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SMART COLOR[®]

PRO



Operating Manual

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[Warranty]

- Items are covered for defects in materials and workmanship for one year, including repair parts and repair labor on defective item, from date of Apollo invoice.
- The warranty covers freight for 30 days after initial purchase.
- Apollo does not cover any other loss resulting from product failure.
- Products being returned for warranty repair must display the original serial number sticker. Removal of the serial number voids the product's limited warranty.

Keep this information handy if requiring technical assistance.

Serial Number:	
Date Purchased:	
Purchased From:	

- Despite the care taken for the compilation of this book, Apollo Design Technology, Inc. cannot be held responsible for any damages resulting from errors that may appear in this book. All efforts have been made to provide the most accurate, up-to-date instructions and illustrations possible.
- Need assistance? Call Apollo at 800-288-4626 for details.

Keep this information handy if requiring technical assistance.

[Other Products From Apollo]

- | | |
|-----------------------------------|-------------|
| • Architectural Lighting Fixtures | • Gobos |
| • LEDs | • Gel |
| • Right Arm® | • Tape |
| • Rotators | • and more! |

[Smart Color® Pro 10 Specifications]

Design	
Fixture Compatibility	Ideal with fresnels and PARs.
Power Supply Compatibility	Apollo Smart Power™ 75W, 200W, 400W and 600W.
Dimensions	15 1/2" (H) x 14 1/2" (W) x 3 1/2" (D) 393.7mm (H) x 368.3mm (W) x 88.9mm (D) 3 1/2" (88.9mm) (D) when including mounting tabs
Material / Color	Lightweight aluminum, black or white powder coat
Weight	6.46 lbs. / 2.93 kg. including gel and mounting tabs
Aperture	Rear: 10" (254mm) Front: 10" (H) x 10 3/4" (W) (254mm x 273.05mm)
Mounting System	Comes with adjustable tabs between 9" and 10 1/4" (228.6mm x 260.35mm)
Ports	4-pin XLR ports on back of unit for easy access and daisy chain capability
Heat Deflectors	Apollo Gel Shield
Safety Cable	Yes
Operational	
Gel String Capability	18 color frames
Gel String Loading	Spring loaded / self tensioning
Cooling System	Variable speed, single fan with local or remote speed control
Gel String Max. Speed	6 sec., 18 frames
Address	LED display up to 510
Power Requirement	24VDC
Power Consumption	1.1 AMPS / 26 watts at 24VDC (fan & speed high)
DMX Channels Required	Two
Protocol Requirements	DMX 512 (1990)
Input Connector	XLR 4-pin male (power and control protocol)
Output Connector	XLR 4-pin female (power and control protocol)
LED Indicators	For menu

[Safety Information]

-  **CAUTION** - this symbol designates an item that will cause damage to the SMART COLOR® PRO if ignored.
-  **WARNING** - this symbol designates an item that could cause injury or death if ignored.
- Be sure to read and understand all instructions in this manual.
 - The SMART COLOR® PRO is designed for indoor applications and should not be exposed to moisture.
 - There is a risk of fire, shock or injury if the Smart Color® PRO is not used as specified.
 - Servicing the SMART COLOR® PRO should be undertaken by qualified personnel only.
 - The SMART COLOR® PRO is not intended for residential use.
 - Safety cables must be used when installing the SMART COLOR® PRO. Apollo is not responsible for damage or injury resulting from improper use of safety cables.

[Introduction]

The SMART COLOR® PRO scroller by Apollo Design Technology, Inc. is designed to be the most reliable and affordable scroller available. The Smart Color® PRO uses standard or user defined gel strings of 18 - 24 frames.

