



NCM 5128

MEMORY LIGHTING CONTROL CONSOLE

OPERATION MANUAL

INTRODUCTION

Welcome. You are entering a new era of memory controlled stage lighting technology. The powerful NSI Micro-Plex designs involve the electrical marriage of microprocessor technology and digitally controlled multiplexing. The result is a comprehensive memory control package with unlimited flexibility for a variety of innovative applications.

The NSI NCM 5128 Foot/Hand Operated Memory Controller console features an advanced computer based microprocessor design containing many benefits found in today's mainframe computers. Up to 128 fully user programmable scenes may be placed in memory for individual recall at the touch of a button. In addition, the NCM 5128 features a variety of programmable special effects. The non-volatile memory design in the NCM 5128 retains programmed information for the life of the product, or until you reprogram it.

The NSI Micro-Plex technology found in all NSI products allows components of your lighting system to be interconnected by way of standard 3-conductor microphone cables or audio snakes. Up to 64 individual control signals may be transmitted to dimmer packs through a single microphone cable, eliminating the need for AC power cords on NSI controllers. This makes the remote placement of the NCM 5128 easy and convenient.

The NSI NCM 5128 Memory Controller represents our commitment of leading the industry in defining technological advances for stage lighting control.

Welcome to the new era of memory controlled stage lighting!

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OTHER FEATURES

Audio Synchronization -

The 1/4" audio input jack located on the back panel of the NCM 5128 accepts line level audio signals. Audio Sync. Mode is activated by tapping the AUDIO EFFECTS button. The left side decimal point of the digital display will light, indicating that Audio Effects are enabled. To disable the effects, simply tap the AUDIO EFFECTS button again.

After Audio Effects have been enabled, the CHASE button will control the operation of the Audio Synchronization. The first tap of the CHASE button will not activate Chase Mode I as when Audio Effects are disabled, but instead will activate the Audio Sync. Mode as indicated by a single "0" in the digital display. After 5 seconds, the digital display will return to normal and Audio Sync. Mode can be disabled in the same way; by tapping the CHASE button once. Audio Sync. is also canceled by Black Out and normal Chase Modes.

When the Audio Sync. Mode is active, lights become energized by the incoming audio signal levels and will automatically flash to the beat of the music. Any scenes active now will remain active and function with the Audio Sync. Mode.

When Audio Effects are enabled, Chase Modes are affected by the audio signal in different ways. Audio Sync. Mode will only affect the Chase Rate of Chase Modes I and II, whereas Chase Modes III and IV (Scene Chase) will be affected both in intensity and Chase Rate. With the Chase Rate turned all the way off, all Chase Modes will only sequence on the beat of the audio signal.

The AUDIO GAIN slide control adjusts the sensitivity of the audio circuitry to match the incoming audio signal. This control is adjusted by beginning at minimum gain and adjusting the gain until the desired effects are reached. When the Audio Gain is properly adjusted, the lights will be the most active when following the beat of the music. If the sensitivity (gain) is too great, the audio circuitry will overload and the lights will not synchronize properly.

Audio Sync. Mode can also be used by itself (by activating during Black Out), or with any Scene or Chase Mode. When in Chase Modes, Audio Sync. will only affect the Chase Rate, or if the Chase Rate slide control is off, Chase Mode will only sequence on the beat of the audio signal.

PROGRAMMING

Channel Presets -

Light intensity for the sixteen channel of the NCM 5128 is controlled with eight individual slide controls. Adjustment of these controls increases or decreases light intensities to desired levels for creation of scenes to be stored in memory. Channels 1 through 8, or 9 through 16 are programmed by pressing the appropriate button on the front panel of the NCM 5128 Controller.

Programmable Scenes -

The NCM 5128 features 128 fully user programmable scenes, each consisting of sixteen preset channels. The programming of this controller is simple and easy to understand. The NCM 5128 has 4 banks of memory. Each bank has 4 independent memory locations available within it. Each memory location will retain up to 8 scenes.

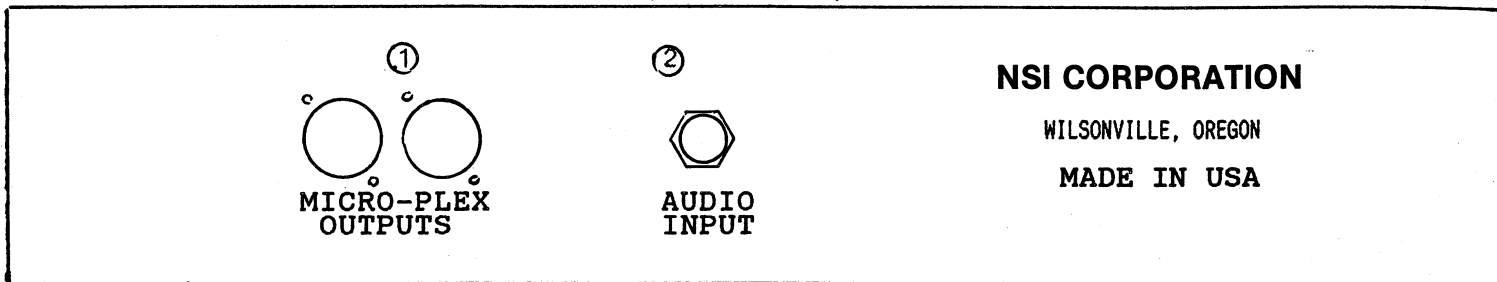
To begin programming, first tap the BANK button until the left digit of the digital display shows a "1". Next, tap the MEMORY button until the right side digit of the digital display indicates a "1". You are now prepared to program up to 8 scenes in "Bank 1, Memory 1".

