

THEATRICAL LIGHTING

1957



THE STRAND ELECTRIC & ENGINEERING CO., LTD.

Head Office and Showrooms : P.O. BOX No. 267, 29 KING STREET, COVENT GARDEN
LONDON, W.C.2

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Telegraphic Address : SPOTLITE RAND LONDON

Telephone : TEMPLE BAR 4444 (16 lines)

and at

MANCHESTER DARLINGTON, GLASGOW, DUBLIN and MELBOURNE

agencies in the principal countries abroad

CATALOGUE ARRANGEMENT

This catalogue falls readily into sections as follows:

- Page (iii) List of Branches and Overseas Agents.**
- (v) Terms of Business.**
- Section A. Footlights, Battens and Lengths.**
- B. Stage Floods.**
- C. Spotlights and Accessories.**
- D. Arc Spotlights and Resistances.**
- E. Cyclorama Lighting.**
- F. Effects, Optical and Sound.**
- H. Dimmers and Control.**
- J. Outdoor Flood Lighting.**
- L. Accessories (Mountings, Colour Mediums, Lamps, etc.).**

Leaflets are correspondingly lettered in the top right-hand corners, and numbered to enable them to be inserted in the correct place in their section.

The numbering will not however necessarily be consecutive in the first place, so that leaflets issued at a future date can be inserted in correct sequence.

PRICES

Prices given in this Catalogue are Ex Works, apply to England, Scotland and Northern Ireland only, and are subject to alteration without notice.

'CINEMOID' is the registered trade mark of British Celanese Limited, London, England and is used by that Company to denote a special grade of acetate sheeting used for colour mediums. The Strand Electric and Engineering Co. Limited are distributors of 'CINEMOID' colour mediums throughout the world.

SEE PAGES (V) and (VI) FOR TERMS OF BUSINESS

BRANCHES ETC.

MANCHESTER

The Strand Electric & Engineering Co. Ltd.,
313/317 Oldham Road, Manchester 10.
Telephone: Collyhurst 2736

DARLINGTON

The Strand Electric & Engineering Co. Ltd.,
26 High Northgate, Darlington.
Darlington 67350

EIRE

The Strand Electric & Engineering Co. Ltd.,
62 Dawson Street, Dublin.
Telephone: Dublin 74030

AUSTRALIA

The Strand Electric & Engineering Co. Ltd.,
212 Graham Street, Port Melbourne, Victoria.

SCOTTISH DISTRIBUTORS

Stage Furnishings Ltd., 346 Sauchiehall Street, Glasgow, C.2. Telephone: Glasgow Douglas 6431

OVERSEAS AGENTS

AFRICA (East Africa)

The Donovan Maule Theatre Service, P.O. Box 2333 Nairobi,
Kenya.

AFRICA (South Africa)

The British General Electric Co. (Pty) Ltd.,
Magnet House, Corner of Loveday & Anderson Streets,
(P.O. Box No. 2406) Johannesburg.
73a, Charles Street, Bloemfontein.
Corner of Riebeck and Lower Burg Streets, (P.O. Box No.
1327) Capetown.
20 Queen Street (P.O. Box No. 42) Port Elizabeth.
Magnet House, 56 Field Street (P.O. Box No. 922) Durban,
Natal.

AFRICA (S. Rhodesia)

The British General Electric Co. of Central Africa (Pty) Ltd.,
Cam Road, Granite side (P.O. Box No. 845) Salisbury.
Magnet House, Main Street (P.O. Box No. 1070) Bulawayo.

ARABIA

Gharabally Ltd. (Elect. Division) P.O. Box 136, Kuwait.
Saleh Jamel & Co. Ltd., Kuwait.

ARGENTINE

Conselec S.A.I.C.I.y.F. Hipolito Yrogoyen 676, Buenos Aires.

AUSTRIA

Ludwig Pani, Kandlgasse 23, Wien VII/63.

BELGIUM (and Belgian Congo and Luxembourg)

Adrien De Backer S.A., 54-56 Rue Fernand Severin, Bruxelles.

BERMUDA

The Bermuda Electric Light Co. Ltd., Reid Street, Hamilton.

BOLIVIA

'Incaturo' S.A. Casilla Correo 460, La Paz.

BRITISH WEST INDIES (Jamaica)

Finzi & Gadpaille, 28 Slipe Road, Cross Roads.

BRITISH WEST INDIES (Trinidad & Tobago)

Wilson & Johnstone, 3 Broadway, Port-of-Spain.

CEYLON

United Electricals Ltd., P.O. Box 681, Yahala Building,
Staples Street, Colombo.

COLOMBIA

Wightman & Co. Ltda., Apartado Aereo 808, Medellin.
Srs. Industrias Colombo-Britanica Ltda., Apartado Aereo
3883, Bogota.

CUBA

Srs. Toro, Febles y Mora, Infanta No. 16. P.O. Box 358,
Havana.

DENMARK

Firma Axel L. Beck, Faelledvej 1, Copenhagen N.

EGYPT

W. A. Lancaster & Son, P.O. Box 1190, 11 Emad El Din Street,
Cairo.
P.O. Box 1293, 34 Fouad Street, Alexandria.

FINLAND

Oy Beck Trading A.B., Post Box No. 3, Helsingfors.

FRANCE (and French Possessions)

Compagnie Clemancon, 23 Rue Lamartine, Paris (IXe).

GERMANY

Diedr. Buschmann, Scharnstrasse 4, Braunschweig.

HOLLAND

N.V. Rotterdamsche Electriciteits Mij v/h H. Croon & Co.,
Schiemond 22, Rotterdam-W.

HONG KONG

The British General Electric Co. Ltd., 2 Queens Building
(P.O. Box No. 15)

ICELAND

Hallgr. Bachmann Esq., P.O. Box 723, Reykjavik.

INDIAN REPUBLIC

The Crompton Engineering Co., (Madras) Private Ltd.,
Post Box 205, Second Line Beach, Madras-1.
1st Floor, George Oakes Building, P.O. Box 651,
Sri Narasimharaja Square, Bangalore-2.
6/8 Govt. Arts College Road, P.O. Box 168, Coimbatore.
98 Sandpettai Street, P.O. Box 36, Madurai.
3/15A Asaf Alli Rd, New Delhi 1.
183/184 Rastrapathi Rd. P.O. Box 91, Secunderabad.
19/66 Masulipatam Road, P.O. Box 97, Vijawada.

IRAQ

James Kilpatrick & Son, Ltd., 453/1 Al Rashid Street, Baghdad.

ITALY (Sicily, Sardinia & Italian Somaliland)

Mottola, Via Durini 28, Milan.
A.S.P.I. Corso Montforte 36, Milan.

MALAYA

E. S. Isaac & Co. Ltd., 168-A Cecil Street, Singapore.

MALTA

Transcontinental Trading Co., 198 Old Bakery St., Valletta.

NEW ZEALAND

British General Electric Co. Ltd., Magnet House, 31/37
Taranaki Street, (G.P.O. Box No. 318) Wellington.
26 Customs Street East, Auckland.
Magnet House, 164 Gloucester St., Christchurch.
25 Vogel Street, Dunedin.
Joan & Russell Reid Ltd., P.O. Box 2516, 6 Boulcott Street,
Wellington C.1.

NORWAY

A/S Elpag, Radhusgatan 8II, Oslo.

PAKISTAN (East)

The General Electric Co. of Pakistan Ltd., Double Moorings,
Chittagong.

PAKISTAN (West)

The General Electric Co. of Pakistan Ltd., Magnet House,
McLeod Road (P.O. Box 4801) Karachi.
2 Shah Din Buildings, (P.O. Box 21) Charing Cross, Lahore.

PERU

Senor H. R. Stern, 1445 Lloque, Yupanqui, Lima.

PORTUGAL (and Angola and Mozambique)

Ing. J. D'Arriaga de Tavares, 45 Rua da Boa Vista 49, Apartado
609, Lisbon.

SINGAPORE (see Malaya)

SWEDEN

A-B Becks Import, S:a Forstadsgatan 41, Malmo.

SWITZERLAND

Firma W. Eichenberger, Ceresstrasse 27, Zurich 8.

THAILAND (Siam)

Louis T. Leonowens Ltd., Hong Kong Bank Lane, Bangkok.

U.S.A.

Kliegl Bros., 321 West 50th Street, New York 19, N.Y.

VENEZUELA

L. E. Hickman Urritia, Ave. La Habana, Quinta Miredo Los
Caobos, Caracas.

TERMS OF BUSINESS

PART I—SALES

HOME TRADE ... Clauses 1 to 19 inclusive apply.

EXPORT TRADE ... Clauses 1 to 7 inclusive.
Clauses 9, 10, 13 to 15.
Clauses 17 to 22 inclusive.

1. GENERAL. The acceptance of any tender includes the acceptance of the following terms and conditions but in case of conflict between these terms and conditions and any terms or conditions appearing on the face of our tender the latter terms or conditions shall be paramount.

2. VALIDITY. Unless previously withdrawn our tender is open for acceptance by you within thirty days only from the date thereof (when no other period is stated), and is subject to confirmation by us at the time of such acceptance. When your acceptance is confirmed by us in writing, a contract upon the terms and conditions specified in Clause 1 hereof shall be deemed to subsist between us. In the absence of a written acceptance by you our written confirmation of your verbal acceptance shall be deemed to be the equivalent of your written acceptance.

3. LIMITS AND VARIATION OF TENDER OR CONTRACT. Our tender and any resulting contract between us includes only such goods and work as are specified therein. No agent or representative has authority to make any addition to or variation in our tender or to any resulting contract between us and we accept no responsibility for any such addition or variation unless we specifically confirm it in writing in clear terms.

4. SPECIFICATIONS, DRAWINGS, ETC. All descriptive and forwarding specifications, drawings and any particulars of weights, dimensions, capacity and performance submitted with any tender are approximate only, and the descriptions and illustrations contained in our catalogues, price lists and other advertising matter are intended merely to present a general idea of the goods described therein. None of these data shall form part of a contract, nor shall the goods concerned be deemed to be sold by description. After confirmation of any order a set of certified drawings will be supplied if required. Any design, drawing, plan, model, sample or estimate prepared by us remains our property and must not be submitted to any other person or reproduced in whole or in part without our written consent.

5. COMPLIANCE WITH REGULATIONS AND OTHER LEGISLATION. Any undertaking that goods will comply with the Rules, Regulations or Specifications of any licensing or other authority, body or person shall only be binding in so far as the aforesaid Rules, Regulations or Specifications are known to us at the time of confirming the order. It is for you to obtain any necessary permissions from such authority. If the coming into force or application of any legislation, Governmental Order, regulation, requisition instrument, control, decree or promulgation shall prevent or restrict directly or indirectly the performance by us of the contract, we reserve the right to do any one or more of the following:

(a) To suspend or delay despatch or delivery of the goods until such time as it may be reasonably practicable to despatch or deliver the same.

(b) To use substituted materials for any specified in our tender provided that such substituted materials are in our view an adequate substitute for the materials so specified.

(c) To cancel the contract or any uncompleted portion thereof and on such cancellation neither party shall have any claim against the other save in respect of goods delivered prior to such cancellation.

6. EXTRA COST. Your acceptance of our tender must be accompanied by sufficient information to enable us to proceed with the order forthwith. In the event of the non-commencement or suspension of the work by your instructions or lack of instructions, the contract price may be increased to cover any extra cost thereby incurred by us. In any event we are at liberty to amend the tender price to cover any increase in costs which may arise after the submission of the tender. Any model or sample submitted must be returned carriage paid within one month from despatch or the same will be charged to your account.

7. TESTS. Our manufactures are carefully inspected and submitted to our standard tests at our Works. If special tests are required, these will be charged extra.

8. PACKING CASES, CONTAINERS, ETC. These are charged at cost and will be credited in full if returned in good condition carriage paid within one month from the date of despatch.

9. STORAGE. If you have not provided forwarding or shipping instructions within seven days after date of notification that the goods are ready for despatch, you are to take delivery and arrange for storage, and will be deemed to have taken delivery and the goods will be accordingly at your risk, subject to our lien thereon and other rights, if any, as unpaid sellers (whether of these or other goods supplied to you) and for storage charges. We are prepared, however, if our storage facilities permit, to store the goods, making a charge for storage and fire insurance until the goods are despatched. In this event the goods shall be paid for as if they had been despatched and shall be deemed to have been at your risk at all times after notification that they were ready for despatch. Any charges for storage or demurrage after despatch must be paid for by you.

10. DESPATCH. Any undertaking to despatch within a given period is to date from receipt by us of a written or telegraphed order to proceed and of all the necessary information to enable us to put the work in hand. We will use our best endeavours to despatch within the given period, but such period is to be treated as an estimate only and we will accept no liability for failure to do so unless a guarantee shall have been given in writing under an agreed sum as liquidated damages for late despatch and you have suffered loss by our delay. Should despatch be hindered or delayed by your instructions or lack of instructions or by any cause whatsoever beyond our reasonable control, including strikes, lockouts, railway embargoes, insurrections, riots, war, malicious act of a third party, action by civil or military authorities, fire, flood, storm, tempest, act of God, drought, explosion, power cuts, unusual inclemency of the weather, breakdown of machinery, accidents, epidemics, defective material, faulty castings or forgings, scarcity of material or delay in deliveries by third parties, a reasonable extension of time shall be granted or the contract may at our option be annulled, such option to be exercised and notice thereof to be given to you in writing at any time during the period fixed for despatch.

11. DELIVERY. Unless otherwise specified in any tender the price quoted is free on rail (f.o.r.) our nearest railway goods station in the United Kingdom and does not include delivery, and the risk of any loss or damage to or deterioration of the goods or their packing from whatsoever cause arising shall be borne by you from the time of despatch from our premises without prejudice however to the terms of Clause 9 hereof.

12. DAMAGE OR SHORTAGE IN TRANSIT. When the price quoted includes delivery, we will repair or replace free of charge goods damaged or lost in

transit provided that the carriers and ourselves receive written notification of such damage or loss within three days of receipt but not otherwise.

13. RETURN OF GOODS AND/OR CANCELLATION. Orders for goods which are not our standard current products are only accepted on condition that cancellation or return cannot be accepted by us. Cancellation of orders for, or return of current standard products cannot be accepted without our previous consent in writing and on terms which will indemnify us against all loss. In any case our costs for work done will be charged.

14. GENERAL LIABILITY AND MAINTENANCE GUARANTEE. In lieu of any warranty, condition or liability implied by law our liability in respect of any defect or failure of the goods supplied subsequent to delivery or for any loss, injury or damage attributable thereto is limited to making good by replacement or repair defects which, under proper use and conditions appear therein and arise solely from faulty design, material and workmanship within a period of twelve calendar months after the original goods shall have been first despatched or you have been notified that they are ready for despatch. At the termination of this period all liability on our part ceases. The replacement or repaired parts will be delivered free PROVIDED always that (a) defective parts are promptly returned free to our Works, unless otherwise arranged and (b) liability under this clause shall not extend to the replacement or repair of any goods rendered defective while under your control by fair wear and tear, excessive condensation or corrosion or to the replacement or repair of goods to which repairs have been made or attempted by any person not in our employ.

Unless otherwise specified in our tender we do not represent or warrant that goods supplied by us or their capacity or performance are fit for the purpose for which you require the same. If any defect arises directly or indirectly from the use to which you have put the goods or the manner in which you have used the same, this Guarantee shall not apply. Any defective part for which we supply a replacement shall become our property. We are not to be held liable for stoppages or any consequential loss or damage arising out of work done or services rendered under any contract.

This Guarantee does not apply to reconditioned or second-hand goods. In the case of goods not of our manufacture you are entitled to the benefit of any Guarantee given to us in respect thereof.

In cases where we contract to erect plant our sole liability for accidents and damage until the plant shall have been taken over shall be as follows: We will indemnify you against direct damage or injury to your property or person or that of others caused by the negligence of ourselves or our servants, but not otherwise, to the extent of repairing the damage to property or compensating the personal injury PROVIDED (a) that such damage or injury is not caused or does not arise wholly or partially from the acts or omissions of yourselves and others, or is not due to circumstances over which we have no reasonable control and (b) that our total liability shall not exceed the total value of the contract.

15. PATENTS. In the event of any claim being made or action being brought against you in respect of infringement of patents arising in the United Kingdom and Eire (but not otherwise) by the manufacture and sale by us of goods supplied to you hereunder, you are to notify us immediately, and we shall be at liberty with your assistance if required, but at our expense, to conduct if necessary in your name all negotiations for the settlement of the same or any litigation that may arise therefrom; subject to such notification and provided that no such goods, or any part thereof shall be used for any purpose other than that for which we supply them, we will indemnify you in respect of any such claims. This indemnity shall not apply to goods not manufactured by us or manufactured by us pursuant to a design or instruction supplied or given by you.

16. TERMS OF PAYMENT. Payment in respect of any of the goods shall be due in full on despatch or on notification that the same are ready for despatch. Without prejudice to our right to immediate payment there shall be paid to us interest at the rate of 5 per cent. per annum on any sum payable to us in accordance with these terms of payment computed from the date on which such sum became payable until the date of actual payment.

Any liability on our part under these terms and conditions is subject to these terms of payment and to the performance of all your other obligations to us under the contract being strictly observed.

17. ARBITRATION. If during the period of the Guarantee referred to in Clause 14 hereof any question, dispute or difference whatsoever shall arise between you and ourselves upon, in relation to, or in connection with the contract either of us may give to the other notice in writing of the existence of such question, dispute or difference and the same shall be referred to the arbitration of a person to be mutually agreed upon, or failing agreement of some person appointed by the President for the time being of the Institution of Electrical Engineers (of Great Britain). The submission shall be deemed to be a submission to arbitration within the meaning of the Arbitration Act, 1950, or any statutory modification or re-enactment thereof.

18. LEGAL CONSTRUCTION. Any contract subsisting between us shall in all respects be construed as an English contract and shall be subject to English law. The titles of the clauses do not form part of the same and shall not affect their construction.

19. NOTICE. Any notice or demand by us to you shall be sufficiently given or made if sent in writing by post or otherwise to your address as appearing in our tender or to any other address which you in any communication to us purport to have and such notice or demand shall be deemed to have been given or made at the time at which it would have been received in the ordinary course of post if sent by post and if sent otherwise at the time it was actually delivered at such address.

VARIATIONS OF THE FOREGOING TERMS AND CONDITIONS APPLICABLE TO EXPORT TRADE

20. PACKING CASES, CONTAINERS, ETC. Charged at cost and are not returnable.

21. DELIVERY. All freight charges, etc. (including Consular fees and the like) are charged as an extra at cost and such charges will include insurance which will be effected by us (unless we are notified to the contrary) unless otherwise stated in the tender. The causes beyond our control which may prevent despatch for the purposes of Clause 10 shall be equally applicable in respect of the shipping of the goods from the port concerned.

22. TERMS OF PAYMENT. Unless otherwise stated, export orders must be accompanied by remittance, or arrangements may be made for payment through a London Bank or Agent against irrevocable Letter of Credit. If we have received instructions to deliver to your Agents or the Bills of Lading are not taken out by us, then payment becomes due upon the presentation of our invoice and declaration that the goods are ready for despatch.

PART II—ELECTRICAL INSTALLATIONS (HOME TRADE)

23. The following applies:

Conditions of Tender and Contract for Electrical Work issued by The Electrical Contractors' Association (Incorporated). As detailed in E.C.A. Year Book,

1953/54, pages 527 to 529 inclusive, and as related to Carrying out work on a cost plus percentage basis as detailed in E.C.A. Year Book, 1953/54, pages 530 to 533 inclusive.

PART III—HIRE OF APPARATUS

1. GENERAL. In the absence of a formal hiring agreement between us the following terms and conditions shall govern the hiring of apparatus but we reserve the right at any time to require you to enter into a formal hiring agreement with us in respect of the apparatus such agreement to incorporate these or other terms and conditions.

2. LIMITS AND VARIATION OF CONTRACT OF HIRE. Any contract of hire subsisting between us includes only such apparatus as is specified therein. No agent or representative has authority to make any addition or variation thereto and we accept no responsibility for any such addition or variation unless we specifically confirm it in writing in clear terms.

Whilst every endeavour will be made to supply apparatus as ordered we reserve the right to substitute other designs when necessary.

3. SPECIFICATIONS, DRAWINGS, ETC. All descriptive and forwarding specifications, drawings and any particulars of weights, dimensions, capacity and performance submitted to hirers and the descriptions and illustrations contained in our catalogues, price lists and other advertising matter are intended merely to present a general idea of the apparatus described therein. None of these data shall form part of a contract of hire. Any design, drawing, plan, model, sample or estimate prepared by us remains our property and must not be submitted to any other person or reproduced in whole or in part without our written consent. Any model or sample submitted must be returned carriage paid within one month from despatch or the cost of the same will be charged to the hirer's account.

4. COMPLIANCE WITH REGULATIONS AND OTHER LEGISLATION. Any undertaking that apparatus will comply with the Rules, Regulations or Specifications of any licensing or other authority, body or person shall only be binding in so far as the aforesaid Rules, Regulations or Specifications are known to us at the time of the hiring. It is for you to obtain any necessary permission from such authority. If the coming into force or application of any legislation, Governmental order, regulation, requisition instrument, control, decree or promulgation shall prevent or restrict directly or indirectly the performance by us of the contract of hire, we reserve the right to do any one or more of the following:

(a) To suspend or delay despatch or delivery of the apparatus until such time as it may be reasonably practicable to despatch or deliver the same.

(b) To use substituted materials for any specified in the contract of hire provided that such substituted materials are in our view an adequate substitute for the materials so specified.

(c) To cancel the contract of hire or any uncompleted portion thereof and on such cancellation neither party shall have any claim against the other.

5. TESTS. Our manufactures are carefully inspected and submitted to our standard tests at our Works. If special tests are required, these will be charged for in addition to the normal hire charges.

6. PACKING CASES, CONTAINERS, ETC. All apparatus is suitably packed, where necessary. Such packing must be used by the hirer when returning the apparatus, otherwise the cost of such packing will be charged to the hirer's account.

7. DAMAGE OR SHORTAGE IN TRANSIT. If any damage or shortage occurs in delivery, notice in writing must be given to the carriers within three days. Damaged apparatus should be retained with the original packing for a maximum period of seven days to allow for inspection by carriers and thereafter returned to us. Failure to observe this will result in the hirer being charged with the cost of repair or replacement of the damaged apparatus.

8. CANCELLATION. Hire orders for apparatus which does not form part of our standard current products are only accepted on condition that cancellation cannot be accepted by us prior to the termination of any agreed period of hire. Cancellation of hire orders for current standard products cannot be accepted without our previous consent in writing and on terms which will indemnify us against all loss.

9. GENERAL LIABILITY AND MAINTENANCE GUARANTEE. Our liability in respect of any defect or failure of the apparatus supplied is limited to making good by replacement or repair defects which, under proper use and conditions appear therein and arise solely from faulty design, materials and workmanship. In particular we undertake to replace lamps in the case of electrical failure under normal working conditions but you must accept full responsibility for mechanical damage. All faulty lamps must be returned for our inspection otherwise they will be charged to your account. The replacement or repaired parts will be delivered free PROVIDED always that defective parts are promptly returned free to us.

We do not represent or warrant that apparatus supplied by us or its capacity or performance are fit for the purpose for which you require the same.

We are not to be held liable for stoppages or any consequential loss or damage arising out of work done or services rendered under any contract of hire.

In the case of apparatus not of our manufacture you are entitled to the benefit of any Guarantee given to us in respect thereof.

While erecting apparatus our liability for accidents and damage until the apparatus shall have been taken over shall be as follows: We will indemnify you against direct damage or injury to your property or person or that of others caused by the negligence of ourselves or our servants but not otherwise, to the extent of repairing the damage or compensating the personal injury PROVIDED (a) that such damage or injury is not caused or does not arise wholly or partially from the acts or omissions of yourselves or others or is not due to circumstances over which we have no reasonable control and (b) that our total liability does not exceed the value of the apparatus.

10. PAYMENT OF HIRE CHARGES. All hire charges are strictly nett and are due and payable weekly. These charges are based on a period of one week or part thereof and are charged weekly irrespective of whether the apparatus is in use or not. Unless otherwise arranged between us a week shall be deemed to commence on a Sunday morning and end on a Saturday night both days included. All payments shall be made direct to us each Monday following the termination of the week and no other person shall be deemed to have authority to accept payment on our behalf unless we give notice to you in writing to that effect. Arrears of hire charges shall be subject to interest at 5 per cent. per annum. Any liability on our part under these terms and conditions is subject to payment of hire charges and to the performance of all your other obligations to us hereunder.

11. NOTICE TO TERMINATE HIRING. The hiring shall be terminable by either party giving to the other at least 24 hours notice expiring on a Saturday.

12. APPARATUS.

(a) All apparatus remains our absolute property and you undertake:

(i) To keep and to return the apparatus to us in good order and condition and to be responsible for any loss or damage excluding loss or damage by fire to the apparatus howsoever caused.

(ii) Not to sell, offer for sale, assign, mortgage, charge, pledge or underlet, lend or otherwise deal with the apparatus or any part thereof.

(iii) Not to allow any lien to be created on the apparatus whether for repairs or otherwise and punctually to pay all rents, rates, taxes, and impositions, fees and other outgoings usually payable in respect of the premises where the apparatus shall be PROVIDED that we shall be at liberty but not compellable to pay such rent, rates, taxes and impositions, fees and other outgoings for which you may be liable and all sums so paid shall be immediately recoverable by us from you and until payment shall bear interest at 5 per cent. per annum.

(iv) To protect the apparatus against distress, execution or seizure and to indemnify us against all losses, costs, charges, damages and expenses incurred by us by reason or in respect thereof, and in case the apparatus shall have been taken out of your possession against your will or shall have been seized or impounded by way of execution or distress or by order of any Court to give us immediate notice of the same and take all reasonable and practicable steps to protect our interests but the taking of such steps whether at our request or not shall not prejudice our other rights hereunder.

(b) We are to have a right of entry (not less than your own right of entry) upon any premises where the apparatus may be for the purpose of maintenance repair or alteration of the same or any part thereof and also in order to retake the same and end the hiring in the event of:

(i) The hire charges not being paid at the times and in manner as aforesaid.

(ii) A receiving order in Bankruptcy being made against you or if you call a meeting of your creditors or execute any assignment for the benefit of or compound with your creditors or if you being a limited company enter into compulsory or voluntary liquidation (not being a voluntary liquidation only for the purposes of reconstruction) or do or cause to be done or permit or suffer any act or thing whereby our rights in the apparatus may be prejudiced to put in jeopardy in any of which events you shall forthwith be deemed to be no longer in possession of the apparatus and our consent to your possession of the apparatus shall thereupon cease and we shall be deemed to have requested you to surrender the apparatus.

13. PATENTS. In the event of any claim being made or action being brought against you in respect of infringement of patents arising in the United Kingdom and Eire (but not otherwise) by the manufacture by us of apparatus hired to you hereunder, you are to notify us immediately, and we shall be at liberty with your assistance if required, but at our expense, to conduct if necessary in your name all negotiations for the settlement of the same or any litigation that may arise therefrom; subject to such notification and provided that no such apparatus, or any part thereof shall be used for any purpose other than that for which we supply them, we will indemnify you in respect of any such claims. This indemnity shall not apply to apparatus not manufactured by us or manufactured by us pursuant to a design or instruction supplied or given by you.

14. ARBITRATION. If any question, dispute or difference whatsoever shall arise between you and ourselves upon, in relation to or in connection with the contract of hire either of us may give to the other notice in writing of the existence of such question, dispute or difference and the same shall be referred to the arbitration of a person to be mutually agreed upon, or failing agreement of some person appointed by the President for the time being of the Institution of Electrical Engineers (of Great Britain). The submission shall be deemed to be a submission to Arbitration within the meaning of the Arbitration Act, 1950, or any statutory modification or re-enactment thereof.

15. LEGAL CONSTRUCTION. Any contract of hire subsisting between us shall in all respects be construed as an English contract and shall be subject to English law. The titles of the clauses do not form part of the same.

16. NOTICE. Any notice or demand by us to you shall be sufficiently given or made if sent in writing by post or otherwise to your address as appearing in the hire order or to any other address which you in any communication to us purport to have and such notice or demand shall be deemed to have been given or made at the time at which it would have been received in the ordinary course of post if sent by post and if sent otherwise at the time it was actually delivered at such address.

1-1-54

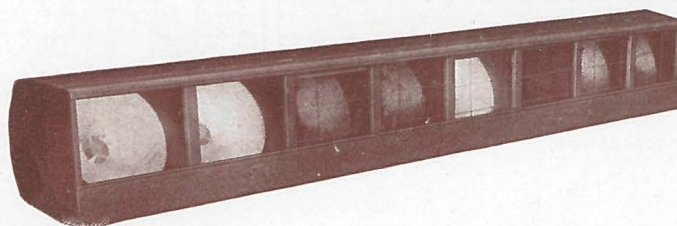
HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
SALES AND GOODS - 24, FLORAL ST., W.C.2
TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON



BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

STRAND FOOTLIGHTS

PATTERN "S" FOR 60, 100 or 150 WATT LAMPS



This Footlight has compartments spaced at 9-inch centres and gives more light from fewer lamps than the old 6, 7 and 8-inch centre types which it supersedes. The "Sunray" silvered glass reflectors give wide-angle beams free of hot spots, and light well up the house tabs, even when placed as close as 3 feet.

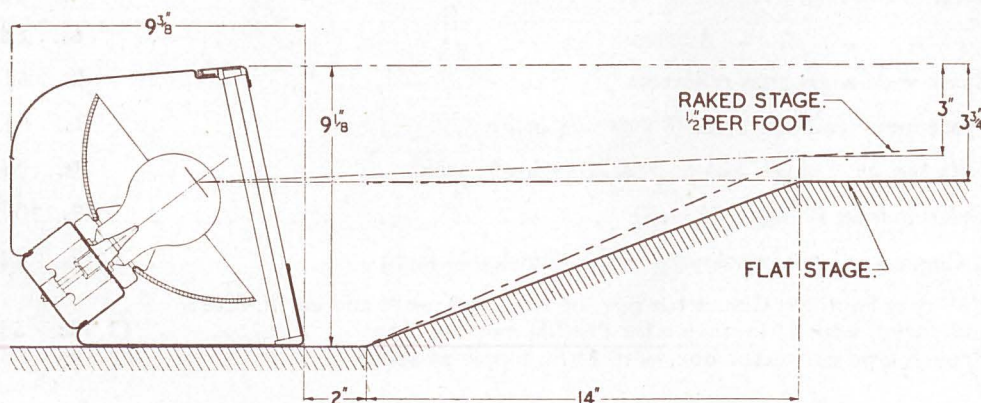
SPECIFICATION

Housing is strongly constructed in sheet steel, efficiently ventilated, with pressed steel compartment divisions welded in place at 9-inch centres, and the whole is finished in black crystalline outside and matt black inside. Each compartment is fitted with a metal frame with guard wires to take the colour medium and a type A235 "Sunray" glass reflector mounted in a spring-steel spider and Edison Screw lampholder. Footlight is manufactured in 3 foot and 6-foot lengths and multiples thereof.

Wiring, which is housed in a sheet-metal trough with removable lid, is carried out in fireproof cable for colours and circuits to suit requirements, and is terminated in tails, or in certain circumstances a connector box (extra) on actors' right or left as required.

Fixing.—Rests flat on the floor of the footlight trough, for dimensions of which see diagram. For preference electrical connections should be made through flexible metallic tubing to permit easy removal for cleaning. *(continued overleaf)*

DIMENSIONS



HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
SALES AND GOODS - 24, FLORAL ST., W.C.2
TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON



BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

SPECIFICATION (cont'd)

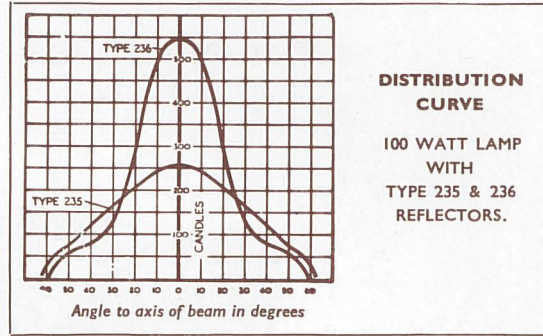
Lamps.— 60-watt General Service type with E.S.Cap.

100- " " " " " "
 150- " Theatre Batten " " "

N.B.—Lamps should be clear NOT pearl.

Beam Angle.—Cut off 125°, Beam Angle 120°.

Weight.—Complete with colour frames and reflectors
 per 3-foot length 25 lbs.
 .. 6-foot .. 49 lbs.



PRICES

(Exclusive of lamps, connector box, and colour mediums, but including colour frames)
 Wired for 3 colours, 1 circuit per colour, with terminals or 3 ft. long tails.

Length	Compartmentments	£	s.	d.
3 ft.	4	9	14	0
6 ft.	8	16	12	6
9 ft.	12	25	11	6

NOTE

If B.C. lampholders are fitted, deduct 6d. per compartment from prices in these tables.

Length	Compartmentments	£	s.	d.
12 ft.	16	32	17	6
15 ft.	20	39	7	6
18 ft.	24	46	9	6

21ft. and over, price per compartment, £1 18s. 3d.

Curves, non-standard lengths and special lengths with inter-connecting plugs .. Prices on application

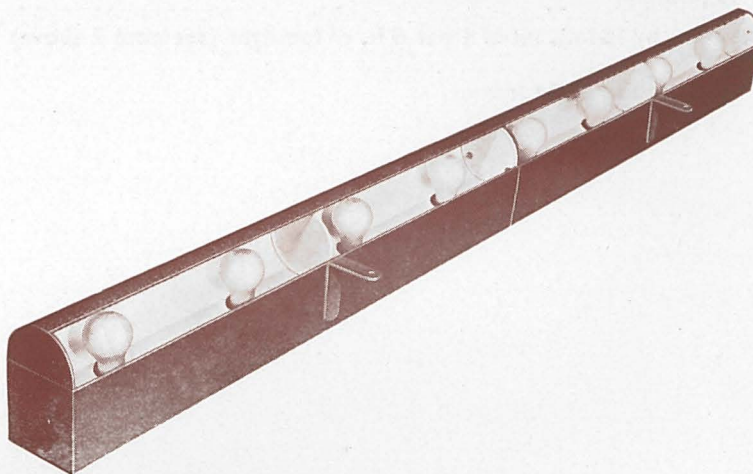
Extra for wiring for 4 colours, 1 circuit per colour	2s. 0d. per foot of footlight
Other wiring arrangements	Prices on application
Tails (in excess of standard 3 feet) 3 colour	4s. 6d. per foot
.. .. . 4 colour	6s. 6d. per foot
Ref. 235—Spare wide-angle glass reflectors	9s. 6d. each
Ref. 240—Spare metal colour frames (8 inch × 9¼ inch)	2s. 6d. ..
Ref. 241—Gelatine, any colour, except frost (8 inch × 9¼ inch)	7s. 2d. per doz.
Ref. 242—Gelatine frost (8 inch × 9¼ inch)	9s. 10d. ..
Ref. 243—"Cinemoid" in any colour or frost (8 inch × 9¼ inch)	12s. 2d. ..
Ref. 230—"S" type Footlight Connector Box, up to 12 D.P. ways and earth, fitted and wired, with 1¼ in. nipple for flexible metallic tube	£3 13s. 6d. each
Ref. 22—Trough type connector box, with 1¼ in. nipple as above	£2 15s. 0d. ..

(If 230 or 22 are required without nipple deduct 4/9d.)

<p>HEAD OFFICE AND SHOWROOMS 29, KING STREET, LONDON, W.C.2 SALES AND GOODS - 24, FLORAL ST., W.C.2 TEMPLE BAR 4444 GRAMS: SPOTLIGHT RAND LONDON</p>		<p>BRANCHES 313, OLDHAM ROAD, MANCHESTER 10 COLLYHURST 2736 62, DAWSON ST., DUBLIN · DUB 74030</p>
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STRAND FOOTLIGHTS

JUNIOR TYPE FOR 40 or 60 WATT SILICA SPRAYED LAMPS

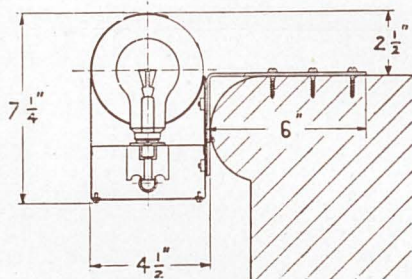


This footlight has been designed for the village hall, or school stage where finances would only permit the purchase of a standard compartmented footlight at the sacrifice of some more important equipment. The Junior footlight provides a single circuit of white or tinted light, preferably controlled on a dimmer, to counter heavy facial shadows caused by the usual preponderance of overhead lighting.

The footlight is made especially compact and is arranged to project only $2\frac{1}{2}$ in. above the stage in order to provide the minimum obstruction to sight lines. Fixing is direct by brackets over the front edge of stage, the joining of the sections being made extremely simple.

SPECIFICATION

The housing is constructed in sheet steel, suitably reinforced, in 6 ft. lengths. A 3 ft. extension piece is also available (but not sold separately), so that a footlight can be made up into multiples of 3 ft. in length overall. Adjacent sections are simply bolted together by 4 screws and nuts provided. B.C. lampholders are fitted at 9 in. centres and wired in fireproof cable for one colour circuit. The wiring which is carried in a separate trough terminates at the end of each length in porcelain connectors so that adjacent sections may be easily interconnected, and the electric supply brought with equal convenience to either end of the footlight. Each 6 ft. length has two (and the 3 ft. extension one) fixing brackets for securing to the platform or stage floor. Finished black crystalline enamel outside and white inside.



Weight

per 6 ft. length approx. 26 lb.
per 3 ft. extension approx. 13 lb.

Notes

1. In the interests of economy colour frames are not provided with this footlight as standard. Unframed "Cinemoid" (A.250) pieces can however be used for this footlight, held in position by means of the clips provided.
2. To meet the requirements of certain authorities, colour frames can be supplied as an extra. When these are used distance pieces must be inserted between the footlight and its fixing brackets in order to admit the colour frames. The necessary packing pieces are provided with the colour frames.
3. Fixing brackets are drilled for three No. 10 wood screws for use when the footlight is permanently installed.

When the footlight is frequently installed and removed, a metal floor plate should be let into the stage floor under the centre hole of each fixing bracket, and the footlight then secured by means of $\frac{3}{8}$ in. wing screws.

Floor plates, wing screws, etc., are NOT provided by us.

Lamps 40 or 60 watt internally silica sprayed or colour sprayed with B.C. caps.

(See overleaf for prices and accessories)

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
SALES AND GOODS - 24, FLORAL ST., W.C.2
TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON



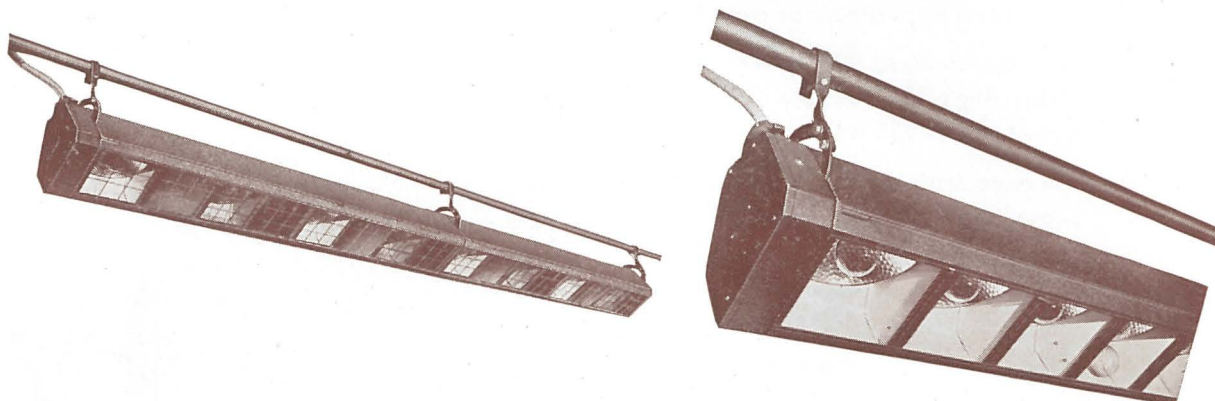
BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

		£	s.	d.	
PRICE	per 6 ft. length	8	0	0	each
	of 3 ft. extension	4	2	6	„
A.250	“ Cinemoid ” colours for use without frames (8 in. by 17 $\frac{3}{4}$ in.) Four required per 6 ft. of footlight		2	0	„
A.234	Colour frames (4 in. by 18 in.), set of 4 per 6 ft. of footlight (see note 2 above)	2	6	0	per set (and pro rata)
A.233	“ Cinemoid ” colours for A.234 frames		1	0	each

<p>HEAD OFFICE AND SHOWROOMS 29, KING STREET, LONDON, W.C.2 SALES AND GOODS - 24, FLORAL ST., W.C.2 TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON</p>		<p>BRANCHES 313, OLDHAM ROAD, MANCHESTER 10 COLLYHURST 2736 62, DAWSON ST., DUBLIN - DUB 74030</p>
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STRAND BATTENS

PATTERN "S" FOR 60, 100 or 150 WATT LAMPS



This Batten has compartments spaced at 9-inch centres and gives much more light from fewer lamps than the old 6, 7 and 8-inch centre types which it supersedes. The "Sunray" silvered glass reflectors give medium-angle beams free of hot spots, the main beams being directed down to the Acting Area while direct light from the lamps provides adequate illumination for adjacent borders.

The external surfaces of the Batten are designed to permit hanging scenery to slide off without causing any damage to either.

For use on small stages and for close range work with cycloramas, skycloths, etc., wide-angle reflectors can be fitted in place of the medium-angle type referred to above.

An adequate airflow over both sides of the colour medium obviates the need for louvres in the housing, thereby keeping the interior cleaner.

SPECIFICATION

Housing is strongly constructed in sheet steel with pressed steel compartment divisions welded in place at 9-inch centres, and the whole is finished in hard hammer-grey outside and stove white enamel inside. Each compartment is fitted with a metal frame with guard wires to take colour medium, E.S. lampholder, and spring steel spider carrying medium-angle Sunray silvered glass reflector. (For close range work the latter is replaced by wide angle type reflector.) Batten is manufactured in 3-foot or 6-foot lengths or multiples thereof.

Wiring, which is housed in a sheet-metal trough with removable lid, is carried out in fireproof cable for colours and circuits to suit requirements, and is terminated in short tails (or in certain circumstances a connector box) on actors' right or left as required.

Suspension.—Arms pivoted to the batten at the centre of gravity are fitted every 6 feet. The standard termination is a clamp to fit 1½-inch gas barrel (see dimension C on sketch overleaf). A bolt positively locates and locks the batten at any desired angle. An alternative arrangement (D) carries a shackle (shown dotted) for use when hanging direct from hooks in the ceiling. Extension arms (B) are available where lanterns are interposed between sections of batten, to bring the lower edges in one line.

(continued overleaf)

LONDON, MANCHESTER, GLASGOW



DARLINGTON, DUBLIN, MELBOURNE

Goods are only offered subject to our terms of business.

SPECIFICATION (cont'd)

Lamps.— 60-watt General Service with E.S. Cap.

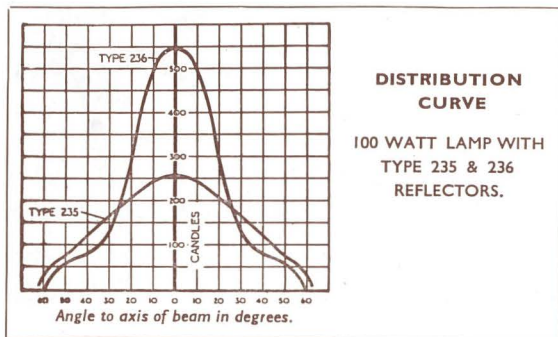
100- " " " " "

150- ,, Theatre Batten type ..

N.B.—Lamps should be clear NOT pearl.