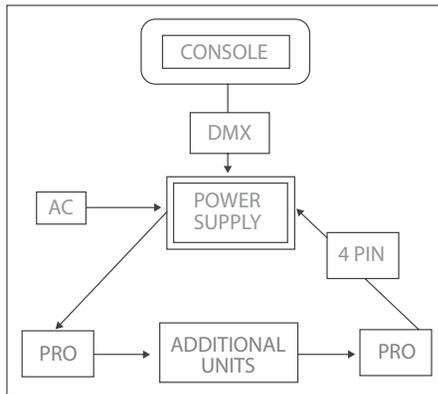
The Smart Color® PRO is designed to give years of trouble free use, provided it is used in accordance with the instructions detailed in this manual. If you should experience any problems that fall outside the scope of this manual, contact the selling dealer for further details.

If the dealer is unable to satisfy your service needs, contact Apollo directly for technical support. The contact information is listed on page one of this manual.

[Quick Start]

Connect DMX source to an Apollo Smart Power supply or compatible unit. Eight SMART COLOR® PROs can be run using a Smart Power 200; eight SMART COLOR® PROs can be run on each additional circuit from a Smart Power 400 or 600.

⚠ Wybron Coloram II or Wybron IT power supplies are not compatible and cannot be used. Serious damage to the SMART COLOR® PRO will occur if these power supplies are used. Damage caused by an incompatible power supply is not covered by the warranty.



⚠ Do not apply power to a lighting fixture without first powering up the SMART COLOR® PRO. If power is not applied first to the SMART COLOR® PRO, heat from the lighting fixture will cause damage to the SMART COLOR® PRO and the gel string.

- Connect Apollo 4 pin scroller cable from the power supply to the first SMART COLOR® PRO. Continue connecting up to eight SMART COLOR® PROs on a 200 watt circuit.
- Use a return cable to connect the last SMART COLOR® PRO to the power supply.
- Plug the power supply in to the appropriate line voltage.
- The SMART COLOR® PROs will complete a homing sequence.
- Address each SMART COLOR® PRO to a valid DMX value between 001 and 510. Remember that the SMART COLOR® PRO requires 2 DMX channels.
- Check for control of the SMART COLOR® PRO from the lighting console.

[Smart Color® Pro 7.25 Specifications]

Design

Fixture Compatibility	Ideal with 19° - 90° ellipsoidals, fresnels and PARs.
Power Supply Compatibility	Apollo Smart Power™ 75W, 200W, 400W and 600W.
Dimensions	12 3/4 (H) x 11 3/4" (W) x 2 3/4" (D) 323.85mm (H) x 298mm (W) x 69.85mm (D) 3 1/2" (88.9mm) (D) when including mounting tabs
Material / Color	Lightweight aluminum, black or white powder coat
Weight	5.2 lbs. / 2.36 kg. including gel and mounting tabs
Aperture	Rear: 7 1/4" (184.15mm) Front: 7 1/4" (H) x 8" (W) (184.15mm x 203.2mm)
Mounting System	Comes with adjustable tabs between 6 1/4" and 7 1/2" (158.75mm x 184.15mm)
Ports	4-pin XLR ports on back of unit for easy access and daisy chain capability
Heat Deflectors	Apollo Gel Shield
Safety Cable	Yes

