



AP-150 RGBW Par LED Luminaire

Installation & User's Manual

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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.

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AP-150 RGBW Par LED Luminaire Installation & User's Manual

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IMPORTANT INFORMATION

Product Safety Notices

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



- a. **READ AND FOLLOW ALL SAFETY INSTRUCTIONS.**
- b. Do not use outdoors unless the product is specified to operate in outdoor environments.
- c. Do not mount near gas or electric heaters.
- d. Equipment should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
- e. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
- f. Do not use this equipment for other than intended use.
- g. Refer service to qualified personnel.

SAVE THIS DOCUMENT FOR FUTURE REFERENCE.

Warnings



WARNING: RISK OF ELECTRICAL SHOCK! 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. It is always recommended that a "lock out tag" device is installed on the appropriate circuit disconnect prior to beginning electrical work of any kind. A qualified electrician must perform this installation.

WARNING: Insulation between low-voltage supply and control conductors is provided by basic insulation.

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. It is also intended for installation in indoor applications only. 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 Term

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 TWO (2) years from date of shipment to correct by repair or replacement any part defect due to faulty material or workmanship. Under these same terms products with an LED light source shall be warranted for a period of THREE (3) years.

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.

For complete warranty terms and conditions, please refer to our web site at www.altmanlighting.com.

Warranty Service

In order to request warranty service, you must receive a Return Material Authorization (RMA) number prior to return.

Return shipments must be visibly marked with the RMA number; the product must be returned (*shipping prepaid*) to the factory at:

Altman Lighting Inc.
Attention: RMA # _____
57 Alexander Street
Yonkers, NY 10701

The return must be within THIRTY (30) days of receiving the RMA from Altman.

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PREFACE

About this Manual

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

Model Number	Description
AP-150-RGBW-B	AP-150 RGBW Par Luminaire, Black <i>(This luminaire does not include power cable, c-clamp, or safety cable. These items must be ordered / purchased separately.)</i>
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 <i>(This luminaire does not include c-clamp or safety cable. These items must be ordered / purchased separately.)</i>
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 <i>(This luminaire does not include c-clamp or safety cable. These items must be ordered / purchased separately.)</i>

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

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.

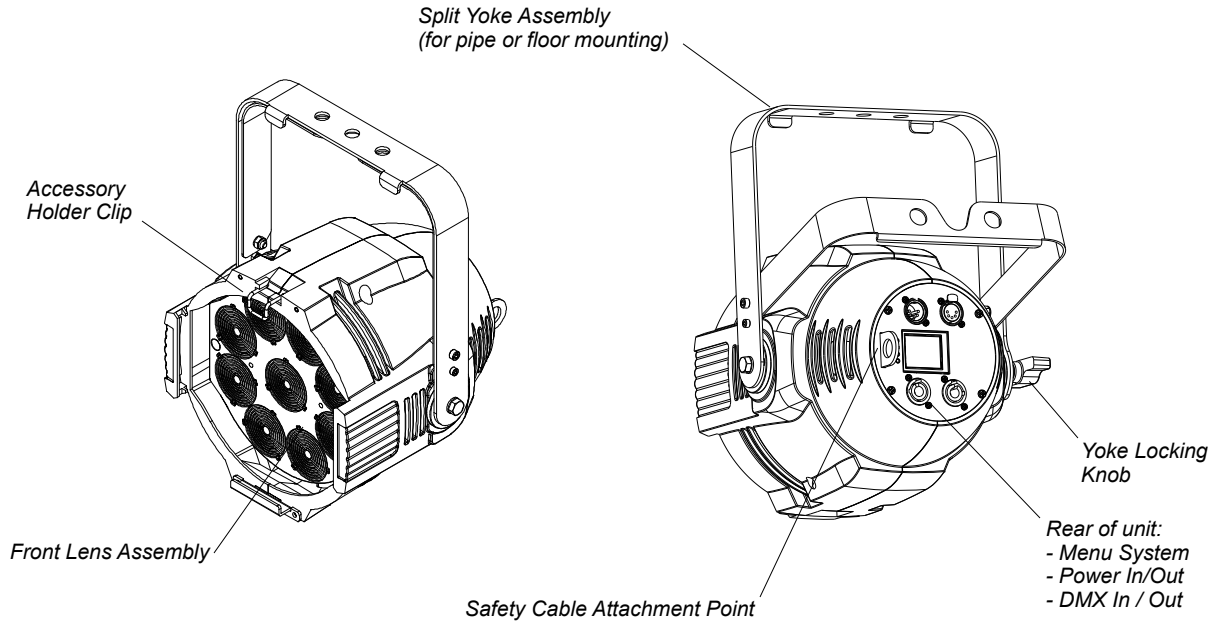
AP-150-RGBW Accessories

Part Number	Description
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
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

AP-150 RGBW PAR LED LUMINAIRE OVERVIEW

AP-150 RGBW Par LED Luminaire Features

Figure 1 shows the basic features of the AP-150 RGBW Par LED Luminaire.



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.

Figure 1: Luminaire Features

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 42.**

INSTALLATION AND SET UP

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 1**.



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 7** 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 5** 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.

Table 1: AC Input Wiring

Wire Color	Purpose
Brown or Black	Main / (L)ine
Blue or White	(N)eutral
Green/Yellow or Green	Ground / Earth

See **Figure 2 on page 8** for wiring connections.

IMPORTANT! The AP-150 RGBW Par LED Luminaire must be connected to and properly grounded to an viable earth ground.

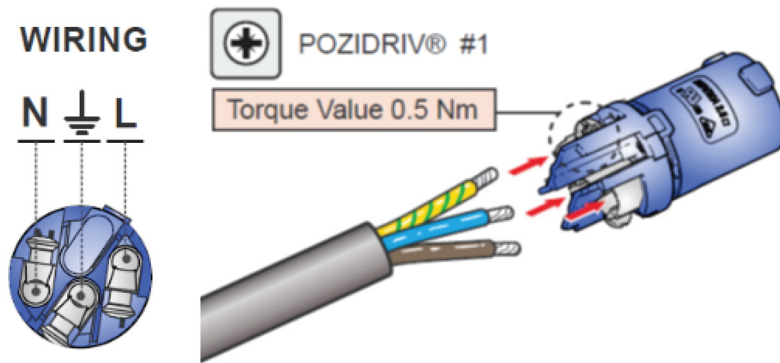


Figure 2: PowerCON (Blue AC Input) Connector Wiring

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.

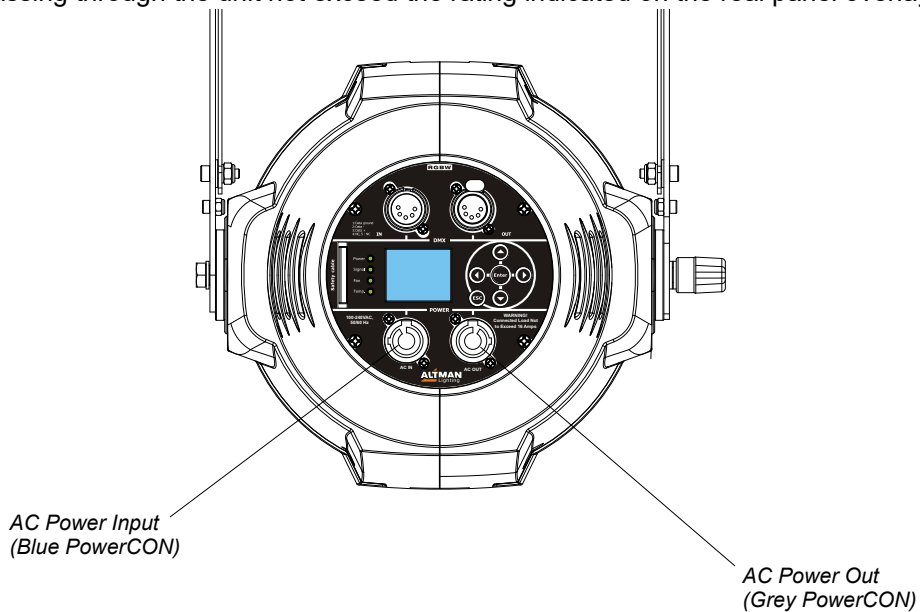


Figure 3: AP-150 RGBW Par LED Luminaire Rear Panel

Daisy-Chaining Units

When daisy-chaining units, do not exceed the number of units as shown in **Table 2**. Also, please make sure you have read and understood the warnings contained in this section of the manual ("**Power Connection Warnings**" on page 7.)

