cognito

User Guide

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Anytime Help Resources

Operational Questions and Problem Reports
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Common Tasks to Get You Started

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

What to Plug in

First, snap the correct wall plug adaptor onto the 24V power supply that came with Cognito. Then plug the barrel connector into the DC IN port on the rear of the console. Finally, plug the power adaptor into an AC power outlet (90-240VAC, 50/60Hz).

Second, plug an XLR cable into DMX Output A (Cognito Starter) or two XLR cables into DMX Outputs A and B (Cognito Pro512 and Pro1024). The XLR cable is connected to the DMX distribution or directly to the dimmers and lights you wish to control.

When Cognito is used with DMX-over-Ethernet networks, an Ethernet cable is plugged into the RJ45 port on the rear of the console. The Ethernet cable connects Cognito to DMX gateway nodes, such as Pathports®, via an Ethernet switch. The data connection may also provide power, by supplying Power-over-Ethernet (PoE) to the console.

Cognito outputs data to the Ethernet connection simultaneously with the DMX512 ports. Power-over-Ethernet may be used simultaneously with the 24VDC power supply.

How to Start the Console

The Power Button near the top of the console will pulse blue when power is connected, indicating 'stand-by' mode. Press the button once to turn the console on. The LEDs backlighting the bump buttons will flash red and a splash screen will appear.

How to Open a (New) Show

When Cognito starts, the last show is automatically loaded. To create a new show, or restore a different show, press the Power Button once. Touch Setup then Show File.

Choose from the options to create a new show, restore a backup, or restore a previous show. If restoring from USB, plug the USB stick into any port, and the option to restore from USB will appear.

How to Patch a Light

To patch a light in Fixture Grid, you must know the light's manufacturer, its model type, its operating mode, and its DMX start address.

First, select the position in the Fixture Grid where you wish to patch the light. The cell's outline will turn red. At the bottom of the screen, touch Settings. If necessary, touch Light Type on the Advanced Tools bar.

Use the red encoder wheel to locate the light's manufacturer, then the green encoder wheel to locate the light's model type and operating mode. For non-moving color-changing LED lights, look for matching 'Generic' operating modes. Touch "Apply".

The screen will shift to the DMX grid and the DMX Addr icon on the Advanced Tools bar will be highlighted. Each cell on the DMX grid represents one DMX slot.

The small number at the top of each cell is the DMX channel number. The large number in the middle of each cell is the number of the light patched to that DMX channel, and at the bottom of each cell is a brief description of the attribute that the DMX slot controls. It is common for a single light to use multiple DMX control slots.

Use the red or green encoder wheels to locate the cell corresponding to your light's DMX start address. Touch the cell to 'patch' your light to that starting channel. Touch "Apply".

To patch several lights of the same time at the same time, select multiple cells on the fixture grid before selecting the light's type. Select the location of the DMX start address of the first fixture, and the remaining lights will automatically be patched sequentially.

How to Strike/Unstrike an Arc Light or Reset a Moving Light

Arc fixtures require special steps to start, or 'strike', the ballast to turn the light on. Most moving lights have a similar setting that will reset, or recalibrate, the fixture's pan, tilt and other attributes.

Select the light that requires the ballast strike, or requires a reset. Several lights may be selected at the same time, but remember that the fixture attributes displayed by Cognito are determined by the first light selected. Selected cells will have red outlines. From the bottom of the screen, touch the Control icon. CONTROL tasks will now be shown.

Touch the Intensity icon to access the Intensity tool bar. Touch the Wheels icon. Use the red encoder wheel to set the Control option to "Lamp On" or "Lamp Off", to strike or unstrike the arc light, or to "Reset" to force a moving light to run its recalibration routine. After seven seconds, change the option back to "Idle".

How to Set Intensity

Select a light in the Fixture Grid by touching it. The cell's outline will turn red. From the bottom of the screen, touch the Control icon. CONTROL tasks will now be shown.

Touch the Intensity icon to access the Intensity tool bar. To adjust the light's intensity level, use one of the following:

Wheels: Use the green encoder wheel to set a level as a percentage.
Libraries: Select from standard intensity levels
IRGB: Use the on-screen faders to adjust intensity and RGB values.

How to Set a Color, Position or Shape Attribute

As well as Intensity, CONTROL will display up to three other attribute families, depending on the capabilities of the selected light. Only attributes supported by the selected light are shown, to avoid wasted programming time.

Select a light in the Fixture Grid by touching it. The cell's outline will turn red. From the bottom of the screen, touch the Control icon. CONTROL tasks will now be shown.

Touch the Color icon to adjust the light's color mix, using one of the following:

Wheels: Use the encoder wheels to set RGB levels as percentages.
Libraries: Select from standard gel swatch book colors, or user-recorded colors.
Picker: Touch the screen to select from the color space shown.

Touch the Position icon to adjust where the light is pointing, using one of the following:

Wheels: Use the encoder wheels to set pan and tilt in degrees.

Libraries: Recall previously user-recorded positions.

Joystick: Touch the screen to move the light relative to its current position.

Bullseye: Touch the screen to move the light relative to its home position.

Touch the Shape icon to adjust attributes that affect the light's beam, such as gobo wheels and rotation, barrel zoom, and shutters.

Wheels: Select Wheels to access a secondary bank of attribute options. Only attributes supported by the light will be shown. Select the attribute then use the encoder wheels to adjust its values.

Libraries: Recall previously user-recorded shape settings.

How to Set an Effect

Select one or many lights. Then touch Control to open the CONTROL tasks. Choose the attribute family that you wish to run the effect on (Intensity, Color, Position, Shape). After setting an initial value, touch the Effects icon, then "New Effect". The available effects will be shown. Select the one you want.

Use the encoder wheels to change how the lights behave.

Rate (yellow wheel): Affects the speed of the effect.

Size (red wheel): Affects the variance or height of the effect. For example, the size of a ballyhoo effect determines how far a light will move from where it was pointed when the effect began.

Offset (green wheel): Affects where each light is placed on the effect curve. For example, in a rainbow color effect, if the offset is zero degrees, all lights will be the same color because they are all sitting at the same spot on the transition curve. If the offset is 45 degrees, adjacent lights will now be different colors. When the offset reaches 180 degrees, adjacent lights will be at the top and bottom of the effect curve and the rainbow will consist of only two colors at any given time.

Repeat (blue wheel): Affects how many lights are at the top of the effect curve at one time. For example, in a marquee effect, if repeat is set to 1, only one light out of the selection will be "on" at any given time.

The order that lights are selected is important when planning the effect. For example, when running a marquee effect on six lights, if the lights are selected 123-456, the effect will appear to move from left to right. If the lights are selected 123-654 instead, the effect will appear to move toward the center.

Multiple effects may be run at the same time. To end an effect in SELECT, touch the "Stop Effect" icon, or use the Release button. When the effect is recorded in a Cue, a change must be recorded to the attribute controlled by the effect in a subsequent Cue to end it. Otherwise the effect will remain running in the background (also called 'tracking through').

How to Record a Memory

Touch the Record icon to open the RECORD tasks, then touch the Memory icon. Select the Memory location you wish to use – outline turns red – and touch “Done” or simply push the button below the fader where you want the Memory located. The look will be recorded with default timings and you will return to your previous CONTROL task.

How to Record a Cue

Touch the Record icon to open the RECORD tasks, then touch the Cue icon. The next available cue slot will be preselected and titled “Add New Cue”. Touch “Done” to record the cue with default timings, and you will be returned to your previous CONTROL task. Once a cue is recorded, pressing the Record button twice in succession will record a look into the next available cue location, using default timings.

By default, there are two available Playlists to record into. Make sure further cues are recorded in the correct Playlist.

How to Edit, Move, Copy or Delete a Cue or Memory

Touch the Play icon to open the PLAY task. Touch the L Playback icon or the R Playback icon, to edit cues, or the Memory icon, to edit memories. Press the Edit button, to the right of the touch screen. A ‘do-not-enter’ icon will appear on each cue or memory.

Use the encoder wheels to change Memory timings and bump button operation.

For cues, use the Up/Down arrow icons to page through the timing and other cuing options, then use the encoder wheels to adjust the Cue settings.

To move a cue or memory, touch the ‘triple bar’ icon, then drag the selection to a new location and drop. To copy a cue or memory, press and hold the Shift button before touching the triple bar icon, then drag and drop to the new location.

To delete a cue or memory, touch the ‘do-not-enter’ icon, then confirm your choice by touching the “Del” icon.

Steps to take before each Performance

Ensure all lights are released by placing the twenty faders across the top of the console are at the bottom of their travel, while the four faders at the bottom of the console (two on either side) are at the top of their travel. Press the Release button to the right of the touch screen until “Release all active Cues and Memories?” appears on screen. Warn anyone onstage before touching “Okay”, as all lights will be turned off (blackout). Then execute the first cue or memory look of the show.

How to Playback Memories

Touch the PLAY icon, then Memory. The screen will display twenty of the Memories saved in the current Memory Page. To see more Memories saved in the current page, use the Left/Right arrows. Run up a fader to recall the associated memory. Alternately, press the fader’s bump button.

How to Playback Cues (Playlists)

Touch the PLAY icon, then either “L Playback” or “R Playback”, to choose either the Left Playback or the Right Playback. Ensure the correct Playlist is highlighted on the Playlist Toolbar, or select the one you require by touching its icon.

The first cue is selected by default, or double tap the cue you wish to run. A green arrow will appear inside the cue cell. Press the “Go” button to execute the cue.

Touch the Up/Down arrow icons next to the cue list to move through the cues. To go to the top of the Playlist, press and hold the Shift key, then touch the Up arrow icon. To go to the bottom of the Playlist, press and hold the Shift key, then touch the Down arrow icon.

To pause a cue, press the Pause button above the Playlist fader. To cut back to the previous cue, press the Pause button a second time.

How to Save a Show

Cognito automatically saves all changes to a non-volatile memory. If you wish to back up to USB, insert a USB thumb drive into any USB port on Cognito. Press the Power Button once. Touch the Setup icon, then the Showfile icon. Select “Save to USB”.

How to Shut Down the Console

Press the Power Button twice in quick succession to immediately turn it off.

How to Get Help

Press the Help button to the right of the screen to get context-sensitive help overlays. While in the Help overlays, touch the Question Mark icon in the upper left hand corner to open the Help Tutorials, which provide greater detail on programming and operational topics.

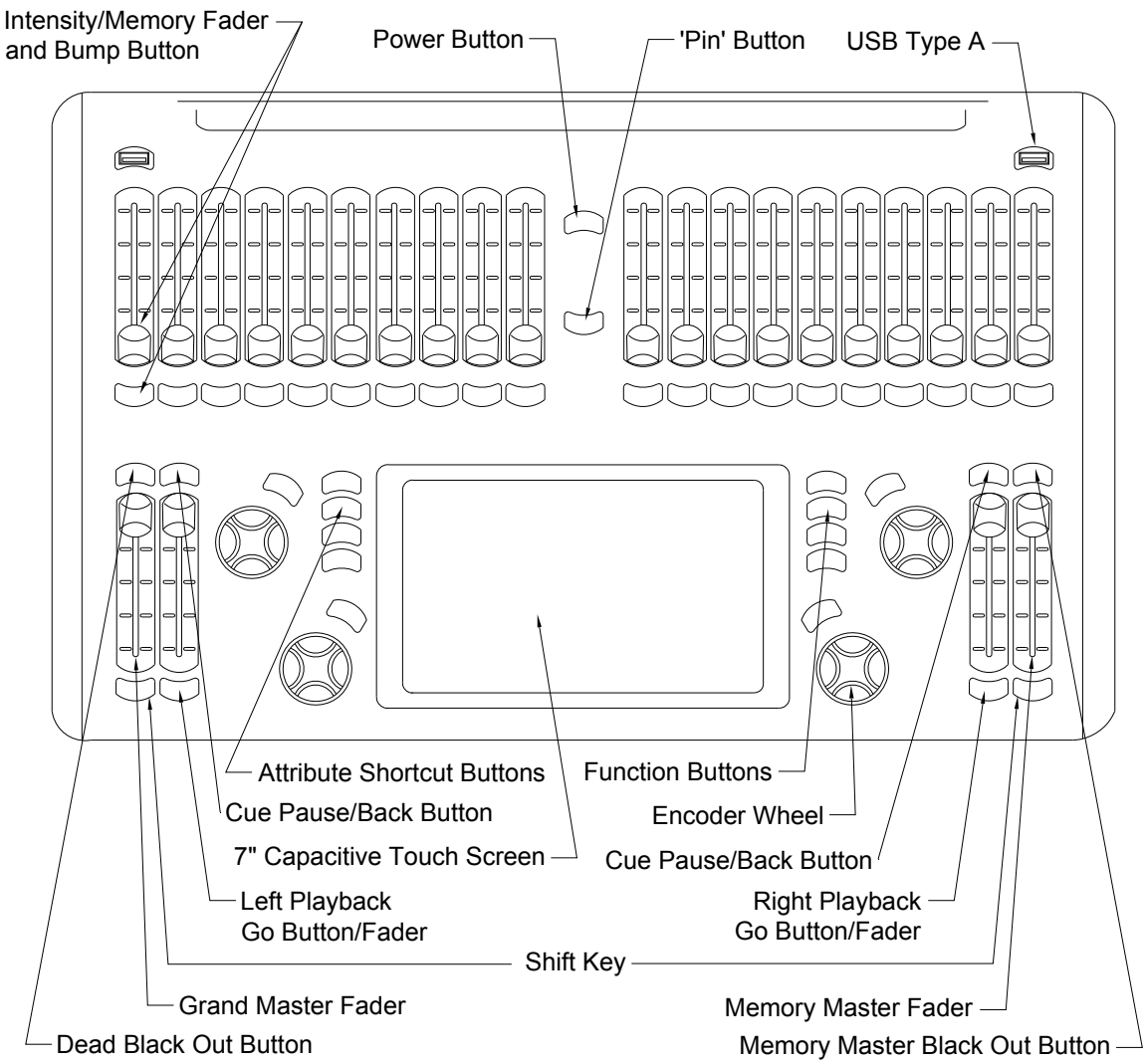
For further information on operating Cognito, visit our YouTube video library at www.youtube.com/pathwayconnectivity or use this QR code:

Questions may be emailed to support@pathwayconnectivity, or use this QR code:

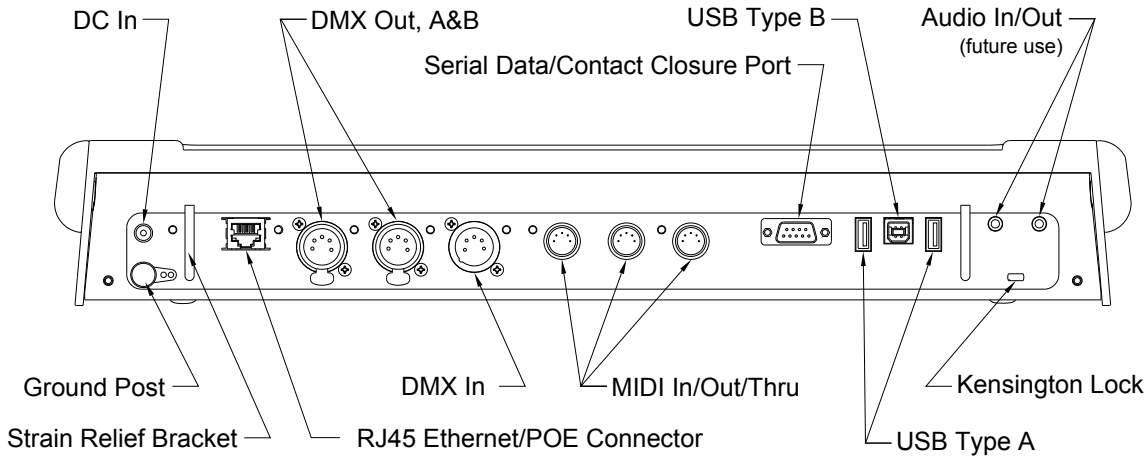
Finding Your Way Around – The Hardware

Cognito 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



Power Connections

Cognito is designed to operate on a regulated 24VDC input received through the 2.5mm, center-positive barrel connector, or on Power-over-Ethernet as supplied by an IEEE 802.1af compliant source such an Ethernet switch. The wall transformer supplied with the Cognito may be connected to a mains voltage ranging from 90-240VAC at 50/60Hz. When operating on PoE Cognito is a Class 3 device for purposes of power consumption.

Plug the DC power supply into the DC plug on the far left side of the rear panel. The rear panel indicator LED will steadily glow amber/green. Alternately, a Power-over-Ethernet (PoE) source 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. Both a DC supply and a PoE source may be connected at the same time.

When the console is connected to power, the Power Button near the top of the console will pulse blue, indicating 'stand-by' mode. Press the Power Button once to start the console.

For normal shut down, press the Power Button once. The Setup screen will be shown. Touch the Power Off icon to confirm shut down of 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 eight seconds to force the console to power down.

Data Connections

DMX512

Cognito has two DMX512 output ports and one input port. The output ports transmit DMX control data to the lights and other equipment capable of receiving and responding to DMX control. The DMX512 Input allows the Cognito to receive DMX from another source and playback Memories based on that signal. See Automated or Unattended Control for information on DMX input control.

Connect DMX OUT A to the lights controlled by Universe 1 using a five-pin XLR cable (all Cognito models). DMX OUT B is enabled to also output Universe 1 on PRO512 models, and to output Universe 2 on PRO1024 models.

On PRO1024 models, the assignment of Universe 1 to DMX OUT A and Universe 2 to DMX OUT B may be reversed in Setup>DMX.

Ethernet

Cognito also supports DMX-over-Ethernet protocols. These protocols transmit the same DMX information as the XLR ports, at the same time, through the Ethernet port. The Starter model supports only Pathport Protocol, while PRO512 and PRO1024 also support the Art-Net protocol and the E1.31 streaming ACN standard. Additional hardware, such as a Pathport node, is required to convert this signal to DMX512.

Each protocol may be turned off, or its base universe offset changed, from Setup>DMX>Network DMX. If more than one protocol is active, identical DMX values are transmitted on each.

MIDI In/Thru/Out

MIDI ports are enabled on PRO512 and PRO1024 models. MIDI Show Control (MSC) commands may be used to select individual Playlists and to advance to specific cues. Cognito can send user-specified MIDI or MSC strings whenever a cue is triggered, using Cue Actions. See PLAY>Schedule>Cognito and Automated or Unattended Control.

RS232/Contact Closure Input

The serial port is enabled on Pro512 and PRO1024 models. You may use RS232 to control the console through LUA scripting. The same port also provides a simple dry contact interface to trigger cues. See Automated or Unattended Control.

Faders

Twenty faders, also called sliders, stretch across the top of the console in two groups of ten. By default in the SELECT task, any 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.

In the PLAY task, faders are used to recall Memories, sometimes called submasters and presets. In PLAY, 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.

When in the PLAY task, faders play back Memories. The default may be changed so that faders always play Memories regardless of the current task. Go to Setup>System>>General, and change "Sliders Always Run Memories" to 'yes'.

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 reported 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 Programming Tips and Concepts.

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 Programming Tips and Concepts.

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. Although there are only two physical playbacks, you may have as many Playlists active at a time as desired.

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

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. 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 back to 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 family 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 on 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 reverts or clears any changes made to the lights, in the following order: revert a selected light to its last state; clear the selection group; clear all changes made to all lights since the last Cue or Memory was saved; release all active Cues and memories (blackout).

In PLAY, pressing the Release button will present the release all active Cues and Memories (blackout). Any lights captured in SELECT will not be released.

When releasing all active Cues and Memories, a dialog screen will appears asking for confirmation. Choosing OK from this screen will 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. The touch screen under Hints is still active – you can keep Hints up on the screen while programming. Continue to press the Help button to cycle through the Hints. To dismiss 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.

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

Record
Press the Record button once as a shortcut to RECORD. If Memory was the last recording method used, press the Record button a second time to record the current stage look into the next available fader. If Playlist was the last recording method used, press the Record button a second time 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 pushbutton. 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 which encoder wheel and button provide selection and control for each 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 using fine control, instead of full degrees. Similarly, you may adjust cue times in tenths of a second, instead of full seconds.

When in CONTROL, use the Shift button in combination with the ABCD buttons to quickly set the attribute associated with a particular encoder wheel to its default value.

Pin Button and Pin Crossfade Timings

Located just below the Cognito badge between the fader banks, the Pin button provides a simple method of transitioning between lighting looks when in SELECT or PLAY.

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.

To change the Pin crossfade tie, press the Shift button plus the Pin button. The Edit Pin Crossfade Time box will appear. Touch the keypad icon or use the B wheel to change the default time. Timing may be changed on the fly between uses of the Pin button.

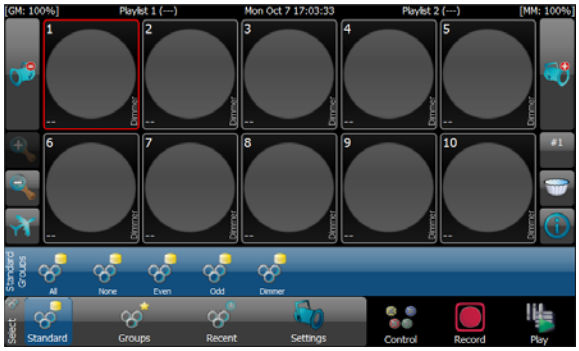
USB Ports

There are a total of four 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 USB ports are capable of charging a cell or mobile phone, but not a tablet device.

The USB ports are fully functional, including charging, even when Cognito is running on Power-over-Ethernet (PoE).

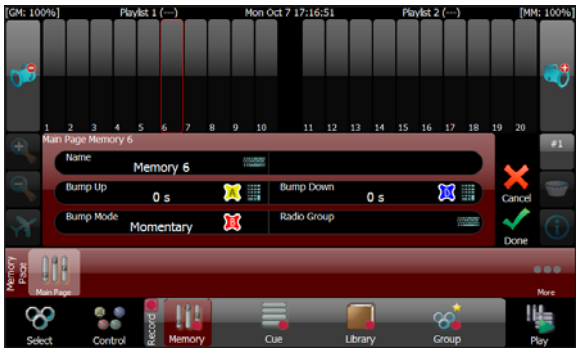
Finding Your Way Around - The Touch Screen

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. Above each Task Bar is a tool bar, showing the tools available for the active task. Tools are explained in each task section below.

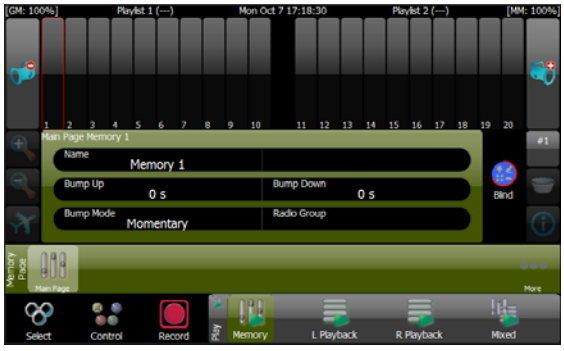


SELECT

CONTROL



RECORD



PLAY

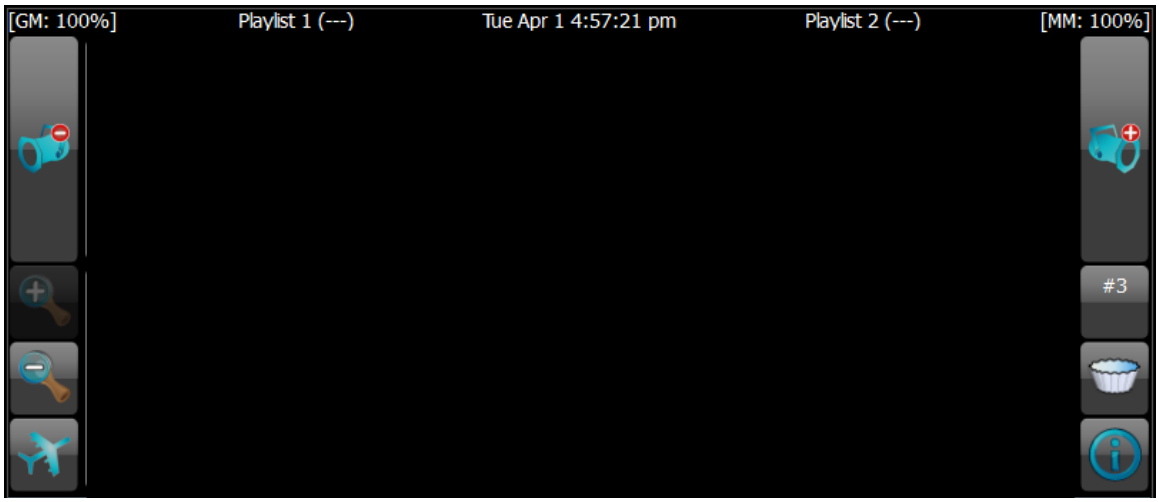
SELECT is used to choose lights for programming. Pick lights by touching them individually, multi-selecting with the Shift key, or by using Groups. SELECT also accesses tools to patch lights into the Fixture Grid, set each light's DMX start address, label individual lights and, optionally, associate a light with a specific gel.

CONTROL provides tools to change the intensity, color, position and shape attributes of the selected lights, and to activate effects. 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). PLAY also provides access to BLIND editing of saved looks and to the editing of the name, timing and other attributes of Memories and Cues. PLAY>Schedule allows automated Playlist operation using the clock or astronomical events such as sunset, based on locale and time, as well as access to Cue Actions.

Screen Navigation



Across the top of the main display is the status bar, which shows the level (in percentage) of the Grand Master and Memory Master; the name of the Playlist currently loaded in each of the right and left playbacks; and the name of the current cue.

On either side of the main 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 allow you to reach additional pages of lights, Memories or swatch colors, for example. Pressing the Shift button in SELECT will change the Arrow icons to +/- Par Can icons. Touching the Par Can icon moves the red Selection Indicator to the next higher or next lower light in the current selection set or in the Fixture Grid. The Par Can icon is also available in each CONTROL task, allowing you to 'round robin' quickly between the lights in the selection set.

The Magnifying Glass icons, located below the Left Arrow, change the number of lights shown in the Fixture Grid. 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. If only one light is selected, its Fixture number will be shown. When a change has been made to the selected lights, but not yet recorded, the icon's background changes to red, and CAPT ('captured') appears as a warning. Captured lights are not affected by the PLAY task until recorded or released.

