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cognito

Quick Guide

Version 3.16.13



1439 17 Ave SE Calgary AB T2G 1J9
403-243-8110
www.pathwayconnect.com



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Additional Help Resources

support@pathwayconnect.com

<http://forums.pathwayconnect.com>

By Phone: 403-243-8110

8am – 4:30pm MT

Fixture Library Support

fixtures@pathwayconnect.com

New Software Releases

www.pathwayconnect.com/downloads/cognito

Subject to change

Check the website for the latest version of this guide.

Please report problems and questions to the forums

<http://forums.pathwayconnect.com>

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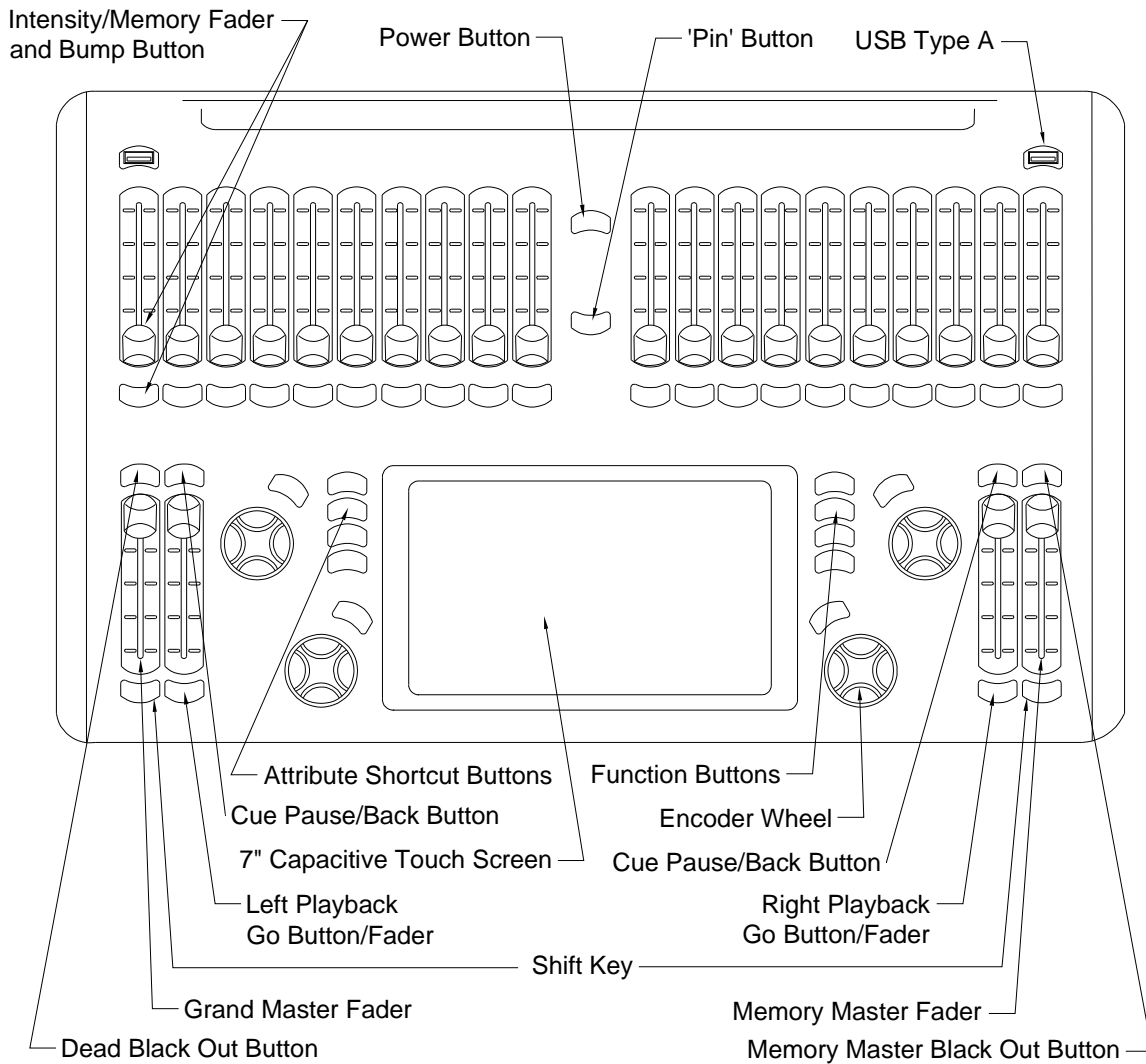
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Finding Your Way Around

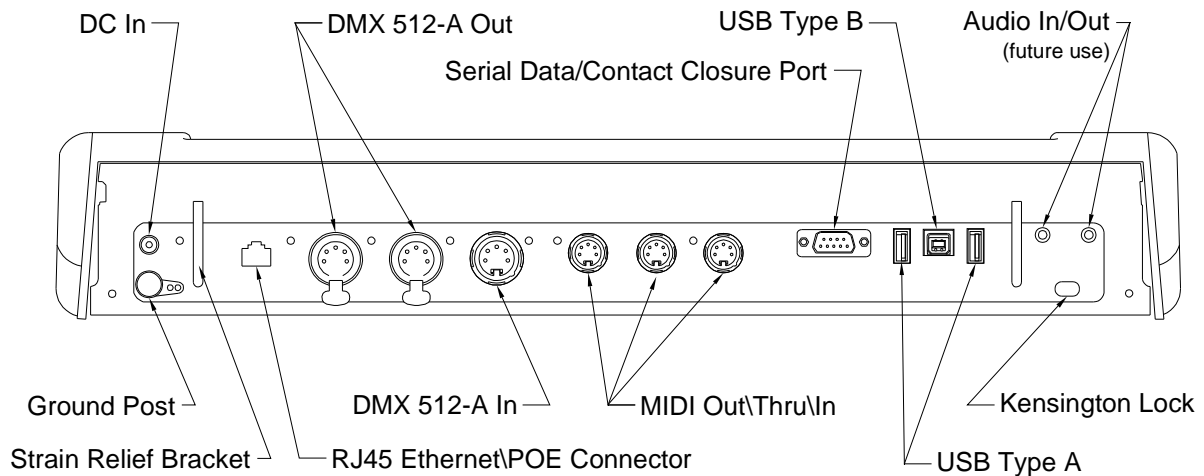
Thank you for purchasing the Cognito™ lighting console. This document will guide you through the rich but easily-accessed features the console provides. With an interface based on 'natural language control', you'll never look at a DMX chart again.

The console consists of two interrelated work surfaces. A 7" touch screen provides the main programming interface, while the surrounding backlit hardware controls, consisting of 24 faders, four encoder wheels and forty-two buttons, provide programming support and playback control.

Top Panel



Rear Panel



What to Connect First

Two connections must be made for the console to be used.

