



COLOR KINETICS

iPlayer 3

User Guide

Contents

1	Introduction	1	Appendix A: Pinouts and DIP Switch Functions	21
	Welcome to iPlayer 3	1	Serial Port: DB9F Pinouts	21
	Key Features	1	DMX: RJ-45 Pinouts	21
	About ColorPlay 3	2	iPlayer 3 DIP Switch Functions	22
	About this Guide	2		
2	Installation and Hardware Overview	3	Appendix B: Configuring Remote Triggering Devices	23
	iPlayer 3 Installation	3	Electrical	23
	iPlayer 3 Hardware Features	8	Protocol	23
	LCD Screen Output	9		
3	Show Configuration Concepts	11	Appendix C: Firmware Update Procedure	25
	Overview	11	Overview	25
	Shows	11	Determining Firmware Version	25
	Effects	11	Firmware Update Procedure	25
	Triggers	11		
	Alarms	12	Appendix D: Cloning and Formatting SD Memory	
4	Run Mode	13	Cards for use in iPlayer 3	27
	Overview	13	Overview	27
	Playing Shows	13	SD Card Cloning Procedure	27
			Windows SD Card Formatting Procedure	27
			Mac OS SD Card Formatting Procedure	28
5	Configuration Mode	15	Appendix E: Configuration Menus in Detail	29
	Overview	15	Triggers Menu	29
	Navigating Menus	15	HSB Editor	31
	Assigning Triggers	15	Alarms Menu	32
	Setting an Alarm	16	Setup Menu	34
	Setup Menu	17	Info Menu	36
	Info Menu	18		
6	USB Mode	19	Appendix F: Powering Off the iPlayer 3	37
	Overview	19		
	Initiating USB Mode	19		
	Downloading Show Files from ColorPlay 3	19		
	Downloading Triggers from ColorPlay 3	20		
	Downloading Alarms from ColorPlay 3	20		

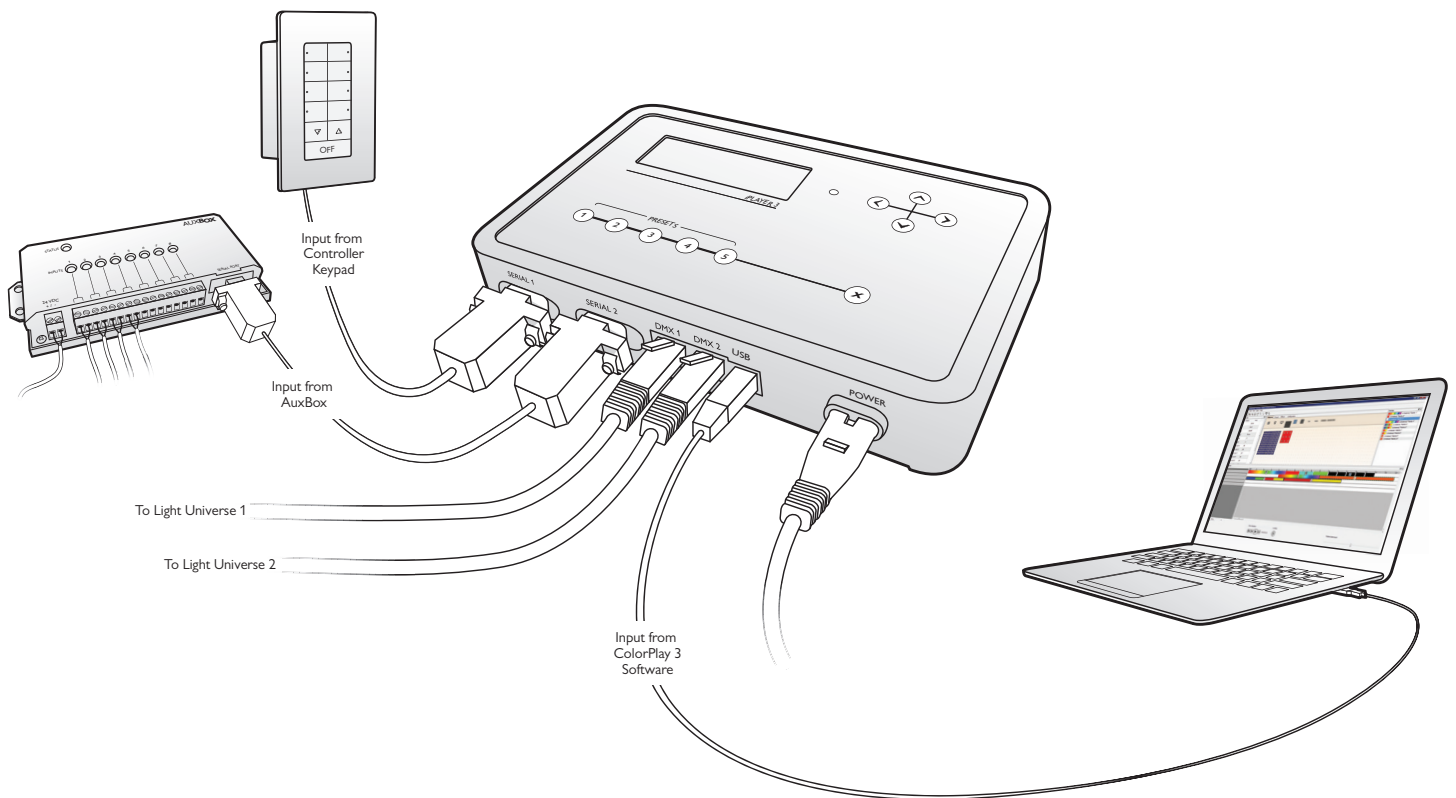
1 Introduction

Welcome to iPlayer 3

iPlayer® 3 is the compact lighting system controller from Color Kinetics capable of controlling up to two full DMX universes or 340 individual three-channel luminaires. Equipped with an LCD interface for simple operation, iPlayer 3 stores and plays pre-programmed and custom-authored light shows.

Key Features

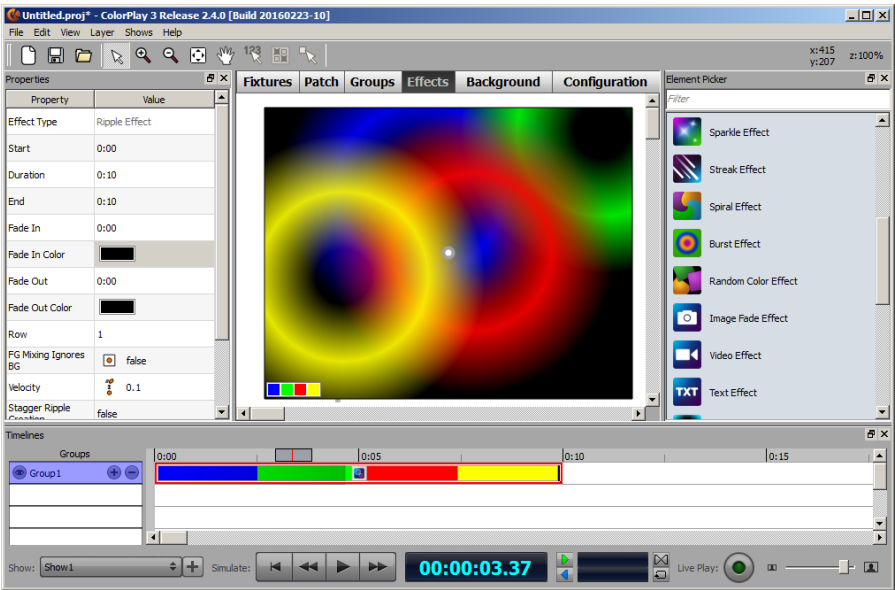
- Light shows are authored with ColorPlay® 3 software
- Designed for use with the optional wall-mounted Controller Keypad
- Supports the optional AuxBox expansion device, which enables show triggering by a variety of dry-contact closure devices including motion sensors, photocell applications, and more.



About ColorPlay 3

ColorPlay 3 light show authoring software enables you to create unique light shows, download light show files to your iPlayer 3, and manage the files on your iPlayer 3.

[Download ColorPlay 3 from https://www.colorkinetics.com/global/support/colorplay3](https://www.colorkinetics.com/global/support/colorplay3)



Out of the box, iPlayer 3 comes programmed with default, single-effect light shows designed for quick testing of your lighting installation. ColorPlay 3 enables you to create and manage more sophisticated shows using the following features:

- 16 fully customizable effects, including a particle effect used to simulate fire, clouds, or rain
- Timeline editing with multiple tracks, enabling effect layering and unique transitions
- Effect editing both on-screen or live on a lighting installation
- Management of multiple shows within each ColorPlay 3 project file
- Custom color palettes

ColorPlay 3 is compatible with both Microsoft Windows® and Mac OS X operating systems.

