QUICK START GUIDE

ALTMAN

LIGHTING

AP-150 RGBW PAR LED LUMINAIRE QUICK START GUIDE

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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 guide?

The material in this manual is for information purposes only and is subject to change without notice. Altman Lighting assumes no responsibility for any errors or omissions which may appear in this manual. For comments and suggestions regarding corrections and/or updates to this manual, please visit the Altman Lighting web site at www.altmanlighting.com or contact your nearest Altman Lighting Regional Manager.

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

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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.

Document Number: **49-0399**
Version as of: **2022 October 7th**

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 use outdoors unless the product is specified to operate in outdoor environments.
3. Do not mount near gas or electric heaters.
4. Equipment should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
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.

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Table Of Contents

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!

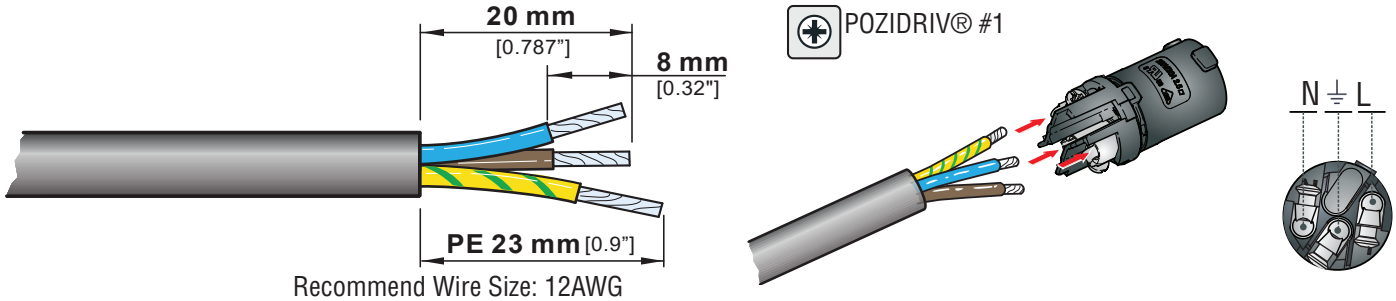
WARNING! When using the daisy-chain connection method, only connect your AP-150 RGBW Par LED Luminaire to AC Output Connection of other AP-150 RGBW Par LED Luminaires. DO NOT CONNECT OTHER TYPES OF LUMINAIRES OR DEVICES! The maximum allowable of number of AP-150 RGBW Par LED Luminaires that can be daisy-chained 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 for optional AC input cabl es of the User Manual) from 100 to 240VAC, 50/60Hz and draw approximately 135 Watts of power. Table 1, outlines the wire colors and their purpose.

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

Table1: AC Input Wiring



Recommend Wire Size: 12AWG

Figure 1: Power Wiring Diagram

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.

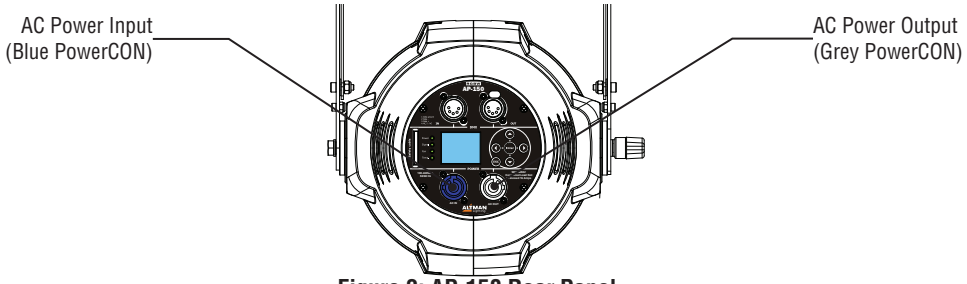


Figure 2: AP-150 Rear Panel

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 7.)

NOTE: For available luminaire to luminaire interconnect power cable, see “Accessories” on page 6 of the User Manual .

Voltage	Maximum Number of Units
120VAC	9
230VAC	14

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

C-Clamp Installation

The C-Clamp should be installed as shown in **Figure 3**. Only use the hardware supplied with the c-clamp.

