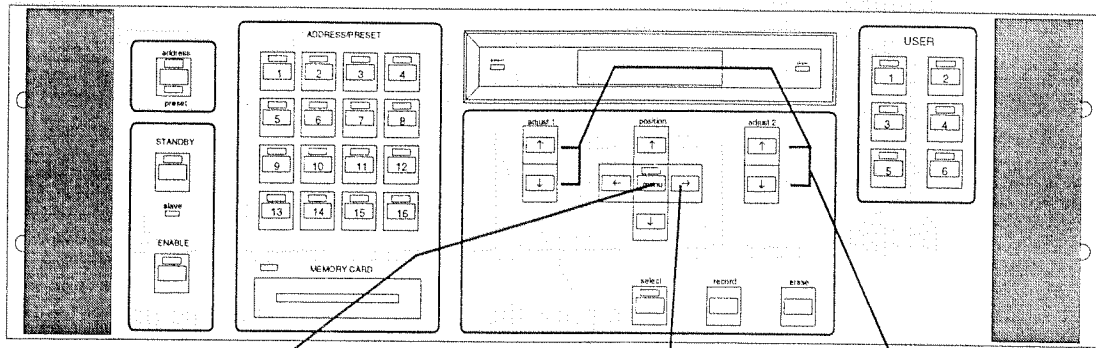
12. If the information is correct, press the RECORD key. If the information is incorrect, repeat steps 9 and 10 until the information is correct.

If you are in READY mode, and you want to know what kind of fixture an address is configured for, hold down the address key for no more that 2 seconds, and the fixture name will appear in the LCD window.

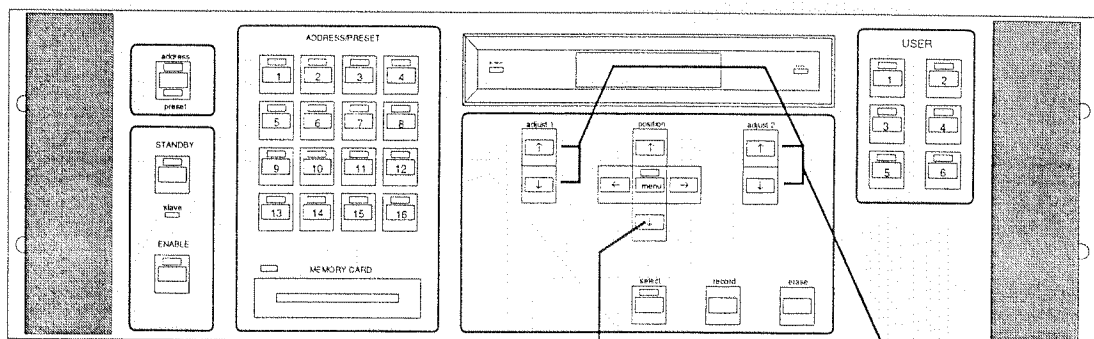
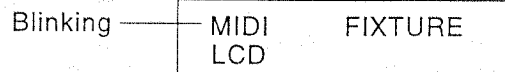
LCD

This item allows you change the LCD window backlighting. You can select Off, Low, or High. The controller retains the last backlight setting when you turn the controller off.

To change the LCD window backlight:



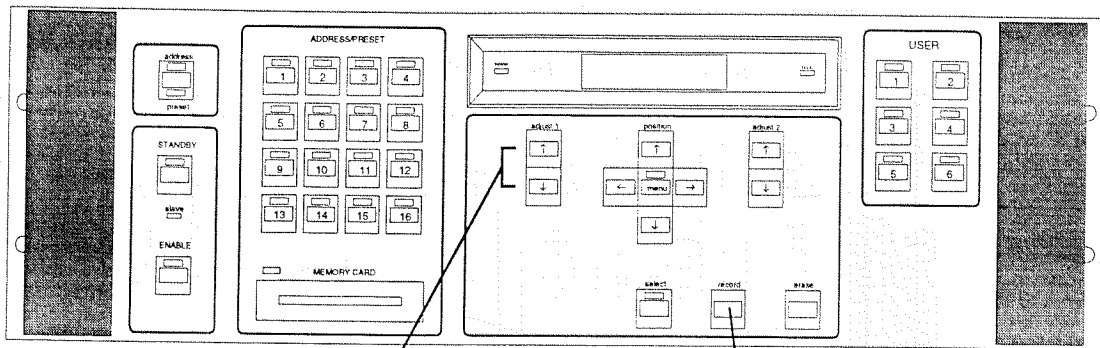
1. From Ready mode press the MENU key.
2. Press the POSITION Right Arrow key three times to select the SETUP menu item.
3. Press any ADJUST key to enter the SETUP submenu.
4. The LCD window displays the following submenu:



5. Press the POSITION Down Arrow key once to select LCD (liquid crystal display).
6. Press any ADJUST key.

7. The LCD window displays:

LCD BACKLIGHT
HIGH



8. Next, press the ADJUST 1 keys to cycle through the parameters.

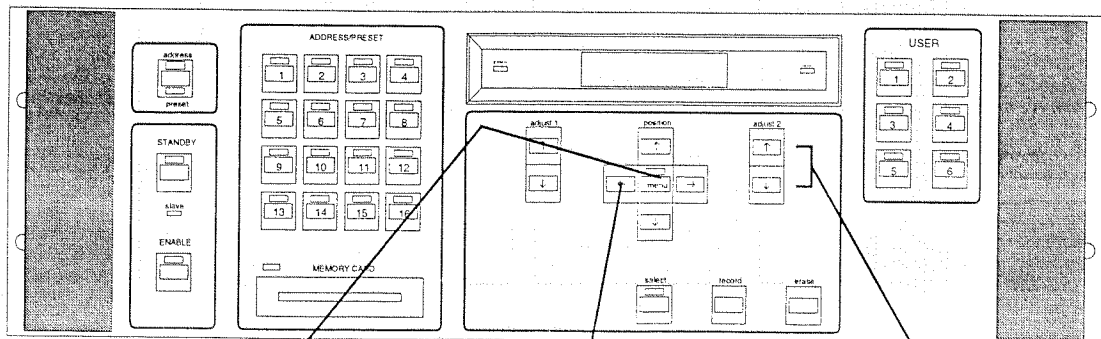
9. When the desired parameter is displayed on the bottom line in the LCD window, press the RECORD key to complete the operation.

Press the SELECT Key at any time to abort the operation.

Erase Memory

This item allows you to initialize (erase) all of Memory to default values. This operation does not clear Pages that are locked or Presets that reference locked Pages or Position Memories that are referenced by locked Pages.

To initialize Memory:



1. Press the MENU key.

2. Press the POSITION Left Arrow key twice.

3. Press any ADJUST 1 or ADJUST 2 key.