About this Guide

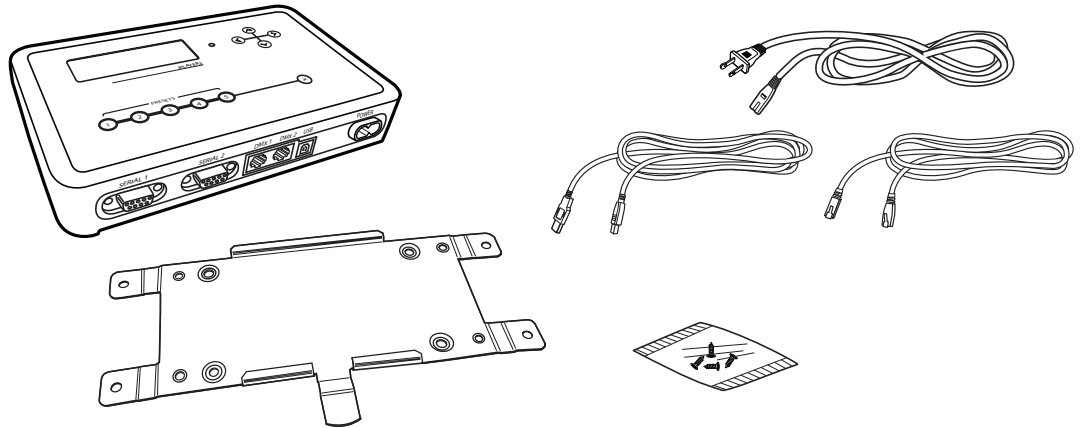
This user guide contains step-by-step hardware setup and mounting instructions, details about iPlayer 3 modes and features, and reference information. The following documents are also available to help you fully realize the potential of your iPlayer 3 and lighting installation as a complete system:

Document Name	Online Location
iPlayer 3 Installation Instructions	www.colorkinetics.com/support/userguides/
iPlayer 3 Quick Start Guide	www.colorkinetics.com/support/userguides/
ColorPlay 3 User Guide	www.colorkinetics.com/support/userguides/
Controller Keypad Product Guide	www.colorkinetics.com/support/datasheets/
AuxBox Product Guide	www.colorkinetics.com/support/datasheets/

2 Installation and Hardware Overview

iPlayer 3 Installation

Step 1: Confirm all components received



Take a moment to confirm you have received these iPlayer 3 components:

- iPlayer 3
- Mounting bracket
- Mounting bracket screws
- Power cord (North American or European)
- USB 2.0 Cable
- RJ-45 DMX 512 data cable
- Installation Instructions
- Quick Start Guide

Step 2: Prepare for the Installation

- Create a layout plan that starts with the locations of iPlayer 3 and all power supplies or data enablers.
- Select a convenient but unobtrusive location for mounting the iPlayer 3 that will be accessible to a computer via USB connection. If also installing external show selection switches such as Controller Keypads or an AuxBox, mount iPlayer 3 in a location accessible to the maximum serial cable length of 15.2 m (50 ft).
- Verify that the mounting location meets the following environmental specifications.

Electrical Specifications

Power requirements: 100 – 240 VAC, 50/60 Hz, 5 W

Environmental Specifications

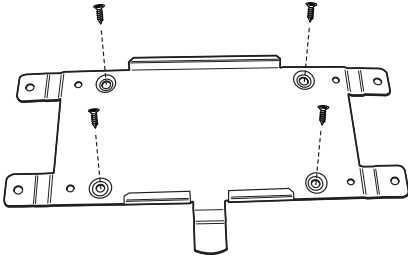
Operating temperature range: -10° – 40° C (14° – 104° F). Maximum 95% relative humidity.

Step 3: Install mounting bracket

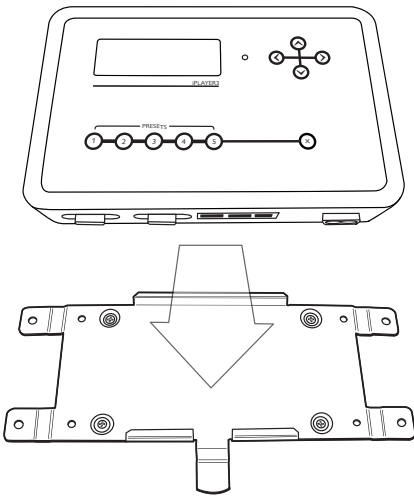
Choose a method for mounting bracket installation: quick-release or secure.

Quick-release mounting method

With the release tab pointing downward, screw the mounting bracket onto a surface using the innermost screw holes.

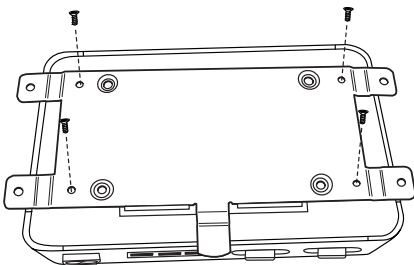


Slide the iPlayer 3 onto the mounting bracket until the iPlayer clicks securely into place.

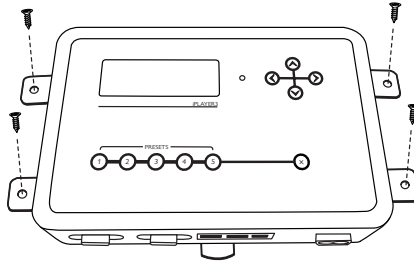


Secure mounting method

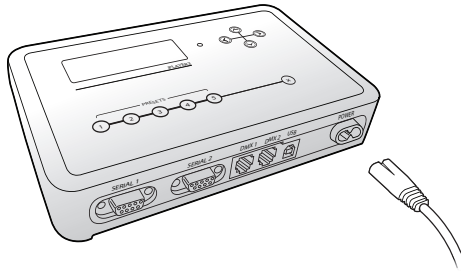
Slide the iPlayer 3 onto the mounting bracket until the iPlayer 3 clicks securely into place. Using the supplied machine screws, secure the mounting bracket to the iPlayer 3.



Using the outermost screw holes, install the mounting bracket and iPlayer 3 assembly onto a surface. Secure with screws suitable for mounting substrate.



Step 4: Attach the power cable



Step 5: Install ColorPlay 3 Software



System Requirements

Windows®	Mac OS
Windows 7 or greater	Mac OS 10.6 or greater
512 MB RAM	512 MB RAM
60 MB free disk space	60 MB free disk space

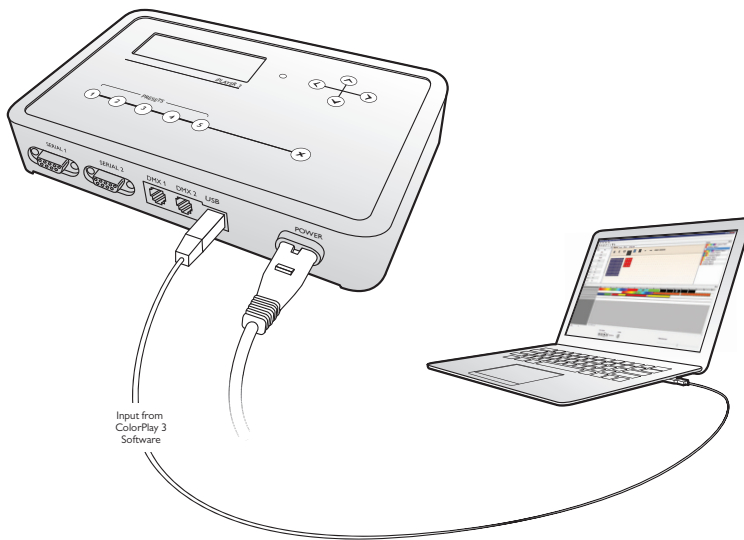
To install ColorPlay 3 on Windows:


- Download the latest version of ColorPlay 3 Software from <http://www.colorkinetics.com/support/colorplay3/>.
- Locate the compressed (.ZIP) file you just downloaded. Extract its contents to your computer, and double-click ColorPlay3Installer.exe to launch the installer.
- Follow the on-screen prompts. When the installation is complete, click Finish to exit the installer.

To install ColorPlay 3 on MacOS X:

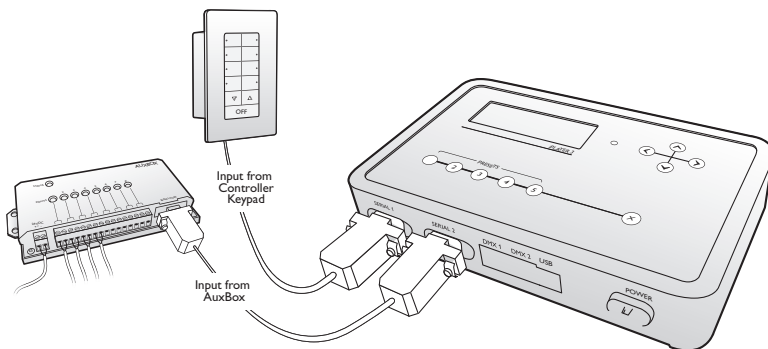
- Download the latest version of ColorPlay 3 Software from <http://www.colorkinetics.com/support/colorplay3/>.
- Locate the compressed (.ZIP) file you just downloaded. Extract its contents to your computer, and double-click ColorPlay3Installer.app to launch the installer.
- Follow the on-screen prompts. When the installation is complete, click Finish to exit the installer.

Step 6: Connect computer with USB cable



 If using Windows, you must install ColorPlay 3 prior to connecting the iPlayer 3 to your PC. ColorPlay 3 installs the device drivers required for USB connectivity.

Step 7: Attach external show selection devices as required



To connect a Controller Keypad:

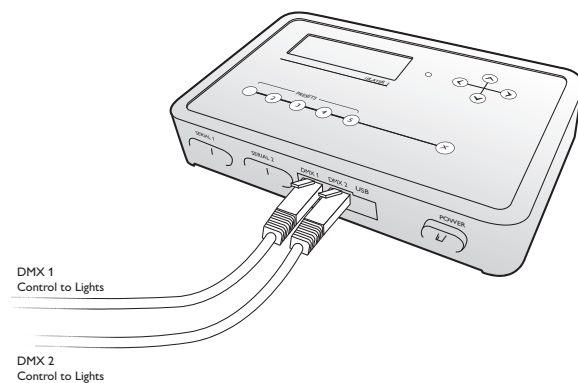
- Power off the iPlayer 3.

