

PMC

MEMORY LIGHTING CONTROLLER

Software Revision 2.01 and above

OPERATION MANUAL

PMC SERIES
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Software Revision 2.01 and above

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NSI CORPORATION

Wilsonville, OR

Table of Contents

Installation / Setup

Power Supply Requirements.....	4
Dimmer equipment connection.....	4
Set Up / Configuration.....	4

Overview

Front Panel.....	5
Channel Preset Section.....	9
Submasters Section.....	11
Rear Panel Connections.....	12

Quick Operation Guide

Power Switch.....	13
Keyswitch.....	13
Master Faders.....	13
B/O Button.....	13
Creating and using lighting scenes.....	14
Creating and using chases.....	14
Submaster Pages.....	15
Chase Pages.....	15

Processor Menu Functions

Main Menu.....	16
Other Functions Menu.....	17

Submasters

Description and operation.....	18
Recording and Editing.....	20

Chases

Description and Operation.....	23
Recording and editing.....	25

Aux / Color Select

Description and operation.....	27
Recording and editing.....	28

Cue Stacks

Description 29

Softpatch

What is Softpatch ?..... 31
Softpatch Menu Functions..... 31

Input / Output Operations

Disk..... 33
Printer 34

Keyboard and Video Monitor

Monitor Connection 35
Monitor Display 35
Keyboard Connection..... 36
Keyboard Functions..... 36

Configuration

Console Feature Configuration 37
More Configuration 38
Memory Allocation 39

Specifications

Console Specifications..... 41

Appendices

RS-232 Protocol..... 42

Warranty

NSI Corporation Limited Warranty 43

1 Installation / Setup

Power Supply Requirements

The PMC lighting console operates on 120 VAC 50/60HZ or 230 VAC 50/60HZ. The power inlet is a universal type and may be connected to most types of international power cords.

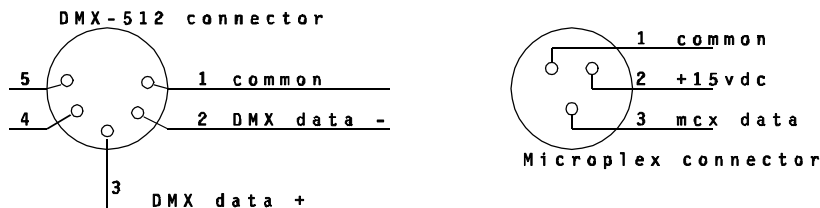
Two 3A 250V fuses are located in the power inlet. Disconnect the power cord and remove the cover of the power inlet to access these fuses.

It is important to set the line voltage selector to the correct input voltage. To change the input voltage; first disconnect the power cord. Then remove the fuse cover of the power inlet and rotate it 180 degrees and reinstall it with the arrow pointing at the correct voltage at the bottom of the unit.

CAUTION: Failure to change the input voltage selector correctly may damage to console.

Dimmer equipment connection

The PMC console comes standard with DMX 512 and Micro-Plex (MCX) dimmer control outputs. To use microplex, connect a single 3 conductor audio cable (standard microphone cable equipped with a 3-pin XLR type connector) to either of the jacks marked MICRO-PLEX on the rear apron of the console. It doesn't matter which jack is used, two jacks are provided for convenience. Connect the other end of the cable to the NSI dimming equipment. NSI's Micro-plex is capable of supporting 128 dimmer channels. If more channels are necessary for the particular installation, then the DMX 512 protocol must be used. See section on Dimmer Protocols for other protocols that may be supported.



Connection to DMX-512 dimming equipment is accomplished via the 5 pin connector located on the rear apron of the console. This connector adheres to the USITT standard on DMX-512 and will support 512 dimmer channels with one three wire cable.

1024 dimmers may be supported through the use of a second DMX-512 line. This requires that an additional multi-plex output card be installed in the console. See dealer or call factory for details.

Set Up / Configuration

The PMC is a highly flexible memory console which can adapt to many installations. As it is shipped from the factory, the PMC is set for immediate usage at factory default settings. If this is the first time the console is being used, please refer to the section of this manual on CONFIGURATION for factory default settings and possible changes you may want to make.

2

Overview

Front Panel

Grand Master Slider (GM) The Grand Master slider (GM) scales all dimmer output of the console with the exception of the Aux/Color memories. The Channel Output LEDs are not affected. The BO/GM message will appear on the main LCD when the master is not at max.

Blackout Button This button toggles off and on. When the LED above the Blackout button is lit, all dimmer output, with the exception of the Aux/Color memories are forced to minimum levels. The BO/GM message will appear on the main LCD when the Blackout mode is on.

Bump Master Slider The Bump Master slider scales the levels of all channel and submaster Bump and Solo Buttons. No Bump button will appear to operate, and Solo's will blackout the console, if this control is at minimum.

Latch Button (Solo Preset) This button toggles off and on. When the LED above the Latch Button is lit, all Channel Bump buttons will operate in a toggle on/off mode, instead of the normal momentary mode.

When the Solo Lock is off (See Setup Mode) this button will also toggle to a Solo mode indicated by a flashing Latch LED. When the LED is flashing, all Channel Bump buttons will cause all console output with the exception of the Aux/Color memories to go out, and only the channels affected by the Bump buttons depressed will light.

Freeze Slider This controls the level of any static scene that is captured by the Load Freeze Button.

Load Freeze Button This button toggles on and off. When the Load Freeze Button is pressed and the LED above it is first lit, the static output of the console with the exceptions of the Aux/Color memories and the chase functions, is recorded into a temporary memory location. The Freeze Slider controls the output of this memory.

When the Load Freeze Button is again pressed, the LED above it will go out and any static scene stored in the freeze memory is erased.

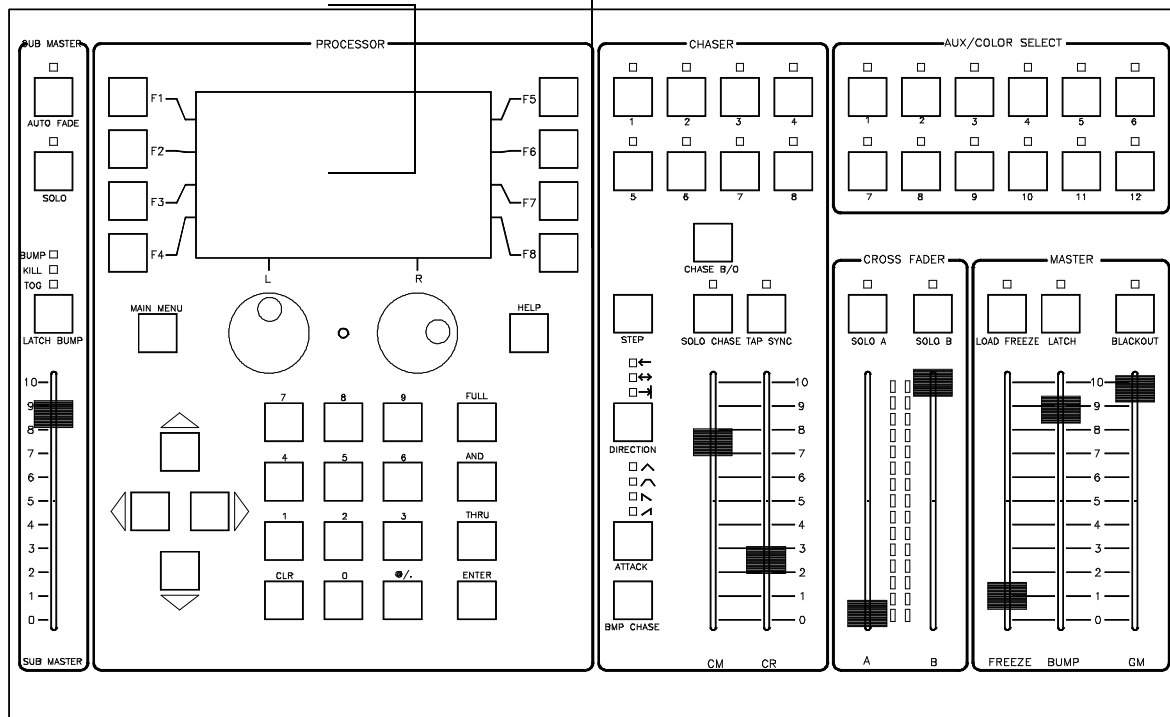
A and B Crossfader Sliders These sliders are dedicated to the Scene A and Scene B Presets. When the A Crossfader is all the way up (and the respective LED bar is completely lit), the output of the Scene A Preset Sliders is at maximum.

The Scene B crossfader reverses function depending on the operating mode:

When the console is in the **Wide Mode** (Preset B is separate channels) the B Crossfader operates the same as the Scene A crossfader with the output of Scene B at maximum when the control is all the way up.

When the console is in the **Two Scene Mode** (Preset B is the same channels as A) and the B Crossfader is all the way down (and the respective LED bar is completely lit), the output of the Scene B Preset Sliders is at maximum. Fade time is controlled by the L and R encoder wheels.

Solo A and B Buttons When one of these buttons is depressed, all console output will go out with the exception of the channels affected by the respective A or B Scene and the Aux/Color memories. The intensity of the Scene A or B Preset that is Soloed is controlled by the Bump Master Slider.



Fade Time Controls Normally, these rotary encoder wheels provide control for the fade time of the A and B Crossfader Sliders. The fade time can be changed and displayed at the bottom of the Processor Section LCD Display **only when the display is at the “TOP” or “main menu”**.

When **Global Fade** mode is activated (See Setup Mode), the left encoder controls the Up and Down times for all submasters. The right encoder will control both the A and B crossfader fade times.

Chase Master Slider This slider controls the stage levels of any chases activated with the Chase Select buttons. When this control is at minimum, chases activated by the Chase Select Buttons will not appear on channel output LEDs or stage, unless chase is bumped.

Chase Select Buttons These buttons are used to preview / activate / and select chases for modification. Pressing and holding (for 1 second) any one of the chase select buttons not currently activated will cause the chase to be previewed on the Channel Preview LEDs (red) while the button is held down. Chase rate, direction, and attack may be modified at this point. If no chase is currently programmed in the respective location, then the LED above the button will go out, the console will beep, and the chase will become deactivated.

Note that chases may not appear to function if recorded with a zero rate until the Chase Rate Slider is moved or the Tap Sync button is operated.

Pressing the Chase B/O button while a Chase Select button is being previewed, will cause the chase to return to deactivated state, without affecting stage levels.

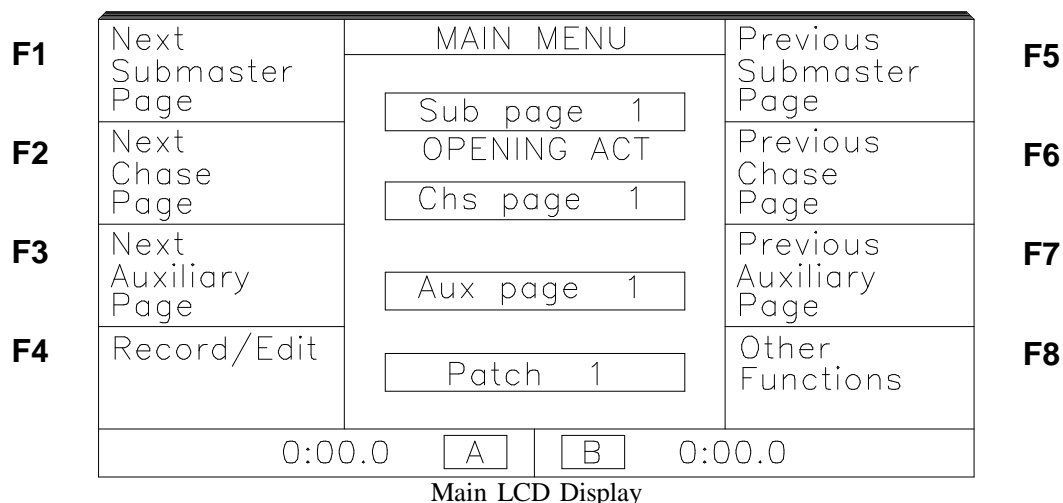
Releasing a Chase Select button will activate the chase and the chase will appear on stage. At this point, the LED above the chase select button will start flashing, indicating that live modifications may be made.