Power

Plug the DC power supply into the DC plug on the far left side of the rear panel. The indicator LED will steadily glow amber/green.

Alternately, a Power-over-Ethernet (PoE) source, such as a PoE-enabled switch or PoE injector, may be plugged into the Ethernet port. The indicator LED next to the DC jack will steadily glow red whenever the console is using PoE.

You may connect both a DC supply and a PoE source at the same time.

Data

Connect DMX OUT A to the lights using Universe 1 (all Cognito models). A five-pin XLR cable is required. DMX OUT B is enabled on PRO1024 models, for Universe 2, and on PRO512 models, repeating Universe 1.

Cognito also supports DMX-over-Ethernet protocols. These protocols use the Ethernet port to output the same DMX information as the XLR ports. The Starter model supports only Pathport Protocol, while PRO models add the Art-Net protocol and the E1.31 streaming ACN standard. Additional hardware, such as a Pathport node, is required to convert this signal back to DMX.

How to Turn the Console On

When the console is connected to power, the Power Button near the top of the console will pulse blue, indicating the console is in 'stand-by' mode. Press the button once to turn the console on. The console will take about a minute to start. LEDs, backlighting the bump buttons, will flash and a splash screen will appear during this process.

How to Turn the Console Off

For normal shut down, press the Power Button once. The Power Off/Setup options will be shown. Touch the Power Off icon to confirm shutting down the console. For quick shutdown, press the Power Button twice in succession. The console will shut down after three seconds.

Should the console become unresponsive, press and hold the Power Button for six seconds to force the console to power down.

How to get Help

Cognito provides two forms of built-in support. Press the Help button, to the right of the touch screen, to launch Hints. Hints are context-sensitive comments that overlay the contents of the screen. The touch screen under Hints is still active – you can keep Hints up on the screen while you continue to work. Continue to press the Help button to cycle through the Hints. Touch the Exit icon in the upper right hand corner of the screen, or press and hold the Shift key then press the Help button, to dismiss Hints.

With Hints active, touch the Help icon, in the upper left hand of the screen, to open up Tutorials. Tutorial topics provide more detailed instruction on complex operations.

Faders

Twenty faders, in two groups of ten, stretch across the top of the console. When in the SELECT task (see below), a given fader controls the intensity of the corresponding light in the Fixture Grid. Fader 1 controls Light 1, and so on. If there are more than 20 lights in the Fixture Grid, use the Left/Right arrows on the touch screen to page to the desired light.

Below each fader is a button. By default, the button acts as a 'bump' – press and hold the button to 'bump' the intensity of the associated light to full. Press and hold the Shift key, then press the button to latch the light's intensity at full. The intensity and color of the button's backlight reflects the intensity and color of the light being controlled.

Faders may also be used to store Memories, sometimes called submasters. If a Memory has been recorded into a fader, the bump button's backlight will glow blue. When a Memory is recorded, the bump button can be given different functions, including fade

times. See RECORD for more information. Faders play back Memories only when the PLAY Task is active.

Grand Master and Dead Black Out Button

Located at the bottom left of the console, the Grand Master controls the overall intensity of all lights at all times, regardless of how a light's intensity has been set. Normally, the Grand Master is at full (the top of the fader's travel). The Grand Master's level in percentage is shown in the top left hand corner of the touch screen. When the Grand Master is at less than 100%, the level is shown in red as a warning.

Above the Grand Master is the Dead Black Out button. Normally, the button is backlit blue. If the Grand Master is not at its highest position, the Dead Black Out button will glow red.

When pressed, the Dead Black Out button will flash red and all lights will go dark (output intensity falls to zero percent) without changing intensity levels shown on the touch screen. The Grand Master level will turn red and read DBO. Press the button again to restore lights to their previous intensity. Always warn everyone present before turning off all the lights (blacking out the stage).

Below the Grand Master is a Shift button. The Shift button accesses short cuts and special features which are described under operational topics.

Memory Master and Memory Black Out Button

The Memory Master is located at the bottom right of the console. The Memory Master controls the overall intensity of the lights recorded into Memories while those lights are activated by faders. The Memory Master's level in percentage is show in the top right hand corner of the touch screen. Playlist cues and individual lights controlled by faders (from SELECT mode) are not affected by the Memory Master.

Above the Memory Master is the Memory Black Out button. Normally, the button is backlit blue. If the Memory Master is not at its highest position, the Memory Black Out button will glow red.

When pressed, the Memory Black Out button will flash red, and all lights being played back within Memories will go dark (output intensity goes to zero percent). Press the button again to restore lights to their previous intensity.

Below the Memory Master is a Shift button. The Shift button accesses short cuts and special features which are described under operational topics.

Left and Right Playback

Cognito provides two Playbacks, one located beside the Grand Master and one beside the Memory Master. Each Playback consists of a Go button, a Playback Master, and a Pause/Back button. Any Playlist may be assigned to either Playback. A Playlist is a series of cues or 'looks' that have been previously recorded.

Once a Playlist is loaded (see PLAY below), press the Go button to advance the Playlist to the next cue. The Go button glows green when a cue is active.

Above the Go button is the Playback Master, which sets the overall intensity of any light levels controlled by the active Playlist.

Above the Playback Master is a Pause/Back Button. When a Playlist is active, the Pause/Back button is backlit blue. Pressing the Pause button while a cue is running will cause the fade to stop and the Pause button will flash yellow. To resume a paused cue, press the Go button again.

While resting in a cue, press the Pause/Back button to fade the previous cue.

To force a Playback to release (exit) a Playlist, press and hold the Shift button then press the Playlist's Pause/Back Button.

Attribute Shortcut Buttons

Immediately to the left of the touch screen are four attribute shortcut buttons. From top to bottom, the buttons are Intensity, Color, Position and Shape. Whenever a light is selected, these buttons act as shortcuts to the related CONTROL screens.

Not all lights support all attributes. Only the buttons for attributes supported by the selected light will be active, as shown by the button's backlight. If a group of lights are selected, the buttons will reflect the available attributes of the first light chosen.

See CONTROL for details of attributes and their associated tools.

Function Buttons

Immediately to the right of the touch screen are four function buttons: Release, Help, Edit and Record. The buttons are backlit when a given function is available, and flash when that function has been selected.

Release: In SELECT or CONTROL, pressing the Release button progressively clears any changes made to lights, then deselects the lights. When used in PLAY mode, it clears all active Playlists and Memories. A dialog screen appears asking for confirmation. Choose OK from this screen to cause all lights to turn OFF. Always warn everyone present before turning off all lights (black out the stage).

Help: Press the Help button once to launch Hints, as described above. Press and hold the Shift button, then press Help again to close the help overlays.

Edit: When in PLAY, press the Edit button to change Cue or Memory names, fade times and other properties. Deletion or rearrangement of Cues and Memories is also accessed using Edit. Edit is not active in the PLAY>Mixed mode.

