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## **APOLLO GOBO ROTATORS**

### **OPERATING MANUAL**

- SMART MOVE®
- SMART MOVE® DMX
- SMART MOVE® JR.
- SIMPLE SINGLE™



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## Congratulations, You Now Have An Apollo SMART MOVE® Gobo Rotator.

SMART MOVE® gobo rotators from Apollo bridge the gap between conventional rotators that merely spin, and the more refined rotators that allow precision maneuvers with the aid of a lighting desk. The idea behind this technology allows the user to produce many programmed effects without the need for a DMX signal generated by a conventional lighting desk.

SMART MOVE® rotators are designed to accept metal and/or gobos made of black & white glass, dichroic or textured glass. They allow you to create fantastic kinetic effects as stand-alone units using only AC power, or as an addition to your scrollers, foggers, or other DMX accessories.

The SMART MOVE® family consists of the original SMART MOVE®, the SMART MOVE® DMX, which both accept two gobos in any combination of glass and metal, and the SMART MOVE® JR., which accepts one “S4J” or “M” size metal or glass gobo.



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## Maintenance Kits

SMART MOVE® and SMART MOVE® DMX kits contain the following replacement parts: *2 Belts, 6 Teflon spacers, 1 Retaining ring, 4 Teflon rollers*

SMART MOVE® JR and SIMPLE SINGLE™ kit contains: *1 Belt, 4 Teflon spacers, 1 Retaining ring, 2 Teflon rollers*

## SMART MOVE® Repairs

- All gobo rotators and power supplies are covered by a 12-month parts and labor warranty. The warranty covers parts and labor for 12 months and freight for 30 days after initial purchase. In the case of warranty claims, please contact Apollo Design Technology, Inc directly at the appropriate address as detailed on back cover.
- 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.

Serial Number	
Date Purchased	
Purchased From	

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## Standard SMART MOVE® Features

- Multiple pre-programmed effects and variable speeds in either direction for added versatility.
- Standard 120V operation for convenience.
- Rugged design and 24VDC 600mA output transformer for durability.
- Belt driven for quiet operation.
- Fit most popular ellipsoidals for flexibility.
- Heavy duty retaining ring for extended use.
- Durable storage case for easy transport.
- Apollo Phillips/Flathead screwdriver included.
- Programmed effects listed on back of rotator

## Additional SMART MOVE® Features

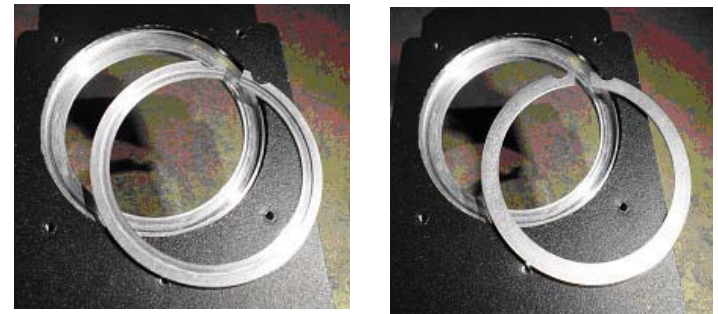
- Single gobo capacity for the SMART MOVE® JA and SIMPLE SINGLE™
- Two gobo capability for dynamic effects for both SMART MOVE® and SMART MOVE® DMX
- 200 Indexable positions for unique kinetic effects.
- 18 pre-programmed effects that save time.
- 4 pin XLR input and output for daisy chain ease.
- Speed range of 0 to 21 rpm for versatility.
- Easy to use rotary switches for effect selection.
- More powerful 24 VDC transformer for permanent installations and rental applications.

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## Gobo Installation

The gobos are centered and held firmly in place by the machined aluminum retaining ring. The gobo ring is designed to hold both metal and glass patterns by simply inverting the ring for either thin steel or thicker glass gobos and textured glass. A self-centering pocket allows the gobo to be placed into the , then install the retaining ring. It's that simple.

When using steel gobos, the indentation in the retaining ring should be facing out. When using glass patterns the indentation should be facing in.



To remove the ring, place the tip of the Apollo screwdriver (provided) or other small tool in the notch and gently pry the ring up. When replacing the ring, simply place the ring in position and gently press into place with your fingertips.

Replacement retainer rings and other items are available from your Apollo dealer in the event one becomes misplaced or bent beyond recognition.

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**SMART MOVE®** and **SMART MOVE® JR.** units are powered by a 24V DC adapter supplied with the unit. It can be plugged into any 120 volt outlet for smooth operation. The 600mA power adapter is a rugged, black plastic molded unit that incorporates a heat shield covering with a ¼ inch heavy duty audio-style jack for long life.