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

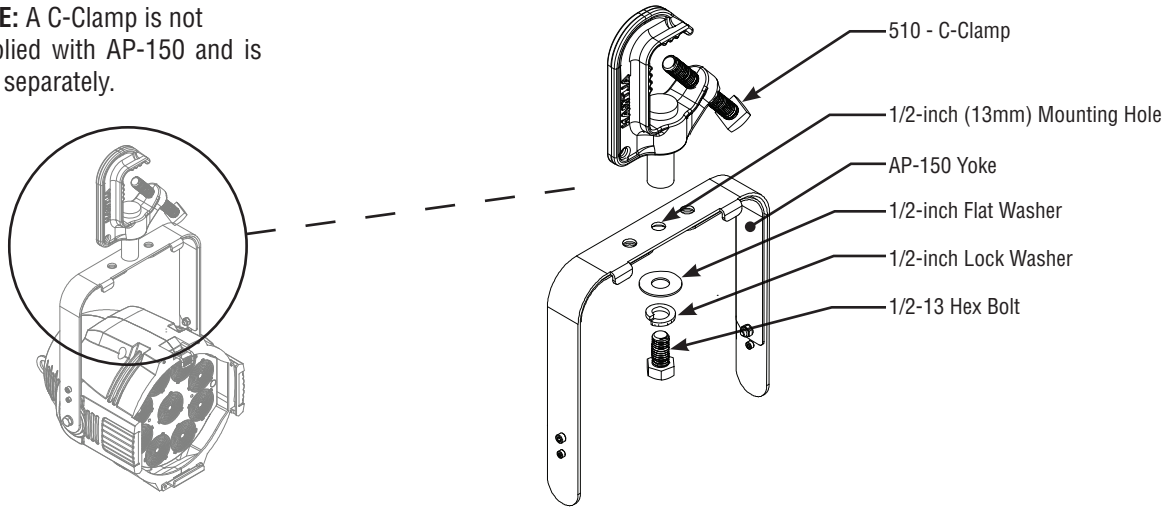


Figure 3: C-Clamp Installation

To Install the C-clamp:

1. With luminaire on a flat, sturdy surface, position yoke assembly for easy access as illustrated in **Figure 4**.
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.

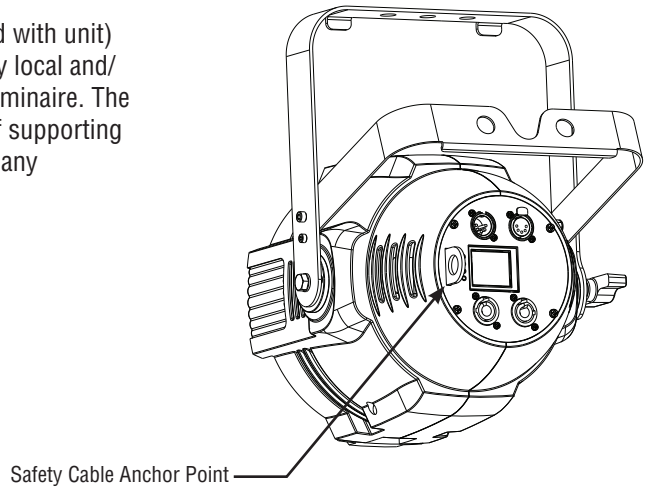
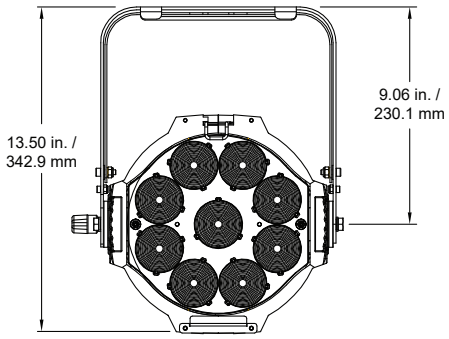
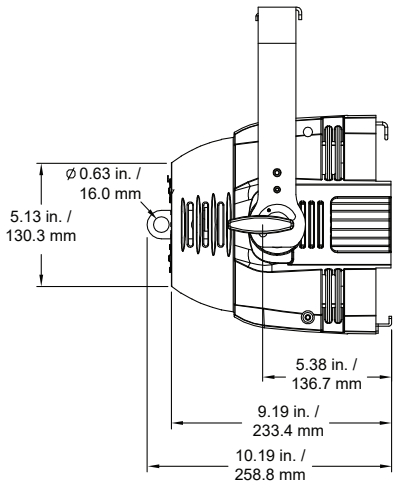