Activating another chase will cause the LED above the previous chase to light steady, indicating that modifications cannot be made to this chase currently.

Pressing and holding (for 1 second) any one of the chase select buttons currently activated will cause the LED above the button to start flashing indicating that live modifications of chase rate, direction, and attack may be made now.

Tapping (quickly) any activated Chase Select button will cause that chase to go out and modifications to be lost.

<i>Chase Rate Slider</i>	This slider allows for real time modifications of chase rates activated by the chase select buttons while the chase is being previewed, or the LED above the Chase Select Button is flashing indicating that the chase is in the modify mode. Movement of the slider will cause the chase rate to follow the slider settings.
<i>Tap Sync Button</i>	Tapping this button will cause any chase being previewed or in the modify mode as indicated by a flashing LED above the chase select button, to synchronize chase rate with the last two taps of this button.
<i>Chase B/O Button</i>	If this button is depressed by itself, all chases activated by the Chase Select Buttons will become deactivated and any live modifications will be lost. If this button is pressed while previewing a chase, only the chase previewed will be deactivated.
<i>Chase Step</i>	This button causes a manual step of the currently selected chase (chase select LED flashing). Holding the button down will cause the chase to freeze.
<i>Solo Chase</i>	When the Solo Lock (See CONFIGURATION) is off, depressing the Solo Chase Button will cause all console output to go to minimum with the exception of the chases activated by the Chase Select buttons and the Aux/Color memories. Note: Solo chase intensity is controlled by Chase Master, not the Bump Master.
<i>Direction</i>	This button allows for live modification of the direction of chases either being previewed, or in the modify mode as indicated by a flashing LED above the chase select button. The LED above the Direction button indicates the current direction mode with no LED lit indicating a normal forward sequence. If one-shot mode (>) is selected, the chase will deactivate when sequence is completed.
<i>Attack</i>	This button allows for live modification of the ‘attack and decay’ of either chases being previewed, or chases in the modify mode as indicated by a flashing LED above the chase select button. The LED above the Attack button indicates the current attack and decay mode with no LED lit indicating a normal instant on/off attack.
<i>Bmp Chase</i>	The Bump Chase button will cause all chases activated by the Chase Select Buttons to increase intensity above the setting of the Chase Master Slider. The maximum intensity is determined by the Bump Master Slider.
<i>Aux/Color Select</i>	These buttons activate levels stored in memory for each of up to 1024 channels of output. These buttons operate in a toggle/kill mode or toggle/add mode depending on the configuration setting. The output of these buttons is independent of other console functions and is unaffected by the blackout or solo modes, or any master sliders.
<i>Submaster Master Slider</i>	This slider scales the output of the entire submaster section. If this control is at minimum, the Submaster Section will appear to have no effect.
<i>Submaster Solo</i>	This button toggles on and off, and selects the Solo Mode for the Submaster Bump buttons.
<i>Submaster Bump Mode</i>	This button sets the mode of the Submaster Bump buttons. The LEDs above the button indicate the current operating mode other than momentary. Pushbutton autofading is available only in the kill and toggle mode.
<i>Autofade</i>	This button toggles on and off. The autofade mode causes all Submaster Slider level changes to fade at a time programmed into each submaster memory. NOTE: The submaster fades are DIPLESS only when the following conditions are present: Global fade is enabled, Autofade is on, Submaster bumps are in ‘Kill mode’, and the Submaster bumps are used solely for fading submasters one at a time.



Arrow Keys These keys are used for modifying certain data entered into the Processor Section.

Numeric Keys These keys are used for entering numerical information into the label functions and the processor section.

These keys can also be used to direct select page numbers. (See Configuration).

Full, At, and Thru These keys are use to enter softpatch and channel level data.

Enter Key This key is used to terminate and confirm the entry of certain data into the processor section.

Main Menu Key This key is used to force the Processor LCD Display to the Top or ‘Main Menu’. Certain data entry functions that were incomplete may be canceled.

Function Keys (F1-F8) These keys change function as indicated by the LCD display.

Help Key This key is used to access the Help System. Tap this key followed by the key for which help is requested. An explanation of the key’s function will follow. Press Help twice to see a menu of additional help items.

When in help, pressing any key on the master panel (except Help) will exit. Key presses, on the master panel only, will have no other affect while in help mode. Channel and submaster bumps and solo’s will still function. These keys change function as indicated by the LCD display.

Channel Preset Section

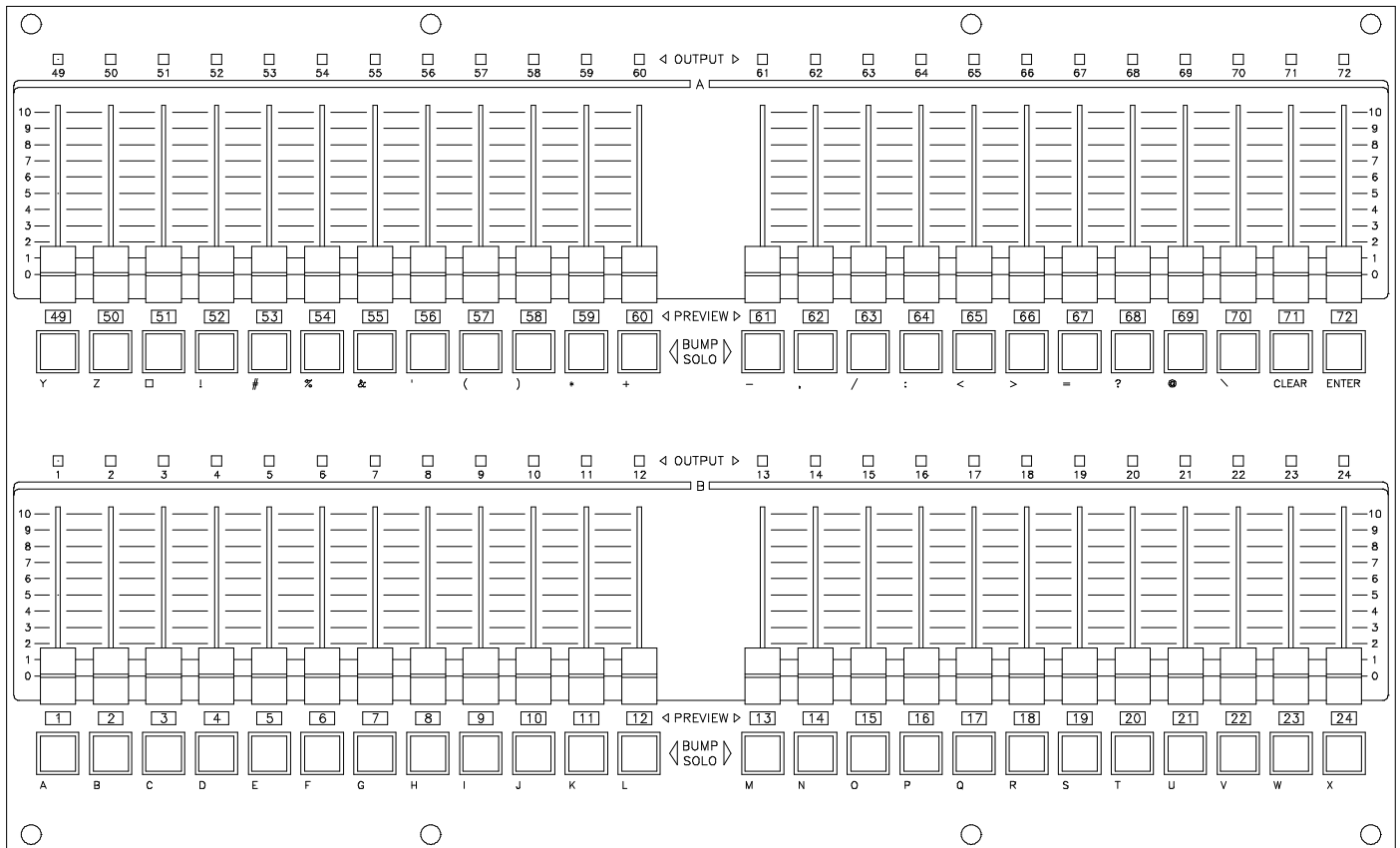
Scene A and B preset Sliders These sliders work in conjunction with the Crossfader controls for manual control of individual channels.

In the **Wide Mode** each of the preset sliders control an independent channel. (For example, Scene B sliders may control channel 1-48 and Scene A sliders may control channels 49-96. Both the scene A and B sliders would also be used for programming and modification of the submasters.

In the **Two Scene Mode**, the Scene A and B preset sliders control the same channels. (For example, Scene A sliders may control channel 1-48 and Scene B sliders may also control channels 1-48. Only the scene B sliders would be used for programming and modification of the submasters.

Channel Output LEDs These LEDs indicate the final output of each channel before affected by the Grand Master / Blackout.

In the **Two Scene Mode**, the Scene A Channel Output LEDs have no effect.



Channel Bump (Solo) Buttons Depressing any of these buttons will cause the output of the respective channel to instantly increase in intensity. The maximum intensity of the bump buttons is determined by the Bump Master Slider. These buttons may be operated in a momentary or toggle mode as determined by the Latch Button.

When the Solo Lock is off (See Setup Mode) the Latch Button will also toggle to a Solo mode indicated by a flashing Latch LED. When the Latch LED is flashing, depressing any of the Channel Bump buttons will cause the output of the respective channel to instantly increase in intensity and any other output of the console to go out with the exception of the Aux/Color memories and any other Solo functions. The maximum intensity of the Solo buttons is determined by the Bump Master Slider. If the Bump Master Slider is set at zero then the console will appear to momentarily “black out”.

The Channel Bump buttons are also used to program alphabetical characters and symbols into labeling functions and also to program chase steps into chase sequences.

In the **Two Scene Mode**, the Scene A Channel Output LEDs have no effect on channel levels.

Channel Preview LEDs These three-color LEDs indicate several functions:

- Yellow* Indicates channel has been bumped.
- Red* Shows relative levels of previewed submasters or chases.
- Green* Indicates a “takeover” or “captured” condition when making modifications.

In the **Two Scene Mode**, the Scene A Preview LEDs have no effect.

Submasters Section

Submaster Sliders Each Submaster Slider controls the level of a memory scene contained on a page of memory. Unless the name of the particular submaster is **highlighted** (light characters on dark background) on the Submaster LCD Display, the current memory page is being used. The effect on the level of the memory scene is indicated by each LED bar graph and by the percentage displayed on the Submaster LCD. When Autofade is enabled, the level of the memory scene will change slowly at the fade rate programmed in memory and as indicated by the LCD.