The **SIMPLE SINGLE™** rotator allows the user to create rotational effects with a minimum of investment. Each **SIMPLE SINGLE™** rotator is supplied with a 24V DC 600mA power adapter for permanent installation and demanding rental use. This power adapter can be plugged into any 120V AC outlet to provide power via the ¼ inch heavy duty audio-style jack.

The **SIMPLE SINGLE™** rotator is easily operated by plugging the power jack into the rotator, and the power adapter into a 120V AC Edison outlet. Set the speed by turning the black speed control knob clockwise for faster movement, or counter-clockwise for slower rotation. The **SIMPLE SINGLE™** rotator is intended as an entry-level gobo rotator with a low investment price. The gobo is installed in the same manner as detailed on the previous page.

#### **SMART MOVE® DMX**

When the **SMART MOVE® DMX** is used with a lighting console, the two 4 pin XLR connectors provide data and power transmission from the remote power supply. Three sizes of power supplies are available from Apollo:

- PSU 75W will operate 5 SMART MOVE® rotators.*
- PSU 150W will operate 10 SMART MOVE® rotators.*
- PSU 250W will operate 18 SMART MOVE® rotators.*
- PSU 400W will operate 28 SMART MOVE® rotators.*

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## Trouble-Shooting

**SMART MOVE® DMX** is in rotating mode but not rotating

- Possibly missing 24V dc power – check for power.*
- Possibly missing DMX signal – check for DMX.*
- Check that DMX level is at 0 on channels 2 and 3. Channel 1 controls speed and rotation.*

**SMART MOVE® DMX** won't rotate without DMX signal

- The unit can be set for fixed rotational mode by setting the rotary switches at 700 – reset the switch to the proper address, then use the second and third rotary switches to choose your programmed effect.*

**SMART MOVE® DMX** is not indexing properly

- Make sure channel 3 is at 0, channel 2 is above 0 to set the speed of movement. This allows channel 1 to set the indexed position.*
- The homing sensor circuit has failed. Visually inspect rear gobo holder for missing magnetic sensor. Consult Apollo.*

### All SMART MOVE® rotators

Gobo is not firmly held by retaining ring

- The retaining ring may have been inserted backwards. Remember, place the flat side towards steel gobos, shouldered side towards glass gobos.*

Motor turns, but gobo does not

- Check for loose or broken drive belt.*
- Set screw in drive pulley may be loose.*
- For double rotators, check that the two steel gobos have not become tangled together,*

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## PSU Options

The **SMART MOVE<sup>®</sup> DMX** gobo rotator is compatible with the following 24V DC power supplies:

- *Apollo PSU 75W, 150W, 250W & 400W*
- *Color-Q\* PSU 02-4*
- *Spectra-Q\* PSU's*
- *Chroma-Q\* PSU's*
- *Rainbow\* PSU's*
- *Wybron Forerunner\**

### **DO NOT PLUG SMART MOVE<sup>®</sup> INTO THE WYBRON COLORAM POWER SUPPLY!**

Because of reversed power pin designation; using the Wybron Coloram PSU will cause serious damage to the **SMART MOVE<sup>®</sup>** electronics.

The Apollo PSU is available in 4 sizes:

*PSU 75W 1.88A - 75 Watt max, 100 - 240 VAC input, 24 Volt Output, 50 - 60Hz*  
*PSU 150W 6.25A - 150 Watt max, 85 - 260 VAC input, 24 Volt Output, 50 - 60Hz*  
*PSU 250W 10.4A - 250 Watt max, 115 or 230 VAC input, 24 Volt Output, 50 - 60Hz*  
*PSU 400W 16.6A - 400 Watt max, 115 or 230 VAC input, 24 Volt Output, 50 - 60Hz*

All Apollo PSU models have a universal power input cord which can be interchanged with a locally available power cord, matching the available power outlet. This applies outside N. America.

Apollo PSU 150W, 250W, and 400W are equipped with the following:

- *XLR 5-pin male and female sockets as DMX input and thru sockets.*
- *Two XLR male 4 pin output sockets for power & DMX.*
- *Two XLR female 4 pin output sockets for power & DMX.*
- *Main power indicator (Red LED).*
- *6 ft. AC Edison power cord.*

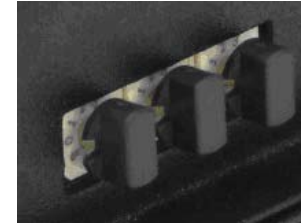
The PSU provides opto-isolation between the incoming DMX and the DMX distributed to the scroller outputs. A separate line driver IC buffers each DMX output.