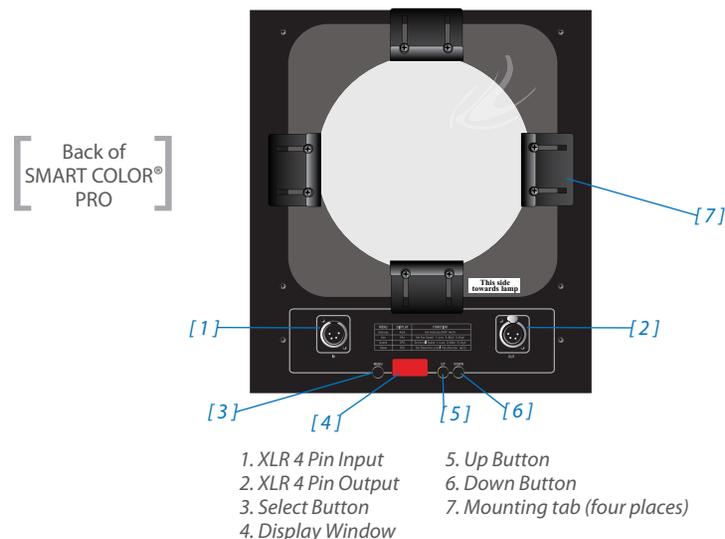
Operational

Gel String Capability	18 color frames (standard or custom); 24 frames (custom only)
Gel String Loading	Spring loaded / self tensioning
Cooling System	Variable speed, single fan with local or remote speed control
Gel String Max. Speed	6 sec., 18 frames ; 7 sec., 24 frames
Address	LED display up to 510
Power Requirement	24VDC
Power Consumption	1.1 AMPS / 26 watts at 24VDC (fan & speed high)
DMX Channels Required	Two
Protocol Requirements	DMX 512 (1990)
Input Connector	XLR 4-pin male (power and control protocol)
Output Connector	XLR 4-pin female (power and control protocol)
LED Indicators	For menu

[Smart Color® Pro 5.25 Specifications]

Design	
Fixture Compatibility	Ideal with 19° ellipsoidals and 6 inch and smaller fresnels.
Power Supply Compatibility	Apollo Smart Power™ 75W, 200W, 400W and 600W.
Dimensions	10 3/4" (H) x 9 3/4" (W) x 3 1/2" (D)
	273.05mm (H) x 247.65mm (W) x 88.9mm (D)
	3 1/2" (88.9mm) (D) when including mounting tabs
Material / Color	Lightweight aluminum, black or white powder coat
Weight	4.78 lbs. / 2.17kg. including gel and mounting tabs
Aperture	Rear: 5 1/4" (133.35mm) Front: 5 1/4" (H) x 5 1/4" (W) (133.35mm x 133.35mm)
Mounting System	Comes with adjustable tabs between 4 1/4" and 5 1/2" (107.95mm x 139.7mm)
Ports	4-pin XLR ports on back of unit for easy access and daisy chain capability
Heat Deflectors	Apollo Gel Shield
Safety Cable	Yes
Operational	
Gel String Capability	18 color frames (standard or custom); 2-24 frames (custom only)
Gel String Loading	Spring loaded / self tensioning
Cooling System	Variable speed, single fan with local or remote speed control
Gel String Max. Speed	6 sec., 18 frames ; 7 sec., 24 frames
Address	LED display up to 510
Power Requirement	24VDC
Power Consumption	1.1 AMPS / 26 watts at 24VDC (fan & speed high)
DMX Channels Required	Two
Protocol Requirements	DMX 512 (1990)
Input Connector	XLR 4-pin male (power and control protocol)
Output Connector	XLR 4-pin female (power and control protocol)
LED Indicators	For menu

[Using the SMART COLOR® PRO]

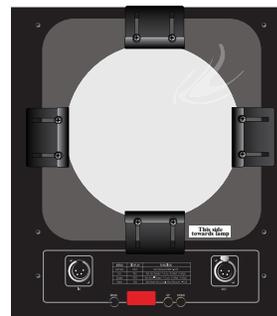


1. XLR 4 Pin Input
2. XLR 4 Pin Output
3. Select Button
4. Display Window
5. Up Button
6. Down Button
7. Mounting tab (four places)

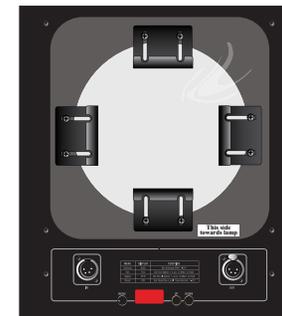
[Mounting]

- Adjust the 4 mounting tabs to fit the gel frame brackets on the lighting fixture.