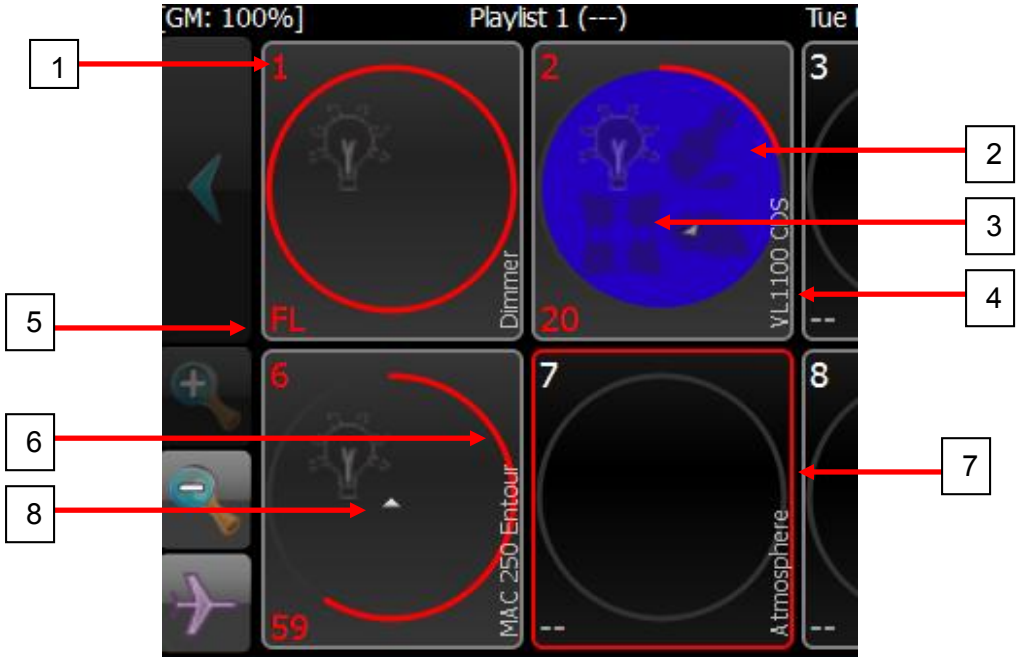
The Filter icon, also located below the Right Arrow, allows you to reduce the lights shown on the Fixture Grid based on certain criteria, such as 'only lights selected' or 'only

lights in use' (intensity above zero). The icon turns red when filtering is in use. Only lights that meet the Filter criteria are shown on the Fixture Grid.

The Information icon toggles the Fixture Grid to show further information about each light. If no lights are selected, touching the icon will show the DMX start address in the lower left corner (where intensity is normally shown) for all lights. If one or more lights are selected, a chart with the fixture's usage will be shown. See "i – the Information Screen" below.

SELECT - The Fixture Grid

By default, 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. If a gel has been associated with a traditional dimmer, the gel color will be shown.
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: Label. By default, the model of light that each cell represents appears in the lower right hand corner of each cell. If a label has been assigned using Settings>Properties, that label will appear in place of the model.

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. See “i – The Information Screen” for descriptions.
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.

Manual Selection

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. The order lights are selected is used by color fans and other effects.

Group, Recent, and Standard

Often, certain groups of lights are selected repeatedly for programming. The following tools may speed those operations.

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 the lights are patched into the Fixture Grid.

Groups

The Groups 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. The order in which lights were selected is also stored. 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.

Settings and Fixture Patching

The Settings tool allows you to assign specific lights (by model) to cells in the Fixture Grid, and to set or “patch” the lights’ to their required DMX start address. In order to patch a fixture, you must know the manufacturer, the model, the light’s current operating mode (often called its footprint) and its DMX start address. Generally, every light is given a unique start address.

Select the cell in the Fixture Grid where a light is to be patched, then touch Settings. Use Light Type to choose the light’s model and operating mode; DMX Addr to set the DMX start address, and Properties to label the light, if desired.

Light Type
Most color-changing-only lights will match one of the Generic profiles. Lights with position or shape attributes require specific profiles. If a light doesn't appear in the Light Type, or a required operating mode is missing, email a pdf of the light's manual to fixtures@pathwayconnect.com to request inclusion in the fixture library.

All: All fixture types available in the current fixture library are shown, organized by manufacturer name. Use the red encoder wheel to select the manufacturer. Then use the green encoder wheel to select the model and operating mode required (if there is more than one mode) from the Light Type column. Touch "Apply" to accept.

Favorites: Shows a limited selection of fixtures, as chosen by the user. Once a light is selected, it may be added to the Favorites list for easy reuse by touching the "Add Favorite" icon.

DMX Address
A grid of DMX start addresses is shown, in blocks of 32 DMX channels or slots. The DMX channel number is shown in the top left hand corner of each cell. The larger number in the middle of each cell is the Fixture Number. At the bottom of the cell is the attribute controlled by that channel, such as intensity, color, pan, gobo, etc. 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.

Multi-attribute Fixtures: A single 'light' in the Fixture Grid may be patched to include control of the light's dimmer and the light's accessories – for example a dimmer and a scroller, or a dimmer and a moving mirror. First select the desired accessory combination from the Light Type menu, i.e. 2 Color Scroller, Gobo Rotator or I-Cue Mirror. Then, in DMX Address, specify the individual DMX address of the dimmer (INT - intensity) and the accessories (POS – position/COL – color/ATT- attribute).

Multi-part Fixtures: Some lights support more than one intensity attribute. These lights will appear in the fixture menu as 'Part 1', 'Part 2', and so on, or as 'Head 1', 'Head 2' and so on. In most cases, each part should be patched to consecutive, contiguous blocks of DMX slots. In some cases, when Intensity is controlled through a dimmer, the INT channel may be separated from the attribute channels. And in some very rare cases, all parts should be patched to the same DMX start slot.

Properties
Allows you to label your lights, by purpose or by location for example. By default, a light's label is its fixture type. Also allows you to specify what gel color is being used by a specific light. This feature is typically used with dimmers.

CONTROL

CONTROL allows you to manipulate a light's attributes. Attributes are organized into families of Intensity, Color, Position and Shape. Only those 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 attribute values are not recorded into Memories or Cues. Further advanced options, including Desk Lock and Knockout, are discussed under Advanced Attribute Control.

Libraries: Choose from a list of standard 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.

Effects: Shows any currently active effects on a secondary tool bar. Intensity must be higher than zero percent for an effect to be visible. Touch the New Effect icon to display a list of available Intensity effects.

Color

Different lights may have different color abilities, such as color wheels or scrollers. Only abilities specific to the selected light are automatically added to the tool bar.

Wheels: Allow you to set RGB (default), CYM or HSV color values. Also allows direct control of scrollers, color wheels and color correction.

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 attribute values that are locked are not recorded into Memories or Cues. Further advanced options, including Desk Lock and Knockout, are discussed under Advanced Attribute Control.

Libraries: Use the up/down and left/right arrow icons to select colors from standard gel swatch books, or to 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 automatically updates 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.

Effects: Shows any currently active effects on a secondary tool bar. Intensity must be higher than zero percent, with a color selected, for effects to be visible. Touching the New Effect icon displays a list of available Color effects.

Position

Different lights (usually called moving lights) may have different positioning abilities. Only the abilities specific to the 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 finer control. 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 attribute values that are locked are not recorded into Memories or Cues. Further advanced options, including Desk Lock and Knockout, are discussed under Advanced Attribute Control.

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).

Effects: Shows any currently active effects on a secondary tool bar. Touching the New Effect icon displays a list of available Position effects.

Shape

Different lights may have different shape abilities, such as gobos, motorized shutters or focus zoom. Only the abilities specific to the selected light are automatically added to the tool bar.

Wheels: Access options for gobos, shutter, lens focus, rotation and other effects. These options normally appear on a secondary tool bar, called the "Wheel Bank".

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 attribute values that are locked are not recorded into Memories or Cues. Further advanced options, including Desk Lock and Knockout, are discussed under Advanced Attribute Control.

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.

Effects: Shows any currently active effects on a secondary tool bar. Intensity must be higher than zero percent, for effects to be visible. Touching the New Effect icon displays a list of available Shape effects.

RECORD

RECORD saves completed looks, or specific attribute information, for later recall. By default, Record captures the current output of the console, typically as a Memory or Cue. Attribute information alone may be recorded as a Library, or a selection of lights may be recorded as a Group.

Memory

Memory saves the current look into a fader. Faders are represented on the touchscreen by rectangles across the top.

Any fader location may be chosen by touching it. The selected location is indicated by a red outline. By default, fader 1 or the next available fader is selected. 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.

Once a fader location is selected, the Memory may be labeled by touching the keyboard icon next to Name. Bump button modes (actions) and timings may also be adjusted.

Bump Button Modes

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.

Fade up and fade down times may be associated with each bump button's action. By default the buttons have a timing of zero seconds.

Touch the Done icon to complete the recording of the Memory, or press the Cancel icon to begin again. To quickly save a Memory, press the Record button twice to automatically record into the next available Memory fader, using default timings. Or, to quickly designate a specific location, press the Record button then the Bump button of the fader where you want the Memory stored.

Adding, Deleting and Naming Memory Pages

By default, one Memory Page is shown. To add further Memory Pages, or to delete or rename an existing 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 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.

Cue

Cue saves a completed look into the current Playlist. Make a Playlist current by selecting it from the secondary toolbar. The Cues in the current Playlist are shown on the left, and details of the selected cue are shown on the right.

By default, a Cue is recorded into the next available location, as marked by the "Add New Cue" cell. Touch the keyboard icon next to Name to label the cue. A number of timing options may also be set. Touch "Done" to finish recording the cue.

If an existing cue is selected, its outline will turn red. 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.

Cue Timings - Basic Properties

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.

Follow Options

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 no Follow option has been set, the operator will still have to press GO.
"Link" and "Follow" 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 after the link.

Position/Color Timing Options

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 Timing Options

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.

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

Adding, Deleting and Naming Playlists

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.

Library

Library allows you to capture certain attributes for reuse 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. The selection order is also stored with the group, and is used when applying effects, and color fanning.

Record Update and Insert

Rarely is a cue perfect the first time it's recorded. Cognito offers two ways of updating cues and libraries using RECORD.

Once changes are made to an existing cue, touch Record>Cue, then select the same cue location from the Playlist. The outline will turn red. Press the Record button, to the right of the touch screen. Four options will be offered.

Update Existing Cue

Updates any attribute values that have changed from the previous cue.

Replace Existing Cue

Re-records the current console 'look' into the current cue position.

Insert New Cue Before Existing Cue

Records the current console 'look' as a new cue, immediately prior to the selected cue position. Inserting a cue will not affect adjacent cues.

Insert New Cue After Existing Cue

Records the current console 'look' as a new cue between the selected position and the immediately following cue. Inserting a cue will not affect adjacent cues.

Sometimes the same attribute change or update needs to be made to several cues.

Shift + Record

Press and hold the Shift button, then press the Record button. A list of items available for update is shown. Choose to update only the current cue, or all cues back to the last time the selected attribute was changed in the current Playlist.

The Shift + Record combination may also be used to update Libraries, so that the revised Library will be used wherever it's already included in a cue or memory. Shift + Record may also be used to quickly update Memories.

PLAY

PLAY recalls recorded looks, while providing information about the current and upcoming Memories and Cues. There are five playback views: MEMORY, LEFT PLAYBACK, RIGHT PLAYBACK, MIXED, and SCHEDULE. 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.

PLAY also allows easy editing of fade times and access to special Cue Actions, by pressing the Edit button. Touch the "Blind" icon to make attribute changes to existing Cues and Memories, without those changes being visible onstage.

Memory

The Memories available for playback are shown across the top of the screen, as indicated by a label and a level indicator. Further Memory Pages are available for selection from the tool bar. Each Memory Page may hold up to 400 Memories.

Use the associated fader (or its bump button) to recall the desired Memory. Use the navigation arrows to access other fader banks within the selected Memory Page.

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 copy the Memory, press and hold the Shift Key prior to dragging the Memory to its 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.

By default, faders only play back Memories when the PLAY task is active. To change the default, so faders always playback Memories, go to Setup>System and change "Sliders Always Run Memories" to 'yes'.

Blind Editing
To make changes to a Memory while another Memory is live on-stage, select the desired Memory location. The outline will turn red. Then touch the Blind icon.

The display will change to the SELECT task, with a blue background to indicate Blind mode. The clock on the status bar changes to 'Blind', followed by the label of the item being edited.

An icon in the upper right corner of each fixture cell indicates the light's current attributes. Choose the lights you wish to adjust and follow normal CONTROL methods to adjust their attributes. Once the changes are completed, press the Record button to accept the changes, or the Release button to abandon the changes.

Left/Right Playback

Available Playlists are shown on the tool bar. To assign a Playlist to a Playback, simply touch the one desired. 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 cuts to the next cue in the list using a one second fade, regardless of recorded times.

To scroll the playlist, use the up/down arrow icons. The double arrow icon jumps the list to the currently active cue. Press and hold the Shift key to change the up/down arrows to top/bottom icons. Touch the up/down icons or use any encoder wheel to move to the top or bottom of the cue list.

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.

Editing of Cue Timings and Placement
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 any cue, press the Edit button. Select the cue you wish to change, then use the blue Up/Down arrows under the timing options to locate the option you wish to edit. Use the associated encoder wheel to make changes. Press and hold the Shift key to adjust timings by 1/10th of a second.

To rearrange the order of cues, press the Edit button then touch the cue's 'triple bar' icon. Drag and drop the cue to its new location. To copy a cue, press and hold the Shift key prior to dragging it to the 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.

Blind Editing of Cues
To make changes to a Cue while another Cue is live on-stage, select the desired Cue location from the Playlist. The outline will turn red. Then touch the Blind icon.

The display will change to the SELECT task, with a blue background to indicate Blind mode. The clock on the status bar changes to 'Blind', followed by the label of the item being edited.

An icon in the upper right corner of each fixture cell indicates the light's current attributes. Choose the lights you wish to adjust and follow normal CONTROL methods to adjust their attributes. Once the changes are completed, press the Record button to accept the changes, or the Release button to abandon the changes and exit Blind.