Submaster Preview Buttons Depressing the submaster preview buttons will cause the relative levels stored in memory for the particular submaster to be displayed on the red channel preview LEDs.

The Preview Buttons are also used in conjunction with the Record/Edit Function button for One Step Recording and Submaster edit modes.

Submaster Bump Buttons. Normally, these buttons will cause the submaster scene stored in memory to instantly increase in intensity. This function may be changed by the use of the Submaster Bump Mode, Solo, and Autofade Buttons.

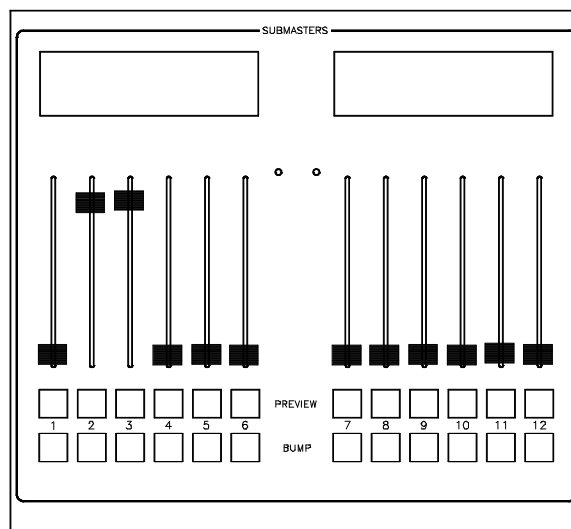
The maximum intensity of the Submaster Bump buttons is always determined by the Bump Master Slider (in combination with the Submaster Master Slider).

Submaster LCD Display The first three lines of the LCD display are reserved for alpha-numeric labels programmed into each submaster memory location on each page of memory. If no label is programmed, then simply the submaster number is displayed.

Whenever the **submaster name label is highlighted** (light characters on dark background), this indicates that the page has been changed and that the new scene memory has not been loaded into the slider. The next time the submaster level reaches 0% the new memory scene will be loaded and the display will return to normal.

The next two lines of the LCD display are for displaying the upfade time and downfade time that is programmed in memory. If the fade time is zero, then nothing is displayed on these lines. The upfade and downfade is only effective when the Autofade Button is active.

Note: If Global Fade mode is activated, then the upfade and downfade is controlled by the left encoder wheel and displays on the forth line while the last line of the LCD displays the current submaster memory scene level in percentage.



Rear Panel Connections.

<i>Audio In</i>	This input is for line level audio signals from 1V to 10V. Audio input will cause the currently selected chase or assigned submaster to synchronize with the ‘beat’ of the audio.
<i>RS-232 Ports</i>	Two 9 Pin ‘D’ type RS-232 serial ports are provided on the PMC console. Port A is currently used for control of the console from a remote source (See Appendix on RS-232 remote protocol). Additional functions for this port and Port B are reserved for additional features in future versions of the software.
<i>Keyboard</i>	This input accepts an AT compatible computer keyboard with a standard 5 pin ‘din’ type connector. The keyboard can be used for alpha-numeric data entry.
<i>Printer</i>	This output connects to a Epson compatible printer with a parallel 25 pin ‘D’ type cable.
<i>MIDI In/Out/Thru</i>	These ports are for connection to other equipment with a MIDI interface. MIDI may be used for synchronized or remote firing of the submasters and control of channel levels.
<i>External Macros</i>	This input provides 8 contact closures to fire any of the console’s eight programmable keystroke macros.
<i>TTL Video</i>	This output is for an external video monitor for viewing dimmer and channel levels. Connect only a TTL monochrome monitor with a 9 pin ‘D’ type connector.

3

Quick Operation Guide

NOTE: Some of the more advanced features of the PMC Console are passed over on purpose in this section in order to give the operator a quick lesson in basic operation.

Power Switch

The PMC power switch is located on the rear panel of the unit. When first turned on, the PMC will automatically perform a quick self test. The front panel LEDs will light momentarily and the console will beep three times indicating a successful test. The NSI Logo and software release number will appear on the main LCD display for 10 seconds or until any key is pressed.

The LCD display will now show the Main Menu Screen (figure on pg 6).

Keyswitch

It is important that the keyswitch be in the proper position before operating the console.

Lock

This position of the keyswitch freezes all console operations except for the output.

Run

This position of the keyswitch allows normal operation of all console functions, with the exception of any memory recording or configuration functions.

Program

This position of the keyswitch allows full operation of all functions of the console including all memory recording functions.

Manual Override

This position of the key switch is used only in case of failure of the main CPU of the console. This position activates an auxiliary processor which allows manual channel control using the top row of channel presets and an alternate source of DMX 512 and Micro-Plex output.

The submasters, main section, and Analog outputs will not function in this position.

This position may be used as a reset for the main CPU by switching to Manual Override and then back to Program.

Master Faders

Several master faders must be checked before the console will operate properly:

Grand Master

The Grand Master fader controls all output to stage with the exception of the Auxiliary/Color Select Scenes. The Channel level LED's are not affected by this control.

This control should be set at maximum.

The letters BO/GM will be displayed on the Main LCD display whenever the level is set below maximum.

Bump Master

The Bump Master slider scales the levels of all channel and submaster Bump and Solo Buttons. No Bump button will appear to operate, and Solo's will blackout the console, if this control is at minimum.

This control should be set at maximum.

Submaster Master

This slider scales the output of the entire submaster section. If this control is at minimum, the Submaster Section will appear to have no effect.

This control should be set at maximum.

B/O Button

This button toggles off and on. When the LED above the Blackout button is lit, all dimmer output, with the exception of the Aux/Color memories are forced to minimum levels. The BO/GM message will appear on the main LCD when the Blackout mode is on.

Creating and using lighting scenes

Basic operation of the PMC lighting controller is very simple. First create the desired lighting scene using the channel preset sliders, record the scene into a submaster, and then use the submaster to play the scene back. It is assumed that softpatch has already been setup as necessary. (If not, see section on softpatch.)

To create a scene using the channel presets:

Make sure all submaster and channel preset sliders are at minimum.

Move both the A and B crossfaders to the full up position.

If operating in the Two-Scene mode; use the A channel presets (top row) to vary the level of each channel and create a lighting scene on stage. If operating in the Wide Mode, use any or all of Scene A and B preset sliders (both rows).

Note: If the channel presets do not affect stage levels or produce unexpected results, see the trouble shooting chart in the rear of this manual.

To quick record the lighting scene into a submaster:

Simply press and hold the Preview button of the submaster desired.

Then tap the Record/Edit Function button next to the main LCD display and release the buttons.

Pressing the preview button of any submaster will display the relative levels of the channels recorded there in red on the channel preview LEDs.

To play back the scene:

Move desired submaster slider up until desired scene level is achieved.

Combine several submasters as desired.

Use submaster Bump buttons for quick scene on/off action.

Creating and using chases

The PMC console has some very powerful chase features that allow for the recording, editing, and playback of variable length chases. Although the PMC has the capability to record chase sequences with channels at any level, it is easiest to record a chase with on/off levels using the bump buttons to produce the chase.

To quick record a chase:

Simply press the Record/Edit Function button next to the main LCD display.

Select the chase to record by pressing one of the Chase Select buttons.

The LCD should now indicate the chase record mode and list the current chase step.

To record a step, simultaneously depress one or more channel bump buttons of the desired channels for a step, at the same time. When all the buttons are then released, the chase step will be recorded and the chase step indicator on the LCD display will indicate the next step. The entire chase, or any part of it may be recorded in this manner. Only "full on" levels will be recorded.

Press the Main Menu or "Exit" key when completed with all steps.

Press the Chase Select button to activate the chase and tap the Tap Sync button to start and establish a chase rate.

Press the Chase Select button to deactivate the chase.

For more details on chases and recording with levels, read the overview chapter on the chase functions and the Recording chapter on chases.

Submaster Pages

The PMC may be configured for up to 24 pages of submasters. Each of these pages contains a complete set of submaster memories. When the page is changed, the submasters will attempt to load and access the new page of memory. If a page is changed while the level for a submaster is above minimum, the submaster LCD will indicate a dark box for each submaster that has not yet been reloaded. The submaster will then reload when the level is next brought to '0' and the display will return to normal.

To change submaster pages use the "Next Submaster Page" and the "Previous Submaster Page" function buttons on each side of the Main LCD Display. The page number is shown on the Main LCD and will wrap back to the maximum page number after page one is passed and vice versa.

Chase Pages

The PMC may be configured for up to 24 pages of chases. Each of these pages contains a complete set of eight chase memories. When the page is changed, the chases that are deactivated are ready to access the new page of memory. If a page is changed while a chase is activated, the led above the chase will turn red indicating that the chase from the previous page is still loaded. Once the chase has been deactivated, it will access the new memory page the next time the Chase Select button is pressed.

To change chase pages use the "Next Chase Page" and the "Previous Chase Page" function buttons on each side of the Main LCD Display. The page number is shown on the Main LCD and will wrap back to the maximum page number after page one is passed and visa-versa.

4 Processor Menu Functions

Main Menu

- Next Submaster Page* This causes the submaster page number to advance. The page number will wrap back to "1" after the maximum page number is reached. All submasters will be reloaded from memory with the exception of submasters with levels set above "0" and submasters with "submaster lock" enabled. The LCD will indicate a dark box for each submaster that has not yet been reloaded due to the level being above minimum. The submasters will then reload when the level is next brought to "0" and the display will return to normal.
- Next Chase Page* This function causes the chase page number to advance. The page number will wrap back to "1" after the maximum page number is reached. All chases represented by the chase select keys will be reloaded from memory with the exception of chases which are currently active. The LED above the active chase select buttons will turn red indicating that the chase has not yet been reloaded from the new page of memory. Once the chase is deactivated, the new chase will load.
- Next Auxiliary Page* This function causes the auxiliary page number to advance. The page number will wrap back to "1" after the maximum page number is reached. All auxiliary scenes represented by the color / aux select keys will be reloaded from memory with the exception of scenes which are currently active. The LED above each active color/aux select button will turn red indicating that the scene has not yet been reloaded from the new page of memory. Once the scene is deactivated, the new scene will load.
- Previous Submaster Page* This causes the submaster page number to decrement. The page number will wrap back to the maximum page number after page one is passed. All submasters will be reloaded from memory with the exception of submasters with levels set above "0" and submasters with "submaster lock" enabled. The LCD will indicate a dark box for each submaster that has not yet been reloaded due to the level being above minimum. The submasters will then reload when the level is next brought to "0" and the display will return to normal.
- Previous Chase Page* This function causes the chase page number to decrement. The page number will wrap back to the maximum page number after page one is passed. All chases represented by the chase select keys will be available for access from memory with the exception of chases which are currently active. The LED above the active chase select buttons will turn red indicating that the chase has not yet been reloaded from the new page of memory. Once the chase is deactivated, the new chase will load.
- Previous Auxiliary Page* This function causes the auxiliary page number to decrement. The page number will wrap back to the maximum page number after page one is passed. All auxiliary scenes represented by the color / aux select keys will be available for access from memory with the exception of scenes which are currently active. The LED above each active color/aux select button will turn red indicating that the scene has not yet been reloaded from the new page of memory. Once the scene is deactivated, the new scene will load.
- Record/Edit* This function is used for One Step Recording of the submasters, or to access the Record/Edit menu for submasters, chases, aux/color memories, macros and page name labels.
- One Step Record** - Static stage levels as indicated by the Channel Output Leds can be recorded easily into each submaster in one quick step. For One step record instructions and further information on recording and editing see section on recording.
- Other Functions* This function allows access to the direct page switching functions as well as softpatch, input/output, and console setup functions.