Brackets on the **PRO 5.25** adjust from 4 1/4" to 5 1/2"
 Brackets on the **PRO 7.25** adjust from 6 1/4" to 7 1/2"
 Brackets on the **PRO 10** adjust from 9" to 10 1/4"



[Brackets set for maximum frame]



[Brackets set for minimum frame]

- ⚠** A safety cable is provided with each SMART COLOR® PRO. Be certain to attach the safety to a pipe or truss supporting the lighting fixture.
- ⚠** Do not apply power to a lighting fixture without first powering up the SMART COLOR® PRO. If power is not applied first to the SMART COLOR® PRO, heat from the lighting fixture will cause damage to the SMART COLOR® PRO and the gel strings.

[Powering Up]

- Use only Apollo scroller cable or other approved scroller cable. Approved cable should have two conductors of 14 AWG wire for power and two shielded and twisted conductors of 22 AWG wire for data.
- The following pin out for the 4 pin connector must be followed:

Pin 1 = 24 volts DC Ground (-)	Pin 3 = DMX data (+)
Pin 2 = DMX data (-)	Pin 4 = 24 volts DC (+)
- Insert a 4 pin XLR connector into the plug on the SMART COLOR PRO marked "IN". Additional SMART COLOR PROs, Smart Color or Smart Move products can be daisy chained together from the "OUT" plug.
- Apply power and DMX signal to the SMART COLOR PRO. A short homing sequence will occur, running the gel string from end to end. The fan will run at full speed during homing.
- The SMART COLOR PRO has finished homing when frame one of the gel string is parked in the aperture.
- If a valid DMX signal is present the LED display will show "=001". If DMX is not present the LED window will flash "=001".

[Menu Tree]

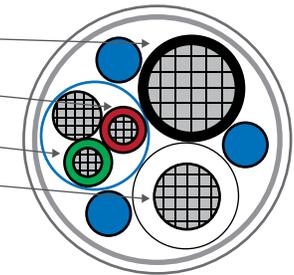
- ADDRESS (Addr)
 - DMX address up
 - DMX address down
- FAN (Fan)
 - =_1_ Low speed fan
 - =_2_ Medium speed fan
 - =_3_ High speed fan
 - =PL1 Sets DMX fan speed control to start address +1
 - =512 Sets DMX fan speed control to channel 512
- Speed (SPd)
 - =_1_ Sets motor speed to slow
 - =_2_ Sets motor speed to medium
 - =_3_ Sets motor speed to high
- Reset (rST)
 - =no_ Remote reset is off
 - =YES Allows for SMART COLOR PRO reset from console
 - enter DMX address for reset control

[Troubleshooting]

Symptom	Cause	Solution
SMART COLOR PRO fails to start and home.	No power from power supply.	<ul style="list-style-type: none"> • Verify that the power supply is on. • Verify that 4 pin cable is valid scroller cable and pin out is compatible.
SMART COLOR PRO fails to respond to DMX.	DMX is not present or is not valid. The LED display will flash from dim to bright.	<ul style="list-style-type: none"> • Verify that 4 pin cable is valid scroller cable and pin out is compatible. • If there is a known good DMX device in the system, set the SMART COLOR PRO to this address. Run a cue to see if the PRO responds.
SMART COLOR PRO operates erratically.	Faulty DMX.	<ul style="list-style-type: none"> • Install return cable from last SMART COLOR PRO to power supply. • Install 5 pin DMX terminator on last DMX device.
SMART COLOR PRO resets intermittently.		<ul style="list-style-type: none"> • Check console programming for invalid information on reset channel. • Too many PROs on one 4 pin XLR circuit. Reduce number to a maximum of 8. • Install return cable from last SMART COLOR PRO to power supply.
Gel frames won't center in aperture.	Worn gel string.	<ul style="list-style-type: none"> • Replace gel string. • Adjust console or channel output to center frames.
Gel frames won't travel to ends.	Worn gel string.	<ul style="list-style-type: none"> • Replace gel string. • Make sure console is set to 100% to reach last frame.
Display flashes "Err".	Gel string jammed.	<ul style="list-style-type: none"> • Verify that gel rollers are fully seated on drive hubs. • Verify that gel string is properly wound onto gel rollers.