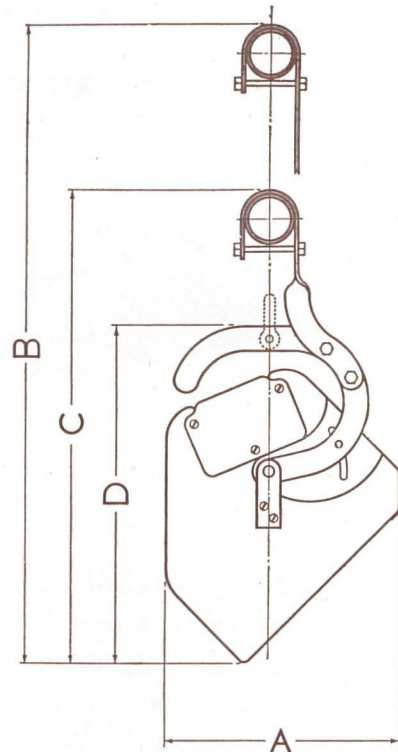
Beam Angle (with standard 236 reflector).—Cut off 120°, Beam Angle 95° ; or with 235 wide-angle reflector—Cut off 125°, Beam Angle 120°.

Weight.—Complete with colour frames and reflectors per 3-foot length 30 lbs. (13.6kg.), per 6-foot length 58 lbs. (26.3kg.).



DIMENSIONS

	Ft.	In.	mm.
A	0	9	229
B	2	9	838
C	1	6	457
D	1	1	330



Ref. 236.—Spare medium-angle glass reflectors

Ref. 235.—Spare wide-angle glass reflectors

Ref. 240.—Spare metal colour frames
(8 inch \times 9 $\frac{1}{4}$ inch)

Ref. 241.—Gelatine any colour except frost
(8 inch \times 9 $\frac{1}{4}$ inch)

Ref. 242.—Gelatine frost (8 inch \times 9 $\frac{1}{4}$ inch)

Ref. 243.—Cinemoid colours or frost
(8 inch \times 9 $\frac{1}{4}$ inch)

Ref. 231.—S-type Batten connector box (up to 12 D.P. ways and earth) fitted and wired to batten, complete with cable gland

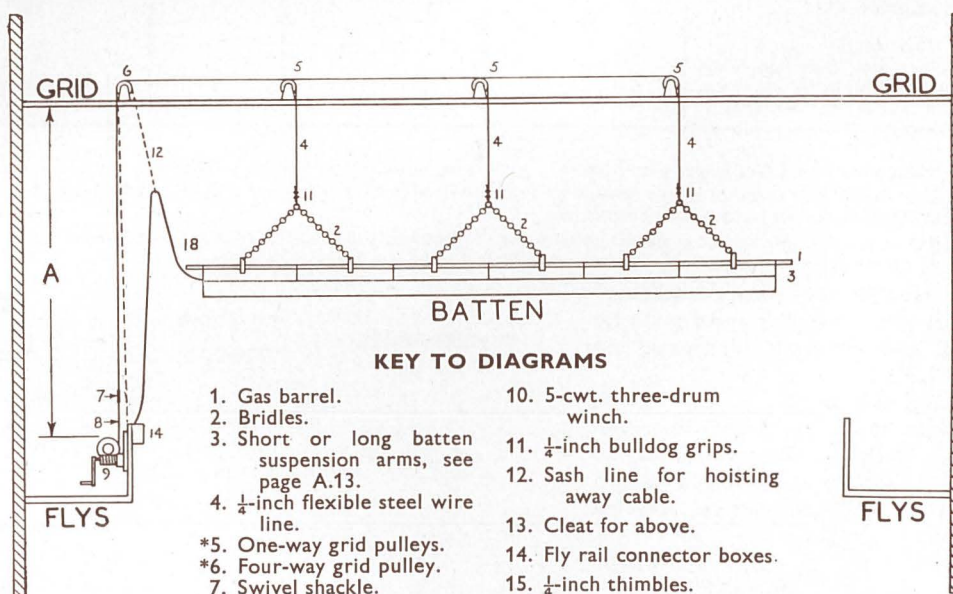
For multicore cable and wall or fly-rail connector boxes see leaflet A.21.



STRAND BATTEN SUSPENSIONS AND CONNECTIONS

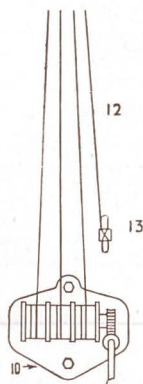
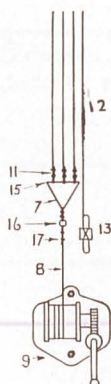
While 3-line suspension is adequate for compartment battens up to 36 feet long, greater lengths should be hung from 4 lines. Either single-drum or multi-drum winches may be used, but the former are only suitable where the dimension from grid to winch ("A" on sketch below) is greater than the distance through which the batten must be raised and lowered.

The table overleaf gives the materials and quantities required according to length of batten and type of winch to be used. The tables also apply for spot and flood battens, but see Note 2 overleaf. Where circumstances preclude raising and lowering battens, these may be fixed to wall or ceiling by means of a special saddle, for details of which see overleaf at foot.

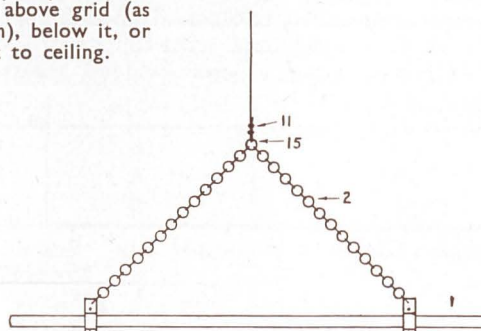


KEY TO DIAGRAMS

- | | |
|---|---|
| 1. Gas barrel. | 10. 5-cwt. three-drum winch. |
| 2. Bridles. | 11. $\frac{1}{4}$ -inch bulldog grips. |
| 3. Short or long batten suspension arms, see page A.13. | 12. Sash line for hoisting away cable. |
| 4. $\frac{1}{4}$ -inch flexible steel wire line. | 13. Cleat for above. |
| *5. One-way grid pulleys. | 14. Fly rail connector boxes. |
| *6. Four-way grid pulley. | 15. $\frac{1}{4}$ -inch thimbles. |
| 7. Swivel shackle. | 16. $\frac{5}{16}$ -inch thimbles. |
| 8. $\frac{3}{16}$ -inch flexible steel wire line. | 17. $\frac{5}{16}$ -inch bulldog grips. |
| 9. 5-cwt. single-drum winch. | 18. Batten connecting cables. |



* Grid pulleys may be fixed above grid (as shown), below it, or direct to ceiling.



(continued overleaf)

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
SALES AND GOODS - 24, FLORAL ST., W.C.2
TEMPLE BAR 4444 GRAMS: SPOTLITE RAN LONDON



BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

PARTS	Battens up to 36 feet		Battens over 36 feet		Spot-Flood Battens (see note 2)	PRICES £ s. d.
	5-cwt. winch		10-cwt. winch		10-cwt. winch	
	1 drum	3 drums	1 drum	4 drums	3 drums	
A. 25—1½-inch Gas barrel (see Note 1)	1	1	1	1	1	4 0 per foot
A. 26—Bridles	3	3	4	4	3	1 7 6 each
A. 27—One-way Grid pulleys	3	3	4	4	3	1 7 6 "
A. 28—Three-way Grid pulleys	1	1	—	—	1	3 0 0 "
A. 38—Four-way Grid pulleys	—	—	1	1	—	3 17 6 "
A. 29—5-cwt. single-drum winch	1	—	—	—	—	11 15 0 "
A. 30—5-cwt. three-drum winch	—	1	—	—	—	12 0 0 "
A. 39—10-cwt. single-drum winch	—	—	1	—	—	On application
A.244—10-cwt. three-drum winch (see Note 2)... ..	—	—	—	—	1	On application
A. 40—10-cwt. four-drum winch	—	—	—	1	—	On application
A. 31—¼-inch flexible steel wire lines	3	3	4	4	—	1 10 0 per 100 feet
A. 32—⅝-inch flexible steel wire lines	1	—	1	—	1	2 8 0 "
A. 33—¼-inch bulldog grips	12	6	16	8	—	1 0 each
A. 34—⅝-inch bulldog grips	2	—	2	—	6	1 3 "
A. 35—¼-inch thimbles	6	3	8	4	—	7 "
A. 36—⅝-inch thimbles	1	—	1	—	3	9 "
A. 37—Swivel shackles	1	—	—	—	—	24 0 "
Optional						
A.320—Sash line for hoisting away cables (see Note 3)	1	1	1	1	1	17 6 per 100 feet
A.321—Cleat for above (see Note 3) ...	1	1	1	1	1	8 0 each

NOTES

- 1—Barrel should be 2 feet longer than battens. 1½-in. gas barrel has 2-in. external diameter.
- 2—The 10-cwt. 3-drum winch should be used on spot and flood battens where the weight exceeds 5-cwt. but the length does not justify 4-line suspension.
- 3—If electric cables are hoisted away, for battens up to 36 feet long, substitute one 4-way grid pulley in place of one 3-way shown in table: for battens over 36 feet, add one 1-way grid pulley.

A.259—Wall or Ceiling fixing saddles,

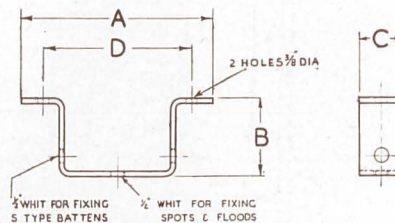
for use when battens are not to be raised and lowered (illustrated on page L.31.)

Quantity required: 1 per length of batten (6-feet or 3-feet) plus one. Thus a 33-foot batten consisting of five 6-ft. lengths and one 3-ft. length will require 6 (number of lengths) +1=7.

Price 8/0d. each

DIMENSIONS

- A = 6⅜
- B = 2⅜
- C = 1½
- D = 5⅛



- A. 41—**Counterweight clips** to suspend internally wired barrels from counterweight bars (one per 6-ft. length of barrel + 1). Prices on receipt of diameters of both bars and vertical distance between centres (min. 9 ins.) each £1 5 0
- A. 20—**Wall or Fly Rail Connector boxes**, consisting of sheet-steel box, with terminals for up to 12 double pole ways and earth, complete with cable gland for batten tails £2 12 0

Batten connecting cables. —Tinned copper wires 70/.0076 insulated with a double jacket of vulcanized india-rubber, taped with numbered tapes, cores twisted together, taped, asbestos braided, asbestos painted overall:—					
No. of Cores	Amps.	1 - 25 yds.	26 - 50 yds.	over 50 yds.	
A.51. 9	8	5/4d. per ft.	4/10d. per ft.	4/2d. per ft.	
A.53. 15	6	7/10d. "	7/2d. "	6/4d. "	
A.55. 25	5	12/8d. "	11/6d. "	10/1d. "	

Fitting Multicore Cable to connector box: 9-core 14/6d. }
 15-core 19/9d. } *Excluding cost of cable*
 25-core 26/6d. }

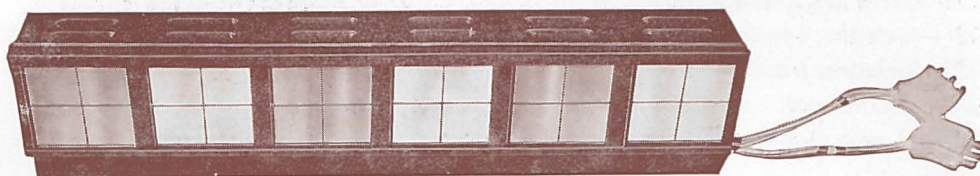
- Asbestos safety borders** (with tapes for tying to barrels behind spotlights), to comply with L.C.C. regulations.
- A. 42—12-feet long × 2-feet deep £6 6 8 each
- A. 43— 6-feet long × 2-feet deep £3 3 4 "

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
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 TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON

BRANCHES
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 COLLYHURST 2736
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STRAND MAGAZINE LENGTHS

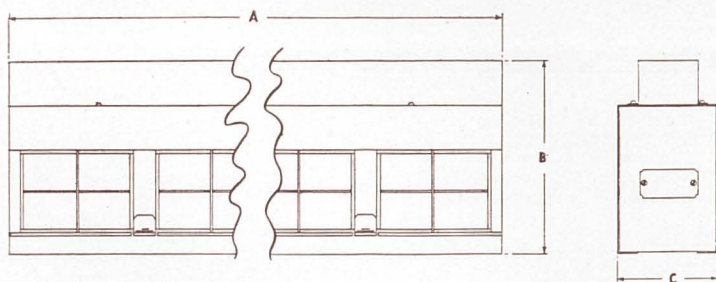
PATTERN "L" FOR 25, 40, 60 OR 100 WATT LAMPS



This magazine equipment is designed to be as compact and light in weight as possible in order that it may hang vertically or horizontally on framed scenery. The light dispersion is wide, particularly in the double sided model, free from hot spot, making it particularly suitable for lighting window and door backings. In small stages it will also be useful as footlight or as groundrow to light the bottom of cycloramas and backcloths at close range.

SPECIFICATION

The housing is constructed in sheet steel, efficiently ventilated, with compartments at 6 inch centres and the whole is finished white reflection surface inside and black crystalline enamel outside. Each compartment is fitted with a B.C. lampholder and on one or two sides with runners each carrying one metal colour filter frame with guard wires. A hinged flap retains colour frames in position. Sets of vertical and horizontal keyhole slots are provided for wood fixing screws. Wiring is in heat resisting cable and terminates in 1 ft. tails



DIMENSIONS

of one- and two-sided lengths

	ft.	ins.
A	3	0
B	8	½
C	4	½

Lamps: 25, 40, 60 or 100 watt Pearl BC General Service.

Weight: Complete, but without lamps, 23 lbs. approx.

PRICES (exclusive of lamps)

	£	s.	d.
Double sided, wired 1 circuit, per length	8	0	0 each
Double sided, wired 2 circuits, per length	8	7	6 "
Single sided, wired 1 circuit, per length	7	2	0 "
Single sided, wired 2 circuits, per length	7	11	0 "

(continued overleaf)

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
 SALES AND GOODS - 24, FLORAL ST., W.C.2
 TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON

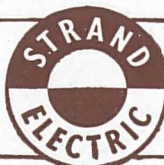
BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
 COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

PRICES (continued)

	£	s.	d.	
Extra for fitting metal hook to pass over scenery rail		7	6	each
*A.312—Extra metal colour frames $5\frac{3}{4}$ ins. x $5\frac{3}{4}$ ins. (for single-sided lengths and for one side of double-sided lengths)		2	1	,,
A.313—Gelatine, any colour except frost, $5\frac{3}{4}$ ins. x $5\frac{3}{4}$ ins.		3	4	per doz.
A.314—Gelatine, frost, $5\frac{3}{4}$ ins. x $5\frac{3}{4}$ ins.		4	7	,, ,,
A.315—"Cinemoid", any colour or frost, $5\frac{3}{4}$ ins. x $5\frac{3}{4}$ ins.		6	7	,, ,,
*A.295—Extra metal colour frames, $5\frac{3}{4}$ ins. x $4\frac{3}{8}$ ins. (for one side of two-sided length)		2	1	each
A.296—Gelatine, any colour except frost, $5\frac{3}{4}$ ins. x $4\frac{3}{8}$ ins.		2	6	per doz.
A.297—Gelatine, frost, $5\frac{3}{4}$ ins. x $4\frac{3}{8}$ ins.		3	5	,, ,,
A.298—"Cinemoid," any colour or frost, $5\frac{3}{4}$ ins. x $4\frac{3}{8}$ ins.		5	6	,, ,,
A.185—15 amp. 3-pin moulded connector plugs		11	0	per pair

*Note.—Each single-sided length has six type A.312 colour frames. Each two-sided length has six type A.312 and six type A.295 colour frames.

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 TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON

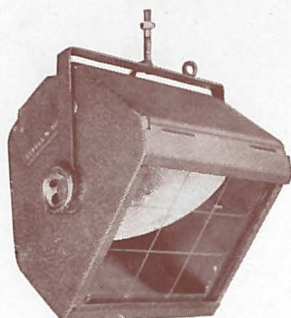


BRANCHES
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STRAND STAGE FLOODS

PATTERN 237 MEDIUM OR WIDE-ANGLE FLOOD, 60, 100 OR 150 WATT

Although this flood finds many uses in the professional theatre it has been designed particularly with the very small stage in view. It is normally fitted with a medium-angle "Sunray" glass reflector, which is very suitable for lighting over a distance, for example, from No. 1 Batten position to the Acting Area, while sufficient direct light is available for lighting the adjacent border. If, however, a controlled beam is required, a cut-off attachment can be fitted to the front colour runners,

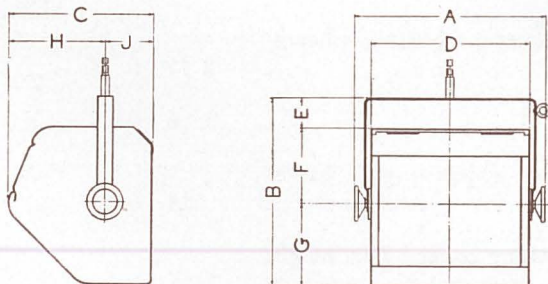
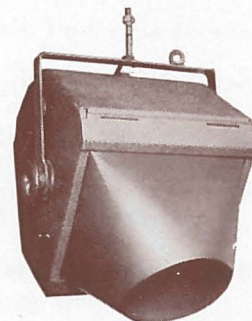


when the lantern becomes in effect a miniature Acting Area Flood.

A wide-angle reflector can be fitted as an alternative, where the lantern is required to provide an even spread of light, free of hot spot, for lighting backcloths, or for use as a footlight.

SPECIFICATION

The housing is strongly constructed in sheet steel, fitted with runners with a light-tight hinged flap at top to take metal colour frames, and a Type B.236 (medium angle) or B.235 (wide angle) circular "Sunray" glass reflector. An adequate airflow over both sides of the colour medium is arranged without the necessity of louvres in the top of the housing, thus keeping the interior cleaner. The Tilting Fork has a 1/2-inch Whitworth stem (for suspension or insertion in stand) and eyelet for safety chain (not included). The lantern is locked in position by two hand wheels. Wired with 3-foot heat-resisting tails. Finish: hard hammered grey outside, matt black inside. Supplied complete with one 8-inch x 9 1/4-inch metal colour frame.



DIMENSIONS

	Ft.	In.		Ft.	In.
A	0	12	F	0	4 3/4
B	0	11 1/2	G	0	5
C	0	9	H	0	6
D	0	9 3/4	J	0	3
E	0	1 3/4			

Weight—Nett weight 10 1/4 lbs.

(continued overleaf)

HEAD OFFICE AND SHOWROOMS

29, KING STREET, LONDON, W.C.2

SALES AND GOODS - 24, FLORAL ST., W.C.2

TEMPLE BAR 444

GRAMS · SPOTLITE RAND LONDON



BRANCHES

313, OLDHAM ROAD, MANCHESTER 10

COLLYHURST 2736

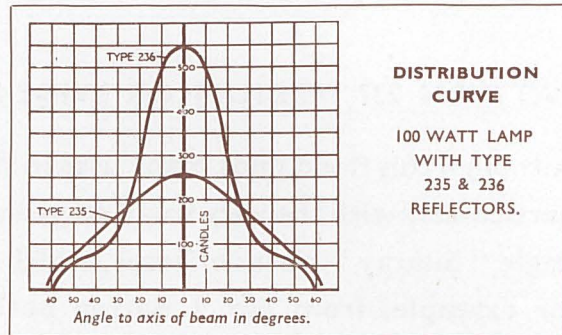
62, DAWSON ST., DUBLIN · DUB 74030

SPECIFICATION—(continued)

Lamps.—60-watt General Service type with E.S. Cap.
 100-watt General Service type with E.S. Cap.
 150-watt Theatre Batten type with E.S. Cap.

N.B.—Lamps should be clear NOT pearl.

Beam Angles.—With B.236 medium-angle reflector. Beam Angle 95°, cut-off angle 120°. With medium-angle reflector and cut-off attachment. Beam angle 50°, cut-off angle 80°. With B.235 wide-angle reflector. Beam angle 120°, cut-off angle 125°.

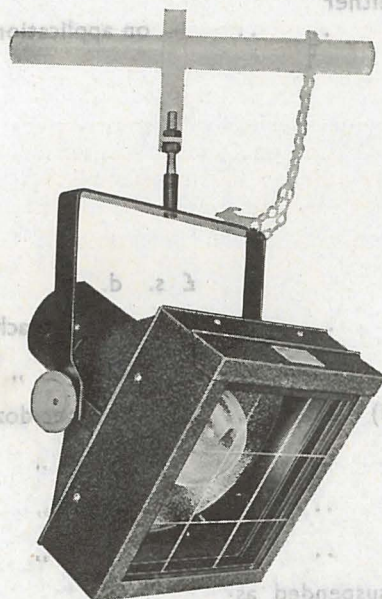


	£	s.	d.	
PRICE (excluding lamp)	3	17	6	each
B.235.—Spare wide-angle glass reflectors	9	6		„
B.236.—Spare medium-angle glass reflectors	9	6		„
B.239.—Hood attachment	17	6		„
B.240.—Spare metal colour frames (8-inch × 9¼-inch)	2	6		„
B.241.—Assorted gelatine colours (8-inch × 9¼-inch)	7	2		per doz.
B.243.—“Cinemoid” colours (8-inch × 9¼-inch)	12	2		„
B.183.—Junior 3-amp. 3-pin connectors	3	6		per pair
B.185.—15-amp. 3-pin moulded connectors	11	0		per pair
B. 64.—Safety chain with snap hook (for use when lantern is suspended)	4	0		each
B. 65.—“L” clamp for suspension from 2-in. external diameter barrel (1½-in. gas barrel)	4	0		„
B. 83.—Hook (G) type adjustable clamp for 1¼ to 2-in. gas barrel (1¾ to 2⅜-in. ext. diam.) with hand wheel for locking horizontal swivel.	2	3	6	„
B. 84.—Adjustable clamp for 1¾-inches to 2⅜-inches external diameter barrel (1¼-inch to 2-inch gas)	12	6		„
B.247.—Swivel arm wall bracket (reach 10 inches)	1	11	6	„
B.248.—Ditto with swivelling extension arm (max. reach 19 inches)	2	6	0	„
B.251.—Adjustable boomerang bracket for 2-inch external diameter 1½-inch gas barrel (reach 10 inches)	2	11	0	„
B.252.—Ditto with extension arm (max. reach 19 inches)	3	6	0	„
B.255.—Fixed boomerang bracket for 2-inch external diam. (1½-inch gas) barrel (reach 11 inches)	14	6		„
B.257.—Miniature telescopic stand with cable hook and swivelling collar. Min. height 3 ft. 7 ins. Max. height 5 ft. 9 ins.	2	15	0	„

<p>HEAD OFFICE AND SHOWROOMS 29, KING STREET, LONDON, W.C.2 SALES AND GOODS - 24, FLORAL ST., W.C.2 TEMPLE BAR 444 GRAMS: SPOTLITE RAND LONDON</p>		<p>BRANCHES 313, OLDHAM ROAD, MANCHESTER 10 COLLYHURST 2736 62, DAWSON ST., DUBLIN · DUB 74030</p>
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STRAND STAGE FLOODS

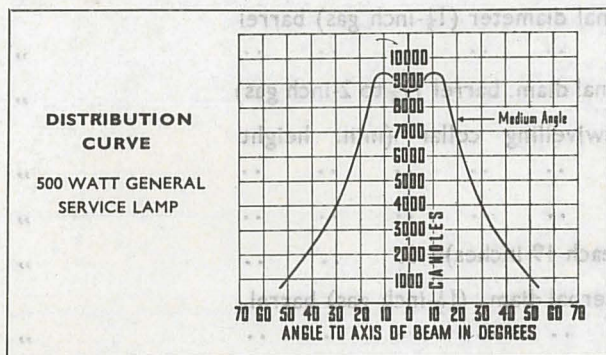
PATTERN 30 MEDIUM-ANGLE BATTEN FLOOD 500 WATT



This lantern is suitable for use as a Batten Flood or for any purpose which necessitates the illuminating of objects situated some distance from it.

SPECIFICATION

The housing is strongly constructed in sheet steel, efficiently ventilated, fitted with runners to take two metal colour frames with a light, tight hinged flap at top and an anodised aluminium reflector. The tilting fork has a 1/2-inch Whitworth stem (for suspension by barrel clamp or insertion in stand) and eyelet for safety chain (not included). The lantern is locked in position by two hand wheels, and is wired with 3 ft. H.R. flexible tails. Finish: black crystalline enamel outside, matt black inside. Complete with one metal colour frame.



Lamp

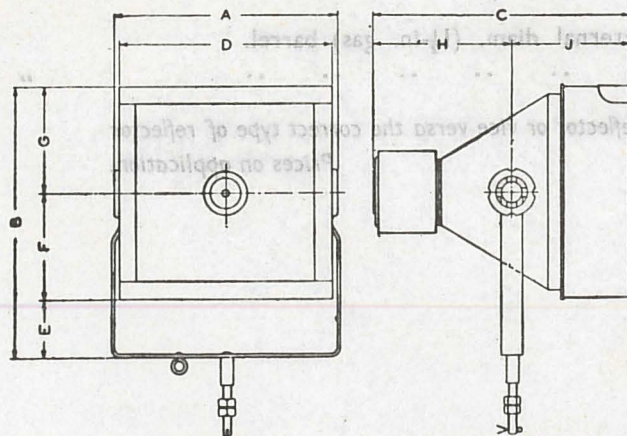
500-watt. General Service Type with G.E.S. Cap.

Beam Angles

Cut-off 120°, Beam Angle 60°.

Weight

Nett weight 14 lbs.



DIMENSIONS

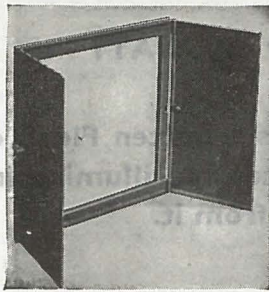
	Ft.	In.	Ft.	In.
A	...	1	2 1/2	...
B	...	4	...	6 1/2
C	...	1	...	8 1/2
D	...	0 1/2	...	6 1/2
E	...	0	...	...

(continued overleaf)

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
SALES AND GOODS - 24, FLORAL ST., W.C.2
TEMPLE BAR 4444 GRAMS: SPOTLIGHT RAND LONDON

BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
COLLYHURST 2736 W.C.2
62, DAWSON ST., DUBLIN DUB 74030

PRICE OF LANTERN (exclusive of lamp and barrel clamp shown overleaf) .. £ .. each.

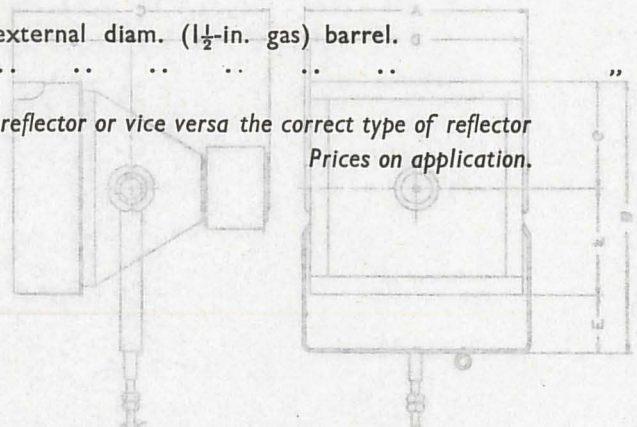


B. 91.—2-door masking shutters (as illustrated).
 May be used for confining the beam either
 horizontally or vertically on application

£ s. d.

- *B.273.—Extra anodised aluminium reflectors (only) each
- *B.272.—Alternative glass "Sunray" reflectors (only) "
- B. 61.—Spare metal colour frames with guard wires (11 $\frac{3}{4}$ -inch \times 11 $\frac{3}{4}$ -inch) per doz
- B. 62.—Ditto with assorted gelatine colours "
- B. 63.—Ditto with "Cinemoid" colours "
- B.352.—"Cinemoid" colours or frost cut to fit B.61 "
- B. 64.—Safety chain with snap hook (for use when lantern is suspended as shown overleaf) each
- B. 65.—"L" clamp for suspension from 2-inch external diameter (1 $\frac{1}{2}$ -inch gas) barrel as shown overleaf "
- B. 84.—Adjustable clamp for 1 $\frac{3}{4}$ -inch to 2 $\frac{3}{8}$ -inch external diam. barrel (1 $\frac{1}{4}$ to 2-inch gas) "
- B. 66.—Telescopic stand with cable hook and swivelling collar (min. height 4 feet 3 inches, max. height 7 feet) "
- B.247.—Swivel arm wall bracket (reach 10 inches) "
- B.248.—Ditto with swivelling extension arm (max. reach 19 inches) "
- B.251.—Adjustable boomerang bracket for 2-inch external diam. (1 $\frac{1}{2}$ -inch gas) barrel. Reach 10 inches "
- B.252.—Ditto with extension arm (max. reach 19 inches) "
- B.255.—Fixed boomerang bracket for 2-inch external diam. (1 $\frac{1}{2}$ -in. gas) barrel. Reach 11 inches "

*When converting from glass to aluminium reflector or vice versa the correct type of reflector cradle and clips must also be fitted.
 Prices on application.



(continued overleaf)

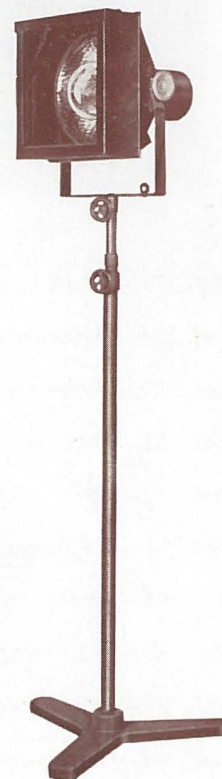
HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
 SALES AND GOODS - 24, FLORAL ST., W.C.2
 TEMPLE BAR 4444 GRAMS: SPOTLITE R&D LONDON

BRANCHES
HEAD OFFICE SHOWROOMS
313, OLDHAM ROAD, MANCHESTER 10
 COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

STRAND STAGE FLOODS

PATTERN 60 WIDE-ANGLE WING FLOOD 500 WATT

This lantern is particularly suitable for use as a wing flood or for any close range work such as illuminating small back cloths and cycloramas. The beam is free from "hot spot".



SPECIFICATION

The housing is strongly constructed in sheet steel efficiently ventilated, fitted with runners with a light-tight hinged flap at top to take two metal colour frames, and a one-piece type B.275 anodised aluminium reflector. The tilting fork has a 1/2-inch Whitworth stem (for suspension by barrel clamp or insertion in stand) and eyelet for safety chain (not included). The lantern is locked in position by two hand wheels, and is wired with 3 ft. H.R. flexible tails. Finish: black crystalline enamel outside, matt black inside. Complete with one metal colour frame.

Lamp.

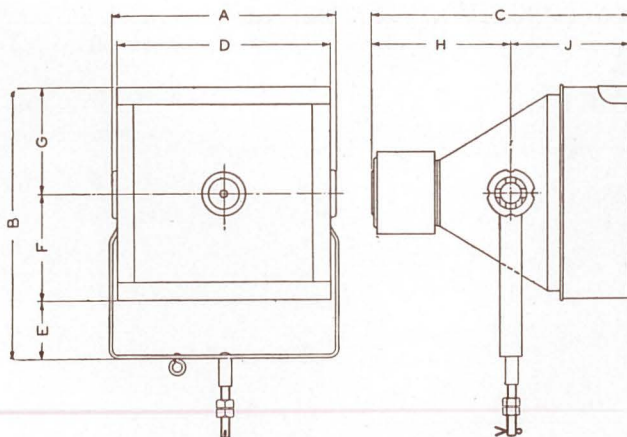
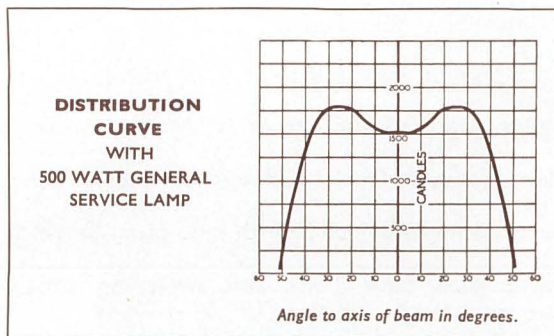
500-watt. General service type with G.E.S. cap.

Beam Angle.

Cut off angle 105°, Beam Angle 100°.

Weight.

Nett weight 14 lbs.



DIMENSIONS

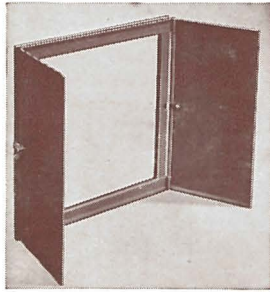
	Ft.	In.		Ft.	In.		Ft.	In.
A	...	1	2 1/2	D	...	1	0	1/2
B	...	1	4	E	...	0	3	1/2
C	...	1	2 3/4	F	...	0	6	1/4
				G	...	0	6	1/4
				H	...	0	8	1/2
				J	...	0	6	1/4

(continued overleaf)

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
 SALES AND GOODS - 24, FLORAL ST., W.C.2
 TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON

BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
 COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

PRICE OF LANTERN (exclusive of lamp or stand shown overleaf) £ s. d. 7 18 0 each



Ref. 91.—2-door masking shutters (as illustrated). May be used for confining the beam either horizontally or vertically on application

- Ref. 275.—Extra anodised aluminium reflectors 2 1 0 each
- Ref. 274.—Alternative glass "Sunray" reflectors 1 8 6 "
- Ref. 61.—Extra metal colour frames with guard wires (11 $\frac{3}{4}$ -inch \times 11 $\frac{3}{4}$ -inch) 2 3 0 per doz
- Ref. 62.—Ditto with assorted gelatine colours 2 16 9 "
- Ref. 63.—Ditto with "Cinemoid" colours 3 16 2 "
- Ref. 352.—"Cinemoid" colours or frost, cut to fit B. 61 frames 1 13 2 "
- Ref. 64.—Safety chain with snap hook (for use when lantern is suspended) 4 0 each
- Ref. 65.—"L" clamp for suspension from 2-inch ext. diameter (1 $\frac{1}{2}$ inch gas) barrel 4 0 "
- Ref. 84.—Adjustable barrel clamp for 1 $\frac{3}{4}$ to 2 $\frac{3}{8}$ -inch ext. diam. barrel (1 $\frac{1}{4}$ to 2-inch gas) 12 6 "
- Ref. 66.—Telescopic stand with cable hook and swivelling collar (min. height 4 feet 3 inches, max. height 7 feet) as shown overleaf.... .. 4 6 0 "
- Ref. 247.—Swivel arm wall bracket (reach 10 inches) 1 11 6 "
- Ref. 248.—Ditto with swivelling extension arm (max. reach 19 inches) 2 6 0 "
- Ref. 251.—Adjustable boomerang bracket for 2-inch ext. diam. (1 $\frac{1}{2}$ -inch gas) barrel (reach 10 inches) 2 11 0 "
- Ref. 252.—Ditto with extension arm (max. reach 19 inches).. .. 3 6 0 "
- Ref. 255.—Fixed boomerang bracket for 2-inch ext. diam. (1 $\frac{1}{2}$ -inch gas) barrel (reach 11 inches) 14 6 "

HEAD OFFICE AND SHOWROOMS

29, KING STREET, LONDON, W.C.2

SALES AND GOODS - 24, FLORAL ST., W.C.2

TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON

BRANCHES

313, OLDHAM ROAD, MANCHESTER 10

COLLYHURST 2736

62, DAWSON ST., DUBLIN - DUB 74030

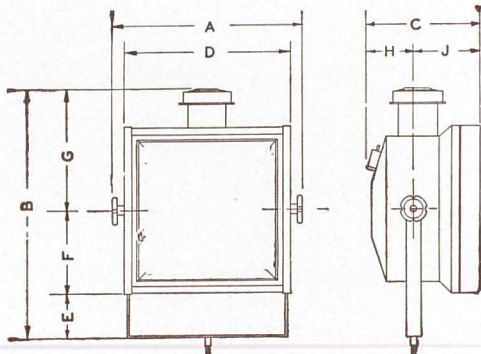
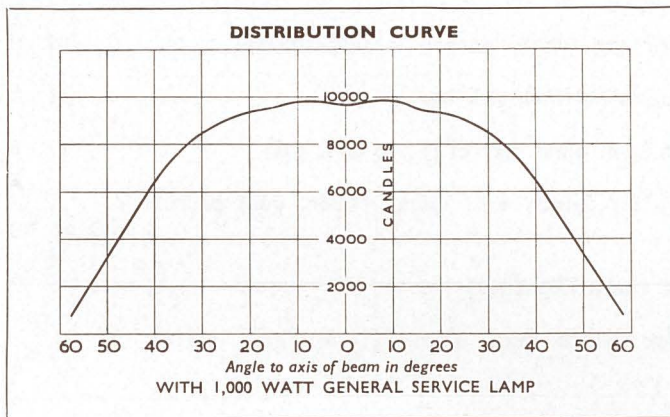
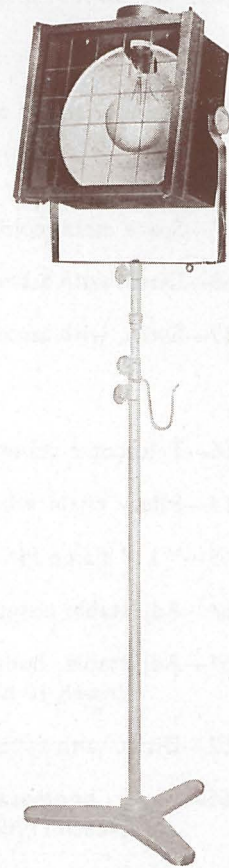
STRAND STAGE FLOODS

PATTERN 49A WING FLOOD 1,000 WATT

This lantern gives a wide angle beam of light, free from "hot spot." Suitable for illuminating back-cloths, large cycloramas, etc., at close range, and for use in the wings.

SPECIFICATION

Lantern constructed in sheet steel, efficiently ventilated. Fitted with runners to take two metal colour frames, hinged sprung light-tight flaps each side and containing a high-efficiency anodised aluminium reflector. The tilting fork has a 1/2-inch Whitworth stem (for suspension by barrel clamp or insertion in stand) and eyelet for safety chain (not included). The lantern is locked in position by two hand wheels, and is wired with 3 ft. H.R. flexible tails. Finish: black crystalline enamel outside, matt black inside. Complete with one metal colour frame.



Lamp: 1,000-watt General Service type with G.E.S. Cap.

Weight: Nett weight of Lantern 27 lbs.

Beam Angle: 100°. **Cut Off Angle:** 105°

DIMENSIONS

	Ft.	In.		Ft.	In.		Ft.	In.			
A	...	1	6	D	...	1	5	G	...	1	1
B	...	2	2 1/2	E	...		5	H	...		6
C	...	1	1	F	...		8 1/2	J	...		7

(continued overleaf)

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
 SALES AND GOODS - 24, FLORAL ST., W.C.2
 TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON

BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
 COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

STRAND STAGE FLOODS

	£ s. d.	
PRICE OF LANTERN (exclusive of lamp or stand shown overléaf)	11 11 0	each
B.277—Spare anodised aluminium reflectors	2 19 6	„
B. 67—Spare metal colour frames (16 $\frac{3}{4}$ -inches \times 16 $\frac{3}{4}$ -inches)	3 0 0	per doz.
B. 68—Ditto, with assorted gelatine colours	4 4 0	„
B. 69—Ditto, with assorted "Cinemoid" colours	5 6 3	„
B. 66—Telescopic stand (min. ht. 4 ft. 3 in., max. ht. 7 ft.). (Illustrated overléaf)	4 6 0	each
B. 64—Safety chain with snap hook (for use when lantern is suspended) ..	4 0	„
B. 65—"L" clamp for 2-inch ext. diameter (1 $\frac{1}{2}$ inch gas) barrel	4 0	„
B. 84—Adjustable clamp for 1 $\frac{3}{4}$ to 2 $\frac{3}{8}$ -in. ext. diam. barrel (1 $\frac{1}{4}$ to 2-in. gas) ..	12 6	„
B.251—Adjustable boomerang bracket for 2-inch ext. diam. (1 $\frac{1}{2}$ -in. gas) barrel (reach 10 inches)	2 11 0	„
B.252—Ditto, with extension arm (max. reach 19 inches)	3 6 0	„
B.255—Fixed boomerang bracket for 2-inch ext. diam. (1 $\frac{1}{2}$ -in. gas) barrel (reach 11 inches)	14 6	„

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
 SALES AND GOODS - **24, FLORAL ST., W.C.2**
 TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON



BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
 COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

PRICE SCHEDULE

Patt. 76 ACTING AREA LANTERN £18 11 6

ACCESSORIES

Item No.	COLOURS & OPTICAL						£ s d		
			
226	8	0	each
226/C	1	16	3 per doz.
226/F	1	2	8 " "
226/G	16	6	" "
287	2	17	6 each

FIXINGS

64	...	...	...	...	...	...	4	0	each
65	...	...	...	...	...	...	4	0	each
84	...	...	...	...	...	...	12	6	each



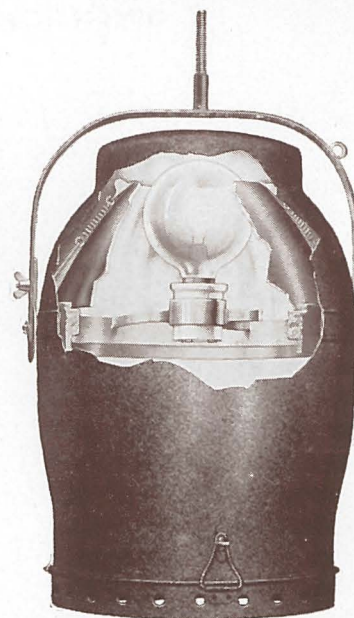
THE STRAND ELECTRIC & ENGINEERING CO. LTD.

LONDON · MANCHESTER · GLASGOW · DARLINGTON
DUBLIN · MELBOURNE

STRAND STAGE FLOODS

PATTERN 76 ACTING AREA FLOOD
1,000 WATT

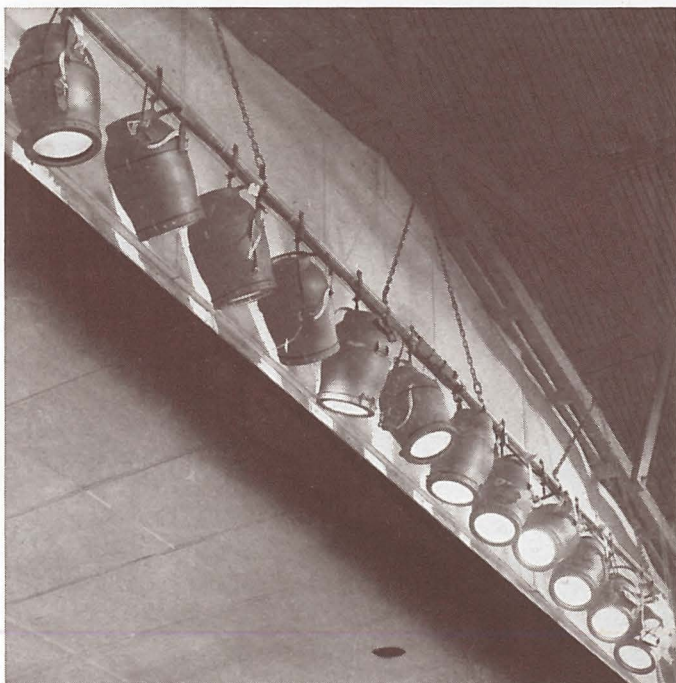
This lantern gives a controlled but adjustable narrow-angle beam. When used vertically it is therefore suitable for lighting Acting Areas, particularly in close proximity to Cycloramas, Sky Cloths, etc., where spill light is not permissible. Having a wider beam than the Patt. 58 Pageant lantern it can also be used sideways to simulate shafts of sunlight for example. The design of the lantern is such that spill rings and their consequent loss of light are unnecessary.



SPECIFICATION

The housing consists of aluminium spinnings attached to a central aluminium casting which carries the super pure anodised aluminium reflector and G.E.S. lampholder, the position of which is adjustable to give beam angles between 25° and

35°. At the bottom of the lantern is a hinged door which carries the colour frame. Wired with 3-foot heat-resisting flexible tails. Finished hard hammer-grey outside, matt black inside. Supplied complete with one 11½-inch diameter metal colour frame.