To program your 8 scenes, first tap the SCENE 1<>2 button until the SCENE 1 LED is lit. Now adjust channel preset 1 through 8 to achieve your desired lighting affect. To preview your scene so far, and store presets 1 through 8 in memory, tap the SCENE PROGRAM button for channels 1 through 8. The lights will come on according to your preset levels. Next, adjust the same channel preset slide controls for channel 9 through 16 and tap the SCENE PROGRAM button for those channels. Once all final adjustments have been made for Scene 1, simply repeat this procedure for the remaining 7 scenes.

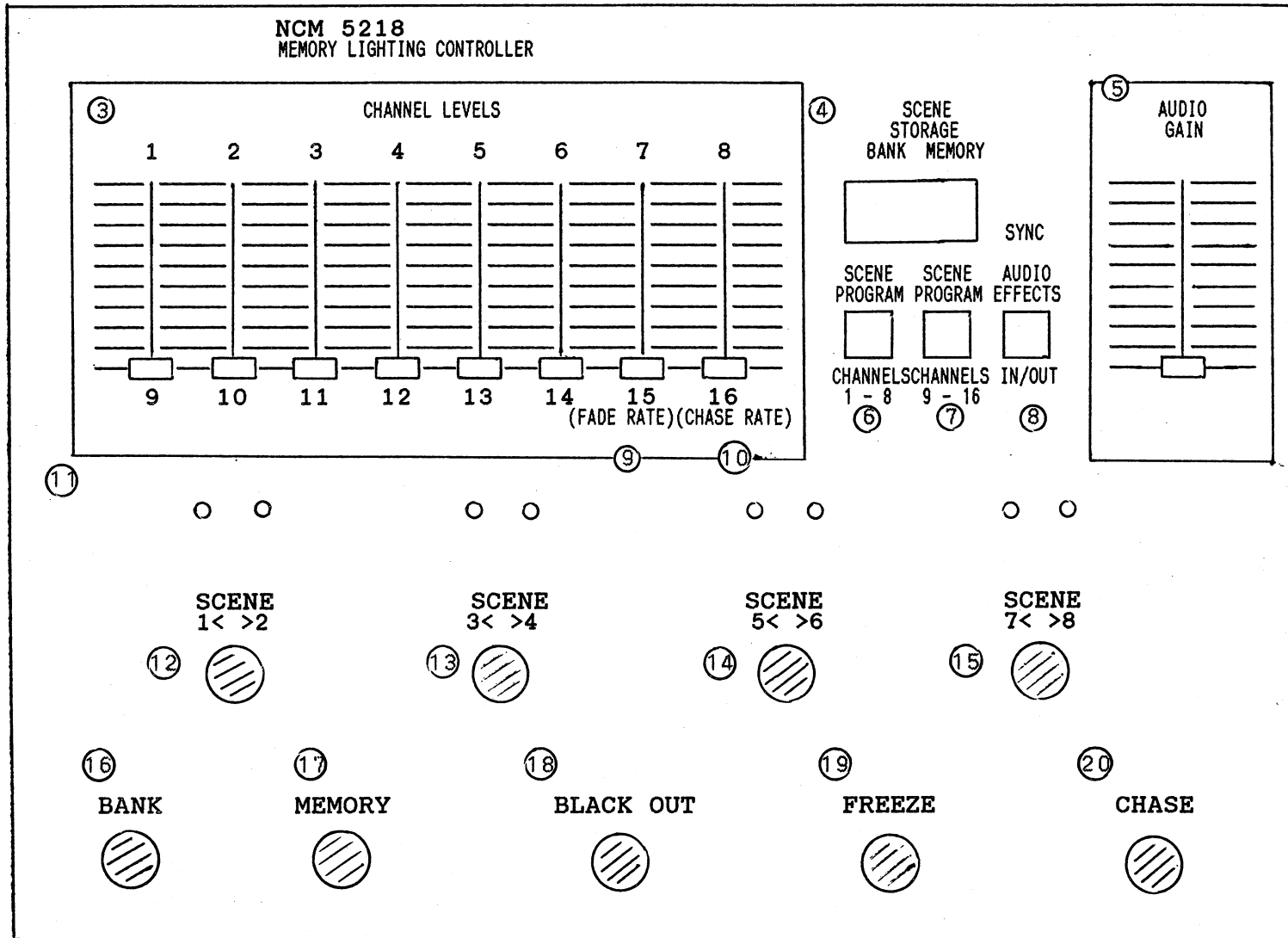
After you have programmed all the scenes in "Bank 1, Memory 1", tap the MEMORY button until a "2" is displayed in the right digit of the digital display. You are now prepared to program "Bank 1, Memory 2". Repeat the process as described above to program your 8 scenes into "Bank 1, Memory 2". Continue the same simple process for "Bank 1, Memory 3", "Bank 1, Memory 4".

VISUAL LAYOUT

{ REAR VIEW }



{ TOP VIEW }

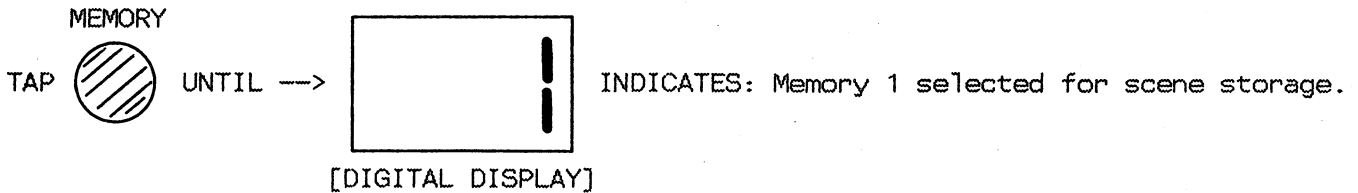
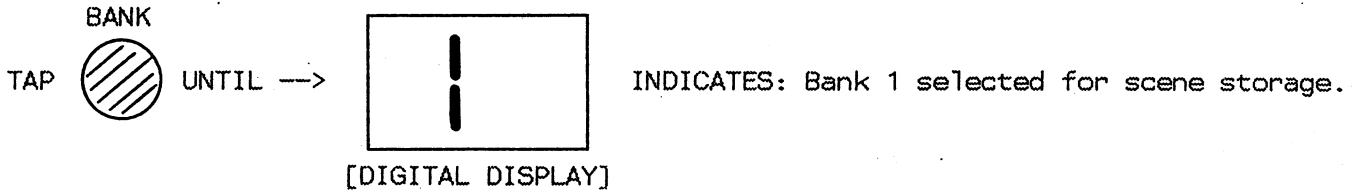


