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# AP-150 RGBW PAR LED LUMINAIRE USER MANUAL



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AP150

# Preface

The document provides basic information on installation and operational instructions for a qualified, trained installer. These instructions provide information for the following product:

#### AP-150 RGBW PAR LED LUMINAIRE

Additional product information can be found on our web site at www.altmanlighting.com or by scanning the QR code to the right.

## Have a question regarding this manual?

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Should you have a suggestion or question regarding your Altman Lighting product, we would love to hear from you.

You can reach us at:

Altman Lighting 1400 East 66th Ave. Denver, CO. 80229 +1 (303) 500-7072 www.altmanlighting.com customerservice@altmanlighting.com support@altmanlighting.com sales@altmanlighting.com

Note: Information contained in this document may not be duplicated in full or in part by any person without prior written approval of Altman Lighting Its sole purpose is to provide the user with conceptual information on the equipment mentioned. The use of this document for all other purposes is specifically prohibited.

### Our Commitment

Altman Lighting continually engages in research related to product improvement. New materials, production methods and design refinements are introduced into existing products without notice as a routine expression of the philosophy. For this reason any current Altman Lighting product may differ in some respect from its published description, but will always equal or exceed the original design specifications unless otherwise noted.

Document Number: **49-0400** Version as of: **2022 October 7th**  Product Luminaire Installation & User's Manual © Altman Lighting 2022. All rights reserved.





# Important Information

### Product Safety Notices

When using electrical equipment, basic safety precautions should always be followed including the following:



- 1. READ AND FOLLOW ALL SAFETY INSTRUCTIONS.
- 2. Do not mount near gas or electric heaters.
- 3. Equipment should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
- 4. Operate only in approved environments. Do not operate outside unless product is designed to do so.
- 5. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
- 6. Do not use this equipment for other than intended use.
- 7. Refer service to qualified personnel.

SAVE THESE INSTRUCTIONS.

### Warnings



WARNING: You must have access to a main circuit breaker or other power disconnect device before installing any wiring. Be sure that power is disconnected by removing fuses or turning the main circuit breaker off before installation. Installing the device with power on may expose you to dangerous voltages and damage the device. A qualified electrician must perform this installation.

WARNING: Refer to National Electrical Code® and local codes for cable specifications. Failure to use proper cable can result in damage to equipment or danger to personnel.

WARNING: This equipment is intended for installation in accordance with the National Electric Code® and local regulations. Before any electrical work is performed, disconnect power at the circuit breaker or remove the fuse to avoid shock or damage to the control. It is recommended that a qualified electrician perform this installation.

WARNING: This Lighting Fixture IS NOT for residential installation or use.

WARNING: The structure where fixture(s) is to be mounted must be capable of supporting the weight of the fixture and its accessories. This fixture is for temporary, portable mounting only.

WARNING: The light source contained in this luminaire shall only be replaced by the manufacturer or his service agent or a similar qualified person.

THIS PRODUCT MUST BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE INSTALLATION CODE BY A PERSON FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF THE PRODUCT AND THE HAZARDS INVOLVED.

CE PRODUIT DOIT ÊTRE INSTALLÉ SELON LE CODE D'INSTALLATION PERTINENT, PAR UNE PERSONNE.

CONSULT A QUALIFIED ELECTRICIAN TO ENSURE CORRECT BRANCH CIRCUIT CONDUCTOR. CONSULTER UN ÉLECTRICIEN QUALIFIÉ POUR VOUS ASSURER QUE LES CONDUCTEURS DE LA DÉRIVATION SONT ADÉQUATS.



# FCC Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

# Altman Lighting Product Warranty

### Warranty Terms

Altman Lighting, Inc., a subsidiary of Altman Stage Lighting Company, Inc., herein referred to as Altman, warrants each new product (except for spare parts or products Altman does not manufacture) for a period of FIVE (5) years and ONE (1) day from date of shipment to correct by repair or replacement any part defect due to faulty material or workmanship.

Altman warrants for NINETY (90) days any spare part it manufactures. On spare parts or products Altman does not manufacture, including, but not limited to, lamps, sockets, lenses, roundels, electronics, ignitors, ballasts, etc.; Altman will grant the same warranty given Altman by its vendors. Altman assumes no responsibility for damage or faulty performance caused by misuse, improper installation, careless handling or where repairs have been attempted by others. This warranty is in lieu of all warranties or guarantees expressed or implied and no representative or person is authorized to assume Altman any other liability with the sale of Altman's products.

Altman assumes no responsibility for damage or faulty performance caused by misuse, improper installation, careless handling or where repairs have been attempted by others.

This warranty is in lieu of all warranties or guarantees expressed or implied and no representative or person is authorized to assume Altman any other liability with the sale of Altman's products.

### Warranty Service

The customer must receive a Return Material Authorization (RMA) number prior to return. Return shipment must be visibly marked with the RMA number and the product must be returned (shipping prepaid) to the factory at:

1400 East. 66th Avenue Denver, CO 80229 USA +1-303-500-7072 support@altmanlighting.com

The return must be within THIRTY (30) days of receiving the RMA from Altman. Altman warrants for NINETY (90) days any spare part it manufactures. On spare parts or products Altman does not manufacture, such as lamps, sockets, lenses, roundels, electronics, ignitors, ballasts, etc. Altman will grant the same warranty given Altman by its vendors.



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# About this Manual

The document provides installation and operation instructions for the following products:

#### • AP-150 RGBW LED Luminaires

Please read all instructions before installing or using this product. Retain this manual for future reference.

## **Product Descriptions**

The document provides installation and operation instructions for the following products:

Model Number	Description
AP-150-RGBW-B*	AP-150 RGBW Par Luminaire, Black
AP-150-RGBW-B-PCED*	AP-150 RGBW Par Luminaire with Power Input Cable (PCL-PBG-12-5, PowerCON (blue) to Edison Male, 5-foot 20A power input cable), Black
AP-150-RGBW-B-PCBE*	AP-150 RGBW Par Luminaire with Power Input Cable (PCL-BARE-12-5, PowerCON (blue) to bare end, 5-foot 20A power input cable), Black

\* - Note: This luminaire does not include C-clamp (510) or Safety Cable (SC-36-BK). These items must be ordered / purchased separately.

### Accessories

Contact your Authorized Altman Lighting Dealer for price and availability of all accessories for AP-150-RGBW. Additional information can be found on the Altman Lighting web site at www.altmanlighting.com.

Model Number	Description
510	Malleable Iron Pipe Clamp
AP150BD-BK	AP-150-RGBW LED Par 4-Leaf Barn Door
AP150TH-BK	AP-150-RGBW LED Par Top Hat
PCL-BARE-12-5	PowerCON (blue) to bare end, 5-foot 20A power input cable
PCL-2P&G-12-5	PowerCON (blue) to Stage Pin Male, 5-foot 20A power input cable
PCL-PBG-12-5	PowerCON (blue) to Edison Male, 5-foot 20A power input cable
PCL-TLG-12-5	PowerCON (blue) to L5-20P Twist Lock Male, 5-foot 20A power input cable
PCTJ-12-5	5-Foot, 20 Amp, PowerCON In to PowerCON Out feed-through jumper Cable
PCTJ-12-10	10-Foot, 20 Amp, PowerCON In to PowerCON Out feed-through jumper Cable
PCTJ-12-15	15-Foot, 20 Amp, PowerCON In to PowerCON Out feed-through jumper Cable
PCTJ-12-25	25-Foot, 20 Amp, PowerCON In to PowerCON Out feed-through jumper Cable
PCTJ-COUPLER	PowerCON coupler (PowerCON In to PowerCON Out to link cables)
SC-36-BK	36-Inch Black Safety Cable with Spring Clip



# AP-150 PAR LED Luminaire Overview

## AP-150 Luminaires Components





NOTE: A safety cable (not supplied with unit, sold separately) should be used and may be required by local and/or national codes when hanging this luminaire.

**Note:** The features illustrated in this section are to familiarize users with the basic components and features of the fixtures. The next chapters will provide detailed information on connections, mounting, and menu operation. For technical specifications, refer to "Technical Specifications" on page 43.



# Installation And Setup

### Overview

The AP-150 RGBW Par LED Luminaire is designed as a portable Par fixture. The unit can be mounted via a C-clamp (sold separately) or used on the ground using the fixture's kickstand yoke.

## Power Connection Warnings

Before performing any field wiring, refer to and read the warnings contained in "Important Information" on page 3.

**WARNING!** The AP-150 RGBW Par LED Luminaire should be connected to a constant circuit or a relay device. It should never be connected to a dimmer or circuit controlled by a dimmer. Read "Connecting Power" on page 8 carefully on how to properly connect your fixture.

**WARNING!** The maximum allowable input current is 20 Amps. Do not overload circuits! Luminaires must be supplied by a branch circuit protected by a maximum 20 Amp circuit protector. Doit être alimenté par un circuit de dérivation protégé par un maximum de 20 ampères circuit protecteur. Ne surchargez pas les circuits!

**WARNING!** When using the daisy-chain connection method, only connect your AP-150 RGBW Par LED Luminaire to AC Output Connection of other AP-150 RGBW Par LED Luminaires. DO NOT CONNECT OTHER TYPES OF LUMINAIRES OR DEVICES! The maximum allowable of number of AP-150 RGBW Par LED Luminaires that can be daisy-chained on one power feed should not exceed the first fixture's 16 Amp power rating.

## Connecting Power

Units are powered via an AC input cable (sold separately, refer to "Accessories" on page 6 for optional AC input cables) from 100 to 240VAC, 50/60Hz and draw approximately 135 Watts of power. Table 1, outlines the wire colors and their purpose.





## Connecting DMX

The AP-150 RGBW Par LED offers two DMX512 connections. One for DMX Input (from a DMX source) and one DMX throughput (out). Basic DMX512 installation consists of connecting multiple DMX controlled AP-150 RGBW Par LED together (up to 32 Total devices per DMX string) in "daisy-chain" fashion. A cable runs from the DMX512 control source to the DMX INPUT connection on the first luminaire. From the DMX OUTPUT of the luminaire another cable runs to the DMX IN connector on the next luminaire (or DMX512 device to be controlled).