Other Functions Menu

- Submaster Page* This function brings up a list of eight available submaster memory pages and the labels assigned to each. If the memory is expanded beyond eight pages, the subsequent pages may be accessed by use of the left rotary encoder or up/down cursor keys.
- Chase Page* This function brings up a list of available chase memory pages and the labels assigned to each. If the memory is expanded beyond eight pages, the subsequent pages may be accessed by use of the left rotary encoder or up/down cursor keys.
- Auxiliary Page* This function brings up a list of available Aux/Color memory pages and the labels assigned to each. If the memory is expanded beyond eight pages, the subsequent pages may be accessed by use of the left rotary encoder or up/down cursor keys.
- All with submasters* This allows all pages to change at the same time by selecting a Submaster page. The Chase and Auxiliary will change simultaneously to the same page number.
- Input / Output* This function allows access to the disk, printer, and other I/O utilities.
- Softpatch* This function allows selection and setup of the softpatches.
- Keyboard Assignment* This function controls the function of the numerical keys whenever the LCD is at the Main Menu. These keys may be assigned for quickly selecting submaster, chase, or aux/color memory pages.
- Console setup* This function accesses the wide mode, video mode, preheat, locks, global fade, memory configuration and other console setup features.

5 Submasters

Description and operation

Submaster Sliders Each Submaster Slider controls the level of a memory scene contained on a page of memory in a combined or "piled on" fashion. Submasters may also contain the following attributes:

Autofade times: This forces the submaster to fade slowly at a preset rate regardless of how fast the slider is moved if Autofade mode is enabled.

Label: This is an alpha-numerical label consisting of up to 3 lines of 6 characters that appears on the LCD display above the submaster.

Chase: This is a selected chase that has been previously recorded that changes intensity with the submaster slider.

Aux/Color memory: These memories are "fired" when the submaster is first moved above its minimum setting.

Audio Modulation: This attribute allows audio modulation of this submaster.

The effect on the level of the memory scene is indicated by each LED bar graph and by the percentage displayed on the Submaster LCD. When Autofade is enabled, the level of the memory scene will change slowly at the fade rate programmed in memory and as indicated by the LCD.

Submaster LCD Display The first three lines of the LCD display are reserved for alpha-numeric labels programmed into each submaster memory location on each page of memory. If no label is programmed, then simply the submaster number is displayed.

Whenever the **submaster name label is reversed** (light characters on dark background), this indicates that the page has been changed or submaster modified while the submaster levels are above 0% (as set by sliders or bump buttons) and that the new scene memory has not been loaded into the slider. The next time the submaster level reaches 0% the new memory scene will be loaded and the display will return to normal.

The next two lines of the LCD display are for displaying the upfade time and downfade time that is programmed in memory. If the fade time is zero, then nothing is displayed on these lines. The upfade and downfade is only effective when the Autofade Button is active.

Note: If Global Fade mode is activated, then the upfade and downfade is controlled by the left encoder wheel. Only one time is displayed on the LCD since they are both the same.

The last line of the LCD displays the current submaster memory scene level in percentage.

Note: Since processor priority is given to the output function of the console, submaster LCD display indications may appear to lag slightly, this is normal.

Submaster Preview Buttons Depressing the submaster preview buttons will cause the relative levels stored in memory or the chase for the particular submaster to be displayed on the red channel preview LEDs.

Submaster chases may also be modified using the Preview buttons. Hold down the Preview button on a submaster with a chase assigned to it and use the following controls to modify the chase: Tap Sync, Chase Rate, Direction, and Attack. The changes will be effective until the Submaster page is reloaded or the console is reset / repowered.

Submaster Bump Buttons. Normally, these buttons will cause the submaster scene stored in memory to instantly increase in intensity. This function may be changed by the use of the Submaster Bump Mode, Solo, and Autofade Buttons.

The maximum intensity of the Submaster Bump buttons is always determined by the Bump Master Slider (in combination with the Submaster Master Slider).

Submaster Master Slider This slider scales the output of the entire submaster section. If this control is at minimum, the Submaster Section will appear to have no effect.

Submaster Solo This button toggles on and off the Solo Mode for the Submaster Bump buttons. When Solo Mode is active the Submaster Bump buttons will cause all output from the console to go out with the exception of any Submaster Bump buttons that are depressed or activated, any Preset Bump buttons that are solo'd, preheat, and the Aux/Color Memories.

NOTE: Console may appear to be malfunctioning if Solo Mode is inadvertently activated when the Sumaster Bump buttons are in the Kill or Toggle Mode.

Submaster Bump Mode This button sets the mode of the Submaster Bump buttons. The LEDs above the button indicate the current operating mode:

Bump: The Submaster Bump buttons are momentary and will cause the Submaster to immediately come to full intensity. This is the normal operating mode.

Kill: The Submaster Bump buttons will toggle on and off and will cause any other Submaster Bump buttons to go out. This mode can be used for dipless autofading of submasters.

Tog: The Submaster Bump buttons will toggle on and off without affecting other Bump buttons. Several buttons may be activated at one time.

Pushbutton autofading is available only in the kill and toggle mode.

Autofade This button toggles on and off. The autofade mode causes all Submaster Slider level changes to fade at a time programmed into each submaster memory or the Global fade time. The kill and toggle mode of the Submaster Bump buttons is also affected.

NOTE: The submaster fades are DIPLESS only when the following conditions are present:

Autofade is on, Submaster bumps are in "Kill mode", and the Submaster bumps are used solely for fading submasters one at a time.

Recording and Editing

One Step Record

Static stage levels as indicated by the Channel Output Leds can be recorded easily into each submaster in one quick step:

Simply press and hold the Preview button of the submaster desired and then tap the Record/Edit Function button.

The submaster scene memory will now contain the stage levels. All other attributes, such as fade time, labels, and chase assignment will remain unaffected.

Quick Labels

Any or all of the submasters may be labeled quickly in a few steps:

Press the Record/ Edit function key from the main menu. Then press the Labels function key and then the Submaster Memory Labels function key.

Press the Preview Button of the Submaster to Label or you can use the left and right encoders and the function keys to select submaster numbers and pages. The label editing will show on the center of the Main LCD and on the Submaster LCD above the selected submaster if the pages match.

Use the numerical keypad along with the Preset Bump buttons (letters are marked next to each button) to enter a six character label. Press the Enter key to advance to the next line (three maximum). Completing three lines or pressing the Enter key on a empty line will cause the Label editing to end. Repeat this and the above step for other submasters.

Full Record and Edit

Submaster levels and attributes may be recorded live or blind in the following manner:

To record blind, make sure the submaster level is at 0%. To record live make sure the submaster level is set at maximum.

Select the Record/Edit mode by pressing the appropriate function key.

Select the Submaster to record by tapping the appropriate Preview Button <or> Select the Submaster memory function key and enter the page and submaster number. The number/page of the Submaster and the following menu selections will be displayed:

Insert - Allows a new submaster to be inserted by renumbering submasters to the right of the selected one. The rightmost submaster will be moved to the freeze master. Press this button twice to insert a new submaster at the submaster location selected.

Delete - Allows the removal of a submaster by renumbering submasters to the right of the selected one. An empty submaster will be inserted in the rightmost. Press this button twice to delete the submaster at the submaster location selected.

Copy - Allows copying of all levels and attributes from any submaster on any page. Press this button and enter the page and number of the submaster to be copied from.

Captured Levels - Records only levels captured as indicated by the Green Preview LEDs and returns to the main menu. Other channel levels stored in the submaster are left unaffected (See Editing levels).

Scene B Levels (two scene mode) - Records all channel levels as represented by the Preset Scene B slider positions and returns to main menu.

Levels from presets (wide mode) - Records all channel levels as represented by all the Preset slider positions and returns to main menu.

Levels from stage - Records all channel levels as represented by the Channel Output LEDS and returns to the main menu.

Attributes - Allows changing the upfade/downfade time, label, aux, audio, and chase (see the following section on attributes).

Attributes

The following menu appears when you select the Attributes key:

Upfade time: This is the time it takes for a submaster to fade from minimum to maximum when autofade is activated. Global fade will override this setting. Enter the value in seconds using the numerical keypad, the left encoder wheel, or the Up/Down arrow keys. If minutes are required, use the right encoder wheel or the Left arrow key to place the cursor on the minutes section of the time displayed and make the changes the same way as the seconds. Minutes are also assumed when more than 2 digits are entered. Press the Enter key when done.

Downfade time: This is the time it takes for a submaster to fade from maximum to minimum when autofade is activated. Global fade will override this setting. This setting is normally the same as the Upfade time and will default as such. Enter the value in seconds using the numerical keypad, the left encoder wheel, or the Up/Down arrow keys. If minutes are required, use the right encoder wheel or the Left arrow key to place the cursor on the minutes section of the time displayed and make the changes the same way as the seconds. Minutes are also assumed when more than 2 digits are entered. Press the Enter key when done.

Label: Press this button and use the numerical keypad along with the Preset Bump buttons (letters are marked next to each button) to enter a six character, three line label. Press the Enter key to advance to the next line (three maximum). Completing three lines or pressing the Enter key on a empty line will cause the Label editing to end. (See Details on Quick Labeling in this section for fast labeling of submasters).

Chase number, page and BPM: This assigns a chase from a particular page to the submaster. The BPM is beats per minute and is the initial chase rate that will be in effect when the submaster page is loaded. After pressing this button, input the chase number 1 - 8 on the numeric keypad or press 0 for no chase, then press Enter. Input the page number (1 - max. page number) and press Enter. Lastly enter the BPM (0 - 900) and press the Enter key. Entering a 0 BPM chase will cause the chase to appear to be non-functional when the submaster page is first loaded. A default of 60 BPM or one beat per second may be provided if no entry is made. Chase rate, direction, and attack can be easily modified "on the fly" by holding down the Preview button of the desired submaster and using the Tap sync, Direction and Attack buttons and/or the Chase Rate slider to make changes that will be good until the Submaster page is changed.

Auxiliary/Color number, page and fade: An Auxiliary/Color memory can be assigned to the Submaster. This memory will be activated whenever the Submaster is raised from minimum as it passes through 5%. First enter the memory number followed by the Enter key. Then a prompt for the page is displayed. After entering the page number, a fade rate can be assigned. This determines the rate that the Auxiliary/Color memory will fade in at. Enter a number between 0 and 50 minutes. (Note: the Auxiliary fade must be turned on if a fade is to be used.)

Audio: This function key determines whether the submaster is affected by audio or not. On or off is selected by pressing the function key.

Cancel: This key will cancel attribute changes and return to the Recording and editing menu.

Return: This key will save attribute changes and return to the Recording and editing menu.

Editing levels

To edit existing submaster memory levels:

Enter Full Record mode as described prior.

The channel preview LEDs may turn red to indicate the relative channel levels stored in the submaster memory scene.

Use Preset Scene B channel sliders in two scene mode or all the preset sliders when in wide mode to match and “capture” submaster levels. When the sliders match the submaster memory levels and then are moved past, the Preview LEDs will turn Green. Further movement of the sliders will affect the submaster memory.

The green channel preview LEDs indicate that the respective channel levels have been modified or “captured”. If the slider is moved back to the matching position, the preview LEDs will return to red.

