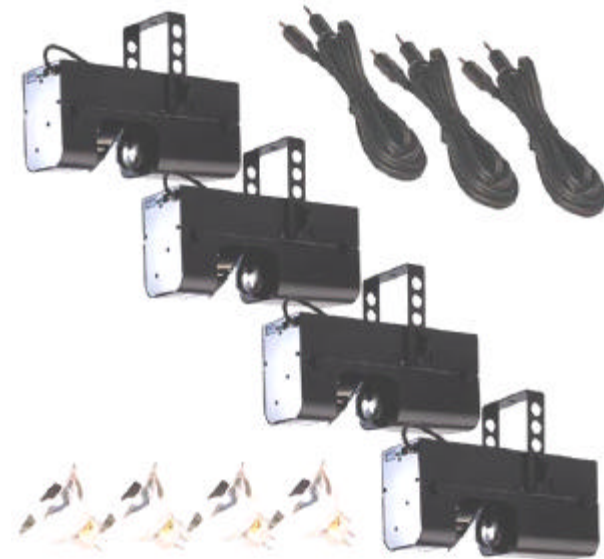


RYGER

Manufacture of Lighting Effects and Control
Systems for the Entertainment Industries



TinyScan & TinyScan+ System

Instruction Manual

16/01/03

tiny_s.doc

Dealer Stamp

Made in England
sales@ryger.co.uk www.ryger.co.uk

Description

The TinyScan package consists of a set of 4 miniature 100 Watt scanners, designed primarily for pub, club and mobile use. The package comes complete with DMX leads and lamps. The TinyScan heads boast features only normally found on more expensive scanners with their fully microstepped motors throughout, externally silvered mirrors and rugged construction. The TinyScan has 8 gobos with 8 colours on a single effects wheel, whereas the TinyScan+ has 8 gobos and 10 trapeziform colours on separate wheels allowing colour and gobo mixing.

Connections

Mains Input

The unit comes supplied with a flying lead. The wire colour code is as follows :-

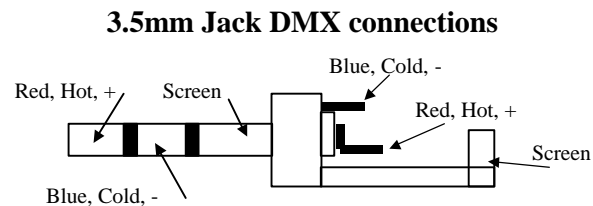
BROWN	LIVE
YELLOW / GREEN	EARTH ↓
BLUE	NEUTRAL

If you are unsure of the mains connection please contact an electrician or your dealer.

DMX Connections

The TinyScan package comes complete with all of the DMX leads you require

Two 3.5mm jack connectors carry the DMX data. To connect units to each other or a controller use straight wired 3.5mm plug-plug leads. Connect the heads in a daisy chain fashion.



Ensure that the jack plugs are pushed all the way into the sockets to ensure a good connection.

Note

The TinyScans will automatically terminate the DMX line.

Maintenance

Fuse changing

If the unit stops working check the external fuse. If this has blown it should be replaced with a 5A fuse. **Disconnect the power to the unit before changing the fuse.** Ensure that the fuse holder tightly grips the new fuse.

Lamp changing



First disconnect the power supply to the unit.

Unscrew the thumb screws at the sides of the front panel. Remove the front panel. Extract the lamp from lamp holder. Check the lamp holder for wear and replace if required. Replace the lamp. Ensure that the lamp is properly seated in the holder. Replace the front panel. Replace the thumb screws.

Optics cleaning

To clean the Optics of the tiny scan unscrew the focus ring until it clicks out of its holder. The lenses can then be easily cleaned.

Guarantee

The TinyScan range are covered by Ryger's standard guarantee. Please note that Tilt motor wiring, Fuses and Lamp holders are **not** covered by this guarantee. Spares can be obtained from your dealer.

Specification TinyScan, TinyScan+

Size	95x310x140mm
Weight	4Kg Approx.
Control	DMX512 or Stand Alone
DMX base Address range	1-255
Lamps	Long Life 100W 12V A1/271
Fuses	Mains 5A HRC 20mm External.
Power supply	220-250Vac 50/60Hz @ 150W

The TinyScans conform to
EN60335 Part1, EN50335-2-56 EN50082-1 EN55015 and EN55014

↑ 1997

Gobo Operation (TinyScan + only)

Decimal	Hex	Gobo
0	0	Medium Spot
12	0C	Large Spot
24	18	Small Spot
36	24	Star
48	30	Asterisk
60	3C	Dots
72	48	Cross
84	54	Line
96	60	Square
108	6C	Circle

Notes

DMX in to wheel position is linear.

DMX values greater than 108 will wrap around and go back through the gobos.

DMX values greater than 215 will set the gobo to medium spot.