At the end of each DMX Daisy chain, it is highly recommended that a DMX TERMINATOR (Altman Lighting part number DMX-5-TERM) is installed on the last luminaire (or device) in the chain.

For more information on installing DMX512 control systems, the following publication is available for purchase from the United States Institute for Theatre Technology (USITT), "Recommended Practice for DMX512: A Guide for Users and Installers, 2nd edition" (ISBN: 9780955703522).

USITT Contact Information: www.usitt.org

DMX - XLR Connectors

The table to the right shows the pin-out and corresponding DMX signals for a 5-pin XLR connector.

DMX Signal	XLR Connector*
Common (Drain)	Pin 1
DMX -	Pin 2
DMX +	Pin 3
Not Used	Pin 4
Not Used	Pin 5

Table 2: DMX 5-PIN XLR Connector Wiring

Note: \* Only those pins shown are used. Remaining pins on connectors are not used.

## Rear Panel

The unit has one AC input connector and one AC throughput (out) connector. It is very important that the total current passing through the unit not exceed the rating indicated on the real panel overlay.



# Daisy-Chaining Units

When daisy-chaining units, do not exceed the number of units as shown in Table 3. Also, please make sure you have read and understood the warnings contained in this section of the manual ("Power Connection Warnings" on page 8.)



NOTE: For available luminaire to luminaire interconnect power cable, see "Accessories" on page 6.

Voltage	Maximum Number of Units
120VAC	9
230VAC	14

Table 3: Daisy-Chaining AP-150-RGBW Luminaires



### AP-150 RGBW PAR LED

## **C-Clamp Installation**

The C-Clamp should be installed as shown in **Figure 4**. Only use the hardware supplied with the c-clamp.



**NOTE:** A C-Clamp is not supplied with AP-150 and is sold separately.



#### Figure 4: C-Clamp Installation

#### To Install the C-clamp:

- With luminaire on a flat, sturdy surface, position yoke assembly for easy access as illustrated in Figure 4. 1.
- 2. Place on 1/2-13 hex bolt, in this order, the 1/2-inch lock washer and then the 1/2-inch flat washer.
- 3. Insert bolt into hole on yoke assembly.
- 4. Position c-clamp over bolt and thread bolt into c-clamp.
- 5. Tighten bolt.

# Safety Cable Installation

The safety cable should be installed in accordance to local and national codes.



**NOTE:** The safety cable (Is not supplied with unit) should be used and may be required by local and/ or national codes when hanging this luminaire. The mounting structure must be capable of supporting the weight of the fixture, lens, cabling, any accessories, etc.



Safety Cable Anchor Point

Figure 5: Safety Cable Installation



### AP-150 RGBW PAR LED

## Mounting

The AP-150 is simple to install and position where work lighting is needed. When mounting the AP-150 Light, you must follow all national and local codes for safe installation and use. Unit weight, without accessories is 11.2 pounds / 5.08 kilograms.



## Adjusting Tilt

The AP-150 can have its tilt adjusted via the lock off handles on the side of the luminaire. Simple loosen (but DO NOT REMOVE) the handle so the unit is able to swing up and down. Set tilt as desired and re-tighten the two lock off handle so the unit does not move from the set position.



# Menu System

## Menu Overview

The AP-150 RGBW Par LED Luminaire has an on-board menu system that allow users to set up the luminaire for standalone operation, control via DMX, or control a variety of luminaire features. This section will cover the on-board menu system.



## Status LED Indicators

To the left of the luminaire LCD display are four (4) LED indicator lights for quick status information of the luminaire. **Table 4** outlines the LED status indicators (as illustrated in **Figure 7**) and their meaning.

LED	Meaning	Operational Status
Power	Luminaire's power status	<ul> <li>Green LED: <i>Constant On</i> - indicates proper power to the luminaire.</li> <li>Green LED: <i>Flashing</i> - Indicates Power Limit is set to a value less than 100%. See ""Power Limit" on page 20. Or, luminaire is "power throttling" due to current fan settings.</li> <li>Note: When the fan is locked on at a specific level the luminaire will lower its output to compensate for the locked fan setting.</li> <li>LED Off: Unit is not powered or connected to power.</li> </ul>
Signal	DMX/RDM signal status LED	<ul> <li>Green LED: Constant On - indicates viable DMX512 is being received by the unit.</li> <li>Green LED: Flashing - indicates RDM activity.</li> <li>Red LED: Constant On - indicates the unit has DMX disabled.</li> <li>LED Off: indicates DMX512 signal is not present.</li> </ul>
Fan	Cooling fan operational status	<ul> <li>Green LED: Normal fan operation mode (automatic). See "Fan Control" on page 18.</li> <li>Yellow LED: High fan operational mode.</li> <li>Red LED: Fan is not operating.</li> </ul>
Temp	Luminaire's current temperature status	<ul> <li>Green LED: Normal operation mode (within normal operational temperature).</li> <li>Yellow LED: Temperature is on the threshold of going above the limit (40 degrees C / 104 degrees F).</li> <li>Red LED: Luminaire is over operational limit temperature. The luminaire should be powered off and allowed to cool.</li> </ul>

**Table 4: Luminaire Status LED Indicators** 



### AP-150 RGBW PAR LED

## LCD Display

The unit has a LCD display that users can use to see and set various parameters for luminaire operation. This section will review how to access these settings. For specific menu operation, see "Main Menu" on page 15.

### QR Code

When the luminaire is powered, a QR Code embedded in the software can be displayed (as shown in Figure 7) when pressing the UP and DOWN arrow buttons simultaneously for 5 seconds.

This QR Code can be used to access the AP-150 RGBW Par LED Luminaire product web page using a smart phone (the smart phone must have a QR Code reader application, by others). On the product web page, you will find the latest available information (this manual, product specification sheet, etc.). Pressing the ESC button will exit this screen.



### Home Screen

The menu system Home Screen can be accessed at anytime the luminaire is powered. Simply press the ESC button as illustrated in Figure 6.

In the Home screen, the DMX address can be changed See "Setting DMX Address from the Home Screen" on page 14.

This Home screen displays the following status of these luminaire's settings:

- DMX Mode
- Zoom Setting
- DMX Slots
- Fan Settings



This screen has a time out setting accessible through "GENERAL SETTINGS Menu" on page 20.



### Menu - General Navigation

You can use the UP, DOWN, LEFT, RIGHT arrow buttons to scroll through the luminaire's menu system. Some screens offer user settings and others offer status / information. All menu options are accessed by using the Menu buttons.

Once all option settings are completed, press the ESC button to exit the Menu system. Pressing ESC multiple times will take you back to the Home Screen. Once in the home screen, press the ESC button a second time to exit that screen.



Figure 9: Menu Buttons

### Setting DMX Address from the Home Screen

To set the fixture's DMX Address from the Home Screen: (Note: Default is 001)

Step 1. Power fixture on and wait until the fixture booting is completed.

Step 2. Press ENTER button.

Step 3. Using UP and DOWN Arrow buttons, increment or decrement DMX address between 001 and 512.

Step 4. Once desired address is set, press the Enter button to confirm.

Note: The numbers will change color from Blue to White confirming the setting.

Note: While in the home screen pressing any of the arrow keys will display each channels output for quick reference.



**Important**: The number of slots that the luminaire is using in order to avoid a DMX address overrun or DMX overlap with other luminaires in the chain.



Figure 10: Setting DMX Address from Home Screen



### Main Menu

Figure 11 shows the Main menu screen. From this screen, you have access to all menus for setting luminaire options or viewing settings/status.



Figure 11: Main Menu Screen

### DMX Menu

Using the Menu buttons (see Figure 9 on page 14), you can move the pointer [>] on the screen to the desired setting and press the ENTER button to select that setting. The following describes the settings in the DMX Menu screen as shown in **Figure 12**.





### DMX Enable / Disable

Note: Default setting is DMX Enable

- DMX Enable: DMX Enable allows for the unit to be controlled via DMX. The Signal LED indicator will be a constant Green when a viable DMX signal is present.
- DMX Disable: When this setting is set to DMX Disable, the Signal LED indicator will turn Red. Although the unit is set to DMX Disable, the fixture will pass the DMX to the next connected fixture in line. When DMX is set to Disable, RDM functionality will continue to operate the luminaire if RDM signals/ commands are present.

#### Address

#### Note: Default setting is 001

DMX Address setting values between 001-498 (when in 16 bit mode) allowing for a full luminaire's DMX channel map. Using the Right and Left Arrow's to increment and decrement to the desired DMX Address.

**Note**: DMX address settings can also be accessed from the home screen see above. See page 14 "Setting DMX Address from Home Screen



### AP-150 RGBW PAR LED

#### Mapping

The Mapping menu allows users to select which DMX map the luminaire will operate. The DMX mapping options are:

- RGBW 16 bit DMX mode 15 Channels\*. See "RGBW 16 Bit Direct Mode (15 Channels)" on page 24.
- RGBW 8 bit DMX mode 10 Channels\*. See "RGBW 8 Bit Direct Mode (10 Channels)" on page 27.
- HSIC mode 10 Channels\*. See "HSIC Mode (10 Channels)" on page 30.
- RGB mode 8 Channels\*. See "RGB Mode Map" on page 33.

\*Fan channel must be set for DMX. See "Fan Control" on page 36.

#### When no DMX

When luminaire losses its DMX signal, users can select what the unit will do (upon the loss of signal). The options are:

• Off (turn the luminaire off - no light output)

**Linear** - When set to Linear, the dimming curve is in direct

luminaire (and its output) will also be at 25%.

Linear

• Last Hold (hold the last look before signal was lost). Note, if DMX is lost and the luminaire is at zero intensity (no output), it will remain (hold) at zero intensity.

Each dimming curve has a different low-end and high-end set point. If luminaries are set to different dimming curves the luminaires will react very differently. To ensure consistent dimming between luminaires, please set all AP-150 Par Luminaires to the same

• Power Up Preset (turns on the Power up Preset - See "Power up" on page 22.)

#### **Dimming Curves**

dimming curve.