Record Changes Only
To make changes to Cues in one Playlist while a different Playlist is active, it may be necessary to change the record behavior of the console. Normally, Cognito acts as a preset console, and records the entire current DMX output whenever a Cue is saved.

To track changes made to individual lights instead, press the Power Button, then select Setup>System>Advanced and change "Record Changes Only" to 'yes'.

Mixed

In Mixed Playback mode, the current playback status is shown for Memories and the left and right Playbacks. Press the Edit button to allow drag-and-drop movement of Memories between Memory pages, and cues between Playlists. Editing of timings is not available in Mixed mode.

Schedule

Allows clock-based playback of Memories or Playlists. Two components make up event scheduling: the timing of the event, and the action option.

To set up a scheduled event, from the PLAY>Schedule task, touch the "New Event" icon. A New Event cell will appear on the left side of the display. Press the Edit button to define or delete the event. A 'do-not-enter' icon will appear in the event cell, and the options on the right side of the display will become active.

Touch the keyboard icon to name the event.

Event Timing

None: Event is disabled.
At Time: Set a specific start time for the associated action.
Sunrise: The associated action will begin at local sunrise, as determined by the astronomical clock setting under System Preferences.
Sunset: The associated action will begin at local sunset, as determined by the astronomical clock setting under System Preferences.
Before Sunrise: The associated action will begin prior to local sunrise as determined by the offset time.
After Sunrise: The associated action will begin after local sunrise as determined by the offset time.
Before Sunset: The associated action will begin prior to local sunset as determined by the offset time.
After Sunset: The associated action will begin after local sunset as determined by the offset time.

Time: Sets the time, based on a 24h clock, used by "At Time" to trigger the associated event. Use the red encoder wheel to set the time in hours and minutes. Touch the keypad icon to set the time in hours, minutes and seconds using the encoder wheels.
Offset: Defines the time before or after sunrise or sunset (above) when the associated action will be triggered. Use the red encoder wheel to set the time in hours and minutes. Touch the keypad icon to set the time in hours, minutes and seconds using the encoder wheels.
Days: Touch the keypad icon to select which days of the week the associated action will be triggered.

Action Types

None: Event triggering is disabled. Default.
Playlist: Triggers cue playback action, according to these further choices.
- **Goto**: Begins as a playlist at a specific cue, using the following:
  - **Playlist:** Selects a playlist, by name.
  - **Cue:** Selects a starting cue, by name.
- **Pause:** Pauses the selected Playlist.
- **Go:** Starts the selected Playlist from the current cue.
- **Release All:** Releases all active Playlists and cues.
- **Release:** Releases, or stops playback, of the selected Playlist.

Memory: Triggers memory playback action, according to these choices:
- **Bump Down**: Activates a memory, according to the following:
  - **Memory Page**: Selects a memory page, by name.
  - **Memory**: Selects a specific Memory, by name.
- **Bump Up**: Deactivates a memory, according to the following:
  - **Memory Page**: Selects a memory page, by name.
  - **Memory**: Selects a specific Memory, by name.

Sound: Future development.

Cognito: Triggers a console-level event, according to the following:

Power Off: Turns off the console

Send MIDI: Sends a MIDI string to the MIDI OUT port

MIDI Data: Touch the keypad to enter the required MIDI string

neato Lockout: Enables/disables wireless device control.

Release Locks: Releases any active Desk or Tech Locks of lights.

Release Lights: Releases any currently selected lights.

Memory Blackout: Blacks out all intensity channels currently controlled by a Memory.

DBO: Blacks out all intensity channels, excluding any Desk-locked intensities.

Stop All Effects: Terminates all effects currently running.

Setup and Console Configuration

When used on DMX-only lighting systems, Cognito should require little or no configuration to start controlling lights. On Ethernet-based networks, some changes may be required to match an existing network, or to incorporate the wireless access point needed to utilize the neato™ iOS app.

SETUP allows certain defaults to be changed to personalize the console to match an operator's style or preferences.

To reach Setup, with the console powered, press the Power Button once, then touch the Setup icon. A list of options will appear on the left side of the screen, including System, Network, Network DMX, neato, Wall Station, Upgrade, Software and Showfile.

System Preferences

System preferences are divided into General, Astronomical and Advanced sections, along with the following options:

Calibrate Screen
During factory calibration, Cognito's touch screen is optimized for normal service and operation. If you are having touch screen issues, such as lack of responsiveness or incorrect selection, please contact Tech Support. If you are directed to perform a screen recalibration, simply touch the Calibrate Screen icon, then touch the Calibrate icon to start the process. It is very important that nothing touches the screen during recalibration. Cognito will reboot to finish the process.

Set Time
Allows you to manually set the date and time on the console. Touch the upper half of the screen (background will turn red), then use the encoder wheels to set the date. Touch the bottom half of the screen (background will turn red) and use the encoder wheels to set the time. Changing the time zone (see below) will change the time accordingly. Daylight savings time is applied automatically, if applicable to the chosen time zone.

Get Time
Allows Cognito to retrieve the current time from an Internet-based clock service. Only works if the console is connected to the Internet. Changing the time zone (see below) will change the time accordingly. Daylight savings time is applied automatically, if applicable to the chosen time zone.

General

Continent
Select from a list of geographic areas and coordinated universal time (UTC) zones. The selection here affects which Regions are made available in the next selection.

Region
Choose from a list of zones, regions or cities, dependent on the Continent selection. The selection sets the time zone Cognito uses when displaying time, either as set by the user or as retrieved from an Internet time service. The Region also determines whether or not Cognito will apply Daylight Savings Time as required.

Sliders Always Run Memories
By default, faders raise and lower the intensity of the lights in the Fixture Grid, and only play back Memories when PLAY is active. Change the "Sliders Always Run Memories" option to 'Yes' if you want faders to play back Memories at all times and in all tasks, including SELECT. This option is useful for 'busking'-style operation, when the operator wants to layer recorded looks, while having quick access to individual lights.

Number of Lights
This option sets the size of the Fixture Grid. The maximum number of lights is 300, regardless of fixture type. Setting the number of lights to match the number used in the show is recommended.

Console Name
Allows the user to set a unique name for the console. This name will be shown in Pathport Manager and be the name displayed by the neato™ iOS app.

Astronomical

Sets the geographic location where the console is being used. These settings are used by the Scheduled Events options.

Continent
Choose from Africa, Asia & Middle East, Australia & Oceania, Caribbean, Europe, North America or South America.

Region
Set your country. For some countries, a state, province or territory may also be chosen.

City
Choose from a list of cities and towns located in the specified region.

Latitude and Longitude
You may also set your location by specifying your exact latitude and longitude. This method may be necessary if your city is not listed.

Advanced

Record Changes Only
Cognito normally records the current on-stage "look", so that a Cue or Memory captures all active intensities and other attributes. However, some situations (and some operators) prefer that only any updated or altered attributes are recorded in a Cue or Memory. If more than one Playlist is in use at one time, this feature records updates to that Playlist without including information from other Playlists or active Memories.

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

Pathport: Sets the IP address using the standard Pathport method. 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 on on-line service such as a DHCP server. If no server is found, Cognito will use the last address assigned to it. Not editable.
Advanced (default): To determine its IP address and subnet mask, Cognito will: a) seek 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 mode 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 assigned, Cognito will send Ethernet data using all valid addresses.

DMX

This option accesses two pages of settings (Cognito PC shows Network DMX only).

DMX

DMX settings only apply to the DMX data sent out the 5-pin XLR ports.

DMX Flavor: Adjusting the flavor (refresh rate) of DMX512 can sometimes fix 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).
DMX Output: Adjusts the DMX offset for each DMX output port. Allows each DMX port to be turned off or, for the Pro1024 model, define which port will output Universe 1 or Universe 2. Normally, DMX Output A is set to Universe 1 (channels 1-512) and DMX Output B is set to Universe 2 (channels 513-1024). A green LED indicates when the adjacent XLR port is active.

Network DMX

These settings only apply to DMX data sent out the RJ45 Ethernet port

Offsets: Cogito supports three DMX-over-Ethernet protocols: Pathport, Art-Net, and E1.31 streaming ACN. (Cognito Starter only supports Pathport.) This setting allows you to turn off specific protocols, or change a protocol's Universe Offset. On the Pro1024, the offset is set for the first universe, and the second universe is consecutive.

Normally, the data protocols start with Universe 1 (mirroring the DMX output). But for installations with multiple CognitoPro512 consoles, setting the first console's offset to 1 and the second console's offset to 2, and so on, may be required. When using multiple Pro1024 models, which output two Universes each, ensure the offsets do not overlap.

neato™

neato is an iOS app, available for free from the Apple App Store, which gives remote control of memories and individual lights. neato connects to Cognito using a wireless access point or wireless router. Please read the wireless access point's documentation for set up instructions.

Password: We recommend the use of a password to log onto any wireless access. For additional security, each Cognito may be given a separate password as well, which must be entered into the neato app.

Connection Mode: You may also instruct Cognito to allow all devices running neato to connect; not to allow any new devices to connect; or to refuse to connect to any devices. The "No New Devices Allowed" is useful to help prevent unauthorized access to the console, once sanctioned iOS devices have been configured.

Wall Station

Pressing the Power button once, then touching the Lock icon will turn the touch screen into a virtual button station, or into a dedicated Playlist playback.

When in Wall Station mode, the Cognito's programming functions are disabled. To restore programming functions, touch the Unlock icon. A password may be required to unlock the screen.

Selecting Wall Station mode also affect the response of the Cognito hardware. In Button mode, the Bump buttons below the sliders on the console will behave the same as the virtual icon 'buttons'. In Playlist mode, the left GO button will also trigger the next cue in the Playlist.

Playlist

Limits Cognito to cue playback only. Once the parameters are set, touch the Lock icon to enter Playlist mode. A release icon, a GO icon and a pause icon will be shown. Touch the appropriate icons to advance, pause or release the playlist. Or press the left GO button to advance the playlist. To exit, touch the Unlock icon and enter the password, if set.

Password: Touch the keyboard icon to enter a password that will be required to exit Playlist mode. By default, the password is blank. If no password has been entered here, simply touching the Unlock icon will exit Playlist mode. If a password is forgotten after being set, you will need to contact tech support. Passwords are NOT case-sensitive.

Playlist: Use the red encoder wheel to scroll through available Playlists.

Button Station

This option turns the Cognito into a virtual button station. The number of buttons shown, the Memory Page associated with those buttons and password protection may be set. Once the parameters are set, touch the Lock icon to enter station mode.

Password: Touch the keyboard icon to enter a password that will be required to exit Wall Station mode. By default, the password is blank. If no password has been entered here, simply touching the 'Unlock' icon will exit Wall Station

mode. If a password is forgotten after being set, you will need to contact tech support. Password are NOT case-sensitive.

Memory Page: Use the red wheel to scroll through available Memory pages.

Layout: Use the green encoder wheel to select from 2-, 4-, 8-, or 20- button virtual stations. The button layouts recall recorded Memories from the selected Memory Page, starting from left of the Memory Page. For example, 8-button mode associates the first eight Memory locations with the button icons.

Note on Button Station Mode: The on-screen icon reflects the operating mode of the bump button associated with each Memory. Single dot means the icon will act as a momentary. A slot indicates the icon will behave as a toggle. Three dots indicate the icon belongs to a radio group. With some planning, Memories and button icons can be arranged by function into rows or columns, and by toggle or radio group.

Shift keys are still active in Wall Station mode. Shift key + icon will change a toggle to a momentary, a momentary to a toggle, and release (clear) a radio group.

Logo

The Cognito logo will displayed when the Lock icon is touched. A password may be set by touching the keyboard icon and entering a password.

When in Logo mode, the console hardware and touch screen are inactive. However, playlists operating from PLAY>Schedule will be run, and the playback may still be triggered from RS232 contact closures, LUA or Telnet scripts, and Midi Show Control commands.

To unlock the console, touch the 'Lock' icon. If a password has been set, it must be entered. If a password is forgotten after being set, you will need to contact tech support. Passwords are NOT case-sensitive.

Upgrade

The level of the console's current license key (Starter, Pro512, Pro1024, Key512, Key1024) may be confirmed here. This screen allows you to upgrade your Cognito Starter or Pro512, to increase channel count or to add I/O support. Follow the instructions accompanying your upgrade certificate. Cognito must be connected to the Internet to complete the upgrade.

Software

Information is shown on the software version being run by the console. Pressing the Shift key prior to touching the software icon will display a more detailed list.

Update Software: 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.

Copy Logs to USB: Should you require support and you are asked to provide the operational and error log files, this option 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 send the logs to your support contact. Insert the USB drive into a Mac or Windows computer with an Internet connection, and select the appropriate action provided.

Show File

The options shown will change when a USB drive is plugged into the console. Some options are not shown on Cognito PC.

Open Show from USB: Only shown when USB drive is present. Touching this icon opens a list of shows saved on the USB drive. Use the wheels to select a show file, then touch OK to load the show into the console. It is not possible to load only certain elements of a show, such as the patch. The entire show, including patch, cues and memories are loaded.
Save Show to USB: Only shown when USB drive is present. Touching this icon automatically backs up the current show to the USB drive
Create a New Show: Clears the patch and all cue lists and memories. You will be asked for a name for the new show.
Open a Previous Version of this Show: Shows a list of archived show files, internally saved by Cognito. This option allows you to go back to a previous version of the show, even if nothing has been saved to USB.
Open a Different Show File: Shows a list of showfiles, different from the existing show, internally saved by Cognito.

Programming and Playback Tips

Pin Button – Basic Two Scene Preset Operation

Fader-based consoles, intended for dimmer control, often used the concept of preset control, particularly when the fades were operated manually. A look, or cue, would be active on the first bank of faders, while the next cue was set up on the second bank of faders. When the cue was called, the X/Y (or sometimes the A/B) crossfaders would be moved so the look stored in second fader bank would become active onstage, allowing a new cue to be set up on the first fader bank.

