



PROJECTION DISTANCE/SIZE

35mm Slide Projection

Image Width
(24 x 36mm slide)

		Lens focal length (mm)						
		35	60	70	120	150	180	250
Feet from projector	4'	4'0"	2'4"	2'0"				
	6'	6'0"	3'6"	3'0"				
	8'	8'0"	4'8"	4'0"	2'4"			
	10'	10'0"	5'10"	5'0"	2'11"	2'3"		
	15'		8'9"	7'6"	4'5"	3'6"	2'10"	
	20'		11'8"	10'0"	5'11"	4'7"	3'9"	2'8"
	30'		17'6"	15'0"	8'11"	7'0"	5'8"	4'1"
	40'		23'4"	20'0"	11'10"	9'4"	7'7"	5'7"
	50'			25'0"	14'10"	11'8"	9'6"	7'0"
	60'			30'0"	17'10"	14'1"	11'5"	8'5"

Picture Width

VSFX/Patt 252 Optical Effects

Image width
for fully
adjustable mask

		Lens focal length (inches)						
		2½"	3"	4"	5½"	6"	8"	10"
Feet from projector	6'	12'0"	9'3"	5'9"	4'0"	3'4"	2'4"	2'1"
	8'	16'0"	12'4"	7'8"	5'4"	4'6"	3'2"	2'10"
	10'	20'0"	15'5"	9'7"	6'8"	5'7"	3'0"	3'6"
	12'	24'0"	18'6"	11'6"	8'1"	6'9"	4'9"	4'3"
	15'	30'0"	23'0"	14'4"	10'1"	8'5"	5'11"	5'4"
	20'	40'0"	30'0"	19'2"	13'5"	11'3"	7'11"	7'1"
	25'	50'0"	38'5"	23'1"	16'9"	14'1"	9'11"	8'10"
	30'	60'0"	46'0"	28'8"	20'2"	16'10"	11'10"	10'8"

Picture Width

Lantern/Gobo Projection Chart

		Beam Angle						
		15°	20°	25°	30°	35°	40°	45°
Projection Distance/Feet from Lantern	3	0.79	1.06	1.33	1.61	1.89	2.18	2.49
	6	1.58	2.12	2.66	3.22	3.78	4.37	4.97
	10	2.63	3.53	4.43	5.36	6.31	7.28	8.28
	20	5.27	7.05	8.87	10.72	12.61	14.56	16.57
	30	7.90	10.58	13.30	16.08	18.92	21.84	24.85
	40	10.53	14.11	17.74	21.44	25.22	29.12	33.14
	50	13.17	17.63	22.17	26.79	31.53	36.40	41.42
	60	15.8	21.16	26.60	32.15	37.84	43.68	49.71
	80	21.06	28.21	35.47	42.87	50.45	58.24	66.27
	100	26.33	35.27	44.34	53.59	63.06	72.79	82.84
150	39.50	52.90	66.51	80.38	94.59	109.19	124.26	
200	52.66	70.53	88.68	107.18	126.12	145.59	165.69	

Beam Size (feet)





GENERAL REFERENCE

ZARGES LADDERS

No. of Rungs	Max. Height (Free Standing)	Weight
6	2.82m (9'6")	11.3kg
8	3.89m (12'8")	15.8kg
10	4.78m (15'8")	21.6kg
12	5.87m (19'3")	26.6kg
14	6.70m (22')	35.8kg

TALLESCOPES

Size	Max. Platform Ht	Min. Platform Ht	Weight
Large	7.5m (24'6")	4.6m (15'3")	129kg
Medium	6m (19'6")	3.7m (12'10")	114kg
Small	4.4m (14'6")	3.1m (10'4")	103kg
Safe Working Load	113kg		

CONVERSION TABLES

1 inch = 25.4mm	10mm = 0.394 inches
1 foot = 305mm	1m = 39.4 inches
1 yard = 914mm	1m = 3.28 feet
1 mile = 1609 metres	1km = 0.621 miles
1 ounce = 28.3g	1g = 0.035 ounces
1 pound = 454g	1kg = 2.2 pounds
1 ton = 1.02 tonnes	1 tonnes = 0.984 tons

USEFUL EQUATIONS

Current (Amps) = Watts ÷ Volts	e.g 1000W ÷ 240V = 4.17Amp 50W ÷ 12V = 4.17Amp
Power (Watts) = Volts x Amps	e.g 240V x 13A = 3120 Watts

LECTRIFLEX MULTICORE

White Light use the 16 pole "Lectriflex" connector for 6 way mains multicore. Because the colour coding for the cable varies from manufacturer to manufacturer there is no standard colour code for the wiring of these connectors. The following protocol is used:

Pin 1	Channel 1 - Live	Pin 9	Channel 1 - Neutral
Pin 2	Channel 2 - Live	Pin 10	Channel 2 - Neutral
Pin 3	Channel 3 - Live	Pin 11	Channel 3 - Neutral
Pin 4	Channel 4 - Live	Pin 12	Channel 4 - Neutral
Pin 5	Channel 5 - Live	Pin 13	Channel 5 - Neutral
Pin 6	Channel 6 - Live	Pin 14	Channel 6 - Neutral
Pin 7	Earth	Pin 15	Earth
Pin 8	Earth	Pin 16	Earth

The earths and the case are linked in spiders ONLY
It can be dangerous to mix phases in the same multicore.