Select the Captured Levels function to store the changes into the PMC’s non-volatile memory, else if canceled, the changes will only be temporary until the submaster page is changed.

6 Chases

Description and Operation

Chase Select Buttons These buttons are used to preview, activate, deactivate, and select chases for modification.

Previewing (and modifying): Pressing and holding (for 1 second) any one of the Chase Select buttons **not currently activated** will cause the chase to be previewed on the Channel Preview LEDs (red) while the button is held down. Chase rate, direction, and attack may be modified at this point. If no chase is currently programmed in the respective location, then the LED above the button will go out, the console will beep, and the chase will become deactivated.

Note that chases may not appear to function if recorded with a zero or very slow rate until the Chase Rate Slider is moved or the Tap Sync button is operated.

Cancelling a previewed chase: Pressing the Chase B/O button while a chase is being previewed, will cause the chase to return to deactivated state, without affecting stage levels.

Activating: Releasing a Chase Select button will activate the chase and the chase will appear on stage. At this point, the LED above the chase select button will start flashing, indicating that live modifications may be made.

Activating another chase will cause the LED above the previous chase to light steady, indicating that modifications cannot be made to this chase currently.

Modifying: Pressing and holding (for 1 second) any one or more of the chase select buttons currently activated will cause the LED above the button to start flashing indicating that live modifications of chase rate, direction, and attack may be made now.

Cancelling a running chase: Tapping (quickly) any activated Chase Select button will cause that chase to go out and modifications to be lost. Use the Chase B/O to cancel all chases.

Chase Master Slider This slider controls the stage levels of any chases activated with the Chase Select buttons. When this control is at minimum, chases activated by the Chase Select Buttons will not appear on channel output LEDs or stage, unless the chases are bumped using the Bmp Chase button. This control will **not** affect submaster chases.

Chase Rate Slider This slider allows for realtime modifications of chase rates of chases activated by the chase select buttons when the chase is being previewed, or the LED above the Chase Select Button is flashing indicating that the chase is in the modify mode. Movement of the slider will cause the chase rate to immediately follow the slider settings. This control will affect submaster chases while the Submaster Preview button is held down.

Tap Sync Button Tapping this button will cause any chase being previewed or in the modify mode as indicated by a flashing LED above the chase select button, to synchronize chase rate with the last two taps of this button. This control will affect submaster chases while the Submaster Preview button is held down.

Chase B/O Button If this button is depressed by itself, all chases activated by the Chase Select Buttons will become deactivated and any live modifications will be lost. If this button is pressed while previewing a chase, only the chase previewed will be deactivated. This control will **not** affect submaster chases.

Chase Step This button causes a manual step of the currently selected chase (chase select LED flashing). Holding the button down will cause the chase to freeze. This control will affect submaster chases while the Submaster Preview button is held down.

<i>Solo Chase</i>	When the Solo Lock (See Setup) is off, depressing the Solo Chase Button will cause all console output to go to minimum with the exception of the chases activated by the Chase Select buttons and the Aux/Color memories. Note: Solo chase intensity is controlled by Chase Master, not the Bump Master.
<i>Direction</i>	This button allows for live modification of the direction of chases either being previewed, or in the modify mode as indicated by a flashing LED above the chase select button. The LED above the Direction button indicates the current direction mode with no LED lit indicating a normal forward sequence. If one-shot mode (>) is selected, chase will deactivate when the sequence is completed. This control will affect submaster chases while the Submaster Preview button is held down, although one-shot mode will not be available.
<i>Attack</i>	This button allows for live modification of the “attack and decay” of either chases being previewed, or chases in the modify mode as indicated by a flashing LED above the chase select button. The LED above the Attack button indicates the current attack and decay mode with no LED lit indicating a normal instant on/off attack. This control will affect submaster chases while the Submaster Preview button is held down.
<i>Bmp Chase</i>	The Bump Chase button will cause all chases activated by the Chase Select Buttons to increase intensity above the setting of the Chase Master Slider. The maximum intensity is determined by the Bump Master Slider. This control will not affect submaster chases.

Recording and editing

Chase sequences and attributes may be recorded in the following manner:

Select the Record/Edit mode by pressing the appropriate function key.

Select the Chase to record by tapping the appropriate Chase Select Button or select the Chase memory function key and enter the page and chase number.

If the Chase memory function key is used, the F4 function can be used to turn on or off live editing. When live editing is on any existing steps being edited are transferred to the stage. This includes edits made by capturing channels with the preset sliders.

The following menu selections will be displayed:

Insert - Allows a new chase step to be inserted before or after to the current one. This is only useful for editing chases that have already been recorded. See the following section on editing chases.

Delete - Allows the removal of the current chase step or the entire chase sequence.

Copy - Allows copying of any step that has been previously recorded within the same chase sequence.

Attributes - Allows changing the default chase rate, direction, and attack of the selected chase.

Captured Levels - Records only levels captured as indicated by the Green Preview LEDs. Other channel levels are left unaffected (See Editing).

Levels from Scene B/Presets - Records all channel levels as represented by the Preset Scene B slider positions (all presets in wide mode).

Stage Levels - Records all channel levels as represented by the Channel Output Leds.

Recording Steps

Once in the chase record mode, each chase step may be recorded as follows:

Quick Record - Simply depress one or more channel bump buttons of the desired channels for a step, at the same time. When all the buttons are then released, the chase step will be recorded and the chase step indicator on the LCD display will indicate the next step. The entire chase, or any part of it may be recorded in this manner. Only "full on" levels will be recorded.

Level Record - First set the desired levels by using Scene B sliders (all preset sliders in wide mode) or produce the desired scene on the stage. Select either the Preset Levels or Stage Levels selection from the LCD display. This will cause the appropriate levels to be recorded into the step, and the chase step indicator on the LCD display will indicate the next step.

If the Preset (or Scene B) slider levels are utilized to record a step, the recording process may be live or blind, depending on the position of the Preset Crossfader.

When finished recording chase steps, the operator may exit the chase record function by pressing the main menu key, or may now record attributes or edit the chase. (see the following section on attributes). If the current step exists, "Edit Step" is displayed in reversed text in the middle of the LCD display. If the step has not yet been recorded, "New Step" will be displayed instead.

Attributes

The following menu appears when you select the Attributes key:

BPM: The BPM is beats per minute and is the initial chase rate that will be in effect when the chase is activated. After pressing this button, enter the BPM (0 - 900) and press the Enter key. Entering a 0 BPM chase will cause the chase to appear to be non-functional when the chase is first activated.

Direction: This selects the Direction of the chase sequence. A forward, ping-pong, or one-shot direction may be selected. This is the direction that the chase sequence will run when it is first selected. The “One-Shot” mode will cause the chase to run forward for one full sequence and then terminate. Press the key until the desired direction is selected.

Attack: This selects the type of fade between each step. An instant fade, crossfade, splitfade, or sawtooth (fade in or fade out) may be selected. This is the attack that the chase sequence will use when it is first selected. Press the key until the desired attack is selected.

Cancel: This key will cancel attribute changes and return to the Recording and editing menu.

Return: This key will save attribute changes and return to the Recording and editing menu.

Editing steps

To edit existing chase steps:

Enter Chase Record mode as indicated before and select a previously recorded chase.

The channel preview LEDs may turn red to indicate the relative channel levels of the first step of the chase.

Use the left encoder wheel or up/down cursor keys to select the desired step to edit.

Use Preset Scene B channel sliders (all presets in wide mode) to match and “capture” chase step levels. When the sliders match the existing chase step memory levels and then are moved past, the Preview Leds will turn Green. Further movement of the sliders will affect the chase step memory. The green channel preview LEDs indicate that the respective channel levels have been modified or “captured”. If the slider is moved back to the matching position, the preview LED’s will return to red. Press the Captured Levels function to record the newly modified step in memory. The Chase step counter will not advance automatically when in the edit mode, unless the last step is edited in which case a new step is sequenced to and may be programmed if desired.

An alternate way to edit the chase step is to press the channel bump buttons at the same time. Release all the bump buttons will cause the chase step to be recorded in memory and the new preview LEDs will turn red. The Chase step counter will not advance automatically when in the edit mode.

7

Aux / Color Select

Description and operation

Aux/Color scenes are comprised of individual dimmer levels and operate directly on the dimmers instead of the control channels. This allows scenes of up to 1024 precise dimmer levels to be created. This type of flexibility allows the PMC console to control color scrollers directly, moving light controllers, and other types of special stage equipment and lighting.

These buttons activate levels stored in memory for each of up to 1024 channels of output. These buttons operate in a toggle/kill mode or toggle/add mode depending on the configuration setting (see section on Configuration). The output of these buttons is independent of other console functions and is unaffected by the blackout or solo modes, or any master sliders, and will always affect the current dimmer levels with the greatest level having precedence.

Aux/Color memory scenes can also be faded from one to another by turning "Aux Fade" on in the console Setup menus (see section on Configuration). The right encoder is then used to adjust the fade time from zero to one minute.

Aux/Color buttons may also be assigned to "fire" from the Submaster memories. This causes a "press" of a particular Aux/Color button when the submaster is raised above 5%. Individual fade rates can be assigned to Aux/Color scenes that are fired from submasters whenever the Aux Fade function is on.

Recording and editing

Dimmers levels are entered and displayed in true eight bit format from 0 to 255 (full).

To enter Aux/Color levels:

Select the Record/Edit mode by pressing the appropriate function key.

Select the Aux button to record by tapping the appropriate Aux/Color Button or select the Aux memory function key and enter the page and aux number.

A screen will appear on the LCD that will display the current levels of the dimmers programmed into the particular scene and allow modifications.

Dimmer levels may be entered via three methods:

Use the up/down cursor keys and/or the Left Encoder wheel to scroll the dimmer channels and use the left/right cursor keys and/or the Right Encoder wheel to vary the dimmer levels.

Or enter the dimmer levels directly using the keypad by entering a dimmer number, and pressing one of the following keys:

FULL - to set the dimmer or range of dimmers to 255 (full).

AND - to select another dimmer or range of dimmers.

THRU - to determine a range of dimmers to be affected.

@ - to enter a level other than 255.

Press Enter after entering the prompted information.

Or use the channel preset sliders to adjust the dimmer levels by selecting the Map Presets to Dimmers function key.

When the Map function is on, function key F2 shows the dimmer number that the first preset will be mapped to. This allows the entire set of preset sliders to be mapped to a section or "window" of the dimmer channels. The intensity of the preview LEDs will indicate the level of each dimmer in red.

When a preset slider is moved to match the previous dimmer level, the Preview LED will turn full green and the LCD display will show the level changes to the dimmer channel if that dimmer is currently being displayed. A preset slider does not have control of the dimmer channel until the preview LED turns green. The preview LED will again turn red if the preset slider is used to return to the original dimmer level.

Additional blocks of dimmer channels can be modified by changing the starting dimmer number using the F2 function key.

Press the "Save and Exit" function key when done to record the edits into memory.

Note: Edits will be lost if console power fails or if Main menu key is pressed while editing.

Levels can be copied from another Aux/Color scene by using the F3: Copy function key.

Levels can also be recorded directly from the stage levels (this includes levels from any other Aux/Color scenes) by using the F7: Levels from stage key.

8 Cue Stacks

Description

Lighting cues are a collection of lighting levels with pre-programmed fade times that may be stored in the PMC's internal non-volatile memory (separate from other scene memory) for later sequential playback. Cues are then placed in sequential order in a stack. Each cue may be set to be activated manually by an operator or cues may be linked to provide automatic sequencing after a pre-programmed wait time, stopping whenever necessary for an operator to re-synchronize the event.