When in the SELECT or PLAY task, Cognito can emulate this behavior using the PIN button. The faders will control their associated lights, allowing the operator to quickly set a look onstage. (If Cognito has been configured so that “Sliders Always Run Memories”, the faders will recall their associated Memories.) Once the cue is set, press the Pin button to hold the lights (i.e. pin the look to the stage). The faders may be moved to new positions, in anticipation of the next cue. When the cue is called, press the Pin button again for a dipless crossfade to the new look. Once the fade is complete, yet another cue may be set up.

Press Shift + Pin to adjust the crossfade time between cues.

More than twenty lights (or Memories) may be accessed and controlled by using the arrow icons to reach other fader banks.

For the Pin function to crossfade intensities, “Sliders Always Run Memories” must be set to ‘no’, under SETUP>System Preferences>General. If “Sliders Always Run Memories” is set to ‘yes’, then the Pin function will crossfade between recorded Memories in SELECT as well as PLAY. The crossfade time set for Pin will override any fade times included in the Memories.

Advanced Attribute Control

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

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 light's attribute then 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. The ‘locked’ intensity level is shown on (i) - the Information screen.

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.

The Intensity of Desk-Locked lights are not affected by the Grand Master or Dead Blackout button. Even with the Grand Master at 0%, the lights will remain ‘on’.

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

Tech Lock may only be set using the neato™ iOS app, available from the Apple App store. neato can remotely freeze, or lock, specific attributes of a fixture. For example, applying Tech Lock to the intensity of a fixture will allow refocusing of the light while other work proceeds, without affecting recorded levels.

The console can always override a Tech Lock, and restore direct control, by touching the unlock icon under the Tech Lock tool. A cue may include a Cue Action to release all Tech Locks, which may be a good idea at the top of a performance.

The Information screen shows how many lights are currently Tech Locked, under the “Locks” tab.

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.

Knockout [Intensity/Color/Position/Shape]

Applies to all attributes associated with the selected attribute family. Knockout removes the action of the last cue. The affected attributes of the light will revert to their value in the previous cue. Use Knockout to remove attributes from a cue, and allow the values set in the previous cue to “track” through. The current cue must be updated to make the changes permanent.

Knockout Light

Only available from CONTROL>Intensity>Advanced. Removes any changes to all attributes of the light in the present cue. Allows all attribute values to track through from the previous cue. The current cue must be updated to make the changes permanent.

Shift Button Short Cuts and Extensions

The Shift buttons may be used to select, or deselect, 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.

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

Shift **+ Button**	Action/Function
Pin	Allows adjustment of Pin crossfade time
Go	Asserts cue on one second fade time
Pause	Releases the Playlist assigned to the selected Playback
Help	Closes the Hints overlay (not the Tutorials)
Record	In PLAY, updates current Cue or Memory (instead of recording to next available location)
Bump (Momentary)	Forces the button action to latch ON (toggle)
Bump (Toggle)	Forces the button action to bump ON (momentary)
Bump (Radio)	Forces up an active radio button (clears radio group)
Attribute ABCD buttons	In CONTROL, when the ABCD button is pressed once, sets associated attribute to the default value. If applicable, when pressed a second time, attribute is set to its low limit; when pressed a third time, attribute is set to its high limit.

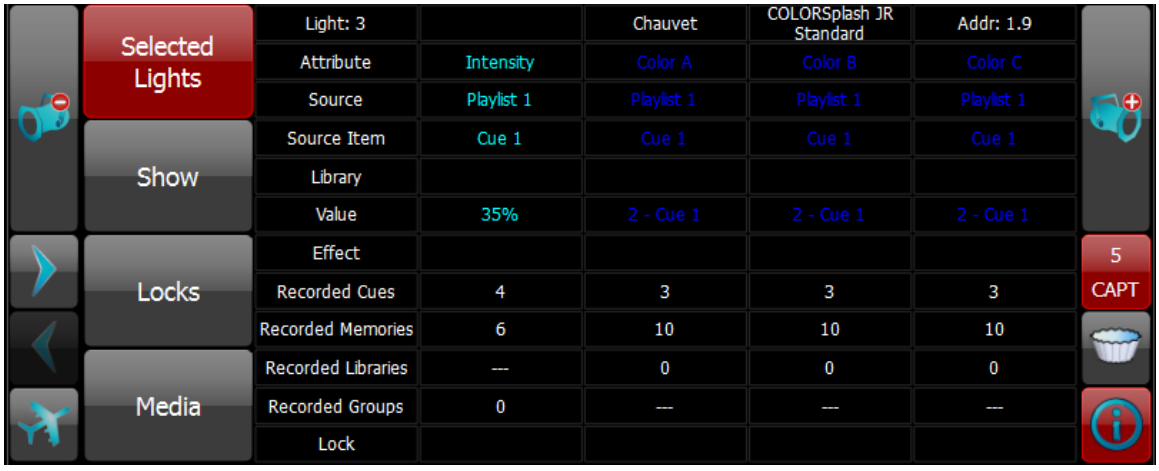
Wheel	In CONTROL>Wheels, allows fine control of current associated attribute, such as pan or tilt, or splitting of color/gobo slots
Wheel	In RECORD or PLAY>Edit, allows 0.1s timing changes when editing fade times
Wheel	In PLAY>L Playback (or R Playback), jumps to top or bottom of current Playlist
Color/Position/Shape Shortcut buttons	In CONTROL>Wheels, move backwards through available Wheel Bank tasks
Shift	Pushing both Shift buttons returns to the previous screen

Shift **+ Icon**	Action/Function
Left/Right Arrow	In SELECT, changes Arrow icons to Par Can icon. Par Can icon moves the selection indicator to the next higher or lower light.
Playlist UP/DOWN Arrow	In PLAY, jumps the screen to the top or bottom of the Playlist
Memory	In PLAY>Edit, copies the Memory when dragged to new location (instead of moving)
Cue	In PLAY>Edit, copies the Cue when dragged to a new location (instead of moving)

i – the Information Screen, or, what do all those colors mean?

If no lights are selected in the Fixture Grid, touching the information icon changes the light's percentage intensity (normally shown in the lower left hand corner of each cell) to the light's DMX start address. If the light is unpatched, the cell will gray out, and an exclamation point is shown instead of a start address.

If one or more lights are selected, touching the information icon will bring up the screen below, with comprehensive information on each light selected, as well as more global information on shows and tech or desk-locked lights.



The tabs on the left include Selected Lights (shown above), Show (number of recorded Playlists, Cues, Memory Pages and Memories), Locks (number of Tech and Desk Locked lights) and Media (internally saved shows and backups).

The CAPT icon shows how many lights have been selected. If more than one light is selected, the +/- Par Can icons move between the individual lights. The left/right arrows (where the magnifying icons normally are) page through a light's attributes.

In the Selected Lights screen, the light is identified across the top line, starting with the light's Fixture number, followed by any user-set label, its manufacturer, model number and DMX start address.

Below the Fixture Number, the following items are shown.

Attribute: Shows the attributes supported by the light, in the order of how they are patched within the light's DMX footprint.
Source: Shows the name of the specific Playlist or Memory source of the existing attribute level.
Source Item: Shows the Cue or Memory number or other source of the current attribute level. If the light's attribute is captured, the source is CONTROL. If the value has tracked from a previous cue, the name of that cue is shown.
Library: Shows the name of the Library used to set the attribute level. If a color is from a swatch book, the swatch name and source are shown.
Value: Shows the current value of the attribute.
Effect: Shows the name of any current effect controlling the light
Recorded Cues: Shows the number of cues the light is used in. Can be used to identify unused lights.
Recorded Memories: Shows the number of memories the light is used in. Can be used to identify unused lights.
Recorded Libraries: Shows how many libraries include this light.
Recorded Groups: Shows how many groups include this light.
Locks: Shows if the light is affected by a Desk Lock or Tech Lock.

The color used to display an attribute's value also provides information about changes made to that attribute. The colors related to Intensity changes are also shown on each light's Intensity Indicator ring in Fixture Grid.

Color	Attribute Condition	Notes
Gray	Default value or level	
Yellow	Level or value controlled by a Memory	
Red	Captured in SELECT	
Magenta	Value or level unchanged in last Cue	All attributes
Cyan	Level increased in last Cue	Intensity only
Green	Level decreased in last Cue	Intensity only
Dark Blue	Value or level changed in last Cue	Non-Intensity attributes only

Automated or Unattended Operation

The following options are only available for the Pro512 and the Pro1024 models.

MIDI Triggering

Cognito can receive and act upon standard MIDI Show Control (MSC) strings sent by show control devices, including music consoles. Cognito can also send MIDI strings whenever a cue is activated, as scripted by Cue Actions. MIDI communications use the MIDI standard 5-pin DIN connector. Midi Show Control (MSC) uses the following format:

F0 7F Device_ID 02 Command Format Command Data F7

All numbers are octet, hexadecimal values, sometimes denoted by the “H” symbol.

F0 7F: indicates start of System Exclusive (sysex) real-time command
Device_ID: specified which connected device should execute the command. Cognito uses 01 as its Device_ID
02: indicates ‘sentence’ is MIDI Show Control (MSC) command
Command Format: typically 01 (for “Lighting – General”)
Command: specifies the action to be taken – see below for supported commands
Data: specifies, if desired, the Cue Number to be used by the command and, optionally, the Playlist containing the Cue. Data string cannot exceed 24 bytes in length. See below for examples.
F7: indicates end of MSC ‘sentence’. Required.

Commands and Data Format

Commands are stated by octet, hexadecimal numbers and may be followed by a data string with specific Cue Number and Playlist information. If no Playlist is specified, Cognito uses the first Playlist. If no Cue Number is specified, the next cue in numeric sequence or the current cue (depending on the command) will be used. Data format is described below.

01 [GO]

Command	Data
01	Cue Number <optional> 00 <delimiter> Playlist <optional>

Starts the transition or fade to a cue. Equivalent to pressing the GO button. Transition time is determined by the fade time recorded in the cue.

If a Cue Number is specified in the data string, that cue will be triggered. If no Cue Number is specified, the next cue in numerical sequence will be triggered. Transitions "run" until complete. To define or override the transition time, use the TIMED_GO command instead (see below).

Note: GO Cue 0 (zero) is equivalent to Release Playlist.

02 [STOP]

Command	Data
02	Cue Number <optional> 00 <delimiter> Playlist <optional>

Halts all currently running transitions in the current Playlist. Equivalent to pressing the PAUSE button. A cue number may be specified, in which case only the specified cue will be halted.

03 [RESUME]

Command	Data
03	Cue Number <optional> 00 <delimiter> Playlist <optional>

Causes any transitions halted due to a STOP command to continue running. Equivalent to pressing the GO button after pressing PAUSE. A cue number may be specified, in which case only the specified cue will be resumed.

04 [TIMED_GO]

Command	Data
04	hr mn sc fr ff Cue Number <optional> 00 <delimiter> Playlist <optional>

Starts a timed transition or fade to a cue using a transition time sent in the data string. The use of this command is not recommended, as all cues in Cognito have fade times.

Transition time stated using Standard Time Specification in “hr mn sc fr ff” format (hour minute second frame fractional frame). Translating time, frames and fractional frame counts to the Standard Time Specification is beyond the scope of this document.

If a Cue Number is specified in the data, that cue is triggered. If no Cue Number is specified, the next cue in numerical sequence is triggered. Transitions "run" until complete.

0A [RESET]
Is equivalent to releasing all Playlists. No data string should be sent with a reset command.

Data Format
Cue numbers and Playlist numbers are stated using the hexadecimal equivalents (30H through 39H) of the ASCII values for numbers 0-9 (zero through nine).

MSC allows the use of point cues, using the hexadecimal value (2EH) for the ASCII decimal point character used to mark subsections. However, Cognito does not use point cues, regardless of how the cue is labelled. Cue numbers are always whole number (indexed from 1 at the top of the Playlist).

Selection of a specific Playlist is optional. A Cue Number must be used when a Playlist is specified. Cognito uses a 'best-match' method to determine the Playlist name based on the label. For example, a Playlist named "01-Main" would be referenced by MSC as Playlist 1 or 31H.

The hex code “00” is used to delimit between Cue Numbers and Playlist Numbers, and is only required if a Playlist is specified.

Examples

<On Device 1, GO next Cue in current Playlist>
F0 F7 01 02 01 01 F7

F0 7F	01	02	01	01				F7
(SysEx header)	(Cognito device ID)	MSC	(Lighting command)	GO	(no data)			End

<On Device 1, GO Cue 45 in Playlist 12>
F0 7F 01 02 01 01 34 35 00 31 32 F7

F0 7F	01	02	01	01	34 35	00	31 32	F7
(SysEx header)	(Cognito device ID)	MSC	(Lighting command)	GO	Cue 45	Delimiter	Playlist 12	End

<On Device 1, STOP current cue>
F0 7F 01 02 01 02 F7

F0 7F	01	02	01	01				F7
(SysEx header)	(Cognito device ID)	MSC	(Lighting command)	STOP	(no data)			End

Serial Control

Select functions of Cognito may be triggered remotely using an RS232 serial connection, using the command set detailed below. The following pinout of the RS232 port is used.

Pin #	Function
2	Receive Data (Rx)
3	Transmit Data (Tx)
5	Common

The other pins are not used. If controlling Cognito from a computer via RS232, a null modem serial cable is needed, with Pins 2 and 3 reversed at one end.