[Cable Specifications]

- Pin 1 0 volts DC (14 Gauge)
- Pin 2 Negative Data (22 Gauge)
- Pin 3 Positive Data (22 Gauge)
- Pin 4 Positive 24 volts DC (14 Gauge)
- Chassis Ground Bonding (24 Gauge)



24 FRAMES		
Frame Position	DMX Value 0 - 255	Console Value %
1	0	0
2	012	5
3	024	10
4	036	14
5	047	19
6	058	23
7	069	28
8	080	32
9	091	36
10	101	40
11	112	44
12	122	48
13	133	52
14	143	57
15	153	61
16	164	65
17	175	69
18	186	73
19	197	78
20	208	82
21	220	87
22	232	91
23	244	96
24	255	100

- All 24 frame gel strings are custom and intended for the Smart Color® Pro 5.25 and Smart Color® Pro 7.25.
- The SMART COLOR® PRO 10 cannot accept a 24 frame gel string.

[Addressing]

- Each SMART COLOR® PRO can respond to a unique start address. To change the DMX address press the “SELECT”, “UP” or “DOWN” button once. “Addr” will appear. Press “SELECT” to select the addressing mode. Pushing the “UP” and “DOWN” buttons will step through DMX addresses. The addresses advance slowly for the first three seconds while holding the “UP” or “DOWN” button. After the first three seconds the DMX addresses advance or retreat at a much faster rate.
- After the desired DMX start address appears in the LED window, press “SELECT” to set the address.
- The SMART COLOR® PRO is a two channel device. The first channel controls the gel string, and the second channel controls the fan speed.
- The LED display will show “Addr” when the addressing sequence is complete.

[Fan]

- To change the fan speed press the “SELECT”, “UP” or “DOWN” button once. Press the “DOWN” button once. “Fan” will appear. Press the “SELECT” button to select fan control mode.
- Press the “UP” or “DOWN” button to scroll through the fan options.
- Selecting “=_1_” will set the fan to run constantly at low speed. Use this setting when the SMART COLOR® PRO is being used with low wattage fixtures or in situations requiring quiet operation.
- Selecting “=_2_” will set the fan to run constantly at medium speed.
- Selecting “=_3_” will set the fan to run constantly at high speed. Use this setting when the SMART COLOR® PRO is being used on high wattage fixtures or when maximum cooling is required.
- Selecting “PL1” will set the fan to be controlled at the SMART COLOR® PRO’s DMX start address plus 1. For example, if the start address for the SMART COLOR® PRO is channel 001, the fan will be controlled by channel 002. With the fader for channel 002 at 100% the fan will operate low speed.
- Selecting “512” will set the fan to be controlled by DMX channel 512. Again, with the fader at 0% the fan will operate at high speed. With the fader at 100% the fan will operate at low speed.
- Press the “SELECT” button to set fan speed.

[Speed]

- To change the motor speed press the “SELECT”, “UP” or “DOWN” button once. Press the “DOWN” button twice. “SPd” will appear. Press the “SELECT” button to select speed control mode.
- Press the “UP” or “DOWN” button to scroll through the speed options.
- Selecting “=_1_” will set the motor to run at low speed. Use this setting when the SMART COLOR® PRO is being used in situations requiring quiet operation.
- Selecting “=_2_” will set the motor to run at medium speed.
- Selecting “=_3_” will set the motor to run at high speed. Use this setting when the SMART COLOR® PRO is being used in situations requiring fast operation.
- Press the “SELECT” button to set motor speed.