- Connect the cable end with the 4-pin leads into the back of the Controller Keypad.
- Connect the cable end with the DB9 cable connector to serial port 1 or 2 on iPlayer 3.
- As needed, set the Range switch position on the back of the keypad. By default, switch position 0 (zero) sets the keypad to trigger shows 1 – 8 (see “About Show Ranges” on page 18 for an overview of trigger ranges).
- Power on the iPlayer 3.

To connect an AuxBox:

- Power off the iPlayer 3.
- Connect the female end of the serial cable to the AuxBox serial port.
- Connect the male end with of the serial cable to serial port 1 or 2 on iPlayer 3.
- As needed, set the Range switch position on the front of the AuxBox. By default, switch position 0 (zero) sets the AuxBox to trigger shows 1 – 8.
- Connect each external triggering device’s two-wire cable to a terminal pair on the AuxBox.
- Connect the 24 VDC power cable to the 24 VDC terminals on the AuxBox, and then plug it in.
- Power on the iPlayer 3.

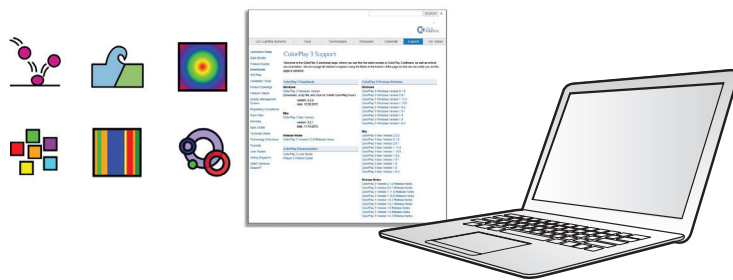
Step 8: Connect lighting systems with RJ-45 cable



DMX output port 1 manages light universe 1 (light addresses 1-170)

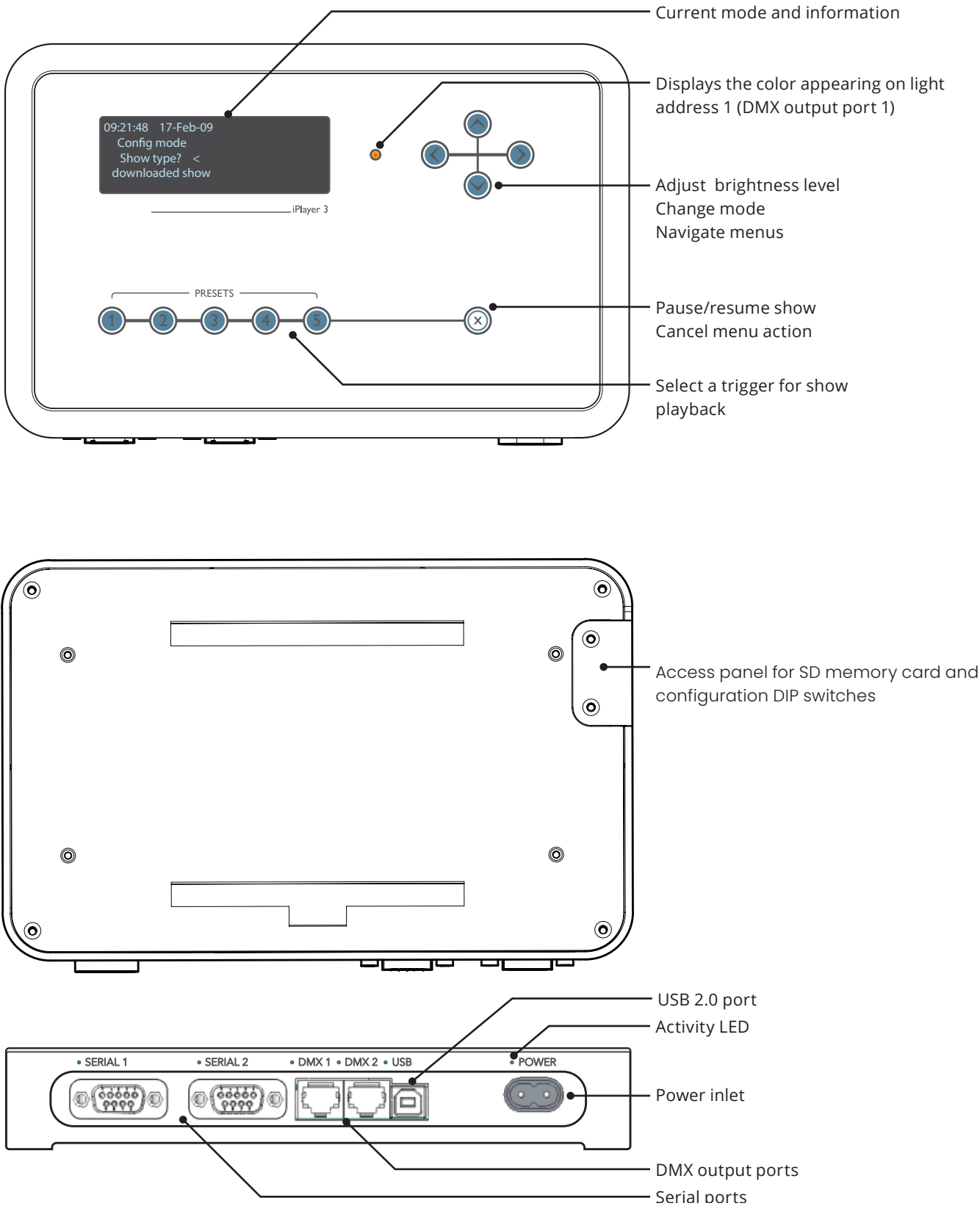
DMX output port 2 managed light universe 2 (light addresses 1-170)

Step 9: Create and download light shows via ColorPlay 3



iPlayer 3 Hardware Features

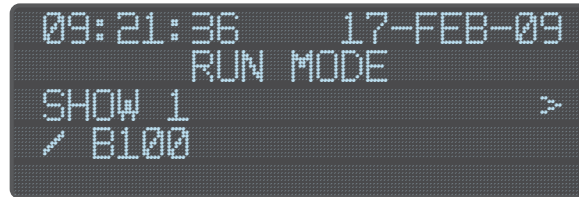
The iPlayer 3 has the following hardware features:



LCD Screen Output

iPlayer 3 has three modes of operation. The LCD screen displays the currently active mode.

Run Mode



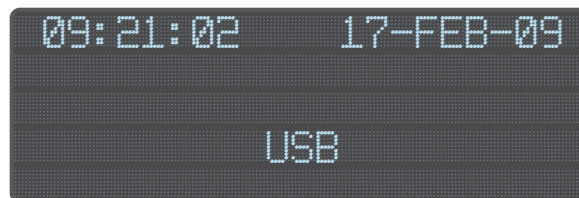
Run mode launches automatically when you power on the iPlayer 3. In Run mode, by default, iPlayer 3 triggers the show assigned to Preset ①. You can manually trigger other shows by pressing Presets ② through ④ on the iPlayer 3 faceplate or keys 1 – 8 on a Controller Keypad. Setting alarms enables you to automate show triggers by time, day of the week, or an astronomical event such as sunset.

Configuration Mode



Configuration Mode provides an onboard menu system enabling you to configure triggers, set alarms, perform device setup, and view device information.

USB Mode



USB mode enables you to transfer shows, triggers, and alarms between a computer running ColorPlay 3 and the iPlayer 3.

3 Show Configuration Concepts

Overview

This chapter introduces show configuration terminology and concepts, which will help you in the upcoming chapters.

Shows

Shows contain visual effects and the parameters associated with those effects. iPlayer 3 can display two types of shows:

- Preconfigured shows stored and configured on iPlayer 3
- Custom shows created and downloaded from ColorPlay 3

Effects

Visual effects range in complexity from a fixed color display to multi-color animations. Each effect has multiple customizable parameters such as start color, end color, and fade time.

- There are seven effect types available when setting up iPlayer 3 preconfigured shows.
- You can work with 16 effect types when creating ColorPlay 3 custom shows.

Triggers

Triggers specify show playback behaviors—for example, what happens at the end of a show or how to transition to the next show. Therefore, to be played back, you must associate each show with a trigger.

Triggers are numbered 0 – 255 and associate show files with the following:

- End Behavior Fade to black, loop, or jump to another trigger.
- Transition Type Snap (no transition to next show), fade out-and-in, or cross fade (morph with next show).

Pressing a Preset button on the iPlayer 3 faceplate triggers a show. For example, pressing ❶ activates trigger 1, which launches the show and the playback behaviors associated with it.

Linking Multiple Shows to a Trigger

Because show files do not specify playback behaviors, you can assign more than one show to a single trigger. When creating the trigger, selecting the Jump to Trigger end behavior links a second show to the first. If you select the Jump to Trigger end behavior for the second show, you can link a third show, and so on.

Alarms

Alarms automatically activate triggers. You can manually activate a trigger by pressing a Preset button on the iPlayer 3, pressing a button on a Controller Keypad, or by tripping a remote triggering device connected to an AuxBox. With an alarm, you can automatically activate a trigger based on a specific date, day of the week, weekdays, weekends, or an astronomical event (sunrise or sunset).

When you create an alarm, you associate the alarm with a trigger number. You can then specify alarm parameters (either a clock time or an astronomical event). For example, you can create an alarm that automatically activates trigger 3 every weekday at 7 A.M.