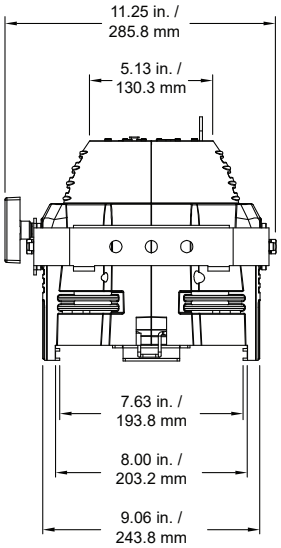
Figure 4: Safety Cable Installation

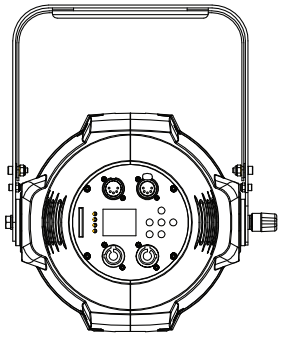
Mounting

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.

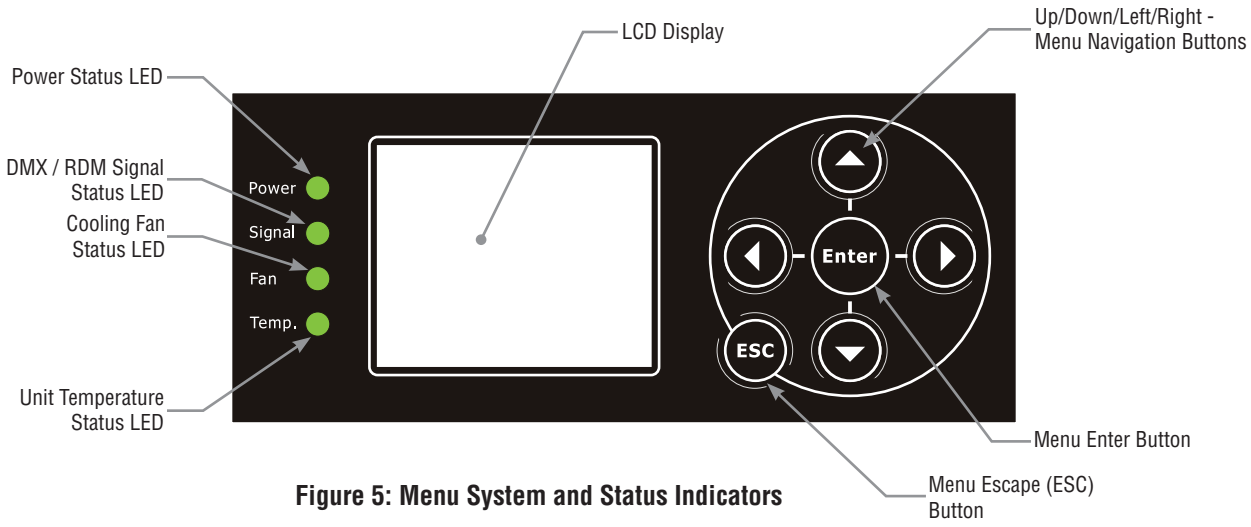


Figure 5: Menu System and Status Indicators

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 6**) and their meaning.

LED	Meaning	Operational Status
Power	Luminaire's power status	• 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 of the User Manual. 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	• 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	• Green LED: Normal fan operation mode (automatic). See "Fan Control" on page 18 of the User Manual. • Yellow LED: High fan operational mode. • Red LED: Fan is not operating.
Temp	Luminaire's current temperature status	• 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.

Table 4: Luminaire Status LED Indicators

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 of the User Manual.

QR Code

When the luminaire is powered, a QR Code embedded in the software can be displayed (as shown in Figure 6) 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.

Figure 6: Accessing QR Code

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 7.**

In the Home screen, the DMX address can be changed See Setting DMX Address from the Home Screen" on page 12

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

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

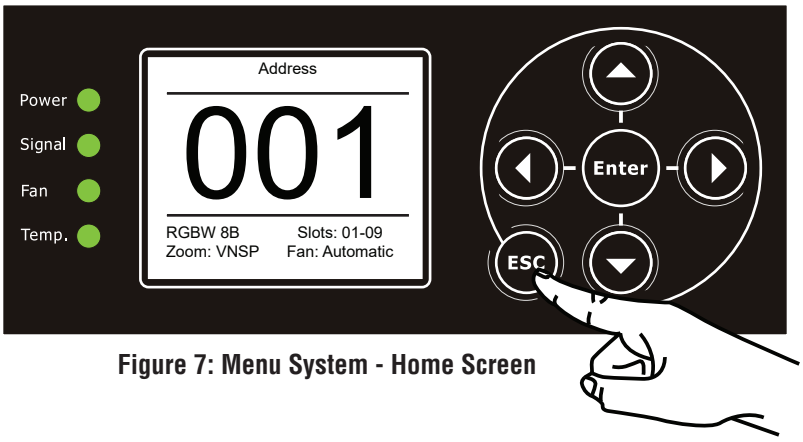


Figure 7: Menu System - Home Screen

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.