Record: Press the Record button once as a shortcut to RECORD. If Memory was the last recording method used, press the Record button twice to record the current stage look into the next available fader. If Cues was the last recording method used, press the Record button twice to record the current stage look into the next available cue slot, with default timings. See RECORD for details on setting fade times.

Encoder Wheels and Buttons

Four encoder wheels are spaced around the touch screen, each with a specific color and an associated button. The encoder wheels' actions depend on the Task currently active on the touch screen. Encoder wheels are used to directly adjust some attributes of a light, such as intensity or pan, or to present choices of gobos, color wheel slots or other fixture settings. To select from the light's settings, press the encoder wheel button to see the choices, then use the encoder wheel to scroll through the list. Accept the desired (highlighted) option by touching the screen or pressing the encoder wheel's button.

On-screen icons and color associations indicate when an encoder wheel or its button provides selection or control for a tool or wheel bank option.

The Shift button may be used in combination with an encoder wheel to allow for finer control. For example, when adjusting a light's pan attribute, holding down the Shift key will move the light in tenths of a degree, instead of full degrees. Similarly, you may adjust cue times in tenths of a second, instead of full seconds.

Pin Button

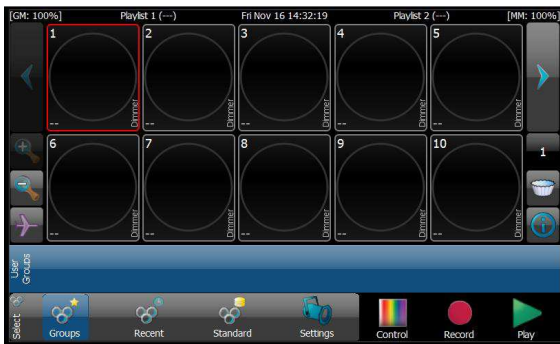
Located just below the Cognito badge between the fader banks, the Pin button provides a simple method of transitioning between lighting looks. With a lighting look activated by using the faders or manual control, press the Pin button to hold the look (i.e. pin it to the stage). Intensity levels or other attributes may now be readjusted, without the look onstage being affected. Press the Pin button again to transition (crossfade) to the newly set look.

USB Ports

There are a total of four powered USB ports on the console: two on the top surface, and two on the rear panel. Any port may be used for a mouse, keyboard or USB stick. The top ports are also suitable for a USB-powered work light.

The Touch Screen

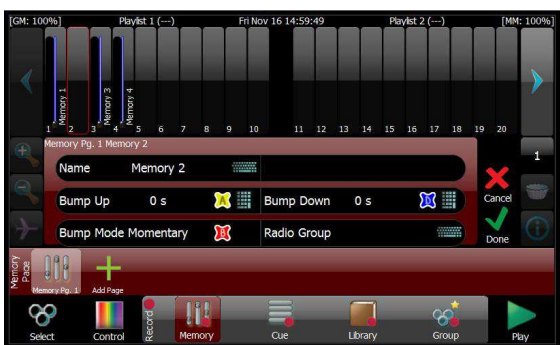
The touch screen has four distinct displays, each corresponding to a specific programming task: **SELECT**, **CONTROL**, **RECORD** and **PLAY**. Each task is shown on the Task Bar at the bottom of the screen. Enter a task screen by touching its icon.



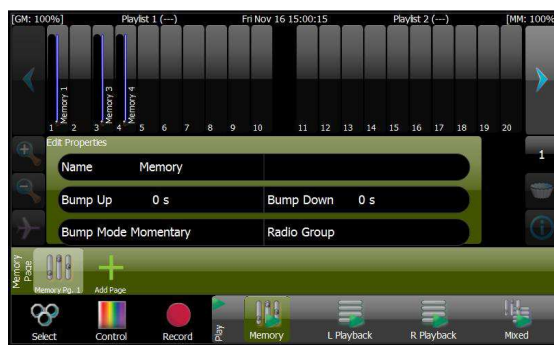
SELECT



CONTROL



RECORD



PLAY

SELECT is used to choose lights for programming. **SELECT** also provides tools to patch lights into the Fixture Grid and set the DMX start address each light will use.

CONTROL provides tools to change the intensity, color, position and shape attributes of the selected lights. If no lights are selected in the Fixture Grid, the **CONTROL** icon will be grayed out (inactive).

RECORD stores lighting looks into Memories or Cues. **RECORD** also allows specific lights or their attribute details to be saved as separate Groups or Libraries for reuse.

PLAY recalls stored looks, either through faders (Memories) or Playlists (Cues).

Screen Navigation

Across the top of the touch screen is the status bar, which shows the level (in percentage) of the Grand Master and Memory Master, and the label of the current cue in each of the Right and Left Playlists.

On either side of the display are navigation icons. Not all methods of navigation are available on all pages. Icons are grayed out when not in use.

The Left and Right arrow icons, in the upper corners of the screen, allow you to reach additional pages – of lights, Memories or swatch colors, for example.

The Magnifying Glass icons, located below the Left Arrow, change the number of lights shown in the Fixture Grid when in SELECT. You may view the Fixture Grid with as few as ten lights or as many as 100 lights at one time.

The Airplane icon, located below the Magnifying Glass icons, allows you to quickly switch between different pages of lights. The size of the pages is determined by the zoom level set with the Magnifying Glass icons.

The Number icon box located below the Right Arrow reports how many lights are currently selected. This icon also indicates when a change has been made to one or more lights, but not yet recorded. CAPT on a red background is displayed as a warning. Captured lights are not affected by the PLAY task until recorded or released.

The Filter icon, also located below the Right Arrow, allows you to reduce the lights shown on the Fixture Grid based on certain criteria, such as 'only lights selected' or 'only lights in use' (intensity above zero). The icon turns red when filtering is in use, and not all lights are shown on the Fixture Grid.