4 Run Mode

Overview

Run Mode is the default iPlayer 3 playback mode and automatically launches when you power on the iPlayer 3 controller. The iPlayer 3 must be in Run Mode for you to manually trigger shows or use automatic playback alarms. Run Mode is suspended when you enter USB Mode or Configuration Mode.

Playing Shows



Using Preset Buttons to Trigger Shows

There are five Preset buttons located on the faceplate of the iPlayer 3. Each button triggers a show:

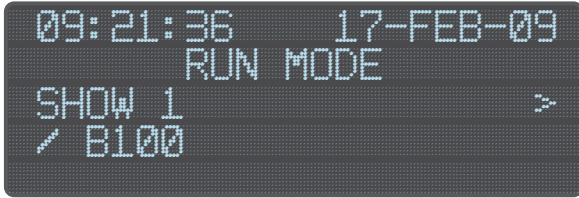
- When you power on the iPlayer 3 or exit from USB Mode, iPlayer 3 automatically begins playing the show triggered by Preset ①.
- To trigger another show, press another Preset button, ② through ⑤.

If you have an optional Controller Keypad connected to your iPlayer 3, you can assign show triggers to keypad buttons 1 – 8. Likewise, if you have an AuxBox connected, you can assign triggers to up to eight remote triggering devices.

Automating Show Playback

When using alarms, you do not have to manually press a Preset button or keypad button to trigger show playback. Alarms automatically set off triggers based on settings such as time of day or an astronomical event, such as sunset. You can configure up to 15 alarms on iPlayer 3.

Run Mode LCD Output



The iPlayer 3 LCD displays the following information during Run Mode:

Light Show Brightness

Using the ⏮ and ⏭ buttons, you can set the overall brightness level of lights in a show during playback. The B number displayed on the LCD reflects the brightness level you set, between 0% and 100%.

Trigger Number Message

The LCD displays the current show (trigger) number during playback. If you have not associated a trigger with a Preset button, the LCD displays an EMPTY message when you press that Preset button.

Lights Off

You can pause Run Mode and show playback at any time by pressing the ⏸ button. The LCD displays a LIGHTS OFF message, and the connected lights turn black until you either:

- Press the ⏸ button a second time to resume Run Mode
- Press a Preset button to start the selected show from the beginning

LED Indicator Light

The LED indicator light, located to the right of the LCD screen, is active when a show is playing. It shows the color currently displayed on the fixture assigned to light address 1 on DMX output port 1.




LED Indicator Light

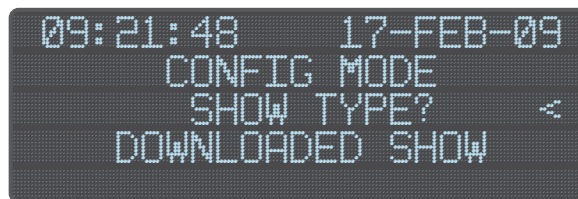
5 Configuration Mode







Overview

Configuration mode provides an onboard menu system enabling you to configure show triggers, set alarms, perform device setup, and view device information without having to connect to your PC or Mac.

Navigating Menus

- At any time during playback, press  to launch Configuration mode and open the Main Menu.



- From any menu, press  and  to scroll through the menu options and make a selection, then press  to access the next menu.
- To save your changes, continue pressing  until you reach the Save Changes menu item, then press  a final time to save.
- Press  at any time to cancel the menu action and return to Run mode.

Assigning Triggers


You can assign a trigger to either:




- A preconfigured show
- A custom show downloaded from ColorPlay 3

When you assign a trigger, that trigger corresponds to the Preset button with the same number on the iPlayer 3 faceplate, a keypad button on a Controller Keypad, or a remote triggering device connected to an AuxBox.



Example 1: Assigning a Preconfigured Show to Preset Button 3

1. Launch Configuration mode.
2. Access the Triggers menu from the Main Menu.
3. Select trigger number 3.
4. Access the Show Type menu item, then select Canned Effect.
5. Access the Effect Type menu, then make a selection. There are seven visual effect types from which to choose:

 Each effect type has unique parameters. For example, some effects use a background color setting, whereas other effects display only foreground colors. See “Appendix E: Configuration Menus in Detail” on page 29 for iPlayer 3 menu system charts and descriptions of each menu item.

- Fixed Color Static display of a solid color
 - Cross Fade A smooth transition from one solid color to another
 - Rainbow A sequence of solid colors moving in one direction
 - Random Color A sequence of randomly generated solid colors at specified intervals
 - Sparke Flashes of foreground color at random over a solid background color
 - Color Sweep Progressive transition of a solid foreground color across a solid background
 - Color Streak An animated effect with narrow lines of color over a solid background
6. Press  to access the next menu item, which is an effect-specific parameter, and then enter a value.
 7. Continue navigating through the effect-specific parameters and entering values. At the Test Effect menu item, press  to use the show tester, which runs a live preview of your show.
 8. Select a transition type:
 - Snap No transition
 - Fade Out & In Fade to black in between two shows
 - Cross Fade Effect morphing
 9. As needed, enter a value for the transition duration, then press  to save your changes.

Example 2: Assigning a Downloaded ColorPlay 3 Show to Preset Button 4




1. Launch Configuration mode.
2. Access the Triggers menu from the Main Menu.
3. Select trigger number 4.
4. Access the Show Type menu, then select Downloaded Show.
5. Access the Show file menu, then select a .SHO file.
6. At the TEST SHOW menu, press  to use the show tester, which runs a live preview of your show.
7. Select an End Behavior type:
 - Loop
 - Lights Off
 - Jump to Trigger
8. Select a transition type:
 - Snap No transition
 - Fade Out & In Fade to black in between two shows
 - Cross Fade Effect Morphing
9. As needed, enter a value for the transition duration, then press  to save your changes.

Setting an Alarm

Alarms enable you to automate show playback. When you set an alarm, you specify:

- The alarm number (0 – 15).
- The alarm day: every day, on weekdays, on weekends, on a specific day of the week, or on a specific date.
- Alarm type:
 - Time of day iPlayer 3 uses a 24-hour notation with hours ranging from 00 – 23
 - Astronomical time In relation to sunrise and sunset
- The trigger associated with the alarm.

Example 3: Setting Alarm Number 5 to Activate Every Day at Sunset

1. Launch Configuration mode.
2. Access the Alarm menu, then select alarm number 5.
3. Access the Alarm Days menu, then select Every Day.
4. At the Alarm Type menu, select Astronomical.
5. Select Sunset from the Sunrise or Sunset menu.
6. Add an offset value to trigger the show a certain amount of time before or after sunset:
 - a. Enter an Alarm Hour Offset value, then press .
 - b. Enter an Alarm Minute Offset value, then press .
7. Select a Trigger number with which to associate the alarm.
8. Press  to save your changes.

Setup Menu



The Setup Menu contains configurable settings for the following:


- Expansion or Serial Ports Devices attached to the two iPlayer 3 serial ports can trigger any of up to 255 shows stored on iPlayer 3. By default, an external device triggers shows starting with show 1. However, you can use the iPlayer 3 base trigger setting to specify a different starting show number (see “Example 6” on page 18 for details).
- iPlayer 3 Date and Time
- iPlayer 3 latitude and longitude Used in sunrise and sunset calculations.
- LCD Screen Appearance You can specify an integer from 0 – 10 to set the contrast and brightness, with 10 producing the greatest brightness and contrast between the characters on the screen and the background.
- Volume You can specify an integer (0 – 3) to set the audible volume of the iPlayer 3 internal speaker, which produces a beep with each button press. The loudest setting is 3.
- Setting a DMX address
- Testing a DMX address


Example 4: Setting a DMX Address



QuickPlay Pro provides the most convenient method for addressing the fixtures in your DMX lighting installation. However, if needed, you can also use the iPlayer 3 onboard setup menu to set DMX addresses.


There are two options for specifying which fixtures to address via iPlayer 3. You can set all connected fixtures to a single DMX address, or you can specify a DMX address for each individual fixture:

1. Launch Configuration mode.
2. Access the Setup menu, then select Set Fixture DMX Add.
3. If you want to specify a DMX address for all fixtures, select All Same Address. If you want to specify a DMX address for each individual fixture:
 - a. Select By Serial Number, and then press .
 - b. At the S/N Byte 1, S/N Byte 2, S/N Byte 3, and S/N Byte 4 prompts, enter the serial number of the fixture, using hexadecimal integers 00 – FF (42 00 01 1F, for example). The fixture will blink when you enter each correct byte.
 - c. Press  to confirm the serial number.

 In the Setup Menu, your changes are saved automatically each time you enter a new value.

 Download QuickPlay Pro from <https://www.colorkinetics.com/global/support/addressing>

4. Specify the number of the fixture (1 – 170).
5. Select Program DMX Addr, then press  to confirm that you want to change the address of the fixture.
6. At the Test DMX Addr prompt, press . The iPlayer 3 performs a non-interactive test of the fixture you specified in step 4 by setting the specified DMX address to FULL ON and all other DMX addresses to OFF.

 *If the programming is successful, the fixture illuminates at full intensity after a few seconds. If the programming is not successful, the fixture does not illuminate.*

Example 5: Testing a DMX Address

1. Launch Configuration mode.
2. Access the Setup menu, then select Test DMX Addr.
3. Specify the light number (1 – 170) you want to test. The iPlayer3 sends test data to any fixtures which are set to that address. If the test is successful, the fixtures illuminate at full intensity. If the programming is not successful, the fixtures do not illuminate.

About Show Ranges

If you are using multiple external show selection devices and you want each device to trigger a different range of shows, you must manually set the Show Range switch on each device accordingly.

