User Manual for
DHA RTR001 Junior Gobo Rotator
DHA RTR203 Mk2 Gobo Rotator

Version 0.9 May 2003

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(1) Product Overview

The DHA RTR001 Junior and RTR203 Mk2 take gobo rotator technology to a new level. The units are designed to give many years of trouble free use, providing that they are regularly maintained and used in accordance with the instructions detailed in this manual. If you should experience any problems that fall outside of the scope of this manual, please contact the selling dealer for further details.

If the selling dealer is unable to satisfy your servicing needs, please contact the following for full factory service:

DHA Lighting
284 - 304 Waterloo Road
London, SE1 8RQ
Tel: +44 (0)20 7771 2900
Fax: +44 (0)20 7771 2901
www.dhalighting.co.uk
sales@dhalighting.co.uk

(2) Product Description

The DHA RTR001 Junior and RTR203 Mk2 are stand-alone gobo rotators, designed to accept B sized glass or metal gobos. It features an advanced built-in effects system, allowing the user to create stunning kinetic effects. Refer to the specifications for details of gobo sizes.

Rotator type	**Gobo size &Quantity**	**Fixture**
RTR001 Junior	(× 1) 'M' size* Gobo	ETC Source4™Junior
RTR203 Mk2	(× 2) 'B' size* Gobos	ETC Source4™, Altman Shakespeare, Strand SL, and Selecon Pacific

The units are supplied with a universal-input power supply to allow for use anywhere in the world.

Accessories
A remote speed control is available from your selling dealer.

(3) Operation

(3.1) Connections
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(3.3) Operating the unit
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(3.5) Troubleshooting
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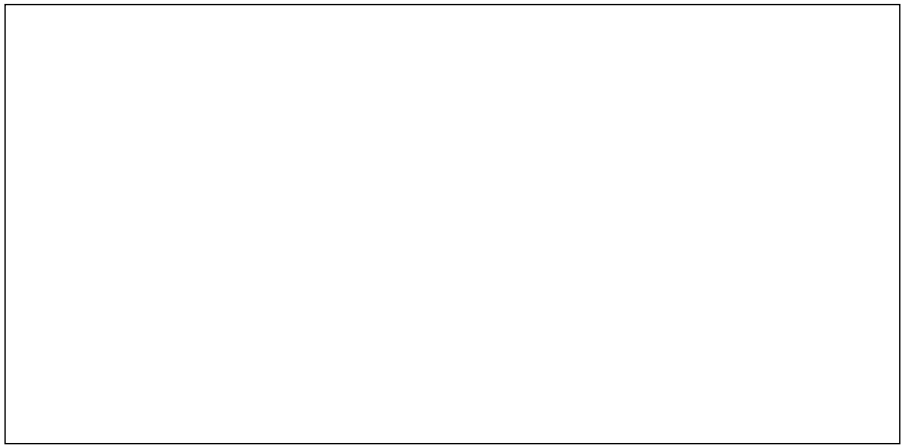
(3.1) Connections

Power supply



- The power supply is designed for worldwide use. An IEC power cord (not supplied) should be connected to an appropriate AC electrical outlet rated for 100-240 V, 47-63Hz
- Do not plug the power supply into a dimmer circuit as this could cause a non-warranty failure of the supply.
- Please ensure that the power supply is located a safe distance away from sources of heat.

Optional remote

A remote speed control that replicates the potentiometer wheel is available from your selling dealer. The remote plugs into the side of the rotator. Ensure the plug for the remote is pushed fully into its socket and the cable is attached securely. Take care that the remote cable does not present a physical danger to personnel or equipment in the near vicinity

(4) Drawings

Outside dimensions of the units.

(3.6) Technical Specifications

RTR001 Junior

Dimensions:	252mm (l) × 80mm (w) × 66mm (d) 9.950" × 3.125" × 2.600"		
Weight:	0.80kg/1.75 lb		
Gobo dimensions:		**Outside dia.**	**Thickness**
	‘M’ size	65.5mm/2.58”	1.1mm/0.0043”
Mounting plate:	ETC Source 4™ Junior		

RTR203 Mk2

Dimensions:	147mm (l) × 120mm (w) × 70mm (d) 9.750" × 4.750" × 2.750"		
Weight:	0.95kg/2.00 lb		
Gobo dimensions:		**Outside dia.**	**Thickness**
	‘B’ size metal	86mm/3.5"	0.2mm/0.008"
	‘B’ size glass mono	79.4mm/3.125"	1.1mm/0.0043"
	‘B’ size glass multi	79.4mm/3.125"	2.3mm/0.009"
Mounting plate:	ETC Source4™, Altman Shakespeare, Strand SL and Selecon Pacific		

General

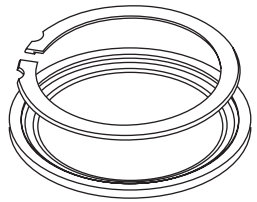
Gobo media:	Metal or glass
Cooling:	Convection (natural)
PSU Input Volts/Amp:	100-240 V, 47-63Hz, @ 0.4 Amp (Max.)
Body material:	Steel
Unit colour:	Black high temperature paint (other colours available, POA)
Power input Connector:	DC power jack (5.5mm OD/2.0mm ID)
Remote speed connector:	3.5mm mini-jack
European approvals:	Pending
North American approvals:	Pending

(3.2) Installation of gobos

The gobos are held firmly in place by sprung retaining rings. The gobo holders and rings are designed to hold both metal and glass patterns.