Log: When set to Log, the dimming curve, (also called a logarithmic curve by some manufacturers), sets the luminaire to mimic a dimming effect that is perceived as linear (naturally

Incandescent



Square: When set to Square, the dimming curve (also called Standard by some manufacturers) results in a dimming effect that follows a slow or soft bottom-end response and follows a linear line at the top end. (Default)







Note: Default setting is Last Hold

**Note:** Default setting is Linear

Note: Default setting is 16 Bit

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### Status Menu

Using the Menu buttons (see Figure 9 on page 14), you can move the pointer [>] on the screen to the desired setting and press the ENTER button to select that setting. The following describes the settings in the STATUS Menu screen as shown in Figure 14.

This screen provides the status of various operational parameters of the luminaire.



Figure 13: DMX Menu

#### **Output Level**

Displays the current output level of each controllable output of the fixture.

#### User Hours

Shows the time of use since the last User Hours was reset. This is helpful for keeping track of hours used for rental or productions. This option can be reset. Please note, Fixture Hours cannot be reset.

#### LED Temperature

LED Temperature is the current operational temperature of the LEDs.

#### Fan Speed

This feature shows the current speed of the cooling fan in Revolutions Per Minute (RPM).

#### Version

Version shows the current (loaded) firmware version of the luminaire.

#### UID (Unique Identification Number)

This is the unique number for the luminaire. Each luminaire will have its own UID (these will start with 4131).



### Manual Menu

The Manual menu is for standalone operation (without a control console). This menu option can also be used during a focus call to enable the output of the luminaire to set the beam spread via the zoom control.

Using the Menu buttons (see Figure 9 on page 14), you can move the pointer [>] on the screen to the desired setting and press the ENTER button to select that setting. The following describes the settings in the STATUS Menu screen as shown in Figure 14.



Note: Standalone operation will only operate and control a single luminaire (itself).



Figure 14: Manual Operation Menu

#### Intensity

INTENSITY allow users to manually set the output level of the luminaire from 0 to 100%.

#### Preset

PRESET allows users to recall any of the twenty (20) user-recorded color presets. These presets can be set and recorded for playback from either a control console or the luminaire menu system (see page 36).

To recall or edit a preset:

- Step 1. Power fixture on and wait until the fixture booting is completed.
- Step 2. In the MANUAL menu, select PRESET option, and hit Enter button.
- Step 3. Select a PRESET to edit.
- Step 4. Using UP and DOWN arrow buttons, navigate to each option.
- Step 5. Using the RIGHT and LEFT arrow buttons, set desired level for each option.
- Step 6. Once settings are complete, press Enter.
- Step 7. A screen will appear (Figure 15) and ask to save preset to its current or new location.

**Note**: If all presets have been recorded and it is necessary to shut off the output of the luminaire, please select Color Filter 0 to shut off all output.



Figure 15: Save Preset Screen



### AP-150 RGBW PAR LED

#### Color Filter

Color Filter allows users to recall any of the forty-three (43) factory-recorded colors or white set points. These color filters reside in the DMX maps as a dedicated channel along with presets (See "DMX Maps" on page 24 for more information). Color Filters are factory set and cannot be edited.

To view the DMX channel output of any of the color filters or presets, enable the color filter or preset that you would like to review and go to the STATUS menu, then output level to view the output of each channel.



Important: If a Preset is selected and then a Color Filter is selected, the last selected item (Preset or Color Filter) will take precedence and be outputted.

#### Strobe

With Strobe, users can strobe any selected color or preset up to 30 Hz. This channel also includes a number of preset strobe actions.

When Strobe is selected manually - the desired strobe rate will begin once the Arrow button is released. At the bottom of the menu the display will read:



**Note:** For more on strobe control and operation, see "DMX Maps" on page 24.

- -Open-
- -Closed-
- -Slow Rand-(0.4hz)
- -Med Rand-(5hz) -Fast Rand-(30hz)
- -Strobe Range-(0.4-30hz) -Pulse + Slow Rand-(0.4hz)
- -Pulse + Med Rand-(5hz)
- -Pulse + Fast Rand-(30hz)
- -Pulse + Range-(0.4-30hz)
- -Pulse Slow Rand-(0.4hz)
- -Pulse Med Rand-(5hz)
- -Pulse Fast Rand-(30hz)
- -Pulse Range-(0.4-30hz)

# Zoom Control Menu

Zoom Control allows the user to control the luminaire's zoom mechanism from the luminaire. Users can set the lens to one of five settings using the LEFT or RIGHT arrow buttons:

#### DMX

Sets the luminaire to change the zoom via the assigned DMX channel the display will read:

#### Zoom Tab

Zoom Tab sets the lensing system to one of five settings:

- VNSP (Very Narrow Spot) 12°
- NSP (Narrow Spot) 26°
- MFL (Medium Flood) 38°
- WFL (Wide Flood) 50°
- XWFL (Extra Wide Flood) 65°

#### Zoom Value

Zoom Value ranges from 0 to 255. This value will change as the zoom settings are changed. Zoom Value gives the ability for fine zoom adjustment settings between each Zoom Tab. Either the Zoom Tab or the Zoom Value may be used to change the zoom settings manually.



Note: All other zoom beam spreads can be set using the Zoom Value setting.

Note: Zoom control also allows for two different types of control either manual or DMX. These two modes can be used during a lighting focus call to set to a specific zoom setting (beam diameter) for the fixture's focus. Zoom Control also allows for the Zoom to be "locked out" from DMX.

Mote: Zoom control can also be accessed via RDM through a RDM controller or control channel. For RDM information, see on page 38.

📥 Important: If the fixture is set to either a Zoom Tab or Zoom Value Manually - upon power up of the luminaire, the zoom will calibrate but return to the zoom value or zoom tab setting.



### Fan Control

Using the Menu buttons (see Figure 9 on page 14), you can move the pointer [>] on the screen to the desired setting and press the ENTER button to select that setting. The following describes the settings in the Fan Control Menu screen as shown in Figure 16.



Figure 16: Fan Control Menu

#### DMX

When set to DMX, the unit follows the Fan Control in the DMX control channel (See "DMX Mapping and Control" on page 23 for more information). This allows control of the fan during a production from the control console.

#### Manual

- When set to Manual: Automatic, the fan varies with its speed (slowly increasing and decreasing fan speed based upon the luminaire's operating temperature).
- When set to a Manual: [DMX value], it will not allow the fixture to output past that set value.

### General Settings Menu

Using the Menu buttons (see\_Figure 9 on page 14), you can move the pointer [>] on the screen to the desired setting and press the ENTER button to select that setting. The following describes the settings in the General Menu screen as shown in



Figure 17: General Settings Screen

This allows the changes to the security of the menu system (to prevent unwanted changes or access), user options for LCD display backlight off time, turning on and off factory calibration, and more. The following covers the option found under this menu.



#### Security

Using the Menu buttons (see Figure 9 on page 14), you can move the pointer [>] on the screen to the desired setting and press the ENTER button to select that setting. The following describes the settings in the Security Menu screen as shown in Figure 18.



**Figure 18: Security Screen** 

### Change Pass PIN

Change PassPIN allows for the default password number (PassPIN) to be changed to a user definable four-digit number. The Default PIN is 0000.

**Important**: If you change the PassPIN, please write it down and keep it in a safe place. Altman Lighting does not keep a record of user-defined PassPIN numbers.

#### Key Lock

Key Lock will lock the keypad from changes. The PassPIN must be entered in order to access the keypad of the luminaire.

#### General Menu Options

Using the Menu buttons (see Figure 9 on page 14), you can move the pointer [>] on the screen to the desired setting and press the ENTER button to select that setting. The following describes the settings in the Security Menu screen as shown in Figure 18.



Figure 19: General Menu Screen



#### Power Limit

When Power Limit is set to any value other than 100%, the unit will limit the luminaire's output to the setting. When this setting is active, the Green LED power indicator on the back of the luminaire will flash slowly.

This setting will allow for specific upper threshold power settings. The power limit setting will "throttle back" the output of the luminaire allowing the LED output to only reach the preset value. For example, if the power setting is set to 50% only 50% of the output of each color will be available. See Table 5 for details.

Power Limit Setting	90%	80%	<b>70</b> %	60%	<b>50</b> %	40%	30%	20%	10%
Amperage at 120 Volts	0.76	0.67	0.60	0.52	0.43	0.36	0.28	0.20	0.14
Amperage at 230 Volts	0.40	0.36	0.32	0.28	0.23	0.19	0.15	0.11	0.07
Wattage Draw	92.79	82.47	73.13	63.29	53.34	43.63	33.80	24.70	16.84





#### Power up

Sets the luminaire's state when the unit is initially powered. Setting options are:

- Color Filter (go to a color filter as selected and set by the user)
- Preset (go to a preset as selected and set by the user)
- Last Set (go to last setting)

#### Frequency (Pulse Width Modulation)

Various PWM speeds are available from 600Hz - 25kHz to provide flexibility for top quality dimming and flicker free operation for camera.

6	600 Hz	1.2 kHz	2.4 kHz	3.9 kHz*	4.8 kHz	9.6 kHz	16 kHz	20 kHz	25 kHz
*	- Default								

**Note**: Higher PWM rates reduce fading performance. This can affect the smoothness, color-mix, or both when dimming.

**Note**: The PWM setting is only available in software version 1.06 or newer. If you have older version of software, contact Altman Technical Support at support@altmanlighting.com.



### AP-150 RGBW PAR LED

#### Calibration (Color Calibration)

Calibration (when turned on) sets the output to the factory setting for consistent colors between luminaires. The output of the luminaire is reduced.

When Calibration is turned off (factory default), the luminaire's output is not reduced. For full output of the luminaire turn Calibration off.

#### Rset Hours (Reset User Hours)

Reset Hours will set the user hours to zero (0). This setting is used for run time of the luminaire per production or rental. Note: Total fixture hours cannot be reset. Both user and fixture hours only record the time the luminaire is plugged in and powered. Neither of these features record the on and off time of the LED.

BL Off Time (Backlight Off Time)

BL Off Time will set an internal timer to turn off the backlight to the LCD display and the status LED indicators will dim when the backlight turns off. The setting options are:

- ON (do not turn off LCD backlight)
- 5 S (turn off LCD backlight five seconds after the last button press)
- 10 S (turn off LCD backlight ten seconds after the last button press)
- 30 S (turn off LCD backlight thirty seconds after the last button press)
- 1 M ((turn off LCD backlight one minute after the last button press)

### Factory Default

To enter into the Factory default page, remove DMX from the fixture, press and hold both the LEFT and RIGHT arrow buttons for five (5) seconds. Enter the Pass PIN (default is 4131).