A 12-way Pattern 76 acting area bar



Pattern 76 lanterns fitted with remotely operated colour change at the London Palladium

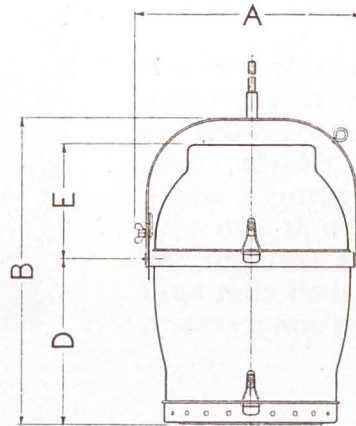
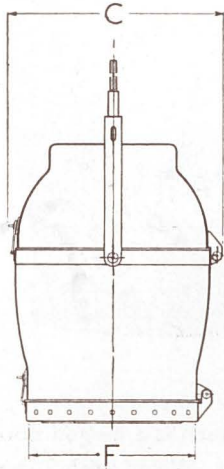
LONDON, MANCHESTER, GLASGOW



DARLINGTON, DUBLIN, MELBOURNE

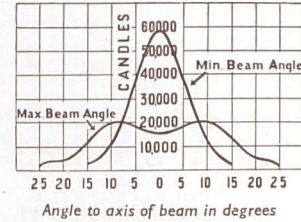
DIMENSIONS

	Ft.	In.	Cm.
A	1	3½	39.4
B	1	9¼	54
C	1	2¾	37.5
D	0	11½	29.2
E	0	8	20.3
F (Colour Frame)	0	11½ dia.	29.2



DISTRIBUTION CURVE

1,000 WATT, CLASS B1
ROUND BULB
PROJECTOR LAMP
WITH B.287
ALUMINIUM
REFLECTOR.



LAMP

500-watt Class B.1 Round Bulb Projector Lamp with G.E.S. Cap, (Continental Ref. 125 G) or 1,000-watt Class B.1 Round Bulb Projector Lamp with G.E.S. Cap. (Continental Ref. 504 G)

BEAM ANGLES

Cut off 25°, Beam Angle 25°, variable (by adjusting lampholder position) up to Cut off 35°, Beam angle 35°.

WEIGHT

Nett weight 16 lb. (7.3 Kg.)

ACCESSORIES & SPARE PARTS FOR PATTERN 76

(Use item numbers when ordering or referring to price schedule)

COLOURS AND OPTICAL

ITEM NO.

- 287 —Extra anodised aluminium reflectors.
- 226 —Extra 11½-inch (29.2cm) diameter metal colour frames.

ITEM NO.

- 226/C—Cinemoid, colours or frost, cut to fit Item 226.
- 226/F—Gelatine, frost, cut to fit Item 226.
- 226/G—Gelatine, colours, cut to fit Item 226.

FIXINGS

- 64 —Safety chain with snaphook.
- 65 —'L' clamp for suspension from 2-inch (5.1-cm) external diameter barrel (1½-inch gas).
- 84 —Adjustable clamp for 1¾ to 2¾-inch (4.4-6cm) external diameter barrel (1¼ to 2-inch gas).

(1) This lantern can be fitted with a remotely operated colour change mechanism. See leaflet C.85.

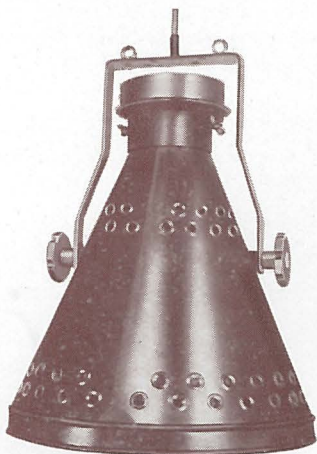
LONDON, MANCHESTER, GLASGOW



DARLINGTON, DUBLIN, MELBOURNE

STRAND STAGE FLOODS

PATTERN 35 ARENA FLOOD 1000 WATT



This lantern gives a wide angle vertical beam, free from "hot spot", suitable for illuminating large areas, such as dance floors and circus arenas.

SPECIFICATION

The lantern is constructed in steel, efficiently ventilated. The underside is fitted with a hinged door carrying a circular metal colour frame. Complete with anodised aluminium reflector. The tilting fork is fitted with two suspension rings in addition to the usual pin for barrel clamp (not included). Wired with 2-ft. rockbestos tails. Finish: black enamel outside, matt black inside.

Lamp : 1,000 watt Angle Burning General Service. G.E.S. Cap.

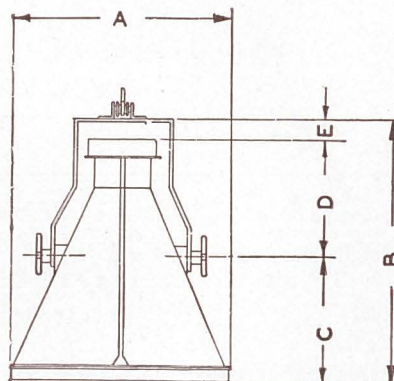
Beam Angle : 100° **Cut-off Angle :** 110°



DIMENSIONS

	Ft.	In.
A	1	4½
B	1	8¼
C		9¼
D		9½
E		1½

Weight : 17 lbs.



	£	s.	d.	
PRICE (exclusive of lamp)	10	18	6	each
B. 70—Spare 16-in. diameter metal colour frames		10	6	each
B. 71—Gelatine colours, cut to size	1	4	0	per doz.
B. 72—"Cinemoid" colours, cut to size	2	6	3	per doz.
B. 64—Safety chain, with snap hook		4	0	each
B. 65—"L" clamp for suspension from 2-in. external diam. barrel (1½-in. gas)		4	0	each
B. 83—Hook (G) type adjustable clamp for 1¼ to 2-in. gas barrel (1¾ to 2¾-in. ext. diam.) with hand wheel for locking horizontal swivel	2	3	6	each
B. 84—Adjustable clamp for 1¾ to 2¾-in. ext. diam. barrel (1¼ to 2-in. gas)		12	6	each
B.275—Spare anodised aluminium reflectors	2	1	0	each
B.274—Alternative glass "Sunray" reflectors	1	8	6	each

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
 SALES AND GOODS - 24, FLORAL ST., W.C.2
 TEMPLE BAR 444 GRAMS: SPOTLITE RAND LONDON

BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
 COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

STRAND SPOTLIGHTS

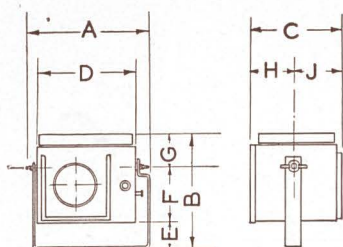
PATTERN 27 FLOAT SPOTLIGHT 100 or 250 WATT

This is a small compact spotlight which may, owing to its size, be concealed in footlights, stage furniture, property fires, etc.



SPECIFICATION

The housing is constructed in sheet steel, efficiently ventilated. Access to lamp by hinged door at rear. 3-inch diameter, 6-inch focus plano-convex lens. Type 27 tray giving variation in size of spot, axial adjustment for filament. Fitted with runners to take millboard colour frame on front. Wired with 3-foot heat-resisting tails without plugs. Finish black crystalline enamel outside, matt black inside.



DIMENSIONS

	Ft.	In.
A	...	9 $\frac{1}{4}$
B	...	7
C	...	6 $\frac{1}{2}$
D	...	7
E	...	1
F	...	4
G	...	2
H	...	3
J	...	3 $\frac{1}{2}$

Lamps: 100-watt Class B.1 Round Bulb Projector with E.S. Cap, or 250-watt Class B.1 Round Bulb Projector with E.S. Cap.

Beam Angles: Maximum 49°. Minimum 22°.

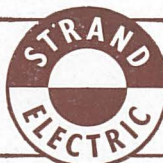
Maximum Throw: Normally used up to 15 feet.

Weight: Nett weight 5 lb.

	£	s.	d.
PRICE (exclusive of lamp)	5	2	0
C. 73—Linen-bound millboard colour frames (4 $\frac{3}{8}$ inches \times 4 $\frac{3}{8}$ inches)	7	0	per doz.
C. 74—Ditto, with gelatine colours	9	2	„
C. 97—Ditto, with "Cinemoid" colours	11	6	„
C.300—Extra 3-inch diam. 6-inch focus plano-convex lenses	16	0	each
C.183—Junior 3-amp. 3-pin slip connector	3	6	per pair
C.185—15-amp. 3-pin moulded connectors	11	0	„

If required, this Spotlight can be adapted for hanging or for use with a telescopic stand.

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
SALES AND GOODS - 24, FLORAL ST., W.C.2
TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON



BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

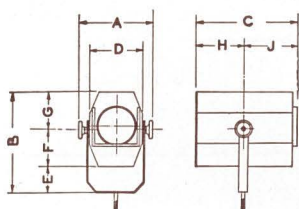
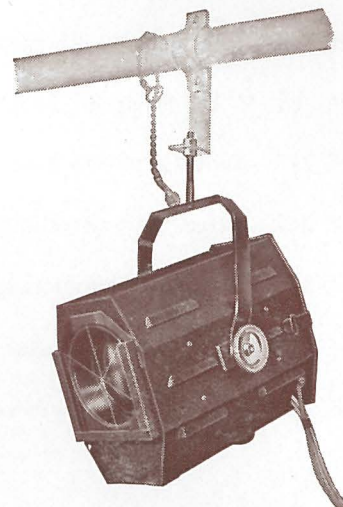
STRAND SPOTLIGHTS

PATTERN 45 MINIATURE SPOTLIGHT 250 WATT / 500 WATT

This is a small spotlight for general use on very small stages where a soft edged variable beam, within the limits set out below, is featured.

SPECIFICATION

The housing is constructed in sheet steel, efficiently ventilated. Access to lamp by hinged door at rear. $4\frac{1}{2}$ -inch diameter $6\frac{1}{2}$ -inch focus plano-convex lens. Type 45 tray, with Pre-focus holder for lamp. Focussing by knob under lantern. Fitted with runner to take millboard colour frame on front. The tilting fork has a $\frac{1}{2}$ -inch Whitworth stem (for suspension or insertion in stand) and eyelet for safety chain (not included). The lantern is locked in position by two hand wheels. Wired with 3-foot heat-resisting tails without plugs. Finish: hard hammered grey outside, matt black inside.



DIMENSIONS

	Ft.	In.	Ft.	In.
A ...		$8\frac{1}{2}$	F ...	$4\frac{1}{4}$
B ...	1	0	G ...	$4\frac{1}{4}$
C ...		$11\frac{3}{4}$	H ...	$5\frac{3}{4}$
D ...		6	J ...	6
E ...		$3\frac{1}{2}$		

Weight.

Nett weight $9\frac{1}{2}$ lbs.

Lamps.

500-watt Class T,
250-watt Class T or Class B.1
Round Bulb Projector with
Medium Pre-focus Cap.

Beam Angles.

Maximum 39° , minimum 11° .

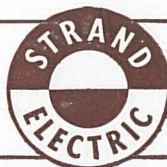
Maximum Throw.

Normally used up to 25 feet
(250 watt) or 35 feet (500
watt).

	£	s.	d.
PRICE (exclusive of lamp)	8	2	0
Ref. 76.—Linen-bound millboard colour frames ($5\frac{5}{8}$ -inches \times $5\frac{1}{4}$ -inches)	8	0	per doz.
Ref. 77.—Ditto, with gelatine colours	10	6	„
Ref. 78.—Ditto, with "Cinemoid" colours	13	6	„
Ref. 301.—Extra $4\frac{1}{2}$ -inch diam. $6\frac{1}{2}$ -inch focus plano-convex lenses	1	5	0 each
Ref. 185.—15-amp. 3-pin moulded connectors	11	0	per pair
Ref. 183.—3-amp. 3-pin slip connectors	3	6	„ „

(continued overleaf)

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
SALES AND GOODS - 24, FLORAL ST., W.C.2
TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON



BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

PRICES (cont'd)

	£	s.	d.	
Ref. 112.—Heavy cast iron bench base with locking handle	1	3	6	each
Ref. 257.—Miniature telescopic stand with cable hook and swivelling collar (min. height 3 feet 7 inches, max. height 5 feet 9 inches)	2	15	0	„
Ref. 64.—Safety chain with snap hook	4	0	0	„
Ref. 65.—“ L ” clamp for 2-inch diam. barrel (as illustrated)	4	0	0	„
Ref. 247.—Swivel arm wall bracket (reach 10 inches)	1	11	6	„
Ref. 248.—Ditto, with swivelling extension arm (max. reach 19 inches)	2	6	0	„
Ref. 251.—Adjustable boomerang bracket for 2-inch diam. barrel (reach 10 inches)	2	11	0	„
Ref. 252.—Ditto, with extension arm (max. reach 19 inches)	3	6	0	„
Ref. 255.—Fixed boomerang bracket for 2-inch diam. barrel (reach 11 inches)	14	6	0	„

<p>HEAD OFFICE AND SHOWROOMS 29, KING STREET, LONDON, W.C.2 SALES AND GOODS - 24, FLORAL ST., W.C.2 TEMPLE BAR 4444 GRAMS: SPOTLITE RANG LONDON</p>		<p>BRANCHES 313, OLDHAM ROAD, MANCHESTER 10 COLLYHURST 2736 62, DAWSON ST., DUBLIN - DUB 74030</p>
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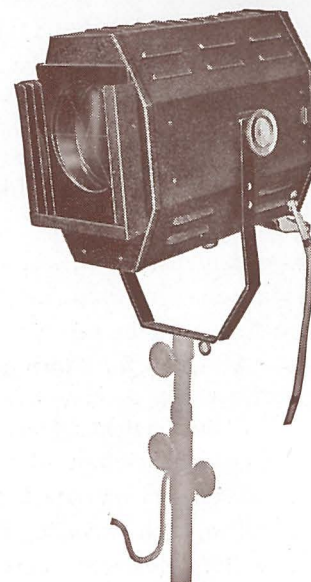
STRAND SPOTLIGHTS

PATTERN 43 STAGE SPOTLIGHT 1,000 WATT

This lantern is suitable for general stage purposes, giving a beam adjustable between the wide angle (flood) position of 42° downwards, with a soft edge.

SPECIFICATION

Lantern constructed in sheet steel, efficiently ventilated. Access to lamp by hinged door at rear. 6-inch diameter, 10-inch focus heat resisting plano-convex lens. Type 43 tray, giving vertical and axial adjustment for lamp, complete with special anodised aluminium reflector. Focussing by knob under lantern. Fitted with runners to take two millboard colour frames on front. The Tilting Fork has a ½-inch Whitworth Stem (for suspension or insertion in stand) and eyelet for safety chain (not included). The lantern is locked in position by two hand wheels, and a handle is provided at the rear. Wired with 3-foot heat-resisting tails without plugs. Finish: black crystalline enamel outside, matt black inside.

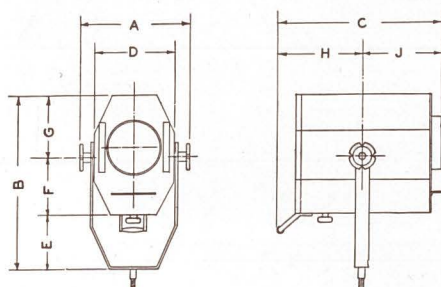


Lamps.—1,000-watt Class B.1 Round Bulb Projector with G.E.S. Cap, or 1,000-watt Class A.1 Tubular with G.E.S. Cap (max. permissible angle of tilt 22½°).

Beam Angles.—Maximum 42°, minimum 13°.

Maximum Throw.—Normally used up to 45 feet.

Weight.—Nett weight 25 lbs.



DIMENSIONS

	Ft.	In.		Ft.	In.
A	...	1 0½	F	...	6¾
B	...	1 8	G	...	6½
C	...	1 5½	H	...	8½
D	...	9	J	...	8½
E	...	6½			

	£	s.	d.
PRICE (exclusive of lamp)	13	9	6
C. 85.—Linen-bound millboard colour frames (10¾-inches × 7½-inches)	12	0	per doz.
C. 86.—Ditto, with gelatine colours	16	6	„
C. 87.—Ditto, with "Cinemoid" colours	1	3	0 „
C.335.—Spare 6-inch diameter 10-inch focus heat resisting plano-convex lenses	2	4	0 each
C.290.—Spare anodised aluminium reflectors	1	0	0 „
C. 88.—Spotting attachment with three masks, giving four sizes of spots (weight 5½ lbs.)	6	6	0 „
C.104.—Iris diaphragm	6	1	0 „
C.185.—15-amp. 3-pin moulded connectors	11	0	per pair

(continued overleaf)

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
 SALES AND GOODS - 24, FLORAL ST., W.C.2
 TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON

BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
 COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

PRICES (cont'd)

	£	s.	d.	
C.102.—Flicker Wheel	4	5	0	each
C.103.—Colour Wheel (without colours)	5	2	0	„
C.336.—“Cinemoid” colours for C.101 above	5	6		per set
C.337.—Ditto, for C.103 above	4	6		„
C.338.—Motor-Driven Colour Wheel similar to C.103 but with 6 apertures instead of 5 and with an AC/DC motor (200/400 volt range) and speed controller bracketed off the colour runner casting (without colours)	20	5	0	each
C.339.—“Cinemoid” colours for C.338 above	5	6		per set
C. 64.—Safety chain with snap hook	4	0		each
C. 83.—Hook type adjustable clamp for 1¼ – 2-inch gas barrel	2	3	6	„
C. 84.—Adjustable barrel clamp	12	6		„
C. 65.—“L” clamp for 2-inch diam. (external) barrel as illustrated (1½ inch Gas barrel)	4	0		„
C. 66.—Telescopic stand with cable hook and swivelling collar (min. height 4 feet 3 inches, max. height 7 feet)	4	6	0	„
C.112.—Heavy bench base with locking handle	1	3	6	„
C.247.—Swivel arm wall bracket (reach 10 inches)	1	11	6	„
C.248.—Ditto, with swivelling extension arm (max. reach 19 inches)	2	6	0	„
C.251.—Adjustable boomerang bracket (reach 10 inches) for 2-inch external diam. 1½-inch Gas barrel (reach 10 inches)	2	11	0	„
C.252.—Ditto, with extension arm (max. reach 19 inches)	3	6	0	„
C.255.—Fixed boomerang bracket (reach 11 inches) for 2-inch external diam. 1½-inch Gas barrel	14	6		„

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
 SALES AND GOODS - **24, FLORAL ST., W.C.2**
 TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON



BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
 COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

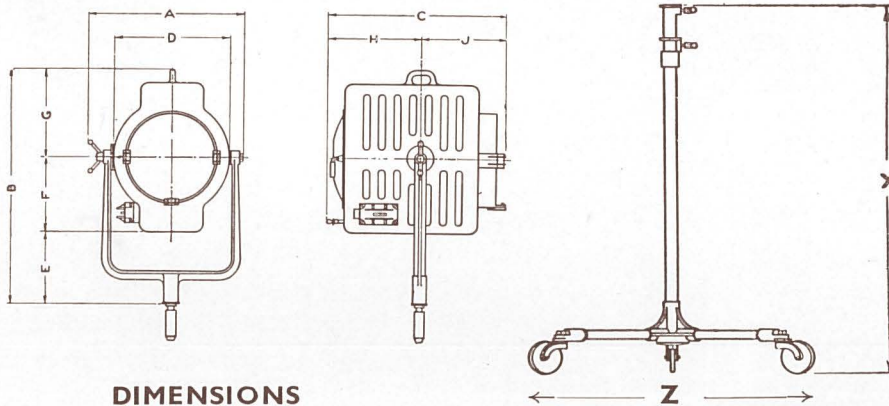
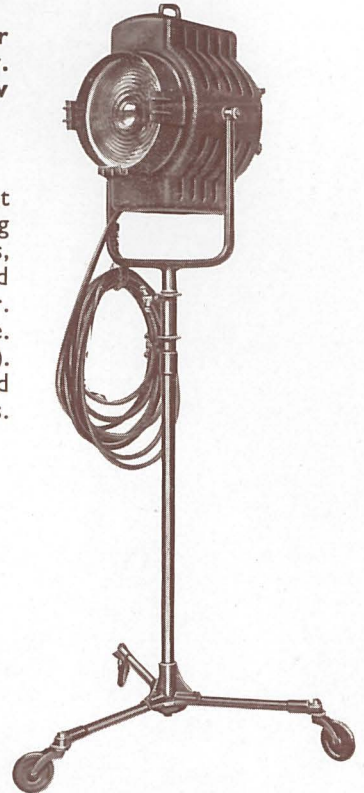
STRAND SPOTLIGHTS

PATTERN 102 SOFT EDGE SPOTLIGHT, 2,000 WATTS

This lantern is designed for use on the stage where a spotlight of lesser wattage would not produce a soft edged beam of the required intensity. As the edges of the beam are not sharp, it is not intended for long throw work from the back of the Auditorium.

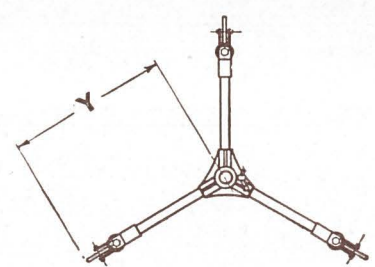
SPECIFICATION

The housing consists of a well ventilated one-piece aluminium casting with sheet steel light baffles, access to lamp being by a hinged door at rear, and focussing being by means of a worm drive from the rear. Fitted with 10-inch diameter, 8-inch focus, prismatic heat resisting lens, lamp tray with bi-post pre-set lamp holder wired to a terminal block, and pre-set 7-inch diameter anodised aluminium reflector. The front of the housing carries a runner to take metal colour frame. The gunmetal tilting fork has a 1 1/8-inch stem (for suspension or insertion in stand). The lantern is locked in position by a handle on the right hand side. Finished black crystalline enamel outside, matt black inside, with bright nickel handles.



DIMENSIONS

	Ft.	In.	Ft.	In.
A	...	1	5	10
B	...	2	2	10 1/2
C	...	1	8	9 1/2
D	...	1	1	3
E	...	7 1/2	1	10 (Min.)
F	...	8 1/2	2	6 (Max.)
				3
				1
				8
				9



Lamps:
2,000-watt Studio type bi-post lamp.

Beam Angles:
Maximum 45°.
Minimum 8°.

Weight:
Nett weight of Lantern 42 lbs.

Maximum Throw:
Normally used up to 45 feet.

	£	s.	d.
PRICE (exclusive of lamp)	36	0	0 each
Ref. 95—Metal colour frames (11 1/2 inches x 10 1/4 inches)	..	..	4 0 ,,
Ref. 96—Cinemoid colours for above	..	..	1 13 2 per doz.
Ref. 258—Heavy tubular steel telescopic stand on 4-inch rubber tyred castors, with 3 removable legs. Height: Minimum 3 ft. 10 ins., maximum 6 ft. 3 ins. Nett weight 21 lbs.	..	..	8 5 0 each
Ref. 256—Barrel clamp for 2-inch Ext. diam. (1 1/2-in. gas) barrel	..	..	2 15 0 ,,
Ref. 246—Extra strong safety chain (for suspension work)	..	..	6 0 ,,
Ref. 307—Extra 10-inch diameter, 8-inch focus, heat resisting prismatic condenser lens	..	..	5 15 0 ,,
Ref. 308—Extra 7-inch anodised aluminium reflectors	..	..	1 15 0 ,,

NOTE. Remote colour changing mechanism can be fitted to this lantern. For details see page C.85. A double-pole switch can be fitted to the side of the lantern. Price on application.

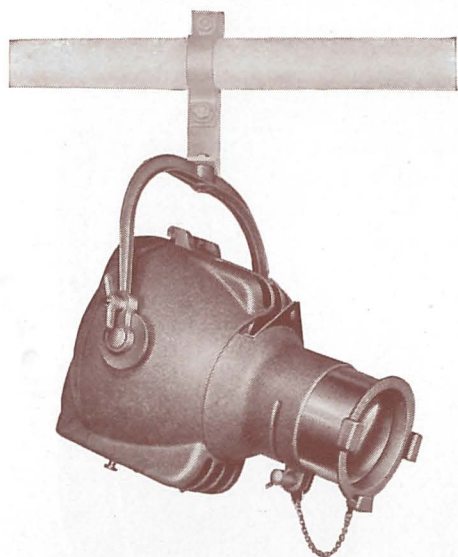
HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
SALES AND GOODS - 24, FLORAL ST., W.C.2
TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON

BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

STRAND SPOTLIGHTS

PATTERN 23 BABY MIRROR SPOT 250 OR 500 WATTS

(ALSO NARROW BEAM PATT. 23/N AND WIDE ANGLE PATT. 23/W)



This small, compact lantern which gives a clear-cut beam of any required shape free of stray or ghost light, has been tooled for mass production die-casting and consequently represents exceptional value. It is normally intended for use with 250W. lamps. For extra strong beams 500 W. may be used provided the lantern is not alight continuously, hangs free of anything which could impede ventilation and is used within the limits of tilt shown in the table on page 2.

The standard lantern with a single lens gives beam angles up to 22 degrees. The shape and size of beam are varied by using one of the four standard diaphragms, a special mask, an adjustable type mask, or iris diaphragm.

The beam angle may be increased to 37 degrees (but the light intensity and the useful life of the colour medium noticeably reduced) by fitting an extra lens in the rear of the lens tube.

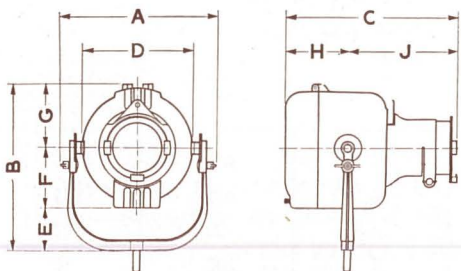
The beam angle may be decreased to 11 degrees max., and intensity increased over three times the standard, by fitting a front with a 6-in. lens, instead of the standard tube. The lantern is then suitable for long throws.

GENERAL SPECIFICATION (Standard Medium angle Pattern 23)

Ventilated die-cast aluminium body and lens tube assembly containing a medium pefocus lampholder. Body is hinged at the rear to give access for lamping and cleaning. Rear part carries a 7-in diameter super pure anodised reflector and the front half a 7-in diameter annular spherical reflector to collect light which would otherwise be masked off and wasted. The light is directed on to a gate for diaphragm masks which are focussed hard or soft by an adjustable $3\frac{1}{2}$ -in diameter, 5-in focus p.c. lens in tube retained by safety chain. Four diaphragm masks with circular holes of different diameters are sup-

plied as standard. Front of lens tube has runners for and is supplied with one metal colour frame. The cast fork with clamping disc and $\frac{3}{8}$ -in Whitworth threaded hole is fitted with a $\frac{1}{2}$ -in diameter plain stem, allowing lantern to be mounted on a stand. Stem can be unscrewed and replaced by any $\frac{3}{8}$ -in. Whitworth bolt for fixing to standard L clamps and other suspensions. Wired with 3-ft heat-resisting tails and stoved hard hammered grey outside, matt black inside.

For variations on this specification for wide and narrow angle version, see page 3 of this leaflet.



DIMENSIONS

	in		in		in
A ...	11	D ...	8	G ...	$4\frac{1}{2}$
B ...	12	E ...	3	H ...	$4\frac{3}{4}$
*C ...	13 (approx)	F ...	$4\frac{1}{2}$	*J ...	$8\frac{1}{4}$

*For patt. 23/N these dimensions are increased by $6\frac{1}{2}$ in.

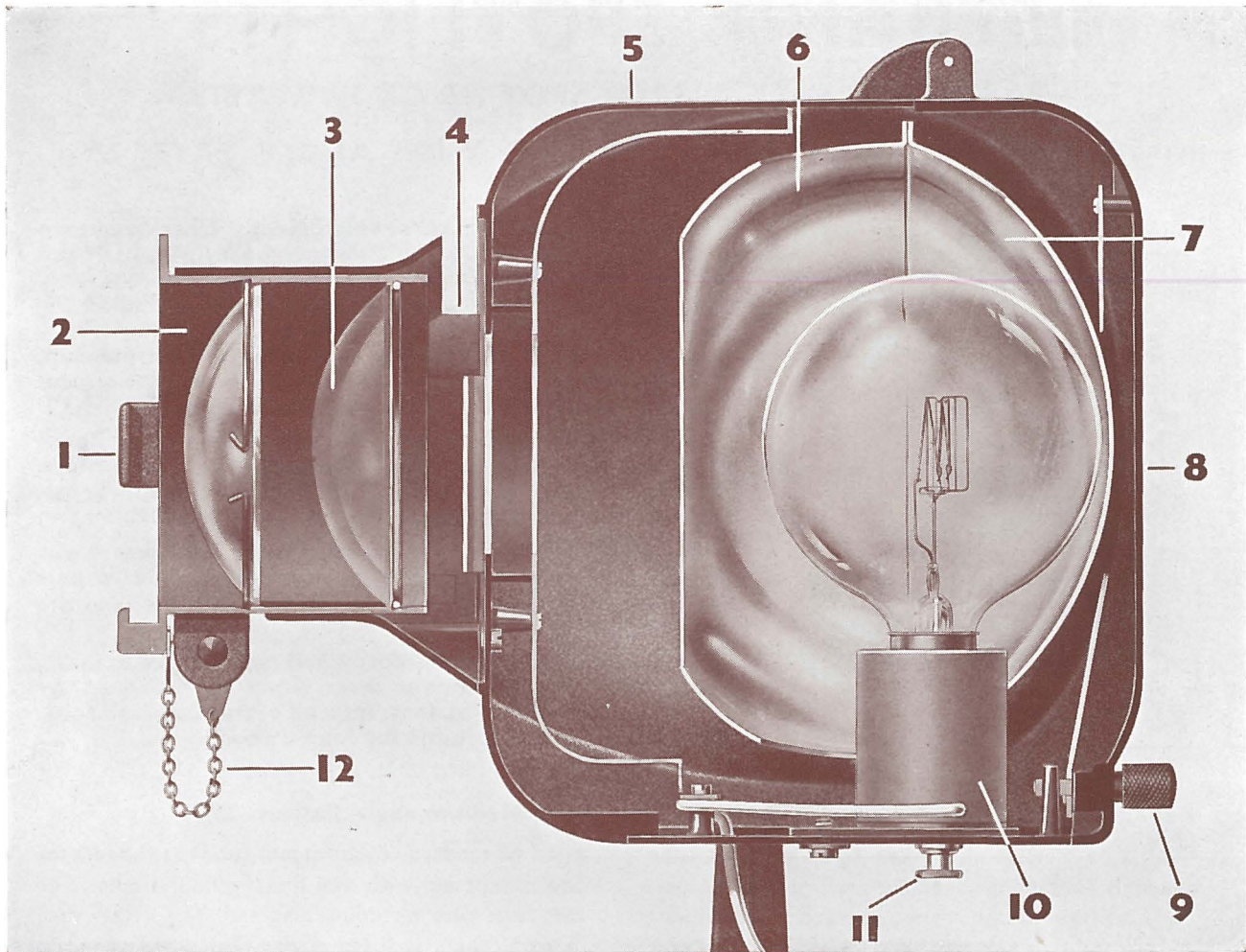
WEIGHTS

Patt. 23: $6\frac{3}{4}$ lb. Patt. 23/W: 7 lb. Patt. 23/N: $8\frac{1}{2}$ lb.

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
SALES AND GOODS - 24, FLORAL ST., W.C.2
TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON



BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030



- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Runners for colour filter or diffusing screen. 2. Front draw tube containing one lens only on standard lantern, two on wide-angle version. 3. Second lens added for wide-angle spotlight. 4. Gate for shutters, iris diaphragm or mask. 5. Die-cast aluminium housing. Weight of standard and wide-angle types 7 lb approx., narrow-angle type 8½ lb. | <ol style="list-style-type: none"> 6. Frontal reflector. 7. Rear reflector. 8. Rear door for relamping, cleaning, etc. 9. Door locking screw. 10. Medium Prefocus lampholder. No adjustments or refocussing necessary when relamping. 11. Light intensifying knob. 12. Safety chain for front lens draw tube. |
|--|--|

OPTICAL DESIGN

Owing to the greatly improved optical system of this lantern, it will, with a 250-W. lamp, provide the same light output as any ordinary spotlight using a 500-W. lamp.

Easy access for relamping and for cleaning the optical system is provided by a hinged rear door. Lamps can be replaced in the prefocused lampholder in a matter of moments, no refocussing or adjustment being necessary.

The cut-away view above shows clearly the arrangement of the optical system comprising both front and rear reflectors and prefocused lampholder with light intensifying control.

LAMPS

(all with medium prefocus caps).

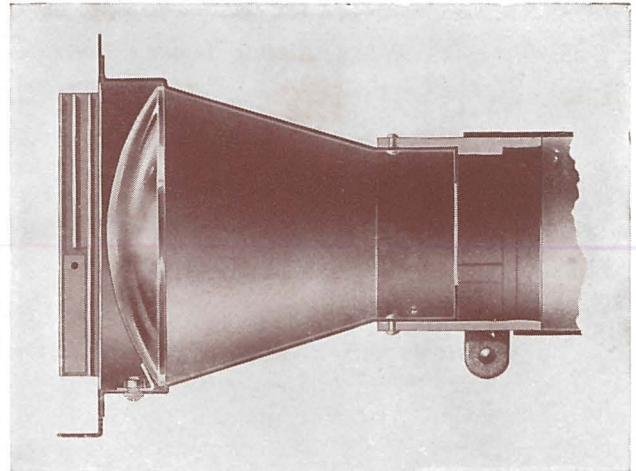
Watts	Type	Objective Life (Hours)	Maximum permissible angle of tilt from cap vertically down
250	T	200	90°
250	B.1	800	135°
250	A.1	50	22½°
500	T	200	90°
500	A.1	50	22½°

NOTE I. Under no circumstances should Class T or A.1 lamps be used with a sideways tilt, i.e. the pins of the suspension fork about which the lantern tilts MUST be horizontal as is the case when the lantern is hung from above or placed in a stand or base, with the fork respectively vertically upwards or downwards.

NOTE II. Class T lamps are particularly recommended as providing a most useful compromise between the life and tiltability of Class B and efficiency and filament shape of Class A.1.

NARROW-BEAM AND WIDE-ANGLE MODELS

The standard Pattern 23 (medium angle) is fitted with a single lens in the front draw tube. (See footnote 2 below illustration opposite.) The wide-angle model (Patt. 23/W) is fitted with a second lens as shown at 3 opposite. In the narrow-angle model (Patt. 23/N) the standard front lens tube (2) is replaced with the special lens front shown here on the right. As the lens used is of greater diameter than those of the standard and wide-angle models the colour frames used are not interchangeable with the two latter types.



Narrow-angle lens front.

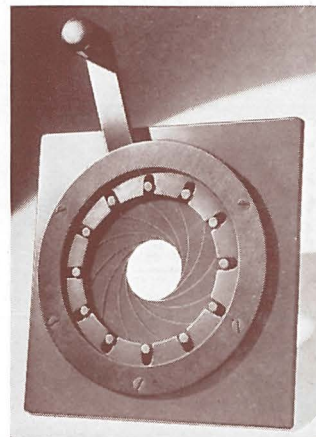
RELATIVE PERFORMANCES

Patt. 23	22 deg.	Normally used up to 45 ft
Patt. 23/W	37 deg.	Normally used up to 30 ft
Patt. 23/N	11 deg.	Normally used up to 65 ft

For prices of parts to convert a spotlight of one type to another type, see page 6 of this leaflet.

VARIABLE BEAM SHAPE AND SIZE

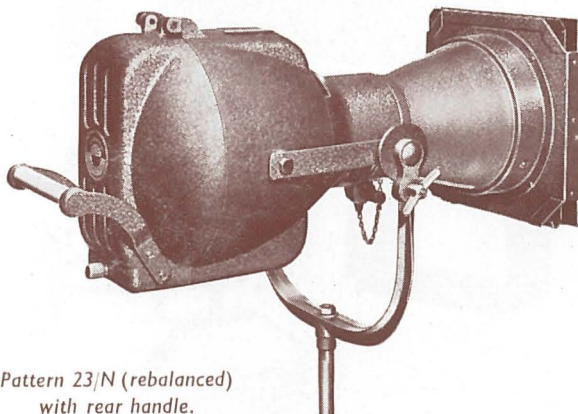
All spotlights are supplied with four metal diaphragm plates of fixed but different diameters. Optional accessories are the Iris diaphragm (reference C.363) for varying the diameter of circular beams, and the four-sided adjustable masks (reference C.364) when irregularly shaped beams are required. These masks simply slide into the gate provided (see 4 opposite). A mask of any desired shape may be cut from metal sheets and used in a similar manner.



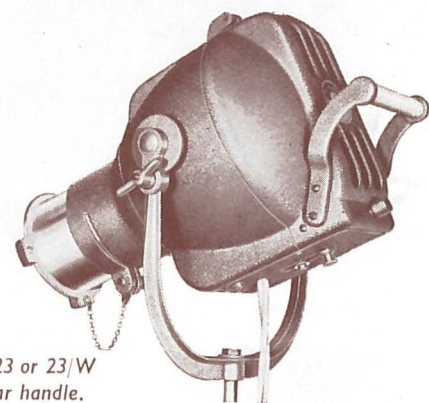
Iris diaphragm giving an infinite degree of spot size.



Adjustable four-sided mask providing any quadrilateral shaped spot.



Pattern 23/N (rebalanced) with rear handle.



Pattern 23 or 23/W with rear handle.

FOR USE AS A 'FOLLOWING' SPOT

For 'following' purposes, or when a spotlight will have to be handled frequently, any of the Pattern 23 spotlights may be fitted with a heat-insulated rear handle provided that this is specified at the time of ordering the spotlight. Handles cannot be purchased separately and fixed later. In the case

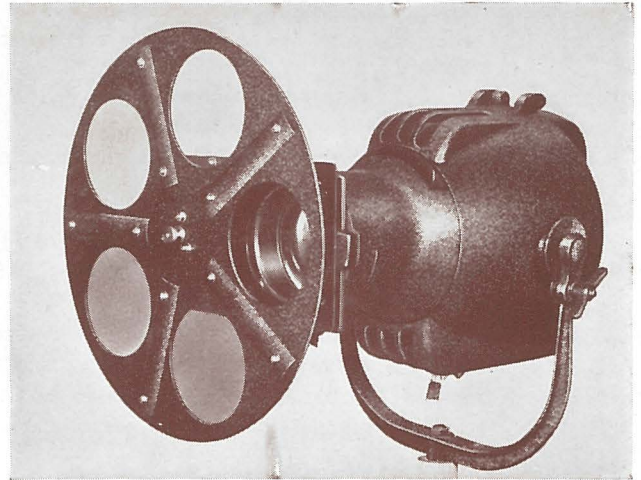
of the narrow-angle Pattern 23/N the spotlight has to be re-pivoted on account of the out of balance weight of the special large diameter lens front used. The cost of fitting a handle to the Pattern 23/N is therefore greater than in the case of Patterns 23 and 23/W. Prices are given on page 5 of this leaflet.

COLOUR CHANGE WHEELS

(For patterns 23 and 23/W. Not for pattern 23/N).

Hand operated type (not illustrated). Ref. C. 376. This 5 aperture wheel may be left free on its spindle for rotation by hand or may be locked to retain any desired aperture before the lens. (Diam. of wheel 11 ins.)

Remotely operated type (shown at right). This accessory (reference C.382) fulfils the dual functions of a remotely operated colour change for stage and display purposes, and also of a continuously rotating colour wheel suitable for dance halls, etc. The disc gives a choice of five colours or four colours and white. The assembly simply slides into the colour runners of Patterns 23 and 23/W (not Pattern 23/N) and control is by means of a six position rotary switch mounted in a control box. One position of the switch is used to provide continuous rotation of the colour wheel, while each of the other five positions select a different colour in the wheel and bring it to rest before the lens of the spotlight. Each colour changer must be controlled by a separate switch.

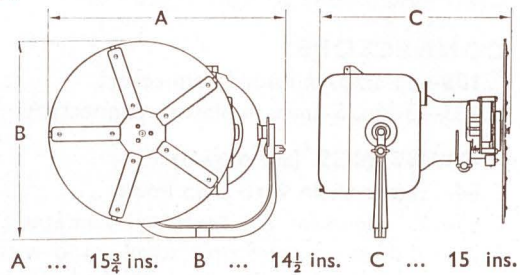


Colour change for 5 colours (or 4 colours and white).
bring it to rest before the lens of the spotlight. Each colour

SPECIFICATION

Colour Change Wheel and Drive

The driving unit consists of a self starting synchronous motor suitable for a 200/250v 50 cycle A.C. supply (only) and incorporates a trip mechanism to prevent reversal of rotation. The 12½ inch diameter disc has five apertures and is fixed to its driving shaft by means of a milled nut. Suitable clamping strips are provided for securing the pieces of colour medium. Speed four revolutions per minute. Weight of accessory (without spotlight) 2½ lb.



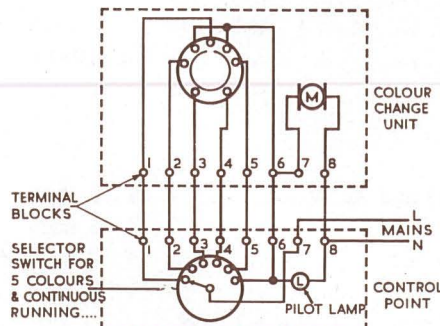
A ... 15¾ ins. B ... 14½ ins. C ... 15 ins.

Control Box

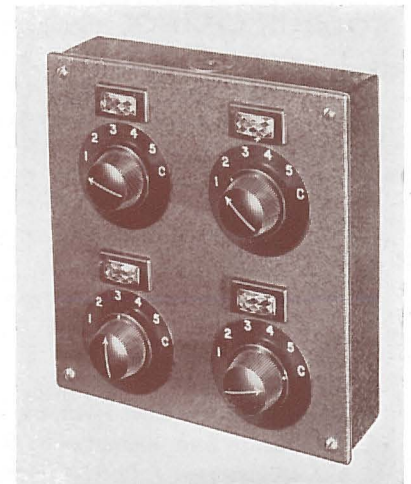
Control boxes are made up to operate the following number of colour changers only, viz. 1, 2, 4, 8 and 12. The control consists of a wall mounting sheet metal box with screw-on lid to which are fixed the requisite number of rotary switches, one per colour change lantern, wired to a terminal block fixed in the back of the box. Above each rotary switch is fixed a Neon pilot lamp which remains alight whilst the motor is in operation. Five of the switch positions of each switch are numbered 1 to 5, these figures corresponding with the apertures to be selected on each colour wheel. The sixth position on each switch is marked C. When a switch is so set the colour wheel will rotate continuously (four revolutions per minute) until the switch is moved to one of the numbered positions when the wheel will stop with the appropriate aperture opposite the lens. Master switches are provided on 8-way and 12-way control boxes only.

When master switches are 'off' individual selector switches may be moved to the next required position in advance of actual requirements and without any movement or change taking place. When the master switch is put 'on' colour wheels will take up their next pre-selected positions, each Neon pilot lamp indicating when the change has been completed.

Prices of colour change wheels and control boxes will be found on page 5 of this leaflet.



	DIMENSIONS
1-way	4" x 4" x 3" projection.
2 "	4" x 7½" x 3" "
4 "	8" x 7½" x 3" "
8 "	8" x 15" x 3" "
12 "	12" x 15" x 3" "



Standard 4-way control box for remote colour change.

PRICES

LANTERNS (exclusive of lamps)

	£	s	d	
Pattern 23—Spotlight as specification on page 1	9	9	0	each
Pattern 23/W—Spotlight as above but with wide-angle lens combination	10	10	0	each
Pattern 23/N—Spotlight as above but with narrow-angle long-throw front instead of standard front	13	13	0	each
Pattern 23—Spotlight with rear handle	9	18	6	each
Pattern 23/W—Spotlight with rear handle	10	19	6	each
Pattern 23/N—Spotlight (re-balanced) with rear handle	16	1	6	each

COLOURS, FRAMES, ETC.