For example, if you want your first of two Controller Keypads to control shows 1 – 8, you leave the Show Range switch on its default setting (0). Then, to assign the second Controller Keypad to control shows 9 – 16, you dial the Show Range switch to the corresponding setting (see the Controller Keypad Product Guide for details).

Similarly, you can use the iPlayer 3 setup menu to assign show range offsets to serial port 1 and serial port 2. For example, if you assign a base trigger of 8 to serial port 1, and a user selects button 1 on a Controller Keypad connected to that serial port, iPlayer 3 will trigger show number 9 (8 + 1).

Example 6: Assigning a Base Trigger of 8 to Serial Port 1

1. Launch Configuration mode.
2. Access the Setup menu, then select Config Ports.
3. Set the Port 1 Base Trigger # to 8.
4. Leave the Port 2 Base Trigger # at the default setting.

Info Menu

The Info Menu displays the following information:

- iPlayer 3 firmware version.
- Memory usage/available memory. For example, 104K/1024K indicates 104KB used out of 1024KB available.
- Astronomical clock data (for example, the time of sunrise for the current day).

6 USB Mode

Overview

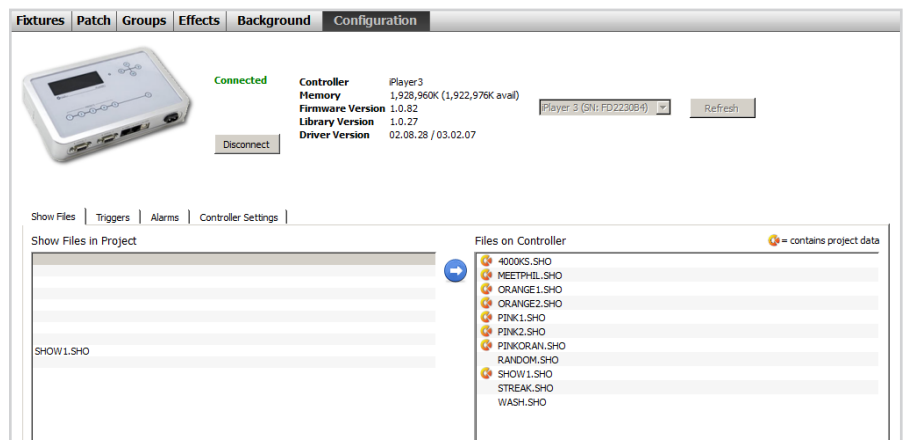
USB mode is active when ColorPlay 3 is connected to iPlayer 3. You must initiate USB mode to download light show files and other data or use the ColorPlay 3 live play light show simulation feature. You can initiate USB mode only from your PC or Mac, not from iPlayer 3 itself.

Initiating USB Mode

☰ While in USB mode, you cannot access standard iPlayer 3 operational modes. End USB Mode to resume normal iPlayer 3 operations.

1. Verify that ColorPlay 3 is installed on your system.
2. Power ON iPlayer 3.
3. Connect iPlayer 3 to your computer using the supplied USB cable.
4. Launch ColorPlay 3.
5. Launch iPlayer 3 USB mode from ColorPlay 3. There are two methods for doing this:
 - Open the ColorPlay 3 configuration layer and click Connect.
 - Design or load a show file in ColorPlay 3. Click the Live Play button to initiate USB mode and simulate your show on your light fixtures.
6. End USB mode by clicking Disconnect in the ColorPlay 3 configuration layer.

Downloading Show Files from ColorPlay 3

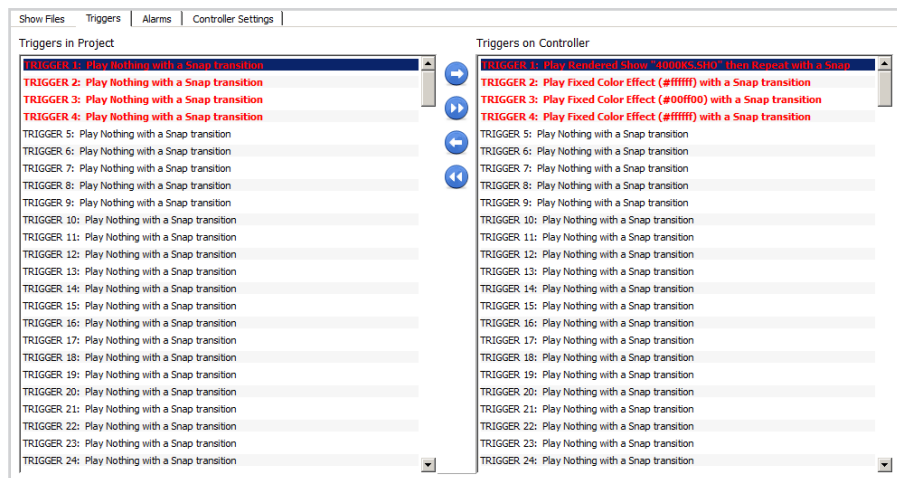


To download show files from ColorPlay 3 to iPlayer 3:

1. Initiate USB Mode.
2. In the ColorPlay 3 configuration layer, click the Show files tab, then select one or more show files.
3. Click the Copy Selected Shows to Controller arrow button to begin downloading. Once fully downloaded, show files appear in the right column of the file manager with a .SHO file extension.

Downloading Triggers from ColorPlay 3

Triggers are numbered 1 – 256 and specify parameters including which show file(s) to play (you can assign multiple show files to a single trigger) and how a show behaves after one playback cycle (for example, repeat).

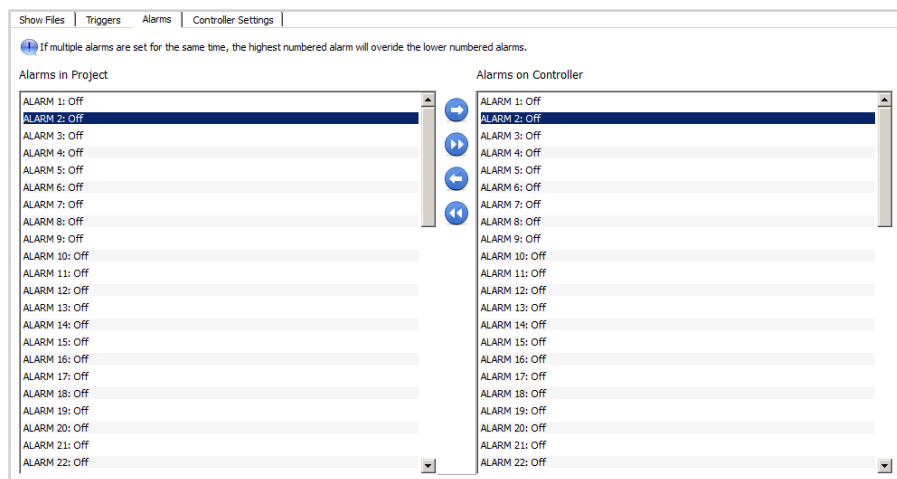


To download triggers from ColorPlay 3 to iPlayer 3:

1. Initiate USB Mode.
2. In the ColorPlay 3 configuration layer, click the Triggers tab and then select one or more triggers in the left column.
3. Click the Copy Selected Triggers to Controller arrow button to begin downloading.

Downloading Alarms from ColorPlay 3

A show can be triggered manually by pressing device buttons or automatically via alarms. Alarms trigger shows at particular times (such as every Monday at 5:00 P.M.) or for an astronomical events (such as every day at sunset).

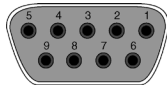


To download alarms from ColorPlay 3 to iPlayer 3:

1. Initiate USB Mode.
2. In the ColorPlay 3 configuration layer, click the Alarms tab, then select one or more alarms in the left column.
3. Click the [Copy Selected Alarms to Controller](#) arrow button to begin downloading.

Appendix A: Pinouts and DIP Switch Functions

Serial Port: DB9F Pinouts



1	No connection
2	TxD
3	RxD
4	+5V DC controlled by the DIP switch setting
5	Ground
6	No connection
7	No connection
8	No connection

DMX: RJ-45 Pinouts

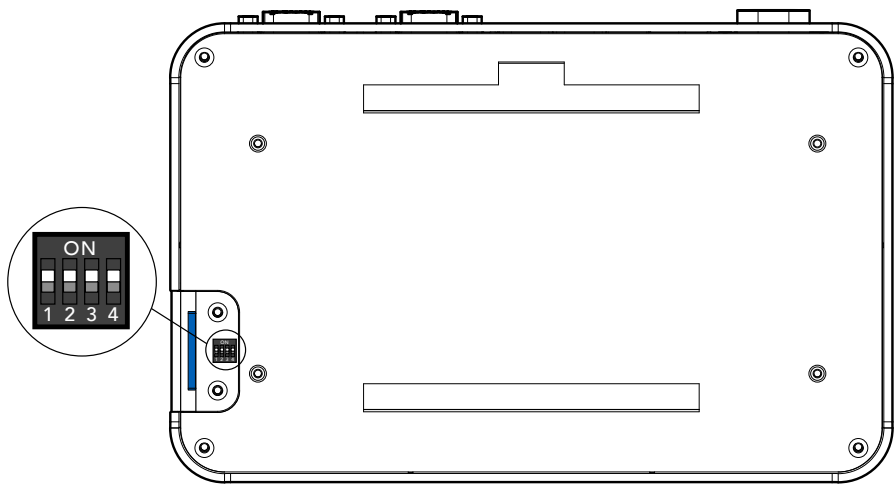


8 — 1

1	Data out -
2	Data out +
3	Ground
4	No connection
5	No connection
6	Ground
7	No connection
8	No connection

iPlayer 3 DIP Switch Functions

The iPlayer 3 DIP switches are located on the bottom of the device, below the SD memory card. Remove the two screws on the access door on the bottom of the iPlayer 3 to access the DIP switches.