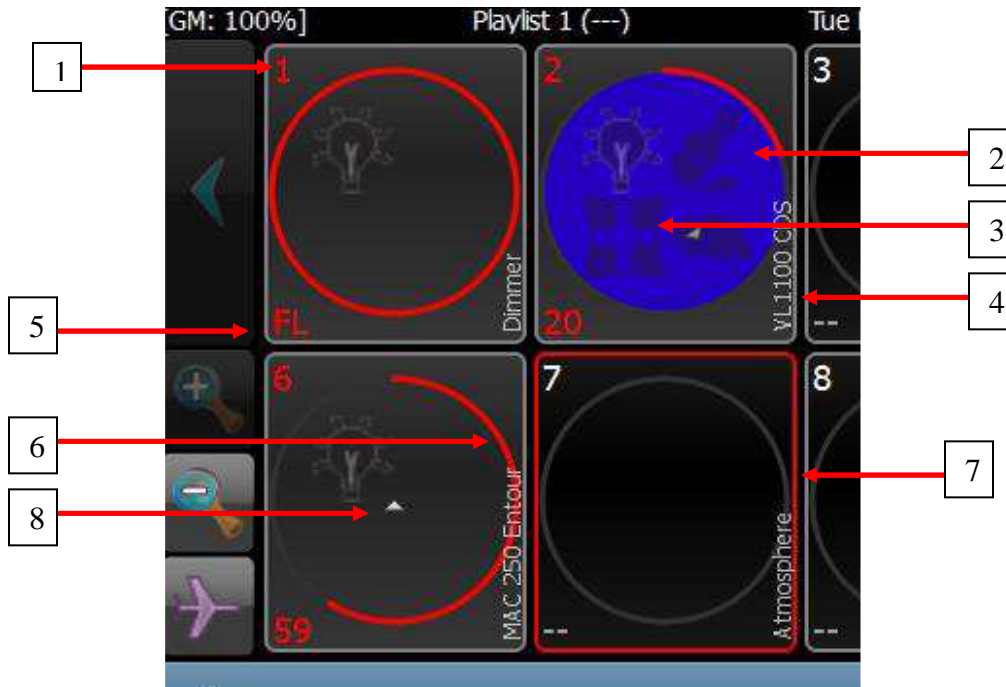
The Information icon toggles the Fixture Grid to show further information about each light. For example, the DMX start address is shown instead of the intensity level. Unpatched fixtures will show an exclamation point (!). The icon's background turns red when selected.

Task Bars and Tool Bars

Across the bottom of the touch screen are the icons for the four programming tasks: SELECT, CONTROL, RECORD and PLAY. Above the Task Bar is a tool bar, showing the tools available for the active task. Tools are explained in each task section below.

SELECT and the Fixture Grid

SELECT displays the Fixture Grid. The Grid consists of cells, each one representing a single light in the show. Within each cell is a large amount of information describing the current state of that light.



- 1: Fixture Number. The number in the upper left hand corner of each cell identifies each light in the show. Fixture number is not the same as the light's DMX address.
- 2: Color Indicator. For color-changing lights, the background of the circle provides an indication of the light's current color.
- 3: Attribute Indicator. Icons indicate whether Intensity, Color, Position or Shape attributes have recently changed, whether from manual manipulation in the CONTROL task or from running Playlists or recalling Memories.
- 4: Fixture Type. The model of light that each cell represents appears in the lower right hand corner of each cell. Assigned using the Settings tool.
- 5: Intensity Level. The current intensity of the light is shown as a percentage, in the lower left hand corner. "FL" indicates the light is at full. When the "i" information icon is activated, this number changes to the light's DMX start address.
- 6: Intensity Indicator. The circular, colored line within each cell (red in the example above) provides a quick indication of the light's current intensity. The color also indicates how the intensity was set and if it's currently changing.
- 7: Select Indicator. The border around each cell turns red when the light has been chosen for programming.
- 8: Orientation Indicator. For lights with position attributes, the triangular pointer at the center of the circle shows the direction the light is pointed.

SELECT – Manual, Group, Recent, and Standard

Manual

Lights may be manually selected or deselected by touching the cell of each light as needed. To select or deselect a range of lights, touch the cell of the first fixture, press and hold the Shift button, then touch the cell of the last fixture in the range. Fixtures may also be selected by using one of the following tool icons.

Group

The Group tool allows rapid selection of show-specific or user-defined groups of lights. Grouping reduces the number of lights that must be individually chosen manually. To set up a Group, select the lights you wish to include, then use RECORD>Group. Groups can (and should) be labeled.

Recent

The Recent tool provides a list of recently selected lights, which can be useful when repetitively adjusting small selections of lights.

Standard

The Standard tool allows quick selection by certain customary rules, such as All Lights, No Lights or by fixture types. Cognito automatically creates Standard groups of identical lights, as lights are patched into the Fixture Grid.

SELECT – Settings: Light Selection and DMX Patching

The Settings tool allows you to assign specific lights (by model) to cells in the Fixture Grid, to set or change the lights' DMX patch and to set the maximum number of lights shown in Fixture Grid.

Select a cell in the Grid to enable Settings. Touch the Settings icon. The tool bar will offer the following choices:

Light Type: A menu of fixture types, organized by manufacturer, is shown. Use the red encoder wheel to select the manufacturer. Then use the green encoder wheel to select the model of light. Touch the Apply icon to confirm the selection. Lights can also be added to and then chosen from the Favorites list for easy reuse.

DMX Address: A grid representing DMX addresses is shown, in blocks of 32 DMX channels or slots. The DMX slot number is shown in the top left hand corner of each cell. Use the red and green encoder wheels to scroll through the grid. To patch a light to a specific DMX slot (or range of slots for multi-attribute lights), touch the cell with the 'starting' DMX address number. Touch 'Apply' to confirm.

Global: Allows you to set the total number of lights shown on the Fixture Grid. The default is 100 lights.

CONTROL– Intensity, Color, Position and Shape

CONTROL allows you to manipulate a light's attributes. Attributes are organized as Intensity, Color, Position and Shape. Only attributes supported by the selected light are shown. If lights with differing attributes are selected, the tools available are determined by the first light selected. At least one light must be selected to activate CONTROL.

Intensity

Intensity controls the relative brightness of a light. All lights have an Intensity attribute. (Some lights, such as discharge lamps, must first be turned on, or 'struck', before an intensity level can be seen.)

Wheels: Directly set a light's intensity between 0 and 100 percent, using the green encoder wheel. Some lights have intensity effects, such as Strobe, or operating parameters, such as fan speed, that are also set here under Intensity.

Advanced: Allows you to lock or 'park' the intensity of selected lights. Also allows you to release recent intensity changes, or to explicitly set a light to its default intensity (typically off). 'Locked' Intensity attributes are not recorded into Memories or Cues.

Libraries: Choose from a list of intensities or use a Raise/Lower bar.

IRGB: Provides a Raise/Lower bar for Intensity and direct Red/Green/Blue (RGB) control for lights that support color mixing. When adjusting a color mixing light if the level of a color continues to be raised after a particular color bar has reached 100%, Cognito will automatically lower the other colors until the desired color is reached.

Color

Different lights may have different or unique color abilities, such as color wheels or scrollers. Attributes supported by a selected light are automatically added to the tool bar.

Wheels: Allow you to change the color mix system, and directly set color as percentages. Also allows direct control of scrollers and color wheels. Also provides White and Amber LED control through Color Correction option.

Advanced: Allows you to lock or 'park' the color attributes of selected lights. Also allows you to release recent color changes, or to set a light to its default color (typically open white). Color attributes that are locked are not recorded into Memories or Cues.

Libraries: Select colors from standard gel swatch books, or recall custom-recorded colors saved using RECORD>Library>Color. Color Libraries are specific to the lights in use when recording the color. Updating a Library will automatically update any Cues and Memories that use it.