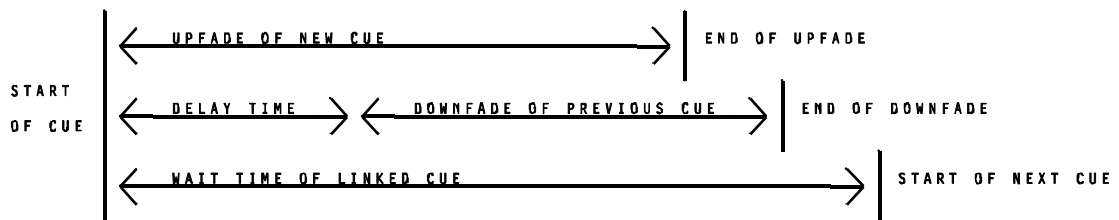
The PMC is capable of recording the following information into memory cues:

- Up to 192 channel levels (model dependent).
- Up to 100 cues per stack (total number of cues set in memory allocation).
- Up to 16 stacks (3 may operate consecutively).
- Upfade time in 1/10th seconds to 99 minutes, 59.9 seconds.
- Downfade time in 1/10th seconds to 99 minutes, 59.9 seconds.
- Downfade delay time in 1/10th seconds to 99 minutes, 59.9 seconds.
- Next cue number to automatically link to.
- Chase number to automatically activate.
- Chase rate from 1 to 900 beats per minute.
- Aux scene to fire.
- Aux fade time.

Each of these items is now discussed in depth:

Channel Levels

Channels from either the stage (live) the presets (blind or live) or individual channels (captured).



Upfade time

The upfade time is the time it will take the cue to fade in from the start to the finish of the fade (see figure).

Downfade time

The downfade time is the time it will take the previous cue to fade out from the start of the downfade to the finish (see figure). If there was no previous cue, or the previous cue contained levels that were less than all levels of the new cue, the down fade will have no apparent effect. To perform a standard dipless crossfade, the downfade time must be the same as the upfade time.

Delay Time

The delay time is the time from the start of the cue to the start of the downfade (see figure). For standard dipless crossfades this is set to 0 seconds.

Following are optional cue parameters:

<i>Linked Cue</i>	The Linked cue is the next cue to be automatically activated after a preset wait time. Cues may be linked back to an earlier cue in order to create a loop. Since the PMC will normally load the next cue in sequential order when using the GO button, it is not necessary to specify a cue number to link to in normal operation. A Linked cue number is required if an automatic sequencing with wait time is desired. If a non-existent cue number is specified, the console will find the next higher cue number on playback.
<i>Wait time</i>	The wait time is the time from the start of the cue to the start of the next linked cue for automatic sequencing. A Linked cue number is required to enter a wait time.
<i>Cue nesting</i>	Since the PMC will not allow cue nesting on the same stack, a wait time less than the uptime of the cue will cause the linked cue to execute while the previous cue is aborted. When a cue is aborted, the channel level fading is suspended. The next cue will start the new fade from where the previous one left off. The last cue executed will always have precedence when it comes to channel levels.
<i>Chase Number</i>	A chase number and chase page number can be programmed into a cue so that the chase will automatically execute when the cue is executed. Consecutive cues with the same chase number will continue the same chase without interruption. A chase number of 0 is the same as no chase or discontinue a chase.
<i>Chase Rate</i>	The chase rate is the speed at which the chasing lights sequence. The chase rate is specified in beats per minute.
<i>Aux Number</i>	An Aux/Color select scene can be programmed into a cue so that the Aux is "fired" by the cue when the upfade starts. Aux/Color scenes stay activated until a different Aux number is specified in a proceeding cue.
<i>Aux Fade</i>	The Aux/Color memory may be programmed to fade in at a preprogrammed rate. Whenever setting this number to anything other than 0, make sure that the Aux Fade parameter in the "More Current Setup" menu, is turned on.

Stack Cue Playback

	Stacks are run on two Submasters assigned as a Stack processor. Up to three processors can be assigned at a time allowing three different Stacks to run independent of each other. Stack processors are assigned in the "More Current Setup" menu. As the processors are activated, the highest available Submasters will automatically change their function to the processor. The LCD indicates this by grouping the two Submasters into a Stack processor status box.
<i>Sliders</i>	The sliders and pushbuttons of the two Submasters become the controls of the Stack. The left slider becomes a manual take control for the up fade while the right slider is used for the down fade. In order to take control of a fade, move the slider to the position of the fade indicated by the LED ladder next to the slider. Once the positions match, the slider will take control of that fade. Starting from the lower right and moving clockwise, the bump and preview buttons become Load, Go, Back and Clear. Legend switch caps are shipped with the console and can replace any caps not already legend.
<i>Load</i>	A Stack must first be loaded into the Stack processor. Pressing the Load button will cause the main LCD to prompt for a Stack and Cue number. You must be at the Main Menu for the Load button to function. Once the Stack number has been entered, the cue field prompts with the first cue number in that Stack. If this is the cue number desired, simply press Enter a second time. If another number is required, just type it in with the numeric keypad. Clearing is automatic as long as the cursor has not been moved.

Once the Stack is loaded, the status box will show the Stack number on the top highlighted line. The cue number entered will be shown on the bottom line in the "nxt:" field.

- Go* Press the Go button to execute the Cue in the next field. The number of the cue will move to the "Cue:" field and the Up, Down, Delay and Wait times assigned to the Cue will be displayed in their respective fields.
- Back* Use the Back key to reverse the current fade. Levels will fade back to the point they were at the last time the Go button was pressed.
- Clear* To clear the Stack processor of the current Stack, press the Clear key.

Stack Cue Record

Stack cues and attributes may be recorded in the following manner:

Select the Record/Edit mode by pressing the appropriate function key.

Select the Stack to record by tapping the Stack memory function key and enter the Stack number.

The F4 function can be used to turn on or off live editing. When live editing is on any existing steps being edited are transferred to the stage. This includes edits made by capturing channels with the preset sliders.

The following menu selections will be displayed:

Insert - Allows a new cue to be inserted. Any cue number can be entered. If the cue number exists in the current Stack, the buzzer will sound and that cue will be brought up for editing rather than being inserted as a new cue. Cues from different Stacks can have the same number without conflict. The cues will be sorted by numerical order. Normally the next cue number will be automatically created when recording. Using the Insert key allows interrupting this order.

Delete - Allows the removal of the current cue or the entire Stack sequence.

Copy - Allows copying of any cue from any previously recorded Stack.

Attributes - Allows entering the Up, Down and Delay times, Link cue and Wait time, Chase assignment, and Auxiliary/Color assignment.

Captured Levels - Records only levels captured as indicated by the Green Preview LED's. Other channel levels are left unaffected (See Editing).

Levels from Scene B / Levels from Presets - Records all channel levels as represented by the Preset Scene B slider positions (all presets in wide mode).

Stage Levels - Records all channel levels as represented by the Channel Output LED's.

Recording Cues

Once in the Stack cue record mode, each cue may be recorded as follows:

First set the desired levels by using Scene B sliders (all preset sliders in wide mode) or produce the desired scene on the stage. Select either the Preset Levels or Stage Levels selection from the LCD display. This will cause the appropriate levels to be recorded into the cue, and the cue indicator on the LCD display will increment to the next whole number.

If the Preset (or Scene B) slider levels are utilized to record a step, the recording process may be live or blind, depending on the position of the Preset Crossfader.

When finished recording Stack cues, the operator may exit the Stack record function by pressing the main menu key, or may now record attributes or edit the Stack. (see the following section on attributes). If the current cue exists, "Edit Cue" is displayed in reversed text in the middle of the LCD display. If the step has not yet been recorded, "New Cue" will be displayed instead.

Attributes

The following menu appears when you select the Attributes key:

Times: Allows entering of the Up, Down and Delay times as described above.

Link: Press this key to enter a Link cue number and Wait time if automatic cue execution is desired.

Chase: A Chase can be assigned to the Cue complete with BPM assignment.

Auxiliary: Use this function to assign an Auxiliary/Color memory to the Cue. If desired, a fade rate can also be assigned. Leaving the fade rate a zero will cause the memory to snap to the programmed levels. Make sure the Aux Fade parameter in the "More Current Setup" menu is on if a fade rate other than zero is entered.

Cancel: This key will cancel attribute changes and return to the Recording and Editing menu.

Return: This key will save attribute changes and return to the Recording and Editing menu.

Editing steps

To edit existing Cues:

Enter Stack Record/Edit mode as indicated before and select a previously recorded Stack.

The channel preview LEDs may turn red to indicate the relative channel levels of the first cue of the Stack.

Use the left encoder wheel or up/down cursor keys to select the desired Cue to edit.

Use Preset channel sliders to match and "capture" Cue levels. When the sliders match the exiting Cue memory levels and then are moved past them, the Preview LED's will turn Green. Further movement of the sliders will affect the Cue memory. The green channel preview LED's indicate that the respective channel levels have been modified or "captured". If the slider is moved back to the matching position, the preview LED's will return to red or off if the channel was at a very low level. Press the Captured Levels function to record the newly modified step in memory. The Cue number indicator will not advance automatically when in the edit mode, unless the last cue is edited in which case a new Cue is sequenced to and may be programmed if desired.

9

Softpatch

What is Softpatch?

The PMC console has the capability to patch any control channel to one or more dimmer channels at a proportional level. For example, if channel one is patched to dimmer 49 at 80%, this means that dimmer 49 will always operate at 80% of the intensity of channel one.

The default patch (after the console memory is cleared and re-configured) is a “one to one” patch. For example, channel one will be patched to dimmer one only at 100% and channel two will be patched to dimmer two at 100% only and so forth.

Any one channel can be patched to any or all dimmers that are not already patched to another channel.

Important: Clearing the softpatch will cause loss of dimmer control until a new patch is entered.

Always back up a complex patch to disk in case of unintentional deletion or modification of the patch.

Softpatch Menu Functions

After having entered the "Other Functions" mode by pressing the "Other Functions" function key from the main menu, select the Softpatch function key. This will cause the softpatch menu to appear on the LCD display.

Default Patch

This function key will cause the currently selected softpatch to be erased and a “one-to-one” patch to be recorded into memory.

A “one-to-one” patch is when channel one is patched to dimmer one, channel two is patched to dimmer two, and so forth.

A second press is required to confirm this selection. The previous patch will not be recoverable.

Clear patch

This function causes the selected patch to be cleared in memory. All dimmers previously patched will be removed. A second press is required to confirm this selection. Once this function is selected, the previous patch will no longer be recoverable.

Clear Channel

This function causes all dimmers patched to a single selected channel to be deleted from the current patch in memory.

Once this function is selected, the console will prompt for a channel number. After entering the channel number, press enter to clear the channel.

Select Patch

This function brings of a list of available softpatch tables. The number of tables displayed is set in the Memory Allocation menu (see Setup).

Select a patch table to be active by using the appropriate function button. All changes and edits will now affect only the selected table.

Edit/Display patch

This function causes the current patch to be displayed on the LCD screen. Eight of the control channels are shown along the top of the LCD display, while only dimmers that are currently patched to these channels are displayed vertically along the left hand side. The levels of the dimmers that are patched are displayed in the middle of the display.

By moving the right encoder, or the Left/Right Cursor keys, the channels being displayed may be scrolled from side to side.