[Reset]

- To set the remote reset function press the “SELECT”, “UP” or “DOWN” button once. Press the “DOWN” button three times. “rSt” will appear.
- With “rSt” in the display press the “SELECT” button.
- Press the “UP” or “DOWN” button to scroll through the reset options.
- Select “=no_” when remote reset of the SMART COLOR® PRO is not required.
- Select “=YES” when remote reset is required.
- With “=YES” in the display press the “SELECT” button.
- When “=000” appears in the display window enter a valid DMX address chosen to control remote reset. When this DMX channel is raised to 100% for more than 1 second, the SMART COLOR® PRO will reset.
- Be sure that the remote reset address does not duplicate any other active DMX address in your system.

[Factory Defaults]

- Factory default setting for the DMX address is “001”.
- Factory default setting for fan speed is “=_3_”, high.
- Factory default setting for the gel string speed is “=_3_”, high.
- Factory default setting for remote reset is “=no_”.
- Factory default address for remote reset is “=000”.

[Gel String Information]

- The SMART COLOR® PRO has been designed for easy installation and removal of gel string assemblies. The front cover has been removed for clarity. The SMART COLOR® PRO has been designed to allow the front cover to remain in place during the actual process.



- Place the gel string and two gel rollers inside the SMART COLOR® PRO.
- Line up the left roller with the top guide pin. Push the gel roller toward the top of the SMART COLOR® PRO.
- Swing the bottom of the gel roller towards the hub drive.



- Line up the bottom of the gel roller over the hub drive.
- Rotate the hub drive until the pin seats fully in the bottom of the gel roller.
- Repeat the process for the right gel roller.
- Gel Frame Dimensions

SMART COLOR® PRO 5.25 header and tail 15”, frames 12”
 SMART COLOR® PRO 7.25 header and tail 15”, frames 13”
 SMART COLOR® PRO 10 header and tail 19”, frames 16”

- A piece of Apollo Gel Shield is installed on the back of the SMART COLOR® PRO. The shield filters out harmful ultraviolet and infrared rays that could damage the gel strings. Be sure this shield is in place before operating the SMART COLOR® PRO.

18 FRAMES				
Frame Position	DMX Value 0 - 255	Console Value %	Theater Gel String	Rock' N Roll Gel String
1	0	0	Clear	Clear
2	016	7	AP6300 Neon Yellow	AP6400 Pilsner Yellow
3	032	13	AP7150 Santa Fe Amber	AP7600 Apollo Orange
4	047	19	AP7650 Coral Amber	AP7450 Golden Amber
5	062	25	AP7550 Spiced Rum Amber	AP8300 Diva Red
6	076	31	AP7600 Apollo Orange	AP8350 Bludgeon Red
7	091	36	AP8250 Vixen Red	AP8750 Hot Pink
8	106	42	AP8450 Spanked Pink	AP3150 Sour Grape
9	120	47	AP8750 Hot Pink	AP3700 Groovy Grape
10	134	53	AP3250 Dominant Lavender	AP3900 Voodoo Lavender
11	148	59	AP3700 Groovy Grape	AP4450 Heavenly Blue
12	163	64	AP4800 Ice Blue	AP4250 Apollo Blue
13	178	70	AP4450 Heavenly Blue	AP4200 Bright Blue
14	193	76	AP4400 After Hours Blue	AP4950 Caribbean Blue
15	208	82	AP5960 Magarita Green	AP5500 Neptune Blue Green
16	223	88	AP5500 Neptune Blue Green	AP5400 Rock' N Roll Green
17	239	94	AP2000 Full CTB	AP4300 London Blue
18	255	100	AP7630 Peach My Interest	AP6200 Banana Yellow

- For best accuracy, place console output in 16 bit mode, output values DMX 0 - 255. Console output in percent results in less resolution, and some position shift.
- These values are derived from a SMART COLOR® PRO 7.25 with a new gel string. Actual values required may vary based on gel string age and condition. SMART COLOR® PRO 5.25 and SMART COLOR® PRO 10 scroller values should be very close to these values but may require minor adjustments.