Picker: Choose a color from a gradient chart by touch or by using the wheels. When multiple RGB fixtures are selected - for example cyclorama lights - standard rainbow patterns may be chosen from the top of the screen. The color spread can be adjusted using the width tool on the left side of the screen.

Position

Different lights may have different or unique positioning abilities (usually called moving lights). The abilities supported by a selected light are automatically added to the tool bar.

Wheels: Directly control pan and tilt values in 1° increments. Press and hold the Shift button to change to 1/10th degree increments. Encoder wheel buttons provide

quick access to standard positions. Wheels also allow the choice between Polar (normal arc) and Linear (direct path) movement.

Advanced: Allows you to lock or 'park' the position attributes of selected lights. Also allows you to release recent position changes, or to set a light to its default position (when hung, typically straight down). Position attributes that are locked are not recorded into Memories or Cues.

Libraries: Recall custom positions saved using RECORD>Library>Position. Position Libraries are specific to the lights in use when recording the position. Updating a Library will automatically update any Cues and Memories that use it.

Joystick: Adjust a light's position relative to its current position. The further from center you touch, the quicker the light will move.

Bullseye: Adjust a light's position relative to its absolute position (typically the absolute position is pointing straight down or straight ahead).

Shape

Different lights may have different or unique shape abilities, such as gobos, motorized shutters or focus zoom. The abilities supported by a selected light are automatically added to the tool bar.

Wheels: Access options for gobos, shutter, lens focus, rotation and other effects.

Advanced. Allows you to lock or 'park' the shape attributes of selected lights. Also allows you to release recent changes, or to set a light its default shape (typically open). Shape attributes that are locked are not recorded into Memories or Cues.

Libraries: Recall custom shapes saved using RECORD>Library>Shape. Shape Libraries are specific to the lights in use when recording the shape. Updating a Library will automatically update any Cues and Memories that use it.

RECORD – Memory, Cue, Library and Group

RECORD saves complete looks, or specific attribute information, for later recall. The complete look may be recorded as a Memory or Cue. Attribute information alone may be recorded as a Library. Or the selected lights may be recorded as a Group.

Memory

Memory saves the current look into a fader. Faders are represented on the touchscreen by slender rectangles across the top. By default, fader 1 or the next available fader is selected, as shown by a red outline. Any fader may be chosen by touching it. Once a fader is selected, the Memory may be labeled, by touching the keyboard icon next to Name. Or press the Record button twice to automatically record into the next available Memory fader, using default timings.

Although only 20 faders are shown at one time, up to 400 memory locations are available in a single Memory Page. Use the Left/Right navigation arrows to access the additional banks within the page.

By default, two Memory Pages are shown. To add further Memory Pages, to delete existing Memory Pages, or to rename a Memory Page, touch the More icon at the right end of the Memory Page bar. The Memory Page Library will be shown. To add a

Memory Page, touch the Add New icon. To rename or delete a Memory Page, press the Edit button to the right of the touchscreen. To delete, touch the Delete icon. A second Delete icon will appear. Touch the second Delete icon to confirm. To rename the Memory Page, touch the Memory Page's current name. An Edit Properties screen will open. Touch the keyboard icon next to the Memory Page's name to enter a new name. Bump Button timings may also be edited using this method.

The Bump button associated with the fader may have its action configured as follows:

Momentary: The Memory is active only while the button is pressed.

Toggle: Press to recall the Memory. Press again to release the Memory.

Radio: When several buttons are configured as part of a Radio Group, only one button and its Memory may be active at any time. Radio Groups may be named and each Memory Page may have multiple Radio Groups.

Disabled: Disables the button. The Memory is still controlled by the fader.

Bump Button Timings:

Up/Down fade times may be set for the action of the Bump buttons, regardless of their configured action. By default the buttons have a timing of zero.

Press the Done icon to record the Memory, or press the Cancel icon to begin again.

Cue

Cue saves the current stage look into a Playlist. The Playlist is shown on the left, and details of the selected cue are shown on the right.

By default, two playlists are shown. To add further Playlists, to delete existing Playlists, or to rename a Playlist, touch the More icon at the right end of the Playlist bar. The Playlist Library will be shown.

To add a Playlist, touch the Add New icon. To rename or delete a Playlist, press the Edit button to the right of the touchscreen. To delete, touch the Delete icon. A second Delete icon will appear. Touch the second Delete icon to confirm. To rename the Playlist, touch the Playlist's current name. An Edit Properties screen will appear. Touch the keyboard icon next to the Playlist's name to enter a new name.

To record a Cue, touch the location labeled Add New Cue. The selected location will have a red outline. Touch the keyboard icon next to Name to label the cue. A number of timing options may also be set. If an existing cue is selected, when Done is touched, options will be presented to update the cue, replace the cue, or to insert a new cue either before or after the selected cue.

Fade: Sets a basic crossfade time. If no other timings are set, this timing will be used to govern a light's change in Intensity, Color, Position and Shape attributes.

Delay: Sets a delay time between pressing GO and the start of the fade.

Down Fade: Sets a different fade time for all lights moving to a lower intensity. If no value is set, the down time equals the Fade time.

Down Delay: Sets a delay time between pressing GO and the start of the Down Fade. Allows you to create a 'split-crossfade' for situations where some lights must come up before other lights go down.

Position Fade: Sets a time for a moving light's repositioning. If no value is set, any repositioning will use the Fade time.

Position Delay: Sets a delay time between pressing GO and starting the Position Fade.

Color Fade: Sets a time for the color transition in a light. If no value is set, any color fade will use the Fade time.

Color Delay: Sets a delay time between pressing GO and starting the Color Fade.

Shape Fade: Sets a time for the shape transition, such as changing between gobos. If no value is set, any shape transition will use the Fade time.

Shape Delay: Sets a delay time between pressing GO and starting the Shape Fade.

Follow: Used to program auto-follow cues.

Wait For Go: Default behavior. When a cue's fade time is complete, the console requires an outside trigger (typically the operator to press GO) to advance to the next cue.

Follow After Fade: When a cue's fade time is complete, the playlist immediately advances to and begins to run the next cue.

Follow In Time: The console begins the next cue after the Follow Time has elapsed. The Follow Time starts counting when the cue begins.

Follow Immediately: The console begins the current cue and next cue at the same time. Equivalent to a Follow In Time of 0s (zero seconds).

Follow Time: Sets the time used by the Follow In Time option above.

Link: Links the completed cue to another cue that does not immediately come after it in the Playlist. If a Follow option is not also used, the operator may still have to press Go. Links and Follows allow for the creation of loops that will play indefinitely. Press the playlist's Go button to exit the loop and advance to the next cue in the playlist.

Once the timings are set, touch the Done icon to finish, or the Cancel icon to start again.

Library

Library allows you to capture certain attributes and easily reuse them in different Cues or Memories.