By moving the left encoder, or the Up/Down Cursor keys, the dimmers that are currently patched may be scrolled vertically.

Stage Display

Activate this function by pressing this function key to cause patched dimmers to display on stage while editing the patch table as follows.

To edit the patch for any channel, simply follow these steps.

Enter the channel number on the keypad and press Enter. The display will immediately move to the selected channel number and will prompt for the dimmer to be patched. If the Stage Display mode was selected on the previous screen, all stage dimmers patched to this channel will come on at the patched level.

If one dimmer is to be set to 100%, enter the dimmer number and press "Full" and start over with step one to program additional dimmers.

If more than one dimmer is to be patched to a single channel, enter the dimmer number then press "Thru" and enter another dimmer number to select a range of dimmer channels, or press "And", followed by another dimmer number to select multiple dimmers individually. A sequence of "And"/"Thru" combinations may be used to select the desired dimmer numbers. Either press "Full" to set all selected dimmers to 100%, or proceed to the next step.

If dimmers patched are to be set to less than 100%, press the "Enter" key instead of the "Full" key and enter a level from 0 to 100. Press "Enter" again and return to step one to patch additional channels.

All dimmers patched in this manner are added to the patch table. Dimmers previously patched to a channel will remain as part of the patch. To remove a dimmer from a channel, follow the above procedure and enter a 0% level. Dimmers with a 0% level are considered to be not patched and will not appear on the display.

Softpatch edits are saved to memory when the LCD returns to the Main Menu by pressing F8. A power failure occurring while in the Softpatch screen will cause current edits to be lost. When editing complex patches it may be a good idea to press the "Exit & Save" key once in a while to save the edits.

Tapping the F4:"Dimmer Find" function key allows searching for a dimmer by number. Once a number has been typed without pressing the "Enter" key, ("Enter" exits the routine), that dimmer is flashed on and off on stage for the ease of locating. The up/down Arrow keys or the left encoder can be used to scroll through sequential dimmer numbers. Once the dimmer has been located, press the Enter key to exit the routine. The dimmer number will be used in the next channel/dimmer equation entered.

10

Input / Output Operations

Disk

The disk drive on the PMC console can be used to save and reload several different types of data such as, submaster memory pages, chase memory pages, auxiliary memory pages, softpatches and macros. As with most other PMC functions, the disk operations are “concurrent” with other console real time operations. But because of the high amount of CPU time required to service the disk drive, the console response may slow while the disk drive is in operation.

The PMC stores disk data in an ASCII type data format that can be read and edited on a PC compatible type of computer. This type of data format offers better data integrity and is much more flexible to the advanced user, although, it is larger and may take longer to save and load than a binary format. Contact factory or dealer for information sheet on PMC disk data format.

The PMC console uses only 3.5" HIGH DENSITY diskettes. Each disk must be formatted with an IBM compatible (1.44MB) format before using it. Preformatted diskettes (IBM compatible types) may be used without formatting. Otherwise diskettes must be formatted on the PMC console or other compatible disk drive.

Caution: Do not transport the console with a disk loaded in the disk drive, to do so may damage the disk and may cause important data loss. Do not touch the inner flexible disk inside of the hard plastic case of the disk. Store diskettes in a cool, dry, dust free environment, away from any source of magnetism (especially magnetic screwdrivers)!

Select “Disk” from the "Input / Output Operations" menu (see Other Function Menu)

Formatting a disk

Caution: Formatting erases all data on the diskette.

To format a diskette; first insert it in the PMC disk drive.

Select “Format” from the disk operations menu. Press the function key a second time to confirm.

The disk drive LED will turn on and the LCD display will indicate the progress of the operation.

After 80 tracks are formatted and verified, the disk drive will stop (drive LED off) and the LCD will return to the Disk Input/Output Menu.

Now select “Directory” to check the results of the format.

After a few moments the LCD display should indicate the number of bytes that were successfully formatted. A number less than 1423K indicates that the disk contains bad tracks, and it’s use is not recommended.

Select “Done” to return to the Disk Input/Output Menu.

Displaying directory

Select “Directory” from the Disk Input/Output Menu. The disk drive will come on and the directory will be displayed in a few moments.

Use the up/down keys or left encoder to scroll.

Press “Done” when finished.

Saving data to disk

Select "Save File" from the "Disk Input/Output" Menu.

Select the type and quantity of data to be saved using function keys F2 through F8. To change a particular range, press the desired function key. The current range will be displayed with cursor on the lower value. Enter new values with number keys if needed, press enter after each or disable the saving of this data by pressing "OFF". Press "OK" to use the displayed range. Press "Cancel" to abort any changes made. "Save preheat defeat" and "Save macros" toggle on and off as their function keys are pressed.

To start the save, select "Save File". A prompt for a new file name will appear in the F2 box and the disk drive will turn on and display the current directory. If you want to save a new file, simply enter the name using only standard DOS characters and press Enter. If you are updating an existing file, use the up/down cursor keys or the left encoder wheel to highlight the desired file name and press the Enter. Press the F1 function key to confirm the overwrite. The saving process will start.

The LCD display will show the progress of the disk operation and will return to the main menu when complete. If the "Cancel" key is pressed before the end of the operation, then the new file is not created but the existing file will have been deleted.

Loading disk data.

Select "Load File" from the Disk Input/Output Menu.

You must now select the type of data to load from the disk by selecting the function keys marked "Load Submasters", "Load Chases", etc. This will allow only the type of data that you desire to replace the existing data in the console's memory. Any item that you set to "-OFF-" will preserve that current memory of the console.

When the Submaster Load function says "-ON-", pressing it again will change it to -PAGE WRAP-. This is a special feature that may be useful when loading in Submaster memories from different sized consoles. For example, if Submaster memories are saved to disk from a console with 36 Submasters and then loaded onto a console with only 24 Submasters, the last 12 Submasters of each page will be lost. Page Wrap can be used to load all the memories by ignoring the page and submaster numbers and simply filling in the memories on the console as they are encountered on the disk. Since the memories are saved in sequential order on the disk, that order will be preserved when they are loaded in the new console.

Caution: Existing memory will be erased for each data item that is contained in the disk file being loaded unless load operation is disabled for the particular type of data item.

Now press the "Load file" function key and the disk drive will come on. The directory will be displayed in a few moments. (Note that "Load file" function will not appear if loading of all types of data items have been disabled.)

Select the file to load using either the up/down cursor keys or the left encoder wheel.

Press "Load file" again to start the loading operation. The disk drive will start and the display will indicate the progress of the operation.

When completed, the display will return to the main menu.

Deleting disk file

Select "Delete File" from the Disk Input/Output Menu.

The disk drive will come on and the directory will be displayed in a few moments.

Select the file to delete using either the up/down keys or the left encoder wheel.

Press "Delete File" twice to start the deleting operation.

When completed, the display will return to the "Disk Input/Output" menu.

Printer

The PMC may be connected to a printer for hard copy output of Submasters, Chases, Auxiliaries, Stacks, Softpatches, Macros, and console configuration.

Press the ‘Printer’ function key and a menu of options will be displayed. Select the desired report and enter the page and item range. The report will start printing.

Press the Main Menu key at any time to halt printing.

11 Keyboard and Video Monitor

Monitor Connection

The PMC lighting console may be used with a monochrome monitor that includes a "TTL" type connection. A "composite video" type of connection will not work. In addition the monitor should have external adjustments for Height, Horz freq., and Vert. freq. to insure compatibility with the PMC (these adjustments can be internal if set by a technician).

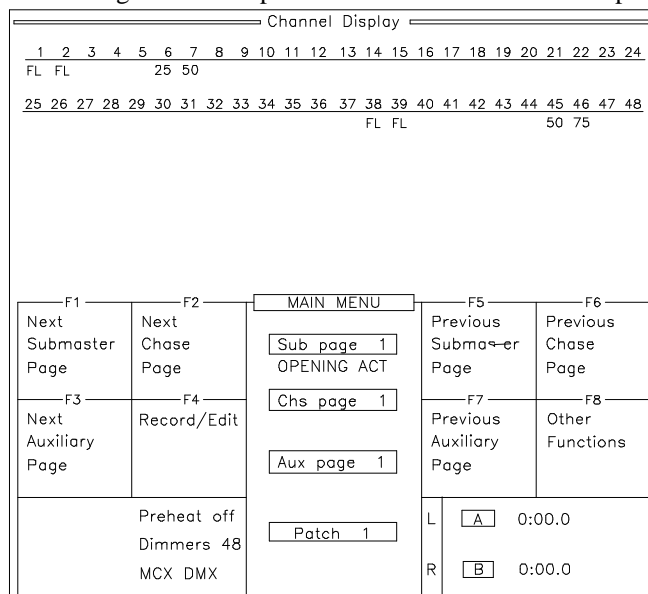
Connect the 9 pin monitor connector to the jack marked "VIDEO" on the rear apron of the console. A suitable monitor may be provided with the PMC or is available from your dealer. Be sure to adjust the monitor contrast and brightness for a proper display.

Use of this monitor is entirely optional. The majority of this manual makes the assumption that the monitor is not installed.

Monitor Display

The monitor will display the channel and dimmer levels along with function keys and some console status information (the softpatch edit screen is not displayed).

Following is an example of the channel / function display.



This display shows the channel levels in percent format, from 0 - FL (FL is shorthand for 100% or full).

The current functions of all eight of the function keys are also shown on this display as well as the names and numbers of the current memory pages and softpatch tables. This portion of the monitor display will follow the main LCD display of the console.

Also displayed are the status of the console locks, number of dimmers, and dimmer output mode, whenever the display is at the main menu.

Note: Since the console gives highest cpu priority to dimmer output, the display is updated at a slower rate than the actual dimmers, so levels displayed on the monitor may lag the actual changes.

The dimmer levels may also be displayed in true 8 bit levels from 0 to 255 (255 is the maximum level and is the same at 100%).

The display may be activated and switched into different modes from the "Setup" menu or the keyboard. See the section on Configuration and the section on Keyboard.

***Keyboard
Connection***

An AT compatible computer keyboard may be connected to the PMC console. This allows easy entry of alpha-numeric labels and general operation of the console.

The keyboard must be equipped with a standard 5 pin din connector (not a "mini" connector). Plug the keyboard into the connector labeled "Keyboard" in the back of the console and the keyboard should start functioning immediately.

***Keyboard
Functions***

When used with the monitor, the keyboard becomes a direct substitute for the LCD display and keypad of the console (except for editing softpatch).

The following keys and functions are available.

F1 - F8

These keys have the same function as the eight Function Keys located on each side of the LCD display.

Home

This key causes the monitor to change to the channel level / function display.

PGUP / PGDN

These keys cause the monitor to cycle through the different channel and dimmer displays available.

Esc

This key is the same as the Main Menu key on the console.

Number Keys

These keys can be used at any time for numeric entry.

Alpha Keys

These keys can be used for alphabetical entry (such as labels).

Enter

This key is the same as the enter key on the console.