Table 2: Daisy-Chaining AP-150-RGBW Luminaires

Voltage	Maximum Number of Units
120VAC	9
230VAC	14

For available luminaire to luminaire interconnect power cable, see "**Accessories**" on page 5.

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.

Figure 4 shows the on-board menu system user interface.

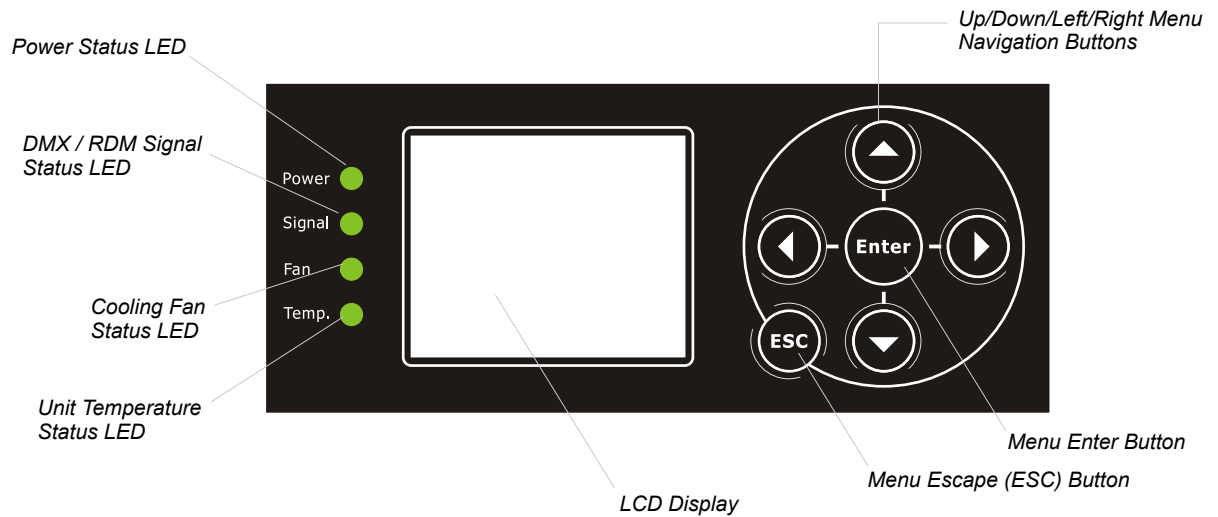


Figure 4: Menu System and Status Indicators

Menu System Features

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 3 outlines the LED status indicators (as illustrated in Figure 4) and their meaning.

Table 3: Luminaire Status LED Indicators

LED	Meaning	Operational Status
Power	Luminaire's power status	<ul style="list-style-type: none"> Green LED: constant on - indicates proper power to the luminaire. Green LED: flashing - 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. Note: when the fan is locked on at a specific level the luminaire will lower its output to compensate for the locked fan setting. LED Off: Unit is not powered or connected to power.
Signal	DMX/RDM signal status LED	<ul style="list-style-type: none"> Green LED: constant on - indicates viable DMX512 is being received by the unit. Green LED: flashing - indicates RDM activity. Red LED: constant on - indicates the unit has DMX disabled. LED Off: indicates DMX512 signal is not present.
Fan	Cooling fan operational status	<ul style="list-style-type: none"> Green LED: Normal fan operation mode (automatic). See "Fan Control" on page 18. Yellow LED: High fan operational mode. Red LED: Fan is not operating.
Temp	Luminaire's current temperature status	<ul style="list-style-type: none"> Green LED: Normal operation mode (within normal operational temperature). Yellow LED: Temperature is on the threshold of going above the limit (40 degrees C / 104 degrees F). Red LED: Luminaire is over operational limit temperature. The luminaire should be powered off and allowed to cool.

Note: The intensity of the status LED indicators will dim with the back light of the LCD display. These settings are found in the "**GENERAL SETTINGS Menu**" on page 19 of the menu.

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 12.

QR Code

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



Figure 5: Accessing QR Code

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**.

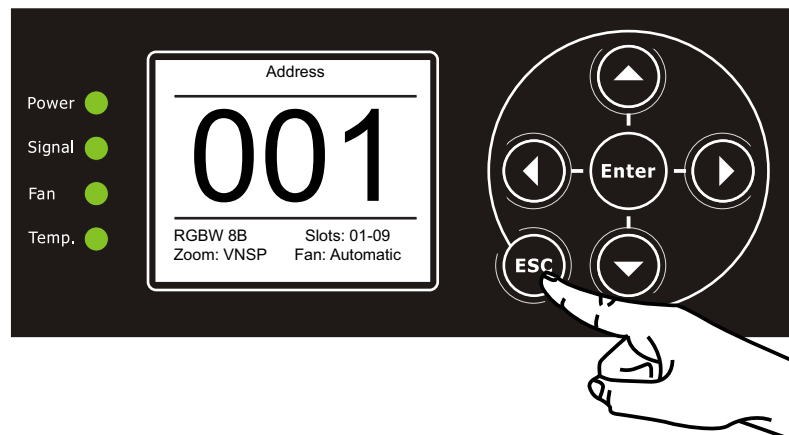


Figure 6: Menu System - Home Screen

In the Home screen, the DMX address can be changed See "[Setting DMX Address from the Home Screen](#)" on page 11.

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

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

Note: This screen has a timeout setting accessible through "[GENERAL SETTINGS Menu](#)" on page 19.

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.

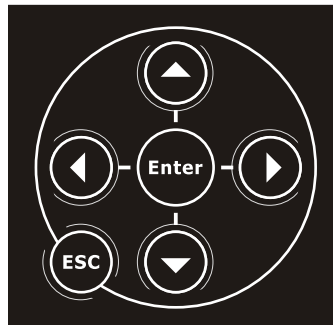


Figure 7: Menu Buttons

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.

Setting DMX Address from the Home Screen

Step 1. In the Home screen ("[Home Screen](#)" on page 10), the DMX address can be set as follows:

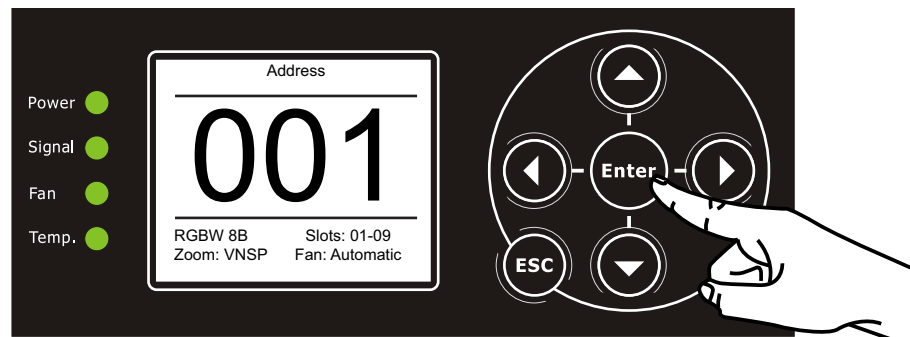


Figure 8: Setting DMX Address

Setting DMX address from home screen:

- Step 1. Unit must be powered.
- Step 2. Press Enter button.
- Step 3. Using UP and DOWN Arrow buttons, increment or decrement DMX address between 001 and 512.



IMPORTANT! Note 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.

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.

Main Menu

Figure 9 shows the Main menu screen. From this screen, you have access to all menus for setting luminaire options or viewing settings/status.

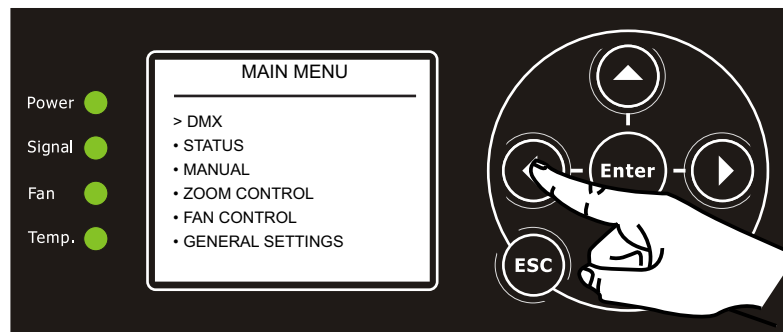


Figure 9: Main Menu Screen

DMX Menu

Using the Menu buttons (see **Figure 7 on page 11**), 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 10**.