Color: Capture a light's current color. Touch the Color icon on the tool bar. Select the record location. Name the color library, if desired. Touch the Done icon to record, or the Cancel icon to start again. The saved color may only be applied to the same light(s) in use when the library was recorded.

Position: Capture the position of a light or group of lights, for example – down stage center. Certain shape attributes, such as zoom, edge and shutter, are also captured in the position library, if those attributes are not already recorded. Touch the Position icon on the tool bar. Select the record location. Name the position, if desired. Touch the Done icon to record, or the Cancel icon to start again. The saved position may only be applied to the same light(s) in use when the library was recorded.

Shape: Capture the shape of a light or group of lights, such as gobos, shutter cuts or lens zoom. Touch the Shape icon on the tool bar. Select the record location. Name the shape, if desired. Touch the Done icon to record, or the Cancel icon to start again. The saved shape may only be applied to the same light(s) when the library was recorded.

Group

Group allows you to record a specific selection of lights for quick recall during programming. After selecting lights in the Fixture Grid, enter RECORD. Touch the Group icon, then select a record location. Name the Group, if desired. Touch the Done icon to record, or the Cancel icon to start again.

Play – Memory, Left/Right Playback and Mixed

PLAY provides a choice of methods for recalling recorded looks, while providing information about the current and upcoming Memories and Cues. There are four playback views: MEMORY, LEFT PLAYBACK, RIGHT PLAYBACK and MIXED. The choice of one playback method does not disable the other methods – faders will still recall stored Memories even when Left or Right Playback is the selected.

Memory

Across the top of the screen, faders containing Memories are indicated by a label and a level indicator. Select the desired Memory Page from the tool bar. Then use the correct fader to recall the desired Memory. Each Memory Page may hold up to 400 Memories. Use the navigation arrows to access other fader banks.

When a Memory location is selected, the location's outline will turn red and the Memory's playback timings and bump button configuration are shown in the information area below the faders. To change timings, press the Edit button. Once in Edit, you may also rearrange the order of the Memories by drag-and-dropping the Memory to a new location.

To delete a Memory, press the Edit button. Touch the delete icon at the top of the Memory rectangle. A second delete icon will appear. Touch the second icon to confirm you want the Memory deleted, or the Cancel icon to back out.

Left/Right Playback

To assign a Playlist to a Playback, simply touch the one desired from the tool bar. In Left Playback, all cues comprising the Playlist will appear on the left side of the screen. A green arrow next to the cue name indicates the next cue to be run. Timings for the currently selected cue (the one outlined in red) will appear on the right side. In Right Playback, the positions are reversed.

Once a Playlist is assigned to a Playback, further Playlists may be selected for that Playback without releasing the original Playlist, allowing more than two Playlists to be active at one time. To release a Playlist, press and hold the Shift button then press the Pause/Back button above the appropriate Playback fader.

Below the cue list are several playback icons. The Green Arrow icon acts identically to the Playback Go button. The Yellow Arrow acts as a 'back' button, moving back to the previous cue in the list using a one second fade. The Release icon acts the same as the Shift button/Pause button combination, as described above, to release the current Playlist. The Blue Arrow/Bar icon jumps to the next cue in the list using a one second fade ignoring recorded times.

To scroll the playlist, use the up/down arrow icons. The double arrow icon jumps the list to the currently active cue. To select a cue for editing, simply tap it. The cue will be highlighted in red. Double tapping a cue selects the cue to run the next time the Go button is pressed. Triple tapping a cue will immediately jump the Playlist to that cue and run it using a one second fade.

To change timings on a selected (highlighted) cue, press the EDIT button. Once in Edit, you may also rearrange the order of cues by touching any cue's 'grab bar' icon, then dragging and dropping the cue to a new location.

To delete a cue, press the Edit button. Touch the Delete icon on the left of the cue name to choose it for deletion. A second delete icon will appear. Touch the second icon to confirm you want the cue deleted or Cancel to back out. If multiple cues are chosen to be deleted, pressing any one of the confirmation icons will delete all chosen cues.

Both Playbacks may be used at the same time, operating different Playlists. Playlist assignment to either Playback may be changed at any time by selecting another Playlist from the Playlist toolbar.

Mixed

In Mixed Playback mode, current playback status is shown for Memories and the left and right Playbacks. Editing of timings and position is not available in Mixed mode.

Console Setup and Configuration

On most lighting systems, particularly DMX-only systems, Cognito will require little or no configuration. On Ethernet-based networks, some changes may be required to match an existing network, or to incorporate equipment needed to utilize the neato™ iOS app.

To reach the Setup options, with the console on, press the Power Button once. Then touch the Setup icon. A list of options will appear on the left side of the screen.

System

Use the encoder wheels to set your desired time zone. If the console is connected to the Internet, the Get Time icon will match the console's clock to an Internet clock service.

On rare occasions, the touch screen may lose calibration. If touching one area of the screen seems to cause a different area to react, recalibration may help. Touch the Calibrate Screen icon and follow the instructions carefully.

DMX

Adjusting the flavor (refresh rate) of DMX512 can sometimes remedy response issues, such as spontaneous color changes or flashing, in certain LED lights. Use the yellow encoder to select from Slow (32 frames per second), Medium (36 frames), Fast (40 frames - default) or Maximum (44 frames).

The DMX offset sets the universe range for each DMX output port. This feature only applies to the Pro1024 version. Normally, DMX Output A is set to Universe 1 (channels 1-512) and DMX Output B is set to Universe 2 (channels 513-1024). But there may be times when the output should be inverted, or even turned off. Use the red and green wheels to adjust the settings as required.

Network DMX

Allows you to adjust the Universe offset of the Ethernet data protocols. Normally, the data protocols start with Universe 1 (mirroring the DMX output). But for installations with multiple Cognito consoles, setting the first console's offset to 1 and the second console's offset to 2, and so on, is desirable. When using Pro1024 models, ensure that the offsets do not overlap, or more than one console may accidentally control the same set of lights, with unpredictable results.

Network

WRITE DOWN YOUR EXISTING SETTINGS AND VALUES BEFORE MAKING ANY CHANGES TO THESE SETTINGS. These settings are used when data is sent to your lights using the Ethernet port. Data sent using the DMX port(s) alone is not affected.

The following descriptions assume a basic knowledge of Ethernet networking terms, concepts and practices.

Cognito Networking Mode: Determines the method Cognito uses to obtain a network IP address and subnet mask.

Pathport: Sets the IP address using the standard Pathport method, where the IP address is generated in the 10.x.x.x range, using the serial number of the console. Subnet mask is always set to Class A, or 255.0.0.0. Not editable.

Static: The user enters a specific IP address and subnet mask. Care must be taken that no other device on the network uses the same IP address.

Automatic: Cognito waits to be assigned an IP address by an on-line service such as a DHCP server. If no server is found, Cognito will use that last address assigned to it. Not editable.