Connection speed and attributes are: 9600 baud, no parity, 8-Bit, 1 stop bit, no flow control (9600, N, 8, 1)

All commands, including item names included in the command string, are case sensitive. A carriage return <CR> must be sent to execute the command.

Telnet Control

Select functions of Cognito can be triggered remotely using Telnet over an Ethernet connection, using the command set detailed below. The computer and Cognito must have an IP address on the same subnet. If an Ethernet switch with a DHCP server is used to connect the PC and Cognito, ensure the Cognito is configured under the Setup>Network to use Advance (see above). Otherwise, a static IP and subnet scheme is recommended.

Open a Telnet connection from the computer to the Cognito's IP address on port 11123. For example, if Cognito's IP is 192.168.1.116, the following would be sent from the computer's command window:

telnet 192.168.1.116 11123

The use of a Telnet program with scripting capabilities is strongly recommended. All commands, including item names included in the command string, are case sensitive. A carriage return <CR> must be sent to execute the command.

Supported Scripting Commands

noecho
noprompt
API.AttributeFade(fixture[,attribute_name],value [,time])
API.AttributeFadeCapture(fixture[,attribute_name],value [,time])
API.Bump('page_name' | page_index , memory_number, is_down)
API.ButtonPress('page','name' or order)
API.MemoryFade('page',memorynumber,value[,seconds])
API.MemoryFadeRate('page',memorynumber,value[,seconds full scale])
API.MemoryFadeStop('page',memorynumber)
API.MemoryGetValue('page',memorynumber)
API.MidiNoteOff(channel_1_to_16,key_1_to_128[,velocity_0_to127])
API.MidiNoteOn(channel_1_to_16,key_1_to_128[,velocity_0_to127])
API.MidiWrite(midi_byte[,midi_byte ...])
API.PlayListAssert('playlist')
API.PlayListGo('playlist')
API.PlayListGotoAndExecuteFollows('playlist', cue)
API.PlayListGotoAndHalt('playlist', cue)
API.PlayListHalt('playlist')
API.PlayListHaltBack('playlist')
API.PlayListRelease('playlist'[,release_time])
API.ReleaseAll()
API.SerialClose()
API.SerialOpen(['script'])
API.SerialRead()
API.SerialWrite('output string' or binary_byte or table [,...])
API.SetLevel('fixture_string', 'level_string' [,fade_time_seconds])
API.SystemRestart([<maintain state>true|false])
API.SystemShutdown()
API.WriteLogMessage('message', 'category', severity_1_to_10)

All commands, including item names included in the command string, are case sensitive. A carriage return <CR> must be sent to execute the command.

Examples

<Execute cue 4, on 'Playlist 1', using any programmed fade, wait, and follow times.>

API.PlayListGotoAndExecuteFollows('Playlist 1', 4) <CR>

<Release 'Playlist 1'.>

API.PlayListRelease('Playlist 1') <CR>

In addition to the above command set, Cognito supports much more advanced scripting using its built-in Lua interpreter. For more information on the Lua programming language, see www.lua.org.

Contact Closure Control

The RS232 serial connector also offers a simple method of running Cues. A momentary dry contact closure between Common and another pin will trigger the functions below.

Pin #	Function
1	Common
2	Advance to next cue in Playlist currently assigned to Left Playback
3	Pause Left Playback
4	Toggles DBO (Dead Black Out)

DMX IN Control

The DMX input port can receive DMX512 levels and use that information to trigger Memories recorded in the first Memory Page. DMX channel 1 controls Memory 21, DMX Channel 2 controls Memory 22, and so on. The mapping allows the first 20 Memories to be recalled from the console, leaving the external DMX source to act as a 'fader wing'. Up to 380 Memories may be recalled using the DMX input.

Show File Management

Archiving/Restoring a Show

Cognito saves all changes immediately to internal storage. Shows may also be backed up and restored from any portable USB drive.

Press the Power button once. Touch the Setup icon, then the Show File icon. Choose from "Create a New Show", "Open a Show File" or "Save a Copy of this Show". The last option saves the show to Cognito's internal storage.

To backup to or restore from USB, 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. With a USB drive present, the following additional options will be available.

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.

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 saves shows to internal storage on an on-going basis and sometimes rolling back to a previous version is desirable. 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 definitions. 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.

Updating Software

Using any computer, unzip the downloaded software update file to the root directory of a portable USB drive. A file ending in .CogUpd will now be present on the 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 – typically the one with the most recent date will be shown at the top of the list. To complete the process, touch OK.

You will be asked to confirm the action. During the update process, which will take several minutes, the console will reboot.

Obtaining and Applying Fixture Library Updates

The Cognito's fixture library includes over 1700 lights. However, with new lighting fixtures being introduced all the time, updating the library may occasionally be necessary.

In the event your fixture is not in the existing Fixture Library, first ensure the latest fixture library is installed on your Cognito by visiting pathwayconnect.com/downloads/cognito. The latest library will be posted here and marked by date. To check the date of the library installed on your console, press the Power Button once, choose Setup, then Software. The Fixture Library date will be shown at the bottom of the list.

To request a new fixture definition, please send a pdf of the fixture's manual, including all DMX assignment charts, to fixtures@pathwayconnect.com. We will send you a new library in two business days or less. Please keep in mind that for all fixtures without Position or Shape attributes, there should be a generic profile that will operate the light correctly. Many lights offer operating modes that duplicate functions more easily accessed and programmed using Cognito's interface.

To apply the fixture library update, use any computer to unzip the fixture update file to the root directory of 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 the 'Install Fixture Definitions' icon 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 will reboot to load the new fixture definitions. If you are using CognitoPC, you will need to restart the program manually.

Warranty

Limited Warranty

Pathway Connectivity warrants to the original purchaser or retail customer that, for a period of three 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.

September 25 2014 Cognito Release Notes

This release of software includes some major enhancements to Cognito, particularly in the PLAY task.

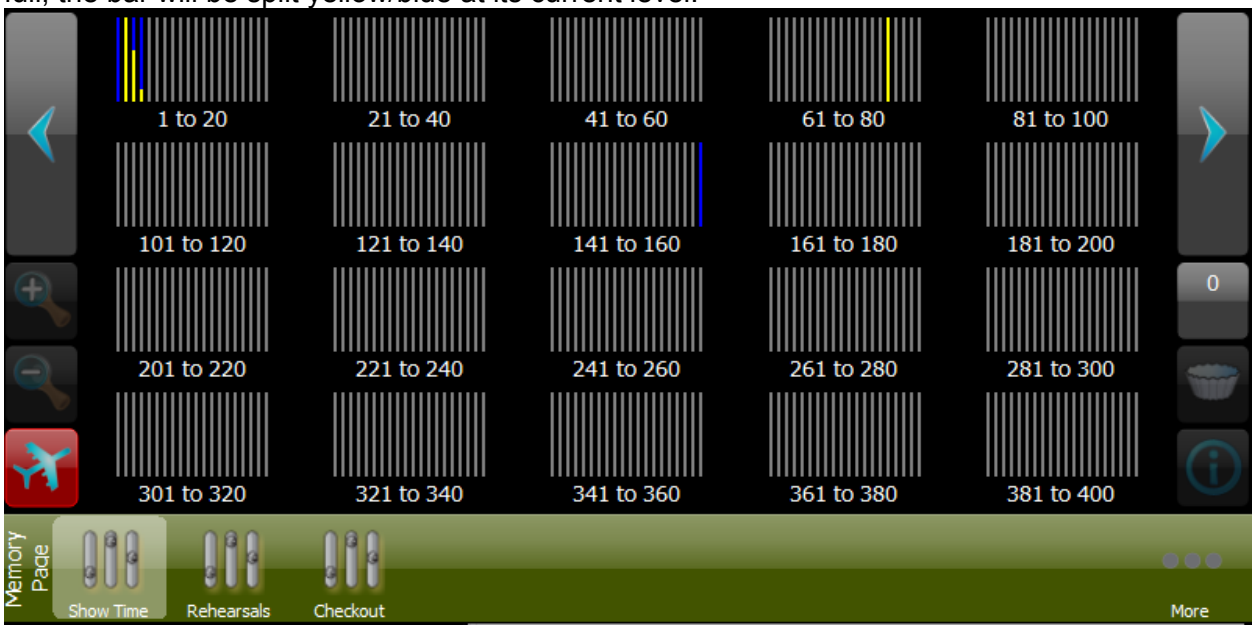
Here is a list of new features and improvements. More detailed descriptions appear below.

- Airplane view in PLAY MEMORIES
- Show files can be named
- Drag and Drop Improvements
- Control Wheels shows Light mimic
- Double Tap to set Intensity
- Flip
- Fanning
- Indented Follow Cues
- PLAY Task Overhaul
    - Transport
    - Options
    - Timecode
    - Chases
        - Rate
        - Chase
- Native HSI DMX Mapping

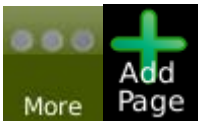
On the last page you will find a bullet list of other smaller changes and fixes.

Airplane view in PLAY MEMORIES

Similar to how pressing the Airplane in SELECT shows you banks of Lights, pressing Airplane in PLAY MEMORIES shows you all 20 banks of memories on the current Memory Page and indication as to which are recorded and which are active. Blue bars are recorded memories and yellow bars are active (up) memories. If a memory is not at full, the bar will be split yellow/blue at its current level.

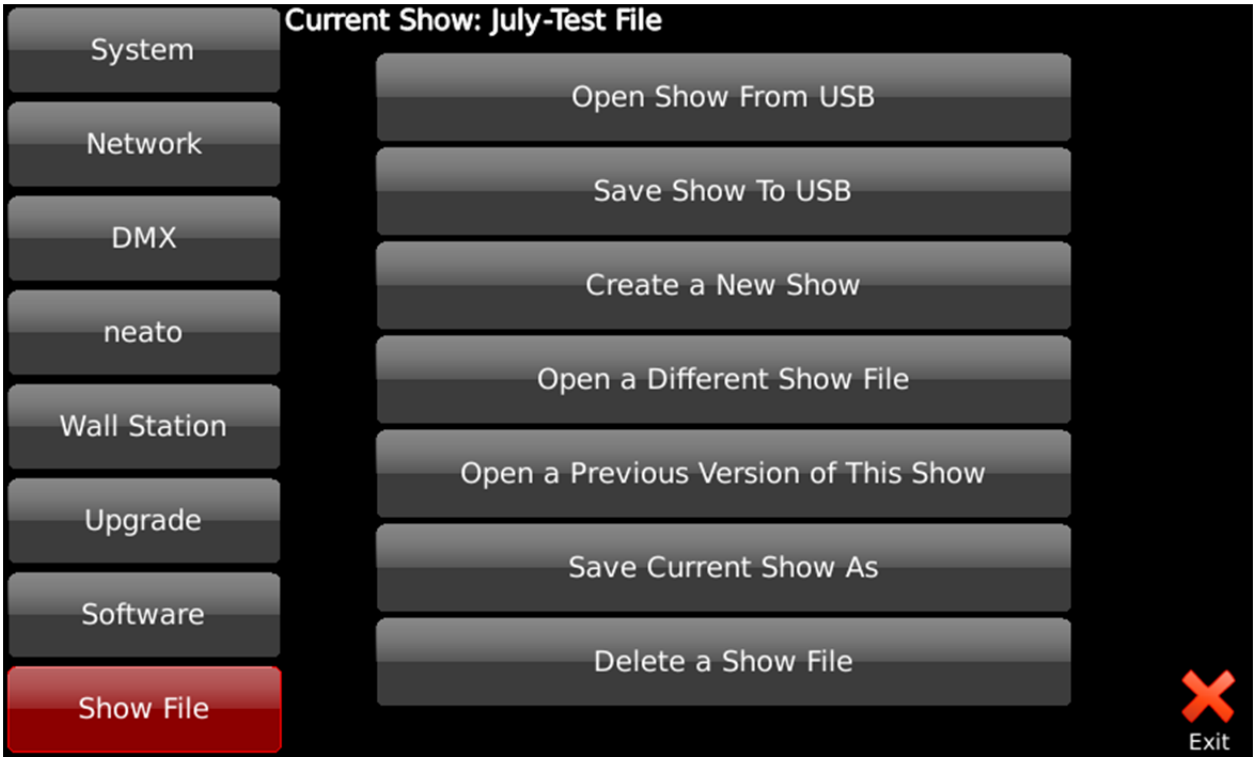


Pressing any bank of 20 will jump you to that bank. Active memories on the old bank will not be released. You may need to “level-match” the sliders to current levels when you switch banks. As always from PLAY MEMORIES, you can be in any bank and press the large left/right arrows. Remember, each Memory Page has 400 possible Memories, but you are not limited to the number of Memory Pages per show file. Add more pages by pressing MORE… then ADD PAGE.