LEGEND

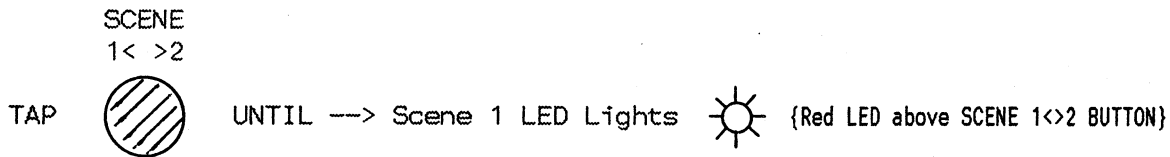
- | | | |
|-------------------------------------|---|------------------------------|
| 1: Micro-Plex Outputs | 7: Scene Program Button (Chan. 9-16) | 13: Scene 3<>4 Select Button |
| 2: Audio Input Jack | 8: Audio Effects Button | 14: Scene 5<>6 Select Button |
| 3: Channel Level Slide Controls | 9: Fade Rate Slide Control (Ch. 7/15) | 15: Scene 7<>8 Select Button |
| 4: Digital Display | 10: Chase Rate Slide Control (Ch. 8/16) | 16: Bank Select Button |
| 5: Audio Gain Slide Control | 11: Scene LED Indicators | 17: Memory Select Button |
| 6: Scene Program Button (Chan. 1-8) | 12: Scene 1<>2 Select Button | 18: Black Out Select Button |
| | 19: Freeze Mode Select Button | 20: Chase Mode Select Button |

PROGRAMMING SEQUENCE

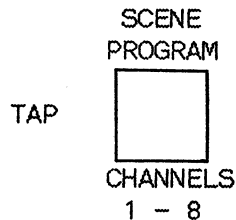
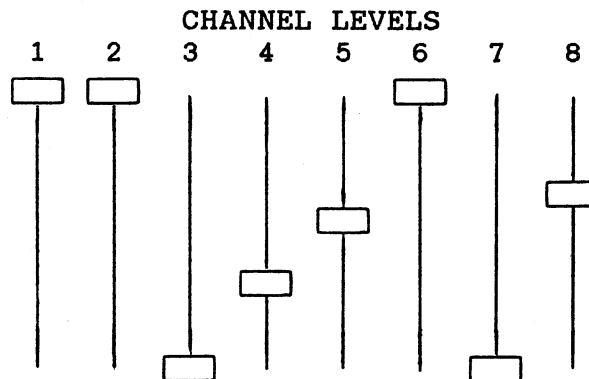
To Program Scenes:



Now you are ready to program up to 8 Scenes in
"Bank 1, Memory 1"



Adjust Channels 1-8 for desired lighting scene.



- >> Places Channels 1-8 in memory.
 - >> Previews your Scene as lights come on per programmed Scene.
- Example above: Channels 1, 2, & 6 @ 100% intensity
 Channel 4 @ 25% intensity
 Channel 5 @ 50% intensity
 Channel 8 @ 60% intensity
 Channels 3 & 7 @ 0% intensity (off)

PROGRAMMING (CONTINUED)

Programmable Scenes (cont.) -

The next step is tap the BANK button until a "2" is displayed in the left digit of the digital display. By tapping the MEMORY button for the desired memory location (the right digit in the digital display), you can continue to program in "Bank 2, Memory 1, 2, 3, and 4". After you have finished programming in "Bank 2", simply follow the steps as described above for programming in Banks 3 and 4. An easy way to think of the "Bank and Memory" format is to consider the 4 Banks as representing performance sets or acts. The 4 Memories provide each set or act with 8 Scenes per Memory, or 32 total Scenes per Bank.

After you have programmed all of the scenes you wish, you can recall them by tapping a series of program buttons. First, select which Bank and Memory you wish to display scenes from. Do this by tapping the BANK button until the desired Bank number is displayed in the left digit of the digital display, then tap the MEMORY button until the desired Memory number is displayed in the right digit of the display. You can now begin recalling any of the scenes from the Bank and Memory indicated by the digital display. Note that each Scene Select button activates 2 Scenes (1 & 2, 3 & 4, etc.). Tap the button once for one scene, again for the other.

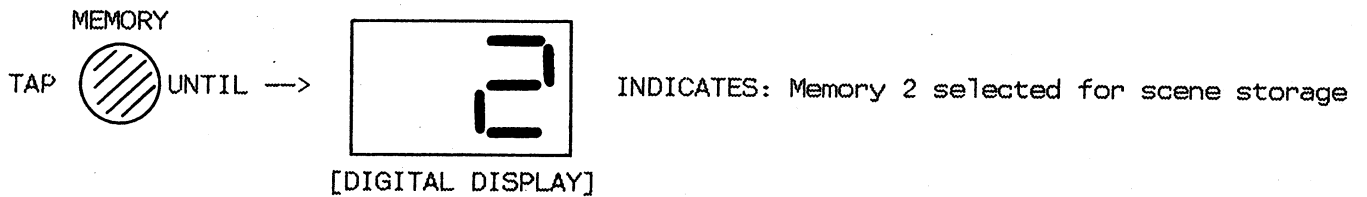
When toggling back and forth between scenes, an LED indicator will light which will show which scene is active at that time. you should also note that Scenes 1, 3, 5, and 7 are always activated first when selecting scenes using the Scene Select buttons. Scenes 2, 4, 6, and 8 are the secondary selections of the appropriate Scene Select buttons.