Factory defaults can also be set via the control channel.

**Note**: Resetting the fixture to factory defaults will erase any saved presets.

#### Protected

This setting has two options - No and Yes. If set to No, the luminaire can be returned to factory default settings through the Load Factory (see below).

#### **Load Factory**

This setting has two options - No and Yes. If set to No, the luminaire will retain all user settings. If Yes is selected, the unit is returned to factory default settings. Once Yes is selected, the luminaire will automatically reboot.



# DMX Control Maps

This section covers the available DMX mapping options and their control

# RGBW 16 Bit Direct Mode (15 Channels)

RGBW 16 Bit Direct Mode allows for the direct control of both coarse and fine (high and low byte) of color and the master intensity channels, as well as zoom, preset, strobe, control, and fan channels. RGBW 16 Bit Direct Mode will produce the highest quality color cross fades and LED control.

**Note**: If the zoom or fan settings are set to anything other than DMX via the control channel they will default to Local (manual). If control of these channels are to be DMX controlled either set each to DMX CONTROL via the control channel, RDM, or rear display.

DMX Channel	Channel Description	DMX Range	Description		
1	Intensity - High Byte	0 65525	Control of Intensity Channel		
2	Intensity - Low Byte	0 - 00000	Control of interisity charmer		
3	Red - High Byte	0 65525	Control of Dad J EDa		
4	Red - Low Byte	0 - 00000			
5	Green - High Byte	0 65525	Control of Groon LEDo		
6	Green - Low Byte	0 - 00000	Control of Green LEDS		
7	Blue - High Byte	0 65525	Control of Plus LEDs		
8	Blue - Low Byte	0 - 00000			
9	White - High Byte	0 65525	Control of White LEDa		
10	White - Low Byte	0 - 00000			
11	Zoom	0 - 255	Zoom channel settings: Narrow Zoom = DMX 0 Medium Zoom = DMX 127 Wide Zoom = DMX 255 Zoom stop settings: VNSP (Very Narrow Spot) 12° = DMX 0 NSP (Narrow Spot) 26° = DMX 63 MFL (Medium Flood) 38° = DMX 127 WFL (Wide Flood) 50° = DMX 191 XWFL (Extra Wide Flood) 65° = DMX 255		

Table	6:	16	Bit	Direct	Mode
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#### RGBW 16 BIT DIRECT MODE cont.

DMX Channel	Channel Description	DMX Range	Description
12	Channel Description	DMX Range 0 - 255	Description           Control of Presets and Color Filters: Channel OFF (disabled) = DMX 0 - 4 Preset_2 = DMX 8 - 10 Preset_2 = DMX 11 - 13 Preset_4 = DMX 14 - 16 Preset_5 = DMX 17 - 19 Preset_6 = DMX 20 - 22 Preset_7 = DMX 23 - 23 Preset_7 = DMX 20 - 22 Preset_7 = DMX 20 - 22 Preset_9 = DMX 20 - 23 Preset_10 = DMX 32 - 34 Preset_11 = DMX 33 - 37 Preset_12 = DMX 38 - 40 Preset_12 = DMX 38 - 40 Preset_13 = DMX 41 - 43 Preset_15 = DMX 47 - 49 Preset_15 = DMX 50 - 52 Preset_17 = DMX 56 - 58 Preset_18 = DMX 56 - 58 Preset_18 = DMX 56 - 58 Preset_19 = DMX 56 - 67 CF_1_10000K = DMX 62 - 64 CF_0_OFF = DMX 65 - 67 CF_3_6500K = DMX 71 - 73 CF_3_6500K = DMX 71 - 73 CF_3_6500K = DMX 74 - 76 CF_4_5600K = DMX 74 - 76 CF_4_5600K = DMX 80 - 82 CF_6_4500K = DMX 80 - 82 CF_6_4500K = DMX 80 - 82 CF_6_4500K = DMX 80 - 88 CF_7_4000K = DMX 80 - 81 CF_13_Special Rose Pink + DMX 104 - 106 CF_12_Pink = DMX 101 - 110 CF_12_Pink = DMX 101 - 110 CF_12_Pink = DMX 101 - 110 CF_12_Pink = DMX 101 - 110 CF_13_Decial Rose Pink + DMX 104 - 106 CF_14_Follies Pink = DMX 110 - 112 CF_16_Boughue = DMX 112 - 124 CF_20_Medium Blue = DMX 112 - 123 CF_21_Dubte CT Blue = DMX 113 - 115 CF_21_Dubte CT Blue = DMX 113 - 115 CF_21_Dubte CT Blue = DMX 113 - 115 CF_22_Slate Blue = DMX 113 - 113 CF_23_Rose Green = DMX 131 - 133 CF_24_Full CT Blue = DMX 131 - 133 CF_24_Regal Blue = DMX 131 - 130 CF_34_Regal Blue = DMX 132 - 131 CF_34_Regal
			GF_43_Fidilie Reu = DIVIX 194 - 190 Received for Future Lice - DMX 197 - 255



#### RGBW 16 BIT DIRECT MODE cont.

DMX Channel	Channel Description	DMX Range	Description
13	Strobe	0 - 255	Open = DMX 0 - 2 Closed = DMX 3 - 5 Slow Random (0.4 Hz) = DMX 6 - 7 Med Random (5 Hz) = DMX 8 - 10 Fast Random (30 Hz) = DMX 11 - 12 Strobe Range (0.4-30 Hz) = DMX 13 - 127 (fastest) Pulse + Slow Random (0.4 Hz) = DMX 128 - 129 Pulse + Med Random (5hz) = DMX 130 - 131 Pulse + Fast Random (30hz) = DMX 132 - 133 Pulse + Range (0.4-30 Hz) = DMX 132 - 133 Pulse + Range (0.4-30 Hz) = DMX 132 - 191 Pulse - Slow Rand (0.4 Hz) = DMX 192 - 193 Pulse - Med Random (5 Hz) = DMX 194 - 195 Pulse - Fast Random (30 Hz) = DMX 196 - 197 Pulse - Range (0.4-30 Hz) = DMX 198 - 255
14	Control (See "Control Channel Notes")	0 - 255	Default Setting on Console = DMX 0 Display On/Off = DMX 3 - 5 Reserved for Future Use = DMX 6 - 8 Fan Control by DMX = DMX 9 - 11 Fan Speed 20% = DMX 12 - 14** Fan Speed 20% = DMX 15 - 17** Fan Speed 40% = DMX 18 - 20** Fan Speed 60% = DMX 21 - 23** Fan Speed 80% = DMX 24 - 26** Fan Speed 100% = DMX 30 - 32*** Zoom Control by DMX = DMX 30 - 32*** Zoom Control by DMX = DMX 30 - 32*** Zoom VNSP = DMX 33 - 35*** Zoom WSP = DMX 33 - 35*** Zoom WFL = DMX 42 - 44*** Zoom WFL = DMX 42 - 44*** Zoom WFL = DMX 45 - 47*** ***Sets zoom to local control Preset 1 Store = DMX 54 - 56 Preset 2 Store = DMX 54 - 56 Preset 3 Store = DMX 54 - 56 Preset 4 Store = DMX 54 - 56 Preset 4 Store = DMX 54 - 56 Preset 5 Store = DMX 56 - 68 Preset 5 Store = DMX 60 - 62 Preset 6 Store = DMX 63 - 65 Preset 1 Store = DMX 63 - 65 Preset 1 Store = DMX 63 - 71 Preset 11 Store = DMX 63 - 71 Preset 13 Store = DMX 75 - 77 Preset 11 Store = DMX 78 - 80 Preset 13 Store = DMX 84 - 86 Preset 14 Store = DMX 84 - 86 Preset 13 Store = DMX 84 - 86 Preset 14 Store = DMX 84 - 86 Preset 15 Store = DMX 81 - 83 Preset 16 Store = DMX 81 - 83 Preset 17 Store = DMX 81 - 89 Preset 17 Store = DMX 80 - 92 Preset 16 Store = DMX 90 - 92 Preset 17 Store = DMX 90 - 92 Preset 16 Store = DMX 90 - 92 Preset 17 Store = DMX 90 - 92 Preset 16 Store = DMX 90 - 92 Preset 17 Store = DMX 105 - 107 Reserved for Future Use = DMX 108 - 196 Erase all User Presets = DMX 108 - 196 Erase all User Presets = DMX 200 - 249 Fixture Reset* = DMX 200 - 249 Fixture Reset* = DMX 200 - 249
15	Fan Control	0 - 255	Only operational when Fan Mode is set to DMX. (See "Fan Control Channel" on page 36 for more information)

#### **CONTROL CHANNEL NOTES**

Channel changes functions of the luminaire. Set control channel value for desired action. Hold value for at least 3 seconds. Set control channel value to 0 without any scaling.



# RGBW 8 Bit Direct Mode (10 Channels)

RGBW (Red, Green, Blue, White) 8 Bit Direct Mode allows for the direct control of each individual color with a separate master intensity channel. RGBW 8 Bit Direct Mode will produce the good quality color cross fades and LED control.

**Note**: If the zoom or fan settings are set to anything other than DMX via the control channel they will default to Local (manual). If control of these channels are to be DMX controlled either set each to DMX CONTROL via the control channel, RDM, or rear display.