Each Apollo PSU 75W is equipped with the following:

- *XLR 5-pin male as DMX input socket.*
- *One XLR female 4-pin output socket for power & DMX.*
- *Main power indicator (Green LED).*
- *6 ft. AC Edison Power cord.*

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Addressing the Apollo **SMART MOVE<sup>®</sup> DMX** is as simple as setting the address on other DMX compatible accessories. The three rotary switches are easily accessible on the side of the control cover and require no tools to set the address.



The **SMART MOVE<sup>®</sup> DMX** uses only 3 channels of DMX512 and can be addressed easily by setting the rotary switches with your fingertips. To set your desired DMX address, turn each rotary switch so that the address reads between 001 and 512. Because each DMX control console operates differently, consult the respective manufacturer's console manual for patching instructions. Please note that after patching the rotator into the console, the console's control channel number may (and probably will) be different than the rotator's DMX address number.

If you are controlling the rotators with a console that has multiple DMX universes, please note that different consoles process multiple universes in varying ways. Each DMX universe consists of addresses between 001-512. In most conventional consoles, if a rotator with an address of 001 is connected to the second universe of the console, the console will view the rotator address as 513. In this example, 512 was added to the value of the rotator's address for the console to process it.

It is NOT advisable to operate the **SMART MOVE<sup>®</sup>**, the **SIMPLE SINGLE™** or the **SMART MOVE<sup>®</sup> JF** rotators by plugging the power adapter into electronic dimmers. **The dimmer output may not be compatible for use with transformers.** Please check with the dimmer manufacturer. If dimmer is not compatible, the 24V power adapter can overheat, causing damage and/or destruction to the unit.

## Dimensions

The Apollo **SMART MOVE**<sup>®</sup>, **SMART MOVE**<sup>®</sup> **DMX** are 11.3 inches (287.3mm) long; 4.7 inches (119.4mm) wide; .530 inches (13.5mm) deep. These rotators are designed for use in the ETC Source Four, Altman Shakespeare, Selecon Pacific and Strand SL ellipsoidal fixtures.

The Apollo **SIMPLE SINGLE**<sup>™</sup> is 11.3 inches (287.3mm) long; 4.7 inches (119.4mm) wide; .530 inches (13.5mm) deep. This also fits the ETC Source Four, Altman Shakespeare, Selecon Pacific and Strand SL ellipsoidal fixtures.

The Apollo **SMART MOVE**<sup>®</sup> **JR.** is 11.3 inches (287.3mm) long; 4.7 inches (119.4mm) wide; .530 inches (13.5mm) deep and designed to fit the ETC Source Four Jr. ellipsoidal. An optional adapter plate will allow use with the Selecon Acclaim fixture.

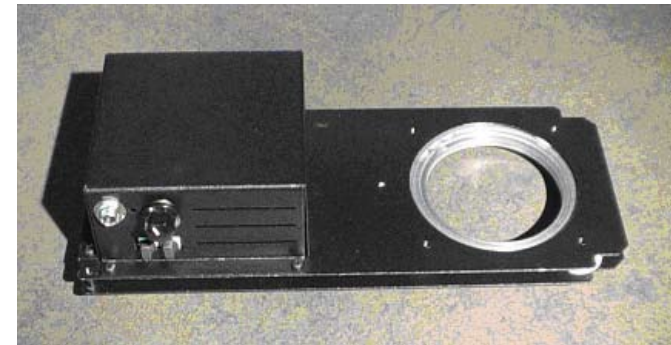
## Gobo Sizes

The Apollo **SMART MOVE**<sup>®</sup>, **SMART MOVE**<sup>®</sup> **DMX**, and **SIMPLE SINGLE**<sup>™</sup> are designed to use “B” size steel and glass patterns; max size up to 3.55 inches round (90.2mm) metal, 3.15 inches round (80.0mm) glass.

The **SMART MOVE**<sup>®</sup> **JR.** is designed to use a single “M” size steel or glass pattern, max size to 2.6 inches round (66.0mm) metal, 2.5 inches round (64.5mm) glass.

## Power Supply Options

Please see page 11 for PSU information and specifications of the Apollo Design Technology power supplies pictured below.



Smart Move Mode continued...

As mentioned on the previous page-

#### DMX channel 3 above 0

**Action:** DMX channel 1 selects a pre-programmed effect to run (see selection chart below)

**Action:** DMX channel 2 sets the speed or delay time for the effect just as the speed control knob usually does in stand-alone mode.

(Example- rotator is addressed at 001, the third channel is set above zero. The second channel adjusts the speed of the effect, while the first channel chooses the effect. \*Remember, three channels of DMX are allotted to the rotator.)