NOTE

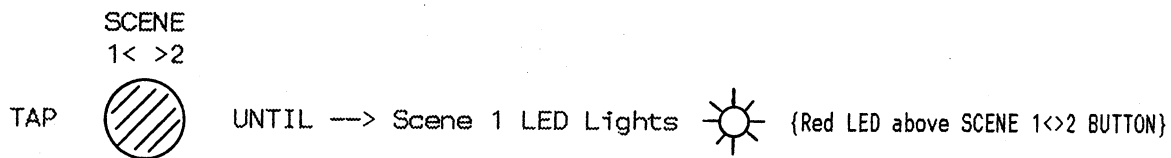
All of the buttons are momentary types and are touch sensitive. If you "tap" the buttons, the scenes will fade in and out according to where you have set the FADE RATE slide control. If you press and hold the buttons, the scenes will change instantly. Instant scene switching can be continued as long as the button is tapped again within 2 seconds. After a 2 second lapse, the instant activation mode is defeated and the scene buttons are normalized to respond to the tap or hold methods described above.

PROGRAMMING SEQUENCE (CONTINUED)

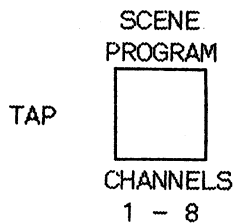
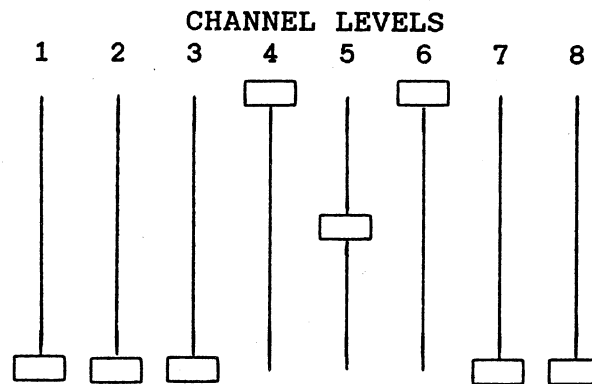
To Program Scenes (cont.):



Now you are ready to program up to 8 Scenes in
"Bank 1, Memory 2"



Adjust Channels 1-8 for desired lighting scene.

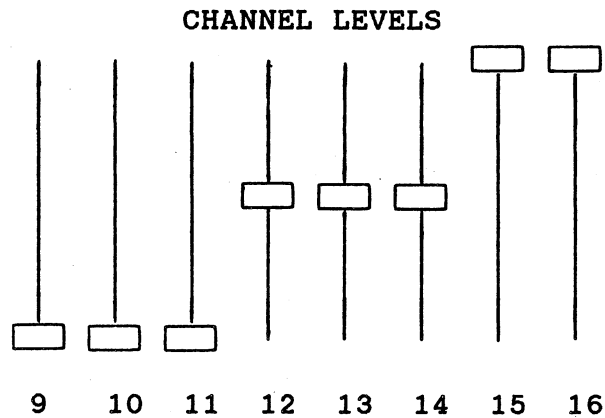


- >> Places Channels 1-8 in memory.
 - >> Previews your Scene as lights come on per programmed Scene.
- Example above: Channels 4 & 6 @ 100% intensity
Channel 5 @ 50% intensity
Channels 1, 2, 3, 7 & 8
@ 0% intensity (off)

PROGRAMMING SEQUENCE (CONTINUED)

To Program Scenes (cont.):

Adjust Channels 9-16 for desired lighting scene.



SCENE
PROGRAM

TAP

CHANNELS
9 - 16

- >> Places Channels 9-16 in memory.
 - >> Previews your Scene as lights come on per programmed Scene.
- Example above: Channels 15 & 16 @ 100% intensity
Channels 12, 13, & 14 @ 50% intensity
Channels 9, 10, & 11 @ 0% intensity (off)

Repeat this procedure for the remaining 7 Scenes

FEATURES

Chase Effects -

The CHASE button activates a variety of factory programmed chase special effects. Chase Modes I, II, and III are fully user programmable. Chase Mode IV chases through your programmed scenes from Bank and Memory locations selected at the time Chase Mode is activated.

To select a Chase Mode, simply tap the CHASE button the number of times corresponding to the Chase Mode desired. For example, to select Chase Mode I, tap the CHASE button one time. To select Chase Mode IV (Scene Chase), tap the CHASE button 4 times. The number of the Chase Mode that you have selected will be displayed on the digital display for 5 seconds from the time of the tap of the CHASE button.

NOTE

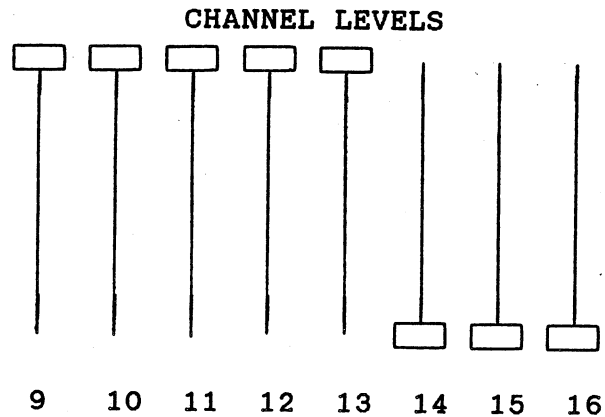
When Audio Effects are in use, as indicated by the left hand decimal point of the digital display, Chase Mode selection is slightly different. One tap of the CHASE button will not result in Chase Mode I, but instead, Audio Sync. will be activated, as indicated by a single "0" in the digital display. The next taps of the CHASE button will result in Chase Modes I, II, III, and IV. See section on Audio Sync. for more explanation.