DMX Channel	Channel Description	DMX Range	Description
1	Intensity	0 - 255	Control of Intensity Channel
2	Red	0 - 255	Control of Red LEDs
3	Green	0 - 255	Control of Green LEDs
4	Blue	0 - 255	Control of Blue LEDs
5	White	0 - 255	Control of White LEDs
6	Zoom	0 - 255	Zoom channel settings: Narrow Zoom = DMX 0 Medium Zoom = DMX 127 Wide Zoom = DMX 255 Zoom stop settings: VNSP (Very Narrow Spot) 12° = DMX 0 NSP (Narrow Spot) 26° = DMX 63 MFL (Medium Flood) 38° = DMX 127 WFL (Wide Flood) 50° = DMX 191 XWFL (Extra Wide Flood) 65° = DMX 255

#### Table 7: 8 Bit Direct Mode



#### RGBW 8 BIT DIRECT MODE cont.

DMX Channel	Channel Description	DMX Range	Description
7	Channel Description	0 - 255	Description           Control of Presets and Color Filters:           Channel OFF (disabled) = DMX 0 - 4           Preset_1 = DMX 5 - 7           Preset_2 = DMX 8 - 10           Preset_4 = DMX 14 - 16           Preset_5 = DMX 17 - 19           Preset_6 = DMX 20 - 22           Preset_7 = DMX 23 - 25           Preset_7 = DMX 20 - 22           Preset_9 = DMX 20 - 22           Preset_9 = DMX 20 - 23           Preset_10 = DMX 32 - 34           Preset_11 = DMX 35 - 37           Preset_12 = DMX 38 - 40           Preset_15 = DMX 47 - 49           Preset_15 = DMX 47 - 49           Preset_16 = DMX 50 - 52           Preset_17 = DMX 53 - 55           Preset_18 = DMX 56 - 61           Preset_19 = DMX 56 - 61           Preset_10 = DMX 60 - 82           CF_2_8000K = DMX 71 - 73           CF_2_8000K = DMX 74 - 76           CF_4_5000K = DMX 80 - 89           CF_10_700K = DMX 80 - 88           CF_11_0000CK = DMX 80 - 88           CF_12_Pink = DMX 101 - 103           CF_13_Special Rose Pink = DMX 104 - 106           CF_14_Polikes Pi



#### RGBW 8 BIT DIRECT MODE cont.

DMX Channel	Channel Description	DMX Range	Description
8	Strobe	0 - 255	Open = DMX 0 - 2 Closed = DMX 3 - 5 Slow Random (0.4 Hz) = DMX 6 - 7 Med Random (5 Hz) = DMX 8 - 10 Fast Random (30 Hz) = DMX 11 - 12 Strobe Range (0.4-30 Hz) = DMX 13 - 127 (fastest) Pulse + Slow Random (0.4 Hz) = DMX 128 - 129 Pulse + Med Random (5hz) = DMX 130 - 131 Pulse + Fast Random (30hz) = DMX 132 - 133 Pulse + Range (0.4-30 Hz) = DMX 134 - 191 Pulse - Slow Rand (0.4 Hz) = DMX 192 - 193 Pulse - Med Random (5 Hz) = DMX 194 - 195 Pulse - Fast Random (30 Hz) = DMX 196 - 197 Pulse - Range (0.4-30 Hz) = DMX 198 - 255
9	Control (See "Control Channel Notes")	0 - 255	Default Setting on Console = DMX 0 Display On/Off = DMX 3 - 5 Reserved for Future Use = DMX 6 - 8 Fan Control by DMX = DMX 9 - 11 Fan Speed 20% = DMX 12 - 14** Fan Speed 20% = DMX 15 - 17** Fan Speed 60% = DMX 18 - 20** Fan Speed 60% = DMX 21 - 23** Fan Speed 80% = DMX 24 - 26** Fan Speed 80% = DMX 27 - 29** **Sets fan speed to local control Zoom Control by DMX = DMX 30 - 32*** Zoom VNSP = DMX 33 - 35*** Zoom WNSP = DMX 33 - 35*** Zoom WFL = DMX 39 - 41*** Zoom WFL = DMX 45 - 47*** ***Sets zoom to local control Preset 1 Store = DMX 48 - 50 Preset 2 Store = DMX 51 - 53 Preset 3 Store = DMX 54 - 56 Preset 4 Store = DMX 54 - 56 Preset 4 Store = DMX 63 - 65 Preset 5 Store = DMX 63 - 65 Preset 5 Store = DMX 63 - 65 Preset 1 Store = DMX 69 - 71 Preset 10 Store = DMX 77 - 74 Preset 10 Store = DMX 77 - 74 Preset 11 Store = DMX 78 - 80 Preset 13 Store = DMX 84 - 86 Preset 13 Store = DMX 84 - 86 Preset 14 Store = DMX 78 - 80 Preset 13 Store = DMX 84 - 86 Preset 14 Store = DMX 90 - 92 Preset 16 Store = DMX 90 - 92 Preset 16 Store = DMX 90 - 92 Preset 17 Store = DMX 90 - 98 Preset 18 Store = DMX 105 - 107 Reserved for Future Use = DMX 105 - 107 Reserved for Future Use = DMX 105 - 107 Reserved for Future Use = DMX 250 - 249 Fixture Reset* = DMX 250 - 255
10	Fan Control	0 - 255	Only operational when Fan Mode is set to DMX. (See "Fan Control Channel" on page 36 for more information)

#### CONTROL CHANNEL NOTES

Channel changes functions of the luminaire. Set control channel value for desired action. Hold value for at least 3 seconds. Set control channel value to 0 without any scaling.



### AP-150 RGBW PAR LED

# HSIC Mode (10 Channels)

HSIC mode allows for the high resolution control of hue with a single channel control of intensity, saturation, and CCT. HSIC mode will produce color fades around a color space with a variable CCT channel in the center to adjust the color temperature of the luminaire. In this mode we define hue as color and saturation as the amount of color. Adding CCT to this allows for a value or white point to be added into the mix. Figure 20 is an example of hue where red is 0% DMX and as DMX values increase they move clockwise through the example color wheel ending at red (again) at 100% (DMX value of 255).

As Saturation is added, the movement of the color moves from the center of the wheel to the outside, thus adding or removing white. The CCT channel sets the white point in the center of the wheel - the lower the DMX value, the lower the CCT value becomes. The CCT range is from 2700K to 10000K.

**Note**: If the zoom or fan settings are set to anything other than DMX via the control channel they will default to Local (manual). If control of these channels are to be DMX controlled either set each to DMX CONTROL via the control channel, RDM, or rear display.



Figure 20: HSIC Color Wheel

DMX Channel	Channel Description	DMX Range	Description
1	Intensity	0 - 255	Control of Intensity Channel
2	Hue - High Byte		Control of Hue (refer to "HSIC Mode (10 Channels)" on
3	Hue - Low Byte	0 - 65535	page 31 for more information). Note: Saturation (Channel 3 Hue - Low Byte 4) must be 1% or higher for Hue to take effect.
4	Saturation	0 - 255 0 - 255	Control of Saturation
5	CCT		Control of CCT
6	Zoom	0 - 255	Zoom channel settings: Narrow Zoom = DMX 0 Medium Zoom = DMX 127 Wide Zoom = DMX 255 Zoom stop settings: VNSP (Very Narrow Spot) 12° = DMX 0 NSP (Narrow Spot) 26° = DMX 63 MFL (Medium Flood) 38° = DMX 127 WFL (Wide Flood) 50° = DMX 191 XWFL (Extra Wide Flood) 65° = DMX 255



#### HSIC MODE cont.

7         Presets / Color Filters         0 - 255         Control of Presets and Court Filters           7         Preset / a DMX 5 - 7         Preset / a DMX 5 - 7           Preset / a DMX 5 - 7         Preset / a DMX 5 - 7           Preset / a DMX 5 - 7         Preset / a DMX 5 - 7           Preset / a DMX 1 - 13         Preset / a DMX 1 - 16           Preset / a DMX 1 - 16         Preset / a DMX 3 - 22           Preset / a DMX 2 - 23         Preset / a DMX 2 - 24           Preset / a DMX 3 - 23         Preset / a DMX 3 - 23           Preset / a DMX 3 - 24         Preset / a DMX 3 - 24           Preset / a DMX 3 - 40         Preset / a DMX 4 - 40           Preset / a DMX 4 - 40         Preset / a DMX 4 - 40           Preset / a DMX 4 - 40         Preset / a DMX 4 - 40           Preset / a DMX 5 - 52         Preset / a DMX 4 - 40           Preset / a DMX 4 - 40         Preset / a DMX 4 - 40           Preset / a DMX 4 - 40         Preset / a DMX 4 - 40           Preset / a DMX 4 - 40         Preset / a DMX 4 - 40           Preset / a DMX 4 - 40         Preset / a DMX 4 - 40           Preset / a DMX 4 - 40         Preset / a DMX 4 - 40           Preset / a DMX 4 - 40         Preset / a DMX 4 - 40           Preset / a DMX 4 - 40         Preset / a DMX 4 - 40           Preset /	DM	X Channel	Channel Description	DMX Range	Description
CF_30_Dark Green = DMX 155 - 157 CF_31_Primary Green = DMX 158 - 160 CF_32_Moss Green = DMX 161 - 163 CF_33_Fem Green = DMX 164 - 166 CF_34_JAS Green = DMX 167 - 169 CF_35_Lime Green = DMX 170 - 172 CF_36_Spring Yellow = DMX 173 - 175 CF_37_Deep Amber = DMX 176 - 178 CF_38_Chrome Orange = DMX 179 - 181	DM	<b>X Channel</b>	Channel Description	DMX Range	Description           Control of Presets and Color Filters: Channel OFF (disabled) = DMX 0 - 4 Preset_1 = DMX 8 - 7 Preset_2 = DMX 8 - 10 Preset_3 = DMX 11 - 13 Preset_4 = DMX 14 - 16 Preset_5 = DMX 27 - 19 Preset_6 = DMX 20 - 22 Preset_7 = DMX 22 - 28 Preset_9 = DMX 22 - 28 Preset_9 = DMX 22 - 31 Preset_10 = DMX 32 - 34 Preset_11 = DMX 35 - 37 Preset_12 = DMX 34 - 40 Preset_13 = DMX 41 - 43 Preset_15 = DMX 41 - 43 Preset_16 = DMX 50 - 52 Preset_17 = DMX 53 - 55 Preset_18 = DMX 50 - 62 Preset_19 = DMX 59 - 61 Preset_20 = DMX 65 - 67 CF_1_10000K = DMX 65 - 67 CF_2_8000K = DMX 77 - 79 CF_5_5000K = DMX 77 - 79 CF_5_5000K = DMX 80 - 82 CF_6_4500K = DMX 80 - 82 CF_6_4500K = DMX 80 - 82 CF_6_4500K = DMX 80 - 83 CF_7_4000K = DMX 80 - 83 CF_13_500K = DMX 80 - 83 CF_13_500K = DMX 80 - 81 CF_10_2700K = DMX 89 - 91 CF_12_2700K = DMX 95 - 97 CF_11_Moroccan Pink = DMX 104 - 106 CF_14_Follies Pink = DMX 107 - 109 CF_15_Fuchsia Pink = DMX 107 - 109 CF_15_Fuchsia Pink = DMX 107 - 109 CF_16_Surprise Pink = DMX 101 - 112 CF_16_Surprise Pink = DMX 110 - 112 CF_2_16_Heilies Pink = DMX 110 - 112 CF_16_Surprise Pink = DMX 110 - 112 CF_2_16_Heilies Pink = DMX 110 - 112 CF_16_Surprise Pink = DMX 110 - 112 CF_2_10Aust Blue = DMX 110 - 112 CF_16_Surprise Pink = DMX 110 - 112 CF_16_Surprise Pink = DMX 110 - 112 CF_2_10Aust Blue = DMX 110 - 112 CF_16_Surprise Pink = DMX 110 - 112 CF_16_Surprise Pink = DMX 110 - 112 CF_16_Surprise Pink = DMX 110 - 112 CF_2_10Aust Blue = DMX 110 - 112 CF_2_2_Naust Green = DMX 116 - 118 CF_30_Dask Green = DMX 116 - 118 CF_3