†C.359—Metal colour frame 4-in. square for Pattern 23 and 23/W	2	0		each
†C.360—Gelatine colours assorted, cut to size for C.359 frames (for intermittent use)	2	2		per doz.
†C.361—'Cinemoid' colours, assorted cut to size for C.359 frames (for longer use) ...	4	6		per doz.
†C.284—Metal colour frames, 7 $\frac{3}{4}$ -in. by 7 $\frac{3}{4}$ -in., for Pattern 23/N only, with C.355 front	2	4		each
†C.285—Gelatine colours assorted, cut to size for C.284 frames (for intermittent use)	6	2		per doz.
†C.286—'Cinemoid' colours assorted, cut to size for C.284 frames (for longer use) ...	11	0		per doz.
†C.374—Slatted diffusing glass in metal frame for Patterns 23 and 23/W	5	0		each
†C.375—Ditto, for Pattern 23/N	7	6		each

MASKS (See page 3)

C.362—Spare set of four diaphragms of different but fixed diameters	3	6		each
C.363—Iris diaphragm	1	9		each
C.364—Adjustable straight-edged mask	6	6		each

CONNECTORS

C.185—15-amp. moulded connectors	10	0		per pair
C.183—3-Pin, 5-amp. miniature connectors	3	6		" "

MOUNTINGS (See page 6)

C.64—Safety chain with snap hook	3	6		each
C.65—'L' clamp for 2-in. external diameter (1 $\frac{1}{2}$ -in. gas) barrel	3	6		each
C.257—Miniature telescopic stage stand with cable hook and swivelling collar (min. height 3 ft 7 in., max. height 5 ft 9 in.) Net weight 15 lb	2	10	0	each
C.367—Cast aluminium base or ceiling plate 6-in. diameter (not for wall mounting), with clamping and fixing bolts and nuts. Nett weight 1 lb	16	6		each
C.247—Swivel arm wall bracket (reach 10 inches)	1	8	6	each
C.248—Ditto, with swivelling extension arm (max. reach 19 inches)	2	2	0	each
C.251—Adjustable boomerang bracket for 2-in. diam. barrel (reach 10 inches)	2	6	6	each
C.252—Ditto, with extension arm (max. reach 19 inches)	3	0	0	each
C.255—Fixed boomerang bracket for 2-in. diam. barrel (reach 11 inches)	13	3		each
C.259—Ceiling fixing saddle	8	0		each

COLOUR CHANGE (See page 4)

†C.376—Hand operated colour wheel for Patt. 23 and 23/W only	3	18	0	each
†C.377—Set of five 'Cinemoid' (coloured or frost) filters for C.376 above	3	6		per set
†C.382—Motor driven colour wheel/colour change, for Patt. 23 and 23/W only. ...	11	0	0	each
†C.388—Set of five 'Cinemoid' (coloured or frost) filters for C.382 above	3	6		per set
†C.383—1-way control box for C.382	3	15	0	each
†C.384—2-way control box for C.382	6	5	0	each
†C.385—4-way control box for C.382	10	15	0	each
†C.386—8-way* control box for C.382				on application
†C.387—12-way* control box for C.382	"	"		

*Including master switch

SPARE OPTICAL PARTS

†C.310—Spare standard 3 $\frac{1}{2}$ -in. by 5-in. focus H.R. lens for Patterns 23 and 23/W ...	1	1	0	each
†C.304—Spare 6-in. diameter by 9-in. focus lens for Pattern 23/N	2	7	6	each
C.357—Spare rear reflector (metal)	1	4	0	each
C.358—Spare front reflector (metal)	1	1	6	each

† The above accessories except those marked † apply equally to Patterns 23, 23/N and 23/W.

CONVERSIONS

To convert standard Pattern 23 to Pattern 23/N. Discard front draw tube and use instead:

- C.355—Long throw lens tube with lens and one colour frame £5 19 6 each
 C.304—Spare 6-in. diameter by 9-in. focus lens for C.355 £2 7 6 each

To convert standard Pattern 23 to Pattern 23/W. Insert into existing draw tube additional:

- C.310—Lens 3½-in. diameter by 5-in. focus H.R. £1 1 0 each

To convert Pattern 23/N to standard Pattern 23. Discard front draw tube and use instead:

- C.356—Standard lens draw tube with lens and one colour frame £1 15 6 each
 C.310—Spare lens 3½-in. diameter by 5-in. focus H.R. £1 1 0 each

To convert Pattern 23/W to standard Pattern 23. Discard lens nearest lamp from draw tube.

SOME MOUNTINGS

The prices of these and other suitable fixings are given on page 5 of this leaflet. With the exception of C.367 base, these fixings can also be used with most other Strand lanterns.

C.259 Ceiling fixing saddle. Drilled for two ⅜ in. diameter bolts, or coach screws (not supplied), for use where head room is limited.

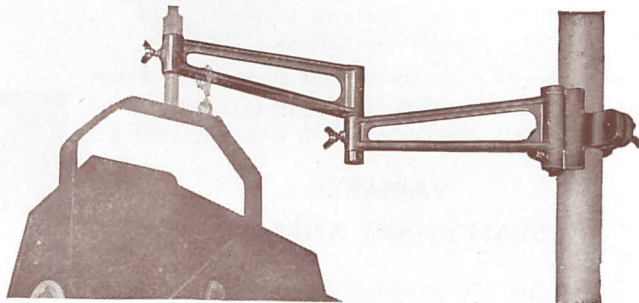
C.367. Cast aluminium base or ceiling plate 6-in diameter (not for wall mounting), with clamping and fixing bolts and nuts. Nett weight 1 lb.

C.247. Swivel arm wall bracket, reach 10 in. Made in aluminium throughout, with backplate drilled for two ⅜ in. rag bolts or coach screws (not included). Net weight 1½ lb.

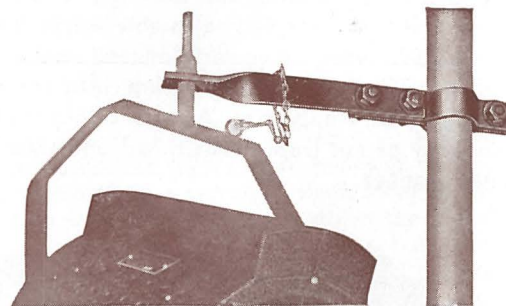
C.252. Adjustable boomerang bracket with maximum reach of 19 in. Net weight 2 lb.

C.255. Fixed boomerang bracket for 2 in. diameter barrel, giving 11 in. reach. Net weight 2¾ lb.

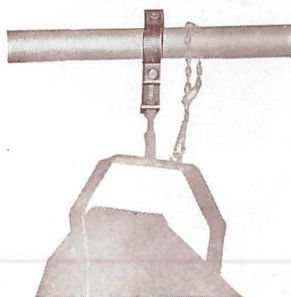
C.65. 'L' clamp for suspending lanterns from 2 in. diameter barrel. Net weight 1 lb.



C.252



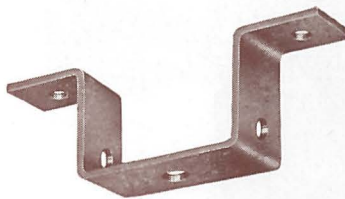
C.255



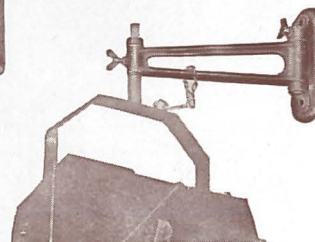
C.65



C.367

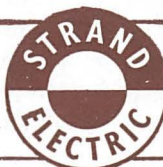


C.259

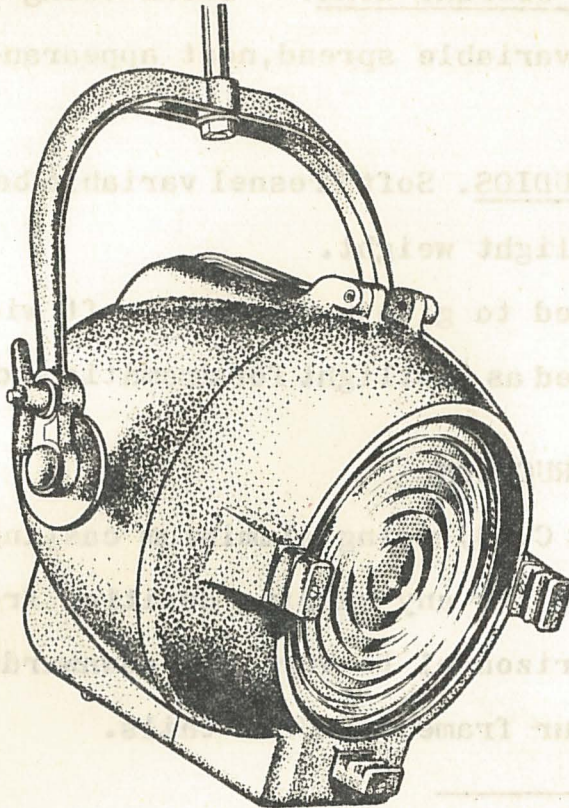


C.247

HEAD OFFICE AND SHOWROOMS
 29, KING STREET, LONDON, W.C.2
 SALES AND GOODS - 24, FLORAL ST., W.C.2
 TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON



BRANCHES
 313, OLDHAM ROAD, MANCHESTER 10
 COLLYHURST 2736
 62, DAWSON ST., DUBLIN - DUB 74030



PATTERN 123

BABY FRESNEL SPOT

250 or 500 watt

Class T or A1

Medium Prefocus Lamp.

This new STRAND lantern gives a soft-edged beam variable between 16 and 40 degrees which is exceptionally intense for the wattage. It is a companion to the well known Pattern 23, of which over 20,000 have been sold in the past four years, and will be found ideal for situations where rapid spread is essential and where, as is often the case, a clear cut beam edge is undesirable. Focussed back it will give a narrow intense beam suitable for sunlight effects.

SOME APPLICATIONS.

SMALL STAGE. Universal (except F.O.H.) as medium angle flood or acting area unit or intense near parallel beam for sunlight.

LARGE STAGE. Banked together as battens (15 inch centres) the equivalent of the usual Spot or Acting Area bars can be provided with negligible obstruction in close packed hanging areas, down stage. Also useful as vertical booms and ladders.

SHOPS, EXHIBITIONS AND OTHER DISPLAY WORK. Ideal owing to efficient light for wattage, variable spread, neat appearance and small size.

PHOTOGRAPHIC & TELEVISION STUDIOS. Soft Fresnel variable beam free of filament striation, light weight.

CONCERT HALLS. Easily concealed to give unobtrusive soft wide spread, yet same unit can be used as spotlight for dramatic shows.

CONSTRUCTION

Generally as Patt.23 (leaflet C.48) using aluminium castings and die castings. Ventilated for any burning position from vertical upwards through horizontal to vertical downwards. Supplied with one metal colour frame and 3ft. tails.

Depth back to front	...	...	...	10 1/4 inches (265mm)
Width over Trunnion	...	...	...	11. inches (278mm)
Height of Lantern	...	...	...	9. inches (230mm)
Height from Trunnion Pin to top of Trunnion	...	...	...	7 1/2 inches (190mm)
Weight	...	...	...	7 1/2 lbs. (3.4kg)

Patt.123. Lantern complete but without lamp £12.12. 0.NETT

Item 401. Colour Frame (6 1/2" x 6 1/2" square;
160mm x 160mm) 2. 2.each

Item 402. Colour Frame (6 1/2" diam. 160mm) 2.10.each.

Item 403. Cinemoid, colours or frost, to
fit above. 7. 6.per
doz.

Item 404. Spare Fresnel Lens. 6" diam. £2. 9. 6.each

(S) Suspensions and Stands as Pattern 23 (leaflet C.48).

LONDON, MANCHESTER, GLASGOW



DARLINGTON, DUBLIN, MELBOURNE

STRAND SPOTLIGHTS

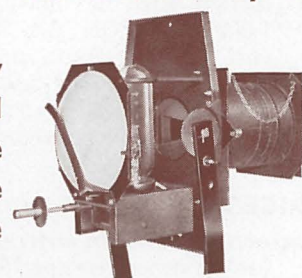
PATTERN 53 PREFOCUS MIRROR SPOTLIGHT, 1000 WATT

(Being a simplified and improved version of patterns 73 and 83 which it supersedes)



This lantern employs a precision optical system which not only gives a greater control of the beam shape and spread than is obtainable from standard spotlights described in the preceding pages but gives more than three times the light output (depending on beam spread) for the same wattage. The light is collected by an 8-inch diameter reflector and directed on to a gate framed by four independently adjustable shutters or an iris diaphragm. The gate is hard or soft focussed by an objective lens.

Masking to pick out irregularly shaped objects, or to give a hard cut-off clear of backcloth upstage and orchestra pit downstage is easily accomplished. The lantern is therefore particularly suitable for Front-of-House work, but can be used anywhere on the stage.



Housing removed

SPECIFICATION

The housing is constructed in sheet steel, all joints being welded, and is efficiently ventilated. Access to the lamp and reflector is by a completely removable top cover which is anchored to the housing by a safety chain. The securing screw is made captive and therefore cannot be lost.

The housing has been arranged in such a way that by removing three screws at the front, it can be removed from the lantern, which is then still supported in its fork. By this means the optical system is exposed for examination.

The lamp is carried in a large Prefocus Lampholder which is tilted back at an angle of $7\frac{1}{2}^{\circ}$. This helps to compensate for forward tilt of the lantern when using Class A.1 lamps. For general purposes the Class T projector lamp is recommended.

Concentration of the beam upon the gate area is achieved by a screw adjustment which projects through the rear of the housing and is easily accessible, both when the lantern is hanging and when it is used in a circle front housing. This screw tilts the lamp through a small angle in relation to the fixed 8-inch diameter super-pure electro brightened and anodised aluminium reflector, and provides the simplest possible method of concentrating the beam.

Four shutters are provided at the gate position so that the beam shape may be arranged to suit requirements. These shutters are fitted with heat insulated handles and the controls for the bottom vertical shutter are brought to the top in order to facilitate setting when the lantern is used in a circle front housing. As an alternative to these shutters an iris diaphragm (extra) may be used to control beam shape and size.

The beam may be focussed to give a hard or soft edge by adjusting a 6-in. diameter by 8-in. focus plan-convex heat-resisting objective lens at the front of the lantern. A colour runner is fitted to the front. This carries a lens guard and has accommodation for two metal colour frames (one provided).

The lantern is finished in stoved black crystalline paint and is supplied fitted with the usual type of fork with disc and clamp locking. It may also be had mounted on a fork with feet, or on an adjustable rise and fall stand, with or without remote colour change mechanism for use in a circle front housing. If necessary it can also be supplied for hanging, fitted with an enclosed remote colour change. (See Leaflet C.85.)

(Continued overleaf)

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
SALES AND GOODS - 24, FLORAL ST., W.C.2
TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON

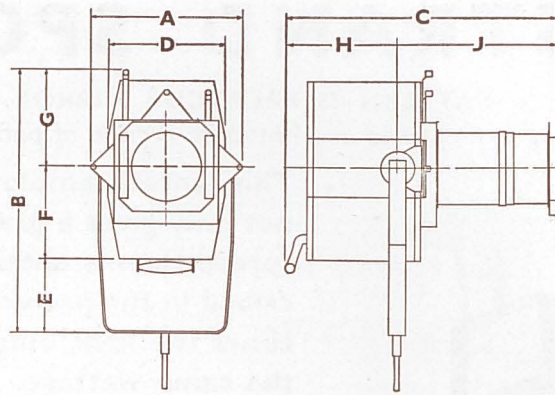


BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

DIMENSIONS

	Ft.	Ins.	
A	1	1½	
*B	1	8½ (Min.)	
	1	11½ (Max.)	
C	1	9½ (Min.)	
	2	0½ (Max.)	
D	0	10	
E	0	3 (Min.)	
	0	6¼ (Max.)	
F	0	8	
G	0	9½	
H	0	10	
J	0	11½ (Min.)	
	1	2¼ (Max.)	

*This dimension is over shutter operating handles. If the required tilt is not acute the lantern may be dropped lower into the fork and the overall height reduced to ft. 7½ ins.



Lamp—1,000 watt Class A.1 Tubular Projector with large prefocus cap (maximum angle of lantern tilt=15° upwards, 30° downwards). 1,000 watt class B.1 Round Bulb Projector with large prefocus cap. 1,000 watt Class T with large prefocus cap. The latter is recommended. (Tilt in both the last two cases is up to 90° of cap vertically down.)

Beam Angles—19° max. to 3° min. with C.353 standard front or 38° max. to 3° min. with C.354 wide angle front.

Maximum Throw—Normally used up to 70 feet.

Weight—Nett weight 37 lbs. approx.

PRICES—

Pattern 53 Lantern with standard fork and suspension pin £ 27 5 0 each
(unless otherwise specified, this form of mounting will be supplied)

Alternatively :—

Pattern 53 lantern with fork fitted with feet £ 27 5 0 "

C.306.—Spare 6-inch dia. 8-inch focus, heat-resisting plano convex lens	.. .. .	2 15 0	each
C.282.—Spare 8-inch dia. silvered glass reflector	.. .. .	2 15 0	"
C.283.—Spare 8-inch dia. anodized aluminium reflector	.. .. .	2 5 0	"
C.284.—Metal colour frames (7¾ ins. x 7¾ ins.)†	.. .. .	2 6	"
C.285.—Assorted gelatine colours (cut to size)	.. .. .	6 2	per doz.
C.286.—"Cinemoid" colours (cut to size)	.. .. .	11 0	"
C.105.—Iris diaphragm	.. .. .	2 4 0	each
C.353.—Standard lens front giving maximum beam angle of 19°	.. .. .	4 6 0	"
C.354.—Wide Angle lens front increasing beam angle to 38° max.	.. .. .	8 1 0	"
C.185.—15-amp. 3-pin moulded connectors	.. .. .	11 0	per pair
C. 64.—Safety chain with snap hook	.. .. .	4 0	each
C. 65.—"L" clamp for 2-inch external diameter (1½-in. gas) barrel	.. .. .	4 0	"
C. 83.—Hook (G) type adjustable clamp for 1¼ to 2-in. gas barrel (1¾ to 2¾-in ext. diam.) with hand wheel for locking horizontal swivel.	.. .. .	2 3 6	"
C. 84.—Adjustable clamp for 1¾ to 2¾ in. external diameter barrel (1¼ to 2-in gas)	.. .. .	12 6	"
C. 66.—Telescopic stand with cable hook and swivelling collar (min. height 4 feet 3 inches, max. height 7 feet)	.. .. .	4 6 0	"
C.112.—Heavy cast iron bench base with locking handle (height 6½ inches, weight 5¼ lbs.)	.. .. .	1 3 6	"
C.247.—Swivel arm wall bracket (reach 10 inches)	.. .. .	1 11 6	"
C.248.—Ditto, with swivelling extension arm (max. reach 19 inches)	.. .. .	2 6 0	"
C.251.—Adjustable boomerang bracket for 2-inch dia. barrel (reach 10 inches)	.. .. .	2 11 0	"
C.252.—Ditto, with extension arm (max. reach 19 inches)	.. .. .	3 6 0	"
C.255.—Fixed boomerang bracket for 2-inch dia. barrel (reach 11 inches)	.. .. .	14 6	"

† These frames are not suitable for use with the colour change mechanism which can be fitted to this lantern, for details of which see leaflet C.85. For rainbow, flicker and colour wheels see leaflet C.81.

HEAD OFFICE AND SHOWROOMS

29, KING STREET, LONDON, W.C.2

SALES AND GOODS - 24, FLORAL ST., W.C.2

TEMPLE BAR 4444 GRAMS : SPOTLITE RAND LONDON

BRANCHES

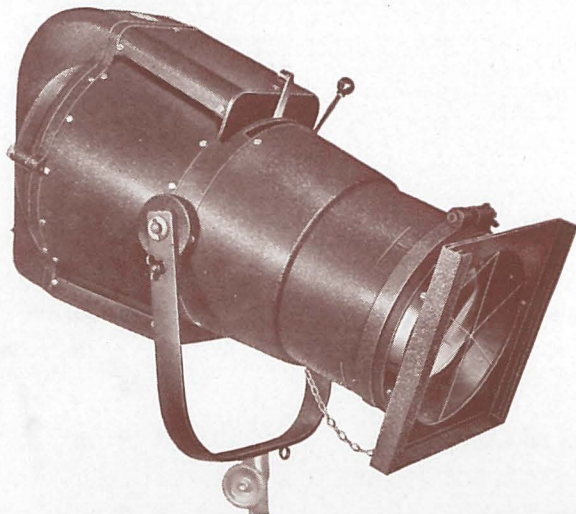
313, OLDHAM ROAD, MANCHESTER 10

COLLYHURST 2736

62, DAWSON ST., DUBLIN - DUB 74030

STRAND SPOTLIGHTS

PATTERN 93 LONG RANGE SPOTLIGHT 1000 WATT



This lantern gives a high power, narrow angle clear cut beam of twice to three times the intensity of the standard Mirror spot. Beam shape and size is adjustable by iris diaphragm and four-sided masking shutter.

Specially suitable for long throw precision work or as a following spot comparable with, but more convenient than, a small arc.

SPECIFICATION

Ventilated housing constructed mainly of castings to ensure accurate location of the super pure aluminium ellipsoidal front and rear reflectors which together enclose the lamp and collect a large solid angle of light; Gate consists of iris diaphragm variable by external lever, and masking shutter plate removable for adjustment. (Both provided.) Heat resisting objective lens, 8 in. diam. by 13 in., to focus gate aperture, hard or soft-edged colour runner with metal colour frame and lens guard. Strand large prefocus holder with intensifying knob under lantern. Access by hinged rear door. Tilting fork fitted with $\frac{1}{2}$ -in. Whitworth stem (for suspension by barrel clamp or insertion in stand), and tilt locking clamps. Handle for following artists, fitted at rear. Wired with 3 ft. heat-resisting tails. Finish: black crystalline outside, matt black inside.

Angle of Tilt: 45° below horizontal, 5° above. (Lamp is pre-tilted within lantern.)

Beam Angles: Maximum 15°, minimum 6°.

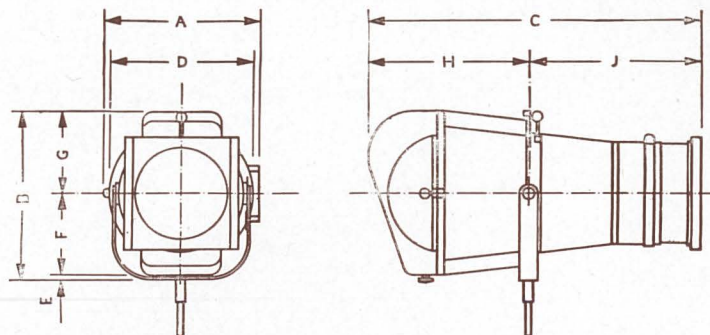
Lamp: 1,000-watt, Class A.1 tubular projector with large prefocus cap.

Effective Throw: 100 ft.

DIMENSIONS

	Ft.	In.		Ft.	In.		
A	...	1	1 $\frac{3}{4}$	E	...	0	4 $\frac{1}{4}$
B	...	1	6 $\frac{3}{4}$	F	...	0	7 $\frac{1}{4}$
C (max.)	...	2	6	G	...	0	7 $\frac{1}{4}$
(min.)	...	2	4	H	...	1	2
D	...	1	0 $\frac{1}{2}$	J (max.)	...	1	4
				(min.)	...	1	2

Weight: 45 $\frac{1}{4}$ lb.



HEAD OFFICE AND SHOWROOMS
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TEMPLE BAR 444 GRAMS: SPOTLITE RAND LONDON



BRANCHES
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COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

Goods are only offered subject to our terms of business.

STRAND SPOTLIGHTS

PATTERN 93 LONG RANGE SPOTLIGHT 1000 WATT

	£ s. d.
PRICE OF LANTERN (exclusive of lamp)	57 15 0 each
C.370—Spare metal colour frames ($9\frac{7}{8}$ in. by $9\frac{7}{8}$ in.)	2 7 „
C.371—"Cinemoid" colours or frost cut to fit C.370 frames	15 0 per doz.
C.372—Spare 4-shutter masking plate	on application
C.369—Spare heat resisting 8 in. diam., 13 in. focus, plano convex lenses	5 10 0 each
15-amp. 3-pin plug (to B.S. 546)	4 0 „
C.184—15-amp. connector socket outlet (to B.S. 1778) to take above plug	13 9 „
C.66—Telescopic stand (min. height 4 ft. 3 in., max. height 7 ft.)	4 6 0 „
C.246—Extra strong safety chain with snap hook (for use when lantern is suspended)	6 0 „
C.65—"L" clamp for 2-in. external diameter ($1\frac{1}{2}$ -in. gas) barrel	4 0 „
C.83—Hook type barrel clamp for $1\frac{1}{4}$ -2-inch gas barrel ($1\frac{3}{4}$ - $2\frac{3}{8}$ ext. diam.) with hand wheel for locking horizontal swivel	2 3 6 „
C.84—Adjustable clamp for $1\frac{3}{4}$ to $2\frac{3}{8}$ -in. external diameter barrel ($1\frac{1}{4}$ to 2-in. gas)	12 6 „
C.255—Fixed boomerang bracket for 2-in. external diameter ($1\frac{1}{2}$ -in. gas) barrel (reach 11 in.)	14 6 „
C.259—Ceiling fixing saddle	8 9 „
C.112—Heavy cast iron base with locking handle	1 3 6 „

HEAD OFFICE AND SHOWROOMS
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 TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON



BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
 COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

STRAND PAGEANT LANTERN

PATTERN 58 1,000/1,500 WATTS

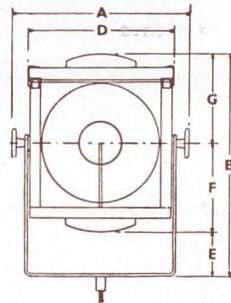
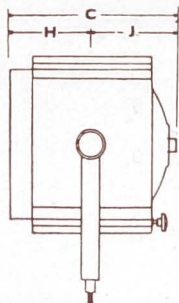
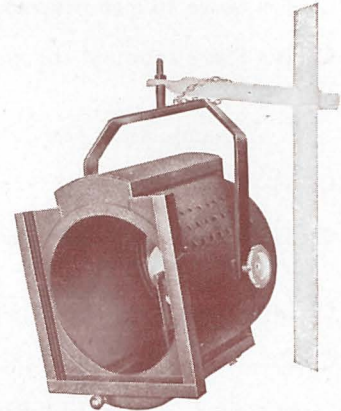
This lantern provides a very intense soft edged narrow beam of light, the size of which can be varied slightly. It is particularly suitable for simulating sunlight on the stage, and for photography and other cases where a really intense beam is required.

SPECIFICATION

The lantern is constructed in sheet steel and suitably ventilated. Rear of lantern is formed by a spinning which carries a 10-in. diameter polished super pure anodised aluminium reflector. (Glass is available as alternative.) The lamp tray carries a large prefocus lampholder with a chemically blacked masking disc in front of the lamp to cut out direct light spill from filament. Focusing is by worm drive with knob at front and rear. Access to interior is from the front by dropping the masking disc which is hinged for the purpose. Front runners will carry two colour frames or one colour and a diffuser (only one colour frame supplied). Tilting fork with 3-in. diameter locking wheels terminates in a ½-in. Whitworth stem for suspension by barrel clamps or insertion in a stand. Wired with 3-ft. heat resisting tails. Finished: stove black crystalline enamel outside, matt black inside.

Lamps: 1,000 or 1,500-watt Class A.1 Tubular Projectors with large prefocus cap. (Maximum angle of tilt up or down 22½°). 1,000-watt Class T Projector (flat grid in round bulb) with large prefocus cap. 1,000-watt Class B.1 Round Bulb with large prefocus cap.

Beam Angles: Maximum 17°, minimum 11°. **Maximum Throw:** Normally used up to 100 feet.



DIMENSIONS

	In.		In.
A	15¼	F	7½
B	18¾	G	7½
C	14¼	H	7
D	12¼	J	7¼
E	3¾		

Weight: 22lb.

£ s. d.

PRICE (exclusive of lamp) with fork and pin as shown or fork with feet **17 0 0** each

NOTE: Remotely operated colour change mechanism can be fitted to this lantern. For details see leaflet C.85.

(continued overleaf)

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
SALES AND GOODS - 24, FLORAL ST., W.C.2
TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON



BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

PRICES (continued)

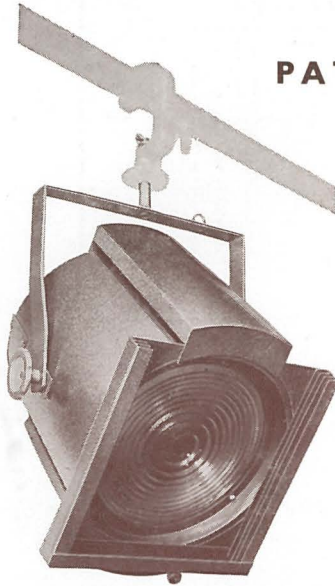
	£	s.	d.
†C. 61—Metal colour frames (11 $\frac{3}{4}$ -inches \times 11 $\frac{3}{4}$ -inches)	2	3	0 per doz.
C. 62—Ditto with assorted gelatine colours	2	16	9 ..
C. 63—Ditto with Cinemoid colours	3	16	2 ..
C. 94—Glass diffuser in frame (11 $\frac{3}{4}$ -inches \times 11 $\frac{3}{4}$ -inches)		9	0 each
C.280—Spare 10 inch silvered glass reflector	3	6	0 ..
C.281—Spare anodised aluminium reflector	2	15	0 ..
15-amp. 3-pin plug (to B.S.546)		4	0 ..
C.184—15-amp. connector socket outlet (to B.S. 1778) to take above plug	13	9	..
C.185—15 amp., 3-pin moulded connectors		11	0 per pair
C. 64—Safety chain for use when lantern is suspended		4	0 each
C. 65—" L " clamp for 1 $\frac{1}{2}$ -inch gas barrel (ext. diam. 2 inches)		4	0 ..
C. 83—Hook type barrel clamp for 1 $\frac{1}{4}$ -2-inch gas barrel (1 $\frac{3}{4}$ -2 $\frac{3}{8}$ ext. dia.) with hand wheel for locking horizontal swivel	2	3	6 ..
C. 84—Adjustable barrel clamp for 1 $\frac{1}{4}$ -2-inch gas barrels (1 $\frac{3}{4}$ -2 $\frac{3}{8}$ ext. diam.)		12	6 ..
C. 66—Telescopic stand with cable hook and swivelling collar (minimum height 4 feet 3 inches, maximum height 7 feet)	4	6	0 ..
C.112—Heavy cast iron bench base with locking handle (height 6 $\frac{1}{4}$ inches, weight 5 $\frac{1}{4}$ lbs.)	1	3	6 ..
C.259—Ceiling fixing saddle		8	9 ..
C.247—Swivel arm wall bracket (reach 10 inches)	1	11	6 ..
C.248—Ditto, with swivelling extension arm (maximum reach 19 inches)	2	6	0 ..
C.251—Adjustable boomerang bracket for 1 $\frac{1}{2}$ gas or 2-inch ext. diam. barrel (reach 10 inches)	2	11	0 ..
C.252—Ditto, with extension arm (maximum reach 19 inches)	3	6	0 ..
C.255—Fixed boomerang bracket for 1 $\frac{1}{2}$ gas (2-inch ext. diam.) barrel (reach 11 inches)		14	6 ..

†Not suitable when lantern fitted with remote colour change. See leaflet C.85

<p style="text-align: center;">HEAD OFFICE AND SHOWROOMS</p> <p style="text-align: center;">29, KING STREET, LONDON, W.C.2</p> <p style="text-align: center;">SALES AND GOODS - 24, FLORAL ST., W.C.2</p> <p style="text-align: center;">TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON</p>		<p style="text-align: center;">BRANCHES</p> <p style="text-align: center;">313, OLDHAM ROAD, MANCHESTER 10</p> <p style="text-align: center;">COLLYHURST 2736</p> <p style="text-align: center;">62, DAWSON ST., DUBLIN - DUB 74030</p>
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STRAND FRESNEL LANTERN

PATTERN 143 500/1000/1500 WATTS



APPLICATIONS

This lantern gives an even intense beam with a soft undefined edge. The beam is variable between 40 degrees and 12 degrees. The lantern is intended for use both as a variable medium-angle flood or to provide a beam of light where a Pageant lantern (Patt. 58) would be too narrow.

All lanterns using flat fresnel lens plates tend to scatter light beyond the nominal edges of the beam. This will be acceptable for highlighting stage areas already lit, or for photographic or television applications. The lantern should not be used for front lighting from the auditorium or against a cyclorama, without using a lens plate with blackened risers and/or a hood or barndoor. For sharp well-defined spotlighting the mirror spot range Patterns 23, 53 and 93 should be used.

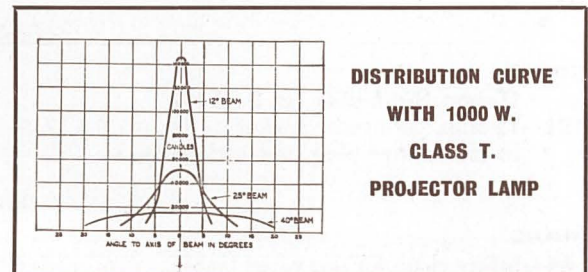
SPECIFICATION

The lantern is constructed in sheet steel with inner lining and suitably ventilated. Rear of lantern is formed as a door and the front carries a 10-in. diam. $5\frac{3}{4}$ -in. focus, heat-resisting fresnel-type lens. The lamp tray carries a large pre-focus lampholder with a 6-in. diam. spherical anodised aluminium reflector. Focusing is by worm drive with knob at front and rear. Front runners will carry two colour frames or one colour and a diffuser (only one colour frame supplied). Tilting fork with disc and clamp locking terminates in a $\frac{1}{2}$ -in. Whitworth stem for suspension by barrel clamp* or insertion in a stand wired with 3-ft. heat-resisting tails.

Finished: hard hammer grey outside, matt black inside.

*The hook type barrel Clamp (Ref. 83) as illustrated is particularly recommended for television purposes.

PATTERN 143 FRESNEL LANTERN can be supplied with standard pin fitted to tilting fork as shown above, for use with usual fixings, or with feet fitted to fork for standing on a flat surface.



Lamps: (all with large pre-focus cap)

1,000 or 1,500-watt Class A.1 Tubular Projector (Maximum angle of tilt up or down $22\frac{1}{2}^\circ$)

1,000-watt Class T. Projector (flat grid in round bulb)

500-watt or 1,000-watt Class B.1 round bulb.

Beam Angles: Maximum 40° , minimum 12°

Maximum Throw: Normally used up to 60 ft. (18 metres)

LONDON, MANCHESTER, GLASGOW

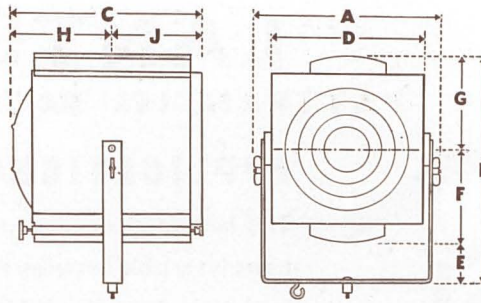


DARLINGTON, DUBLIN, MELBOURNE

DIMENSIONS

		in.	mm.
A	...	15	351
B	...	18	457
C	...	$15\frac{1}{4}$	387
D	...	$12\frac{1}{4}$	311
E	...	3	76
F	...	$7\frac{1}{2}$	190
G	...	$7\frac{1}{2}$	190
H	...	$7\frac{1}{4}$	184
J	...	8	203

Weight: 26 lb.
(11.8 Kilos)



ACCESSORIES AND SPARE PARTS FOR PATTERN 143 (Use item numbers when ordering or referring to price schedule.)

COLOURS and OPTICAL

<p>ITEM NO. 61—Metal colour frames, $11\frac{3}{4}$ inches \times $11\frac{3}{4}$ inches (298mm \times 298mm)</p> <p>61/C—Cinemoid, frost or colours, cut to fit item 61</p> <p>61/F—Gelatine, frosted only, " " " " "</p> <p>61/G—Gelatine, colours only, " " " " "</p> <p>91—Two-door masking shutter assembly</p>	<p>ITEM NO. 319—Spare 6-inch diameter anodised aluminium reflector</p> <p>317—Spare 10-in. diameter $5\frac{3}{4}$-inch focus heat resisting fresnel lens (254mm \times 146mm)</p> <p>318—As C.317 above with blackened risers</p>
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CONNECTIONS

<p>ITEM NO. — 15-amp. 3-pin plug (to B.S.546)</p> <p>184—15-amp. connector socket outlet (to B.S.1778) to take above plug (not included)</p>	<p>ITEM NO. 185—15-amp. 3-pin moulded connectors</p>
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FIXINGS

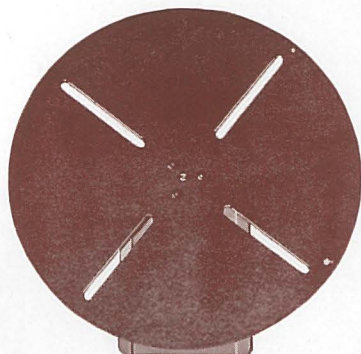
<p>ITEM NO. 64—Safety chain for use when lantern is suspended</p> <p>83—Hook type barrel clamp for $1\frac{1}{4}$—2-inch gas barrels ($1\frac{3}{4}$—$2\frac{3}{8}$ ins. ext. diam.) with hand wheel for locking horizontal swivel</p> <p>65—" L " clamp for $1\frac{1}{2}$-inch gas barrel, ext. diam. 2 inches (51mm)</p> <p>84—Adjustable barrel clamp for $1\frac{1}{4}$—2-inch gas barrels ($1\frac{3}{4}$—$2\frac{3}{8}$ ins. ext. diam.)</p> <p>66—Telescopic stand with cable hook and swivelling collar, minimum height 4 feet 3 inches, 1.3metres) maximum height 7 feet (2.1metres)</p> <p>112—Heavy cast iron bench base with locking handle, height $6\frac{1}{4}$ inches (158mm) weight $5\frac{1}{4}$ lb. (2.38 Kilos)</p>	<p>ITEM NO. 259—Ceiling fixing saddle</p> <p>247—Swivel arm wall bracket, reach 10 inches (254mm)</p> <p>248—Ditto with swivelling extension arm, maximum reach 19 inches (483mm)</p> <p>251—Adjustable boomerang bracket for $1\frac{1}{2}$ gas or 2-inch ext. diam. barrel, reach 10 in. (254mm)</p> <p>252—Ditto, with extension arm, maximum reach 19 inches (483mm)</p> <p>255—Fixed boomerang bracket for $1\frac{1}{2}$ gas (2-inch ext. diam.) barrel, reach 11 inches (279mm)</p>
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LONDON, MANCHESTER, GLASGOW

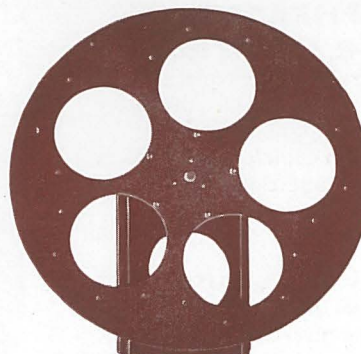


DARLINGTON, DUBLIN, MELBOURNE

STRAND SPOTLIGHT ACCESSORIES



C.102



C.103

FLICKER & COLOUR WHEELS

Constructed of sheet steel and aluminium with wired rims, pivoted on cast brass plate to fit front runners of Patterns 42, 43, 53, 73 & 501. Colours are replaceable by removing a few screws. Diameter 20 in. Weight 3¼ lb.

PRICES

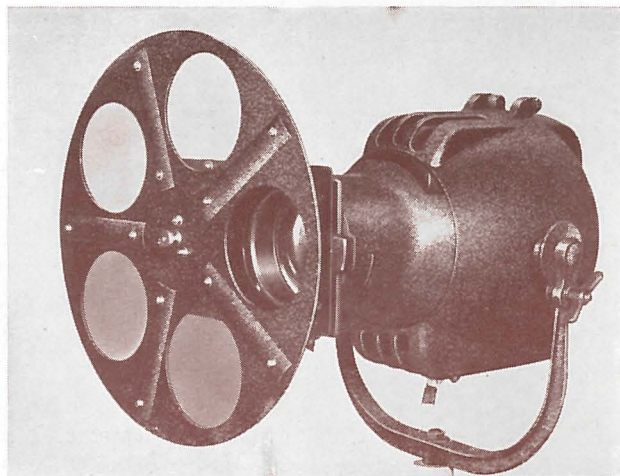
	£	s.	d.	
C.102—Flicker Wheel	4	5	0	each
C.103—Colour Wheel (without colours)	5	2	0	„
C.337—“Cinemoid” colours for C.103 above	4	6		per set
C.338—Motor-Driven Colour Wheel similar to C.103 but with 6 apertures instead of 5 and with an AC/DC motor (200/240 volt range) and speed controller bracketed off the colour runner casting	20	5	0	each
C.339—“Cinemoid” colours for C.338 above	5	6		per set

C.382—5 Aperture Continuously Rotating Colour Wheel and/or colour change, for Patt. 23 and 23W only. Speed 4 revolutions per minute. Weight 2½ lbs ... **£12 2 0** each (exclusive of Control for which see leaflet C.48).

C.388—Set of 5 “Cinemoid” (coloured or frost) filters for C.382 colour wheel.
3s. 6d. per set

C.376—Hand operated 5 aperture colour wheel for spotlights Patt. 23 and 23W only. (Diam. of wheel 11 ins.). ... **£4 5 0** each

C.377—Set of 5 “Cinemoid” colours for C.376 above.... **3s. 6d.** per set



C.382—Colour change for 5 colours (or 4 colours and white).
(continued overleaf)

<p>HEAD OFFICE AND SHOWROOMS 29, KING STREET, LONDON, W.C.2 SALES AND GOODS - 24, FLORAL ST., W.C.2 TEMPLE BAR 444 GRAMS: SPOTLITE RAND LONDON</p>		<p>BRANCHES 313, OLDHAM ROAD, MANCHESTER 10 COLLYHURST 2736 62, DAWSON ST., DUBLIN - DUB 74030</p>
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STRAND SPOTLIGHT ACCESSORIES

IRIS DIAPHRAGMS

C.104—To fit Pattern 42, 43 and 83 spotlights, consisting of aluminium cast back plate, with brass leaves closing from 5 in. diameter aperture to blackout. Weight 3 lb.

[When used with Pattern 43, iris has the effect of dimming the beam in addition to reducing its size.]

£6 1 0 each

C.105—To fit Pattern 53 spotlights, consisting of steel backplate with brass leaves closing from 3 in. diameter aperture. Weight 3 lb.

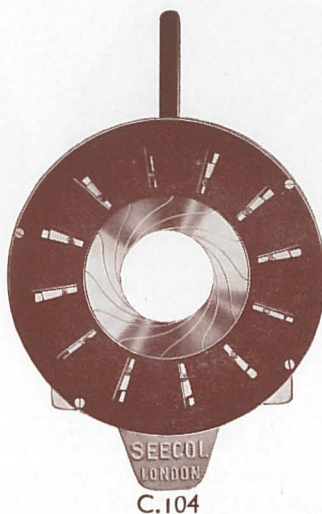
£2 4 0 each

C.98—As C.105 above but for Pattern 73 Spotlight.

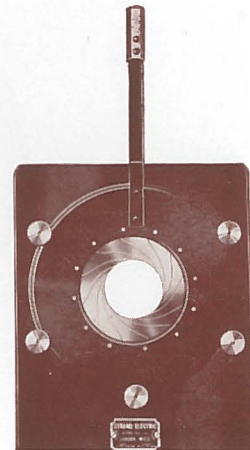
£2 4 0 each

C.363—To fit Patterns 23, 23/N and 23/W.

£1 12 6 each



C.104



C.98 and C.105

ELECTRIC ROTATOR (only)

Height 10 in. Diameter 5 $\frac{3}{4}$ in.

Weight 3 lb.

Capacity, to carry and rotate 20 lb. maximum.

Speed 2 $\frac{1}{2}$ revs. per min. complete with both halves of electric connector for driving motor.

PRICES

£ s. d.

C.110—Rotator for 200/250 volts AC supply 10 6 0 each

C.111—Rotator for 110 volts AC supply 11 0 0 ..

For other electric supplies, prices on application.

MIRROR BALL (only)

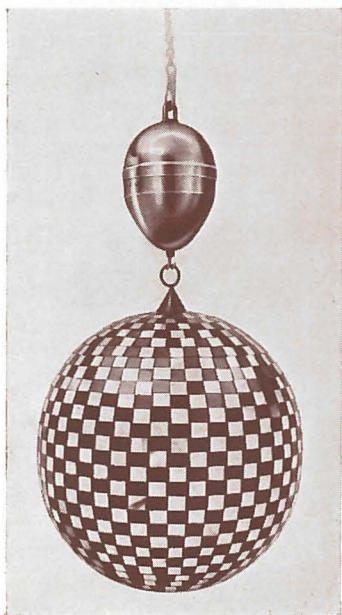
Complete ball with alternate blue and white mirror glass mosaic surface, exclusive of rotator, chain or other suspensions.