12 Configuration

<i>Console Setup</i>	To access the console feature screen, select "Console Setup" from the "Other Functions" menu. This screen allows changing the various feature configurations of the PMC console.
<i>Wide Mode</i>	This function toggles between Wide mode and Two Scene mode on the channel presets. When active, Presets A and B act as a single scene giving the console double the channel capacity.
<i>Solo Lock</i>	<p>This function changes the state of the Channel Solo Lockout. When activated, this lockout will prevent the Bump Latch button from changing the preset bump buttons to solo bump buttons. It will also disable the chase and preset master solo buttons.</p> <p>The submaster solo mode will still operate.</p> <p>Press the function key to turn the lock on or off.</p>
<i>Submaster Lock</i>	<p>This function is used to lock a group of submasters to page one. Once locked, the submasters affected will always contain page one memory regardless of the submaster page number.</p> <p>To set a submaster page lock press the function key and enter the range of submaster numbers, pressing Enter after each. If the submasters affected are currently loaded with another page, then the submasters will reload as if you had changed pages.</p> <p>To release the lock, enter 0 instead of a submaster number.</p>
<i>Video Mode</i>	<p>This function activates and changes the mode of the video output. Press the function button to select the following modes. Note: the video mode may also be changed by using the page up/down and home keys of an optional keyboard.</p> <p>OFF - This mode is recommended whenever no video monitor is connected to the PMC console. The video processes consume some CPU time and may affect the performance of the console slightly when video is activated. The monitor will indicate that the video mode is deactivated.</p> <p>CHANNEL - This mode causes the video monitor to display the current channel output levels, additional console status information and the LCD Menu. Channel output levels are from 0 - 100% (FL) and are not affected by the Grand Master or Blackout. If more than 120 channels are available on the console, pressing this function key again will scroll to higher numbered channels.</p> <p>Note: Since the console gives highest cpu priority to dimmer output, the display is updated at a slower rate than the actual dimmers, so levels displayed on the monitor may lag the actual changes.</p> <p>DIMMERS - This mode causes the video monitor to display the current levels being sent to the dimmers. Dimmer levels are from 0 - 255 (8 bit resolution) and ARE affected by the Grand Master and Blackout. If the console is configured for more than 160 dimmers then subsequent presses of the "Video Mode" function button will display the remaining dimmers.</p>
<i>Preheat</i>	<p>This function allows setting a minimum level from 0 - 25% percent to all channels in order to preheat the lamps. The Aux / Color scenes and dimmers not patched to channels are not affected, nor are dimmers with preheat defeat activated.</p> <p>Press the function key and enter a level on the keypad followed by pressing Enter to set preheat.</p>

- Preheat Defeat* This feature allows individual dimmers to be unaffected by preheat. Use the up/down arrow keys or the left encoder to scroll through the dimmer numbers and the right/left arrow keys or the right encoder to turn preheat defeat on or off for the highlighted dimmer.
- More* Select this function to access more configuration and memory allocation screens.

More Current Setup

- Output* This function sets the desired type of multiplex output from the console to the dimmers. The current settings are indicated by a highlighted abbreviation such as:
- MCX - NSI Microplex.
DMX - USITT DMX 512
AMX - USITT AMX 192
- Analog is automatically indicated when the analog output option is present. Analog will operate with any combination of multiplex.
- Selecting this function will bring up a menu with a list of the currently available output choices. Select the function button next to the desired item.
- Note: DMX and MCX may operate simultaneously, but AMX-192 cannot operate with MCX.** If no output protocol is selected, the console will default to Microplex. AMX-192 requires an optional 4 pin connector.
- The analog start dimmer can also be assigned from this menu. This allows any consecutive group of dimmers to be mapped to the analog outputs. For example, if the start dimmer set to 101, analog control channel 1 will be mapped to dimmer output 101, analog channel 2 to dimmer 102, etc. See Section on Installation for more information on dimmer connection.
- Auxiliary Add* When this feature is enabled, activating an Auxiliary/Color memory will not kill any currently active memories. This allows more than one memory to be on at a time. Levels from each memory are piled together in a greatest level has precedence fashion. Memories will act in the kill mode when this function is off, allowing only one memory to be on at a time.
- Auxiliary Fade* In some cases it may be desirable to have the Auxiliary/Color memories crossfade from one to another. For example, to reduce color scroller noise, fading to new colors will reduce the noise generated by the motors because of the slower speed. When Auxiliary Fade is active, the right encoder wheel is assigned to setting the fade time. This time can be adjusted between 0 and 1 minute in tenths of a second increments.
- RS-232* Tapping this function toggles the baud rate of Port A. Selections are 1200, 2400 and 9600.
- Buzzer* This function will enable or disable the internal buzzer.
- MIDI* The MIDI channel and device number are entered here. Contact dealer or factory for details on PMC MIDI show control protocol for more information.
- Number of Stack Processors* In order to play back a Stack, a Stack Processor has to be assigned. These processors use the two highest available Submasters. Up to 3 Processors can be assigned at a time allowing 3 Stacks to run independently.
- Memory Allocation* This function displays the memory allocation screen. The current memory configuration is shown along with memory clearing functions.
- No changes may be made to the memory configuration without first clearing all memory. See following section for details.**

Memory Allocation

<i>Submaster Pages</i>	This function sets the total number of submaster pages that will be available in the PMC console memory. Any changes will result in a change in the total available chase steps as displayed in the center of the LCD. Other parameters may be reduced in order to increase the allocation of this item. Memory must be cleared before any changes are allowed, see Clear Memory menu. Maximum is 24, minimum is 1, and default is 8 pages.
<i>Chase Pages</i>	This function sets the total number of chase pages that will be available in the PMC console memory. Any changes will result in a change in the total available chase steps as displayed in the center of the LCD. Other parameters may be reduced in order to increase the allocation of this item. Memory must be cleared before any changes are allowed, see Clear Memory menu. Maximum is 24, minimum is 1, and default is 8 pages. Press the function key, enter the new quantity and press "Enter".
<i>Auxiliary Pages</i>	This function sets the total number of auxiliary pages that will be available in the PMC console memory. Any changes will result in a change in the total available chase steps as displayed in the center of the LCD. Other parameters may be reduced in order to increase the allocation of this item. Memory must be cleared before any changes are allowed, see Clear Memory menu. Maximum is 24, minimum is 1, and default is 8 pages. Press the function key, enter the new quantity and press "Enter".
<i>Stack Cues</i>	This function sets the total number of Stack cues that will be available in the PMC console memory. Any changes will result in a change in the total available chase steps as displayed in the center of the LCD. Other parameters may be reduced in order to increase the allocation of this item. Memory must be cleared before any changes are allowed, see Clear Memory menu. Maximum number is determined by available memory, minimum is 0, and default is 100. Press the function key, enter the new quantity and press "Enter". The number entered is the total number of cues available to the Stack system to be divided among the 16 possible Stacks. It is not the number of cues per Stack.
<i>Softpatches</i>	This function sets the total number of softpatches that will be available in the PMC console memory. Any changes will result in a change in the total available chase steps as displayed in the center of the LCD. Other parameters may be reduced in order to increase the allocation of this item. Memory must be cleared before any changes are allowed, see Clear Memory menu. Maximum is 8, minimum is 1, and default is 1 softpatch. Press the function key, enter the new quantity and press "Enter".
<i>Dimmers</i>	This function sets the total number of dimmers that will be output from the PMC console. This will normally default to the same as the number of available channels for this model. Press the function key, enter the new quantity and press "Enter". Memory must be cleared before any changes are allowed, see Clear Memory menu. Maximum is 1024, and minimum is 24.
<i>Clear Memory</i>	Pressing this key takes the LCD to the Clear Memory menu.

Clear Memory

Clear Submaster Memory Pressing this function key will initiate the clearing of all Submaster memory. You will be asked for confirmation before any clearing begins. Tap the key again to start the memory clear.

Clear Chase Memory Pressing this function key will initiate the clearing of all Chase memory. You will be asked for confirmation before any clearing begins. Tap the key again to start the memory clear.

Clear Auxiliary Memory Pressing this function key will initiate the clearing of all Auxiliary/Color memory. You will be asked for confirmation before any clearing begins. Tap the key again to start the memory clear.

Clear Softpatch Memory Pressing this function key will initiate the clearing of all Softpatch memory. You will be asked for confirmation before any clearing begins. Tap the key again will start the memory clear.

Clear All Memory This function must be performed before any of the memory allocations can be changed. **Warning: All submaster, softpatch, chase, auxiliary memory will be cleared and configuration memory will be lost and replaced by factory defaults when using this function. Softpatch table one will be set to default and all other softpatch tables will be cleared.**

To clear all memory, first backup any memory you would like to save to disk.

Please note that if the new memory configuration has less pages or dimmers than the original one, the pages or dimmers that no longer exist will not be reloaded off of the disk. For example, if the new configuration has only 6 submaster pages and the disk has a submaster page eight saved, then the submaster page eight will not load. (Although the disk may be edited on a DOS computer text editor to renumber the page.)

Press the function key twice and the console will report the operation progress until completed.

At this point the memory allocation parameters may be changed. Any changes will result in a change in the total available chase steps as displayed in the center of the LCD.

Adjust the memory allocation as desired and then press the "Main Menu" key to make changes permanent. No more changes may be made until another "Clear all memory" operation takes place.

Review and reset console configurations, (see beginning of this chapter) and reset softpatch.

Clear Stack Memory Pressing this function key will initiate the clearing of all Stack cue memory. You will be asked for confirmation before any clearing begins. Tap the key again to start the memory clear.

Exit Pressing this function key will cause the LCD to return to the Main Menu.

13 Specifications

Console Specifications

Maximum Channels	48/96 (PMC 48) 72/144 (PMC 72) 96/192 (PMC 96)
Maximum Dimmers	512, DMX 512 interface 1024, DMX expansion option 128, Microplex interface 192, AMX-192 interface
Maximum Autofade Time	99 minutes, 59.9 seconds
Maximum Submaster Cues	24 pages x 24 = 576 (PMC 48/72) 24 pages x 36 = 864 (PMC 96)
Maximum Chases	24 pages x 8 = 192
Maximum Chase steps	1000
Softpatch	Proportional
Softpatch Capacity	All dimmers for each channel 1 channel for each dimmer
Macros	8 external
Macro Memory Size	64 keystrokes ea.
Non-volatile Memory size	256K
Non-volatile Memory Type	EEPROM (10 year retention)
Floppy disk size	3.5" DD HD
Floppy disk type	1.44 Mbyte dos compatible
AC power required	100 - 250 volts AC, 1.5a max.
Video Interface	9 pin TTL monochrome.
Printer Interface	25 pin parallel
Audio Interface	RCA phono jack
Audio Sensitivity	100mv to 10volts RMS
Dimensions: HxWxD	PMC 48: 8.5" x 48.75" x 27" PMC 72: 8.5" x 62" x 27" PMC 96: 8.5" x 82.75" x 27"
Weight	PMC 48: 60lbs. PMC 72: 75lbs. PMC 96: 95lbs.

14

Appendices

RS-232 Protocol RS-232 port #1 may be used for external control of dimmers, channels, submasters and softpatch of the PMC console with a remote terminal or computer.

The line settings are 8 data bits, 1 stop bit, no parity. Baud rate is selected at the configuration menu.

The following ASCII characters and sequences are valid:

D - "Dimmers" - Specifies that dimmer channel and levels are to follow.

C - "Channels" - Specifies that control channels and levels are to follow.

S - "Submasters" - Specifies that submaster numbers and levels are to follow.

P - "Patch" - Specifies that patch channels are to follow.

A - "And"

T - "Through"

F - "Full"

M - "Move" - Automatically repatches a a dimmer from one to another.

B - "Browse"

R - "Reset" - Clears all level settings made by the remote terminal.

H - "Help" - Lists the commands available to the remote terminal.

ENTER (CR) - "Enter"

Note: RS232B is reserved for future applications.

15

Warranty

*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.