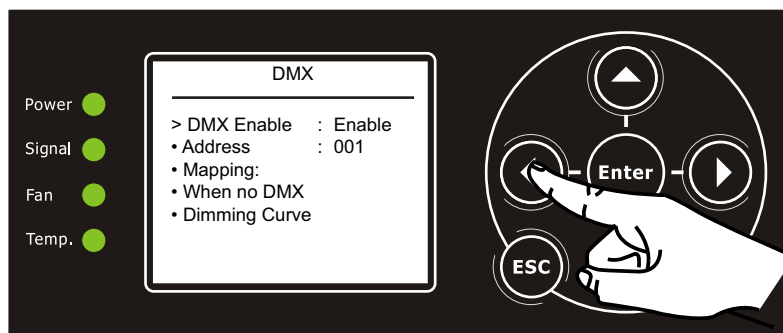


Figure 10: DMX/RDM Menu Options

DMX Enable / Disable

- **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

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

Mapping

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

- RGBW 16 (16 bit DMX mode - 15 Channels)*. See **“RGBW 16 Bit Direct Mode (15 Channels)” on page 23.**
- RGBW 8 (8 bit DMX mode - 10 Channels)*. See **“RGBW 8 Bit Direct Mode (10 Channels)” on page 23.**
- HSIC (HSIC mode - 10 Channels)*. See **“HSIC Mode (10 Channels)” on page 23.**
- RGB (RGB mode - 8 Channels)*. See **“RGB Mode Map” on page 33.**

*Fan channel must be set for DMX. See **“Fan Control” on page 18.**

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)
- 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.
- Power Up Preset (turns on the Power up Preset - See **“Power up” on page 20.**)

Dimming Curves

Note: Each dimming curve has a different low-end and high-end set point. If luminaires 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 dimming curve.

- Linear: When set to Linear, the dimming curve is in direct relationship to the DMX value. For example, if the DMX value of the DMX slider is at 25% of its range, then the signal to the luminaire (and its output) will also be at 25%.

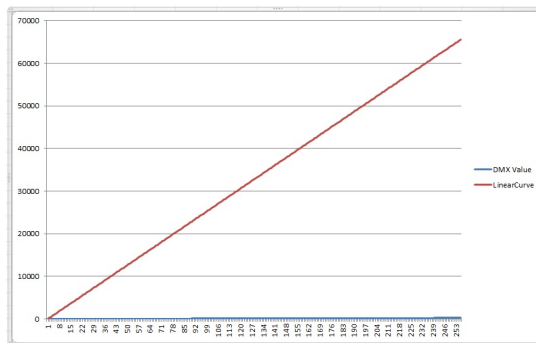


Figure 11: Linear Dimming Curve Example

- Incandescent: When set to Incandescent, 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 following an incandescent lamp fade).

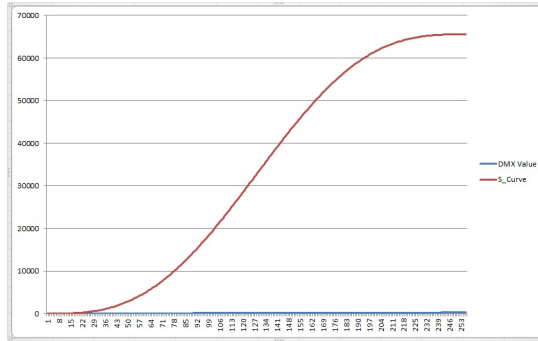


Figure 12: Incandescent Dimming Curve Example

- Standard: When set to Standard, the dimming curve (also called Square 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.

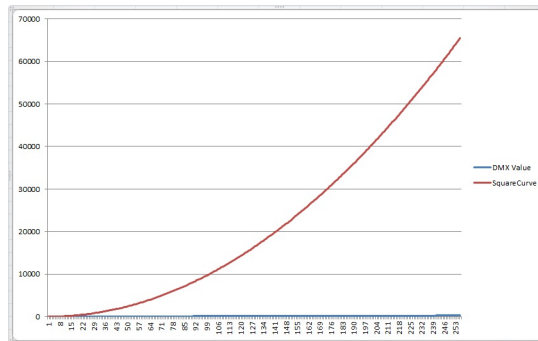


Figure 13: Standard Dimming Curve Example

STATUS Menu

Using the Menu buttons (see **Figure 7 on page 11**), 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**.

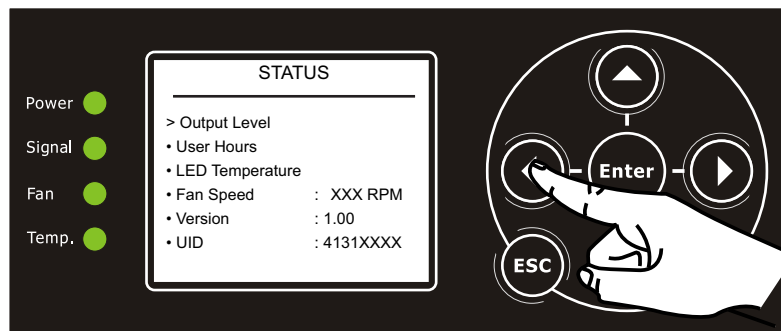


Figure 14: Status Menu Screen

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

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.

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

Using the Menu buttons (see **Figure 7 on page 11**), 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 Manual Menu screen as shown in **Figure 15**.

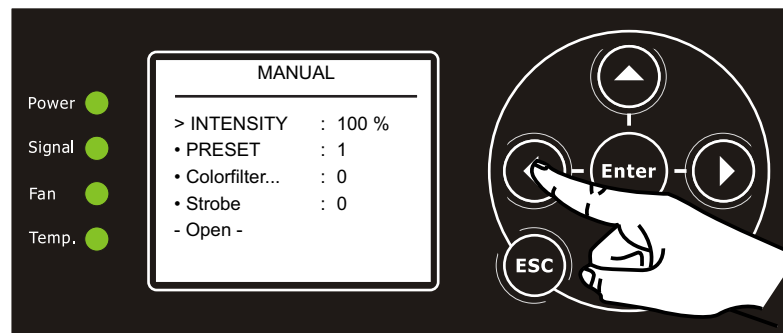


Figure 15: Manual Operation menu

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 **Figure 16 on page 16**).

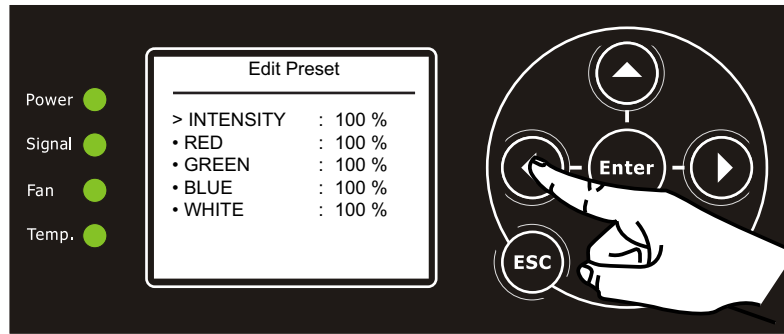


Figure 16: Edit Preset Screen

To recall or edit a preset:

- Step 1. Unit must be powered.
- 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 17**) and ask to save preset to its current or new location.

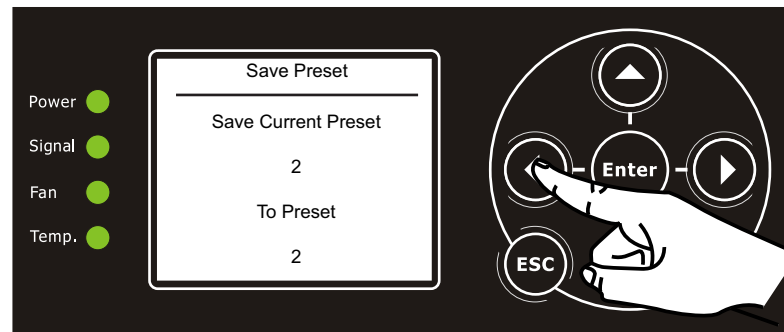


Figure 17: Save Preset Screen

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

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 [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:

- -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)

Note: For more on strobe control and operation, see "[DMX Maps](#)" on page 24.