GENERAL REFERENCE

EQUIPMENT WEIGHTS

KG

For Lanterns see Reference Guide

SUNDRIES

VSFX effect with Lens	25.1
18" Mirroball with rotator	15.0
Optimist smoke machine	6.5
Skywalker Smoke Machine	12.0
RAT Music Stand	5.0

CONTROL

Zero 88 XL Desk	10.0
Zero 88 Sirius 24 Desk	30.0
Arri Imagine 250	43.0
ETC Obsession 600	75.0
Strand Lighting 550 Console	70.0
Strand Lighting 520 Console (c/w flight case)	55.0
Wholehog 2 (c/w flight case)	75.0
VGA Monitor (c/w flight case)	25.0
Strand Act 6 Dimmer	11.5
Arri 48 way touring dimmer rack	275.0
Avo 72 way touring dimmer rack	250.0

MAINS & CABLE

30m (100') 60A single phase cable	49.0
30m (100') 60A three phase cable	52.0
White Light Mains distro unit	50.0
200A three phase switch fuse	20.0
10m (30') 15A TRS	2.0
30m (100') 15A TRS	3.5
30m (100') 20A TRS	6.0
30m (100') Lectriflex multicore	16.2
Lectriflex multicore spider	2.5

RIGGING

Alloy scaffolding barrel 10' (3m)	5.0
Scaff Clamps	1.5
1.4m (4'6") Stand	7.5
Wind Up Stand	21.0
Tank Trap	23.0
2.4m (8') Telestage Truss	28.0
Telestage Truss Corner Block	24.0
3 metre Trilite section	9.2
Trilite corner block	3.9

TRUSS

1.5m (5') Tomcat 12"x12" Light Duty Truss	16.0
2.4m (8') Tomcat 12"x12" Light Duty Truss	23.0
3m (8') Tomcat 12"x12" Light Duty Truss	28.0
2-way Corner Block Tomcat 12"x12" Light Duty Truss	7.0
3-way Corner Block Tomcat 12"x12" Light Duty Truss	9.0
4-way Corner Block Tomcat 12"x12" Light Duty Truss	10.0
5-way Corner Block Tomcat 12"x12" Light Duty Truss	12.0
6-way Corner Block Tomcat 12"x12" Light Duty Truss	13.0

SCALE RULE 1:25

1M

2M

3M

4M

10M



DMX512

9M

USITT DMX 512 - 1990, or more commonly, "DMX" has now been adopted by the vast majority of lighting equipment manufacturers as the standard means of transferring information from a console to another piece of equipment. Whilst originally intended mainly for dimmer control, the protocol is now implemented on a diverse range of equipment including colour changers, moving lights and effects. Up to 512 channels of information can be carried down a single DMX cable.

8M

Although the standard connector is the 5 pin XLR, many equipment manufacturers adopt the 3 pin version. In both cases the pinout is identical:

Pin 1: Screen

Pin 2: Data - (complement)

Pin 3: Data + (true)

7M

The signal is transmitted in a serial format and requires a high quality screened twisted pair cable. Electrically the signal conforms to the EIA - RS485 standard. Devices on a line may be connected in a "daisy chain" fashion, although it is more practical to use a splitter unit to drive multiple data lines from a single source. Under no circumstances should DMX be split with a cable "Y cord".

The last device in every DMX line should be fitted with a terminator to prevent data reflection causing errors on the line.

6M

Common Terminology:

Data Splitter – An electronic unit that can drive multiple data lines from a single source. The unit also regenerates the signal. Splitters may also incorporate isolation to prevent a fault on one line from damaging the whole system.

5M

Line Terminator – Generally a 120Ω resistor fitted into a male XLR. It should be connected between pins 2 and 3 of the XLR (Data - and Data +).

Demultiplexer – Converts DMX data to analogue voltage signal.

Analogue Multiplexer – Converts analogue signals (e.g. from older control desks) to DMX data.

4M

Protocol Converter – Converts DMX to other control standards such as D54. Some units may also be used to convert other protocols to DMX.

Merge Unit – combines multiple DMX data streams into a single stream.

For further information on DMX512 please refer to the USITT Standard document, or to Adam Bennettes publication "Recommended Practice for DMX", both of which may be ordered through the PLASA office.

KEY CLAMPS

3M



A (A2)



B (A4)



C (A6)



D (A20)

2M



E (A10)



F (A18)



G (A22)



H (A24)

1M



I (A8)



J (A42)



K (A36)



L (A9)

SCALE RULE 1:50

0



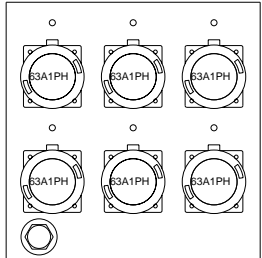
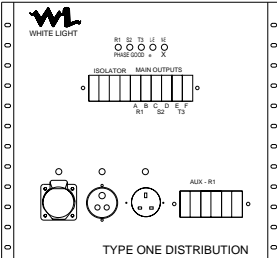
MAINS DISTRIBUTION SYSTEMS

Type 1 Distribution

Input: 63A 3PH, 2m trailing lead
 Protection: 4 pole isolator

Main O/P: 6 x 63A 1PH Cee17, (2 per phase)
 Protection: Type D MCB per socket

Aux O/P: 13A, 15A, 16A sockets on phase R1
 Protection: 16A RCBO per socket

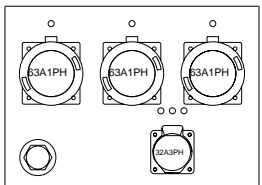
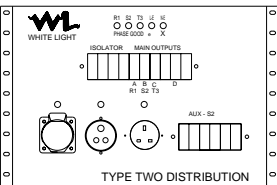


Type 2 Distribution

Input: 63A 3PH, 2m trailing lead
 Protection: 4 pole isolator

Main O/P: 3 x 63A 1PH Cee17, (1 per phase)
 1 x 32A 3PH Cee17
 Protection: Type D MCB per socket

Aux O/P: 13A, 15A, 16A sockets on phase S2
 Protection: 16A RCBO per socket





MAINS DISTRIBUTION SYSTEMS

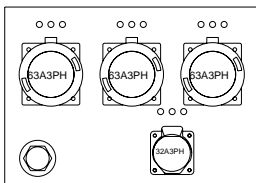
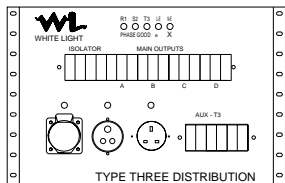
Type 3 Distribution

Input: 63A 3PH, 2m trailing lead
Protection: 4 pole isolator

Main O/P: 3 x 63A 3PH Cee17
1 x 32A 3PH Cee17

Protection: Type D MCB per socket

Aux O/P: 13A, 15A, 16A sockets on phase T3
Protection: 16A RCBO per socket



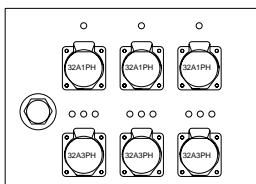
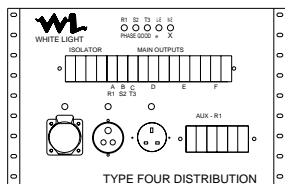
Type 4 Distribution