PRICES

£ s. d.

C.107—Diameter 12 in. Weight 9 lb. 10 11 6 each

C.108—Diameter 16 in. Weight 13 lb. 15 16 0 ..



HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
SALES AND GOODS - 24, FLORAL ST., W.C.2
TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON



BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

STRAND COLOUR-FILTER REMOTE CONTROL

Remote colour change control is for use in those situations where space does not allow duplication of lanterns for change of colour, or where duplication would not provide sufficient variety of colour.

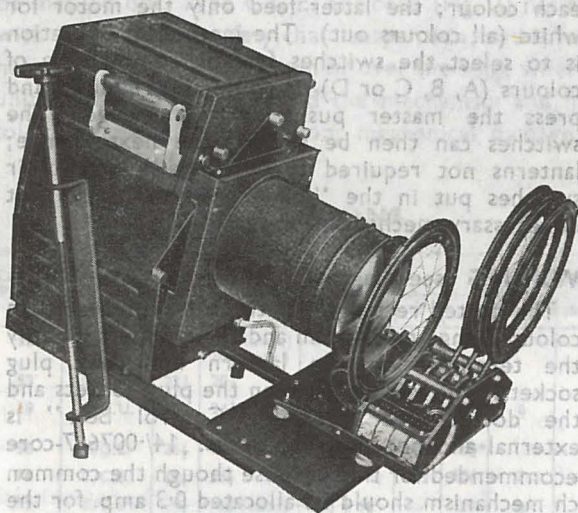


Fig. 1. Pattern 53 with type C/C.U. colour change.

REMOTE COLOUR CHANGE MECHANISM

Strand Electric have devised a specially compact mechanism capable of moving colour frames of up to 12 in. diameter independently of gravity. The colour change unit can be fitted by standard methods to lantern Pattern Nos. 53, 58, 76; two methods being illustrated in Figs. 1 and 2. The unit gives four colours and white, singly or in combination, selected in any order and offers advantages in reduction of weight, size and price over direct acting solenoid types.

SPECIFICATION

Robust mechanism formed as self-contained unit between cast aluminium end plates. Solenoid operated gears select colour frames to travel "in" beam and are spring-loaded to select colours to travel "out" when not energised. Gears have a safety section free of teeth to act as travel limit. Frames travel between rubber-covered stops and are locked "in" or "out". Frames are driven "in" or "out" by a uni-directional shaded pole motor of adequate torque carried on end plate; frame travel time 1.8 secs. Motor is for 220-250 A.C. 50 cycles only and solenoid coils are for 165 volts approx. D.C. (i.e. full-wave metal rectifier output when used on 220-250 volts single phase A.C.). Colour frames are of a diameter to suit lantern concerned. They are removable and are provided with location stems to ensure that they are parallel to one another. Standard travel into beam is from right to left facing lantern, i.e. the colour magazine is right handed. Left handed magazines can be arranged to order. All mechanisms are supplied with 3 ft. P.V.C. tails terminating in a multi-way plug together with a female socket in a sheet metal box 5½ in. by 2½ in. by 2½ in. Weight of unit without lantern or colour frames is 10 lb.

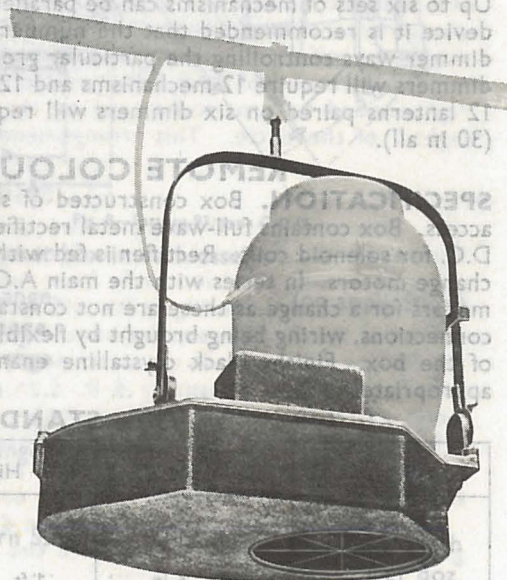


Fig. 2. Pattern 76 with type C/CE colour change.

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
SALES AND GOODS - 24, FLORAL ST., W.C.2
TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON



BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030.

CONTROL METHOD

The control method is the same whether supplied as a part of a new dimmer switchboard (of the various direct operated mechanical types or of the electronic type), or supplied as a self-contained switching unit for addition to an already completed installation. The control panel appears as the centre part of the board on page 1 of leaflet H.61. The sole exception is the Strand Light Console which operates through a relay selector from the sets of five black keys shown on leaflet H.81.

The colour selector solenoids to each lantern are fed by a 165 volt D.C. supply through a set of four double-pole switches and one single-pole (Fig. 3). The former feed a solenoid coil and the motor for

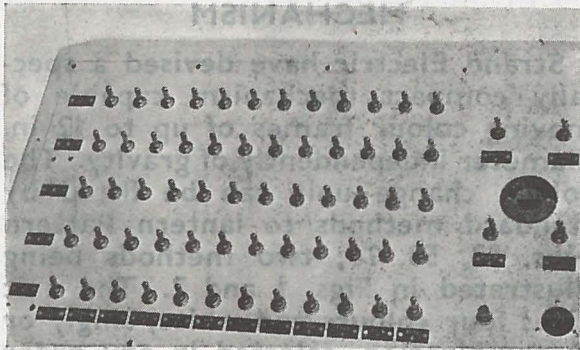


Fig. 4. Control panel.

P.V.C. insulated and sheathed cable (which we stock) is recommended for this purpose though the common returns shown on the right may have to be heavier as each mechanism should be allocated 0.3 amp. for the solenoids and 0.5 amp. for the motor. Alternatively, the motor and coil returns can be run back separately for each unit using ways 6 and 7 on each 7-core, the "commoning" of them being done at the control end. Up to six sets of mechanisms can be paralleled to one set of switches; however, to make the best use of the device it is recommended that the number of sets of colour change switches should match the number of dimmer ways controlling the particular group of lanterns. Thus a circle front of 12 lanterns on 12 separate dimmers will require 12 mechanisms and 12 sets of five colour change switches (60 in all); on the other hand 12 lanterns paired on six dimmers will require 12 mechanisms but six sets of five colour change switches (30 in all).

REMOTE COLOUR CHANGE CONTROL BOXES

SPECIFICATION. Box constructed of sheet metal with switch panel formed as hinged front to allow access. Box contains full-wave metal rectifier of ample capacity having an output of approximately 165 volts D.C. for solenoid coils. Rectifier is fed with 50 cycle A.C. of 220-250 volts which is also used for the colour change motors. In series with the main A.C. supply is a sprung-open push switch used to energise coils and motors for a change as these are not constantly rated for continuous use. Box is complete with all internal connections, wiring being brought by flexible lead from hinged switch panel to a terminal block on fixed part of the box. Finish: black crystalline enamel outside with coloured and engraved ivorine labels where appropriate.

STANDARD CONTROL BOXES

Ways	Wide	High	Deep	Weight	Price
					£ s. d.
1 } 2 } 3 } 4 } 5 } 6 } *7 } *8 } *9 } *10 } *11 } *12 }	1 ft. 1 in.	10 in.	8 in.	17 lb.	
	1 ft. 6 in.	1 ft. 0 in.	8 in.	20 lb.	
	1 ft. 8 in.	1 ft. 0 in.	10 in.	40 lb.	
	2 ft. 4 in.	1 ft. 2 in.	10 in.	54 lb.	

* For seven ways and over, master switches are fitted to each of the five colour groups.

Control panels for over 12 ways, price on application.

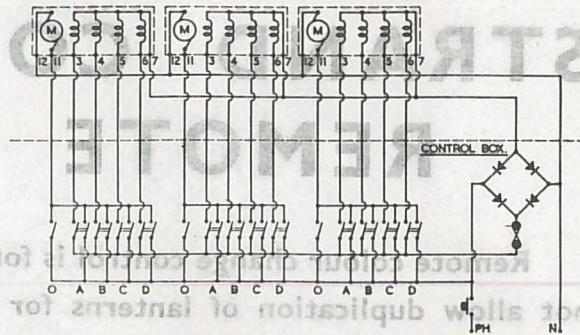


Fig. 3. Circuit diagram.

each colour; the latter feed only the motor for white (all colours out). The method of operation is to select the switches for the combination of colours (A, B, C or D) or white (O) required and press the master push for the change. The switches can then be set for the next change; lanterns not required to "change" have their switches put in the "off" position to cut out unnecessary mechanism noise.

WIRING (see diagram Fig. 3)

The dotted rectangles at the top represent each colour change mechanism and the numbers identify the terminals on the lantern multi-way plug sockets. The wiring between the plug sockets and the dotted line marked "Control Box" is external and not supplied by us. 14/0076 7-core

REMOTE COLOUR CHANGE LANTERNS

The remote colour change mechanism can be fitted as an integral part of the lanterns set out below. Lanterns supplied separately are unsuitable for conversion though there may be instances where some modification can be made locally on site. Most colour change lanterns are available in two forms, enclosed or unenclosed. Type C/C.U. unenclosed with tilting by screw handle (Fig. 1) is for use on a floor in circle front housing or on a shelf behind auditorium apertures, etc., where stray light can be masked out. Type C/C.E. enclosed (Fig. 2) has a fork with $\frac{1}{2}$ -in. bolt and safety chain suspension; and is for use hanging openly in auditorium or over the stage where the unit must be light tight and the mechanism and fragile colour frames protected from mechanical damage.

DIMENSIONS

Lantern Pattern	Colour Change Type	Dimensions in Inches						See Fig. No.	Weight in lb. app.
		A	B	C	D	E	F		
53	C/C.U.	24	25 (max.) 20½ (min.)	24	20	—	—	5	56
53	C/C.E.	22½	20½	24½	20	—	—	—	68
58	C/C.U.	27½	24½ (max.) 21½ (min.)	23½	21½	—	—	6	44
58	C/C.E.	26½	25	18	15	8*	15½*	—	60
76	C/C.E.	26½	25½	18	13½	7½	15½	7	44
93	C/C.U.	24½	35 (max.) 30 (min.)	32½	18	—	—	8	73

* For these Dimensions see Fig. 7

† These dimensions are for tilt angles of 45° max. to 25° min. With another mounting giving 22½° max. to 10½° min. of tilt, dimension B is 29 ins. max. and 24 ins. min.

Colour change lanterns are as specified on the appropriate lantern leaflet except for such modifications as the mechanism may make necessary. Four removable metal colour frames are supplied with each colour change lantern.

PRICES (including tails, multi-way plug and socket box in each case)

- Mirror Spot, Pattern 53 (Leaflet C.53) with Type C/C.U. colour change (on application)
- Mirror Spot, Pattern 53 (Leaflet C.53) with Type C/C.E. colour change
- Mirror Spot, Pattern 93 (Leaflet C.57) with Type C/C.U. colour change
- Pageant, Pattern 58 (Leaflet C.72) with Type C/C.U. colour change
- Pageant, Pattern 58 (Leaflet C.72) with Type C/C.E. colour change
- Acting Area, Pattern 76 (Leaflet B.31) with Type C/C.E. colour change

ACCESSORIES

- C.325—Extra 9¼ in. dia. metal colour frames with stem for Pattern 53 C/C.U. or E. each
- C.326—Gelatine colours, other than frost, cut to size for above per doz.
- C.327—Gelatine frost, cut to size for above " "
- C.334—Cinemoid colours or frost, cut to size for above " "
- C. 99—Extra 11½ in. dia. metal colour frames with stem for Pattern 58 C/C.U. each
- C.100—Extra 11½ in. dia. colour frames for Pattern 76 C/C.E. or 58 C/C.E. " "
- C.101—Extra 11½ in. dia. metal colour frame for Pattern 93 C/C.U. " "
- C.119—Gelatine colours, other than frost, for 11½ in. dia. frames cut to size per doz.
- C.120—Gelatine frost for 11½ in. dia. frames cut to size " "
- C.121—Cinemoid colour or frost, for 11½ in. dia. frames cut to size " "

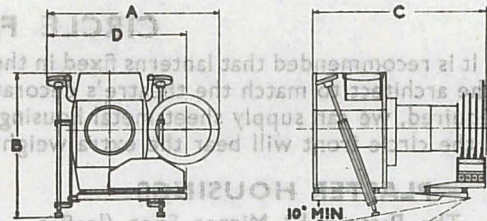


Fig. 5—Pattern 53, type C/C.U.

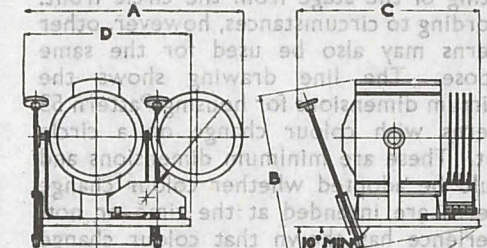


Fig. 6—Pattern 58, type C/C.U.

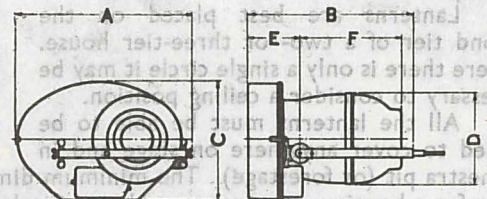


Fig. 7—Pattern 76, type C/C.E.

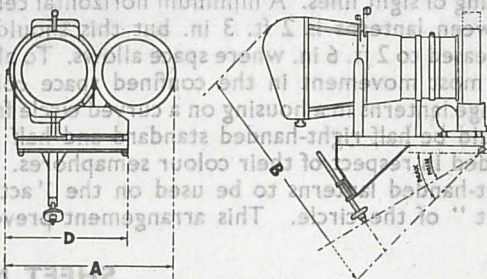


Fig. 8—Pattern 93, type C/C.U.

CIRCLE FRONT HOUSINGS

It is recommended that lanterns fixed in the auditorium should be concealed in plaster housings designed by the architect to match the theatre's decorative scheme. Where something of a more temporary nature is required, we can supply sheet metal housings, though advice of the architect will be necessary to ensure that the circle front will bear the extra weight of housings and lanterns.

PLASTER HOUSINGS

1. The Pattern 53 Mirror Spot (leaflet C.53) is most commonly used for front lighting of the stage from the circle front. According to circumstances, however, other lanterns may also be used for the same purpose. The line drawing shows the minimum dimensions for housing Pattern 53 lanterns with colour change on a circle front. These are minimum dimensions and should be adopted whether colour change lanterns are intended at the time or not. Experience has shown that colour change types (which occupy more space) often supplant the ordinary spotlights used initially.

2. Lanterns are best placed on the second tier of a two- or three-tier house. Where there is only a single circle it may be necessary to consider a ceiling position.

3. All the lanterns must be able to be angled to cover anywhere on stage and in orchestra pit (or forestage). The minimum dimensions for a housing on an average Upper Circle are shown in Fig. 10. These figures are intended as a guide only and each site examined carefully to avoid fouling of sight lines. A minimum horizontal centre between lanterns is 2 ft. 3 in. but this should be increased to 2 ft. 6 in. where space allows. To allow the most movement in the confined space colour change lanterns in a housing on a curved circle front should be half right-handed standard and half left-handed in respect of their colour semaphores. The right-handed lanterns to be used on the "actors' right" of the circle. This arrangement prevents

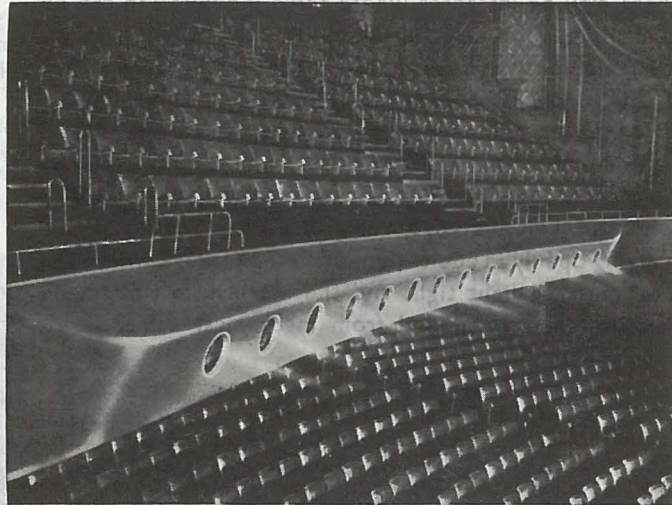


Fig. 9.—Built-in type Circle Front Spotlight Housing.

fouling of the semaphores when a lantern is required pointed directly at the stage instead of as is normally used, crossed to light the side of the stage furthest from it.

4. The floor of the housing must be flat of hardwood or sheet metal to allow the lantern to rest thereon. Housing to be finished matt black inside.

5. Access to the lanterns should be by metal doors at the top. These doors to be louvred for ventilation and hinged to open sideways. They must not be hinged to the front of the housing as they then obstruct the stage view of the man adjusting and setting the lanterns.

SHEET METAL HOUSINGS

1. Sectional line drawing shows sheet metal housing for the Pattern 53 Mirror Spot with colour change normally used for circle front work.

2. Sheet metal housing prices will be quoted on receipt of details. The standard housing is made to the dimensions shown, in units each accommodating two lanterns and measuring 4 ft. 6 in. long and weighing 140 lb. (exclusive of lanterns).

3. In the case of a curved front, any gaps between adjacent housings can be made good so that the top and bottom of the housing appear continuous.

4. It should be understood that the dimensions given in the sectional drawings are the minimum

requirements to house Pattern 53 lanterns. That is not to say that such a housing can necessarily be installed on any circle front without interfering with audience's sight lines, nor that a larger one must inevitably cause obstruction.

5. While we are prepared to fix our housings to steel brackets, etc., provided by others, we ourselves do not undertake the supply or fixing of such brackets.

6. These metal housings are supplied finished with an undercoat of paint ready for finishing to match the existing decorations in the theatre.

DIMENSIONS

A	2 ft. 8 in.	D	2 ft. 3 in.	G	10 in.
B	6 in.	E	1 ft. 4 in.	H	11 in.
C	2 ft. 4 in.	F	4 ft. 6 in.	J	2 ft. 3 in.

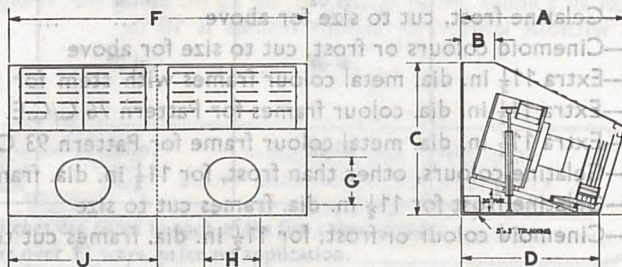
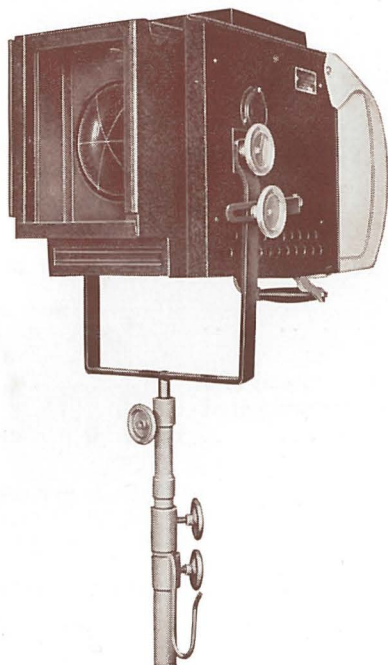


Fig. 10.—Metal housings for Pattern 53.

STRAND ARC SPOTLIGHTS

PATTERN 42 COMBINED SPOTTING AND OPTICAL EFFECTS ARC LANTERN 30-40 AMPS.

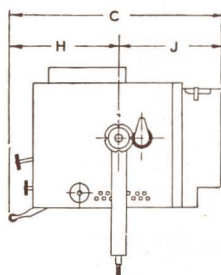
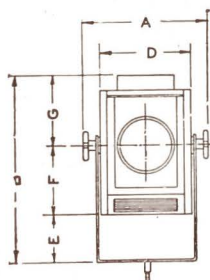
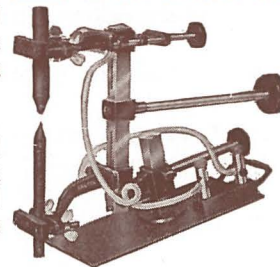


This lantern is a good general purpose arc, suitable for spotting and following artists on throws up to 70 ft. It is fitted with runners suitable for effects and slide attachments listed on page F.21, for which purpose an auxiliary lens can be supplied as an extra.

SPECIFICATION

Lantern. Double cased, asbestos lined, constructed in heavy-gauge sheet steel, efficiently ventilated with asbestos cloth screen at rear. Fitted with 6 in. dia. 9 in. focus heat-resisting lens, a similar lens in sheet steel mount being available as an extra for optical effect work. Mounted on a tilting fork and quadrant with 3 in. diam. locking wheels. Runners are fitted on the front of the housing to take colour frames, and effects and slide attachments. Finish: Black crystalline enamel outside, matt black inside.

Arc Lamp. Three movement hand feed carried on sliding tray with rack and pinion focusing which can be locked at will. Wired in asbestos covered cable to a terminal block.



DIMENSIONS

		Ft.	Ins.		Ft.	Ins.
A	..	1	0 $\frac{3}{4}$	F	..	6 $\frac{1}{2}$
B	..	1	8	G	..	8
C	..	1	10 $\frac{1}{2}$	H	..	8 $\frac{1}{4}$
D	..	..	9	J	..	1
E	..	..	5 $\frac{1}{2}$			2 $\frac{1}{4}$

Weight.—Nett weight of Lantern 38 lbs.

Maximum throw.—Normally used up to 70 ft.

OPERATING DATA

Supply	Amps.	Arc Volts	Carbon Size and Type	Approx. Burning Time without retrimming
D.C.	25/30	50	16mm. Diam. Positive 11 mm. Diam. Negative cored (No. 19)	1 $\frac{1}{2}$ hours
	35/40	50	18 mm. Dia. Positive (cored) 12 mm. Dia. Negative (No. 19)	1 $\frac{1}{4}$ hours
A.C.	30/35	25/28	13 mm. White Flame	1 $\frac{1}{4}$ hours
	35/40	25/28	14 mm. White Flame	1 hour

Resistances and Inductors, see page D.41 and D.51.

(See overleaf for Prices, Accessories, etc.)

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		£	s.	d.	
PRICE of Pattern 42 lantern as specified					on application
D.85	Linen bound colour frames (10 $\frac{3}{4}$ " x 7 $\frac{1}{2}$ ")		0	11	6 per doz
D.86	Ditto with assorted gelatines		0	16	0 ,, ,,
D.87	Ditto with assorted " Cinemoid " colours		1	2	6 ,, ,,
D.102	Flicker Wheel		3	17	6 each
D.103	Colour Wheel (without colours)		4	12	6 ,,
D.336	" Cinemoid " colours for D.101 above		5	6	per set
D.337	" Cinemoid " colours for D.103		4	6	,,
D.338	Motor-Driven Colour Wheel similar to D.103 but with 6 apertures instead of 5 and with an AC/DC motor (200/240 volt range) and speed controller bracketed off the colour runner casting (without colours)		18	10	0 each
D.339	" Cinemoid " colours for D.338 above		5	6	per set
D.66	Telescopic stand with cable hook and swivelling collar (min. height 4 ft. 3 ins., max. height 7 ft.)		3	18	6 each
D.112	Heavy cast iron bench base (height 6 $\frac{1}{4}$ ins., weight 5 $\frac{1}{4}$ lbs.)		1	1	6 ,,
D.104	Iris diaphragm		5	10	0 ,,
D.304	Spare 6 -in. diam. 9 in. focus heat resisting p.c. lens only		2	7	6 ,,

FOR EFFECTS WORK ONLY

D.324	Additional lens as D.304 above but in metal mount for converting lantern for effects purposes				on application
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For optical effects and slide carrier see Page F.21

For objective lenses see Page F.21

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STRAND "SUNSPOT" MIRROR ARC LANTERN

PATTERN 501

This Spotlight is designed primarily for use on A.C. with a special inductor unit, whereby its efficiency is considerably increased beyond that of an ordinary D.C. arc lamp. Consequently the new lantern, whilst consuming less than 20-amps. A.C. from the supply mains, will produce as much light as an ordinary D.C. arc using over 90-amps.

The Sunspot can be readily adapted for use on D.C., in which case current must be supplied from the mains through suitable resistances or rectifiers, or both. Owing to the improved optical system, this lantern, at its maximum of 60-amps. D.C., will give as much light as an ordinary 90-amp. D.C. arc.

This latest model has been further improved to make the controls more convenient. The iris is now fitted with a lock so that it can operate the mirror focus. The most efficient light output for each iris position is automatically obtained by using one lever only. The barn door assembly can now be swivelled to compensate when throwing at an angle.

SPECIFICATION

Lens Focusing.—This is rack and pinion actuated, the drive being by ball-trunk handle fitted on both sides of the lantern. The iris and barn door shutter are controlled by a single handle on the left side of the lantern. The iris is fitted with a lock so that it can operate the mirror focus. The most efficient light output for each iris position is automatically obtained by using one lever only. The barn door assembly can now be swivelled to compensate when throwing at an angle.

Lamp House.—Constructed in sheet metal, finished black crystalline outside and dull black inside. Doors of ample dimensions are provided on each side which, when open, swing completely clear, allowing free access to all parts of the arc mechanism.

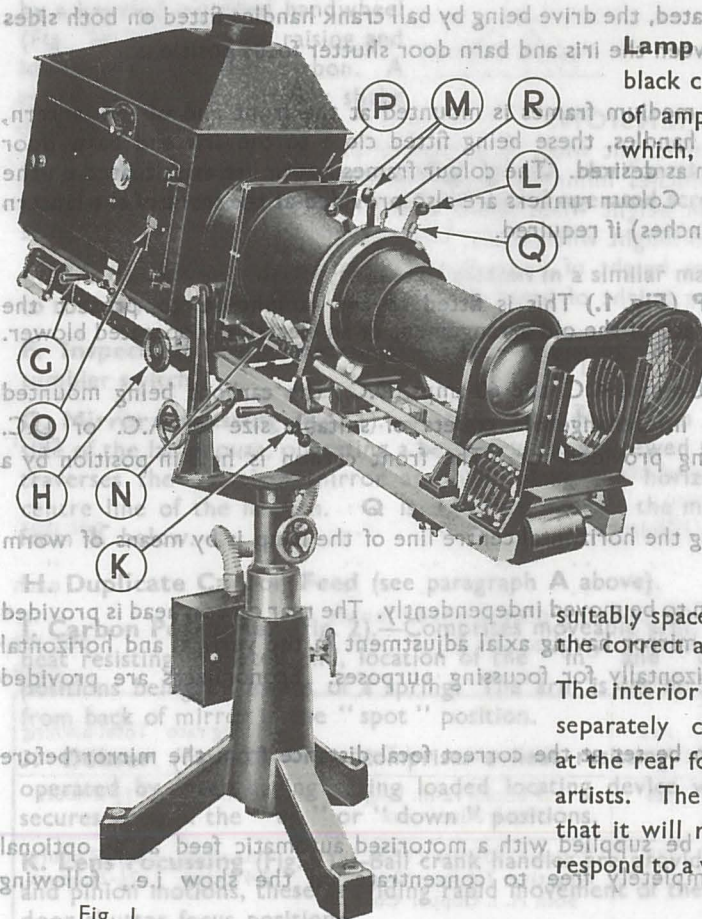


Fig. 1

Spy holes, with coloured glasses, are provided on each door, a suitable quadrant plate and lever being fitted on the upper part of the housing operating the douser. An "imager" screen (O) is fitted in a suitable position on the working side door to receive the arc image. This is projected by means of a lens, prism and reflector mounted on the door,

suitably spaced lines being marked on the screen to indicate the correct arc gap.

The interior of the housing is illuminated by a small lamp, separately controlled. A suitable handle is provided at the rear for controlling the lantern when "following" artists. The lantern is so counter-balanced in the trunnion, that it will remain at any angle in which placed, and will respond to a very light touch in horizontal or vertical planes.

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SPECIFICATION (continued)

Pedestal Stand.—This comprises a heavy casting with tripod legs, the centre column being telescopic. Height adjustment is provided by a series of holes in the centre column, locking being possible by means of a handwheel clamping screw. The trunnion fork also consists of heavy castings, with large diameter spigot revolving in the top portion of the centre column, locking in this case also being by means of clamping screw and hand wheel.

Sufficient clearance is provided between lamp housing and trunnion to give a maximum downward tilt of 40° from the horizontal, the required angle being maintained by quadrant and clamping hand wheel. A box is mounted in a suitable position on the base of the pedestal, containing terminals for the arc and subsidiary terminals for the pilot lamp.

Iris Diaphragm.—The diaphragm is of the 24 leaf type, giving a good circle reasonably free from "flats," in all positions. A lock Q (fig. 1) can be used to cause the Iris diaphragm lever to operate the mirror focussing without the need to use handle G at the same time. The lock will ensure that the maximum amount of light is passed by the iris for all positions.

Barn doors.—The barn door shutters are of the normal horizontal and vertical type, the lever control for these and the iris being placed close together for ease of operation. The barn door shutter assembly may be rotated and locked at any angle using lock R.

Lens Focussing.—This is rack and pinion actuated, the drive being by ball crank handles fitted on both sides of the lantern, allowing rapid adjustment between the iris and barn door shutter focus positions.

Colour Media.—A magazine of five colour medium frames is mounted at the front end of the lantern, being directly controlled by means of lever handles, these being fitted close to the iris and barn door shutters, and at the right or left of the lantern as desired. The colour frames not in use are situated on the side of the lantern remote from the operator. Colour runners are also provided at the front of the lantern for additional colour frames (10¼ inches x 7½ inches) if required.

Heat Absorbing heat resisting glass.—P (Fig. 1.) This is fitted to the lamphouse to protect the shutters and colours from excessive heat in place of the old arrangement of an electrically operated blower.

Arc Movement.—Constructed to carry 100-amperes A.C. and 60-amperes D.C., the carbons being mounted horizontally. The rear carbon is carried in interchangeable collets of suitable size for A.C. or D.C. Carbons as required, adequate contact being provided for. The front carbon is held in position by a screwed clamp.

Simultaneous drive to both carbon heads along the horizontal centre line of the lamp is by means of worm shafts situated behind the mirror.

A clutch device is fitted to enable either carbon to be moved independently. The rear carbon head is provided with vertical and horizontal adjustment, the mirror having axial adjustment in the vertical and horizontal planes. The latter can also be traversed horizontally for focussing purposes. Economizers are provided for using up short ends of carbons.

By means of a "positioner," the arc gap can be set at the correct focal distance from the mirror before "striking."

Motor Arc Feed. The arc mechanism can be supplied with a motorised automatic feed as an optional extra. This feed leaves the operator completely free to concentrate on the show i.e., following artists, focussing, colour change, etc.

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...this diaphragm (Fig. 1)—A lever is provided to operate from the smallest spot to full aperture, and the whole diaphragm assembly swivels or can be locked by R.

THE CONTROLS
 The various controls are as follows:—

A. Carbon Feed.—This consists of a handwheel (H) on each side at the front of the lamphouse (Fig. 1) and a handwheel (A) at the back (Fig. 3) which may be pulled out to disengage the drive between front and rear carbons, so that they may be adjusted independently. When the drive between carbons is disconnected, the front carbon is controlled by the front handwheels, and the rear carbon by the rear handwheel.

B. and C. Rear carbon adjustments.

B. Provides for adjustment of the rear carbon from left to right. Operation is also by sprung screw motion.

C. This is a screw motion operated by a knurled moulded handwheel (Fig. 3) and permits raising and lowering of the rear carbon. A return spring prevents any shake or backlash.

D. and E. Mirror adjustment (Fig. 3).—**D.** Horizontal axial motion is transmitted by means of hand wheel operated screwed shaft.

E. This control provides vertical axial motion in a similar manner to that described for **D.**

F. Inspection lamp control (Fig. 3).—Consisting of 5-amp. tumbler switch.

G. Mirror Focussing (Fig. 1).—A ball crank handle on each side of the lamphouse; operating a bevel drive to a screwed shaft, traverses the complete mirror assembly along the horizontal centre line of the lantern. **Q** is a lock to operate the mirror from **E** below.

H. Duplicate Carbon Feed (see paragraph A above).

I. Carbon Positioner (Fig. 2).—Comprises moveable arm, with heat resisting insulated end, location of the "in" and "out" positions being by means of a spring. The arm is set at 5 ins. from back of mirror in the "spot" position.

J. Douser (Fig. 2).—This comprises a heat resisting shield, operated by lever, having spring loaded locating device which secures same in the "up" or "down" positions.

K. Lens Focussing (Fig. 1).—Ball crank handles are provided on each side of the lantern operating rack and pinion motions, these providing rapid movement of the complete lens assembly between iris and barn door shutter focus positions.

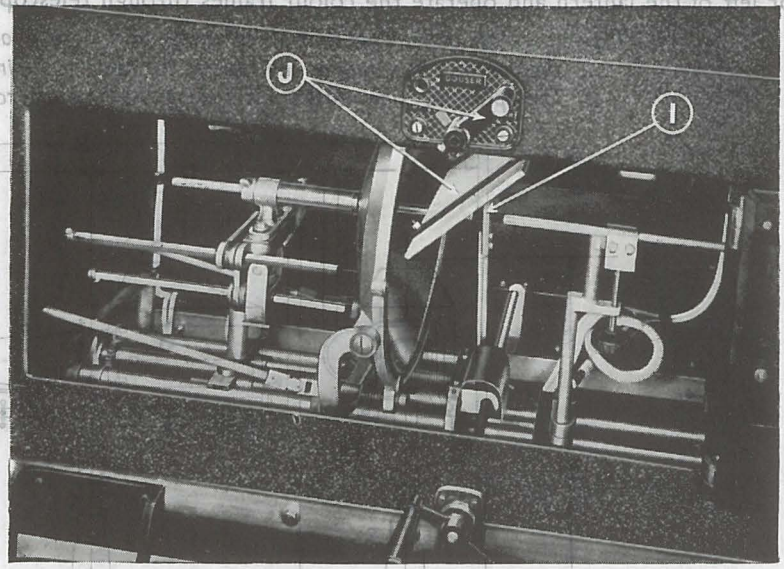


Fig. 2

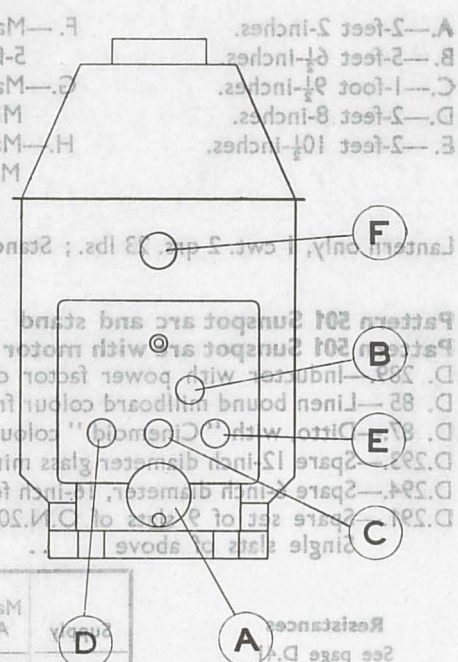


Fig. 3

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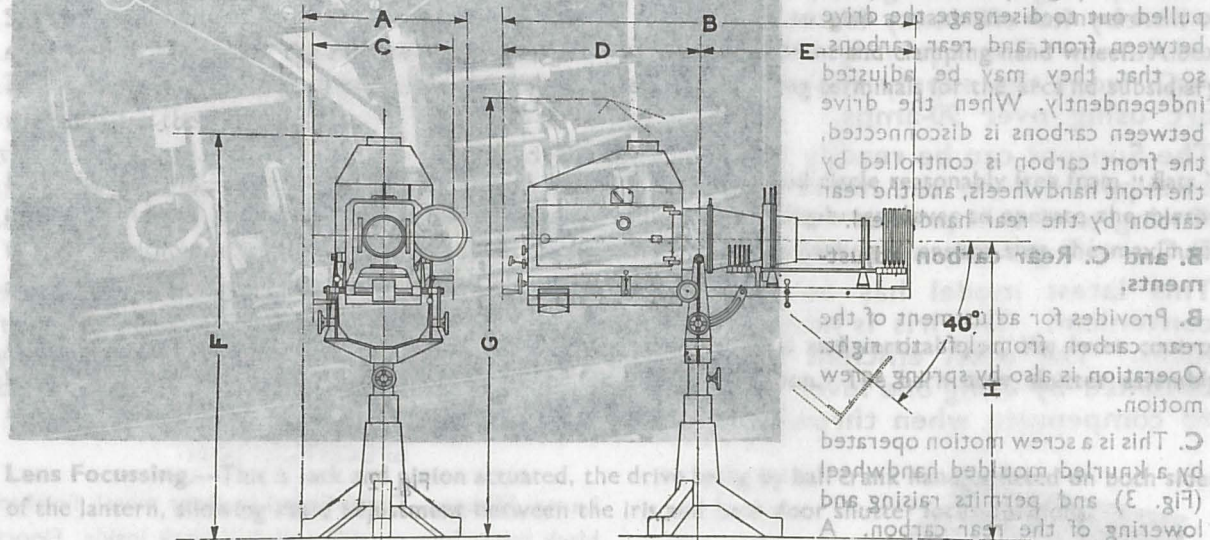
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L. Iris Diaphragms (Fig. 1).—A lever is provided to operate from the smallest spot to full aperture, and the whole diaphragm assembly swivels or can be locked by **R**.

M. Barn Door Shutters (Fig. 1).—Two levers are fitted in close proximity to the iris diaphragm control, one operating vertical and the other horizontal shutters, it being possible to effect a complete "black-out."

N. Colour Media Control (Fig. 1).—This consists of a group of five levers which can be fitted at the right or left of the lantern and operate the colour frames through telescopic tubes.

NOTE.—It will be understood that all reference to "right" or "left" hand is taken with the operator standing at the rear of the lantern, facing the direction of projection. The operating side must be stated at the time of ordering.



DIMENSIONS

- A.—2-feet 2-inches.
- B.—5-feet 6½-inches.
- C.—1-foot 9½-inches.
- D.—2-feet 8-inches.
- E.—2-feet 10½-inches.
- F.—Maximum height when in horizontal position, 6-feet.
5-feet 5-inches minimum when horizontal.
- G.—Maximum height when tilted, 6-feet 8-inches.
Minimum height when tilted, 5-feet 10-inch.
- H.—Maximum height of beam centre when horizontal, 4-feet 8-inches.
Minimum height of beam centre when horizontal, 3-feet 10-inches.

WEIGHT

Lantern only, 1 cwt. 2 qrs. 23 lbs. ; Stand and trunnion, 1 cwt. 13 lbs.

PRICES

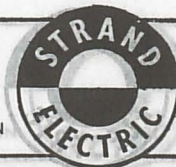
- Pattern 501 Sunspot arc and stand £ s. d. each
- Pattern 501 Sunspot arc with motor feed and stand
- D. 289.—Inductor with power factor correction
- D. 85.—Linen bound millboard colour frames (10¾-inches x 7½-inches) per doz.
- D. 87.—Ditto, with "Cinemoid" colours " "
- D.293.—Spare 12-inch diameter glass mirrors each
- D.294.—Spare 6-inch diameter, 16-inch focus, heat-resisting plano-convex lenses " "
- D.291.—Spare set of 9 slats of O.N.20 heat absorbing glass. per set
Single slats of above each

Resistances
See page D.41

Colour and flicker
wheels.
See page C.81.

Supply	Max. Arc Amps.	Arc Volts	Carbon Size and Type	Burning rate per Hour	Total burning time
A.C.	100	26	9 m/m x 12-in. long H. I. Alternlux	4.5 inches	1¼-2 hours
D.C.	60	33	Positive, 10 m/m x 12-in. long Negative, 7 m/m x 12-in. long Both H. I. Copper Coated	3.5 inches 3.4 inches	2¼-2½ hours 2½-2¾ hours

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STRAND ARC CONTROLS

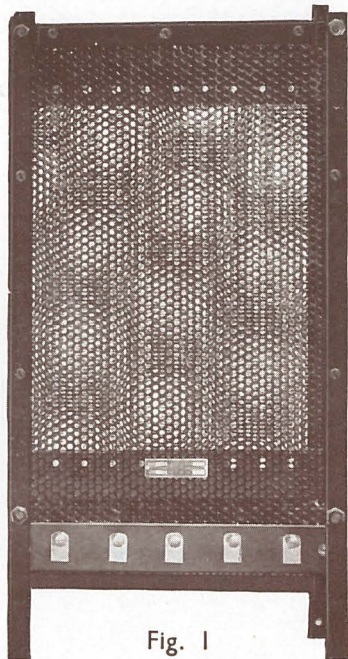


Fig. 1

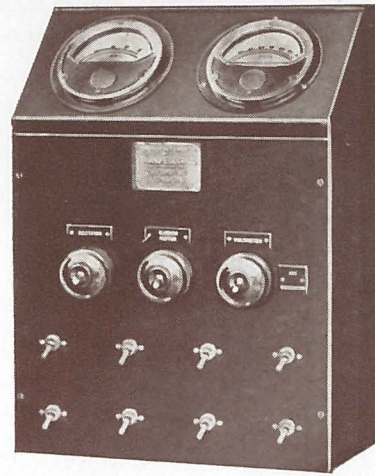


Fig. 2

RESISTANCES

D.C. or A.C.

In order to maintain a steady arc on Direct Current, a resistance (the value of which is dependent upon the supply voltage, and the arc voltage and current) is normally connected in series with the arc. (The supply voltage should be at least 50 volts higher than the arc voltage.) When using Alternating Current an inductor is to be preferred in view of the economies made in running costs and the reduction in noise normally associated with an A.C. arc.

Location and type

In theatres, a resistance may be installed in any convenient place in the circuit approved by the licensing authority. It is not generally permissible to install resistances, whose total dissipation of electrical energy (see note overleaf at foot) exceeds 2 kilowatts, in the projection room of a cinema or of a theatre equipped for cinema projection. To comply with this regulation, it is usually necessary to install the arc resistances outside the projection room.

There are several ways of doing this. A series resistance may be used with the switch spindle extended to work through a wall. The resistance is then fixed in a room adjacent to the projection room. A better method is to use a parallel type resistance (Fig. 1), with step switches mounted on a control panel in the projection room, adjacent to the projector or arc lantern (Fig. 2). The switches are either heater (tumbler) switches for steps up to 15 amps., heater (rotary) switches for steps up to 30 amps., or knife switches for larger steps than 30 amps. Another method is to use parallel type resistances with contactors for step selection. This method is recommended when the resistances are situated some distances from the arc, since only two wires capable of carrying the full load are run to the arc, and smaller wires only need be run to the control switches (operating the contactors), which can be grouped on a very small panel mounted on or near the projector lamphouse.

The current taken by the arc will depend upon the type of lantern, the length of throw, and the purpose for which it is being used. Having decided upon the type of lantern and the maximum current to be taken by the arc, suitable carbons and their recommended working voltage can be determined.

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Goods are only offered subject to our terms of business

STRAND ARC CONTROLS

A parallel type resistance is generally recommended. The series type is in any case unsuitable for arcs taking more than 40 amps.

A series type resistance has its steps connected in series with each other. The current is increased by reducing the number of sections connected in series.

A parallel type resistance has its steps connected in parallel with each other. The current is increased by increasing the number of sections connected in parallel.

Both types of resistance are connected in series with the arc.

It is desirable to fit a voltmeter to indicate arc voltage, since the satisfactory burning of the carbons is very dependent upon this.

When ordering, the following information should be given :—

- (a) The supply voltage.
- (b) The arc voltage.
- (c) The type of resistance (whether series or parallel type).
- (d) The number and size of the steps (in amps.) required to increase or decrease the current in the arc.
- (e) The type of controls required for step selection (e.g. switches, contactors).
- (f) The position of the resistance in relation to its controls.
- (g) Whether a voltmeter, ammeter or both are required.