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:

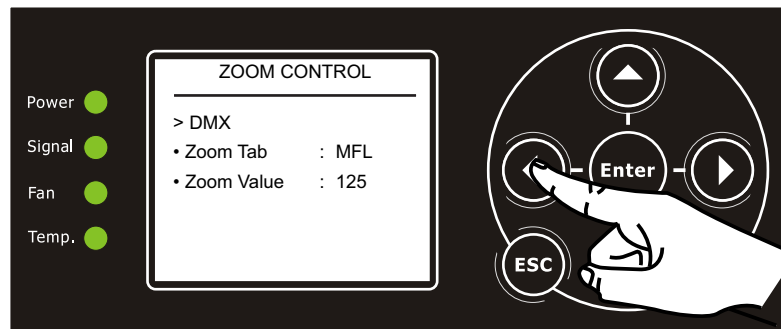


Figure 18: Zoom Mode Screen

DMX

Sets the luminaire to change the zoom via the assigned DMX channel.

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°

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

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.

Note: Zoom control can also be accessed via RDM through a RDM controller or control channel. For RDM information, see **Table 13 on page 39**.

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.

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.

Fan Control

Using the Menu buttons (see **Figure 7 on page 11**), 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 19**.

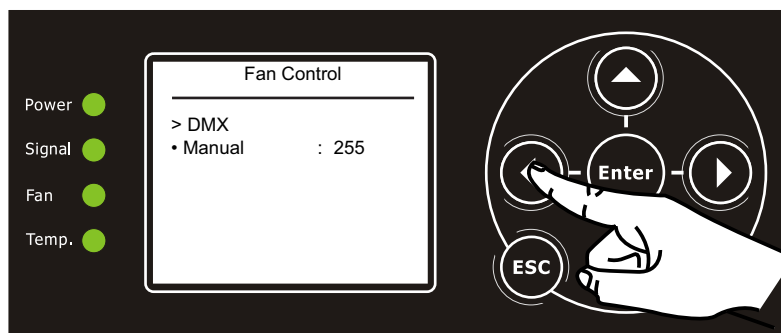


Figure 19: Fan Control Menu Options

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 7 on page 11**), 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 20**.

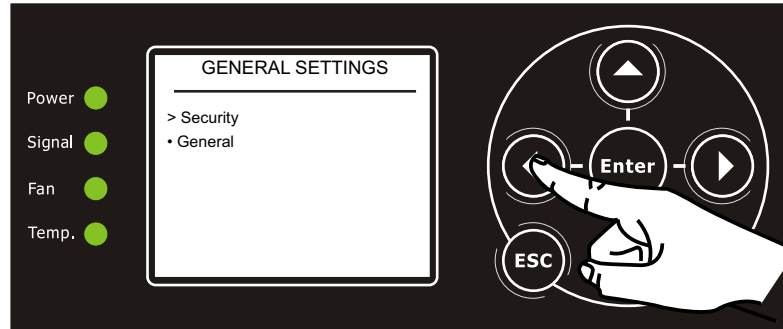


Figure 20: General Settings Screen

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 7 on page 11**), 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 21**.

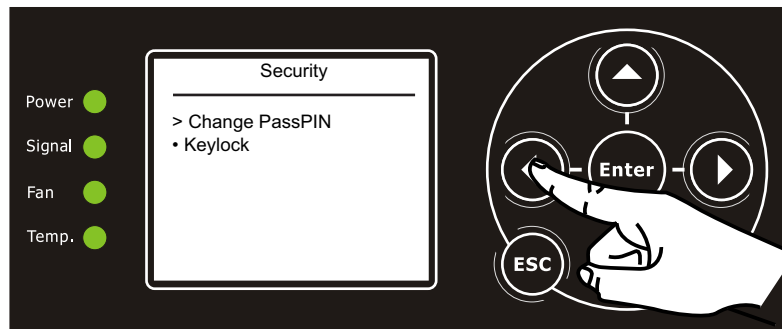


Figure 21: Security Screen

Change PassPIN

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

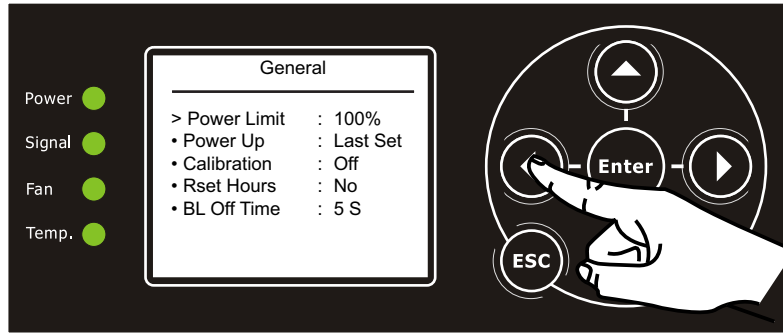


Figure 22: General Menu Screen

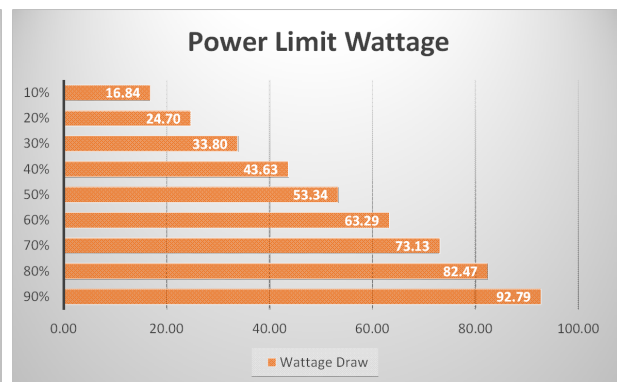
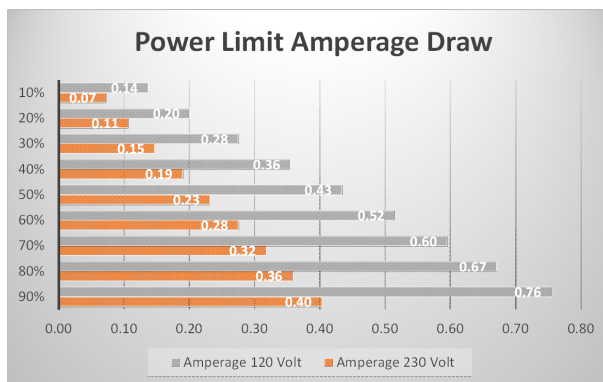
Power Limit

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 4** for details.

Table 4: Power Limit Setting (Current Draw)

Power Limit Setting	90%	80%	70%	60%	50%	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)

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)

Rset 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.



IMPORTANT! 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.

CONNECTING TO THE DMX512 NETWORK

The AP-150 RGBW Par LED Luminaire 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 Luminaire 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).



IMPORTANT! 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

Table 5 shows the pin outs and corresponding DMX signals for a 5-pin XLR connectors.

Table 5: DMX RJ45 & XLR Connector Wiring

DMX XLR Connectors Pin Out	
DMX Signal	Pin
Common (Drain)	Pin 1
DMX -	Pin 2
DMX +	Pin 3

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

DMX MAPPING AND CONTROL

DMX Mode Options

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 crossfades and LED control. For the DMX map, see ["RGBW 16 Bit Direct Mode Map" on page 24](#).

RGBW 8 Bit Direct Mode (10 Channels)

RGBW 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 crossfades and LED control. For the DMX map, see ["RGBW 8 Bit Direct Mode Map" on page 27](#).

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 23** 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.

For the DMX map, see ["HSIC Mode Map" on page 30](#).