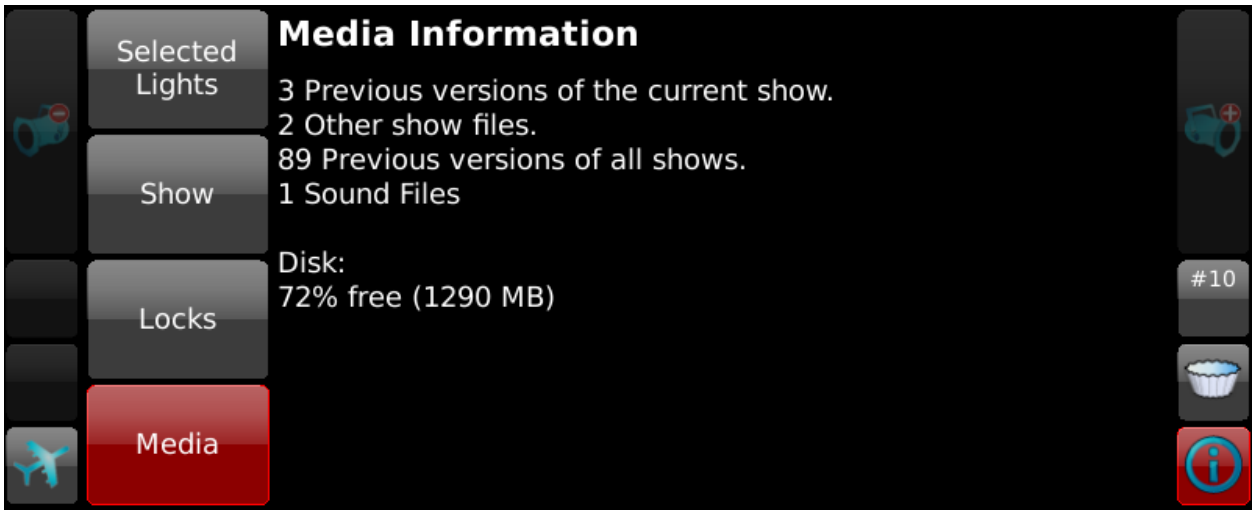


Show files can be named

Let's face it, show file management on Cognito to date has been a real bear. It was like consoles of old where saving only happened on removable media like floppy disks - one show file per disk - all shows using the same name. Finally we've given you the ability to save with a name and keep multiple show files on the internal drive.



Keep in mind, **Open a Previous Version of This Show** works even after reverting back to an earlier show file, so you really have quite a lot of history on the console. To see what's on the internal memory, select a Light (any light) and press (i) then select Media from the left hand side.



Drag and Drop Improvements

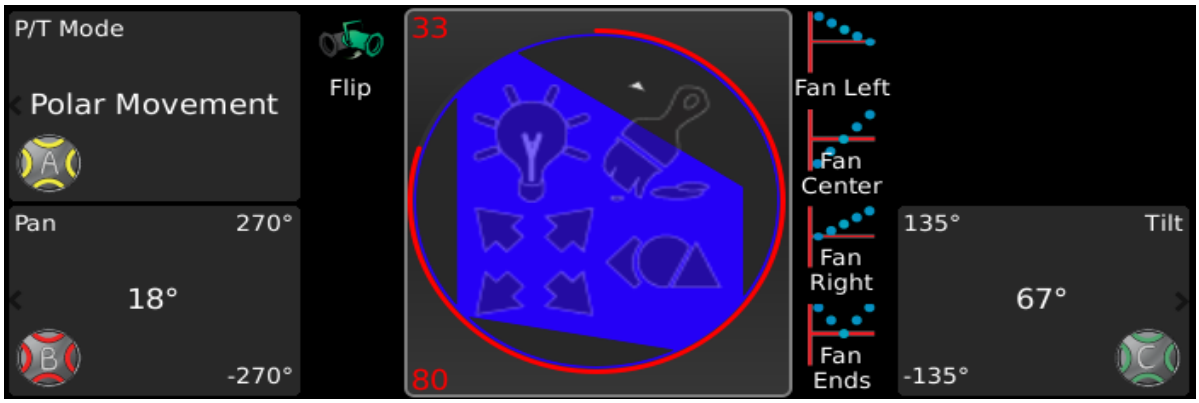
Earlier versions of Cognito only allowed you to move Memories in Mixed mode. Also dragging Memories to Cues in Mixed mode always did a copy. Likewise, moving cues within a Playlist had unpredictable results because we didn't 'Move Cue State'.

You can now move anything anywhere (i.e. in Mixed mode, move a Memory to a new slider, Memory to Cue, Cue to Memory, Cue to Cue, Cue to Cue on another Playlist) and when we move, we always move State.

In PLAY MEMORIES, to move a Memory you must press EDIT (this is new). If you want to copy either a cue or a memory, hold down SHIFT before you drag.

Control Wheels shows Light mimic

When you select a Light and go to CONTROL WHEELS, there have always been four (or less) 'bubbles' to show you what the Yellow, Red, Green and Blue wheels do. We've changed the ABCD indicator icons to look more like the wheels and now draw a mimic of what the Light is doing between the bubbles.



This mimic is what you're used to seeing in the SELECT task; it shows the Intensity as a number and graphically as ring, it shows what attribute families have recently changes with the four ghost icons, it shows the color of the Light, where the Light is pointed and any shutter cuts that may be set. If you have multiple Lights selected, the mimic shows the state of the first Light in the selection set. There are also new tools that appear to the left and right of the mimic that are discussed below.

Double Tap to set Intensity

From SELECT, double tap on the Light to set its intensity to full. If the Light is already at full, double tap will take it out. You can select a range of lights then double tap to set all their levels. This also works if you double tap the Light mimic between the attribute bubbles in CONTROL WHEELS for each of Intensity, Color, Position and Shape. This is handy because you can, for example, stay in CONTROL POSITION using the NEXT and PREV buttons to bounce through your lights, turning them on and positioning them one at a time without having to go back to CONTROL INTENSITY.

Flip

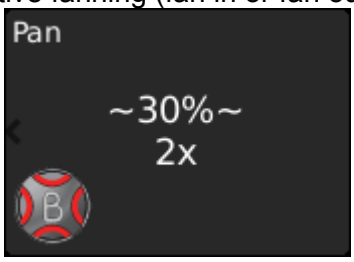
Moving head lights can reach any point on stage with two (and sometimes more) combinations of Pan and Tilt. If your lights don't move while they're one, the automatic Move In Black feature of Cognito will set up your lights for you and you many never find the need for this new feature. But, sometimes when you write cues and the lights do move from Point A to Point B, again, there will be two ways of getting there. In almost all cases, there is a right way and a wrong way (a shorter way and a "Why did you go across the wall?" way). When that happens, be in the second cue, select the offending Light, go to CONTROL POSITION WHEELS and press FLIP, then SHIFT REC to update the cue.

There are artistic reasons for using flip too. Say you selected a range of Lights and focused them to cover the back wall of the stage and you start the color wheels rolling. They will all roll from (say) left to right. If you select the first half of the lights and FLIP them, the color roll will sweep to the insides. This looks much cooler.

Fanning

When you have a large rig of lights you often want to see them work with each other to create large, bold looks. Selecting lights individually and setting attributes manually, one by one, can be a tedious task. The new tools available in CONTROL WHEELS, available for all attribute families, makes setting attributes en masse a breeze.

This picture shows what would happen if you selected FAN CENTER and rolled the PAN attribute. The four Fan buttons are radio buttons, i.e., only one or none can be down at any one time. Once you press one, the next time you use a Wheel, the attribute values will not be shown in their regular units, but rather a % is shown. You can roll the wheel left or right for negative or positive fanning (fan in or fan out).



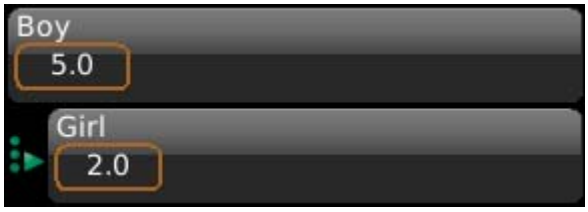
If you hold down the SHIFT button when rolling the wheel, you will change the “X” or number of times the fan is repeated. By default, the entire selection set if fanned from one end to the other. If you SHIFT ROLL the wheel to 2X, you will get two fans, one from one end to the middle of the selection and a second fan from the middle to the end of the selection.

Remember that your selection order is maintained during fanning. Selecting Lights 1 through 10 is very different than selecting 1,10,2,9,3,8,4,7,5,6. Changing up the selection order can vastly increase your productivity and creativity with the same set of lights. (As an aside, the selection order is also maintained when you record Groups. You can have two groups that select the first 10 lights that produce vastly different results when fanning or applying effects.)

Any attribute can be fanned. Try “Fan Ends” with the Iris parameter to go from small to large to small across a set of lights. Or “Fan Right” for the Gobo Rotation Speed to go from Fast to Slow.

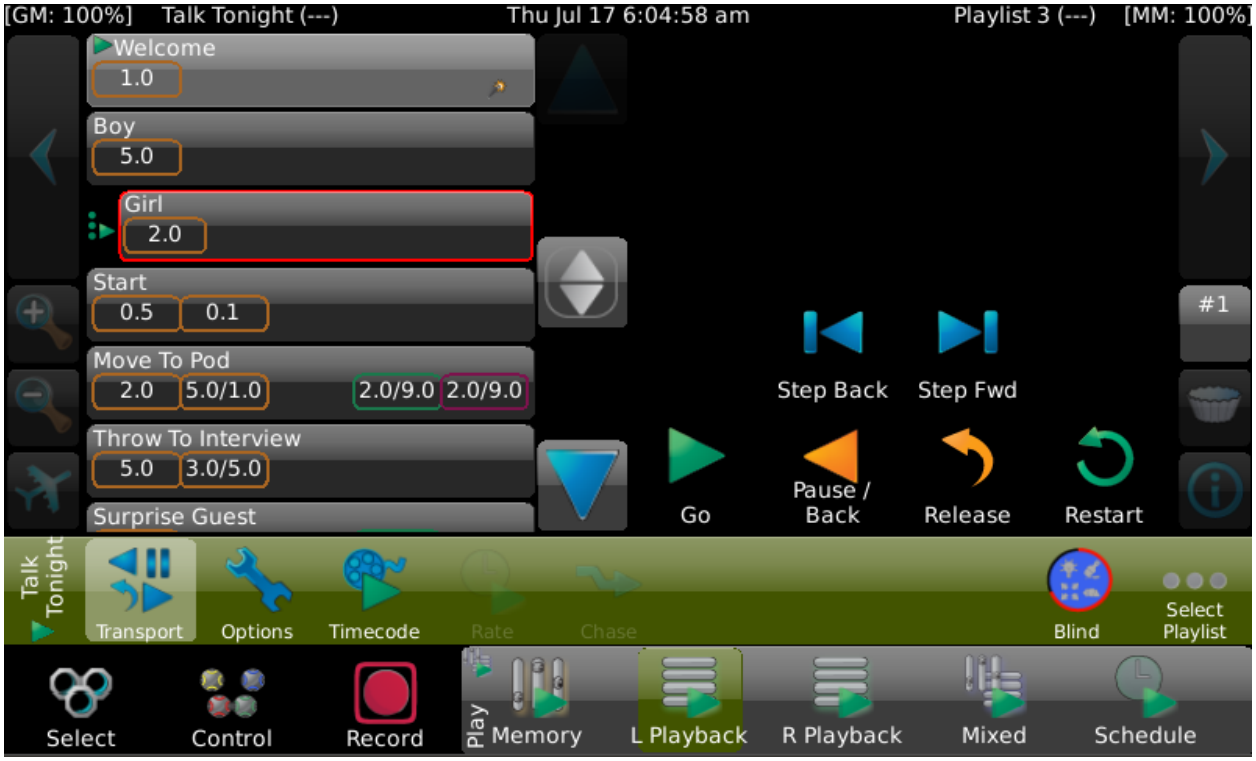
Indented Follow Cues

One of the cue properties is to make the next cue Follow On from this one (either “In Time” or “Follow After Fade”). If ‘Boy’ Follows On to ‘Girl’, you will now see ‘Girl’ indented with the Follow icon to its left. That indicates to you that stage management will call the ‘Boy’ cue, but you don’t press GO for the ‘Girl’ cue; it will happen on its own.



PLAY Task Overhaul

Earlier versions of Cognito showed you up to ten different Playlists in the green L.Playback toolbar (above the main task bar). To change Playlists on the Playback, you’d just select a new Playlist from the toolbar. We’ve changed this now to give you five different tools to modify how your Playlist acts.



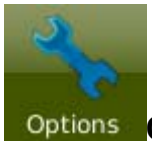
To change Playlists on a Playback you must now press the “Select Playlist” button on the right of the toolbar. There you will be given the grid of all the Playlists in the show files and you just touch one to select it. Once selected, you will see its name on the very left hand side of the toolbar. (In the case above, it’s “Talk Tonight”.) The small green arrow below the name indicates that it is a regular Playlist and you go from cue to cue by

pressing the Go button. If it were a chase (see Options below), the Go icon would be replaced with the appropriate chase icon:

Transport

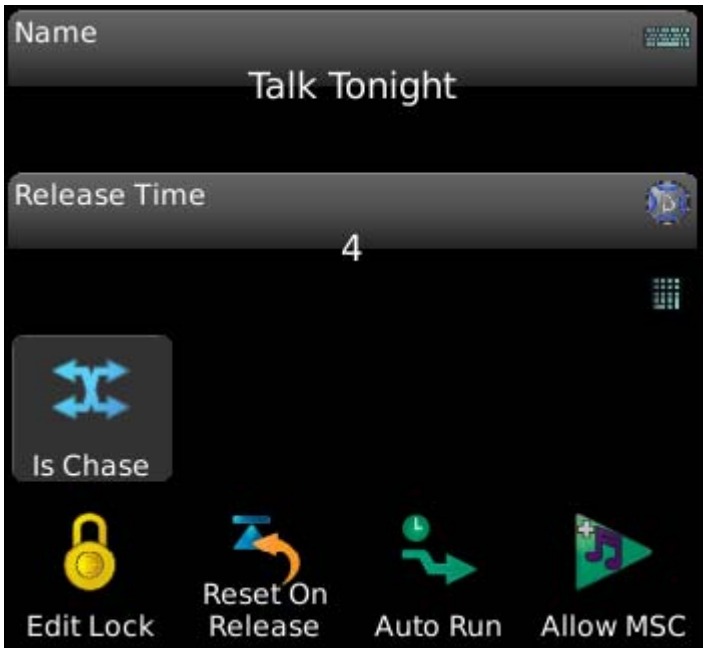
The default tool for Playbacks is Transport. In the image above, we are looking at the Left Playback, so the cues appear on the left-hand-side where the Transport controls appear on the right.