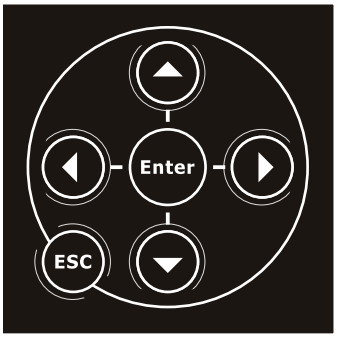


Figure 8: Menu Buttons

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.

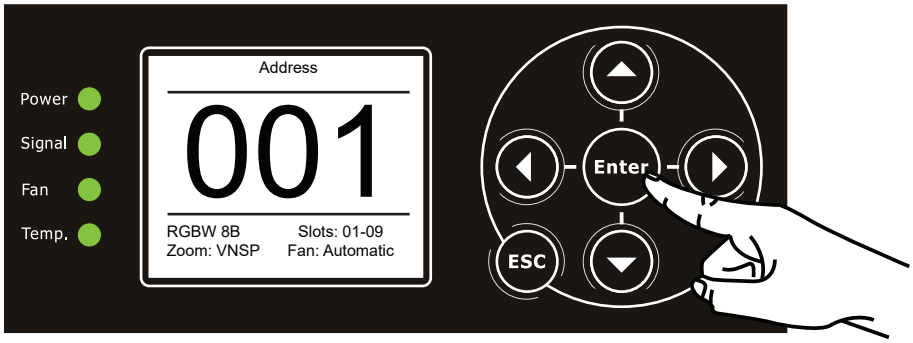


Figure 9: Setting DMX Address from Home Screen

DMX Menu

Using the Menu buttons (see Figure 8 on page 12), 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.

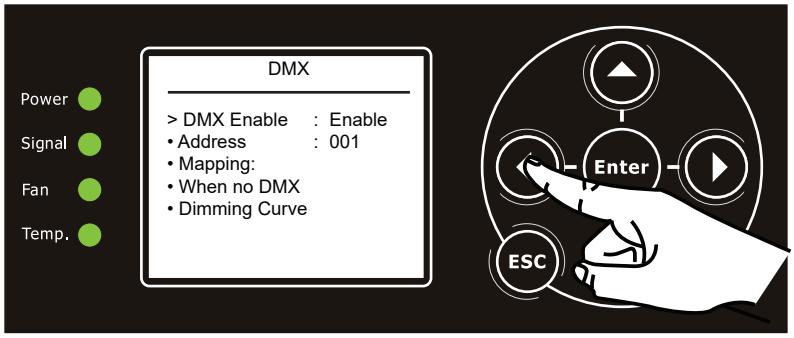


Figure 10: DMX Menu

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 12 "Setting DMX Address from Home Screen

Mapping

Note: Default setting is 16 Bit

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)
- RGBW 8 (8 bit DMX mode - 10 Channels)*. See "RGBW 8 Bit Direct Mode (10 Channels)
- HSIC (HSIC mode - 10 Channels)*. See "HSIC Mode (10 Channels)
- RGB (RGB mode - 8 Channels)*. See "RGB Mode Map

When no DMX

Note: Default setting is Last Hold

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

Dimming Curves

Note: Default setting is Linear

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 dimming curve. See AP-150 User Manual for more information

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	Issue	Possible Cause/ Remedy
No light output.	Fixture will not produce or output light and connected to power. Internal LED is illuminated."	• 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. • Contact Altman Tech Support if problem persist
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 6 for more information.
DMX data control issues.	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 12 for more information in the AP-150 User Manual. • Unit is not set to DMX mode. See DMX Menu" on page 13 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 7 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 23 of the AP-150 User Manual 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 of the AP-150 User Manual 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 23 of the AP-150 User Manual , as these units are specifically designed for high performance dimming in multiple environments.

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 the environment and hours of use of each luminaire. (see previous page for cooling fin location (Heat Sink Location)

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.

Do not blow dust into the open cavity of the AP-150 LED Luminaire.

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.