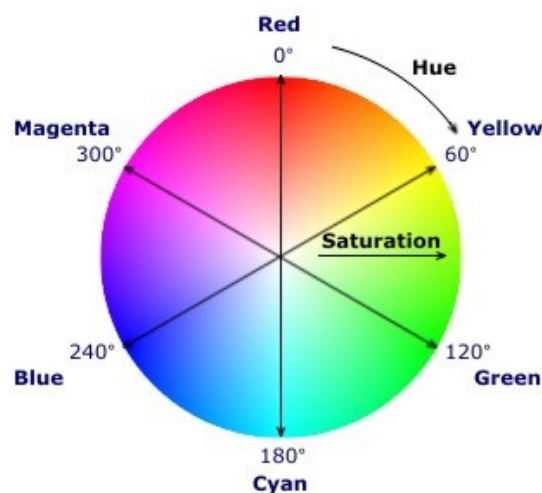


Figure 23: HSIC Color Wheel

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, control, and fan settings. For the DMX map, see ["RGBW 8 Bit Direct Mode Map" on page 27](#). When in RGB Mode the Presets and Color Filter output still uses the White Channel.



IMPORTANT! In all four DMX Modes - when Presets or Color Filters are recalled via DMX the Control of the Red, Green, Blue, and White channels will no longer change the output of the luminaire. In order to regain control of these channels, set the Presets / Color Filters channel to 0.

DMX Maps

RGBW 16 Bit Direct Mode Map

Table 6 shows the DMX mapping for RGBW 16 Bit Direct Mode.

Table 6: RGBW 16 Bit Direct Mode Map (15 Channels)

DMX Channel	Channel Description	DMX Range	Description
1	Intensity - High Byte	0 - 65535	Control of Intensity Channel
2	Intensity - Low Byte		
3	Red - High Byte	0 - 65535	Control of Red LEDs
4	Red - Low Byte		
5	Green - High Byte	0 - 65535	Control of Green LEDs
6	Green - Low Byte		
7	Blue - High Byte	0 - 65535	Control of Blue LEDs
8	Blue - Low Byte		
9	White - High Byte	0 - 65535	Control of White LEDs
10	White - Low Byte		
11	Zoom	0 - 255	<p><i>Zoom channel settings:</i> Narrow Zoom = DMX 0 Medium Zoom = DMX 127 Wide Zoom = DMX 255</p> <p><i>Zoom stop settings:</i> 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</p>

Table 6: RGBW 16 Bit Direct Mode Map (15 Channels)

12	Presets / Color Filters	0 - 255	<p><i>Control of Presets and Color Filters:</i></p> <p>Channel OFF (disabled) = DMX 0 - 4 Preset_1 = DMX 5 - 7 Preset_2 = DMX 8 - 10 Preset_3 = DMX 11 - 13 Preset_4 = DMX 14 - 16 Preset_5 = DMX 17 - 19 Preset_6 = DMX 20 - 22 Preset_7 = DMX 23 - 25 Preset_8 = DMX 26 - 28 Preset_9 = DMX 29 - 31 Preset_10 = DMX 32 - 34 Preset_11 = DMX 35 - 37 Preset_12 = DMX 38 - 40 Preset_13 = DMX 41 - 43 Preset_14 = DMX 44 - 46 Preset_15 = DMX 47 - 49 Preset_16 = DMX 50 - 52 Preset_17 = DMX 53 - 55 Preset_18 = DMX 56 - 58 Preset_19 = DMX 59 - 61 Preset_20 = DMX 62 - 64 CF_0_OFF = DMX 65 - 67 CF_1_10000K = DMX 68 - 70 CF_2_8000K = DMX 71 - 73 CF_3_6500K = DMX 74 - 76 CF_4_5600K = DMX 77 - 79 CF_5_5000K = DMX 80 - 82 CF_6_4500K = DMX 83 - 85 CF_7_4000K = DMX 86 - 88 CF_8_3200K = DMX 89 - 91 CF_9_3000K = DMX 92 - 94 CF_10_2700K = DMX 95 - 97 CF_11_Moroccan Pink = DMX 98 - 100 CF_12_Pink = DMX 101 - 103 CF_13_Special Rose Pink = DMX 104 - 106 CF_14_Follies Pink = DMX 107 - 109 CF_15_Fuchsia Pink = DMX 110 - 112 CF_16_Surprise Pink = DMX 113 - 115 CF_17_Congo Blue = DMX 116 - 118 CF_18_Deep Blue = DMX 119 - 121 CF_19_Just Blue = DMX 122 - 124 CF_20_Medium Blue = DMX 125 - 127 CF_21_Double CT Blue = DMX 128 - 130 CF_22_Slate Blue = DMX 131 - 133 CF_23_Regal Blue = DMX 134 - 136 CF_24_Full CT Blue = DMX 137 - 139 CF_25_Half CT Blue = DMX 140 - 142 CF_26_Steel Blue = DMX 143 - 145 CF_27_Lighter Blue = DMX 146 - 148 CF_28_Light Blue = DMX 149 - 151 CF_29_Medium Blue Green = DMX 152 - 154 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 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_Flame Red = DMX 194 - 196 Reserved for Future Use = DMX 197 - 255</p>
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Table 6: RGBW 16 Bit Direct Mode Map (15 Channels)

13	Strobe	0 - 255	<p>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</p>
14	Control (See "Control Channel Notes")	0 - 255	<p>Default Setting on Console = DMX 0 Display On/Off = DMX 3 - 5 <i>Reserved for Future Use = DMX 6 - 8</i> Fan Control by DMX = DMX 9 - 11 Fan Speed 0% = 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 27 - 29** **Sets fan speed to local control Zoom Control by DMX = DMX 30 - 32*** Zoom VNSP = DMX 33 - 35*** Zoom NSP = DMX 36 - 38*** Zoom MFL = DMX 39 - 41*** Zoom WFL = DMX 42 - 44*** Zoom XWFL = 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 57 - 59 Preset 5 Store = DMX 60 - 62 Preset 6 Store = DMX 63 - 65 Preset 7 Store = DMX 66 - 68 Preset 8 Store = DMX 69 - 71 Preset 9 Store = DMX 72 - 74 Preset 10 Store = DMX 75 - 77 Preset 11 Store = DMX 78 - 80 Preset 12 Store = DMX 81 - 83 Preset 13 Store = DMX 84 - 86 Preset 14 Store = DMX 87 - 89 Preset 15 Store = DMX 90 - 92 Preset 16 Store = DMX 93 - 95 Preset 17 Store = DMX 96 - 98 Preset 18 Store = DMX 99 - 101 Preset 19 Store = DMX 102 - 104 Preset 20 Store = DMX 105 - 107 <i>Reserved for Future Use = DMX 108 - 196</i> Erase all User Presets = DMX 197 - 199 <i>Reserved for Future Use = DMX 200 - 249</i> Fixture Reset* = DMX 250 - 255</p>
15	Fan Control	0 - 255	<p>Only operational when Fan Mode is set to DMX. (See "Fan Control Channel" on page 36 for more information.)</p>

Control Channel Notes

The control channel adds the control to a variety of settings of the luminaire for multiple functions. This channel defaults at zero (0) and has a specific command structure in order to eliminate the need for additional channels. The control channel can control:

- Display settings
- Fan Control and Fan Speed Settings / Settings for manual (local) fan control
- Zoom Control and Stop Settings / Settings for manual (local) zoom control
- Preset Recording/Saving and Deleting
- Fixture Reset

To use the control channel:

Step 1. Choose a setting you would like to store.

Step 2. Set the control channel to the desired value from control channel.

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.

RGBW 8 Bit Direct Mode Map

Table 7 shows the DMX mapping for RGBW 8 Bit Direct Mode.

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.