Input: 63A 3PH 2m trailing lead
Protection: 4 pole isolator

Main O/P: 3 x 32A 3PH Cee17
3 x 32A 1PH Cee17, (1 per phase)

Protection: Type D MCB per socket

Aux O/P: 13A, 15A, 16A sockets on phase R1
Protection: 16A RCBO per socket

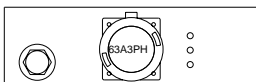
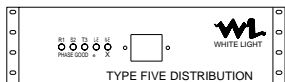


Type 5 Distribution

Input: 63A 3PH, 2m trailing lead

Protection: Type D MCB

Main O/P: 1 x 63A 3PH Cee17





MAINS DISTRIBUTION SYSTEMS

Type 6 Distribution

Input: 3PH Camlok

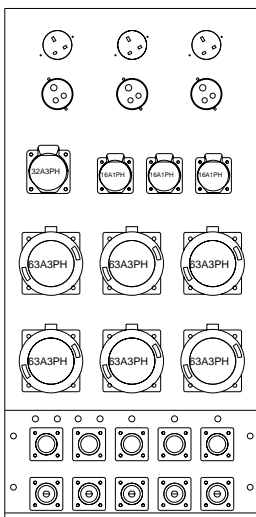
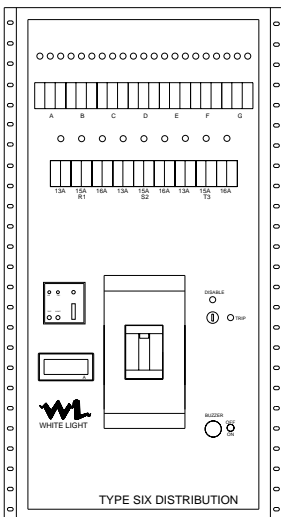
Thru: 3PH Camlok

Protection: 400A MCCB, adjustable to 250A
switchable VTVS RCD
Digital residual current meter
Fault lamp & buzzer

Main O/P: 6 x 63A 3PH Cee17
1 x 32A 3PH Cee17

Protection: Type D MCB per socket

Aux O/P: 13A, 15A, 16A socket per phase
Protection: 16A RCBO per socket





MAINS DISTRIBUTION SYSTEMS

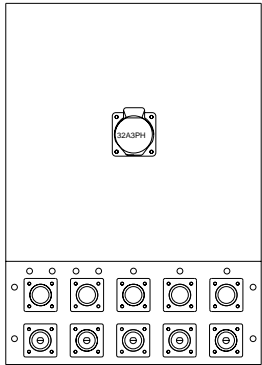
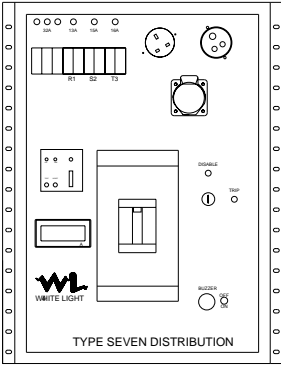
Type 7 Distribution

Input: 3PH Camlok

Protection: 400A MCCB adjustable to 250A
Switchable VTVS RCD
Digital residual current meter
Fault lamp & buzzer

Main O/P: 3PH Camlok
1 x 32A 3PH Cee17, Type D MCB

Aux O/P: 13A, 15A, 16A socket, 1 per phase
Protection: 16A RCBO per socket



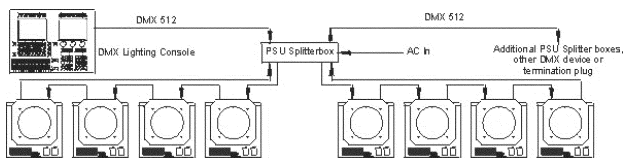


RAINBOW COLOUR CHANGERS

POWER SUPPLIES AND CABLES FOR RAINBOW AND CHROMA Q SCROLLERS.

Rainbow PSU's

Mini PSU	12 units 1 outlet	1 unit = any Rainbow or Chroma Q
Maxi PSU	24 units 2 outlets	2 units = 15" & 8 Lite scrollers
PSU/Splitter box	24 units 4 outlets	



Remember that all scrollers are daisy chained and a return cable loops back to the PSU as shown in the above diagram.

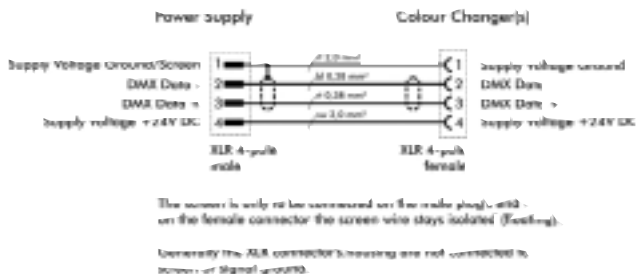
Each loop should not exceed 8 units and should not exceed 60m.

Remember to terminate the DMX signal at the last PSU if there are no further DMX devices connected.

Rainbow Scroller Cable

The use of correct cable is essential to help minimise problems in a scroller system. The drawing below shows how to wire the cables correctly. Cable suitable for Digital Colour Changers such as Rainbow Pro Scrollers is available from White Light Sales.

Rainbow Power/Data Cable



Chroma Q range require the drain wire connecting to deal with static build-up

COLOUR CAPACITY

Rainbow Scrollers

Par 11 Colour Scroller	11 Colours only
Two 16 Scroller	Between 2 & 16 colours
6" & 8" Pro Scrollers	Between 2 & 33 colours
12" Pro Scroller	Between 2 & 25 colours
15" Plus & 8 Lite Plus Scrollers	Between 2 & 16 colours
15" Pro & 8 Lite Pro Scrollers	Between 2 & 25 colours

Chroma Q Scrollers

8" Chroma Q Scroller	Between 2 & 16 colours
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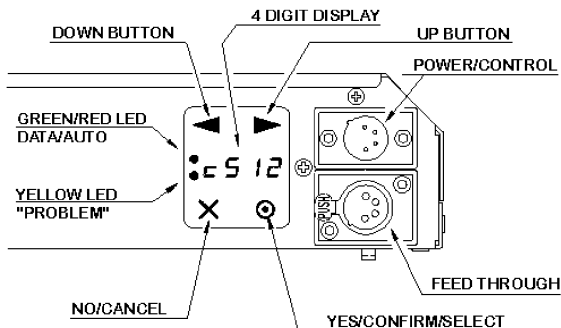


SCROLL MAKING

White Light offer a full scroll manufacturing service for all scrollers. However If you wish to make you own then please call for specification and template information.