These now appear where you used to always find the cue properties such as Fade Time and Cue Actions. To edit a cue's properties, first select the cue (as Girl is selected above) then press the Pencil or EDIT button on the console. You will then see the Cue Properties that are familiar to you. While EDIT is not active, the Transport controls available to you are Go, Pause/Back, Release, Restart, Step Forward and Step Back. As always, the console's hard Go and Pause buttons still work and Shift Pause releases the Playback.



Options

Press the Options tool to change general properties of the selected Playlist.



Name - Touch the name bubble to change the name of your Playlist.
Release Time - Use the Blue Wheel or touch to type in a new release time. Shift Wheel changes 10th of a second. This is the time the lights take to fade back to their other levels when you release the playlist.
Is Chase - This is a huge new feature in this release of Cognito. Prior to Chases, if you wanted looping effects you would have to write a series of cues, then one by one change the Follow Properties and then manually link the last cue to the first. This would give you a Forward Chase. None of this is necessary now. See the Chase tool below for further details. “Is Chase” is a toggle. When it’s down, all the Cue times and Time Code stamps are hidden in the cue bubbles because the timing is taken over by the Chase tool.
Edit Lock - This too is a toggle. When active, you cannot edit the properties, delete or move cues. Likewise you cannot change the other options on this screen. Note that you will be able to change Chase and Rate properties because these are often altered when busking a show. When a Playback is running a Playlist that is locked for editing, you will see the Lock icon in the status bar: [GM: 100%] Talk Tonight (Welcome) After opening night, use Edit Lock the Playlist to prevent any accidental changes.
Reset On Release - When this toggle is active, each time you release the Playlist, the cue pointer is set to the first cue. This is handy when you want chases to always begin at step one, but it may not be desirable when rehearsing a play and you’re in the middle of Act II and they call for a break.
Auto Run - When selected, this Playlist will Go when Cognito boots. If the Playlist is marked as a chase, the chase will start running, otherwise, the first cue (and any follow cues after that) will run. This is very handy in architectural situations where you way want to ensure that lights are always on in the space and you may also have Cue Actions associated with the first cue that set up other aspects of your show.
Allow MSC - When you turn on MIDI Show Control, this Playlist will both listen to and send MSC from the back of the console. If you are sharing a MIDI Channel with other departments you may not want to flood them with MSC Go commands while you program your show. Likewise, if they’re testing things, turning off MSC prevents their GO commands from jumping you around your list inadvertently. This is handier than

unplugging and re-plugging your cables. If you don't use MIDI, leaving this option on does not hurt anything.

Timecode

This is a very big new feature for Cognito that allows Playlists to run automatically, synchronized to a Timecode clock, either an internal one or an external source like a media player.

Timecode Source - Any Playlist can be synchronized to one of four clocks. Via the MIDI In port on the back of the desk you can set the Playlist to listen for External Midi Time Code or set the Playlist to use one of the three Internal clocks.
C**lock** - This bubble shows you the current timecode for the selected source. Touch the bubble to manually set a specific time to start running when you press Start.

You can quickly zero any of the fields (HH, MM, SS or FF) by pressing the appropriate ABC or D button on the console.
Learn TC - Press this toggle button if you want cues to grab the current time and stamp the cue when you press the Go button. Even after you've "Learned Timing" on your show, you can select individual cues, press EDIT and tweak their time, perhaps just by a

frame or two, until you get the timing perfect. It's a good idea to turn Learn TC off when you're ready to run your show automatically from timecode.
Start - Press this button to start the timecode running from the current time shown above. There is a Action (Cue Action or Schedule Action) that can do this function too so you can automate it with PLAY SCHEDULE or from another cue. This option is not shown when the Source is External.
Pause - Press this button to pause the selected internal timecode clock. Note, if other Playlists use this Internal Source, they too will be paused. There is a Action (Cue Action or Schedule Action) that can pause an internal clock so you can automate it with PLAY SCHEDULE or from another cue. This option is not shown when the Source is External.
Reset - Press this button to reset the selected internal timecode clock to the time specified to the right (in the button with the favorite's star). You do not need to Pause a running clock to reset it. Note, if other Playlists use this Internal Source, they too will note the new time. There is a Action (Cue Action or Schedule Action) that can reset the clock to a specific time so you can automate it with PLAY SCHEDULE or from another cue. This option is not shown when the Source is External.
HH:MM:SS.FF - This button allows you to specify what time the clock resets to when you press the Reset button. This option is not shown when the Source is External.

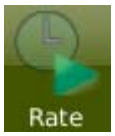
Note that the Timecode tool is disabled when IS CHASE is set in OPTIONS.

When a Playback is running a Playlist that is using Timecode, the status bar will indicate such by displaying the Timecode icon:

Chases

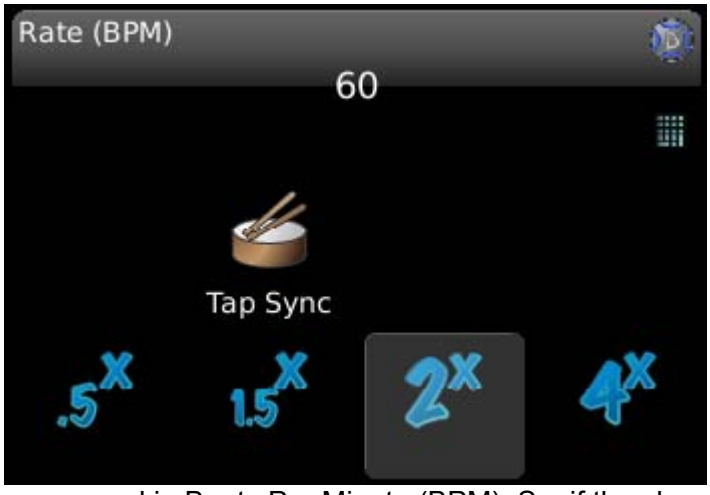
Rather than tying a series of cues together with follows and links, select Options then press the IS CHASE property. When a Playlist is a chase all the Cue times are hidden (and ignored) because each cue becomes a step and steps advance in beat time measured in BPM. Also note in the Play toolbar (the green bar above the Select/Control/Record/Play Task Bar) that Timecode becomes inactive and the RATE and CHASE tools become active:

The left hand side of the Play toolbar will no longer have the Go icon but rather show what type of chase it is (Forward, Reverse, Bounce or Random).



Rate

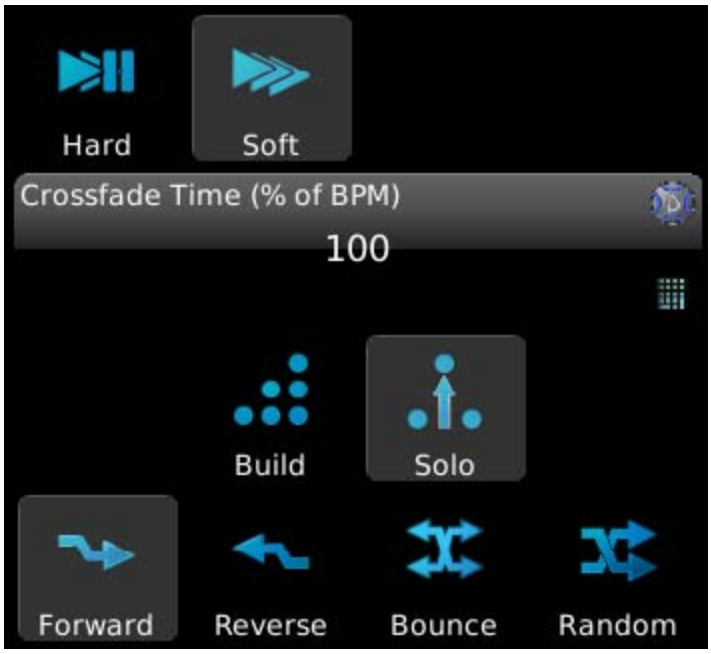
As mentioned above, cue timing is irrelevant when a Playlist is a chase. Each cue is now a step in the chase and a beat clock will advance from one step to the next automatically without the need for setting the Follow properties in each cue.



Rate - The rate is measured in Beats Per Minute (BPM). So, if the chase is running at 60 BPM, each second will advance to a new step. Roll the blue D wheel to adjust the rate in real time or touch the bubble and type in a specific rate.
Tap Sync - If you're synchronizing to music and you can hear the beat, tap this button in time to adjust the rate. The rate will be updated after three taps and will show in the Rate bubble. Sometimes it's useful to tap in time to the music for a bit, then watch the stage with your hand on the blue wheel and adjust the time that way to get it just right.
Multipliers - The bottom row of four buttons multiplies the Rate. This is useful when busking a show to give a different feel to an underlying look by doubling or halving the base time. When you touch these buttons, the Rate value shown does not change. Only one of these can be down at a time and to go back to the prescribed rate, press any active button to deactivate the multipliers.

Chase

This screen can adjust (in real time) how the chase is played back and may be a good screen to stay on when busking a show. You can build the chase steps in any order but alter how they hit the stage using this screen.



Direction - The bottom four buttons change the direction of the chase, either Forward (top down), Reverse (bottom up), Bounce (down then up then down again) or Random. Only one of these options can be selected at any one time. Remember, there is no need to assign Links to any cues. The Direction will take care of figuring out which step comes next in the sequence.
Build/Solo - Chases run in either one of these modes. In regular Playlists, if you set the level of (say) Light #1 in Cue 1 and don't do anything else when you record Cue 2, Light #1 will still be on. This "Build" (or "Tracking") behaviour is how all Playlists work when not running as a chase. If you change to the "Solo" option, if an intensity is not explicitly recorded in a cue, the light will return to its default levels. (That may be 0% if nothing else is driving it.)
Crossfade Time - This value may be typed in or you can use the Blue wheel to adjust the value between 0% and 100%. If your beat time is 60 and Crossfade Time is 100%, each step will take one second to fade to its recorded values before directly moving to the next step. If you change the Crossfade Time to 0%, then each step will be on stage for one second before snapping to the next step in zero time. If you set the Crossfade Time to 50%, it will take 0.5s to fade from one step to the next, hold that level for 0.5s then move on to the next.
Hard/Soft - These are shortcut keys to set Crossfade Time to 0% and 100% respectively.

Having the four directions, the crossfade options and the Build/Solo parameters really makes a single set of cues very versatile. Remember, as long as the Playlist is not Locked for Editing, you can press the EDIT (pencil) button and move the order of the cues to mix it up even more.

Native HSI DMX Mapping

Although Cognito's Natural Language Control has always allowed you to mix colors in multiple color spaces (CMY, RGB, HSV), it has only been able to drive either RGB or CMY lights on the DMX wire. Some manufacturers have defined fixture profiles that expect to see Hue and Saturation in DMX slots. When running these lights on regular DMX consoles, you can run into some pretty peculiar color fades. For example, say your first cue is red defined by a hue of 2%, and your next cue is a pink defined with a DMX value of 80%, when you fade from cue to cue, you will see almost every color in the rainbow before pink. This is normally quite undesirable. Cognito can now drive these native HSI lights, but fade from cue to cue in the RGB color space which produces much more predictable transitions.

List of other changes and fixes

- The green indicator light beside DMX out ports now shows when DMX is active. In SETUP|DMX you can turn on or off each DMX port.
- The (i) Info screen was not showing base value recorded in cues when an attribute had an effect on it. The value in parentheses shows the recorded level whereas VALUE shows the output level.
- Moving a memory from one location to another left a phantom memory label in Wall Station Mode.
- Color Mode CCT values were not being Desk Locked.
- LCD brightness added to SETUP SYSTEM.
- Slider handles were getting stuck at 16, 32, 64 %.
- We've renamed the Cue Action "Bump Down" to "Bump On" and "Bump Up" to "Bump Off" to be more clear. The issue was people were confusing pushing a bump button down (activating a memory) with pushing its slider handle down to 0% (deactivating it).
- In SELECT|SETTINGS|LIGHT TYPE the Manufacturer column's sort-order is now case insensitive.
- The ABCD icons in CONTROL WHEELS (and other places) that look more like the wheels' hardware.
- We've found and fixed a vulnerability that caused some systems to reboot when left on for extended amounts of time.
- The Real Time Clock is stored throughout the session to protect against systems with dead batteries that may reboot without user intervention (power brown outs).
- Consoles that suffer from power interruptions will now resume active chases if they were running when the system lost power.
- We've smoothed out DMX resolution when operating the Memory Master fader. Fades on LED lights that have little to no inertia will appear smoother.
- Color effects in the pastel range are possible. We fixed a bug where saturation was always being set to 100%.
- Fixed issue with selecting a non-contiguous range of Lights and using NEXT or PREV to round-robin through the selection set.
- Manufacturer's list in Settings|Light Type is non-case sensitive alphabetization.

- Confirmation required when overwriting a Memory with REC BUMP or using the REC task.
- Effects on Memories don’t flash base values (single DMX frame) before starting effects.
- After recording a Library, all Captured Lights have new Library applied so subsequent recording of cues or memories reference Library.
- Status bar shows when Pin, Highlight and Lowlight are active.
- KiNET protocol added.
- Lights with parts (Intensity and Attributes) were patching wrong part when specified.
- Memory numbers moved to top of display (closer to hardware) in PLAY MEMORIES.
- New IRGB icon.
- Working with CONTROL WHEELS didn’t register changes when working in Blind.
- Position triangle in Light tile larger in SELECT task.