Switch	Function
1	On Provide +5 VDC power to serial port 1, pin 4
	Off Do not provide additional power to serial port 1, pin 4
2	On Provide +5 VDC power to serial port 2, pin 4
	Off Do not provide additional power to serial port 2, pin 4
3	Reserved
4	On Enable arrow buttons
	Off Lock arrow buttons

Appendix B: Configuring Remote Triggering Devices

Electrical

The RS-232 serial port connections on the iPlayer 3 are DB9F connectors, labeled SERIAL 1 and SERIAL 2. The following pinout information applies to each DB9F connector (the other pins are unconnected):

2	TxD
3	RxD
4	+5V DC controlled by the DIP switch setting
5	Ground

+5V DC is provided on pin 4 (normally the DTR pin). Other devices can use this voltage provided they draw no more than 50 mA. If the voltage on pin 4 is not desired, it can be disabled by moving configuration DIP switch 1 (for serial port 1) or DIP switch 2 (for serial port 2) to the OFF position.


Protocol

The serial protocol used to control the Controller Keypad, AuxBox, or third-party triggering device is 9600 baud, eight data bits, no parity, one stop bit. There is no flow control. Each command to the iPlayer 3 consists of five characters. The first character is always X. The next two characters are the ASCII representation of a hexadecimal command byte. The last two characters are a hexadecimal data byte. The hexadecimal alpha characters are uppercase (0 – 9, A – F).

- Responses from the iPlayer 3 are also in this format, but begin with Y instead of X.
- Characters are not echoed by the iPlayer 3 when they are received.
- Illegal characters or badly formatted packets are ignored with no error indication.

iPlayer 3 Commands

Command string	Effect	Description
X00dd	Set Mode	Sets the current operating mode to <i>dd</i> . Not currently used.
X0100	Lights Off	Turns all lights off.
X02dd	Set Absolute Intensity	Sets the global brightness level to <i>dd</i> (00 = Off, FF = Full On).

 This table uses *dd* to represent a hexadecimal byte.

Command string	Effect	Description
X03 dd	Set Relative Intensity	Raises or lowers the global brightness level by dd (dd is the complement of 2, so 02 increases by 2, FE decreases by 2). Brightness is pegged 0 – 255.
X04 dd	Set Show	Starts the show with trigger number dd , playing from the beginning. The trigger number must be in the range 1 – 225 (E1).

Responses from the iPlayer 3

Response string	Description
Y00 dd	Returns current mode
Y0100	Entered off mode
Y02 dd	Returns current intensity level
Y03 dd	Not sent
Y04 dd	Returns current show
Y0F dd	Error occurred, show number in data byte. This is most often returned when the selected show is not available (so the keypad knows to make the indicator LED blink).

⚠ This table uses dd to represent a hexadecimal byte.

Appendix C: Firmware Update Procedure

Overview


The iPlayer 3 firmware image is periodically updated to improve system performance and functionality. If your iPlayer 3 is not running the most recent firmware, it is recommended that you update to maximize system performance. The most recent released firmware image can be downloaded from <https://www.colorkinetics.com/global/support/iplayer3>

Determining Firmware Version

1. Power on the iPlayer 3.
2. Launch Configuration Mode.
3. Access the Info menu, then select Version. The screen should display the firmware version in the form v01.00.xx b00001.
4. If xx is a lower number than the most recent image available on the Color Kinetics website, follow the update procedure described below.

Firmware Update Procedure

1. Connect the USB cable from iPlayer 3 to your computer.
2. Download and extract the iPlayer 3 Firmware Updater from <https://www.colorkinetics.com/global/support/iplayer3>
3. Download the most recent firmware image from <https://www.colorkinetics.com/global/support/iplayer3>
4. Go to the iP3 Firmware Updater folder and open the file: iP3 Bootloader.exe.
5. Once the program is open, click Select under Firmware Image File.
6. Select the latest .HEX file from the directory where you saved it, then click Open.
7. With the firmware image successfully loaded, click Connect under iPlayer 3.
8. Once the version information is displayed under iPlayer 3, click Program to begin the update process.
9. When the firmware update successfully completes, the "Programming complete!" message is displayed. Click OK, then select File>Quit to exit the program.

 *Do not disconnect the USB cable during the firmware upgrade process. Doing so may damage the iPlayer 3.*

Appendix D: Cloning and Formatting SD Memory Cards for use in iPlayer 3

Overview

iPlayer 3 utilizes SD memory cards for removable storage. You can take advantage of this feature if you have multiple identical installations playing the same iPlayer 3 show files. For example, you can clone an SD card from one iPlayer 3 and use it on another iPlayer 3, rather than configuring each iPlayer 3 from scratch.

The iPlayer 3 includes an industrial grade SLC SD card. If you need additional storage capacity, we recommend that you use the same SLC SD card as shipped with the product, and do not exceed 8 GB. SD cards used in the iPlayer 3 must be formatted to use the FAT or FAT32 file system.

You cannot clone or format an SD memory card while it is installed in the iPlayer 3. However, you can use a Windows PC or Mac with a memory card reader to perform these functions.

SD Card Cloning Procedure

1. Remove the two access door screws on the bottom of the iPlayer 3.
2. Slide the door off the iPlayer 3, and then remove the SD card.
3. Insert the SD card into a memory card reader on your PC or Mac.
4. Copy the folder named IPLAYER3 to your computer.
5. Eject the SD card from the memory reader, then insert a new SD card.
6. Format the new SD card as FAT (see below).
7. Copy the IPLAYER3 folder from your computer to the top level directory of the SD card.

Windows SD Card Formatting Procedure

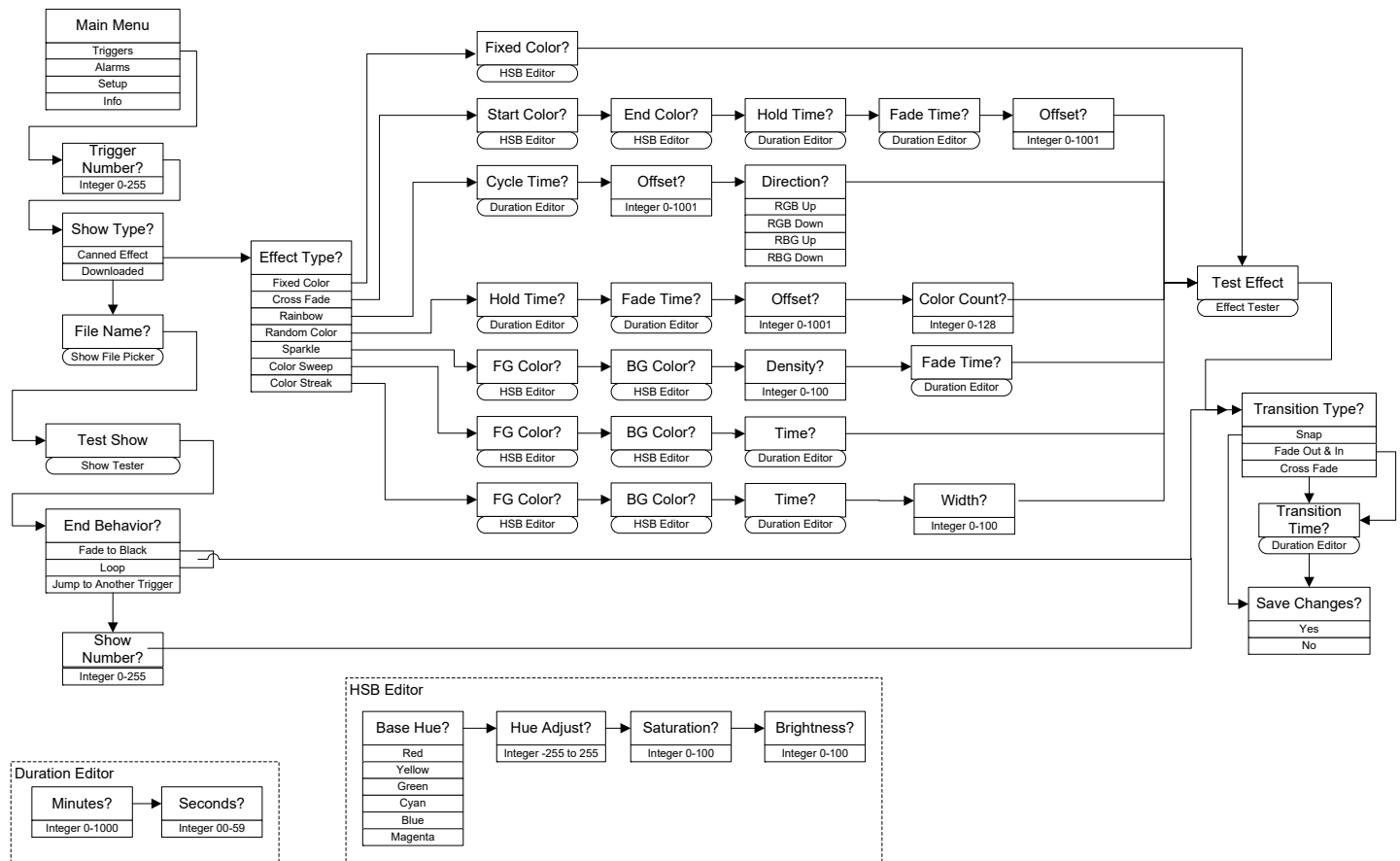
1. Remove the two access door screws on the bottom of the iPlayer 3.
2. Slide the door off the iPlayer 3, then remove the SD card.
3. Insert the SD card into a memory card reader on your Windows PC.
4. Reformat the SD card as you would any drive partition on your PC:
 - a. Double-click My Computer or Computer.
 - b. Right-click the icon for the SD card.
 - c. Select Format from the pop-up menu.
 - d. Select FAT Format.
 - e. Select Full Format.