CONTROL PANEL ON A RAINBOW PRO SCROLLER

LED-Display and DMX ports



ADDRESS SETTING ON A RAINBOW PRO SCROLLER

Note 1.

Function:	Action:	Display:
Start from the address menu (home menu).		c.00 1 Current DMX address is displayed.
1. Activate channel change.	Press and hold ● for 1 second.	c.00 1 Flashing
2. Select channel number 004.	Press ► ► ►.	c.004 Flashing
3. Confirm selection.	Press ●.	c.004 New DMX address is displayed.

You can return to the previous setting at any time before you confirm (3) by pressing No (X)

Note 2.

If the lighting console does not send a DMX packet containing the DMX channel the scroller is set to receive, the display will indicate that the DMX address is "out of range" by alternating the address with "H rc". If this happens you can either choose a lower address in the scroller or re-patch your control desk (if possible) to send the appropriate DMX data.

Note 3.

If the address you are assigning is already used by some other function of the scroller the display will alternate between the address and "USEd". This will stop when you chose a different address.



MOVING LIGHT REFERENCE GUIDE

Description	Weight Kg	Lamp	Beam Angle
High End Trackspot	11.0	250W A1/223	11°
Martin Imagescan	15.0	MSD250/2	23°
Martin MAC 300	21.0	MSD250/2	18°
Martin MAC 250	21.0	MSD250/2	17.5°
Strand Pirouette PAL (inc scroller)	15.5	CP91 2500W	4-58°
DHA Digital Beamlight 2 (inc transformer)	28.0	500W Crown Silver	
Martin MAC 600	32.0	MSR575/2	25°
High End StudioColor	31.0	MSR575/2	17°
Martin Exterior 600	48.0	MSD575	22-38°
Martin MAC 500	33.0	MSR575/2	17°
Clay Paky Goldenscan3	48.0	HMI 1200/GS	11°
Martin PAL 1200	61.0	HSR1200	15-26°
DHA 8 lamp DLC	48.0	12V 240W PAR56	
High End Cyberlight SV	46.0	HSR1200	13-26°
High End Dataflash	2.0		
Martin Mac Environment Dome	30.0		
Morpheus SFader (to fit ETC Source4)	2.4		
Morpheus Colorfader (to fit PAR64)	2.9		
Morpheus PS6 (PSU for 6 ColorFader)	5.7		
Navigator (Flightcased)	25.0		
Scancommander (Flightcased)	25.0		
Echelon 1000 (Flightcased)	45.0		
Wholehog 2 (Flightcased)	75.0		
Type 11 Distribution inc DMX Split	50.0		

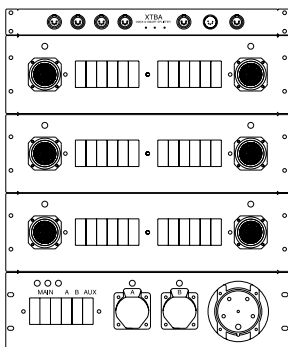
MLCo Type 11 Distribution

Input: 63A 3PH, Chassis Male
Protection: 3 pole 63A MCB

Main O/P: 6 x Socapex, (2 per phase)
Protection: Type D 10A MCB per circuit

Aux O/P: 2 x 16A sockets
Protection: 16A MCB per socket

Note: Optional DMX Opto Splitter in top of rack



LANTERN REFERENCE GUIDE

Type	Manufacturer	Wattage	Lamps	Beam Angle	Gobo	Gobo Holder	Weight Kg	Colour Size(mm)	Pieces per sheet Lee/Rosco
Profile Spots									
Patt 23 MkII	Strand	650/500/250	T13/T11/T3	20°	B	GH08	3.9	100	60/30
Patt 23N	Strand	650/500/250	T13/T11/T3	11°	B	GH08	5.3	190	12/6
Minim 23	Strand	500/300	T18/M38	28°	D	GH13	4.6	120	36/20
Prelude 16/30	Strand	650/500	T26/T18	16/32°	B	GH06	7.6	150	24/12
Prelude 28/40	Strand	650/500	T26/T18	27/40°	B	GH06	7.4	150	24/12
Minulette	CCT	650/500	T26/T18	17/35°	M	GH15	4.8	120	36/20
Quartet 25	Strand	500/650	T18/T26	25°	M	GH33	4.4	150	24/12
Quartet 22/40	Strand	500/650	T18/T26	22/40°	M	GH33	4.8	150	24/12
SL5	Strand	600	GKV	5°	B	GH71	8.0	405	2/1
SL10	Strand	600	GKV	10°	B	GH71	6.8	305	4/2
SL19	Strand	600	GKV	19°	B	GH71	6.8	158	21/9
SL26	Strand	600	GKV	26°	B	GH71	6.8	158	21/9
SL36	Strand	600	GKV	36°	B	GH71	6.8	158	21/9
SL50	Strand	600	GKV	50°	B	GH71	6.8	158	21/9
Focus Narrow	Zero88	500/650	T18/T26	21/36°	M	GH15	4.8	120	36/20
Focus Wide	Zero88	500/650	T18/T26	30/45°	M	GH15	5.0	120	36/20
Patt 264	Strand	1000	T15	17°	A	GH40	9.7	160	21/9
Patt 764	Strand	1000	T11	20°	A	GH40	8.1	190	12/6
Patt 774	Strand	1000	T11	12°	A	GH40	12.6	210	10/4
T/64	Strand	1000	T11	22°	A	GH40	11.2	160	21/9
T/84	Strand	1000	T11	15/28°	A	GH40	12.5	160	21/9
Harmony 12	Strand	1000	T11	12°	A	GH40	11.5	180	12/6
Harmony 22	Strand	1000	T11	23°	A	GH40	11.1	180	12/6
Harmony 15/28	Strand	1000	T11	15/28°	A	GH40	12.1	180	12/6
Harmony 22/40	Strand	1000	T11	22/40°	A	GH40	11.9	180	12/6