#### HSIC MODE cont.

DMX Channel	Channel Description	DMX Range	Description
8	Strobe	0 - 255	Open = DMX 0 - 2 Closed = DMX 3 - 5 Slow Random (0.4 Hz) = DMX 6 - 7 Med Random (5 Hz) = DMX 8 - 10 Fast Random (30 Hz) = DMX 11 - 12 Strobe Range (0.4-30 Hz) = DMX 13 - 127 (fastest) Pulse + Slow Random (0.4 Hz) = DMX 128 - 129 Pulse + Med Random (5hz) = DMX 130 - 131 Pulse + Fast Random (30hz) = DMX 132 - 133 Pulse + Range (0.4-30 Hz) = DMX 134 - 191 Pulse - Slow Rand (0.4 Hz) = DMX 192 - 193 Pulse - Med Random (5 Hz) = DMX 194 - 195 Pulse - Fast Random (30 Hz) = DMX 196 - 197 Pulse - Range (0.4-30 Hz) = DMX 198 - 255
9	Control (See "Control Channel Notes")	0 - 255	Default Setting on Console = DMX 0 Display On/Off = DMX 3 - 5Reserved for Future Use = DMX 6 - 8 Fan Control by DMX = DMX 9 - 11 Fan Speed 00% = DMX 12 - 14** Fan Speed 20% = DMX 15 - 17** Fan Speed 40% = DMX 18 - 20** Fan Speed 60% = DMX 24 - 26** Fan Speed 100% = DMX 24 - 26** Fan Speed 100% = DMX 30 - 32*** Zoom Control by DMX = DMX 30 - 32*** Zoom VNSP = DMX 33 - 35*** Zoom VNSP = DMX 33 - 35*** Zoom WFL = DMX 45 - 47*** **Sets fan speed to local control Zoom Control by DMX = DMX 30 - 32*** Zoom WFL = DMX 45 - 47*** Zoom WFL = DMX 45 - 47*** ***Sets zoom to local control Preset 1 Store = DMX 45 - 56 Preset 2 Store = DMX 54 - 56 Preset 3 Store = DMX 54 - 56 Preset 3 Store = DMX 63 - 65 Preset 5 Store = DMX 63 - 65 Preset 5 Store = DMX 63 - 65 Preset 3 Store = DMX 69 - 71 Preset 10 Store = DMX 75 - 77 Preset 11 Store = DMX 78 - 80 Preset 12 Store = DMX 78 - 80 Preset 13 Store = DMX 84 - 86 Preset 14 Store = DMX 84 - 86 Preset 14 Store = DMX 87 - 89 Preset 15 Store = DMX 84 - 86 Preset 14 Store = DMX 87 - 89 Preset 15 Store = DMX 80 - 92 Preset 16 Store = DMX 90 - 92 Preset 16 Store = DMX 90 - 92 Preset 16 Store = DMX 90 - 92 Preset 18 Store = DMX 90 - 92 Preset 19 Store = DMX 105 - 107 
10	Fan Control	0 - 255	Only operational when Fan Mode is set to DMX. (See "Fan Control Channel" on page 36 for more information.)

#### CONTROL CHANNEL NOTES

Channel changes functions of the luminaire. Set control channel value for desired action. Hold value for at least 3 seconds. Set control channel value to 0 without any scaling.



# RGB Mode (8 Channels)

RGB Mode allows for medium resolution control of each individual color (excluding the White channel) and conserves the amount of DMX channels the fixture uses for control while maintaining control of the zoom, preset, strobe and control settings. When in RGB Mode the Presets and Color Filter output still uses the White Channel.

**Note**: If the zoom or fan settings are set to anything other than DMX via the control channel they will default to Local (manual). If control of these channels are to be DMX controlled either set each to DMX CONTROL via the control channel, RDM, or rear display.

DMX Channel	Channel Description	DMX Range	Description
1	Red	0 - 255	Control of Red LED's
2	Green	0 - 255	Control of Green LED's
3	Blue	0 - 255	Control of Blue LED's
4	Zoom	0 - 255	Zoom channel settings: Narrow Zoom = DMX 0 Medium Zoom = DMX 127 Wide Zoom = DMX 255 Zoom stop settings: VNSP (Very Narrow Spot) 12° = DMX 0 NSP (Narrow Spot) 26° = DMX 63 MFL (Medium Flood) 38° = DMX 127 WFL (Wide Flood) 50° = DMX 191 XWFL (Extra Wide Flood) 65° = DMX 255

#### Table 9: RGB Mode



#### RGB MODE cont.

DMX Channel	Channel Description	DMX Range	Description
DMX Channel	Channel Description	DMX Range	Description           Control of Presets and Color Filters: Channel OFF (disabled) = DMX 0 - 4 Preset_1 = DMX 8 - 7 Preset_2 = DMX 8 - 10 Preset_3 = DMX 11 - 13 Preset_4 = DMX 14 - 16 Preset_5 = DMX 27 - 19 Preset_6 = DMX 20 - 22 Preset_7 = DMX 23 - 25 Preset_7 = DMX 24 - 28 Preset_9 = DMX 25 - 31 Preset_11 = DMX 35 - 37 Preset_12 = DMX 34 - 40 Preset_13 = DMX 41 - 43 Preset_15 = DMX 41 - 43 Preset_15 = DMX 50 - 52 Preset_7 = DMX 50 - 52 Preset_7 = DMX 55 - 61 Preset_19 = DMX 59 - 61 Preset_19 = DMX 65 - 67 CF_1_10000K = DMX 65 - 67 CF_2_8000K = DMX 68 - 70 CF_2_8000K = DMX 77 - 79 CF_5_5000K = DMX 88 - 88 CF_8_3200K = DMX 89 - 81 CF_9_3000K = DMX 89 - 91 CF_9_3000K = DMX 89 - 91 CF_10_2700K = DMX 89 - 91 CF_12_Pink = DMX 10 - 103 CF_13_Special Rose Pink = DMX 104 - 106 CF_14_Follies Pink = DMX 107 - 109 CF_15_Fuchsia Pink = DMX 107 - 109 CF_15_Fuchsia Pink = DMX 107 - 109 CF_16_Surprise Pink = DMX 107 - 109 CF_16_Surprise Pink = DMX 110 - 112 CF_16_Surprise Pink = DMX 110 - 112 CF_16_Surprise Pink = DMX 110 - 112 CF_16_Surprise Pink = DMX 110 - 112 CF_2_16_Ueer DMX 110 - 112 CF_2_16_Ueer DMX 110 - 112 CF_2_16_Ueer DMX 110 - 112 CF_2_16_Ueer DMX 110 - 112 CF_16_Surprise Pink = DMX 110 - 112 CF_20_State Blue = DMX 113 - 113 CF_22_State Blue = DMX 113 - 133 CF_23_Leer Green = DMX 128 - 130 CF_22_State Blue = DMX 131 - 133 CF_23_Leer Green = DMX 146 - 148 CF_24_FUI CT Blue = DMX 140 - 142 CF_26_2_State Blue = DMX 140 - 142 CF_30_Dark Green = DMX 146 - 148 CF_31_Primary Green = DMX 146 - 148 CF_32_Lipht Blue = DMX 147 - 169 CF_35_Lime Green = DMX 155 - 157 CF_37_Deep Amber = DMX 155 - 157 CF_33_Prem Green = DMX 164 - 166 CF_34_AS Green = DMX 170 - 172 CF_36_Spring Yellow = DMX 170 - 172 CF_36_Spring Yellow = DMX 170 - 172 CF_36_Spring Yellow = DMX 170 - 178 CF_30_Chordme Orange =
			CF_32_Spring Tellow = DMX 176 - 178 CF_37_Deep Amber = DMX 176 - 178 CF_38_Chrome Orange = DMX 179 - 181 CF_39_Orange = DMX 182 - 184 CF_40_Gold Amber = DMX 185 - 187 CF_41_Millennium Gold = DMX 188 - 190 CF_42_Deep Golden Amber = DMX 191 - 193 CF_43_Elaw Pad = DMX 194 - 196