Mac OS SD Card Formatting Procedure

1. Remove the two access door screws on the bottom of the iPlayer 3.
2. Slide the door off the iPlayer 3, then remove the SD card.
3. Insert the SD card into a memory card reader on your Mac.
4. Run the Disk Utility application (located in the Utilities folder).
5. Select the Erase tab.
6. Select the SD card from the list of available disks in the left column.
7. Under Volume Format, choose MS-DOS File System (FAT).
8. Click the Erase button.

Appendix E: Configuration Menus in Detail

Triggers Menu



Trigger Number

Assign a trigger number (0 – 255).

Show Type

Select Canned Effect to use an iPlayer 3 preconfigured show or Downloaded to use a custom show file downloaded from ColorPlay 3.

Canned Effect Types

Choose from seven visual effects. Effect options and available parameters are outlined in the following table:

Effect	Available parameters
Fixed Color Static display of a solid color.	<i>Fixed Color</i> Use the HSB Editor to enter Hue, Saturation, or Brightness values for a fixed display color.
Cross Fade A smooth transition from one solid color to another	<i>Start Color</i> Use the HSB Editor to enter values for a starting color.
	<i>End Color</i> Use the HSB Editor to enter values for a ending color.
	<i>Hold Time</i> Enter a color hold duration, which specifies how long a color is held before it fades.
	<i>Fade Time</i> Set a duration for the color fade.
	<i>Offset</i> Specify the angle of the effect.
Rainbow A sequence of solid colors moving in one direction	<i>Cycle Time</i> Enter an effect duration in minutes and seconds (changes the width of the color bars).
	<i>Offset</i> Specify the angle of the effect.
	<i>Direction</i> Set the effect to go up the RGB scale or down the RGB scale.
Random Color A sequence of randomly generated solid colors at specified intervals	<i>Hold Time</i> Enter a color hold duration — specifies how long a color is held before it fades.
	<i>Fade Time</i> Set a duration for the color fade.
	<i>Offset</i> Specify the angle of the effect.
	<i>Color Count</i> Specify the number of random colors included in the effect (up to 128).
Sparke Flashes of foreground color at random over a solid background color	<i>FG Color</i> Use the HSB submenu to enter values for a foreground color.
	<i>BG Color</i> Use the HSB submenu to enter values for a background color.
	<i>Density</i> Modify the number of nodes covered by the foreground color.
	<i>Fade Time</i> Set a duration for the color fade.
Color Sweep Progressive transition of a solid foreground color across a solid background	<i>FG Color</i> Use the HSB submenu to enter values for a foreground color.
	<i>BG Color</i> Use the HSB submenu to enter values for a background color.
	<i>Time</i> Set the duration of the color effect.
Color Streak An animated effect with narrow lines of color over a solid background	<i>FG Color</i> Use the HSB submenu to enter values for a foreground color.
	<i>BG Color</i> Use the HSB submenu to enter values for a background color.
	<i>Time</i> Set the duration of the color effect.
	<i>Width</i> Specify the width of narrow line animated in the foreground.

File Name

Select a ColorPlay 3 .SHO file for download.

Test Show

Simulate the downloaded show on your lighting installation.

End Behavior

Specify an end behavior for the downloaded ColorPlay 3 show:

Loop Repeat the show indefinitely.

Lights Off End the show and turn off all fixtures in the installation.

Jump to Trigger Trigger another show.

Show Number

If you selected Jump to Trigger in the End Behavior menu, enter a show number (0 – 255).

Transition Type

Set a show transition:

Snap No transition.

Fade Out & In Fade out to black, then back to the start color of the current show or next show.

Cross Fade Morph from the end of the current show to the beginning of the current show or the beginning of the next show.

Transition Time

Set a duration for the selected transition type.

Save Changes

In the Triggers menu and associated submenus, you must save for your changes to take effect.

HSB Editor

Base Hue

Select a standard color: Red, Yellow, Green, Cyan, Blue, or Magenta.

Hue Adjust

Adjust the hue spectrum value of the base color to create a custom color (-255 – 255).

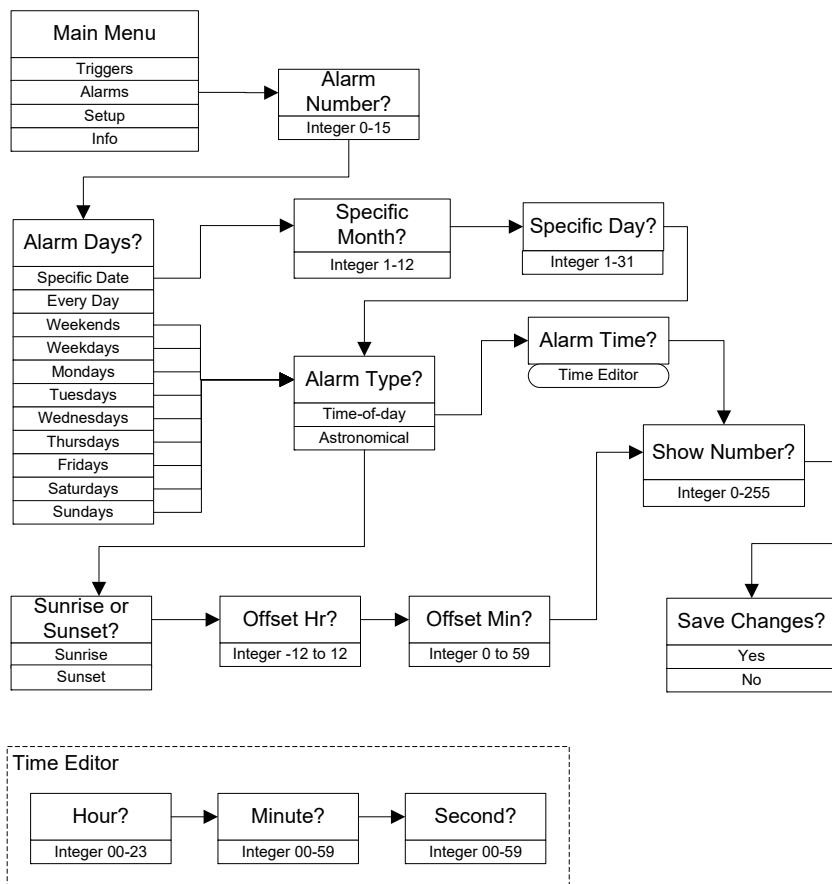
Saturation

Adjust the intensity of the color (0 – 100).

Brightness

Adjust the brightness of the color (0 – 100).

Alarms Menu



Alarm Number

Assign an alarm number (0 – 15).

Alarm Days

Specify a specific date, weekends, weekdays, or a day of the week.

Specific Month

If you selected Specific Date in the Alarm Days menu, enter a month number (1 – 12).

Specific Day

If you selected Specific Date in the Alarm Days menu, enter a day number (1 – 31).

Alarm Type

Select Time-of-Day to create an alarm based on clock time or Astronomical to create an alarm based on the time of sunrise or sunset.

Alarm Time

Enter the hour, minute, and seconds as the clock time to activate the alarm.

Sunrise or Sunset

Select Sunrise or Sunset as the astronomical time to activate the alarm.

Offset Hr

If you selected Astronomical in the Alarm Type menu, enter an offset to stagger the alarm before or after the astronomical event by hours.

Offset Min

If you selected Astronomical in the Alarm Type menu, enter an offset to stagger the alarm before or after the astronomical event by minutes.