LANTERN REFERENCE GUIDE

Type	Manufacturer	Wattage	Lamps	Beam Angle	Gobo	Gobo Holder	Weight Kg	Colour Size(mm)	Pieces per sheet Lee/Rosco
Profile Spots (cont)									
Sil 10	CCT	1000/1200	T11/T29	9/20°	A	GH01	18.0	290	4/2
Sil 15	CCT	1000/1200	T11/T29	12/23°	A	GH01	14.0	240	10/4
Sil 25	CCT	1000/1200	T11/T29	16/32°	A	GH01	13.9	240	10/4
Sil 30	CCT	1000/1200	T11/T29	22/40°	A	GH01	11.1	180	12/6
Sil 40	CCT	1000/1200	T11/T29	29/46°	A	GH01	11.1	180	12/6
Sil 58	CCT	1000/1200	T11/T29	28/58°	A	GH01	11.1	240	10/4
Cantata 11/26	Strand	1200	T29	11/26°	B	GH06	12.8	180	12/6
Cantata 18/32	Strand	1200	T29	18/32°	B	GH06	12.0	180	12/6
Cantata 26/44	Strand	1200	T29	26/44°	B	GH06	11.0	180	12/6
Optique 8/17	Strand	1000/1200	T11/T29	8/17°	M	GH46	12.6	185	12/6
Optique 15/42	Strand	1000/1200	T11/T29	15/42°	M	GH46	12.6	185	12/6
Leko 6 x 9	Altman	750	EHG	37°	B	GH09	8.5	180	12/6
Leko 6 x 12	Altman	750	EHG	26°	B	GH09	7.5	180	12/6
Leko 6 x 16	Altman	750	EHG	19°	B	GH09	7.0	180	12/6
Leko 6 x 22	Altman	750	EHG	11°	B	GH09	7.0	180	12/6
Shakespeare 10	Altman	600	HX600	10°	B	GH09	8.0	290	4/2
Shakespeare 20	Altman	600	HX600	20°	B	GH09	7.0	180	12/6
Shakespeare 30	Altman	600	HX600	30°	B	GH09	7.0	180	12/6
Shakespeare 40	Altman	600	HX600	40°	B	GH09	7.0	180	12/6
Shakespeare 50	Altman	600	HX600	50°	B	GH09	7.0	180	12/6
Shakespeare 15/36	Altman	600	HX600	15°/36°	B	GH09	9.0	180	12/6
Shakespeare 30/55	Altman	600	HX600	30°/55°	B	GH09	9.0	180	12/6
Source 4 5°	ETC	575	HPL	5°	B	GH59	8.0	360	3/1
Source 4 10°	ETC	575	HPL	10°	B	GH59	7.5	290	4/2
Source 4 19°	ETC	575	HPL	19°	B	GH59	7.5	160	21/9
Source 4 26°	ETC	575	HPL	26°	B	GH59	7.5	160	21/9



LANTERN REFERENCE GUIDE



Type	Manufacturer	Wattage	Lamps	Beam Angle	Gobo	Gobo Holder	Weight Kg	Colour Size(mm)	Pieces per sheet Lee/Rosco
Profile Spots (cont)									
Source 4 36 Deg	ETC	575	HPL	36°	B	GH59	7.5	160	21/9
Source 4 50 Deg	ETC	575	HPL	50°	B	GH59	7.5	160	21/9
Source 4 Zoom 15/30	Strand	575	HPL	15/30°	B	GH59	9.5	190	8/4
Source 4 Zoom 25/50	Strand	575	HPL	25/50°	B	GH59	7.6	190	8/4
Source 4 jr 26 Deg	ETC	575	HPL	26°	M	GH63	9.3	160	24/12
Source 4 jr 36 Deg	ETC	575	HPL	36°	M	GH63	9.3	160	24/12
Source 4 jr 50 Deg	ETC	575	HPL	50°	M	GH63	9.3	160	24/12
Source 4 jr Zoom	ETC	575	HPL	25/50°	M	GH63	9.3	160	24/12
Leko 15	Strand	1000	FEL/FEP	15°	B	GH48	6.0	190	12/6
Leko 20	Strand	1000	FEL/FEP	20°	B	GH48	5.8	190	12/6
Leko 30	Strand	1000	FEL/FEP	30°	B	GH48	5.6	190	12/6
Leko 40	Strand	1000	FEL/FEP	40°	B	GH48	5.6	190	12/6
Leko 50	Strand	1000	FEL/FEP	50°	B	GH48	5.4	190	12/6
Cadenza 9/15	Strand	2000	CP43	9/15°	A	GH07	24.0	240	10/4
Cadenza 12/22	Strand	2000	CP43	12/22°	A	GH07	22.8	240	10/4
Cadenza 19/32	Strand	2000	CP43	19/32°	A	GH07	22.2	240	10/4
Sil 10	CCT	2000	CP43	10/19°	A	GH01	22.2	290	4/2
Sil 15	CCT	2000	CP43	12/23°	A	GH01	21.9	240	10/4
Sil 25	CCT	2000	CP43	15/32°	A	GH01	15.6	240	10/4
Sil 30	CCT	2000	CP43	23/40°	A	GH01	13.7	180	12/6
Sil 40	CCT	2000	CP43	32/46°	A	GH01	13.9	180	12/6
Sil 58	CCT	2000	CP43	28/58°	A	GH01	13.9	240	10/4
Alto 8/16	Strand	2000/2500	CP92/CP91	8/16°	A	GH07	19.0	240	10/4
Alto 14/32	Strand	2000/2500	CP92/CP91	14/32°	A	GH07	19.0	240	10/4
Alto 20/38	Strand	2000/2500	CP91/CP91	20/38°	A	GH07	18.0	240	10/4
Toccata 10/26	Strand	2000/2500	CP91/CP91	10/26°	A	GH07	20.5	240	10/4
Toccata 15/38	Strand	2000/2500	CP91/CP91	15/38°	A	GH07	19.8	240	10/4