#### RGB MODE cont.

DMX Channel	Channel Description	DMX Range	Description
6	Strobe	0 - 255	Open = DMX 0 - 2 Closed = DMX 3 - 5 Slow Random (0.4 Hz) = DMX 6 - 7 Med Random (5 Hz) = DMX 8 - 10 Fast Random (30 Hz) = DMX 11 - 12 Strobe Range (0.4-30 Hz) = DMX 13 - 127 (fastest) Pulse + Slow Random (0.4 Hz) = DMX 128 - 129 Pulse + Med Random (5hz) = DMX 130 - 131 Pulse + Fast Random (30hz) = DMX 132 - 133 Pulse + Range (0.4-30 Hz) = DMX 134 - 191 Pulse - Slow Rand (0.4 Hz) = DMX 192 - 193 Pulse - Med Random (5 Hz) = DMX 194 - 195 Pulse - Fast Random (30 Hz) = DMX 196 - 197 Pulse - Range (0.4-30 Hz) = DMX 198 - 255
7	Control (See "Control Channel Notes")	0 - 255	Default Setting on Console = DMX 0 Display On/Off = DMX 3 - 5 Reserved for Future Use = DMX 6 - 8 Fan Control by DMX = DMX 9 - 11 Fan Speed 0% = DMX 12 - 14** Fan Speed 20% = DMX 15 - 17** Fan Speed 60% = DMX 18 - 20** Fan Speed 60% = DMX 21 - 23** Fan Speed 80% = DMX 24 - 26** Fan Speed 100% = DMX 27 - 29** **Sets fan speed to local control Zoom Control by DMX = DMX 30 - 32*** Zoom VNSP = DMX 33 - 35*** Zoom NSP = DMX 33 - 35*** Zoom WFL = DMX 39 - 41*** Zoom WFL = DMX 45 - 47*** ***Sets zoom to local control Preset 1 Store = DMX 54 - 56 Preset 2 Store = DMX 54 - 56 Preset 3 Store = DMX 57 - 59 Preset 3 Store = DMX 60 - 62 Preset 6 Store = DMX 60 - 62 Preset 8 Store = DMX 66 - 68 Preset 8 Store = DMX 75 - 77 Preset 10 Store = DMX 75 - 77 Preset 11 Store = DMX 75 - 77 Preset 11 Store = DMX 75 - 77 Preset 13 Store = DMX 81 - 83 Preset 14 Store = DMX 81 - 83 Preset 15 Store = DMX 90 - 92 Preset 15 Store = DMX 90 - 92 Preset 16 Store = DMX 90 - 92 Preset 17 Store = DMX 90 - 92 Preset 18 Store = DMX 90 - 92 Preset 19 Store = DMX 90 - 101 Preset 20 Store = DMX 102 - 104 Preset 20 Store = DMX 102 - 104 Preset 20 Store = DMX 102 - 104 Preset 20 Store = DMX 105 - 107 Reserved for Future Use = DMX 107 - 199 Reserved for Future Use = DMX 200 - 249 Fixture Reset* = DMX 250 - 255
8	Fan Control	0 - 255	Only operational when Fan Mode is set to DMX. (See "Fan Con- trol Channel" on page 36 for more information.)

#### CONTROL CHANNEL NOTES

Channel changes functions of the luminaire. Set control channel value for desired action. Hold value for at least 3 seconds. Set control channel value to 0 without any scaling.



# Recording Color Presets from a Console

Similar to recording a preset or "look" to a cue the AP-150 RGBW Par LED Luminaire can record and playback a color preset from the lighting controller and store it locally in the luminaire's memory. There are twenty (20) user edit able presets built into the fixture. This feature becomes very powerful when using multiple AP-150 RGBW Par LED Luminaire's together or when looking for single channel play back of prerecorded colors.

Important: Color presets can be recorded, edited, and stored. Color filters cannot be edited.

Recording a color preset from a control console:

Step 1. Set each color for your desired color mix.

Step 2. Using control channel select a color preset number to store the color mix.

**Note**: These settings must be performed without any channel scaling between each of the DMX values. It is recommended that either a direct key entry is done from the console or use control channel macros.

Step 3. Wait 3 seconds. Step 4. Return control channel to 0.

## Fan Control Channel

Fan Control is added to the DMX map when the luminaire is set to DMX control via the menu system (see "Fan Control" on page 21) or via an RDM control channel command.

When the AP-150 RGBW Par LED Luminaire is set to DMX control, the fan will respond to the DMX values of the fan's DMX settings and can be incorporated into cues or looks from the DMX controller. This mode allows for the complete control of the luminaire's sound output. The fan control has a number of different variables to be aware of:

**Note**: Please note the AP-150 RGBW Par LED Luminaire will always protect itself no matter what the settings are, we call this Progressive Output Management where the unit's logic follows a few rules:

- 1. When the unit is set to automatic fan control, the fan cooling will slowly increase and decrease based upon the unit's operating temperature.
- 2. When the unit is set to any of the "fixed" fan speeds if the LED reaches a threshold temperature- the output of the luminaire will be reduced until thermal equilibrium is reached.
- 3. When the unit is set to DMX, the luminaire will follow item number 2 above. This mode is generally used when going from a very high-output scene to a low output low-noise scene where the luminaire's fan control and mitigation follows that of the scene characteristics as displayed on stage.

## CCT DMX Values

The following dmx settings can be used to set the AP-150 RGBW LED values to a desired CCT color from a DMX console or controller. **Note:** The following settings can only be achieve when the fixture is either set to DMX Map 8bit or 16bit **(Table 10)**.

**Note:** The following settings can only be achieve when the fixture is either set to Divix map soil of fobil (fable fu).

Note: For a more accurate CCT output it is recommended to turn on Calibration. See page 23 for Setting the Calibration from the fixture.

CCT	Red	Green	Blue	White
2700K	100%	64%	0%	18%
3000K	100%	68%	0%	30%
3200K	100%	70%	0%	39%
4000K	100%	76%	0%	99%
4500K	61%	47%	0%	100%
5000K	36%	28%	0%	100%
5600K	46%	12%	0%	100%
6500K	3%	0%	2%	100%
8000K	0%	5%	18%	100%
10000K	0%	12%	36%	100%



# RDM CONTROL AND TABLES

## **RDM** Parameter IDs

The AP-150 RGBW Par LED Luminaire is fully RDM compliant. This section outline the RDM features available in this fixture.

### RDM Feature - TECH Identify

The AP-150 RGBW Par LED Luminaire has a RDM feature called TECH Identify. Normally, IDENTIFY\_DEVICE RDM function is used to identify (locate) a luminaire in a rig by flashing its output. This can be disruptive to a focus or rehearsal call. Altman Lighting has added TECH Identify that will flash just the display of the luminaire. See Table 14 on page 39 for more information on this and other manufacturer specific RDM functions.

Model ID	Manufacturer	Model	Product Category
0x2000	Altman Stage Lighting	AP-150-RGBW	0x0509

Table 11: RDM Product Parameters IDs

UID						
MSB of ESTA 41H	LSB of ESTA 31H	MSB of D1H	LSB of 00H	MSB of Unique Seq.	LSB of Unique Seq.	
Table 12: RDM UID						

Get Allowed	Set Allowed	RDM Parameters IDs	Value	Comments	Implemented			
	Category - Network Management							
		DISC_UNIQUE_BRANCH	0x0001		Yes			
		DISC_MUTE	0x0002		Yes			
		DISC_UN_MUTE	0x0003		Yes			
Yes		PROXIED_DEVICES	0x0010					
Yes		PROXIED_DEVICE_COUNT	0x0011					
Yes	Yes	COMMS_STATUS	0x0015					
		Category - Status Collectio	)n	•				
Yes		QUEUED_MESSAGE	0x0020					
Yes		STATUS_MESSAGES	0x0030					
Yes		STATUS_ID_DESCRIPTION	0x0031					
	Yes	CLEAR_STATUS_ID	0x0032					
Yes	Yes	SUB_DEVICE_STATUS_REPORT_THRESHOLD	0x0033					
		Category - RDM Information	on					
Yes		SUPPORTED_PARAMETERS	0x0050	Support required only if support- ing Parameters beyond the mini- mum required set.	Yes			
Yes		PARAMETER_DESCRIPTION	0x0051	"Support required for Manufac- turer- Specific PIDs exposed in SUPPORTED_ PARAMETERS message."	Yes			
		Category - Product Informat	ion					
Yes		DEVICE_INFO	0x0060		Yes			
Yes		PRODUCT_DETAIL_ID_LIST	0x0070					
Yes		DEVICE_MODEL_DESCRIPTION	0x0080		Yes			



Table 13: Supported RDM Parameter IDs

Yes		MANUFACTURER_LABEL	0x0081		Yes
Yes	Yes	DEVICE_LABEL	0x0082		Yes
Yes	Yes	FACTORY_DEFAULTS	0x0090		
Yes		LANGUAGE_CAPABILITIES	0x00A0		
Yes	Yes	LANGUAGE	0x00B0		
Yes		SOFTWARE_VERSION_LABEL	0x00C0		Yes
Yes		BOOT_SOFTWARE_VERSION_ID	0x00C1		
Yes		BOOT_SOFTWARE_VERSION_LABEL	0x00C2		
		Category - DMX Setup			
Yes	Yes	DMX_PERSONALITY	0x00E0		Yes
Yes		DMX_PERSONALITY_DESCRIPTION	0x00E1		Yes
Yes	Yes	DMX_START_ADDRESS	0x00F0		Yes
Yes		SLOT_INFO	0x0120	Required if device uses a DMX slot	Yes
Yes		SLOT_DESCRIPTION	0x0121		Yes
Yes		DEFAULT_SLOT_VALUE	0x0122		
		Category - Sensors 0x02X	Х		
Yes		SENSOR_DEFINITION	0x0200		Yes
Yes	Yes	SENSOR_VALUE	0x0201		Yes
	Yes	RECORD_SENSORS	0x0202		
		Category - Dimmer Settings 0	k03XX		
Yes	Yes	DIMMING_INFORMATION	0X0340		
Yes	Yes	DIMMING_CURVE	0X0343		
Yes	Yes	DIMMING_FREQUENCY SELECT	0x0347		
Category - Power / Lamp Settings 0x04XX					
Yes	Yes	DEVICE_HOURS	0x0400		
Yes	Yes	LAMP_HOURS 0x0401			
Yes	Yes	LAMP_STRIKES	0x0402		
Yes	Yes	LAMP_STATE	0x0403		
Yes	Yes	LAMP_ON_MODE	0x0404		
Yes	Yes	DEVICE_POWER_CYCLES	0x0405		
		Category - Display Settings 0x	05XX		
Yes	Yes	DISPLAY_INVERT	0x0500		
Yes	Yes	DISPLAY_LEVEL	0x0501		
		Category - Configuration 0x0	6XX		
Yes	Yes	PAN_INVERT	0x0600		
Yes	Yes	TILT_INVERT	0x0601		
Yes	Yes	PAN_TILT_SWAP	0x0602		
Yes	Yes	REAL_TIME_CLOCK	0x0603		
		Category - Control 0x10X	x		
Yes	Yes	IDENTIFY_DEVICE	0x1000		Yes
	Yes	RESET_DEVICE	0x1001		
Yes	Yes	POWER_STATE	0x1010		
Yes	Yes	PERFORM_SELFTEST	0x1020		
Yes		SELF_TEST_DESCRIPTION	0x1021		
	Yes	CAPTURE_PRESET	0x1030		
Yes	Yes	PRESET_PLAYBACK	0x1031		