When activating Chase Modes II, III, and IV, the CHASE button MUST be tapped the second, third, and fourth times within five (5) seconds after the first tap. After five seconds, the activation mode is defeated as indicated by the digital display returning to show the Bank and Memory selection. At this time, Chase Modes can no longer be selected without first selecting a Scene or Blackout function. After the Chase Mode has been selected and 5 seconds have elapsed, you can tap the CHASE button for a manual chase sequence (Chase Rate is off), or push and hold the CHASE button to stop chasing (Chase Rate is on).

PROGRAMMING SEQUENCE (CONTINUED)

To Program Scenes (cont.):

Adjust Channels 9-16 for desired lighting scene.



TAP

SCENE
PROGRAM

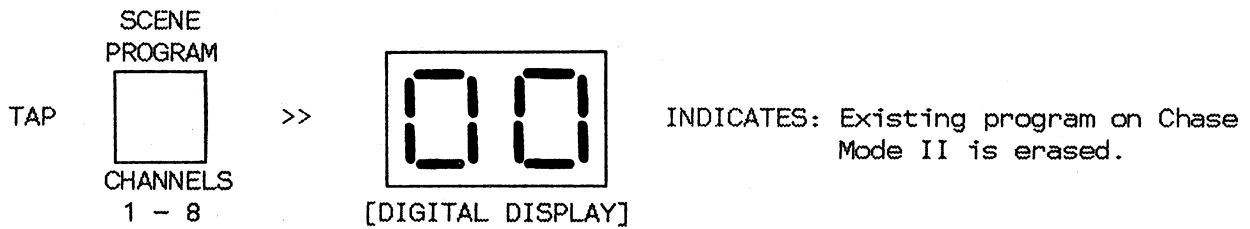
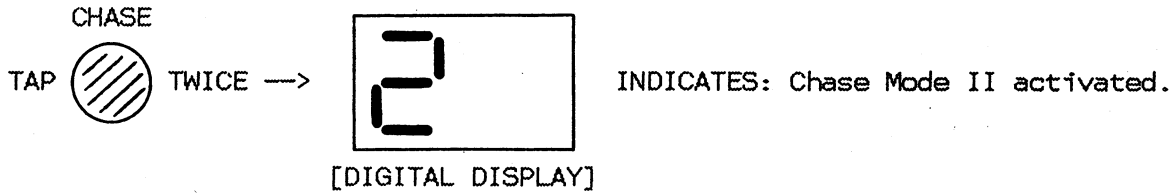
CHANNELS
9 - 16

- >> Places Channels 9-16 in memory.
 - >> Previews your Scene as lights come on per programmed Scene.
- Example above: Channels 9,10,11,12 & 13 @ 100% intensity
Channels 14,15 & 16 @ 0% intensity (off)

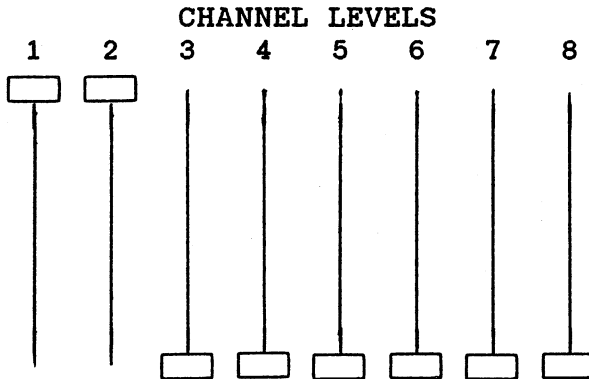
PROGRAMMING CHASE MODES

- * Chase Modes I, II, III are programmable in from 1-32 step sequences.
- * Any of 16 channels can be either ON or OFF during each of these steps.

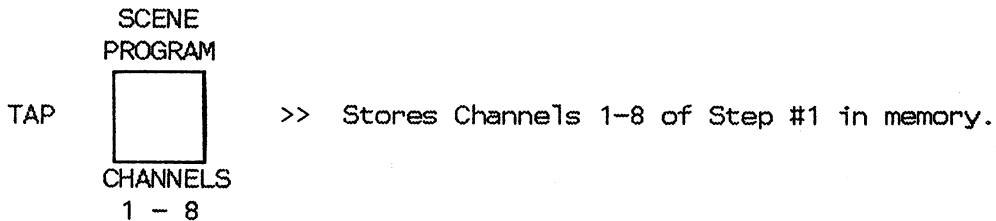
Select Chase Mode Desired (I, II, or III):



Programming Chase Modes - Step #1:



>> Channels 1 & 2 to be energized on step #1.