Notes on DMX Operation

If the DMX controller sends positions to the pan, tilt or colour/gobo wheels faster than the unit can move, the heads may become temporarily out of synchronisation. If this occurs, slow down the pattern or chase speed on the controller until the heads are back working together.

TinyScan Operation

General Operation

Focusing

To focus the unit, screw the focus ring in for long distance focus or out for close focus, until you have a sharp image.

LED Operation

On the base of the TinyScan heads are three LED's, their functions are as follows:-

RED	On	Power OK	
GREEN	With DMX	Flashing Slowly	Unit running, no data.
		Flashing Fast	Unit running, data received.

Dip Switches

There are 10 Dip switches on the base of the unit. These are used to control the operation of the head. See Standalone and DMX operation for details.

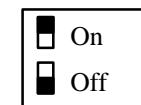
Mounting

The TinyScans can be mounted in any position using the locking mounting bracket. It is recommended that the lamp is not run with the lamp pins higher than the bulb of the lamp as this may shorten the lamp life. Do not mount the unit where it will be exposed to excessive vibration, smoke or moisture and ensure that there is at least 100mm clearance around the fan and vents.

Stand Alone (No controller)

In Stand alone mode the head will move to its own built in pattern without a controller.

The Dip Switches must be set as follows :-

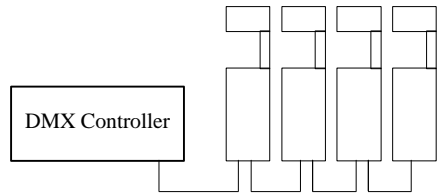


DMX Operation

DMX Wiring

The Controller and heads need to be connected with good quality 2 core + screen microphone cable for short runs or data cable for longer runs. From most DMX desks the DMX is presented on a 5 pin XLR. To connect the TinyScans to this you will need the conversion cable detailed below. The DMX cabling needs to be 'daisy chained' in and out of each unit.

DMX Operation



Either of the two 3.5mm Jacks Sockets can be used as DMX in or DMX out

3 pin stereo jack to 5 pin XLR wiring

TinyScan 3 Pin 3.5mm jack	XLR Connections 5 Pin	Ryger 3Pin
1 Screen to	1 Screen	1 Screen
2 Hot (+) Tip to	3 Hot (+)	2 Hot (+)
3 Cold (-) Ring to	2 Cold (-)	3 Cold(-)
	4 n/c	
	5 n/c	

See Connections for more information

DMX Termination

The TinyScans are self terminating. If any other equipment is used before the end of the DMX run a 100 Ohm termination resistor should be used across the hot (+) and cold (-) pins on the DMX out of the last piece of equipment.

Setting the DMX Base Address

The DMX base address is the first DMX channel that the TinyScan will use. The Base address can be set anywhere in the range of 1 to 255. To set the base address, set the combination of dip switches that add up to the base address you require. A dip switch that is OFF adds no value.

DIP switch on	1	2	3	4	5	6	7	8
Value added	1	2	4	8	16	32	64	128

E.G. To set a base address of 82 you will require to switch dip switches 2,5 & 7 this gives you a base address of :

Dip switches	1	2	3	4	5	6	7	8
Value	0+	2+	0+	0+	16+	0+	64+	0
								=82

Note Dip 10 Must always be set to OFF in DMX operation.

DMX Channel allocation

Once the base address is set, the features of the TinyScan heads use the next DMX channels. The channels that the TinyScan use and the operation of the channel is listed below

Power	Base Address
Colour	Base Address+1
Pan	Base Address+2
Tilt	Base Address+3
Gobo	Base Address+4 (TinyScan+ Only)

Power Operation

DMX Decimal	Hex	Result
0	0	Off
1-127	1-7F	On
128-255	80-FF	Strobe 128 Slow to 255 Fast. Note Always strobes white

Pan Operation

DMX Decimal	Hex	Result
0-255	0-FF	Full Right to Full Left (Looking at mirror) Tracks DMX Input.

Tilt Operation

DMX Decimal	Hex	Result
0-255	0-FF	Full Up to Full Down Tracks DMX input

Colour Operation

DMX Decimal	Hex	Colour(TinyScan+)	Colour/Gobo(TinyScan)
0-11	0-0B	White	White/Large Spot
12	0C	Orange	Orange/Star
36	24	Cyan	Cyan/Asterisk
60	3C	Yellow	Yellow/Dots
84	54	Red	Red/Cross
108	6C	Blue	Blue/Line
132	84	Green	Green/Square
156	9C	Purple	Purple/Circle

Notes

In-between these values the TinyScan+ will give split colours except White/Orange. DMX to wheel position is linear between Orange and Purple
DMX values greater than 156 will wrap around and go back through the colours.
DMX values greater than 204 will set the colour to Blue.