Calculating resistance value—

The electrical energy dissipated is calculated as follows :—

Supply (or generator) voltage less arc voltage = voltage drop.

$$\text{Resistance required (in ohms)} = \frac{\text{voltage drop}}{\text{arc current (in amperes)}}$$

$$\text{Electrical energy dissipated in the resistance (in watts)} = \text{current (in amperes) squared} \times \text{resistance (in ohms)}.$$

Example.—For a 30-amp. 50-volt arc operating on a 110-volt supply :

Supply voltage (110) less arc voltage (50) = 60 volts drop.

$$\text{Resistance required} = \frac{\text{voltage drop}}{\text{arc amps.}} = \frac{60}{30} = 2 \text{ ohms.}$$

Energy dissipated = current squared (30 x 30) X resistance (2) = 1,800 watts.

PRICES and SPECIFICATIONS of RESISTANCES and CONTROL PANELS will be sent on receipt of detailed requirements.

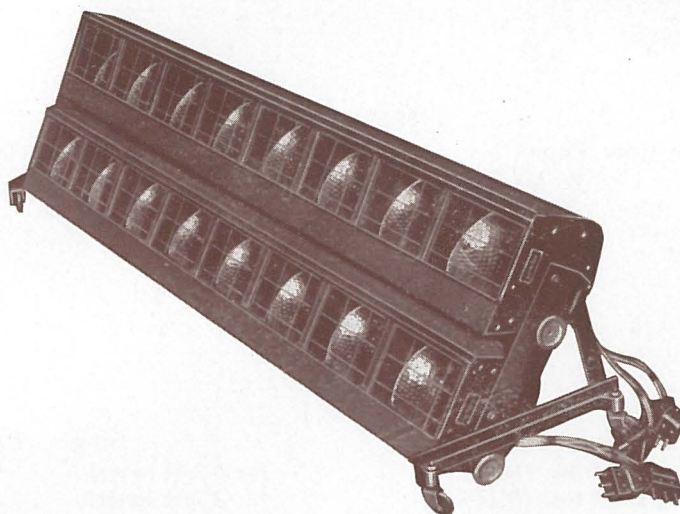
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STRAND CYCLORAMA LIGHTING

CYCLORAMA GROUNDROWS—SINGLE OR DOUBLE ROW
PATTERN "S" FOR 60, 100 OR 150 WATT LAMPS



These groundrows are designed for illumination of cycloramas or backcloths from below, as an auxiliary effect to the top lighting. They have compartments spaced at 9-inch centres, and give more light from fewer lamps than the old 6-inch centre types which they supersede. The "Sunray" silvered glass reflectors give wide angle beams free from hot spots, and light well up the cyclorama or backcloth, even when placed as close as 3 feet. They are made in single and double row types, the latter being used when it is necessary to double the number of compartments allocated to blue, e.g. for large cycloramas.

SPECIFICATION

Housing is strongly constructed in sheet steel, efficiently ventilated, with pressed steel compartment divisions welded in place at 9-inch centres, and the whole is finished in black crystalline outside and matt black inside. Each compartment is fitted with a metal frame with guard wires to take the colour medium and a type A.235 "Sunray" glass reflector mounted in a spring-steel spider and Edison Screw lampholder. Groundrow is manufactured in 3-foot and 6-foot lengths.

Mounting.—Substantial steel brackets are fitted at the ends of each length, giving variable tilt. Sections in the double row type may be tilted individually. Locking handwheels are fitted at each end. Swivel castors (as illustrated) are supplied as an extra on the single row type. They are supplied as a standard part of the double row type. Connectors are not included.

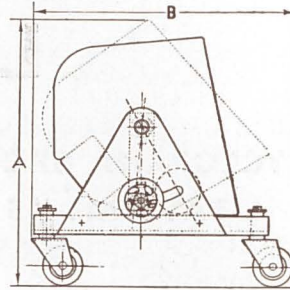
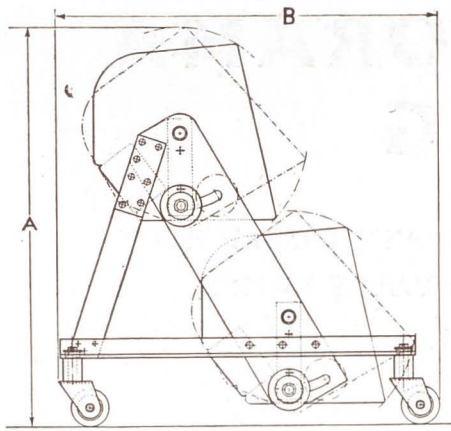
Wiring, which is housed in a sheet-metal trough with removable lid, is carried out in fireproof cable for ours and circuits to suit requirements.

(continued overleaf)

LONDON, MANCHESTER, GLASGOW



DARLINGTON, DUBLIN, MELBOURNE



DIMENSIONS

Double Row Type				Single Row Type					
			Ft. Ins.	mm.			Ft. Ins.	mm.	
A	Max. 1 8½	521	A	...	...	Max. 1 1¾	349
			Min. 1 7½	495				Min. 1 0¾	324
B	1 8	508	B	...	...	1 1½	343
Overall length	6 3	1990	Overall length	...	...	6 3	1990
"	"	...	3 3	991	"	"	...	3 3	991

WEIGHTS (approx.)

Double row type
 Per 6-foot length ... 4 qrs. 16 lbs. (58.1 kg)
 ,, 3-foot length ... 2 qrs. 14 lbs. (31.7 kg)

Single row type
 Per 6-foot length ... 2 qrs. 8 lbs. (29 kg)
 ,, 3-foot length ... 1 qr. 12 lbs. (18.1 kg)

Lamps.— 60 watt General Service type with E.S. Cap or
 100-watt " " " " " " " " or
 150-watt Theatre Batten " " " " " " " " } **N.B.**
 Lamps should be clear NOT pearl.

NOTE. The usual length of groundrow is 6 ft. 3 ft. lengths are normally only required to make up a total length or when short radius of curvature over part of a cyclorama precludes the use of 6 ft. lengths throughout.

ACCESSORIES

185—3-pin 15 amp. moulded slip connectors
 235—Spare wide-angle glass reflectors
 240—Extra metal colour frames (8-inch × 9¼-inch)

241—Gelatine, any colour, except frost (8-inch × 9¼-inch)
 242—Gelatine frost (8-inch × 9¼-inch)
 243—"Cinemoid" in any colour or frost (8-inch × 9¼-inch)

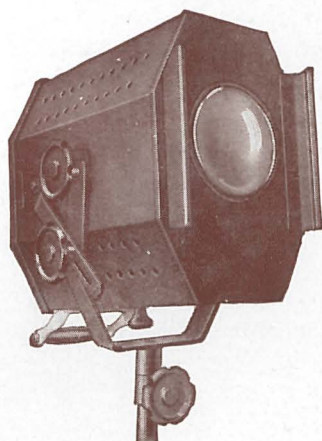
LONDON, MANCHESTER, GLASGOW



DARLINGTON, DUBLIN, MELBOURNE

STRAND EFFECTS LIGHTING

PATTERN 52. 1,000 Watt OPTICAL EFFECTS and SLIDE PROJECTOR

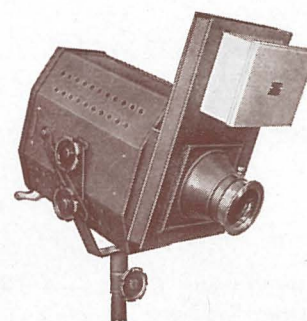


This is a compact lantern, designed for stages, auditorium, and exhibition work. It will project satisfactorily all the STRAND Optical Effects attachments listed on page F.21.

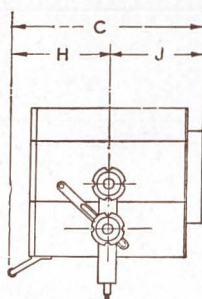
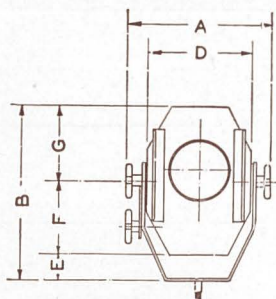
SPECIFICATION

Lantern constructed in sheet steel, efficiently ventilated. Access to lamp by hinged door at rear. 5 in. diameter double plano-convex condenser is fitted, with 3½ in. diameter intensifying lens and O.N.20 heat absorbing glass filter and lamp tray with LARGE PREFOCUS lamp-holder. Both are rigidly fixed in correct focal relationship to each other, adjustments are not necessary and are, therefore, not

provided. The tray can be moved by knob under lantern in order that the beam may cover the size of slide or effect required. Complete with runner to take all standard optical effects attachments. Rockbestos tails, tilting fork and quadrant with 3 in. diameter locking wheels. Removable handle at rear. Finish: black crystalline enamel outside, matt black inside.



Pattern 51 with Wave effects



DIMENSIONS

	Ft.	In.		Ft.	In.
A	...	1 0	F	...	6½
B	...	1 7½	G	...	6½
C	...	1 3¾	H	...	9½
D	...	9½	J	...	6½
E	...	6			

Lamp : 1000 watt Class A.1 Tubular with PREFOCUS cap.

Maximum throw: Normally used up to 60 ft.
Weight: Nett 26 lbs.

	each
	£ s. d.
PRICE (exclusive of lamp)	22 10 0
F.66 - Telescopic stand (minimum height, 4 ft. 3 in.; maximum, 7 ft. 0 in.)..	3 18 6
F.64 - Safety chain with snap hook	3 6
F.65 - "L" clamp for suspending from 2 in. ext. diam. (1½ in. gas) barrel	3 6
F.84 - Adjustable barrel clamp for 1¾ to 2¾ in. external diameter barrel (1¼ to 2 in. gas) ..	11 6
F.302 - 5 in. x 9 in. plano-convex heat-resisting lens	1 11 6
F.310 - Extra 3½ in. diam. heat resisting intensifying lens (for Patt. 52 only)	1 1 0
F.311 - Extra O.N. 20 heat resisting glass filters (for Patt. 52 only)	4 0 0
F.290 - Extra anodised aluminium reflector (for Patt. 51 only)	18 6

HEAD OFFICE AND SHOWROOMS

29, KING STREET, LONDON, W.C.2

SALES AND GOODS - 24, FLORAL ST., W.C.2

TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON

BRANCHES

313, OLDHAM ROAD, MANCHESTER 10

COLLYHURST 2736

62, DAWSON ST., DUBLIN - DUB 74030

STRAND EFFECTS LIGHTING

PATTERN 51. 1,000 watt OPTICAL EFFECTS PROJECTOR

This Lantern (from which the Patt. 52 described overleaf was developed) is intended for the projection of moving optical effects with the longer life Class B.1 and Class T Round Bulb Projector Lamps. It is only suitable for projecting stationary slides if 500 watt lamps are used.

SPECIFICATION

As for Pattern 52 overleaf except that a 5 in. diameter super pure anodised aluminium reflector is included, but the intensifying lens and heat absorbing O.N.20 glass filter are not fitted.

DIMENSIONS AND WEIGHT. As for Pattern 52 overleaf.

LAMPS

For Moving Effects.—1,000 watt Class T or 1,000 watt Class B.1 Round Bulb Projector Lamps with LARGE PREFOCUS CAP in each case.

For Stationary Slides.—~~500 watt Class T or~~ 500 watt Class B.1 Round Bulb Projector Lamps with LARGE PREFOCUS CAP in each case.

PRICE

Pattern 51 (excluding lamp) £15 10s. 0d. each

For prices of accessories see overleaf.

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COLLYHURST 2736
62, DAWSON ST., DUBLIN · DUB 74030

STRAND OPTICAL EFFECTS

Projected optical effects may be stationary or moving, realistic or otherwise. Basically the same equipment is used in each case—a projection lantern, the picture to be projected, its carrier or housing, and an objective lens to focus the projected image. The lanterns most commonly used are the Pattern 51 or 52 Effects Projector (Leaflet F.11) and the Pattern 42 Arc Lantern (Leaflet D.11). These leaflets should be referred to for information regarding types of lamps, amps. of arc, etc.

STATIONARY EFFECTS

For slide projection, using the standard $3\frac{1}{4}$ -in. square slide, a turntable front and slide carrier are necessary. The former (Fig. 1) consists of a casting (A) which fits the front runners of the lantern. Round the centre hole of this is a cast ring carrying a housing (B) for the slide carrier. While the unit (A) is thus fixed to the lantern, the parts (B) and (C), the latter carrying the slide, can rotate about the axis of the lantern to tilt the picture at whatever angle is required. It is then locked in position by a screw (D). The slide carrier itself (C) carrying two slides is simply slipped into the mounting and held in position by a knurled knob (E). On the front of the mounting are runners (F) for the objective lens and colours with two knurled screws (G) to retain the objective steady. Viewed from the rear a slide is inserted upside down and left to right. Some cloud slides are painted on mica and are held in a special frame which fits the turntable (B) direct without the slide carrier.

For objective lenses see page 4. Correct choice of these will help to minimise distortion at the edges of the picture. Further distortion is of course likely to occur when a picture is projected at an angle to the cyclorama or screen. With non-rectilinear pictures such as clouds some distortion may be acceptable, but if not and if the slides are non-photographic, i.e. drawn or painted, advice should be sought as to the means of minimising the defect by the contra distortion of the picture on the slide.

MOVING EFFECTS

In general these are used to produce such realistic effects as rain, clouds, snow, etc. The method of obtaining the movement is by the rotation of a disc at an appropriate speed in place of a slide, the disc having

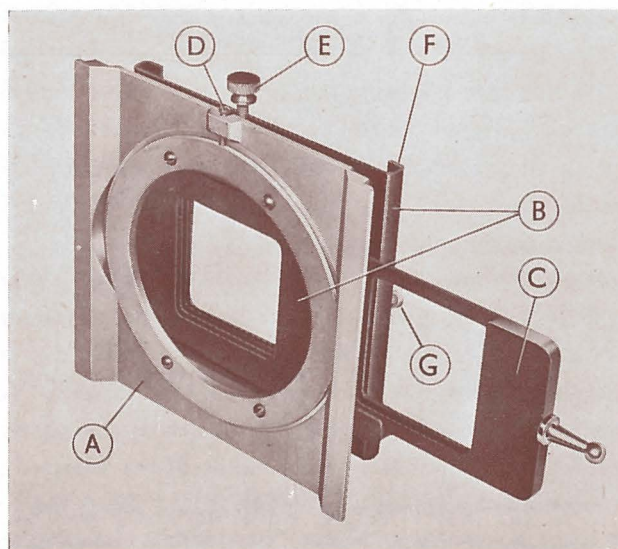


Fig. 1.—Turntable with slide carrier assembly viewed from the rear. (A) This casting slides into and remains upright with the runners of the projector lantern. (B) Housing for (C) Slide Carrier. Both (B) and (C) can rotate relative to (A) when (D), the tilt locking screw, is slackened. (E) Knurled screw retaining slide carrier (C) in its housing (B). (F) Runners for objective lens assembly. (G) Knurled screw retaining objective in runners (F).

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
SALES AND GOODS - 24, FLORAL ST., W.C.2
TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON



BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

photographed, or marked thereon by other means, a representation of the desired effect. Certain limitations will be immediately apparent, e.g., periodic repetition, movement in one plane only from a single projector and a tendency to a curved path of movement, but these do not necessarily make such effects unacceptable. The disc is carried on a centre spindle in an aluminium case (A, Fig. 2) which has an aperture for the projected beam. On the back of the case round this aperture is a turntable for swivelling the effects. This is of the same design as that carrying the slide carrier as described above.

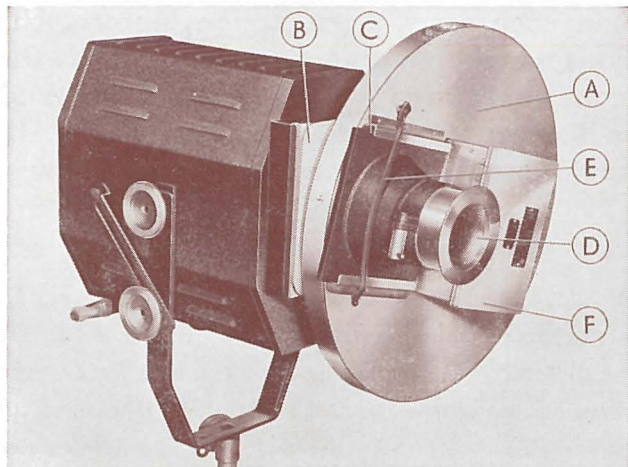


Fig. 2.—Pattern 51 with effects disc and objective lens in position. The effect has been rotated by means of turntable to give downward diagonal direction to the projected effect. (A) Disc housing, (B) Turntable casting, (C) Colour (or mask) and objective runners, (D) Objective lens, (E) Objective lens retainer spring, (F) Motor housing.

carried in a box (F), is the electric driving mechanism (Fig. 3) which can be used on A.C. supplies only. This is a constant speed motor (A) geared to a shaft (B) carrying a small rubber tyred wheel (C), the position of the latter being adjustable along the length of the shaft. This bears on and drives an aluminium plate (D) locked to the centre spindle (E) of the effects disc. The system is known as a "potter's wheel" drive. When the small driving wheel (E) is positioned on its shaft so as to drive the outside edge of the plate (D), the resulting speed of travel of the disc will be slowest. The nearer it is moved towards the centre of the potter's wheel the faster will be the rotation of the effects disc. Motors having speeds appropriate to the effects disc are fitted but the potter's wheel gives a final choice to the user, Furthermore, if the small driving wheel (C) is moved past the centre (E) of the plate to drive the opposite side, this has the effect of reversing the direction of travel of the disc and obviates the necessity for rotating the effect on the lantern to obtain the same results. Electric drives are fitted as standard to all moving effects except the self-contained tubular ripple effect Ref. F.342. The latter is clockwork driven as it can only be used on the stage floor and is therefore readily accessible for rewinding between scenes or performances.

Once the locking screw has been loosened the whole effect-case can be swivelled about the axis of the projector whilst the casting (B) is held in the front runners of the lantern. This movement is needed with an effect driven by a uni-directional motor so that the direction of picture movement can be selected, i.e., to left, to right, upwards, downwards or diagonally at any angle. On the front of the case are two runners (C); that at the rear for colour mediums or an adjustable mask, the other for the objective lens (D) which focusses the picture. There is a spring-loaded retaining wire (E) to hold the lens in position even when the effect disc is rotated to give the required direction. Also on the front of the case,

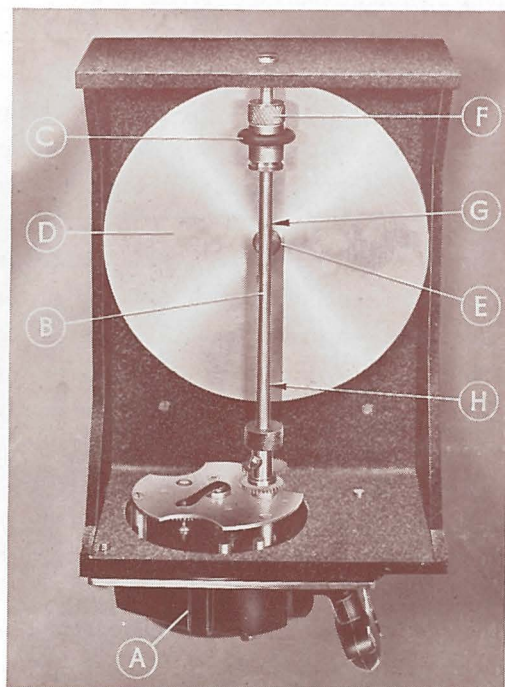


Fig. 3.—Electric motor with potter's wheel drive for effects. (A) Motor, (B) Driving shaft carrying (C) Rubber-tyred wheel transmitting drive to (D) Driven plate which in turn rotates effects disc via (E) Centre spindle to which both are locked. (F) Knurled screw after loosening which the position of wheel (C) on shaft (B) may be adjusted for speed and direction. If moved to position (G) for example the speed will be maximum or if to (H) which is on the opposite side of effects spindle (E), the speed would be slow and the direction reversed.

SLIDES

Certain standard types of 3¼-in. square slide are available from stock, or at very short notice. These include Fleecy Summer Clouds, Storm Clouds, Moon, Stars, etc. Alternatively, cloud slides can be supplied fitted in a metal frame which obviates the use of a slide carrier.

We are always pleased to provide slides to customer's special requirements from artist's drawings or photographs. If no original is available we can often provide something suitable if we are given sufficiently detailed information.

PRICES

Slides	from 10s. each
	£ s. d.
F.148—Forked Lightning Effect, hand operated with two interchangeable aluminium slides (It forms its own slide and slide carrier. Lantern and objective lens not included)	7 5 0 each

Accessories

F.154—Turntable front (see fig. 1) to take either slide carrier F.155 or F.156 below (slide carriers not included)	7 7 0 each
F.155—Standard (metal) slide carrier (slide size 3¼ ins. square)	3 0 0 "
F.156—Universal (metal) slide carrier (slide sizes 3¼ ins. square to 4 ins. x 3¼ ins.)	5 0 0 "
F.343—Adjustable metal mask for limiting beam shape to proscenium, etc.	11 6 "

MOVING EFFECTS ATTACHMENTS

It is not possible to list all the many effects that are available but the principal ones will be found below. Quotations for preparing other types or the design of special apparatus will be furnished on receipt of requirements. Alterations to standard designs or construction of new effects to the customer's ideas can be carried out and demonstrated under working conditions.

Disc type. Glass disc with effect painted, photographed or otherwise reproduced thereon, in 18¾-in. diam. aluminium housing, with electric motor variable speed drive. Rotating turntable to permit angle of travel of effect (relative to the vertical and horizontal) to be altered, and runners for colours or mask, and for objective lens assembly. Weight 11½ lbs. approx.

PRICES

(Effect disc in case with Electric Motor. Lantern and objectives not included)

	£ s. d.
F.134—Fleecy Clouds (white)	35 10 0 each
F.135—Storm Clouds (dark)	35 10 0 "
F.136—Rain	36 10 0 "
F.137—Snow	39 0 0 "
F.138—Waterfall	35 10 0 "
F.139—Running Water	35 10 0 "
F.140—Smoke	35 10 0 "
F.141—Flames	35 10 0 "
F.147—Dissolving Colours	30 10 0 "

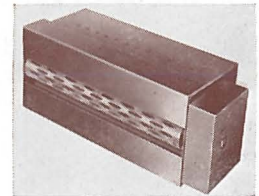
Other types (Effect in case with Electric Motor. Lantern and objective lenses not included)

*F.143—Sea Wave	29 10 0 each
*F.144—Water Ripple	29 10 0 "
*F.145—Under Sea	29 10 0 "

**These effects are contained in wooden cases, 17½ in. x 10½ in., complete with slide and break up glasses imparting movement by means of an A.C. motor with variable speed drive. They cannot be rotated for angle correcting purposes and should therefore be used for fairly "square-on" projection.*

Weight 9½ lbs. approx.

F.342—Tubular Ripple Effect, self-contained in sheetmetal case with variable-speed clockwork drive and requiring no projection lantern or objectives. Complete with colour frame. For close range work behind ground rows only. Runs 4-6 hours on one winding. Uses 1,000 W. Horizon type lamp. (Weight 28 lbs.) £33 0 0



Accessories

F.343—Adjustable metal mask (For use with all effects on this page excepting F.342) for limiting beam shape to proscenium, etc.	£0 11 6
F.346—Beam diverter mirror for altering direction of emergent beam relative to lantern. (Fits objective assemblies F.151, F.152, F.153 overleaf)	£2 0 0

SHORT FOCUS OBJECTIVE LENS ASSEMBLIES

Consisting of aluminium cast housing with sliding brass lens jacket, fitted with securing thumbscrew, best-quality 3½ in. diam. British lenses, and backplate to fit standard effect attachment runner.



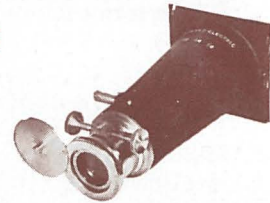
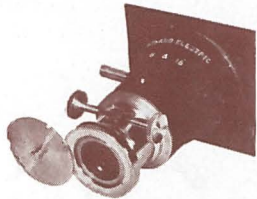
PRICES (complete with lens)

F.151—2½-in. focus, extra wide angle, 14 ft. 0 in. square (¾ in. x ¾ in. slide) at 10 ft.	£	s.	d.	each
F.152—3-in. focus, wide angle, 10 ft. 0 in. " " " " "	..	7	3	0
F.153—4-in. focus, narrow angle, 6 ft. 6 in. " " " " "	..	7	3	0

Weights: F.151 ¾ lbs.; F.152 ¾ lbs.; F.153 ¾ lbs.

LONG FOCUS OBJECTIVE ASSEMBLIES

Consisting of cast aluminium housing with rack and pinion operated sliding brass front carrying best quality 2⅜ in. diam. British lenses.



PRICES (Assemblies and lenses are priced separately below)

F.344—Long Focus (6, 8 or 10-inch) objective assembly without lens. Weight 5½ lbs.	£	s.	d.	each
F.345— " " (12, 14 or 16 ") " " " " " " " " " " 8¾ lbs.	22	15	0	"
F.328— 6-in. focus lens for F.344	..	..	..	9 12 0 "
F.329— 8-in. " " " " "	..	..	..	9 12 0 "
F.330—10-in. " " " " "	..	..	..	9 12 0 "
F.331—12-in. " " " " F.345	..	..	..	9 12 0 "
F.332—14-in. " " " " "	..	..	..	9 12 0 "
F.333—16-in. " " " " "	..	..	..	9 12 0 "

(Weight of lenses 1 lb. each.)

Distance between Lantern and Screen	TABLE GIVING FOCUS OF LENS FOR VARIOUS LENGTHS OF THROW									Distance between Lantern and Screen
	6 in.	8 in.	10 in.	12 in.	14 in.	16 in.	18 in.	20 in.	24 in.	
	(Square Picture from ¾" x ¾" Slide)									
Ft.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft.
10	5 0	3 9	3 0	2 6	2 2	1 9	1 6	1 3	1 0	10
11	5 6	4 2	3 4	2 9	2 4	1 11	1 8	1 4	1 1	11
12	6 0	4 6	3 7	3 0	2 7	2 1	1 10	1 6	1 2	12
13	6 6	4 11	3 11	3 3	2 9	2 3	1 11	1 8	1 4	13
14	7 0	5 3	4 2	3 7	3 0	2 5	2 1	1 9	1 5	14
15	7 6	5 8	4 6	3 9	3 3	2 7	2 3	1 10	1 6	15
20	10 0	7 6	6 0	5 0	4 3	3 6	3 0	2 6	2 0	20
25	12 6	9 4	7 6	6 3	5 4	4 4	3 9	3 1	2 6	25
30	15 0	11 3	9 0	7 6	6 5	5 3	4 6	3 9	3 0	30
35	17 6	13 1	10 6	8 9	7 6	6 1	5 3	4 4	3 6	35
40	20 0	15 0	12 0	10 0	8 6	7 0	6 0	5 0	4 0	40
45	22 6	16 10	13 6	11 3	9 8	7 10	6 9	5 7	4 6	45
50	25 0	18 9	15 0	12 6	10 9	8 9	7 6	6 3	5 0	50

PRICE SCHEDULE

for

ULTRA VIOLET EQUIPMENT

and

FLUORESCENT MATERIALS

LANTERNS

excluding lamps and chokes
(for use on A.C. supplies only)

	£	s	d	
Pattern 230C	4	7	6	each
Pattern 30C	8	14	6	„
Pattern 237C	4	4	0	„
Pattern 43C	14	11	6	„

ACCESSORIES

Electrical

125w. Black lamp	3	3	0	each
Choke for above	5	9	4	„

Optical

Item No.				
380	5	6	0	„
381	3	15	0	„



THE STRAND ELECTRIC & ENGINEERING CO. LTD.

LONDON · MANCHESTER · GLASGOW · DARLINGTON
DUBLIN · MELBOURNE

PAINTS, Etc.

Item No.	Per ½ lb tin	Per 1 lb tin	In one or more colours, orders of not less than		
			14 lbs	28 lbs	56 lbs
Paint (Colours & Invisible) U.V.11–U.V.23 inclusive (except U.V.13 & U.V.22)	12/6	25/-	per lb 24/-	per lb 23/-	per lb 22/-
Undercoat U.V.10	6/3	12/6	11/6	11/-	10/6
Varnish U.V.30	6/3	12/6	11/6	11/-	10/6

Thinners

U.V.28 5/3 per ½ pint. 10/6 per pint. 64/- per gallon.

Neutraliser

U.V.29 22/6 per ½ lb 45/- per lb

For orders of not less than		
7 lb	14 lb	28 lb
per lb 43/6	per lb 41/6	per lb 40/-

Fountain Additive

Item Nos.	Colour	Amount of water to be treated	Price of powder per gallon of water to be treated
U.V.31	Blue	10–49 gallons	6½d per gallon
U.V.33	Green	50–99 "	5½d " "
U.V.36	Orange	100–199 "	5d " "
U.V.39	Red	200–399 "	4½d " "
		400–600 "	4d " "

Note : The minimum quantity supplied in any one colour is sufficient to treat 10 gallons of water.

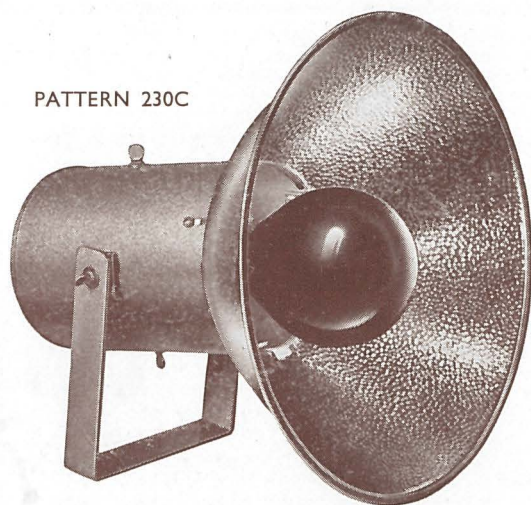
Paper Sheets

U.V.50 3/- per sheet plus 1/5 postage & packing to U.K. address (non-returnable). Postage free for 12 sheets and over.

Except where otherwise stated all prices for fluorescent goods are exclusive of carriage. Packing cases are charged at cost but credited in full on return in good condition carriage paid from U.K. address. No packing or cases are returnable from overseas.

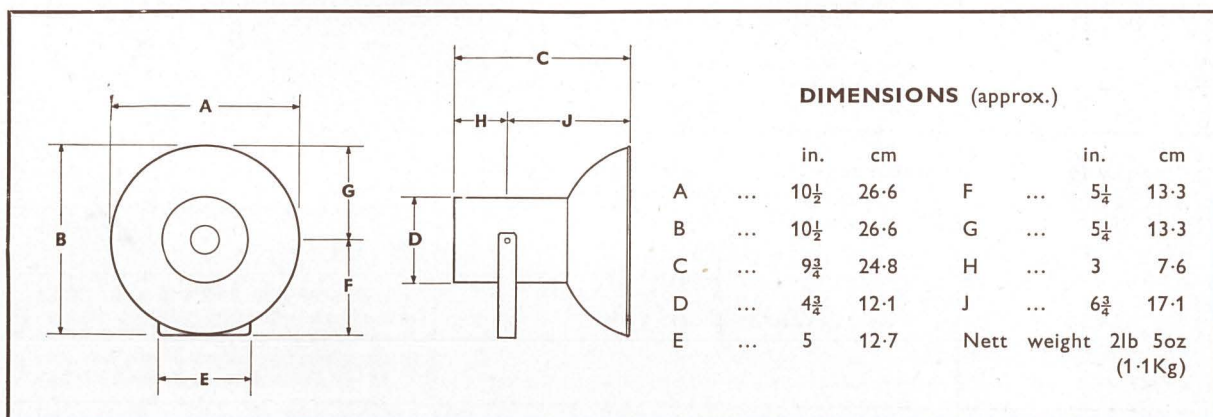
STRAND U.V. EQUIPMENT

PATTERN 230C



For ULTRA VIOLET, FLUORESCENT or "BLACK LIGHT" EFFECTS

This whole subject—the lighting equipment, paints etc., and the various methods of application are more fully described in our booklet "Black Light" which is available free on request together with a sample range of available colours. Intending users are referred to this publication for fuller information.



AVAILABLE LANTERNS (For A.C. Supply only)

Pattern 230C U.V. Display flood consisting of Anodised Aluminium Reflector, special lampholder in metal housing with focussing adjustment, the whole mounted on a tilting fork with locking screws. Finished grey and silver, unwired. Beam angle 55° maximum 25° minimum.

Pattern 30C U.V. Stage flood as described on leaflet B.11 but adapted to take Black Lamp.

Pattern 237C Float flood as described on leaflet B.10 but adapted to take Black Lamp.

Pattern 43C U.V. Stage spot as described on leaflet C.31 but adapted to take Black Lamp.

All the above use a 125W Black Lamp.

Certain of our standard arc lanterns may be used for U.V. effects with no other modification than the insertion of a flat "black glass" filter in the colour runners.

ACCESSORIES

ITEM NO.

380—Toughened "black glass" filter for U.V. effects to fit Patterns 42 Arc and 501 Sunspot Arc in adjustable metal frame size 10½ in. × 7½ in. adjustable to 10½ in. × 9 in. (26.6 cm × 19 cm to 26.6 cm × 23 cm).

ITEM NO.

381—Toughened "black glass" U.V. filters only, size 6 in. × 6 in. (15.2 × 15.2 cm) to fit Item 380 type or customer's own frames.

LONDON, MANCHESTER, GLASGOW



DARLINGTON, DUBLIN, MELBOURNE

STRAND FLUORESCENT MATERIALS

This whole subject – the lighting equipment, paints etc., and the various methods of application are more fully described in our booklet "Black Light" which is available free on request together with a sample range of available colours. Intending users are referred to this publication for fuller information.

PAINTS, ETC.

This new range of paints are more brilliant, can be intermixed, and can be sent by post or passenger train. Apply on a white background, preferably treated with special undercoat for maximum effect.

Item No.	Colours		Quantities
	Under ordinary light	Under Ultra Violet only	
U.V.11 U.V.12 U.V.14 U.V.15 U.V.16 U.V.17 U.V.18 U.V.19 U.V.20	Blue White Green Yellow Orange Cream Pink Flame Cerise	Blue Blue Green Yellow Amber White Pink Red Dark Red	Available in $\frac{1}{2}$ lb (225 g) and 1 lb (450-g) tins. Orders may consist of one or more colours to qualify for the price reductions per lb which are given progressively for quantities of not less than 14 lb (6.3 kg) 28 lb (12.7 kg) or 56 lb (25.4 kg). One lb of paint covers approximately 60 sq. ft. (5.5 sq. m).
†U.V.21 †U.V.23	Invisible Blue Fluorescent Liquid Paint Invisible Green Fluorescent Liquid Paint † These liquid paints are virtually colourless under normal light, and are specially suited for treating light coloured fabrics. They are not intermixable with Paints Nos.: U.V.11-20.		
U.V.10	Special undercoat. For use with any of the above paints except U.V.21 and U.V.23.		Available in $\frac{1}{2}$ lb (225 g) and 1 lb (450 g) tins. Progressive reductions in price per lb. are given for quantities of not less than 14 lb (6.3 kg), 28 lb (12.7 kg) or 56 lb (25.4 kg).
U.V.30	Clear Protective Varnish		Available in $\frac{1}{2}$ lb and 1 lb tins (225 g and 450 g). Progressive quantity price reductions per lb are given for orders of not less than 7, 14 or 28 lb (3.1; 6.3; or 12.7 kg).
U.V.28	Thinners for Fluorescent Paints		Available in $\frac{1}{2}$ pint, 1 pint (0.25 or 0.5 litres) or larger quantities. There is a price reduction per pint for orders of 1 gallon (4.5 litres) or more.
U.V.29	Neutraliser (Black) for Fluorescent paints		Available in $\frac{1}{2}$ lb (225 g) or 1 lb (450 g) tins. There is a progressive price reduction per lb, for quantities of not less than 7, 14 or 28 lb (3.1, 6.3 or 12.7 kg).
	Item No.	Colours	
FLUORESCENT FOUNTAIN ADDITIVE (POWDER)	U.V.31 U.V.33 U.V.36 U.V.39	BLUE GREEN ORANGE RED	This powder is not sold by weight but in quantities sufficient to treat the number of gallons of water involved. This figure must therefore be considered at the time of ordering. The minimum quantity of powder supplied in any one colour is sufficient for treating 10 gallons (45 litres) of water. Progressive price reductions are given when the quantity of water to be treated reaches 50, 100, 200 and 400 gallons respectively (225, 450, 900 and 1800 litres).
	Item No.	Colours	Size
FLUORESCENT PAPER SHEETS	U.V.50	As U.V.11 to U.V.20 above	25 in. × 20 in. (less small margin) (63.5 cm × 50.8 cm)

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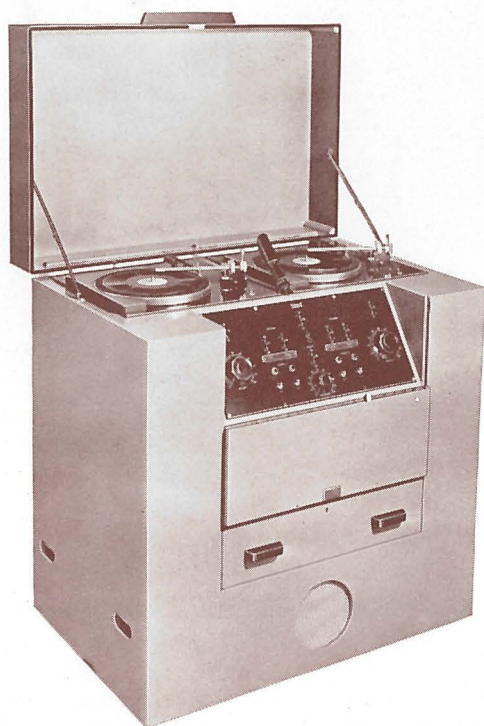
DARLINGTON, DUBLIN, MELBOURNE

STAGESOUND

AUDIO REPRODUCTION EQUIPMENT

TYPE C.2 SOUND CONSOLE

This is a standard record replay console designed for theatre use, equipped with two 12-in. turntables, two lightweight pickups with provision for accurate groove location, monitor loudspeaker and 30-watt twin audio channels. Provision is made to feed one turntable into one set of speakers and the other turntable into a second set of speakers—this system being particularly useful when it is required to have two effects in operation on different parts of the stage. Also in the event of a breakdown in one of the amplifiers, instantaneous changeover is available into the second amplifier.



SPECIFICATION

TURNTABLES—Accurate aluminium cast turntables running in impregnated sleeve bearings, rim driven by a special belt system ensuring freedom from slip and "wow". Powered by 1/50th h.p. motors which are synchronous and fitted with a special filter unit mounting ensuring a minimum of transmitted vibration.

PICKUPS—Lightweight microcell crystal type employing a plug-on type head assembly for ease of replacement. The heads are fitted with a permanent sapphire stylus which can only be removed by the use of special jigs, and therefore when the sapphire requires replacement the head must be returned to our service department. Two spare heads are normally supplied and contained in special clips on the motor plates for instant changeover.

The response of these pickups is level within ± 2 db from 50-11,000 c.p.s.

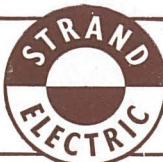
LOCATORS—Locating and lowering mechanisms for each pickup are fitted which in addition to locating, incorporate a safety lowering mechanism. The final lowering of the pickup is automatically decelerated, preventing damage to records and styli. Location of pickups may be controlled with direct calibration to within 1/1000 in.

AUDIO CHANNELS—Two channels are provided, each consisting of a feedback amplifier with a rated audio output of 30 watts, the general specification of the amplifiers is as follows:

Response	Level within 2 db from 50 c/s to 20 k/cs.
Output	30 watts.
Output Impedance	Internally adjustable for 4, 7.5, and 15 ohms.
Input Impedance	High impedance for extra external pickups. 15 ohms for Microphone.
Tone Control	Variable treble attenuation. Switchable bass boost circuit for pickups to lift response 10 db at 50 c/s relative to the level of 1 k/c.

MONITOR—A built-in 8-in. monitor speaker is fitted in front of the console with the volume control and muting selector switch for audio channel A or B.

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
SALES AND GOODS - 24, FLORAL ST., W.C.2
TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON

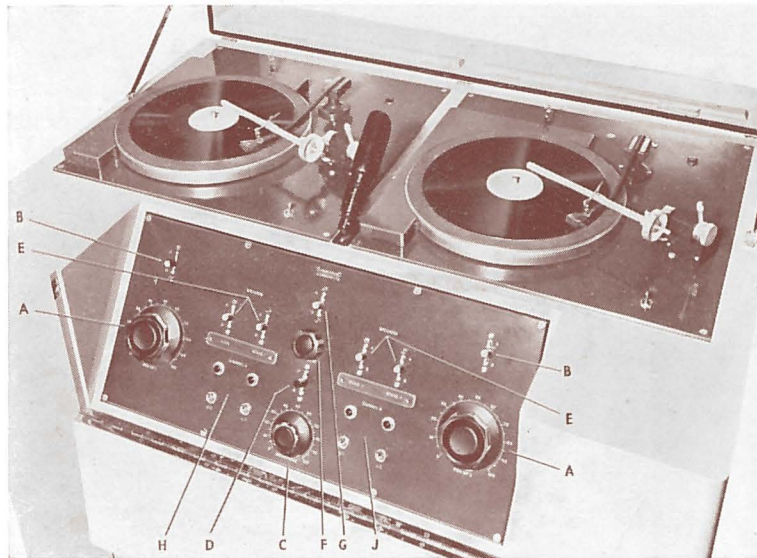


BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

STAGESOUND

AUDIO REPRODUCTION EQUIPMENT

TYPE C.2 SOUND CONSOLE



CONTROL PANEL—This is situated in the front of the console, illuminated from each side, and contains the following controls:

- A Volume control for each pickup.
- B Key for each pickup allowing them to be fed into either audio channel.
- C Volume control for microphone.
- D Key for microphone allowing it to be fed into either audio channel.
- E Four speaker keys allowing four speakers to be fed from either audio channel.
- F Volume control for monitor speaker.
- G Key for monitor allowing either audio channel to be monitored.
- H Main switches for each audio channel with illuminated indicators to show when the amplifiers are on.
- J Switches for panel lights and motor plate lights.

All the changeover keys are of the silent type and have a centre "Off" position.

PRICE (of Console complete as specified but excluding microphones or external loudspeakers)

each

CONSOLE—Strongly constructed wooden console finished in grey gloss cellulose mounted with black and chrome fittings. All panels are finished in royal blue stoved enamel.

The console is mounted on four rubber-tyred castors. A drawer is fitted in front of the console for records. Both drawer and main lid are fitted with locks.

The amplifier units are mounted on rubber mountings to eliminate vibration in transit.

A clip-on back is fitted for ease of servicing and the inside is illuminated.

All outputs and inputs are situated in the rear of the console at the bottom, and are mounted on a sunk metal panel. All plugs and sockets have a lock which eliminates any plug being accidentally pulled out. Also fitted on the rear panel is a 5-amp. 3-pin socket for soldering iron, inspection lamp, or other mains voltage fitting.

MAINS INPUT—200-250 volts A.C., 50 cycles per second. Special voltages and frequencies to order.

DIMENSIONS—40 in. wide by 45 in. high by 26 in. deep.

WEIGHT—Approximately 175 lb.

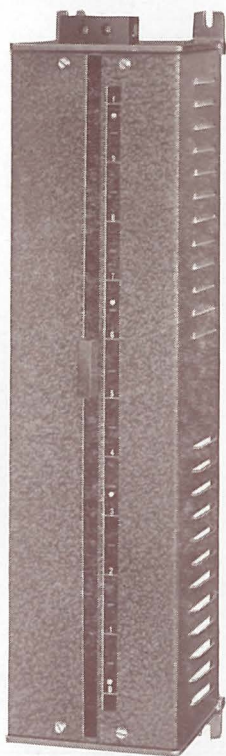
HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
SALES AND GOODS - 24, FLORAL ST., W.C.2
TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON



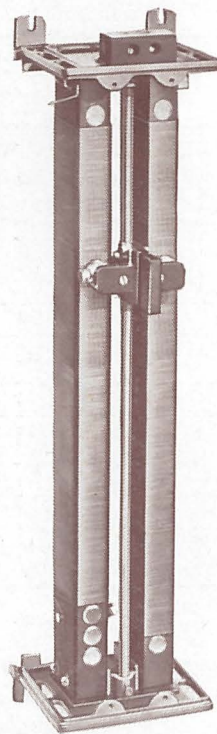
BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
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STRAND DIMMERS

SLIDER TYPE



Slider dimmer with cover fitted, showing graduated scale.