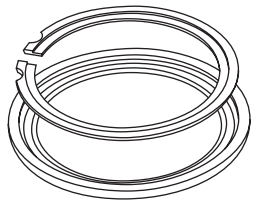
The retaining rings can be removed by placing a small tool in one of the grooves in the ring and prying the end of the ring out of the holder.

When replacing the retaining rings, start by inserting one end of the ring into the holder and then work around pushing the rest of the ring into its slot in the holder. Check the rings are fully seated in their slots before operating the unit.



Position of the retaining ring flat side up for glass gobo

Position of the retaining ring groove side up for metal gobo



Metal Gobos

When installing metal gobos in the RTR203 Mk2 rotator, the circular indentation in the retaining ring should be facing outwards.

Glass gobos

When installing glass gobos in the RTR203 Mk2 rotator, the circular indentation in the retaining ring is used to accommodate the greater thickness of the glass gobo and therefore should be facing inwards.

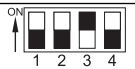
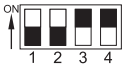
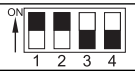
Notes:

These Notes are intended to help the user, however no responsibility will be accepted for any actions arising from their implementation.

- When they are first used in a fixture, new metal gobos tend to warp, due to the heat generated in the fixture. Although this is normal, it can potentially cause problems when two gobos are contra-rotating closely together. It is suggested that new gobos are pre-heated in the fixture before actual use of the unit. The gobo shape can then be observed and corrected if necessary.
- When using etched glass gobos, the uncoated side of the gobo should always nearest to the fixture light source.

(3.3) Operating the unit

The DHA RTR001 Junior and RTR203 Mk2 gobo rotators feature a wide range of effects, these can be selected by the 4 position dip switch. The effects can then be adjusted by the potentiometer wheel.

Effect Selection	Switch	Potentiometer Wheel
Gobo Rotation		Rotation speed (↺ fast-slow-↻ fast) 0.2 - 20rpm (approx.)
◢ (0-full speed) ↻		◢ Rate (↺ fast-slow-↻ fast)
'Clock' ↻		Sweep size (↻ 2°-45°-2°↺ fast)
◢◣↻		◢◣ Rate (↺ slow-fast-slow-↻)
'Advancing Two-Step' 50°↻ - 30°↺		Step Speed (↺ fast-slow-↻ fast)
Random Shimmer/Shake		Shake speed (slow- fast)
'Pendulum' (≈ 45° swing)		Swing speed (slow- fast)
'Pendulum' (≈ 90° swing)		Swing speed (slow- fast)
'Pendulum' (≈ 180° swing)		Swing speed (slow- fast)
Gobo Shimmer/Shake		Shake speed (slow- fast)
Gobo Shimmer/Shake - 3s Pause		Shake speed (slow- fast)
1 revolution + pause		Rotation speed (↺ fast-slow-↻ fast)
1 rev. ↻ + pause +1 rev.↺		Rotation speed (↺ fast-slow-↻ fast)

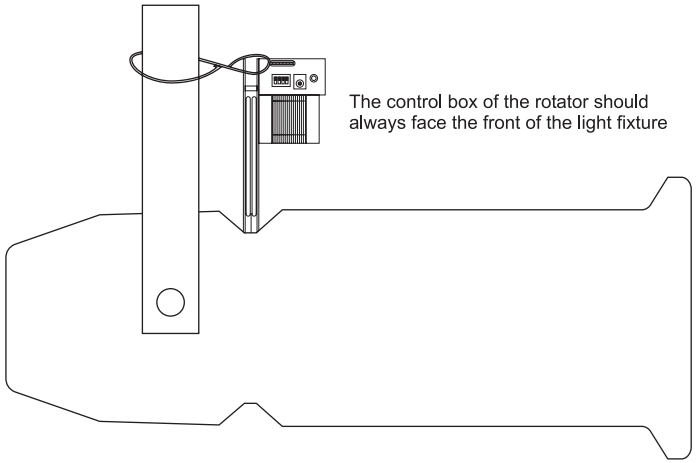
Effects Menu Legend

↻	CW rotation	↺	CCW rotation	◢	Accelerate	◣	Decelerate

(3.4) Mounting the unit

The unit should be inserted in the gobo gate or iris slot of the lighting fixture with the control-box housing facing the front of the fixture. Ensure the rotator is correctly seated in the iris slot before powering the lighting fixture. When properly seated, there should be no sideways movement of the gobo unit.

The DHA rotators are designed for mounting in an upright or side mounted position, with the top control section of the unit above or at the side of the fixture. Do not mount in an inverted position with the control-box of the unit below the fixture.



Power supply

Please ensure that the power supply is located a safe distance away from any sources of heat, and does not present a physical danger to personnel or equipment in the near vicinity.

Safety Wire

The DHA RTR001 Junior and RTR203 Mk2 rotators should always be used with a safety wire. There is a hole provided in the chassis for the attachment of a safety wire.

(3.5) Troubleshooting

Troubleshooting is a process of elimination. First, rule out the other field factors (i.e. bad connections, faulty cables and power supplies). If an electronics problem is suspected try replacing the electronics card first. For technical advice and/or parts, please contact your selling dealer or the offices listed in this manual.