FEATURES

(CONTINUED)

Chase Mode Programming:

Chase Modes I, II, and III can be programmed in from 1 to 32 step sequences. Any of the 16 channels may be either on or off during each of these steps. To program a Chase Mode sequence, follow these steps:

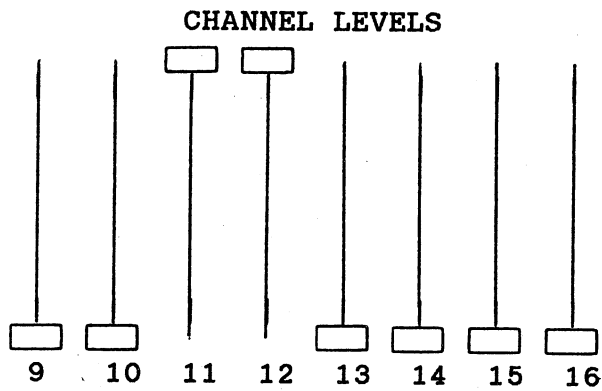
1. Select Chase Mode as outlined above (I, II, or III)
2. Tap the SCENE PROGRAM button for channels 1 - 8. The digital display should now show "00". Any existing chase program will be erased.
3. Select channels (1 - 8) to be energized on the first step. Move the slide controls for these channels all the way up, and turn all others off.
4. Tap the SCENE PROGRAM 1 - 8 button to store channels 1 - 8 of this first step in memory.
5. Select channels (9 - 16) to be energized on the first step. Move the slide controls for these channels all the way up, and turn all others off.
6. Tap the SCENE PROGRAM 9 - 16 button to store channels 9 - 16 of this first step in memory.
7. To select the next sequence step, tap the CHASE MODE button once. The display should show "01", indicating the first step in the sequence has been programmed and the controller is ready for step 2.
8. Repeat steps 3-7 to program any remaining Chase Mode sequence steps. If you make an error, you must tap the BLACKOUT button and start over at step 1.
9. When you have finished programming up to 32 of the available sequence steps, tap the BLACKOUT button to release the controller from the Programming Mode.

Chase Rate -

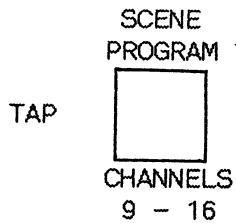
The CHASE RATE slide control has a dual purpose. It controls the preset intensity for channels 8 and 16, and also adjusts the rate at which lights will "chase". The right side decimal point of the digital display will flash at the Chase Rate whenever Chase Mode is active. When this control is off, the CHASE button becomes manual for tapping through the sequence using your foot or hand.

PROGRAMMING CHASE MODES (CONTINUED)

Programming Chase Modes - Step #2 (cont.):

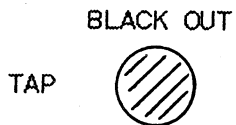


>> Channels 11 & 12 to be energized on step #2.



>> Stores Channels 9-16 of Step #2 in memory.

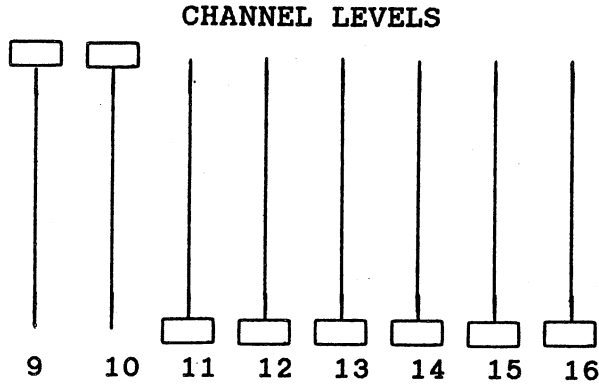
Repeat for as many of the 32 Steps as you desire.



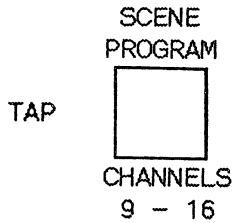
>> Releases Chase Mode programming.

PROGRAMMING CHASE MODES (CONTINUED)

Programming Chase Modes - Step #1 (cont.):

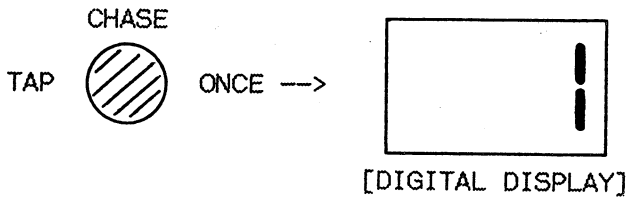


>> Channels 9 & 10 to be energized on step #1.

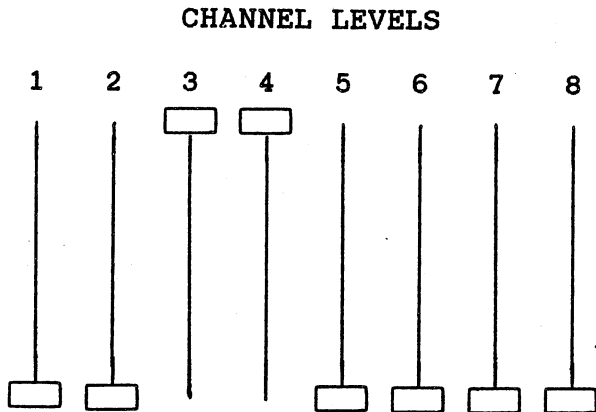


>> Stores Channels 9-16 of Step #1 in memory.

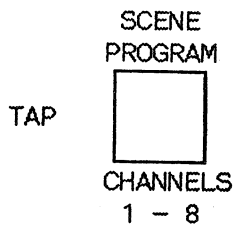
Programming Chase Modes - Step #2:



INDICATES: Next Step (#2) in Sequence.



>> Channels 3 & 4 to be energized on step #2.



>> Stores Channels 1-8 of Step #2 in memory.