Advanced (default): Cognito will determine its IP address and subnet mask by: a) seeking an address from a DHCP server; b) utilize an IP generated using the standard Pathport rules; c) auto-generate an IP address in the 169.254.x.x range using Avahi.

While in **Advanced**, you may also set the Base Address determination to be Dynamic, Static or Off; turn the Pathport method on or off; or enable or disable Avahi auto-generation. With the exception of Avahi, the Advanced option simply provides simultaneous access to the methods shown individually under the other option headings.

If more than one IP address is present and allowed for, Cognito will send Ethernet data using all valid addresses.

neato

neato is an iOS app, available for free from the Apple App Store, which gives remote control of memories and individual lights. neato requires Cognito to be connected to a wireless access point or wireless router. Setting up wireless access is described elsewhere. Although we recommend the use of any wireless access require a password, as an additional layer of security each Cognito may be given its own password as well. The neato setup option allows you to change the password for its default setting (recommended). You may also instruct Cognito to connect with all devices using the correct password and settings; to not allow any new devices to connect; or to refuse to connect to any devices at all.

Show File

These options are described under Show File Management, below.

Software

Provides information on the software release version being run by the console. Versions are presented as a simple date and time stamp, rather than an arbitrary build number.

Check www.pathwayconnect.com/downloads/cognito for the latest release. If a newer release is available, download a copy and unzip it to a USB drive. Insert the USB drive into one of the USB ports on the console. Now, while at the Software screen, touch the Update Software icon at the bottom of the screen. A list of the one (or more) releases available on the USB drive will be shown. Use the red wheel if necessary to highlight the release you wish to install, then touch OK.

Should you require support and you are asked to provide the operational and error log files, the Software screen allows you to save these logs to a USB drive. Simply touch the Copy Logs To USB icon. Once the operation is complete, you may then email the logs to the address provided by your support contact.

Upgrade

This screen allows you to upgrade your Cognito Starter or Pro512, to increase channel count or I/O support. Follow the instructions accompanying your upgrade certificate. Cognito must be connected to the Internet to complete the upgrade process.

Preparing for a Show (Patching)

For Cognito to function properly, each light used in your show must be assigned a location, or cell, in the Fixture Grid. By default, each light in the Fixture Grid is a 'dimmer', which is simply a light that only allows control over its brightness (intensity) and only uses one DMX channel.

Although Cognito will control dimmers just fine, the strength of its interface lies in the simplicity of control that it provides over color-changing LED lights and 'intelligent' lights with pan and tilt, color-changing and other functions. These lights utilize a range of DMX channels, called a footprint, beginning with the light's 'DMX start channel'. To properly control the light, Cognito needs to know which light requires which range of DMX channels. Positioning lights in the Fixture Grid, so that Cognito has this information, is known as 'patching the console'.

Placing lights randomly into the Fixture Grid is not a good idea. Programming a show is easier and takes far less time if there is logic behind where lights are placed in the Fixture Grid. Often, lights are positioned according to type of light or by function. This patching plan, usually done as a chart or spreadsheet, also ensures the efficient use of the DMX channels available. To plan and execute the 'patch', you will need to collect some information about your lights.

You need to know the manufacturer and name of each light that you wish to use in your show, and how many you have of each. You also need to know the DMX start address that each light has been set to. You will also need to know the operating mode.

LED lights may have as few as one or two operating modes, or as many as forty or more. You should have a copy of each light's manual, to help set the light's mode and match it to the Cognito Fixture Library. Operating modes are usually identified by a number (Mode 3, for example) or by the number of DMX channels each mode requires (5 channel mode versus 9 channel mode). All lights of a given type should be set to the same operating mode.

Once this information is collected, the console may be patched.

How to Match Lights to Fixture Library Definitions

All lights with pan and tilt control will have specific definitions in the library. Matching lights is as simple as placing the light in the Fixture Grid, and patching it using the instructions below.

Lights that only support color-changing may have specific definitions in the library, but are typically better controlled using Generic definitions.

For example, an RGB light, which may be controlled with as few as 3 DMX channels, might have a mode that uses 9 DMX channels. The additional channels provide access to standard gel colors, and to strobing and other effects.

Because Cognito is designed to provide these effects or functions using normal programming tools – and not through special fixture modes – patching the light to a generic fixture definition will avoid the unnecessary use of DMX channels while taking full advantage of the Cognito interface. However, double-check that the light is placed in the basic mode that matches the generic profile.

How to Patch Lights

To patch a light, select a location in the Fixture Grid. Touch the Settings icon, then choose Light Type from the tool bar.

On the left is a list of manufacturers, with Generic at the top. If a specific manufacturer is required, rather than a Generic fixture definition, use the red wheel to scroll to the manufacturer of your light. Use the green wheel to select the fixture name or Generic fixture type.

When selecting from a manufacturer's list, one fixture type may have several definitions, each with different DMX footprints. If you have carefully noted the fixture name and its operating mode, you should be able to match the light to a definition, using the light's name and DMX footprint size. But if you are uncertain, there is no harm in guessing. If Cognito is using the wrong definition, the light will not behave as expected, or not work at all. Simply try a different definition from the library for that light.

Programming Tips and Concepts

Advanced Attribute Control

Each CONTROL attribute offers an Advanced tool. These tools – Desk Lock, Tech Lock, Attribute Default or Attribute Release – provide a way to place lights or their individual attributes outside of normal programming flow, or to remove specific changes made to a light.

Desk Lock [Intensity/Color/Position/Shape]:

When an attribute is Desk Locked, that attribute's values are frozen or 'parked'. Pressing the Release button will deselect the light, but the attribute will remain at the frozen level, and the letters "DL" will appear at the bottom of the light's cell in the Fixture Grid. Although the frozen values are not included in any cues or memories subsequently recorded, if a new value is set for the attribute, that value will be included.

For example, if the theater's house lights are Desk Locked at 60%, then released, those lights will remain at 60% and will not be recorded in subsequent cues. In the Fixture Grid, the house lights will be shown as deselected, with zero intensity. The bottom of the light's cell will be marked "DL". If those lights (while marked 'DL') are given a level of 40%, that 40% value will be included in any record operation.

Desk Lock and Unlock can only be set from the console.

Desk Lock Light:

Available only from the Intensity tool. Freezes all attributes of the selected light(s). Individual attributes of the light may be changed and included in future cues or memories, as described above.

Tech Lock [Intensity/Color/Position/Shape]:

Tech Lock may only be set using the neato™ iOS app, available from the Apple App store. Allows you to remotely freeze, or lock, specific attributes of a fixture. For example, applying Tech Lock to the intensity of a fixture will allow refocusing while other work proceeds.

The console can always override a Tech Lock, and restore direct control, by touching the unlock icon under the Tech Lock tool.