Table 7: RGBW 8 Bit Direct Mode Map (10 Channels)

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	<p><i>Zoom channel settings:</i> Narrow Zoom = DMX 0 Medium Zoom = DMX 127 Wide Zoom = DMX 255</p> <p><i>Zoom stop settings:</i> 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</p>
7	Presets / Color Filters	0 - 255	<p><i>Control of Presets and Color Filters:</i></p> <p>Channel OFF (disabled) = DMX 0 - 4 Preset_1 = DMX 5 - 7 Preset_2 = DMX 8 - 10 Preset_3 = DMX 11 - 13 Preset_4 = DMX 14 - 16 Preset_5 = DMX 17 - 19 Preset_6 = DMX 20 - 22 Preset_7 = DMX 23 - 25 Preset_8 = DMX 26 - 28 Preset_9 = DMX 29 - 31 Preset_10 = DMX 32 - 34 Preset_11 = DMX 35 - 37 Preset_12 = DMX 38 - 40 Preset_13 = DMX 41 - 43 Preset_14 = DMX 44 - 46 Preset_15 = DMX 47 - 49 Preset_16 = DMX 50 - 52 Preset_17 = DMX 53 - 55 Preset_18 = DMX 56 - 58 Preset_19 = DMX 59 - 61 Preset_20 = DMX 62 - 64</p> <p>Continued next page.</p>

Table 7: RGBW 8 Bit Direct Mode Map (10 Channels)

7	Presets / Color Filters	0 - 255	<p><i>Continued from previous page.</i></p> <p>CF_0_OFF = DMX 65 - 67 CF_1_10000K = DMX 68 - 70 CF_2_8000K = DMX 71 - 73 CF_3_6500K = DMX 74 - 76 CF_4_5600K = DMX 77 - 79 CF_5_5000K = DMX 80 - 82 CF_6_4500K = DMX 83 - 85 CF_7_4000K = DMX 86 - 88 CF_8_3200K = DMX 89 - 91 CF_9_3000K = DMX 92 - 94 CF_10_2700K = DMX 95 - 97 CF_11_Moroccan Pink = DMX 98 - 100 CF_12_Pink = DMX 101 - 103 CF_13_Special Rose Pink = DMX 104 - 106 CF_14_Follies Pink = DMX 107 - 109 CF_15_Fuchsia Pink = DMX 110 - 112 CF_16_Surprise Pink = DMX 113 - 115 CF_17_Congo Blue = DMX 116 - 118 CF_18_Deep Blue = DMX 119 - 121 CF_19_Just Blue = DMX 122 - 124 CF_20_Medium Blue = DMX 125 - 127 CF_21_Double CT Blue = DMX 128 - 130 CF_22_Slate Blue = DMX 131 - 133 CF_23_Regal Blue = DMX 134 - 136 CF_24_Full CT Blue = DMX 137 - 139 CF_25_Half CT Blue = DMX 140 - 142 CF_26_Steel Blue = DMX 143 - 145 CF_27_Lighter Blue = DMX 146 - 148 CF_28_Light Blue = DMX 149 - 151 CF_29_Medium Blue Green = DMX 152 - 154 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 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_Flame Red = DMX 194 - 196 Reserved for Future Use = DMX 197 - 255</p>
8	Strobe	0 - 255	<p>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</p>

Table 7: RGBW 8 Bit Direct Mode Map (10 Channels)

9	Control (See "Control Channel Notes")	0 - 255	Default Setting on Console = DMX 0 Display On/Off = DMX 3 - 5 <i>Reserved for Future Use = DMX 6 - 8</i> Fan Control by DMX = DMX 9 - 11 Fan Speed 0% = 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 27 - 29** **Sets fan speed to local control Zoom Control by DMX = DMX 30 - 32*** Zoom VNSP = DMX 33 - 35*** Zoom NSP = DMX 36 - 38*** Zoom MFL = DMX 39 - 41*** Zoom WFL = DMX 42 - 44*** Zoom XWFL = 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 57 - 59 Preset 5 Store = DMX 60 - 62 Preset 6 Store = DMX 63 - 65 Preset 7 Store = DMX 66 - 68 Preset 8 Store = DMX 69 - 71 Preset 9 Store = DMX 72 - 74 Preset 10 Store = DMX 75 - 77 Preset 11 Store = DMX 78 - 80 Preset 12 Store = DMX 81 - 83 Preset 13 Store = DMX 84 - 86 Preset 14 Store = DMX 87 - 89 Preset 15 Store = DMX 90 - 92 Preset 16 Store = DMX 93 - 95 Preset 17 Store = DMX 96 - 98 Preset 18 Store = DMX 99 - 101 Preset 19 Store = DMX 102 - 104 Preset 20 Store = DMX 105 - 107 <i>Reserved for Future Use = DMX 108 - 196</i> Erase all User Presets = DMX 197 - 199 <i>Reserved for Future Use = DMX 200 - 249</i> 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

The control channel adds the control to a variety of settings of the luminaire for multiple functions. This channel defaults at zero (0) and has a specific command structure in order to eliminate the need for additional channels. The control channel can control:

- Display settings
- Fan Control and Fan Speed Settings / Settings for manual (local) fan control
- Zoom Control and Stop Settings / Settings for manual (local) zoom control
- Preset Recording/Saving and Deleting
- Fixture Reset

To use the control channel:

- Step 1. Choose a setting you would like to store.
- Step 2. Set the control channel to the desired value from control channel.

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.

HSIC Mode Map

Table 8 shows the DMX mapping for HSIC Mode.

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.

Table 8: HSIC Mode Map (10 Channels)

DMX Channel	Channel Description	DMX Range	Description
1	Intensity	0 - 255	Control of Intensity Channel
2	Hue - High Byte	0 - 65535	Control of Hue (refer to "HSIC Mode (10 Channels)" on page 23 for more information). <i>Note: Saturation (Channel 4) must be 1% or higher for Hue to take effect.</i>
3	Hue - Low Byte		
4	Saturation	0 - 255	Control of Saturation
5	CCT	0 - 255	Control of CCT
6	Zoom	0 - 255	<p><i>Zoom channel settings:</i> Narrow Zoom = DMX 0 Medium Zoom = DMX 127 Wide Zoom = DMX 255</p> <p><i>Zoom stop settings:</i> 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</p>
7	Presets / Color Filters	0 - 255	<p><i>Control of Presets and Color Filters:</i></p> <p>Channel OFF (disabled) = DMX 0 - 4 Preset_1 = DMX 5 - 7 Preset_2 = DMX 8 - 10 Preset_3 = DMX 11 - 13 Preset_4 = DMX 14 - 16 Preset_5 = DMX 17 - 19 Preset_6 = DMX 20 - 22 Preset_7 = DMX 23 - 25 Preset_8 = DMX 26 - 28 Preset_9 = DMX 29 - 31 Preset_10 = DMX 32 - 34 Preset_11 = DMX 35 - 37 Preset_12 = DMX 38 - 40 Preset_13 = DMX 41 - 43 Preset_14 = DMX 44 - 46 Preset_15 = DMX 47 - 49 Preset_16 = DMX 50 - 52 Preset_17 = DMX 53 - 55 Preset_18 = DMX 56 - 58 Preset_19 = DMX 59 - 61 Preset_20 = DMX 62 - 64 CF_0_OFF = DMX 65 - 67 CF_1_10000K = DMX 68 - 70 CF_2_8000K = DMX 71 - 73 CF_3_6500K = DMX 74 - 76 CF_4_5600K = DMX 77 - 79 CF_5_5000K = DMX 80 - 82 CF_6_4500K = DMX 83 - 85 CF_7_4000K = DMX 86 - 88 CF_8_3200K = DMX 89 - 91 CF_9_3000K = DMX 92 - 94 CF_10_2700K = DMX 95 - 97 CF_11_Moroccan Pink = DMX 98 - 100</p> <p><i>Continued next page.</i></p>

Table 8: HSIC Mode Map (10 Channels)

7	Presets / Color Filters	0 - 255	<p><i>Continued from previous page:</i></p> <p>CF_12_Pink = DMX 101 - 103 CF_13_Special Rose Pink = DMX 104 - 106 CF_14_Follies Pink = DMX 107 - 109 CF_15_Fuchsia Pink = DMX 110 - 112 CF_16_Surprise Pink = DMX 113 - 115 CF_17_Congo Blue = DMX 116 - 118 CF_18_Deep Blue = DMX 119 - 121 CF_19_Just Blue = DMX 122 - 124 CF_20_Medium Blue = DMX 125 - 127 CF_21_Double CT Blue = DMX 128 - 130 CF_22_Slate Blue = DMX 131 - 133 CF_23_Regal Blue = DMX 134 - 136 CF_24_Full CT Blue = DMX 137 - 139 CF_25_Half CT Blue = DMX 140 - 142 CF_26_Steel Blue = DMX 143 - 145 CF_27_Lighter Blue = DMX 146 - 148 CF_28_Light Blue = DMX 149 - 151 CF_29_Medium Blue Green = DMX 152 - 154 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 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_Flame Red = DMX 194 - 196 Reserved for Future Use = DMX 197 - 255</p>
8	Strobe	0 - 255	<p>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</p>

Table 8: HSIC Mode Map (10 Channels)