CHASE EFFECTS (CONTINUED)


Selecting a Manual Chase:

With Chase Rate OFF:



16

(CHASE RATE)


CHASE
TAP  >> For Manual Chase

With Chase Rate ON:



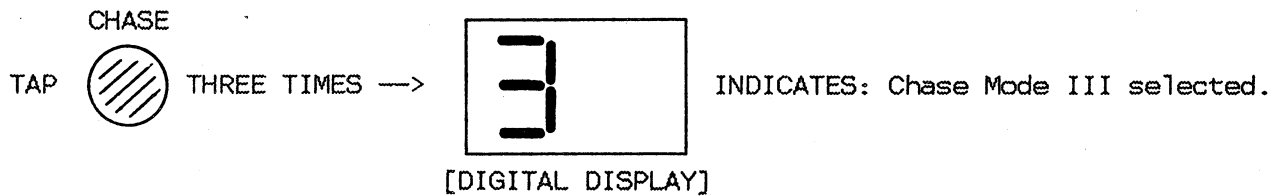
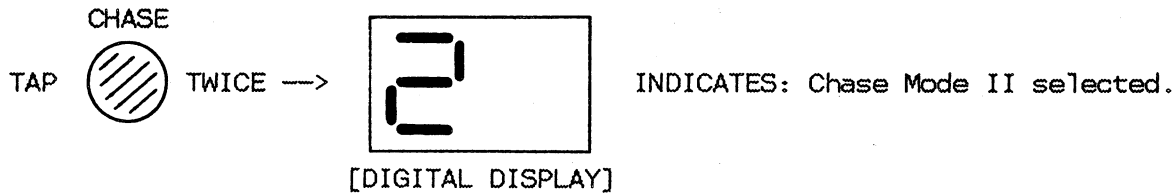
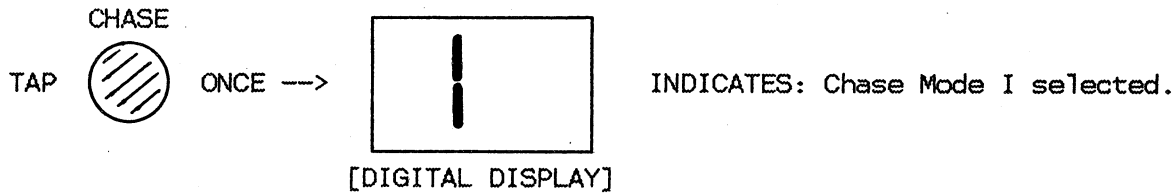
16

(CHASE RATE)

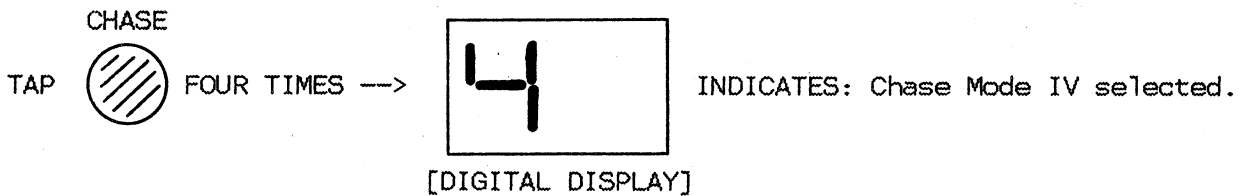
CHASE
PUSH & HOLD  >> To stop Chase Sequencing

CHASE EFFECTS

Selecting a Chase Mode:



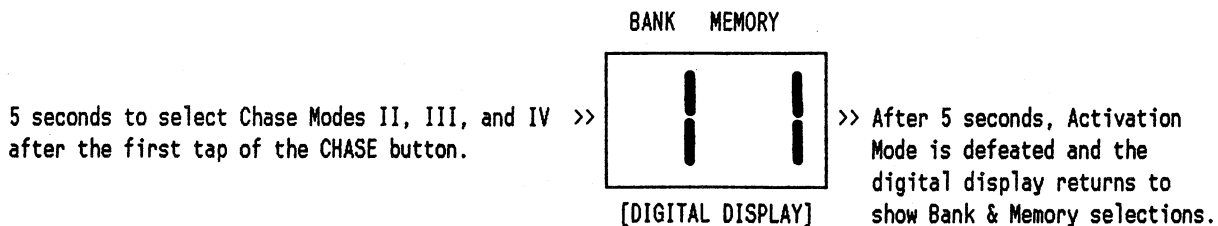
The above Chase Modes are fully programmable and allow for customizing Chase sequences to fit your specific needs.



NOTE

When Audio Effects are activated
the Chase Mode selection is modified slightly.
- See Audio Sync. section -

Five (5) second Activation Period:

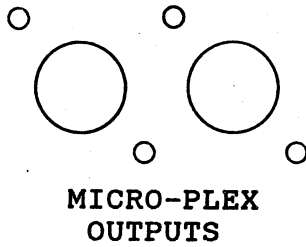


At this point, Chase Modes can no longer be selected without first selecting a Scene or Blackout function.

AUDIO EFFECTS

To Enable Audio Effects:

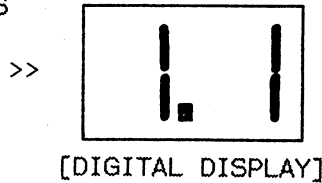
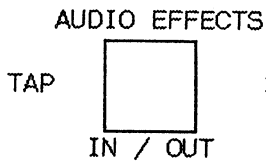
{ NCM 5128 BACK PANEL }



1/4" Input Jack
Accepts Line Level
Audio Signals.

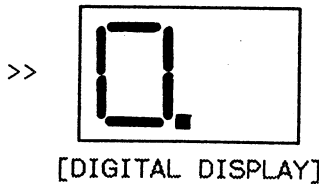
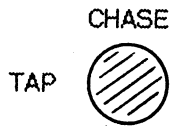
Step 1: Plug in 1/4" Phone Plug from your Audio source into the Audio Input jack.

Step 2:



>> Left side decimal point lights to indicate Audio Effects are enabled.