LANTERN REFERENCE GUIDE

Type	Manufacturer	Wattage	Lamps	Beam Angle	Gobo	Gobo Holder	Weight Kg	Colour Size(mm)	Pieces per sheet Lee/Rosco
Fresnel Spots									
Patt 123	Strand	500/250	T1/T3	16/43°			4.2	160	21/9
Minim F	Strand	300/500	M38/T18	13/65°			2.8	120	36/20
Prelude F	Strand	500/650	T18/T26	9/52°			4.2	150	24/12
Minulette	CCT	500/650	T18/T26	18/74°			2.8	120	36/20
Focus F	Zero88	500/650	T18/T26	18/59°			3.0	120	36/20
Patt 223	Strand	1000	T6/T14	15/82°			9.2	210	10/4
Patt 743	Strand	1000	T11	15/82°			9.2	210	10/4
Harmony F	Strand	1000	T11	8/65°			6.1	180	12/6
Starlette	CCT	1000	T11	15/65°			6.4	180	12/6
Cantata F	Strand	1200	T29	8/50°			6.5	180	12/6
ADB 1kW	ADB	1000	T11	15/65°			6.4	180	12/6
ARRI 2000	ARRI	2000	CP41	11/56°			10.0	230	10/4
Patt 243	Strand	2000	CP41/43	16/50°			10.5	290	4/2
Cadenza F	Strand	2000	CP43	7/70°			14.3	240	10/4
Alto F	Strand	2000/2500	CP92/CP91	7/62°			9.7	240	10/4
ADB 2kW	ADB	2000	CP43	16/50°			12.0	240	10/4
ADB 5kW	ADB	5000	CP29	15/51°			19.4	360	2/1
Pebble Convex									
Minim PC	Strand	300/500	M38/T18	8/52°			3.1	120	36/20
Prelude PC	Strand	500/650	T18/T26	8/55°			4.2	150	24/12
Focus PC	Zero88	500/650	T18/T26	10/59°			3.0	120	36/20
Minulette PC	CCT	500/650	T18/T26	10/59°			2.8	120	36/20
Starlette PC	CCT	1000/1200	T11/T29	7/38°			9.8	180	12/6
Cantata PC	Strand	1200	T29	4/49°			7.5	180	12/6
Cadenza PC	Strand	2000	CP43	4/61°			16.3	240	10/4
Alto PC	Strand	2000/2500	CP92/CP91	4/58°			13.0	240	10/4



LANTERN REFERENCE GUIDE

Type	Manufacturer	Wattage	Lamps	Beam Angle	Gobo	Gobo Holder	Weight Kg	Colour Size(mm)	Pieces per sheet Lee/Rosco
Floodlights									
Patt 137	Strand	200/150	GLS				3.5	235 x 225	10/4
Nocturne 500	Strand	500/300	K1/K9				4.5	240 x 220	10/4
Coda 500	Strand	500/300	K1/K9				4.5	235 x 215	10/4
S/Type	Strand	150	GLS				20.2	225 x 210	10/4
Patt 60	Strand	500	GLS				6.8	290	4/2
LF 1000	ADB	1000	K4				2.6	135 x 225	16/8
Coda 1000	Strand	1000	K4				4.3	285 x 240	8/4
Nocturne 1000	Strand	1000	K4				4.3	285 x 240	8/4
Cosmolight	Strand	1000	P2/20				2.3		
Iadi	Strand	1000	P2/20				2.3		
L & E Cyc	L & E	500/1000	P2/20 /K1				7.0	295 x 250	4/2
Iris 1	Strand	1000	K4				8.1	395 x 295	4/2
Iris 4	Strand	1000	K4				26.0	390 x 295	4/2
AC 1000	ADB	1000	K4				4.3	430 x 260	5/2
Verti Major	Berkey	1000	K4				3.0	370 x 290	4/2
Battens									
L & E 2cct	L & E	50/75	MR16				18.0	10 x (119 x 83)	1/1
L & E 3cct	L & E	50/75	MR16				28.0	15 x (119 x 83)	1/1
Thomas 4 cell	Thomas	1000	K4				20.0	295 x 253	1/2
Beamlights									
Patt 750	Strand	1000	T11	10/30°			4.6	290	4/2
Beamlite	Strand	500	570B	7°			13.0	275	4/2
Beamlite	Strand	1000	578K	7°			17.0	365	2/1
R & V	Reich & Vogel	500	570B	14/20°			15.0	255	8/4



LANTERN REFERENCE GUIDE

Type	Manufacturer	Wattage	Lamps	Beam Angle	Gobo	Gobo Holder	Weight Kg	Colour Size(mm)	Pieces per sheet Lee/Rosco
Follow Spots									
Patt 293	Strand	2000	CP53	15°			28.5	290	4/2
Patt 793	Strand	2000	CP41	15°			28.5	290	4/2
Solo	Strand	2000	CP43	12/22°	A	GH07	21.0	240	10/4
Sil 15	CCT	2000	CP43	9/17°	A	GH01	16.6	240	10/4
Sil 10	CCT	2000	CP43	8/20°	A	GH01	21.6	300	4/2
Patt 765	Strand	1000	CSI/CID	14°			56.5 inc ball.	290	4/2
Solo	Strand	1000	CSI/CID	9/15°	A	GH07	58.0 inc ball.	240	10/4
Sil 15	CCT	1000	CSI/CID	11/22°	A	GH01	36.8 inc ball.	240	10/4
Sil 10	CCT	1000	CSI/CID	8/20°	A	GH01	42.4 inc ball.	290	4/2
Colour Arc	Colourtran	2000	Xenon 2K	4/8°	M	GH28	185.0 inc ball.		
Super Trouper	Strong	2000	Xenon 2K	4/8°					
Pani Long Throw	Pani	1200	HMI 1200 L	7.4°	A	GH22	39.2	220	10/4
Pani Short Throw	Pani	1200	HMI 1200 L	12.6°	A	GH22	39.0	220	10/4
Korrigan	Robert Juliat	1200	HMI s/g	5°/9°	B	RJ	90.0	255	8/4
Aramis	Robert Juliat	2500	HMI w/s	4°/8°	B	RJ	138.0 inc ball.	300	4/2
Projectors									
Patt 252	Strand	2000	CP53/CP43				16.5		
Cadenza	Strand	2000	CP43				15.5		
Starlette	CCT	2500	CP91				14.8		
Tubular Ripple	WL	2000	2xK4				14.0	220x500	2/1
Toccata EP	Strand	2500	CP91				17.0		
Par									
Par 64	Various	see p.H3	see p.H3	see p.H3			3.3	255	8/4
Source Par	ETC	575	HPL	see p.H3			3.4	190	12/6