9	Control (See "Control Channel Notes")	0 - 255	Default Setting on Console = DMX 0 Display On/Off = DMX 3 - 5 <i>Reserved for Future Use = DMX 6 - 8</i> Fan Control by DMX = DMX 9 - 11 Fan Speed 0% = 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 27 - 29** **Sets fan speed to local control Zoom Control by DMX = DMX 30 - 32*** Zoom VNSP = DMX 33 - 35*** Zoom NSP = DMX 36 - 38*** Zoom MFL = DMX 39 - 41*** Zoom WFL = DMX 42 - 44*** Zoom XWFL = 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 57 - 59 Preset 5 Store = DMX 60 - 62 Preset 6 Store = DMX 63 - 65 Preset 7 Store = DMX 66 - 68 Preset 8 Store = DMX 69 - 71 Preset 9 Store = DMX 72 - 74 Preset 10 Store = DMX 75 - 77 Preset 11 Store = DMX 78 - 80 Preset 12 Store = DMX 81 - 83 Preset 13 Store = DMX 84 - 86 Preset 14 Store = DMX 87 - 89 Preset 15 Store = DMX 90 - 92 Preset 16 Store = DMX 93 - 95 Preset 17 Store = DMX 96 - 98 Preset 18 Store = DMX 99 - 101 Preset 19 Store = DMX 102 - 104 Preset 20 Store = DMX 105 - 107 <i>Reserved for Future Use = DMX 108 - 196</i> Erase all User Presets = DMX 197 - 199 <i>Reserved for Future Use = DMX 200 - 249</i> 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

The control channel adds the control to a variety of settings of the luminaire for multiple functions. This channel defaults at zero (0) and has a specific command structure in order to eliminate the need for additional channels. The control channel can control:

- Display settings
- Fan Control and Fan Speed Settings / Settings for manual (local) fan control
- Zoom Control and Stop Settings / Settings for manual (local) zoom control
- Preset Recording/Saving and Deleting
- Fixture Reset

To use the control channel:

- Step 1. Choose a setting you would like to store.
- Step 2. Set the control channel to the desired value from control channel.

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.

RGB Mode Map

Table 9 shows the DMX mapping for RGB Mode.

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.

Table 9: RGB Mode Map (8 Channels)

DMX Channel	Channel Description	DMX Range	Description
1	Red	0 - 255	Control of Red LEDs
2	Green	0 - 255	Control of Green LEDs
3	Blue	0 - 255	Control of Blue LEDs
4	Zoom	0 - 255	<p><i>Zoom channel settings:</i> Narrow Zoom = DMX 0 Medium Zoom = DMX 127 Wide Zoom = DMX 255</p> <p><i>Zoom stop settings:</i> 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</p>
5	Presets / Color Filters	0 - 255	<p><i>Control of Presets and Color Filters:</i></p> <p>Channel OFF (disabled) = DMX 0 - 4 Preset_1 = DMX 5 - 7 Preset_2 = DMX 8 - 10 Preset_3 = DMX 11 - 13 Preset_4 = DMX 14 - 16 Preset_5 = DMX 17 - 19 Preset_6 = DMX 20 - 22 Preset_7 = DMX 23 - 25 Preset_8 = DMX 26 - 28 Preset_9 = DMX 29 - 31 Preset_10 = DMX 32 - 34 Preset_11 = DMX 35 - 37 Preset_12 = DMX 38 - 40 Preset_13 = DMX 41 - 43 Preset_14 = DMX 44 - 46 Preset_15 = DMX 47 - 49 Preset_16 = DMX 50 - 52 Preset_17 = DMX 53 - 55 Preset_18 = DMX 56 - 58 Preset_19 = DMX 59 - 61 Preset_20 = DMX 62 - 64 CF_0_OFF = DMX 65 - 67 CF_1_10000K = DMX 68 - 70 CF_2_8000K = DMX 71 - 73 CF_3_6500K = DMX 74 - 76 CF_4_5600K = DMX 77 - 79 CF_5_5000K = DMX 80 - 82 CF_6_4500K = DMX 83 - 85 CF_7_4000K = DMX 86 - 88 CF_8_3200K = DMX 89 - 91 CF_9_3000K = DMX 92 - 94 CF_10_2700K = DMX 95 - 97 CF_11_Moroccan Pink = DMX 98 - 100 CF_12_Pink = DMX 101 - 103 CF_13_Special Rose Pink = DMX 104 - 106 CF_14_Follies Pink = DMX 107 - 109 CF_15_Fuchsia Pink = DMX 110 - 112 CF_16_Surprise Pink = DMX 113 - 115 CF_17_Congo Blue = DMX 116 - 118 CF_18_Deep Blue = DMX 119 - 121 CF_19_Just Blue = DMX 122 - 124 CF_20_Medium Blue = DMX 125 - 127</p> <p><i>Continued next page.</i></p>

Table 9: RGB Mode Map (8 Channels)

5	Presets / Color Filters	0 - 255	<p><i>Continued from previous page:</i></p> <p>CF_21_Double CT Blue = DMX 128 - 130 CF_22_Slate Blue = DMX 131 - 133 CF_23_Regal Blue = DMX 134 - 136 CF_24_Full CT Blue = DMX 137 - 139 CF_25_Half CT Blue = DMX 140 - 142 CF_26_Steel Blue = DMX 143 - 145 CF_27_Lighter Blue = DMX 146 - 148 CF_28_Light Blue = DMX 149 - 151 CF_29_Medium Blue Green = DMX 152 - 154 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 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_Flame Red = DMX 194 - 196 <i>Reserved for Future Use = DMX 197 - 255</i></p>
6	Strobe	0 - 255	<p>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</p>
7	Control (See "Control Channel Notes")	0 - 255	<p>Default Setting on Console = DMX 0 Display On/Off = DMX 3 - 5 <i>Reserved for Future Use = DMX 6 - 8</i> Fan Control by DMX = DMX 9 - 11 Fan Speed 0% = 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 27 - 29** **Sets fan speed to local control Zoom Control by DMX = DMX 30 - 32*** Zoom VNSP = DMX 33 - 35*** Zoom NSP = DMX 36 - 38*** Zoom MFL = DMX 39 - 41*** Zoom WFL = DMX 42 - 44*** Zoom XWFL = 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 57 - 59 Preset 5 Store = DMX 60 - 62 Preset 6 Store = DMX 63 - 65 Preset 7 Store = DMX 66 - 68 Preset 8 Store = DMX 69 - 71 Preset 9 Store = DMX 72 - 74 Preset 10 Store = DMX 75 - 77 Preset 11 Store = DMX 78 - 80 Preset 12 Store = DMX 81 - 83 Preset 13 Store = DMX 84 - 86 Preset 14 Store = DMX 87 - 89 Preset 15 Store = DMX 90 - 92</p> <p><i>Continued next page.</i></p>

Table 9: RGB Mode Map (8 Channels)

7	Control (See "Control Channel Notes")	0 - 255	<i>Continued from previous page:</i> Preset 16 Store = DMX 93 - 95 Preset 17 Store = DMX 96 - 98 Preset 18 Store = DMX 99 - 101 Preset 19 Store = DMX 102 - 104 Preset 20 Store = DMX 105 - 107 Reserved for Future Use = DMX 108 - 196 Erase all User Presets = DMX 197 - 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 Control Channel" on page 36 for more information.)

Control Channel Notes

The control channel adds the control to a variety of settings of the luminaire for multiple functions. This channel defaults at zero (0) and has a specific command structure in order to eliminate the need for additional channels. The control channel can control:

- Display Settings
- Fan Control and Fan Speed Settings / Settings for manual (local) fan control
- Zoom Control and Stop Settings / Settings for manual (local) zoom control
- Preset Recording/Saving and Deleting
- Fixture Reset

To use the control channel:

Step 1. Choose a setting you would like to store.

Step 2. Set the control channel to the desired value from control channel.

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.

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 editable 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 18**) 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:

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.

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 13 on page 39** for more information on this and other manufacturer specific RDM functions.