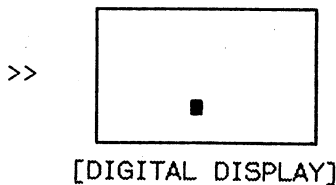
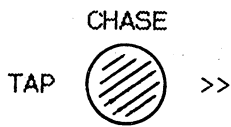
Step 3:



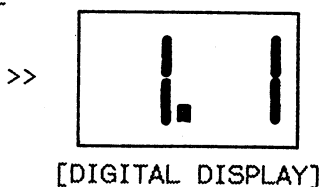
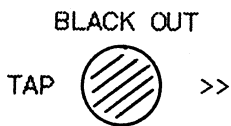
>> CHASE button now controls the operation of Audio Effects - Audio Sync. is now Active (ON).

After 5 seconds, the Digital Display returns to normal.

To Disable Audio Sync.:



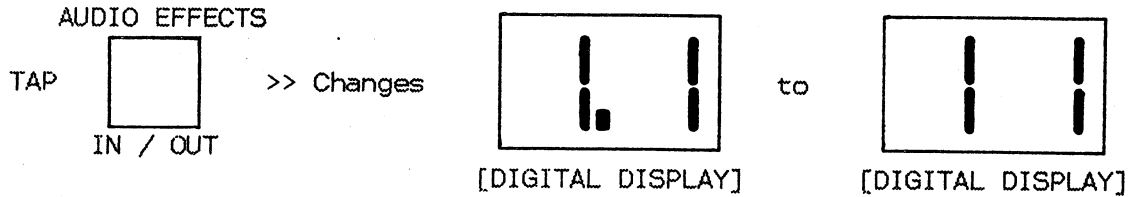
>> The Digital Display goes blank and Audio Sync. has been Deactivated (Turned OFF).



>> This also Deactivates (Turns OFF) Audio Sync.

AUDIO EFFECTS (CONTINUED)

To Disable Audio Effects:



NOTE: Left side decimal point is no longer lit (Audio Effects are OFF).

Adjusting Sensitivity of Audio Effects:

AUDIO
GAIN

Adjusts the Sensitivity of the
Audio circuitry to match the
level of the incoming audio signal.



AUDIO
GAIN

At the proper Sensitivity Level the
lights will be the most active as
they flash to the beat of the music.



NOTE

When the sensitivity (gain) is too great,
the audio circuitry will overload
and the lights will not synchronize properly.

OTHER FEATURES (CONTINUED)

Fade Rate -

The FADE RATE slide control also has a dual function. It adjusts light intensity levels for channels 7 and 15, and also adjusts the rate at which all functions of the NCM 5128 fade in and out. These functions include scene to scene fades, manual scene channel operation, chase, freeze, and black out.

Freeze -

The FREEZE button will "freeze" any scene (including manual) and allow you to add another scene or chase effect. This process is called "pile on". The scene which is on when the FREEZE button is tapped will be frozen. The frozen scene remains on until it is released by tapping the FREEZE button again, or tapping the BLACK OUT button. Frozen scenes will fade out in the same manner as any other scene.

Black Out -

The BLACK OUT button resets all modes, and turns off all lights when Black Out Mode is activated. By tapping the BLACK OUT button, thereby activating the Black Out Mode, all lights will fade out as determined by the setting of the FADE RATE slide control. By pushing and holding the BLACK OUT button, all lights will black out instantly.

Micro-Plex Outputs -

These two Micro-Plex connectors located on the back panel of the NCM 5128 are both outputs and will not accept any input signals.

Connect standard 3-pin microphone cables (pin 1 ground, pin 2 +15 volts, pin 3 Multiplex Data) to one of these connectors and send up to 64 control channels to your NSI Dimmer Packs.

The NCM 5128 receives it's power from the Dimmer Pack via the same microphone cable. Micro-Plex eliminates the need for AC power cords on the NCM 5128, making placement easy and convenient. You can even use one channel of your audio snake to transmit control signals from the NCM 5128 to the NSI Dimmer Pack in your lighting system setup.

NOTE

It is recommended that when using satellite type Dimmer Packs, at least 2 operational packs be used to power the NCM 5128 controller. Using only one pack could result in insufficient power for the NCM 5128 and may result in temporary shutdowns.

MEMORY PRESET CHART

Memory Preset Chart

After reading this manual and experimenting with your NCM 5128 Controller, we think you will agree, NSI's technology is leading the stage lighting control industry. No other manufacturer's lighting control products deliver the performance quality, and feature flexibility found in the NSI designs.

To further improve your versatility as an operator of the NCM 5128 Controller, we are providing the NSI Memory Preset Chart found on the following page.

We recommend making copies and using this chart for all lighting productions for fast, easy reference of your systems memory information.

NSI CORPORATION LIMITED WARRANTY

NSI Corporation warrants new electronics products to be free from defective materials and workmanship for a period of one (1) year from the date of purchase to the original owner when purchased from an authorized NSI dealer.

The purchaser is responsible for completing and mailing to NSI, within 15 days of purchase, the warranty registration card enclosed with each product. NSI products that have been subject to accident, alteration, abuse, or defacing of the serial number are not covered by this warranty. The normal wear and tear of items such as knobs, jacks, and switches are not covered under this warranty.

If your NSI product requires service during the warranty period, NSI will repair or replace, at its option, defective materials provided you have identified yourself as the original owner of the product to NSI or any authorized NSI dealer. Transportation charges to and from an authorized dealer or the NSI factory for repair shall be the responsibility of the owner. All products returned to NSI must have factory authorization for return prior to shipping.

NSI Corporation is not liable for any incidental or consequential damages resulting from defect or failure other than repairs of the NSI product subject to the terms of this warranty. This warranty gives you specific legal rights, and you may have other rights which vary from state to state. This warranty is expressly in lieu of all other agreements and warranties expressed or implied except as may be otherwise required by law.