WEST END THEATRES

	Management	Stage Door	Fax
ADELPHI Strand WC2E	020-7836 1166	020-7836 1166	020-7379 5709
ALBERY St.Martin's Lane WC2N	020-7867 1125	020-7867 1125	020-7867 1131
ALDWYCH Aldwych WC2B	020-7379 6736	020-7836 5537	—
AMBASSADORS West St WC2H	020-7565 5050	020-7565 5050	020-7565 5001
APOLLO Shaftesbury Ave W1V	020-7734 2987	020-7437 3435	020-7434 1217
APOLLO VICTORIA 17 Wilton Rd SW1V	020-7834 6318	020-7834 7231	020-7630 7716
ARTS 6-7 Gt. Newport St WC2H	020-7379 3280	020-7836 7545	020-7836 5366
BARBICAN Barbican EC2Y	020-7628 3351	020-7628 3351	020-7374 0818
BLOOMSBURY 15 Gordon St WC1	020-7383 5976	020-7387 6780	020-7383 4080
CAMBRIDGE Earlham St WC2	020-7240 7664	020-7379 0075	—
COCHRANE Southampton Row WC1	020-7430 2500	—	020-7831 5476
COLISEUM (ENO) St. Martin's Lane WC2	020-7836 0111	020-7836 1416	020-7836 8379
COMEDY Panton St SW1	020-7839 5522	020-7973 0018	020-7839 3663
CRITERION Piccadilly Circus W1	020-7839 8811	020-7839 8811	020-7925 0596
DOMINION Tottenham Court Rd W1	020-7580 1889	020-7637 5039	020-7580 0246
DONMAR WAREHOUSE Earlham St WC2	020-7240 4882	020-7240 4882	020-7240 4878
DRURY LANE (Theatre Royal) Cath. St WC2	020-7240 0115	020-7836 3352	020-7836 6465
DUCHESS (Players Theatre) Cath. St WC2	020-7379 5717	020-7379 0495	020-7839 8067
DUKE OF YORK'S St Martin's Lane WC2	020-7565 5050	020-7836 4615	020-7565 5001
FORTUNE Russell St WC2	020-7836 6260	020-7836 2238	020-7379 7493
GARRICK Charing Cross Rd WC2	020-7836 9396	020-7836 8271	—
GIELGUD Shaftesbury Ave W1	020-7439 1912	020-7437 6003	—
HER MAJESTY'S Haymarket SW1	020-7930-5343	020-7930 5337	020-7930 8467
LYCEUM Wellington St. WC2	020-7420 8191	020-7420 8100	020-7240 4155
LYRIC King Street Hammersmith W6	020 8741-0824	020 8741 0824	020 8741 7694
LYRIC Shaftesbury Ave W1	020-7437 3694	020-7437 5443	—
MERMAID Puddle Dock Blackfriars EC4	020-7236 1919	020-7236 1919	020-7236 1819
NEW LONDON Drury Lane WC2	020-7242 9802	020-7242 9802	020-7831 5487
OLD VIC Waterloo Road SW1	020-7928 2651	020-7928 2651	020-7261 9161
PALACE Shaftesbury Ave W1	020-7434 0088	020-7434 0088	020-7737 6157
PALLADIUM 8 Argyll Street W1	020-7436 6166	020-7437 1278	020-7734 9380
PEACOCK Portugal Street Kingsway WC2	020-7242 3233	020-7242 9136	—
PHOENIX Charing Cross Rd WC2	020-7465 0211	020-7867 1044	020-7465 0212
PICCADILLY Denman St W1	020-7867 1128	020-7867 1128	—
PLAYHOUSE Northumberland Ave WC2	020-7839 4292	020-7839 4292	020-7839 8142
PRINCE EDWARD Old Compton Street W1	020-7437 2024	020-7439 3041	020-7734 1454
PRINCE OF WALES Coventry St W1	020-7930 1867	020-7930 1432	020-7930 5108
QUEEN'S Shaftesbury Ave W1	020-7734 0869	020-7734 1348	—
RIVERSIDE STUDIOS Crisp Rd W6	020 8741 2251	020 8741 2251	020 8563 0336
ROYAL COURT Sloane Square SW1	020-7730 5174	020-7730 5174	020-7730 4705
ROYAL NATIONAL South Bank SE1	020-7928 2033	020-7928 2033	020-7620 1197
ROYAL OPERA HOUSE Covent Garden WC2	020-7240 1200	020-7240 1200	020-7836 1762
ST MARTIN'S West Street WC2	020-7836 1443	020-7836 1086	020-7379 8699
SAVOY The Strand WC2	020-7836 8117	020-7836 8117	020-7379 7322
SHAFTESBURY Shaftesbury Ave WC2	020-7379 3345	020-7379 3345	020-7836 0466
STRAND Aldwych WC2	020-7836 9817	020-7836 4144	020-7836 4992
THEATRE ROYAL Haymarket SW1	020-7930 8890	020-7930 4538	020-7321 0139
VAUDEVILLE 404 Strand WC2	020-7836 3191	020-7836 3191	—
VICTORIA PALACE Victoria Street SW1	020-7834 2781	020-7834 2781	020-7931 7163
WESTMINSTER Palace Street SW1	020-7834 7882	020-7834 7882	020-7821 5819
WHITEHALL 14 Whitehall SW1	020-7925 2107	020-7867 1129	020-7839 3462
WYNDHAM'S Charing Cross Rd WC2	020-7304 7925	020-7867 1125	020-7240 3492
YOUNG VIC 66 The Cut SE1	020-7633 0133	020-7928 6363	020-7928 1585