#### DMX effect selection:

DMX Value	Effect
0%	0, home wheel
5%	1, clockwise rotation
10%	2, counterclockwise rotation
15%	3, pendulum 45 degrees
20%	4, pendulum 90 degrees
25%	5, pendulum 180 degrees
30%	6, stutter (3 second increments)
35%	7, stutter (5 second increments)
40%	8, stutter (10 second increments)
45%	9, stagger (3 second increments)
50%	10, stagger (5 second increments)
55%	11, stagger (10 second increments)
60%	12, shake
65%	13, clock
70%	14, shake/pause (3 second increments)
75%	15, shake/pause (5 second increments)
80%	16, shake/pause (10 second increments)
85%	17, progressive
90%	18, whip
95%	0, home wheel
100%	99, demo mode (All pre-programmed effects)

## SMART MOVE® DMX

When the pattern(s) have been installed, connect power and control cable to unit via the 4-pin XLR male connector. For proper operation only Apollo or other high quality accessory cable should be used from the power/DMX supply to the rotator. DO NOT use microphone cable within any lighting applications!

The SMART MOVE® DMX unit is powered by a 24V DC source and DMX512 1990 protocol. Care must be taken to determine that the power supply and the pin configuration are compatible with the unit. Full details are listed on page 11.



For simple rotation without DMX control, set the rotary switches to 701, and then adjust the speed by turning the black speed control knob clockwise for faster movement, or counter-clockwise for slower rotation. To access the 19 preprogrammed effects, simply set the first rotary switch at 7 and the remaining two rotary switches will correspond with the effects listed on the back.





**Effect 01**  
CW Continuous  
Rotation



**Effect 02**  
CCW Continuous  
Rotation



**Effect 03**  
Cradle 45°



**Effect 04**  
Rock 90°



**Effect 05**  
Swing 180°



**Effect 06**  
Stutter 3  
CW 360°, Stop,  
CW 360°, 3 Second  
Dwell Time...



**Effect 07**  
Stutter 5  
CW 360°, Stop,  
CW 360°, 6 Second  
Dwell Time...



**Effect 08**  
Stutter 10  
CW 360°, Stop,  
CW 360°, 10 Second  
Dwell Time...



**Effect 09**  
Stagger 3  
CW 360°, Stop,  
CCW 360°, 3 Second  
Dwell Time...



**Effect 10**  
Stagger 5  
CW 360°, Stop,  
CCW 360°, 6 Second  
Dwell Time...



**Effect 11**  
Stagger 10  
CW 360°, Stop,  
CCW 360°, 10 Second  
Dwell Time...



**Effect 12**  
Earthquake



**Effect 13**  
Clock  
30° CW, Stop,  
30° CW, Stop...



**\*Effect 14**  
Aftershock 3  
10 Second Shake  
CW, 3 Second  
Dwell Time...



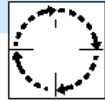
**\*Effect 15**  
Aftershock 5  
10 Second Shake  
CW, 5 Second  
Dwell Time...



**\*Effect 16**  
Aftershock 10  
10 Second Shake  
CW, 10 Second  
Dwell Time...



**Effect 17**  
Progressive  
30° CCW,  
15° CW...



**Effect 18**  
Whip  
Slow to Fast  
Movement,  
15 Second  
Dwell Time...



**Effect 99**  
Demo  
10 Seconds /  
Effect

**CW** = Clockwise  
**CCW** = Counter  
Clockwise

The rotator should be carefully inserted in the iris slot of the lighting fixture with the control-housing box facing the front of the fixture. DMX cables are easily looped through the yoke of the ellipsoidal or over the truss to avoid direct contact with the fixture.

## Modes of Operation

The **SMART MOVE® DMX** allows three modes of operation and requires 3 channels of DMX when used with a lighting desk.

**Rotating Mode** This enables rotation of two patterns at the same speed from 0 to 21 rpm with each of the two gobo holders rotating in opposite directions. In this mode of operation set:

**DMX channel 3 at 0**

**DMX channel 2 at 0**

**Action: DMX channel 1 controls speed and rotation**

**Indexing Mode** The **SMART MOVE® DMX** allows the user to position a specific logo at any of 200 positions while operating through a DMX lighting console. The steel or glass pattern to be indexed should be placed in the gobo holder located on the back of the unit, beneath the serial number sticker. In this mode set:

**DMX channel 3 at 0**

**DMX channel 2 above 0**

**Action: DMX channel 1 sets a position to index to**

**Action: DMX channel 2 sets the speed of movement**

*\*Place the indexing gobo into the holder while rotator is on and addressed at 000. This allows the gobo's position to be calibrated for proper alignment.*

**Smart Move Mode** The **SMART MOVE® DMX** allows the user to access the 20 pre-programmed effects while in DMX mode. To access these programmed effects, set:

**DMX channel 3 above 0**

**Action: DMX channel 1 selects a pre-programmed effect to run (see selection chart on opposite page)**

**Action: DMX channel 2 sets the speed or delay time for the effect just as the speed control knob usually does in stand-alone mode.**