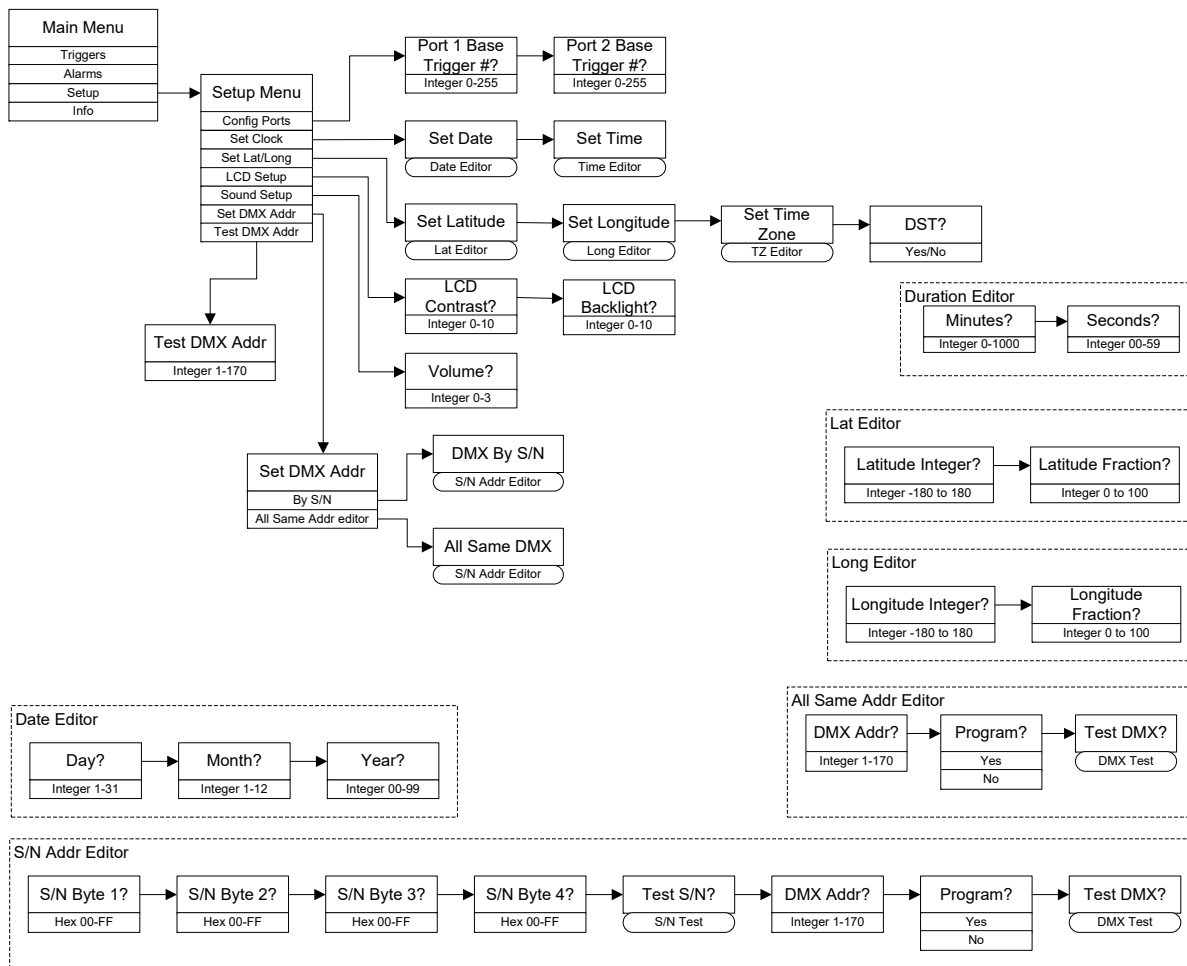
Show Number

Associate the alarm with a trigger number. When the alarm activates, it will automatically start the associated trigger.

Save Changes

In the Alarms menu, you must save for your changes to take effect.

Setup Menu



Setup Parameters

Port 1 Base Trigger #, Port 2 Base Trigger

Create a show range offset for serial port 1 or serial port 2 (change the starting base show number for a serial port).

Set Date

Use the Date Editor to enter the correct day, month, and year.

Set Time

Use the Time Editor to set the clock time.

Set Latitude

Use the Latitude Editor to set latitude (used to calculate sunrise and sunset).

Set Longitude

Use the Longitude Editor to set longitude (used to calculate sunrise and sunset).

LCD Contrast

Set the contrast of the LCD screen (0 – 10).

LCD Backlight

Set the brightness of the LCD screen (0 – 10).

Volume

Set the volume level of the internal speaker (0 – 3). Turn the speaker off by selecting 0.

Set DMX Address

By Serial Number

Use the Serial Number Editor to set DMX addresses by fixture serial number.

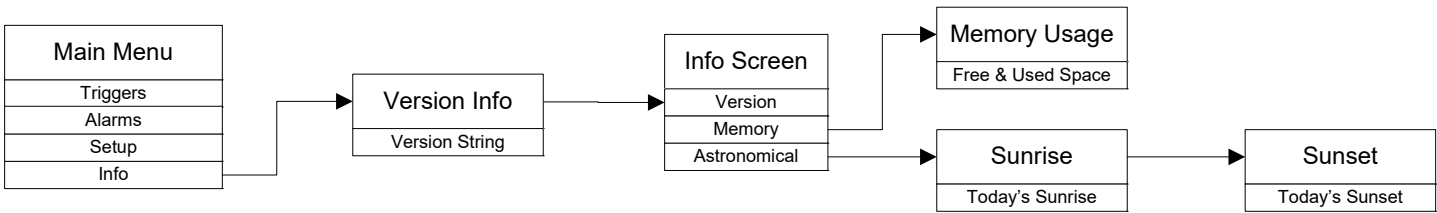
All Same Address

Use the All Same Address Editor to set all fixtures to the same DMX address.

Test DMX Address

Enter the DMX address you want to test (1 – 170).

Info Menu



Version Info

Displays the installed firmware version so you can determine if firmware needs to be updated (see “Appendix C: Firmware Update Procedure” on page 25 for details).

Memory Usage

Displays available/used onboard memory.

Sunrise


Displays today’s time of sunrise based on clock time, longitude, and latitude.

Sunset


Displays today’s time of sunset based on clock time, longitude, and latitude.

Appendix F: Powering off the iPlayer 3

Once installed, the iPlayer 3 is designed to remain powered on at all times. In the event you need to power off or restart the iPlayer 3, ensure that you adhere to the following guidelines to prevent corrupting the SD memory card.

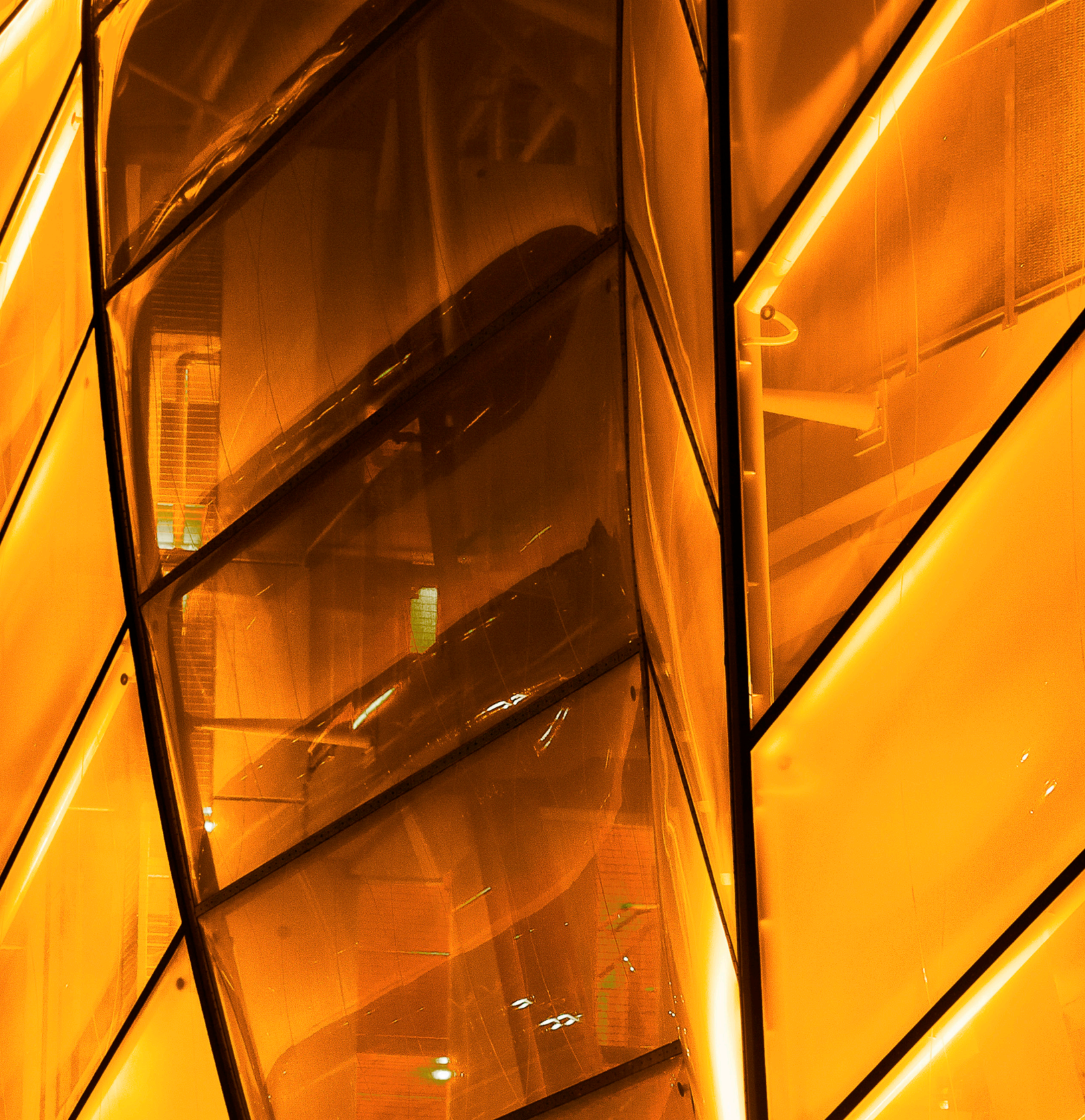
 *To prevent the iPlayer 3 from turning off unexpectedly in the event of a power loss, plug the iPlayer 3 into an uninterruptible power supply (UPS).*

Do not power off the iPlayer 3 while it is in RUN mode

If the iPlayer 3 is in RUN mode, press the  button. When the LIGHTS OFF message is displayed on the screen, it is safe to power off the iPlayer 3.

Keep the iPlayer 3 plugged into a power strip

Attach the iPlayer 3 to a power strip with an on/off switch. If you need to power off the iPlayer 3, use the on/off switch on the power strip to do so.



© 2020 Signify Holding. All rights reserved. Specifications are subject to change without notice. No representation or warranty as to the accuracy or completeness of the information included herein is given and any liability for any action in reliance thereon is disclaimed.

Cover photo: Patrick Reynolds

Color Kinetics
www.colorkinetics.com