Default [Intensity/Color/Position/Shape]:

Sets the selected light's attribute to the default value. The default results are dependent on the light and will be recorded in any subsequent record operations.

Release [Intensity/Color/Position/Shape]:

Releases changes made since the last RECORD action, to the chosen attribute of selected light(s).

Advanced Release is an attribute-specific equivalent of the general Release button. Allows the selective discard of the changes made to a light, unlike the general Release button which discards all changes made to the light. For example, allows you to discard changes to a light's color while keeping the new position the light is using.

Shift Button Short Cuts and Extensions

The Shift buttons, located below the Grand Master and Memory Master faders, provide additional functions when used with other buttons on the console. Press and hold the Shift button (either one) then press the second button, from the list below, to access the desired action or function.

Button	Action/Function
Pause/Back	Releases the Playback assigned to the selected Playback
Help	Closes the Help overlay (not the Tutorials)
Momentary Bump	Forces the button to latch ON (toggle)
Toggle Bump	Forces the button to bump ON (momentary)
Radio Bump	Forces down radio buttons up
Shift	Pushing both Shift buttons returns to the previous screen
Attribute button	Cycles backwards though wheel banks in Control

The Shift buttons may also be used to select ranges of lights on the touch screen. Touch the first light required, press and hold the Shift button, then touch the last light of the range desired.

Running A Show

Turning Arc Lamp Lights On and Off

Many moving lights use arc lamps (also called discharge lamps), which often require special steps for turning on and off. In SELECT, choose the arc lights that need to be turned on. Do not include any non-arc lights, such as dimmers or RGB lights. Touch the CONTROL icon, the Intensity icon, then the Wheel icon (CONTROL>Intensity>Wheel).

Push the 'B' button next to the Red encoder wheel to open the menu. Touch 'Lamp On' (or 'Lamp Off' for shut down). Alternately, you may turn the wheel until 'Lamp On' appears in the B-wheel text box.

Wait five seconds. The lamp(s) should now be struck. Press the Release button twice to return to the Select task.

If the 'Lamp On' option does not appear, check which lights are selected. This option will not appear if any non-arc lights are included in the selection.

Releasing Lights before Running a Show

All lights must be 'released' for Playlists and Memories to be correctly recalled and played back. When in SELECT, all lights that adjusted are 'captured' and held at their new intensity or attribute setting. During programming, once the new look is recorded,

the lights are automatically released. However, during some normal board operations, such as lamp check, SELECT may be used to ensure all lights are turning on correctly. However, these operations may leave all lights captured at zero or some other intensity.

Cognito indicates when lights are captured by turning the background of the Number icon red (this icon is located on the right hand side of the screen) with the label 'CAPT'.

In these instances go to the SELECT screen. Press the Release button, until the CAPT warning is cleared, to ensure Playlists and Memories will operate as expected.

Show File Management

Archiving/Restoring a Show

Shows may be saved and restored from any portable USB drive.

Plug a USB drive into any of the USB ports on the console. Press the Power button once. From the on-screen menu, touch Setup. From the Setup menu, touch Show File.

Choose 'Open Show From USB Drive' to copy (load) a show file from the USB drive to the console. A list of available shows will be displayed, organized by date. Use the red encoder wheel to select the show you wish to load, then touch OK. At this time it is not possible to edit show file names.

Choose 'Save to USB Drive' to copy (save) the show file from the console to the USB drive. The background of the selected icon will turn red while the process is underway. Do not press Exit until the background has returned to normal.

All elements of the show are saved and/or restored. Partial saves and restores are not supported.

Choose 'Open Previous Version of This Show' to select from a list of internally saved show files. Cognito also saves shows to internal storage on an on-going basis and sometimes rolling back to a previous version is desirable. The files are shown organized by date. Use the red encoder wheel to select the file you wish, and then touch OK.

New Show/Clear Console Configuration

Press the Power button once. From the on-screen menu, touch Setup. From the setup menu, choose Show File. Touch 'Create a New Show' to clear the console.

Selecting New Show clears all cues, memories, fixture selections and DMX patching. A new show has 100 lights of type Dimmer patched to the first 100 DMX slots. Partial clearing, for example of cues or DMX patch only, is not supported.

Software and Fixture Library Updates

From time to time, updates will be issued for the Cognito, covering either software improvements or light fixture updates. A link to these update is posted on the Cognito product page on the Pathway Connectivity website (www.pathwayconnect.com) or on the Pathway product forums (forums.pathwayconnect.com). You may also download directly from www.pathwayconnect.com/downloads/cognito. In some cases, the update file may be emailed directly to you.

Software update files and fixture update files will have a filename ending in .Cogupd. The latest fixture library is automatically applied whenever a software update is installed.

Simply download the relevant file, unzip the file to a portable USB drive. Review any instructions in the readme.txt file in the download, before following the directions below to install on the console.

Updating Software

Using any computer, copy the software update file (filename ending in .CogUpd) to a portable USB drive. Plug the USB drive into any of the USB ports on the console. Press the Power button once, then choose Setup from the onscreen options.

Touch the Software icon, then 'Update Software' at the bottom of the screen. The filename of the update will be shown. If more than one update is present on the USB drive, then a list of releases will be shown. Use the red wheel to choose the release you wish to install. To complete the process, touch OK.

You will be asked to confirm the action. During the update process, the console may reboot up to the splash screen, then reboot again.

Updating the Fixture Library

The Cognito's fixture library currently includes approximately 1200 lights. However, with new lighting fixtures being introduced all the time, updating the library may occasionally be necessary.

Using any computer, copy the fixture update file to a USB drive. The filename will be CognitoFixture-<date>.CogUpd. Plug the USB drive into any of the USB ports on the console. Press the Power button once, then choose Setup from the onscreen options.

Touch the Software icon, then 'Update Software' at the bottom of the screen. The filename of the update will be shown. If more than one update is present on the USB drive, then a list of releases will be shown. Use the red wheel to choose the release you wish to install. To complete the process, touch OK.

You will be asked to confirm the action. During the update process, the console reboots.

Warranty

Limited Warranty

Pathway Connectivity warrants to the original purchaser or retail customer that, for a period of two years from the date of shipment, its products will be free from defects in materials and workmanship under normal use and service. Pathway Connectivity's sole responsibility under this warranty shall be to repair, replace or refund, at Pathway's option, any units which are determined to be defective on Pathway's inspection. Pathway Connectivity may elect to refund the cost of the device upon return, solely at Pathway Connectivity's discretion.

This warranty is contingent on the customer's full and timely compliance with the terms of payment as set out in the "Payment Terms and Conditions". This warranty is expressly in lieu of any and all other warranties expressed or implied, including the warranties of fitness for a particular purpose and of other obligations or liabilities on Pathway Connectivity's part. The owner acknowledges that no other representations were made or relied upon with respect to the quality and function of the goods sold.