Slider dimmer with cover removed to show interior.

SPECIFICATION

General Construction.—Resistance elements are fitted between cast end-plates and enclosed with substantial sheet metal louvered guards, so arranged that they form a narrow slot through which the operating knob projects. A scale, graduated from 0 to 10, is fitted to the cover. Terminals are fitted at one end and slotted lugs are provided for fixing.

Resistance Elements.—These consist of best quality slate formers with carefully graduated windings of nickel copper alloy wire. Brass studs of ample size are provided for 'full on' and 'off' positions. Great care is taken in calculating windings to ensure that an even and progressive variation in light is achieved throughout the whole of the brush travel.

Brushgear.—A pair of self-lubricating copper graphitic brushes are fitted as standard, these being carried in an aluminium die cast carriage with a moulded bakelite operating knob, the whole sliding on a substantial brass rod.

The use of copper graphitic brushes and the design of brush carriage ensure a smooth, effortless movement over the whole travel.

Terminals.—A terminal block consisting of an ebonite former with brass inserts is fitted to end plate.

Off Position.—A quick break switch is fitted at 'Dim' end of travel to switch off the dimmer. This is operated by a flicker fitted to the brush carriage and is so arranged that it is impossible to break circuit accidentally.

Finish.—End plates and guards are stove enamelled hammered grey.

See overleaf for ranges, dimensions, and prices.

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29, KING STREET, LONDON, W.C.2
SALES AND GOODS - 24, FLORAL ST., W.C.2
TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON



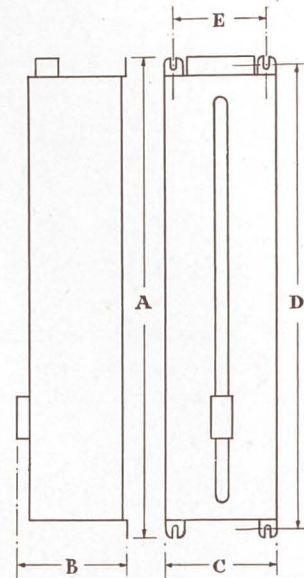
BRANCHES
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STRAND DIMMERS

SLIDER TYPE

FIXED LOAD DIMMERS. TABLE 1.

Type No.	Circuit Watts	Overall Dimensions inches			Fixing Centres inches		Weight lbs.	Prices £ s. d.
		A	B	C	D	E		
S.S.12	{ 60 100 150 200 }	14½	4	4½	13½	3½	7	3 12 6
S.S.15	{ 250 300 350 to 400 inclusive 450 to 500 inclusive }	17½	4	4½	16½	3½	8	3 19 6
S.S.18	550 to 650 inclusive ...	20½	4	4½	19½	3½	9	4 2 6
L.S.15	{ 700 to 800 inclusive 850 to 900 inclusive }	17½	4½	5½	16½	4	13	4 7 6
L.S.18	950 to 1050 inclusive ...	20½	4½	5½	19½	4	14	4 16 0
L.S.21	{ 1100 to 1250 inclusive 1350 to 1500 inclusive }	23½	4½	5½	22½	4	15	5 2 0
2 L.S.15	1600 to 1800 inclusive	16½	5	10½	16½	9	26	9 2 0
2 L.S.18	1900 to 2100 inclusive ...	19½	5	10½	19½	9	28	9 7 0
2 L.S.21	{ 2200 to 2500 inclusive 2700 to 3000 inclusive }	22½	5	10½	22½	9	30	9 13 0



See Tables 1 and 2 for dimensions.

VARIABLE LOAD DIMMERS. TABLE 2.

Type No.	Circuit Watts	Overall Dimensions inches			Fixing Centres inches		Weight lbs.	Prices £ s. d.
		A	B	C	D	E		
S.S.18	375 ± 1/3 (250 to 500 inclusive) ...	20½	4	4½	19½	3½	9	4 2 6
L.S.15	450 ± 1/3 (300 to 600 inclusive) ...	17½	4½	5½	16½	4	13	4 7 6
L.S.21	{ 750 ± 1/3 (500 to 1000 inclusive) 900 ± 1/3 (600 to 1200 inclusive) ... }	23½	4½	5½	22½	4	15	5 2 0
2 L.S.21	1500 ± 1/3 (1000 to 2000 inclusive) ...	22½	5	10½	22½	9	30	9 13 0

IMPORTANT NOTES

- (1) Both type and circuit wattage must be stated when ordering.
- (2) Dimmers specially wound to handle loads ± 1/3rd of their rated capacity, can only be supplied as indicated in table 2 above.
- (3) The dimmers listed in Tables 1 and 2 above are not suitable for Junior type switchboards. Special dimmers are available for this purpose for which see leaflet H/42.
- (4) The symbol ± indicates "plus or minus".
- (5) Extra on prices in tables 1 and 2 if dimmers are arranged for conduit entry.

16/6 each

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
SALES AND GOODS - 24, FLORAL ST., W.C.2
TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON

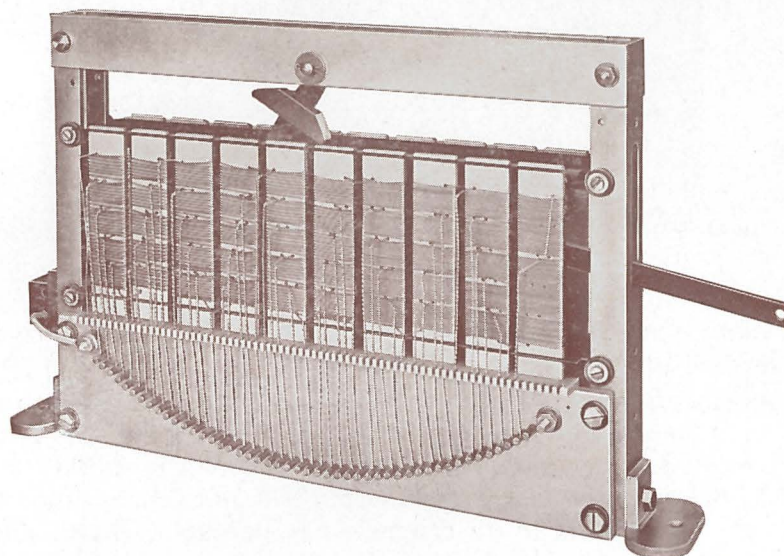


BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

STRAND DIMMERS

"SUNSET" DIMMERS TYPES A AND A.1 (ELEMENT PATTERN)

These dimmers have been specially designed for use on "STRAND" switchboards, etc., in a compact form, dimensions being reduced to a bare minimum. They consist of a substantial frame with replaceable elements arranged in two halves, these being connected in series through a movable brush of anti-friction material.



Type A "Sunset" dimmer.

The Type A dimmer is capable of handling a maximum load of 2,500 watts at 200/250v. or 2,000 watts at 100/110v. The Type A.1 dimmer will handle a maximum load of 3,500 watts at 200/250v. For loads up to a maximum of 3,500 watts at 100/110v. the two halves of a Type A.1 dimmer are connected in parallel. This is effected by fitting collector segments and using a double brush.

A wide range of variable loads can be handled on these dimmers, the maximum variation being plus or minus $33\frac{1}{3}\%$ of the rated load. The maximum carrying capacity of a dimmer is reduced to 80% of the figures stated above when wound for a variable load.

For loads greater than those specified above a number of dimmers can be coupled for operation by a single control.

Frame.—Die castings of robust design with interchangeable mountings; these can be suitably arranged for front or rear of switchboard entry, and for banking for motor drive.

Panels.—Pierrite C.O. grade heat-resisting insulating material, of ample size to prevent warping.

Terminals and Studs.—Brass studs of ample size are fitted with special collets for connecting elements.

Elements.—Pierrite C.O. grade heat-resisting insulating material wound with graduated winding of nickel-copper alloy wire. Wire is non-corrosive and is unaffected by atmospheric conditions and also has a negligible temperature co-efficient.

Brush.—Anti-friction "Copper Morganite" of ample section to carry current required without voltage drop.

Insulation.—Panels, elements, brush and other live parts are completely insulated from the frame with bushings and washers, care being taken to prevent damp creeping in at these points. The insulation resistance of an individual dimmer is not less than 20 megohms measured with a 500-volt testing set.

General.—All dimmers have a definite "off" position. Dimmers are made with 100 steps of resistance and windings are calculated to give flickerless dimming from "full on" to "off" when used with the rated load.

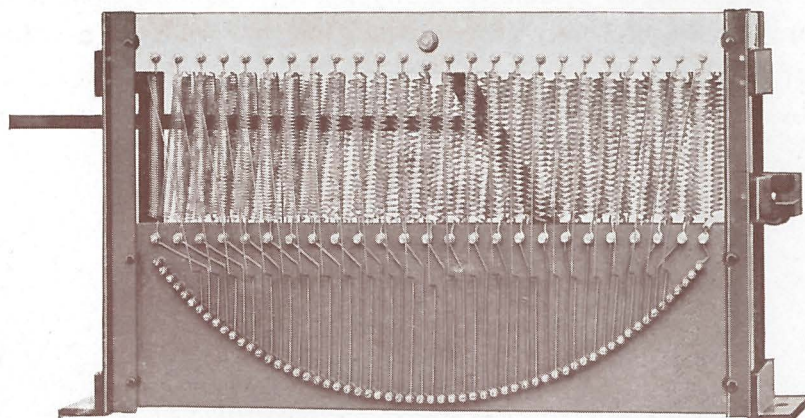
LONDON, MANCHESTER, GLASGOW



DARLINGTON, DUBLIN, MELBOURNE

STRAND DIMMERS

“ SUNSET ” DIMMERS TYPE D (COIL PATTERN)



Type D "Sunset" dimmer.

These dimmers have been developed for use on "STRAND" switchboards, etc., when the majority of the loads are in excess of the maximum for Type A.1 dimmer.

They consist of a substantial frame fitted with resistance coils arranged in two halves, these being connected in series through a movable brush of anti-friction material. These dimmers are capable of handling a maximum load of 5,000 watts at 100/110v. or 200/250v. When used on 100/110v. for loads above 2,500 watts, and up to the maximum of 5,000 watts, it is necessary for the two halves to be connected in parallel. This is effected by fitting collector segments and using a double brush.

A wide range of variable loads can be handled on these dimmers, the maximum variation being plus or minus $33\frac{1}{3}\%$ of the rated load. The maximum carrying capacity of dimmer is reduced to 80% of figures stated above when wound for a variable load.

For loads greater than those specified above a number of dimmers can be coupled for operation by a single control.

Frame.—Wrought iron of robust design suitably arranged with interchangeable mounting for front or rear of switchboard entry, and for banking for motor drive.

Panels.—Main and top panels of Pierrite C.O. grade heat-resisting insulating material of ample size to prevent warping.

Terminals and Studs.—Studs, screws, etc., are of brass throughout. Studs of ample size are fitted with special collets for connecting coil. Resistance coils are secured with brass screws and nuts, with washers on each side of loop to ensure good contacts.

Resistance Coils.—Graduated winding of nickel-copper alloy wire, non-corrosive, unaffected by atmospheric conditions, and with a negligible temperature co-efficient.

Brush.—Anti-friction "Copper Morganite" of ample section to carry current required without voltage drop.

Insulation.—Panels, coils, brush and other live parts are insulated from the frame with bushings and washers, care being taken to prevent damp creeping in at these points. The insulation resistance of an individual dimmer is not less than 20 megohms measured with a 500-volt testing set.

General.—All dimmers have a definite "off" position. Dimmers are made with 100 steps of resistance and windings are calculated to give flickerless dimming from "full on" to "off" when used with the rated load.

LONDON, MANCHESTER, GLASGOW



DARLINGTON, DUBLIN, MELBOURNE

STRAND PORTABLE SWITCHBOARDS

NON-INTERLOCKING JUNIOR SLIDER TYPE FOR A.C. ONLY

(See also leaflet H.42 for further details of Junior Switchboards)

SPECIFICATION

The portable JUNIOR Switchboard consists of a sheet steel frame, finished hard hammer grey, on which is carried a black switch panel. Each circuit has one 5 amp. locking type fuse, a silent action circuit switch, a flush 2 pin socket for a dimmer, a silent two-way switch (to feed the circuit either through the 60 amp. slow break blackout switch, or independent of it), and an engraved label with the circuit number. A bushed hole and heavy terminals are provided for the incoming mains. Circuit connection is made to a flush 5 amp. 3 pin socket. The lower metal panel is drilled to take the maximum number of either J.L.S. 21 500/1000 watt or J.L.S. 15 250/500 watt slider dimmers, which can be purchased or hired separately.

OPERATION

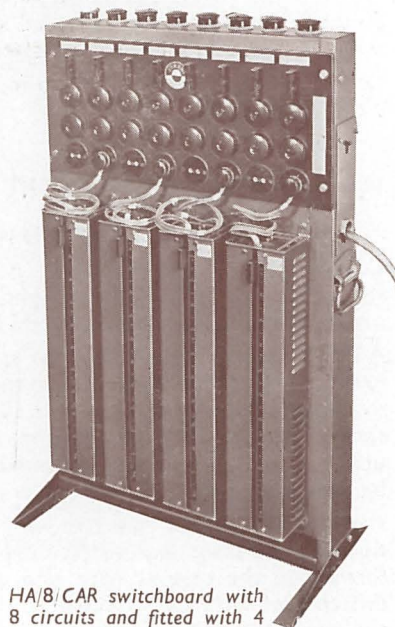
The dimmers can be inserted in any circuits, and the remaining circuits used as switched circuits. Alternatively one circuit may be dimmed to full and then that dimmer shorted out by the circuit switch, enabling that dimmer to be withdrawn and used for another circuit.

HA/8/CAR 8 circuits and SPACE ONLY for 4 Dimmers

HA/12/CAR 12 " " " " " 6 "

For installations larger than 12 circuits the use of two HA/8/CAR switchboards would provide the most portable arrangement.

Type	Height	Width	Depth	Weight without Dimmers
HA/8/CAR	3' 4" (1.07m)	2' 1" (635mm)	1' 3" (381mm)	56 lb (25.4kg)
HA/12/CAR	3' 4" (1.07m)	3' 0" (914mm)	1' 3" (381mm)	84 lb (38.2kg)



HA/8/CAR switchboard with 8 circuits and fitted with 4 dimmers.

INTERLOCKING SLIDER DIMMER TYPE (6-WAY) FOR A.C. OR D.C. SUPPLIES

SPECIFICATION

Case.—Constructed in sheet steel to withstand rough usage under touring conditions without excessive weight.

The unit is mounted on rubber-tyred castors protected from damage by metal guards, lifting bars being fitted at each end to facilitate general handling. Hinged and louvred inspection doors are provided at the top and back of the case to allow access to the interior and ventilation to the dimmers.

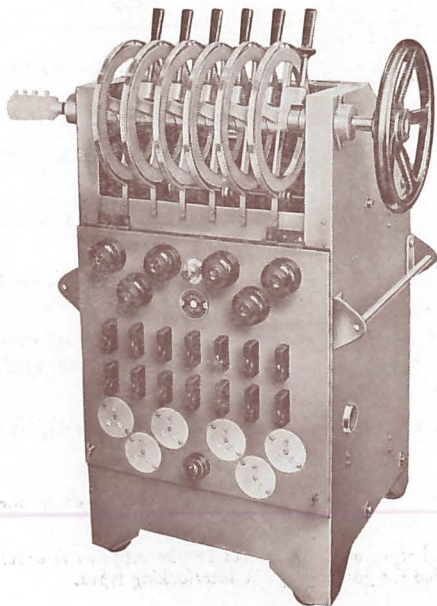
2-in. brass bushes are fitted at each end of the case for entry of incoming cables. Earth terminals of the "tommy-bar" type are fitted adjacent to the bushes.

Panel.—This is of pierrite or similar material, each dimmer way being provided with a 10-amp. tumbler switch, double-pole locking type fuses and suitable socket to accommodate a 15-amp. 3-pin connector plug. A blackout switch and lamp-holders are provided.

The panel is hinged at the top to permit access to wiring, tracker wires, dimmers, etc.

Main terminals are of the pillar type with "tommy-bar" cable clamping screws, duplicated to permit the bus-bars being fed from either end.

(continued overleaf see also notes at foot thereof)



LONDON, MANCHESTER, GLASGOW



DARLINGTON, DUBLIN, MELBOURNE

Dimmers.—These are of the slider type modified for tracker wire operation. Electrically the specification on page H.11 applies. Each dimmer may have any loading between 300 and 1,000 watts or variable loads up to 600 watts $\pm \frac{1}{3}$.

Operation.—A shaft supported in ball bearings, runs the entire width of the case. "V" grooved pulleys are carried on the shaft to which the tracker wires are secured, the drive to the dimmers being conveyed over suitable guide pulleys.

Master control is obtained by screwing the handles down on to the shaft and operating a large diameter handwheel located at one end of the shaft.

Graduated scales surrounding the driving wheels indicate the dimmer position.

Suitable couplings are provided on the shaft at the end opposite to the master handwheel, to permit mechanical attachment to an adjacent board if required.

Dimensions.—Height: 3 ft. 10 in. (1.2m). Width: 2 ft. 9 in. (838mm). Depth: 2 ft. 1 in. (635mm). **Weight:** 2 cwt (102kg)

INTERLOCKING "SUNSET" DIMMER BOARD (6-WAY) FOR A.C. OR D.C. SUPPLIES

SPECIFICATION

Case.—Constructed entirely in sheet steel, ensuring adequate strength without excessive weight, two "chest" type handles being provided on each side for general handling.

A large louvred inspection door is fitted at the back of the board to provide access and ventilation to the dimmers, the door being secured by lever handles. Arranged in line below the door are suitable sockets to accommodate 15-amp. 3-pin connector plugs, the whole unit being mounted on 4-in. diameter rubber-tyred castors protected by steel guards.

Panel.—This is of pierrite or similar material, mounted with double-pole fuses and surface type switches. Raised shoulders are formed in the case at each end of the panel to protect fuses and switch dollies from accidental damage. The panel is hinged at the top to facilitate inspection of the wiring at the back of the panel and to permit additional access to the dimmers, the panel being secured at bottom by wing screws. A blackout switch is provided.

Terminals and Incoming Cables.—2-in. brass bushes are provided at each end of the board to accommodate incoming cables, thus permitting bus-bars being fed from either end, and also electrical connection being made to an adjacent board if required. Earth terminals are provided, carried on brackets riveted direct to the metal case, and in close proximity to the entry bushes. Both Main and Earth terminals have "tommy-bar" clamping screws and are suitably positioned to avoid as far as possible the incoming cables making sharp bends.

Dimmers—Maximum Load—2 kw. at 200/250 v.—These are of our standard "Sunset" pattern as described in leaflet H.16.

Operation.—By bracket-type handles on a shaft, carried in ball bearings, mounted within the case, immediately above the dimmers.

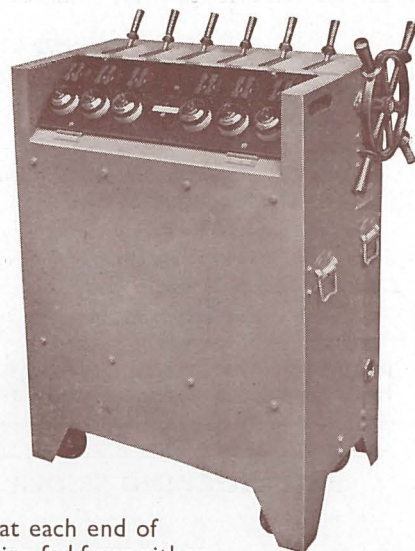
These handles pass through slots in the top of the case, and immediately in front of the panel a graduated scale is fitted at the side of the slot for indicating the degree of dim.

By screwing the dimmer handles a quarter turn they are locked to the shaft and can be operated collectively by means of a large diameter handwheel at one end. A sleeve coupling can be fitted at the opposite end, as an extra, for the mechanical attachment of an adjacent board if required.

Dimensions.—Height: 3 ft. 10 in. (1.2m). Width: 3 ft. (914mm). Depth: 1 ft. 10 in. (559mm). **Weight:** 2½ cwt. (152kg)

NOTE (1) *Electric Supply details should be stated, together with the dimmer loadings required (within the limits given in the specifications above) at the time of ordering.*

NOTE (2) *Portable switchboards are normally only constructed for 6 dimmer-ways. Larger or smaller sizes can be supplied to order but in the interests of portability, full use should be made of the sleeve couplings provided for ganging up the interlocking types.*



LONDON, MANCHESTER, GLASGOW



DARLINGTON, DUBLIN, MELBOURNE

STRAND CONTROL

“SUNSET” SWITCHBOARD PLATFORM DIMENSIONS

The diagrams on this page are provided to give an indication of space required to accommodate a stage switchboard with “Sunset” type dimmers, and at the same time allow adequate room for operation and maintenance.

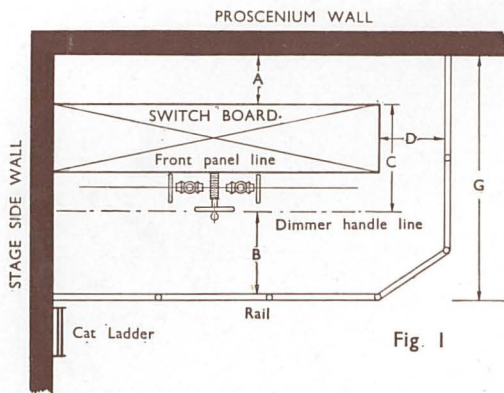


Fig. 1

Minimum dimensions required for Switchboard Platform

Sunset Type		Slider Type		
Ft.	Ins.	Ft.	Ins.	
A	1 6	A	Nil	(For removal and servicing of dimmers.)
B	2 6 Min.	B	2 6	(For switchboard operation.)
C	3 3	C	9½-12	
D	2 0 Min.	D	Nil	(For access to back of board.)
E	8 0 Min.	E	8 0 Min.	
F	7 6	F	7 6	(An average figure only.)
G	7 3	G	3½ Min.	

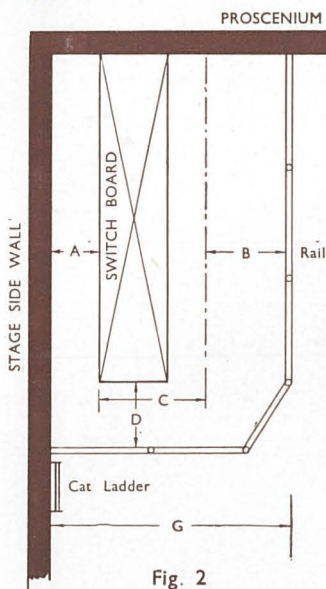


Fig. 2

Fig. 1 shows a typical switchboard installation in plan with the board parallel to the proscenium arch.

Fig. 2 gives an alternative arrangement wherein the switchboard is parallel to the side wall of the stage. Where local conditions permit, the former arrangement is much to be preferred as it allows the operator a better view of the stage, at the same time keeping the side walls clear for counterweight systems, scenery packs, etc.

Fig. 3 shows a side view of either of the foregoing arrangements.

Although the switchboard is shown on a perch or platform, the dimensions given will apply equally if it is situated at stage level.

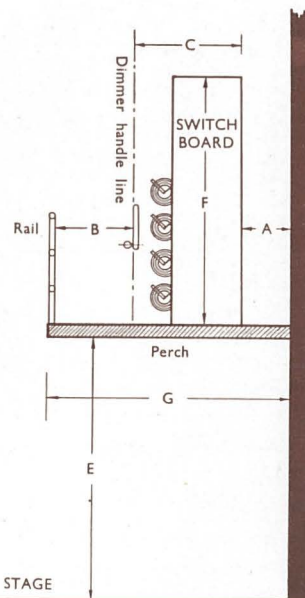


Fig. 3

No indication of switchboard length can be given as this is directly dependent on the number of dimmer ways, and height is given as an average only as this varies according to the design of each board.

The height of the platform above the stage is required for actors with tall head-dresses, period wigs, etc. If it is not possible to cantilever the platform from the adjacent walls, it should be suspended from the flies. No pillar should be installed to support the platform from the stage, as it will inevitably be found a serious obstruction and liable to cause accidents.

Although a cat-ladder is shown as the means of access to the perch, some licensing authorities require the provision of a sloping iron stairway.

Note: The above information applies ONLY to “SUNSET” type dimmer boards



STRAND CONTROL

IMPROVED "JUNIOR" SLIDER TYPE STAGE SWITCHBOARDS

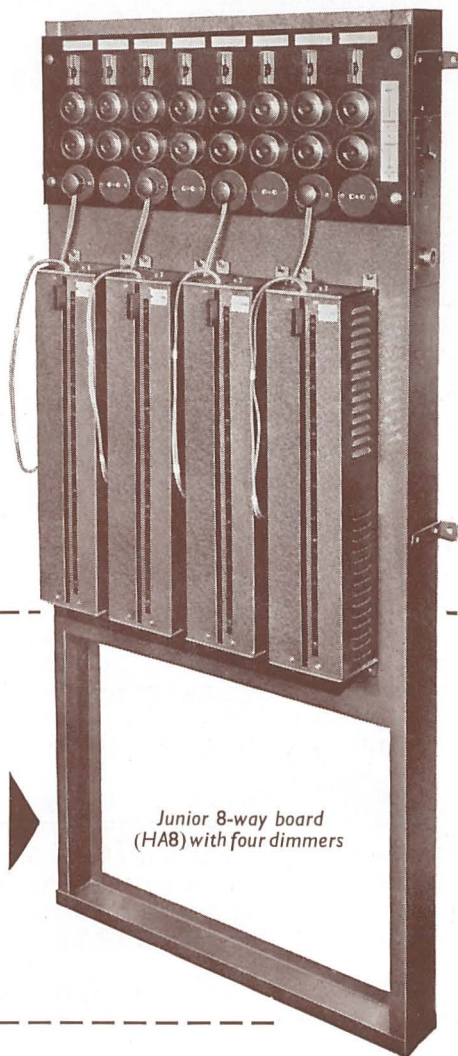
These switchboards are intended for very small installations in schools, village halls and the like where so little money is available that hitherto it has been impossible to purchase a board on which normal stage lighting cues could be carried out.

As the dimmers are the most expensive part of a stage switchboard, an arrangement has been devised whereby lighting circuits can be switched on and off individually, or grouped as required by the lighting plot, without their use.

(JUNIOR 8-WAY BOARD HA 8) WITH FOUR DIMMERS

The Strand 'Junior' system of simple inexpensive control was first introduced in 1949 since when many hundreds have been installed.

Recently the range has been redesigned to take advantage of the economies which mass production offers, and it is now possible for a second (lower) front plate to be fitted by ourselves or the customer if and when a second row of dimmers is required.



Dimmers can be purchased or hired when required, just bolted on and plugged in.

The plugs and their short circuiting switches permit a few dimmers to be shared out among the lighting circuits which need to be checked or dimmed. Circuits which are without dimmers at any time can be switched full on or blacked out normally, and dimmers can be replugged without flicker during the progress of a scene.

An essential component is the second switch to

allow each circuit to be fed through, or independent of the master blackout switch, this arrangement allowing for group switching in two or even more preselections.

The plugs on the board are for dimmer connection and it is recommended for maximum flexibility that all lighting circuits terminate at the stage end in 5-amp. British Standard 3-pin plug sockets.

Full instructions are issued with each board so that the system may be used to best advantage.

LONDON, MANCHESTER, GLASGOW



DARLINGTON, DUBLIN, MELBOURNE

STRAND CONTROL

"JUNIOR" TYPE STAGE SWITCHBOARDS

SPECIFICATION

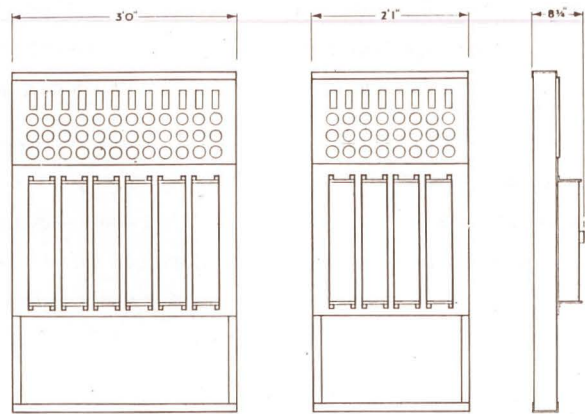
The JUNIOR Switchboard consists of an 18 gauge sheet steel frame, stove enamelled dark-hammer grey on which is carried a black pierrite switch panel. Each circuit has one 5-amp. locking-type fuse, a silent-action circuit switch, a flush socket with 2-pin plug for a dimmer, a silent two-way switch to feed circuit through the master blackout or independently, of it, and an identification label engraved with circuit number. A 60-amp. slow break master blackout switch is fitted and terminals provided for a master dimmer.

A pair of heavy terminals is provided for incoming mains, a multiway terminal block for stage lines and a bar for neutral connections of outgoing circuits respectively. The lower metal panel (or panels) is drilled to take the maximum number of either of the two sizes of dimmers specified at the top of page 4 of this leaflet.

The Junior board is made in two standard frame sizes shown below. The smaller frame (JA) accommodates eight lighting circuits and four slider dimmers. The larger frame (JB) takes twelve circuits and six slider dimmers. (If a second (lower) front panel is fitted the smaller frame will take up to 8 dimmers, and the larger frame up to 12 dimmers.) The dimmers must be of the types specified at top of page 4 of this leaflet.

Boards are always righthanded, i.e., blackout and master dimmer terminals are at the right-hand end. Boards other than 8 or 12 way consist of two frames joined together with the blackout on the right-hand one. In fact any single existing switchboard frame can

be extended on site by ordering a frame " with through connection loops instead of blackout switch." All boards are drilled with fixing holes and two side brackets are also provided.



Junior Board Frame JB

Junior Board Frame JA

Section

DIMENSIONS

Type	Width	Height	Depth over dimmer handles to wall	Weight without dimmers (approx.)
HA 8	25 in. (63cm)	64 in. (1.63m)	8 1/2 in. (22cm)	56lb (25.4kg)
HA 12	36 in. (91cm)			84lb (38.1kg)
HA 16	50 in. (127cm)			112lb (50.8kg)
HA 20	61 in. (155cm)			140lb (63.5kg)
HA 24	72 in. (183cm)			168lb (76.2kg)

STANDARD ARRANGEMENTS

Item	Frame	Arrangement
HA 8	Frame JA	8 circuits and space only for 4 dimmers
HA 12	" JB	12 " " " " " 6 " "
HA 16	" JA+JA	16 " " " " " 8 " "
HA 20	" JA+JB	20 " " " " " 10 " "
HA 24	" JB+JB	24 " " " " " 12 " "

EXTRAS

- (1) Circuit name engraved instead of circuit number as standard
- (2) Sheet metal back to switch panel where board does not stand against a suitable wall:—
To fit type JA frame
To fit type JB frame
- (3) Joining two frames at right angles instead of end to end to save space
- (4) Supplying and fitting, at the time a dimmer board is made, a second front plate to accommodate a second row of dimmers:—
To fit type JA frame
To fit type JB frame
- (5) Supplying only a second front plate as above for the customer to fit to his own switchboard:—
To fit type JA frame
To fit type JB frame

No switchboard circuit must exceed 1,000 watts and standard JUNIOR boards are available for 220-250-volt A.C. single-phase 2-wire supplies only.

STRAND CONTROL

"JUNIOR" TYPE STAGE SWITCHBOARDS

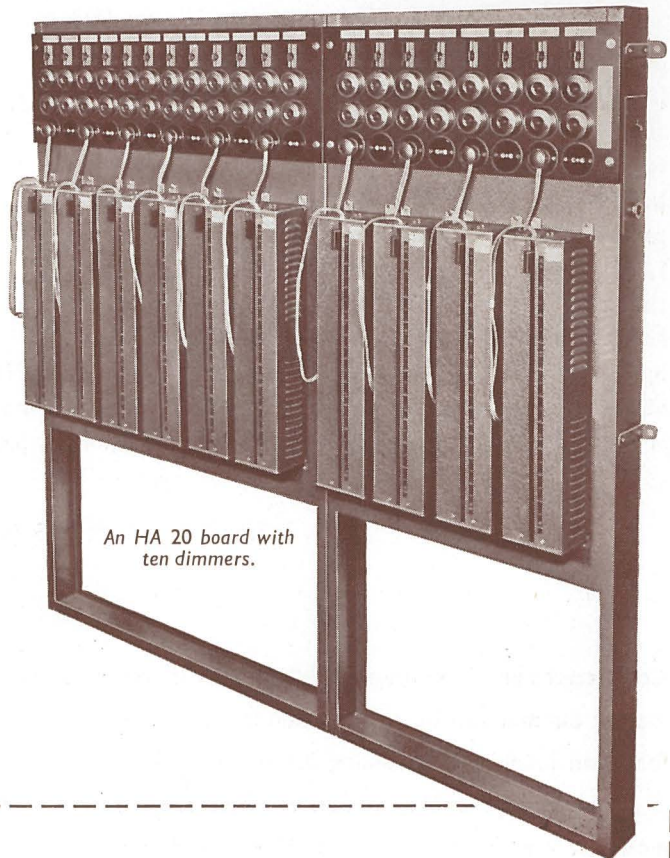
CIRCUIT PLUGS

The plug sockets on a JUNIOR board are for the dimmers and it is recommended that as much permanent wiring as possible shall be installed between the board and the lighting points on the stage and elsewhere. These point terminations should be 5-amp. B.S. sockets. In some cases it may be desired to make all the wiring temporary though the JUNIOR board remains fixed. For such purposes the board can be supplied with a row of 5-amp. B.S. 3-pin flush sockets on its top edge. The number of these must correspond to the number of board circuits.

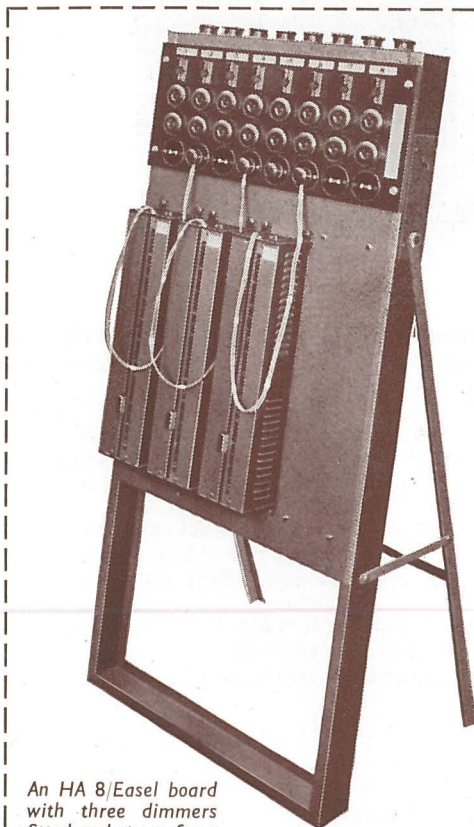
STANDARD ARRANGEMENTS

HA 8 with plugs

HA 12 with plugs



An HA 20 board with ten dimmers.



An HA 8/Easel board with three dimmers fitted and space for a fourth.

PORTABLE EASEL JUNIOR BOARDS

For cases when the switchboard itself should be transportable, single frame boards can be supplied as completely portable units, a supporting set of folding legs, easel style, being fitted. A set of circuit plugs as described above is provided, and quick connection terminals for the mains.

STANDARD ARRANGEMENTS

HA 8/Easel Frame JA

8 circuits and **space only** for 4 dimmers

Weight 76 lb (34.5 Kg)

HA 12/Easel Frame JB

12 circuits and **space only** for 6 dimmers

Weight 104 lb (47.2 Kg)

Cut-down versions of the above are available which greatly facilitate transport by private car. These are known as HA 8/Car HA 12/Car

No switchboard circuit must exceed 1,000 watts and standard JUNIOR boards are available for 220-250-volt A.C. single-phase 2-wire supplies only.

STRAND CONTROL

"JUNIOR" TYPE STAGE SWITCHBOARDS

DIMMERS

Standard JUNIOR boards are arranged with fixing irons and holes to take either STRAND slider dimmers JLS 21 or JLS 15. The former dims any load from 500 to 1,000 watts, the latter from 250 to 500. Whenever possible one size of dimmer should be used as this will prevent the risk of plugging a 250/500 dimmer in a 1,000-watt circuit. If two sizes must be used, then each size should be grouped together. For example, the heavy loads and their dimmers to the left of the board, light loads and their dimmers to the right. *Catalogue numbers must be quoted when ordering dimmers for hire or purchase as other sizes cannot be bolted to the frame.*

Item	Sizes
JLS 21	Slider dimmer 500/1,000-watt variable load with graduated scale and 2-feet flexible heat-resisting rockbestos lead
JLS 15	Slider dimmer 250/500-watt variable load with graduated scale and 2-feet flexible heat-resisting rockbestos lead

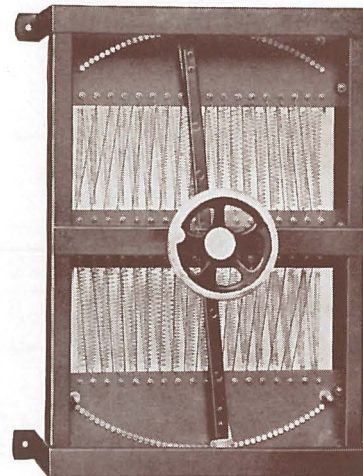
(The above dimmers have 'dead' rods and narrow handle slots to prevent accidental contact with live parts.)

MASTER DIMMERS (8 kw maximum)

Connections are fitted to all JUNIOR boards so that a master dimmer can be easily added in circuit. Except for small loads not exceeding 2,400 watts maximum it is *not* intended that a master dimmer shall be mounted on the board frame. When a dimmer is mounted on a JA or JB frame the number of circuit dimmers is reduced to 2 or 4 respectively.

The recommended type of master dimmer is the 100-contact wall mounting SUNSET to be fixed adjacent to but not on the board and connected by a three core lead (the third core ensures that the dimmer frame and cover is earthed). Each dimmer gives full dimming control for any load variation between the figures specified below.

In view of the differing types and sizes of master dimmers, switchboard frames are only drilled for these if ordered in the first place.



Item	Sizes
J2L.S.21	Slider dimmer 1,200/2,400 variable load with terminals, graduated scale and cover but no lead
Type G	Sunset dimmer 2,000/4,000 variable load with terminals and cover but no lead (See leaflet H.21 for dimensions and details)
Type J	Sunset dimmer 4,000/8,000 variable load with terminals and cover but no lead (See leaflet H.21 for dimensions and details)

LEADS 3-core lead in flexible metallic hose, fixed permanently at one end to master dimmer, and with tails at the other end for connecting to switchboard

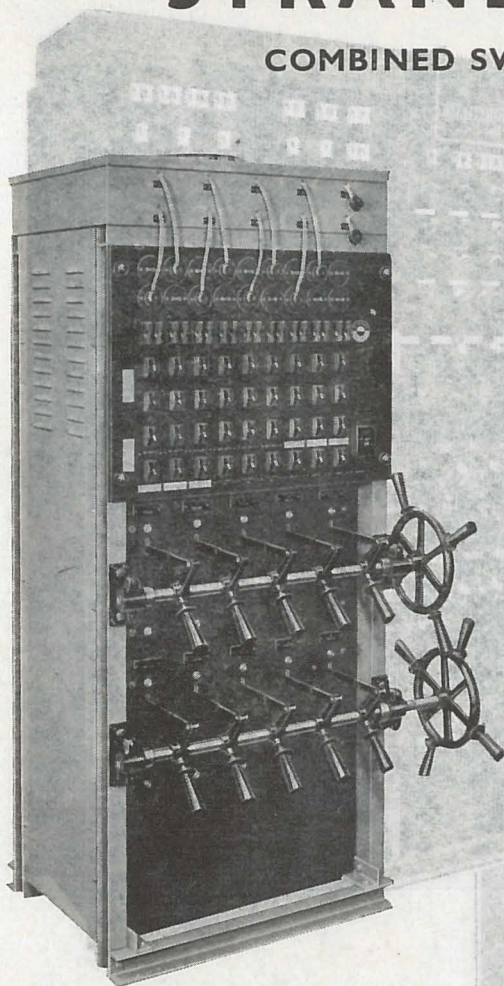
LONDON, MANCHESTER, GLASGOW



DARLINGTON, DUBLIN, MELBOURNE

STRAND CONTROL

COMBINED SWITCH & DIMMER BOARDS



JS/F18 Junior Flexible type Dimmer Board

JUNIOR FLEXIBLE TYPE DIMMER BOARDS

(for single phase 200/250 volt A.C. supplies only)

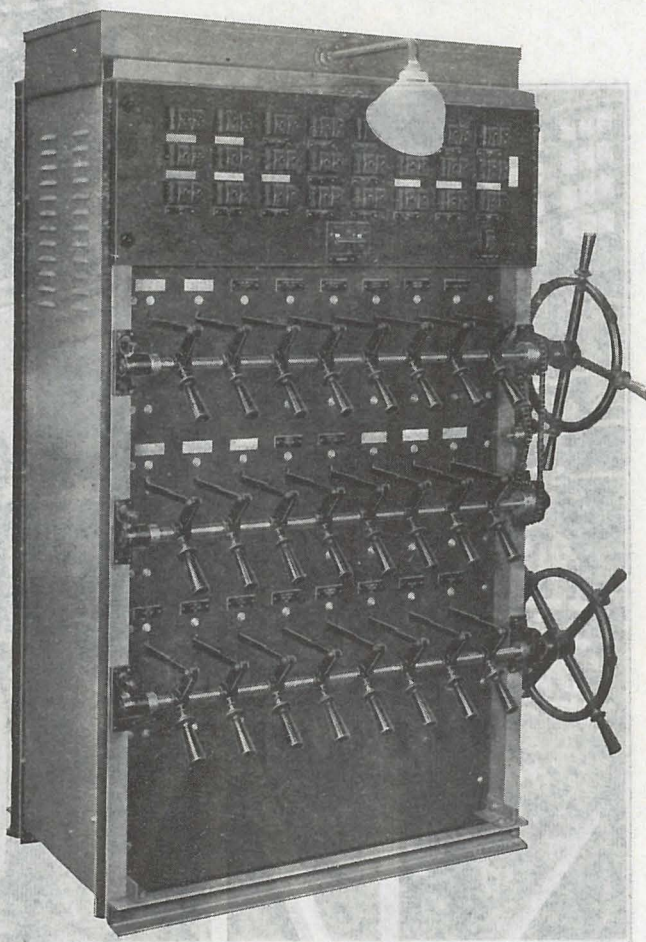
These switchboards employ the switching and plugging arrangements described in leaflet H.42 to economise on dimmers. Dimmers are 500/1000 watt Sunset type with bracket handle levers which screw to the shaft for master operation by capstan wheel.

Standard sizes are:

JS/F18 for 18 circuits and 10 dimmers.

JS/F24 for 24 circuits and 12 dimmers.

JS/F30 for 30 circuits and 18 dimmers.



JS/W24 Junior Sunset Straight type Dimmer Board

JUNIOR SUNSET STRAIGHT TYPE DIMMER BOARDS

(for A.C. supplies only; 1, 2 or 3 phase)

These are generally as above but with a dimmer to each circuit way, also a one way circuit switch and a two way "on and off master blackout" switch. Blackout is by means of a silent A.C. switch.