Table 10: RDM Product Parameters IDs

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

Table 11: RDM UID

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: Supported RDM Parameter IDs

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 Collection					
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					
Yes		SUPPORTED_PARAMETERS	0x0050	Support required only if supporting Parameters beyond the minimum required set.	Yes

Table 12: Supported RDM Parameter IDs

Yes		PARAMETER_DESCRIPTION	0x0051	Support required for Manufacturer-Specific PIDs exposed in SUPPORTED_PARAMETERS message.	Yes
Category - Product Information					
Yes		DEVICE_INFO	0x0060		Yes
Yes		PRODUCT_DETAIL_ID_LIST	0x0070		
Yes		DEVICE_MODEL_DESCRIPTION	0x0080		Yes
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 0x02XX					
Yes		SENSOR_DEFINITION	0x0200		Yes
Yes	Yes	SENSOR_VALUE	0x0201		Yes
	Yes	RECORD_SENSORS	0x0202		
Category - Dimmer Settings 0x03XX (Future)					
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 0x05XX					
Yes	Yes	DISPLAY_INVERT	0x0500		
Yes	Yes	DISPLAY_LEVEL	0x0501		
Category - Configuration 0x06XX					
Yes	Yes	PAN_INVERT	0x0600		
Yes	Yes	TILT_INVERT	0x0601		
Yes	Yes	PAN_TILT_SWAP	0x0602		
Yes	Yes	REAL_TIME_CLOCK	0x0603		
Category - Control 0x10XX					
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		

Table 12: Supported RDM Parameter IDs

	Yes	CAPTURE_PRESET	0x1030		
Yes	Yes	PRESET_PLAYBACK	0x1031		

Table 13: Manufacturer Specific IDs (Manufacturer Defined PIDs range is 0x8000-0xffff. See Table A-3, ANSI E1.20-2010)

Get Allowed	Set Allowed	Parameters IDs	Type	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 Calibration 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 = On 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 POSITION	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 backlight will continue to flash for 5 minutes. It automatically stops if the ESC button (on the menu) is pressed.

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 or Authorized Service Center. **AT NO TIME SHOULD THE LED BE TOUCHED.**

Special Cleaning and Care Instructions

Being a solid-state fixture, and unlike most fixtures, the AP-150 RGBW Par LED Luminaire requires very little routine maintenance by the user.

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

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

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

Note: *Reagent grade isopropyl alcohol is good to use on the AP-150 RGBW Par 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.



WARNING! Under no circumstances should ammonia-based cleaners, acetone, or other harsh solvents be used on or near the AP-150 RGBW Par 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 RGBW Par LED Luminaire, please contact Altman Lighting technical support or your local Authorized Dealer.

Front Lens Cleaning

To clean the exterior front lens:

- Step 1. Turn off luminaire and allow to cool completely.
- Step 2. Apply a small amount of reagent grade isopropyl alcohol to lint-free lens tissue.
- Step 3. Wipe all debris, dirt, fingerprints, etc. from lens.
- Step 4. Using a second lint-free lens tissue, wipe off any alcohol residue.

Service and Maintenance

For all other service and maintenance issues, please contact your local Altman Lighting office or an Authorized Service Center.



WARNING! Disassembly, alterations, unauthorized service, etc. will void the product warranty. Contact your local Altman Lighting office or an Authorized Service Center 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 1.914.476.7987 or customerservice@altmanlighting.com for assistance.



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

Description	Symptom	Possible Cause/Remedy
No light output.	Fixture will not produce or output light and connected to power. Display is active.	Manual Mode....menu is set at 0% intensity... DMX Mode....console is set at 0% intensity... Set intensity level above 0% or adjust to a higher intensity.
Low light output.	Fixture produces low light output and connected to power.	Check unit for calibration on or off at menu... Operating temperature is at upper range of temperature range. If the power limit settings are set
No power at luminaire.	Luminaire does not power up	Circuit not energized...verify circuit breaker is turned on. Not plugged in...ensure A/C cable is connected to power source. Power cable wired incorrectly...verify power cable and connector are wired correctly. See " Connecting Power " on page 7 for more information.
DMX Data Control.	Fixture will not respond to DMX commands.	Not detecting DMX data... Unit is not set to proper DMX address - check settings. See " Setting DMX Address from the Home Screen " on page 11 for more information. Unit is not set to DMX mode. See " DMX Menu " on page 12 for more information. Disconnect and reconnect DMX input cable. Check all DMX connections (at control source and luminaire). DMX data cable not wired correctly or has a broken conductor... check DMX data cable for proper wiring. See " Connecting to the DMX512 Network " on page 22 for more information.
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 21 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 13 for more information.

TECHNICAL SPECIFICATIONS

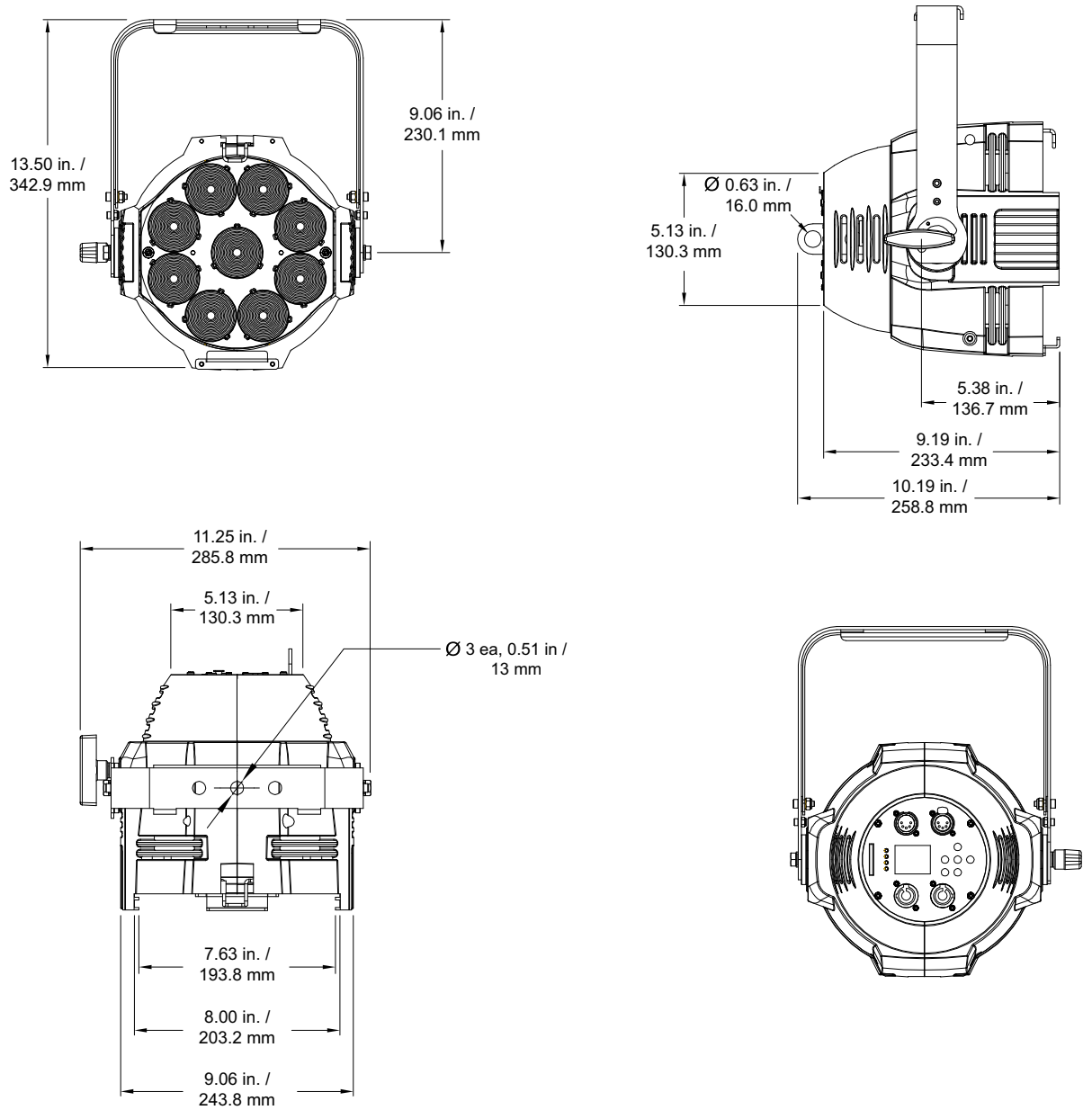
AP-150 RGBW Par LED Luminaire Specifications

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* <i>*Fan and display off, no light output from fixture.</i>
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: 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.



AP-150 RGBW Par LED Luminaire Dimensions





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