Table 14: Supported RDM Parameter IDs



Get Allowed	Set Allowed	Parameters IDs	Туре	Length	Unit	Prefix	Min.	Max.	Default	Description	Description
Yes	Yes	8A0CH	U8	1	None	None	0	2	0	When no DMX	"0 = Off 1 = Hold Last Look 2 = Power Up Preset"
Yes	Yes	8A44H	U8	1	None	None	0	1	0	Calibration ON / OFF	0 = Factory Calibra- tion Off 1 = Factory Calibration On
Yes	Yes	8A92H	U8	1	None	None	0	255	0	STROBE	0 - 255
Yes	Yes	8A97H	U8	1	None	None	0	1	0	Fan Mode	"0 = DMX Control 1 = Manual Control"
Yes	Yes	8A98H	U8	1	None	None	0	255	0	Fan Speed	"0 = Automatic 1-255 Variable"
Yes	Yes	8AA0H	U8	1	None	None	0	4	0	BL (Backlight) Off Time	"0 = 0n 1 = 5 Seconds 2 = 10 Seconds 3 = 30 Seconds 4 = 1 Minute"
Yes	Yes	8AA1H	U8	1	None	None	0	2	0	Dimming Curve	"0 = Linear 1 = Incandescent 2 = Standard"
Yes	Yes	8AA2H	U8	1	None	None	0	64	0	Power Up Preset	"0 = Last Set 1 - 20 = Preset 1 - 20 21 - 64 = Color Filter 1 - 43"
Yes	Yes	8AB0H	U8	1	None	None	0	43	0	Color Filter	21 - 64 = Color Filter 1 - 43
Yes	Yes	8AB1H	U8	1	None	None	0	20	0	PRESET	1 - 20 = Preset 1 - 20
Yes	Yes	8AB3H	U8	1	None	None	0	100	100	POWER LIMIT	Sets and displays power limit settings (0 to 100%).
Yes		8AB4H	U32	4	None	None	0	65535	0	User Hours	Displays the number of user hours (time of use) of the luminaire.
Yes		8AB5H	U32	4	None	None	0	65535	0	Fixture Hours	Displays the total number of hours of the luminaire has been used.
Yes	Yes	8AB6H	U8	1	None	None	0	1	0	ZOOM MODE	"0 = DMX Control 1 = Manual Control"
Yes	Yes	8AB7H	U8	1	None	None	0	255	0	ZOOM POSI- TION	In Manual mode, this parameter controls the zoom.
Yes	Yes	8AB8H	U8	1	None	None	0	1	0	TECH Identify	"0 = LCD backlight stops flashing. 1 = Backlight flashing starts. The LCD back- light will continue to flash for 5 minutes. It automatically stops if the ESC button (on the menu) is pressed."

Table 15: Manufacturer Specific IDs (Manufacturer Defined PIDs range is 0x8000-0xffdf. See Table A-3, ANSI E1.20-2010)



# **Cleaning And Care**



**WARNING**! All cleaning should be performed with power completely removed from the luminaire. Never remove protective covers when luminaire is powered. Wear appropriate protective eye wear and gloves when cleaning the fixture. All service and maintenance, other than described herein, should be performed by a qualified technician. AT NO TIME SHOULD THE LED BE TOUCHED.

Being a solid-state fixture, and unlike most fixtures, the AP-150 LED Luminaires requires very little routine maintenance by the user. This section covers portions of the luminaire that can be removed for cleaning.

The AP-150 LED Luminaire requires special care when it comes to cleaning the front reflector assembly. Additional care needs to be taken with the plastic components because they are much easier to scratch or damagethan glass.

The following is a list of cleaning materials required to care for your AP-150 LED Luminaire:

- Lint free lens tissue
- Lint or powder free gloves
- Reagent grade isopropyl alcohol\*
- A mild soap solution.



Reagent grade isopropyl alcohol is good to use on the AP-150 LED Luminaire plastic optics with anti-reflection coatings.

If the lens is still dirty after using isopropyl alcohol, for instance if fingerprints or oil is just redistributed and not cleaned off the optic, then a mild soap and water solution can be used to gently wash the lens. Repeat the cleaning with isopropyl alcohol to eliminate streaks and soap residue.



Under no circumstances should ammonia-based cleaners, acetone, or other harsh solvents be used on or near the AP-150 LED Luminaire. These types of cleaners or solvents can permanently damage the optics or housings of the fixture. If you have any questions regarding the use or care of your AP-150 LED Luminaire, please contact Altman Lighting technical support or your local Authorized Dealer.

If you have any questions regarding the use or care of your AP-150 LED Luminaires, please contact Altman Lighting technical support at support@ altmanlighting.com or your local Authorized Dealer.

**Routine Preventative Maintenance:** Regular routine maintenance should be preformed at least twice a year. Additional inspections and cleaning may be necessary and more often depending upon the environment and hours of use of each luminaire.

- 1. Turn off luminaire and allow to cool completely.
- 2. Check for excessive dust or debris in the heat sink area of the luminaire
- 3. Wipe and remove all debris, dirt, dust from the cooling fins (a can of clean compressed air can be used to blow out from one side of the luminaire to the other.



**NOTE:** keeping these components clean will facilitate efficient cooling and extend LED life. Using a second lint-free lens tissue, wipe off any alcohol residue.

#### Service and Maintenance

If you have any questions regarding the use or care of your AP-150 LED Luminaires, please contact Altman Lighting technical support at support@ altmanlighting.com or your local Authorized Dealer.



**WARNING**! Disassembly (other than as described herein), alterations, unauthorized service, etc. will void the product warranty. Contact your local Altman Lighting office for technical support and service.



# Troubleshooting

# Troubleshooting Guide

The chart below provides possible causes and remedies for various error messages and/or symptoms. If this chart is unable to address your issue, please contact your authorized dealer or Altman customer service at 1.303.500.7072 or support@altmanlighting. com for assistance.



**WARNING**! Any service and maintenance (including troubleshooting), other than described herein should be performed by an Authorized Altman Lighting Dealer.

Description	lssue	Possible Cause/ Remedy
No light output.	Fixture will not produce or output light and connected to power. Internal LED is illuminated."	<ul> <li>Manual Modemenu is set at 0% intensity</li> <li>DMX Modeconsole is set at 0% intensity</li> <li>Set intensity level above 0% or adjust to a higher intensity.</li> </ul>
LOW light output.	Fixture produces low light output and connected to power.	<ul> <li>Check unit for calibration on or off at menu</li> <li>Operating temperature is at upper range of temperature range</li> <li>If the power limit settings are set.</li> <li>Contact Altman Tech Support if problem persist</li> </ul>
No power at luminaire.	Luminaire does not power up	<ul> <li>Circuit not energizedverify circuit breaker is turned on.</li> <li>Not plugged inensure A/C cable is connected to power source.</li> <li>Power cable wired incorrectlyverify power cable and</li> <li>connector are wired correctly.</li> <li>See "Connecting Power" on page 8 for more information.</li> </ul>
DMX data control issues.	Fixture will not respond to DMX com- mands.	<ul> <li>Not detecting DMX data</li> <li>Unit is not set to proper DMX address - check settings. See "Setting DMX Address from the Home Screen" on page 13 for more information.</li> <li>Unit is not set to DMX mode. See "DMX Menu" on page 15 for more information.</li> <li>Disconnect and reconnect DMX input cable.</li> <li>Check all DMX connections (at control source and luminaire).</li> <li>DMX data cable not wired correctly or has a broken conductor check DMX data cable for proper wiring.</li> <li>See "Connecting to the DMX512 Network" on page 9 for more information.</li> </ul>
Fixtures not matching color.	Fixture are given the same DMX command, but colors do not match.	• Turn on color calibration. Note, units will not match if some are set to calibration on and some to calibration off. See "Calibration "Color Calibration" on page 24 for more information.
Fixtures are dimming at different rates.	Fixture are given the same DMX command, but dimming rates are different.	• Make sure all units are set o the same dimming curve. See "Dimming Curves" on page 16 for more information.
Fixtures are making a high pitch noise	Fixture are given the same commands but making a high pitch noise	• At times you may experience a high pitched noise from the unit when dimming. Please know that this is normal and indicative of the luminaires PWM settings. To alleviate and reduce this noise please adjust the PWM settings to a different setting and test with your system. See "Frequency (Pulse Width Modulation)" on page 22, as these units are specifically designed for high performance dimming in multiple environments.



# Technical specifications

# AP-150 RGBW Par LED Luminaire Specifications

Materials:	Construction is corrosion-resistant materials and hardware.
Control:	DMX/RDM
Light Engine:	135 Watt RGBW (W=6500K)
LED Rated Life:	LED arrays are rated for >50,000 hours of operation.
Input Voltage:	100-240 VAC 50/60 Hz
Current Draw:	1.13A at 120VAC / 0.58A at 230VAC
Power Factor:	> 0.95
Current Inrush:	At 240 VAC, 40A (1/2 cycle) (estimated)
Quiescent Load:	0.082 AMP (9.84 Watts) @ 120 VAC*
	0.041 AMP (9.84 Watts) @ 240 VAC*
	*Fan and display off, no light output from fixture.
Power Through:	Up to 9 Units at 120VAC*
	Up to 14 units at 230 VAC*
	* Daisy-chaining information is only for connecting AP-150 RGBW Par LED Luminaires only, not other
	products or equipment.
LED Engine Cooling:	Active with progressive power output management
Environment:	0 to 40 degrees C (32 to 104 degrees F) with humidity of 5%-95% (non-condensing)
Weight:	11.2 lbs. (5.08 Kg.)
Body Color:	Black
Compliance:	cETLus listed for indoor use and CE marked

**NOTE:** Note: Specifications, descriptions, and information herein are subject to change without prior notice. For current product specifications, features, and accessories, refer to the product specification sheet or visit the Altman Lighting web site at www.altmanlighting.com.