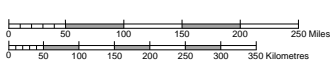
REGIONAL THEATRES

	Management	Stage Door	Fax
BATH			
THEATRE ROYAL Sawclose	01225 448815	01225 448815	01225 444080
BIRMINGHAM			
ALEXANDRA THEATRE Station Street	0121 643 5536	0121 644 5235	0121 632 6841
HIPPODROME Hurst Street	0121 622 7437	0121 689 3100	0121 689 3154
REPERTORY THEATRE Broad Street	0121 236 6771	0121 236 6771	0121 236 7883
BLACKPOOL			
GRAND THEATRE Church Street	01253 290111	01253 294571	01253 751767
OPERA HOUSE Church Street	01253 625252	01253 625252	01253 751204
BOURNEMOUTH			
BOURNEMOUTH INT. CTR. Exeter Road	01202 456400	01202 456400	01202 456500
PAVILION THEATRE Westover Road	01202 456400	01202 456400	01202 456500
BRADFORD			
ALHAMBRA THEATRE Morley Street	01274 752375	01274 752375	01274 752185
BRIGHTON			
THEATRE ROYAL New Road	01273 327480	01273 327155	01273 777156
BRISTOL			
BRISTOL HIPPODROME St.Aug's Parade	0117 926 5524	0117 927 3077	0117 925 1661
OLD VIC King Street	0117 949 3993	0117 949 3993	0117 949 3996
BROMLEY			
CHURCHILL THEATRE High Street	0208 464 7131	0208 464 7131	0208 290 6968
CAMBRIDGE			
ARTS THEATRE 6 St. Edwards Passage	01223 578933	01223 578933	01223 578929
CORN EXCHANGE Wheeler Street	01223 457555	–	01223 457559
CANTERBURY			
MARLOWE THEATRE The Friars	01227 763262	01227 786867	01227 981802
CARDIFF			
NEW THEATRE Park Place	029 20878787	029 20878900	029 20878788
CHICHESTER			
FESTIVAL THEATRE Oaklands Park	01243 784437	01243 784437	01243 787288
MINERVA THEATRE Oaklands Park	01243 784437	01243 784437	01243 787288
DARTFORD			
THE ORCHARD Home Gardens	01322 220099	01322 220099	01322 227122
EASTBOURNE			
CONGRESS THEATRE Compton St.	01323 415500	01323 410048	01323 727369
DEVONSHIRE PARK 8 Compton Street	01323 415500	01323 410074	01323 727369
EDINBURGH			
PLAYHOUSE 18-22 Greenside Place	0131 557 2692	–	0131 557 6520
KINGS THEATRE 2 Leven Street	0131 229 4840	0131 229 3416	0131 229 9180
FESTIVAL THEATRE 13-29 Nicolson St.	0131 662 1112	–	0131 667 0744
GLASGOW			
KINGS THEATRE 294 Bath Street	0141 287 5429	0141 248 5153	0141 248 3361
THEATRE ROYAL Hope Street	0141 332 3321	0141 332 3321	0141 332 4477
GUILDFORD			
YVONNE ARNAUD Millbrook, Guildford	01483 440077	01483 440077	01483 564071



REGIONAL THEATRES

	Management	Stage Door	Fax
LEEDS			
GRAND THEATRE & OPERA HOUSE			
46 New Briggate	0113 245 6014	0113 245 6014	0113 246 5906
W. YORK. PLAYHOUSE Playhouse Sq.	0113 213 7800	0113 213 7800	0113 213 7250
LEICESTER			
HAYMARKET THEATRE Belgrave Gate	0116 253 0021	0116 253 0021	0116 251 3310
LIVERPOOL			
EMPIRE THEATRE Lime Street	0151 708 3200	0151 708 3200	0151 709 6757
LIVERPOOL PLAYHOUSE Williamson Sq.	0151 709 8478	0151 709 8478	0151 709 7113
MANCHESTER			
OPERA HOUSE Quay Street	0161 834 1787	0161 834 1787	0161 834 5243
PALACE THEATRE Oxford Street	0161 228 6255	0161 228 6255	0161 237 5746
NEWCASTLE			
THEATRE ROYAL Newcastle	0191 232 0997	0191 244 2500	0191 261 1906
PLAYHOUSE Barras Bridge	0191 232 3366	0191 232 3366	0191 261 8093
NORTHAMPTON			
DERNGATE 19-21 Guildhall Road	01604 626222	01604 626289	01604 250901
NORWICH			
THEATRE ROYAL Theatre Street	01603 623562	01603 623562	01603 762904
NOTTINGHAM			
PLAYHOUSE Wellington Circus	0115 947 4361	0115 947 4361	0115 475 5759
THEATRE ROYAL Theatre Square	0115 989 5500	0115 989 5500	0115 947 4218
OXFORD			
APOLLO THEATRE George Street	01865 243041	01865 241631	01865 791986
OXFORD PLAYHOUSE Beaumont Street	01865 247134	01865 792758	01865 793748
PLYMOUTH			
THEATRE ROYAL Royal Parade	01752 668282	01752 668282	01752 671179
READING			
THE HEXAGON Queen's Walk	0118 939 0390	0118 939 0018	0118 939 0028
RICHMOND			
RICHMOND THEATRE The Little Green	020 8940 0220	020 8940 0220	020 8948 3601
SHEFFIELD			
CRUCIBLE & LYCEUM Norfolk St.	0114 276 0621	0114 276 0621	0114 249 6003
SOUTHAMPTON			
NUFFIELD THEATRE University Road	023 80315500	023 80555414	023 80315511
MAYFLOWER THEATRE Commercial Road	023 80711800	023 80330071	023 80711801
SOUTHEND			
CLIFFS PAVILION Station Road	01702 331852	01702 347394	01702 433015
SUNDERLAND			
EMPIRE THEATRE High Street West	0191 510 0545	0191 565 6750	0191 553 7427
WINDSOR			
THEATRE ROYAL Thames Street	01753 863444	01753 863444	01753 831673
WOKING			
NEW VICTORIA THEATRE Peacocks Ctr	01483 747422	01483 747422	01483 770477



	BIRMINGHAM	BRIGHTON	BRISTOL	CARDIFF	EDINBURGH	LEEDS	LEICESTER	LIVERPOOL	MANCHESTER	NEWCASTLE	NORTHAMPTON	NOTTINGHAM	PETERBOROUGH	PLYMOUTH	READING
FULHAM	115	55	120	150	420	200	105	220	210	290	70	135	90	240	40
HALIFAX	125	270	190	220	240	22	115	60	25	135	150	85	135	325	225