Standard sizes are:

JS/N12 for 12 ways. (2 rows)

JS/W16 for 16 ways. (2 rows)

JS/N18 for 18 ways. (3 rows)

JS/N24 for 24 ways. (4 rows)

JS/W24 for 24 ways. (3 rows)

JS/W32 for 32 ways. (4 rows)

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
SALES AND GOODS - 24, FLORAL ST., W.C.2
TEMPLE BAR 444 GRAMS: SPOTLITE RAND LONDON



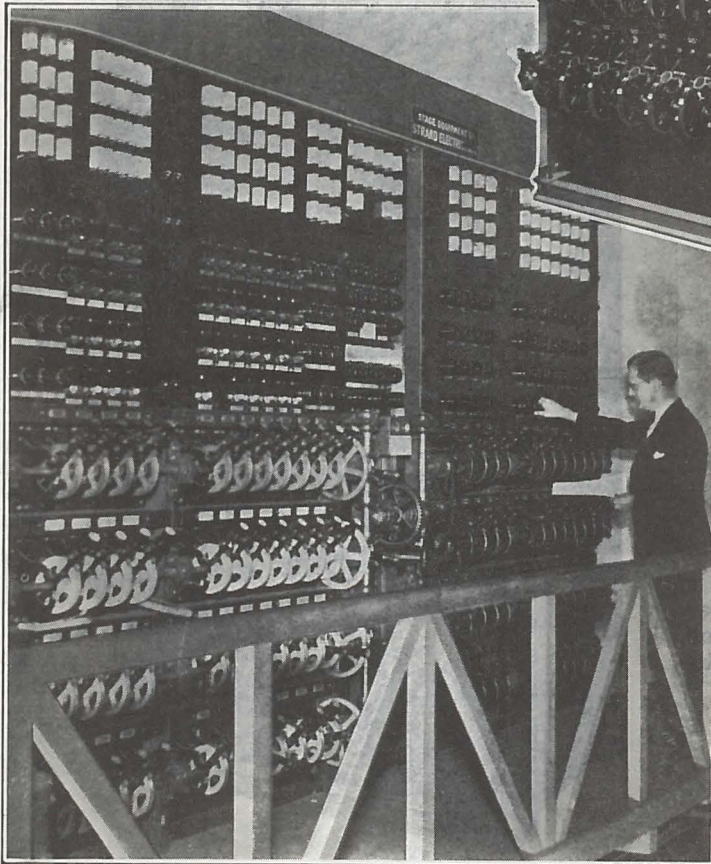
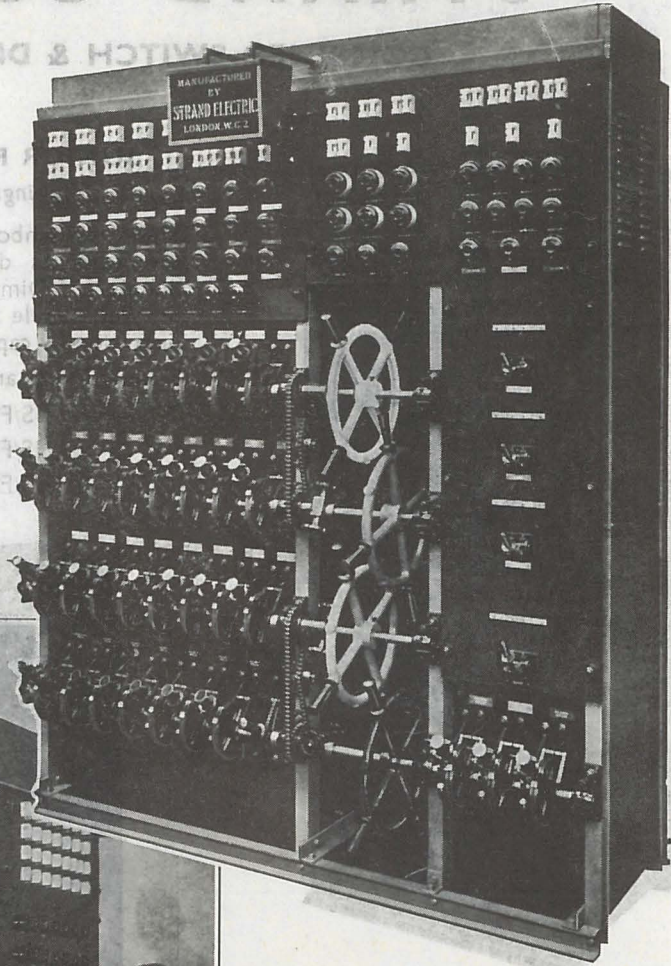
BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
COLLYHURST 2736
62, DAWSON ST., DUBLIN DUB 74030

COMBINED SWITCH & DIMMER BOARDS

SELF RELEASE "SUNSET" TYPE

(right)

In this instance a more flexible method of collective dimming is employed in that the individual handles are arranged to release themselves from the shafting at the top and bottom of the travel. The Board illustrated is arranged with three colour shafts and an independent shaft to take all those circuits which are not allied to any colour bank such as Spots, etc. There are master switches for each colour (3-pole if the board is balanced over the three phases). Circuit switches can be "on and off" or "2-way and off" as required.



SELF RELEASE "SUNSET" TYPE with GRAND MASTER CROSS CONTROL (left)

This represents modern practice for manually operated Theatre switchboards. Colour and independent master switches are remotely controlled, being contactors (installed in the basement to obviate noise) operated from the switchboard direct by "two way and off" switches so that any master can be left independent of the Blackout. Individual dimmer handles are of self release type and each shaft is connected to the grand master wheel by means of constant mesh bevels (actuated by fine splines) which provide reverse action so that any shaft can revolve in the same or opposite direction to its neighbour.

Each handle can be fitted with an illuminated scale if required. The illustration shows a four-colour bank on the left with the independent circuits on the right. The master wheel is worm operated and thus gives a very steady and fine operation. For quick operation of the shafts, each is fitted with a direct operated hand wheel.

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
SALES AND GOODS - 24, FLORAL ST., W.C.2
TEMPLE BAR 444 GRAMS: SPOTLITE RAND LONDON



BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
COLLYHURST 2736
62, DAWSON ST., DUBLIN DUB 74030

STRAND REMOTE CONTROL

SATURABLE REACTOR (CHOKE). SYSTEM S/R

The saturable reactor or choke dimmer is a relatively inexpensive form of remote control suitable for small and medium sized halls and theatres and other situations where the total number of dimmers does not exceed seventy-two. These Strand controls are arranged as standard models, giving dimmer combinations of eighteen, twenty-four, thirty-six, fifty-four and seventy-two ways. These sizes have been designed to make the most economic use of the equipment and also to provide the numbers of dimmers suitable for the type of

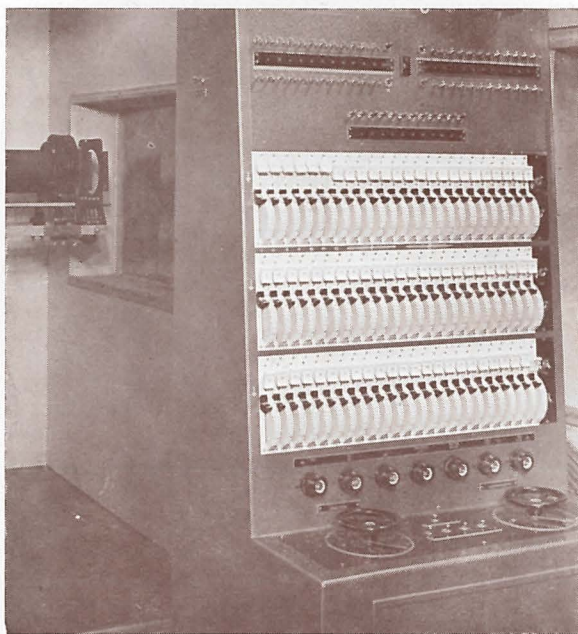


Fig. 1. Type CC/72 Control Cabinet installed in the Projection Room at 'The Peacock', Helsinki.

stage installation likely to be required. The two largest are made as floor standing units and have certain auxiliary switching and mastering essential for the number of dimmers. In all cases the circuits have been kept as simple as possible and the only mechanical moving parts are the dimmer levers in the control panel. These units are mouldings specially designed for the purpose and are fitted with clear scales and labels. The finish of the control cabinets and their equipment is of a very high order.

To keep costs as low as possible consistent with a high quality product, use is made of three standard control cabinets, three standard choke racks, and four sizes of choke dimmer. Although special models can always be quoted and manufactured the customer is strongly recommended to use a standard model whenever possible. Standard cabinets

allow for a certain amount of accessory switching such as remote colour change of lanterns, and in every case these models can be modified to suit export requirements, for example fitted with Siemens Zed fuses.

All Strand choke control cabinets are fitted with one, or sometimes two, electrical master dimmers which operate without altering the setting of the individual dimmer levers. The latter can be connected *via* the master dimmer or may be left independent of it by means of a two-way-and-off switch situated immediately above each dimmer lever. Where only one master dimmer is fitted a special selector switch known as the 'transfer' enables the master dimmer to be connected alternatively to circuits with their switches in the 'independent-of-master' or 'through master' positions. Thus the master dimmer can be made to dim or raise two groups of lighting successively.

The centre position of the dimmer switch is an off position and this operates by opening a circuit relay thereby ensuring not only a quick switching action but that the stage circuit is completely dead.

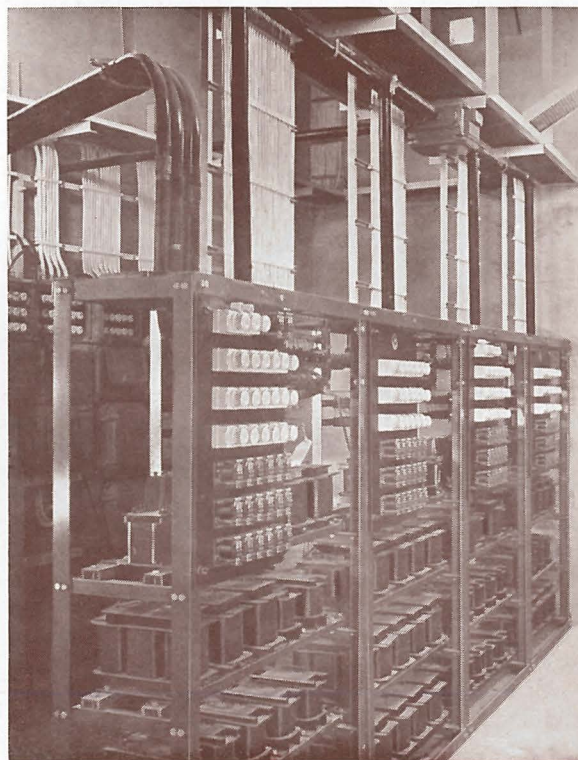


Fig. 2. The Reactor Rack at 'The Peacock', Helsinki.

LONDON, MANCHESTER, GLASGOW



DARLINGTON, DUBLIN, MELBOURNE

On smaller models the dimmer switch both sets the path for the master dimmer and also selects whether the particular circuit is fed through the master blackout or independently of it.

On larger models not only are two master dimmers fitted to each cabinet but also 2 two-way-and-off switches to each circuit. These 2 switches separate the function of selecting a circuit for blackout or switching it off from that of selecting

either of the master dimmers. Thus the groups for switching can be set up quite differently from those for master dimming and this greatly increases the control possibilities afforded. Further, as the dimmer switch need not have an off position the third setting is used to give 'live' (i.e., full on) independent of either master dimmer. In this way some individual dimmers can be set to remain static while two other groups cross fade or are otherwise manoeuvred by the two masters.

CONTROL CABINETS

There are three standard types – A and B are for wall mounting and C for floor standing. The wall mounting models are hinged to a wall frame to allow access.

Cabinet A

This consists of a master panel with two rows for levers and switching above. Thus the cabinet can have two rows of 18 dimmer levers or one row of 18 and the remaining space is available for accessory switching. Alternatively, the unit can house two rows of 12 making a total of 24 ways with some blank space to the left side of the dimmer levers for accessories.

In the unusual event of an 18-way job requiring the separate switch to each way then these would form part of the top tier. If 36 ways each with this separate switch is required then Cabinet B must be used. Dimensions of Cabinet A are overall: 25 in. max. wide × 26 in. max. high × 10 $\frac{3}{4}$ in. deep back to front.

Cabinet B

This consists of a master panel with three rows of levers and switching above. The extra space on this unit is to provide separate blackout switches to each circuit or alternatively space for accessory switches.

Cabinet C

This is floor mounting and is complete with *all the necessary controls* to give good control of the larger number of dimmers. The separate blackout switch to each dimmer way is standard and is immediately above each dimmer unit. Fifty-four dimmer ways are accommodated as two rows of twenty-seven or seventy-two ways as three rows of twenty-four. When fifty-four ways are used there is plenty of panel space above for accessory switching but for seventy-two ways the cabinet is nearly full.

An angled panel on the front houses the two master dimmers, the master switching, and also provides space for lighting plot. The master 'go' switch and pilot lamp for colour change when fitted will also be housed here.

Additional Accessory Switching including Remote Colour Filter Change

On Cabinets A and B space has been provided for such things as colour change as already indicated. On type C when seventy-two ways are used the lighting plot space has to be sacrificed for this purpose. Where this does not suit or over eight colour change ways have to be housed then the standard control boxes in leaflet C.85 and C.48 will have to be mounted separately as cabinet is already the maximum convenient height and width. The colour change rectifier can be housed within Cabinet C, but in the case of types A and B it forms a separate unit to be fitted on one of the dimmer racks. Two extra wires must be run to the control end for the purpose.

DIMMER RACKS

Two sizes take 18 or 24 ways respectively. Each position is drilled and wired so that a 0.5Kw, 1Kw, or 2Kw reactor can be used and if necessary interchanged. Where 3Kw reactors are required a larger rack with each position drilled for all four reactors is used.

Wiring between Control and Reactor Racks

Up to 54 ways one dimmer rack carries 24-volt action rectifier and action fuses for all others. For 72 ways the action rectifier is duplicated on another rack. From the rack to the control panel or desk the following wires are needed.

Number of Ways	MAINS			CONTROL WIRES		
	Size of Wire	Number of Wires		Size of Wire	Number of Wires	
		AC	DC		AC	DC
18	3/036	2	1	7/0076	18	18
24	3/036	2	2	7/0076	24	27
36	3/036	2	2	7/0076	36	39
54	3/036	4	2	7/0076	54	57
72	3/036	4	4	7/0076	72	78

7/0076 12-way multicore PVC is usually convenient for control wire. Where a colour filter change rectifier is fitted on one of the racks an extra pair of mains is required.

THE CONTROLS DESCRIBED IN THESE PAGES ARE FOR 220 TO 250 VOLTS A.C.
SPECIAL EQUIPMENT CAN BE SUPPLIED FOR 110 TO 115 VOLTS A.C.

CONTROL CABINETS

Key to Fig. 3 (right)

1. Moulded dimmer units suitable for any reactor up to 3Kw. Potentiometers have stud contacts. Scales are clearly marked 0 to 10 with half steps.
2. Switches with engraved tablet knobs giving choice of 'On Master', 'Circuit Dead', and 'Independent or Second Master'.
3. Master dimmer with 330° motion.
4. Transfer switch to allow master dimmer to be used on independent circuits. A second master dimmer can be fitted here.
5. Switches for 'Dead Blackout', 'Master Blackout', 'Slow Fade Master' and 'Slow Fade Independent'.
6. Panel fuses.

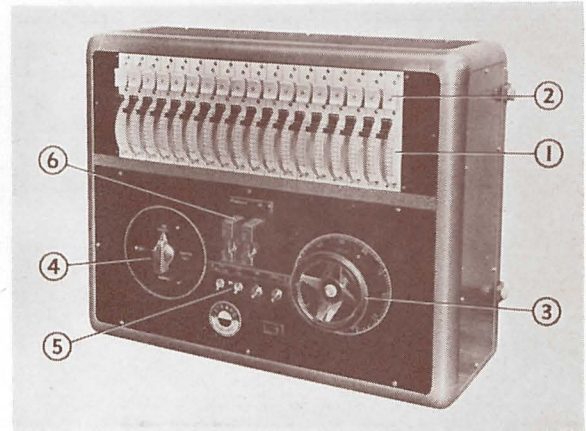


Fig. 3. Type CA/18 Control Cabinet installed in A.B.C. Television Studios, Manchester.

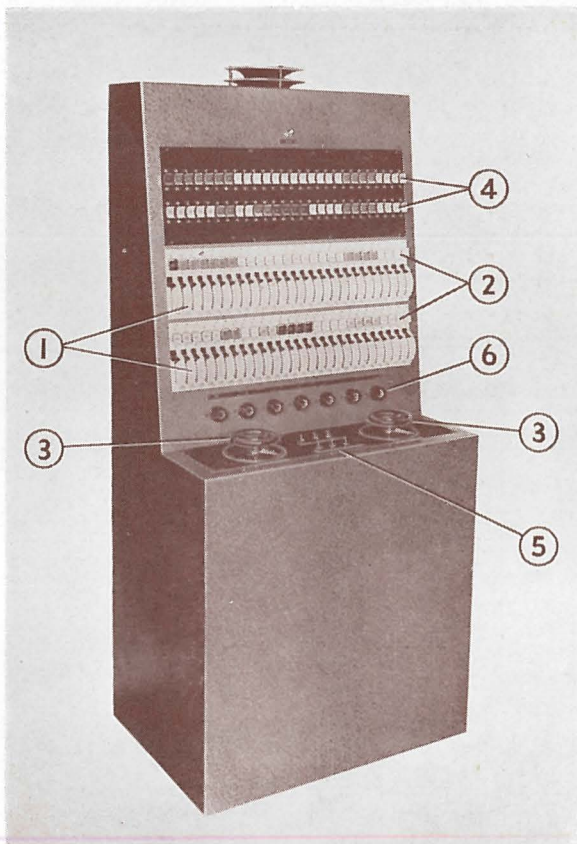


Fig. 4. Type CC/54 Control Cabinet installed at the Luxor Theatre, Rotterdam.

Key to Figure 4 (left)

1. Moulded dimmer units suitable for any reactor up to 3Kw. Potentiometers have stud contacts. Scales are clearly marked 0 to 10 with half steps.
2. Dimmer switches with engraved tablet knobs giving choice of 'Left Master Dimmer', 'Independent Live', or 'Right Master Dimmer'.
3. Master dimmers with 330° motion.
4. Three position circuit switches with engraved tablet knob giving 'Left Blackout', 'Circuit Dead' (switched off by relay), or 'Right Blackout'.
5. Switches for 'Dead Blackout', 'Left Blackout' and 'Right Blackout'; 'Fade Top', 'Fade Middle', 'Fade Bottom'. These last three as selected on switches described in (2) above.
6. Panel fuses.

THE CONTROLS DESCRIBED IN THESE PAGES ARE FOR 220 TO 250 VOLTS A.C.
SPECIAL EQUIPMENT CAN BE SUPPLIED FOR 110 TO 115 VOLTS A.C.

CABINET DETAILS

Reference	Cabinet type	No. of ways	Dimensions			Weight
			High	Wide	Deep	
Item CA/18 Item CA/24 Item CA/36	A A A	18 24 36	26 in (66 cm)	25 in (63.5 cm)	10 $\frac{3}{4}$ in (27.3 cm)	69 lb (31.3 kilos)
						72 lb (32.3 kilos)
						79 lb (35.8 kilos)
Item CB/24 Item CB/36	B B	24 36	34 in (86.4 cm)	25 in (63.5 cm)	10 $\frac{3}{4}$ in (27.3 cm)	110 lb (50 kilos)
						115 lb (52.2 kilos)
Item CC/54 Item CC/72	C C	54 72	72 in (183 cm)	36 in (91.4 cm)	15 $\frac{3}{4}$ in (40 cm)	336 lb (152.4 kilos)
						360 lb (163.3 kilos)

NOTE: All the above models excepting CA.36 have some space for remote lantern colour change switching or other accessories.

Standard Extras available at the time of manufacture are indicated by adding the suffixes shown at left below, after the appropriate cabinet item number.

- /2. Second master dimmers for Cabinets CA/18, CA/24, CA/36 or CB/36.
- /2S. Second master dimmer and separate 2-way-and-off switch to each circuit for Cabinets CB/24 or CB/36.
- /BL. Switchboard Light for Cabinets CC/54 and CC/72.

(Thus CA/24/2 indicates a cabinet of type A for 24 ways with a second master dimmer.)

REACTOR (DIMMER) DETAILS

These are of robust and tight construction to prevent hum. They are suitable for any voltage in the 220/250 a.c. range or for the 110 to 115-volt a.c. range to meet special requirements. Output tappings to allow the choke range to be set up to suit the particular circuit requirements. Normally, variation equivalent to the corresponding plus or minus one-third resistance dimmer may be set without changing the tapping.

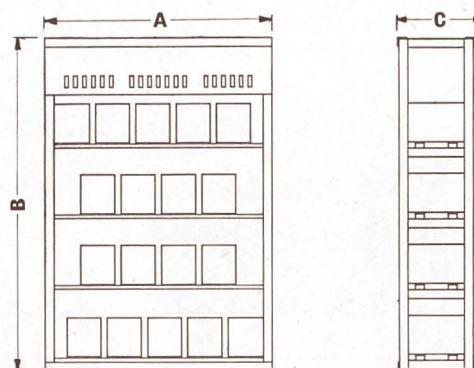
Loading

Item SR/05	Reactor 0.5Kw
Item SR/1	Reactor 1Kw
Item SR/2	Reactor 2Kw
Item SR/3	Reactor 3Kw

REACTOR (DIMMER) RACK DETAILS

Racks are made in two sizes each for 18 reactor ways. The standard rack is drilled to take reactors up to 2Kw in each circuit position. The second type of rack is larger and has an extra set of holes provided at each position so that 3Kw reactors may be fitted. All racks are wired complete with all internal connections, external circuits being brought to a row of terminals. Each circuit includes a fuse and 20-amp relay (to ensure stage circuit is really dead in the 'off' position of switch). A

neutral bar with terminals is provided. Each rack is a self-contained unit and may be placed against the wall, rear access being unnecessary. Special racks can be built where lack of space makes this necessary at extra cost.



Item No.	Max.No. of ways	Max. load per way	Dimensions			Weight approx.
			A	B	C	
CR/18	18	2Kw	3ft 9in 1.143m	5ft 6 $\frac{1}{2}$ in 1.688m	1ft 6 $\frac{1}{2}$ in 46.3cm	3 $\frac{1}{2}$ cwt 178kg
CR/24	24	2Kw	4ft 8in 1.422m	5ft 6 $\frac{1}{2}$ in 1.688m	1ft 6 $\frac{1}{2}$ in 46.3cm	4 cwt 203kg
3CR/18	18	3Kw	4ft 6in 1.372m	5ft 6 $\frac{1}{2}$ in 1.688m	1ft 6 $\frac{1}{2}$ in 46.3cm	3 $\frac{3}{4}$ cwt 190kg

All racks include one rewirable fuse per dimmer way.

Item CR/Z Siemens Zed type fuses can be fitted at an extra charge in place of the above.

Covers. Dimmer racks are intended to be placed in a room locked to prevent unauthorised access. Where this is not possible the racks must be fitted with covers.



STRAND REMOTE CONTROL

ELECTRO-MAGNETIC MECHANICAL TYPE

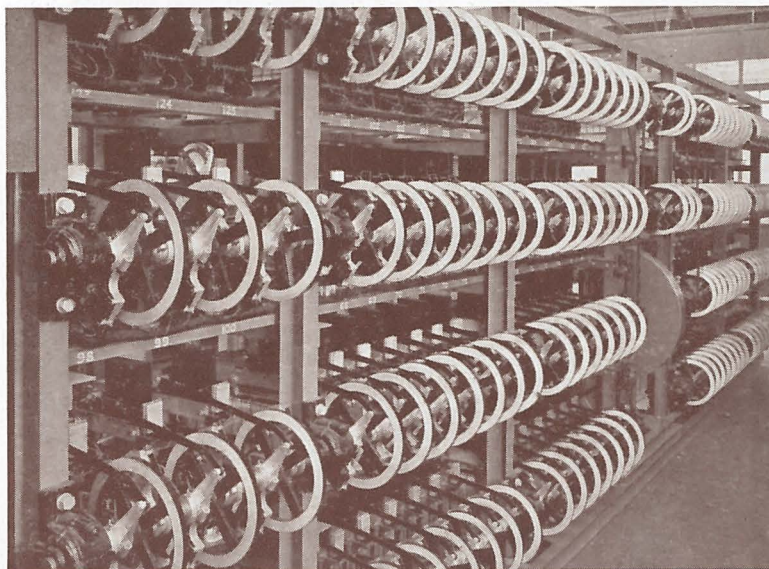


Fig. 1. A bank of transformer and resistance dimmers, motor operated through electro-magnetic clutches and bank of relays.

Remote Dimmer Control

The Strand Electric are pioneers in all-electric remote dimmer control. Thanks to the invention of the Strand patent electro-magnetic clutch (Fig. 1) the mechanical tracker wire, common in Europe has been replaced in England by the more adaptable multi-core flexible electric cable. By means of the electro-magnetic clutch, dimmers can be mechanically linked to a constantly revolving uni-directional shaft so that they will move up or down or remain stationary by simply energising the appropriate coils of the clutch. The shaft or shafts are driven by variable speed motors,

and the clutches are cut out automatically at each end of dimmer travel by micro limit switches.

The dimmer units can be resistance or auto-transformer type (Figs. 1 & 2). Units are used singly for loads up to 4 or 5 kw. or ganged for greater loads. This type of dimmer bank can be operated by automatic drum mechanisms and other timing devices (see leaflet H.91) or from compact controls as for example the various Light Console installations at the Theatre Royal, Drury Lane, London Palladium and elsewhere. (See leaflet H.81). The clutch operated banks can also be controlled from desks giving accurate presetting of dimmer position. See leaflet H/85 on the new Console Preset System CD.

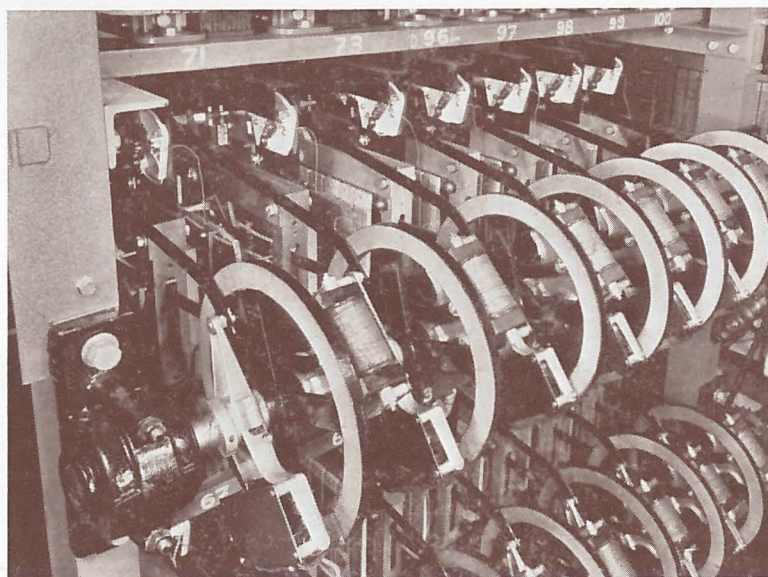


Fig. 2. Transformer and resistance dimmers, motor operated through electro-magnetic clutches.

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STRAND REMOTE CONTROL

ELECTRO-MAGNETIC MECHANICAL TYPE

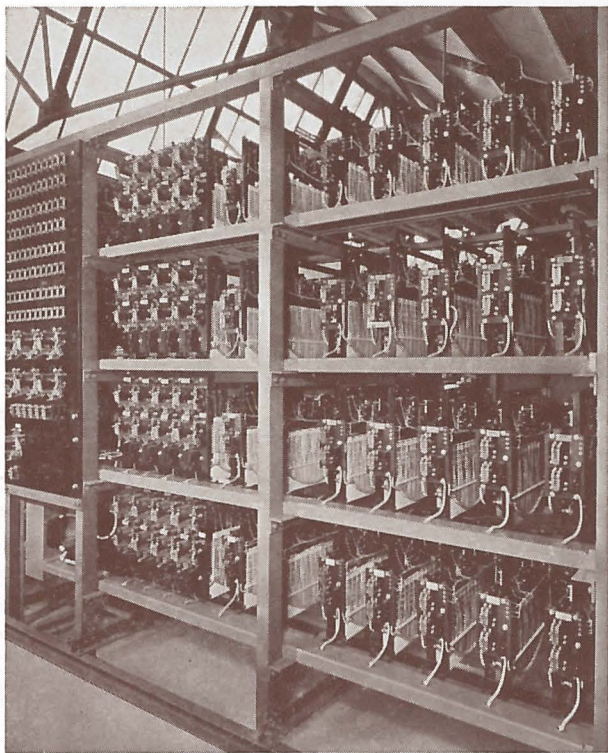


Fig. 3. Rear view of dimmer bank in Fig. 1, showing blackout and full-on contactors mounted on dimmers.

sets of triple pole 75 amp., 150 amp., or 300 amp. contactors and fuses are also commonly supplied.

An example of Strand miniature relay work is shown in Fig. 4. By this system a bank of one hundred and four 5 amp. relays and one hundred and twenty-eight 15 volt wire contact relays allows the operator of the Drury Lane Light Console, for example, to control individually (with one preset) the four solenoid filters on each of the twenty-six colour change spotlights, using only 31 on-off keys instead of the 208 switches his panel would normally require.

Almost invariably Strand electro-magnetic control employs 15 volt D.C. from metal rectifiers in order to obtain the silent action essential in the theatre. The 15 volt D.C. supply allows very compact organ type relays and wiring to be used for the more complicated schemes.

Remote Switching Control

For quick action, electro-magnetic contactor switches may be mounted on each dimmer unit, one being connected across the dimmer and the other in series with it (Fig. 3). Any circuit can be brought full up or blacked out irrespective of dimmer position at the time. The dimmer can also carry the circuit fuses and an indicator device by means of which the dimmer position may be observed from the remote control point.

Not all lighting schemes require dimmers, and an installation may consist only of contactor switches controlled from a remote panel, as for example at the Tower Circus, Blackpool, where the bank consists of ninety-four 20 amp. mercury type contactors. Remote panels with

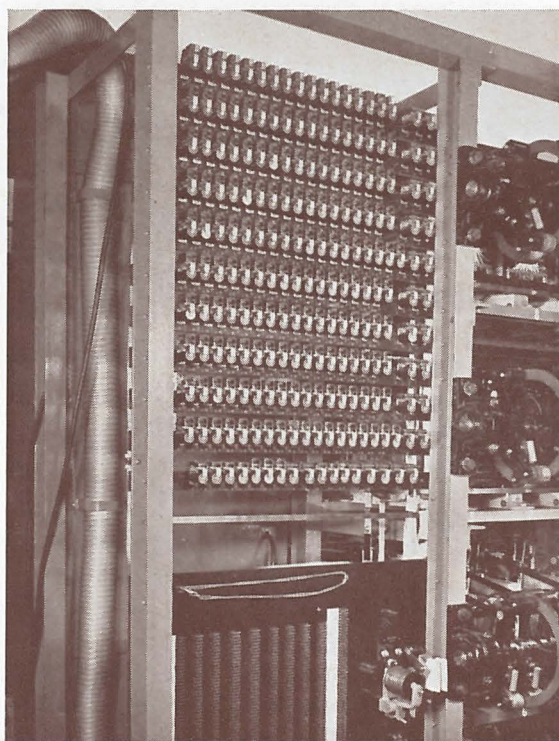


Fig. 4. Low voltage relay bank. Photograph shows control relay for a Strand Light Console installation. This system and type of wiring are also available for other multi-switching applications.

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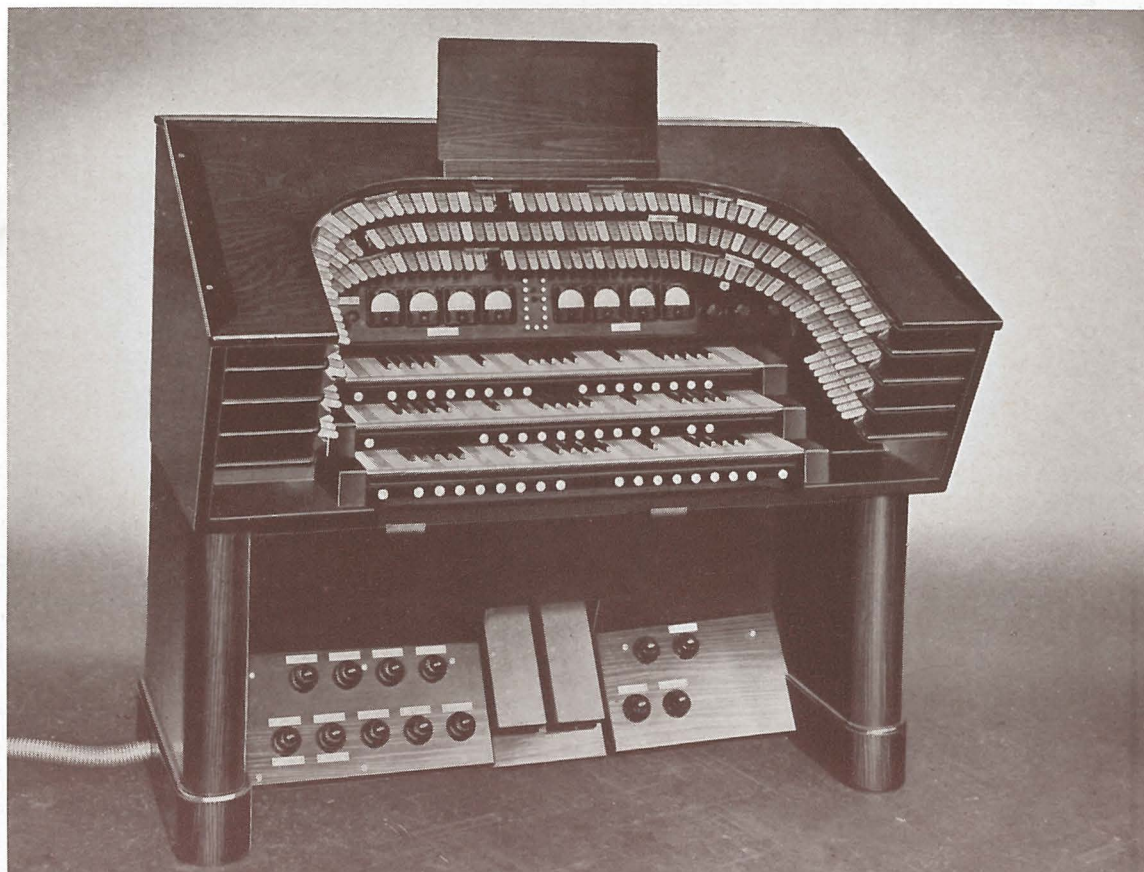


DARLINGTON, DUBLIN, MELBOURNE

STRAND REMOTE CONTROL

LIGHT CONSOLE TYPE

The Strand Light Console is designed to give to an operator, seated in full view of the stage, absolute control of all the lighting circuits that make up a modern stage installation, whatever the size of the theatre.



STRAND LIGHT CONSOLE DESK AS INSTALLED AT DRURY LANE AND COLISEUM THEATRES, LONDON.

For 216 dimmers including 4 colour remote filter change for a large number of lanterns.

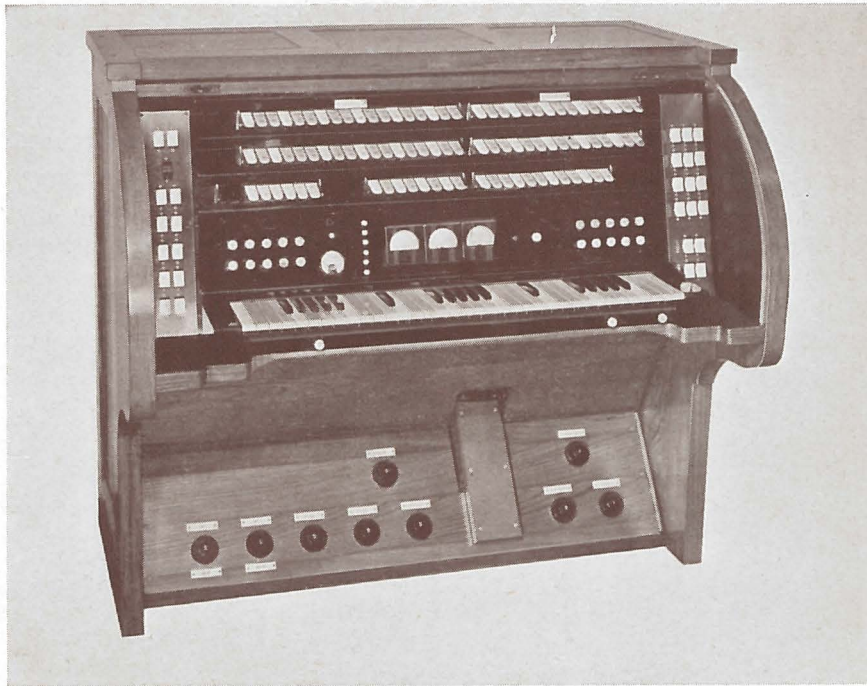
It is claimed that the Light Console system has special advantages over other lighting controls for ballet, opera, spectacular revue and musical productions in which many elaborate lighting changes are required. Using the console, slow or rapid changes can constantly follow one upon the other without pause, and furthermore, as the whole installation is under the fingers of one man, the usual delays for trial and co-ordination of plotting during rehearsal are not experienced. *The producer gives his instructions to one man: a man who can be sitting by his side at the console placed, for rehearsal, in the stalls.*

The Strand Light Console operator is seated within arm's reach of 100, 200 or more dimmer controls, circuit switches, colour filter change switches, etc. What is more, he can operate one lighting circuit or a group in immediate response to his thoughts or his instructions, written or verbal, expected or unexpected.

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STRAND LIGHT CONSOLE DESK AT CARACAS UNIVERSITY, VENEZUELA,
controlling both incandescent and fluorescent lighting.

This is achieved by giving the operator a single on or off selector switch to each stage lighting circuit, the name of the circuit being clearly engraved on each switch operating lever or tablet. The dimmer levers, position indicators, full-on switches, blackout switches, master locking devices and colour filter switches instead of being repeated for each lighting circuit are repeated only a few times as group and colour masters.

For every lighting change, great or small, the required lighting circuits, be they one or many, are locked to the master controls—operated and then unlocked to remain as they are until locked on for further change. The circuit selector switches are easy to put on or off—a sweep of the hand and all are on, for example. Devices are fitted to *move* preset combinations of these switches, cancel them, etc.

As there is only one switch (simply On or Off) per lighting circuit, plus a set of masters used all the time, the console desk is very compact and the state of the controls clearly shown to the operator. With other systems he has to take in at a glance the state of affairs by looking at a hundred or more dimmer levers, circuit switches, etc., plus the master controls which are necessary for simultaneous dimmer movement and to which the individual controls may, or may not, be locked at that time.

An experienced console operator quickly learns to think of his lighting instinctively in terms of the console controls, and consequently operation becomes second nature like driving a car. Lighting is no sooner thought of than it is translated into fact upon the stage, *and the operator can see it.*

SOME TYPICAL INSTALLATIONS—

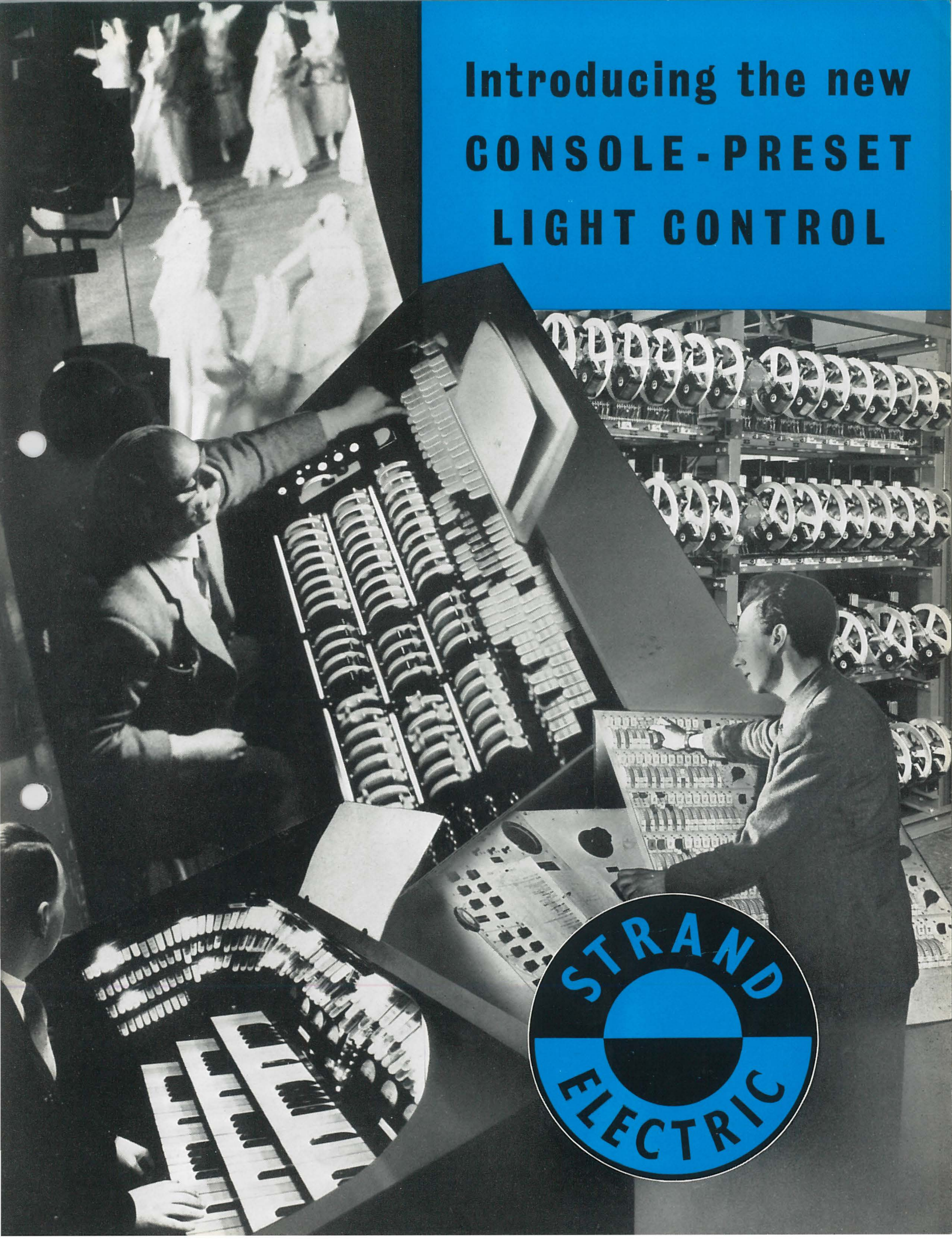
Theatre Royal, Drury Lane, 216 ways.	1950	Palace Theatre, Manchester, 108 ways.	1949
London Palladium, 152 ways.	1949	South Shore Icedrome, Blackpool, 64 ways.	1946
Stoll Theatre, Kingsway, 176 ways.	1950	Theatre Royal, Bristol, 60 ways.	1946
London Coliseum 216 ways.	1952	National Opera House, Ankara, 136 ways.	1949
Her Majesty's Theatre, London, 152 ways.	1954	National Opera House, Lisbon, 108 ways.	1940
Adelphi Theatre, London, 152 ways.	1954	Caracas University, Venezuela, 94 ways.	1954
Empress Hall, Earls Court, 90 ways.	1950	Theatre Polski, Warsaw, 159 ways	1955
Royal Festival Hall, London, 84 ways.	1951	Plaza, Caracas, Venezuela, 121 ways	1955

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DARLINGTON, DUBLIN, MELBOURNE

Introducing the new
CONSOLE-PRESET
LIGHT CONTROL



THE CONSOLE-PRESET

(SYSTEM CD/TH)

For many years now we have manufactured and marketed two widely differing systems of light control for the larger theatre, the Strand Light Console and the Strand Preset Desk. The former, although much improved in more recent installations, is now twenty years old. Yet it is still the most compact control in the world, and to be found in such famous London theatres as Drury Lane, the Palladium, the Coliseum, the Adelphi and others.

The Strand Preset Desk was introduced some ten years ago, originally with electronic valves, to give the precise dimmer presetting required in theatres such as the Old Vic and New in London, and the Shakespeare Memorial Theatre, Stratford-on-Avon, to quote but three of the many installations.

The Preset Desk does this precise dimmer work easily and simply, whereas the Light Console demands greater skill and care on the part of its operator. On the other hand, preset control boards tend to develop a multiplicity of presets (5 or 10 per dimmer are not uncommon) and there is even a demand for 20. These presets mean repeat dimmer levers which, however small, take up a lot of room and being miniature become awkward to set. The need for all these presets arises principally from the fact that systems using electronic or magnetic amplifier dimmers require to have each control circuit constantly energised to hold a circuit in a particular state of dim.

During the past two years we have developed and used full preset, using clutch operated dimmers with a single motor per bank. Current in this type is only used to drive dimmers into position, whereupon they remain there until driven afresh. These dimmer banks can be and are operated from preset desks of the orthodox type with the dimmer levers repeated as many times as necessary, but means have been found to combine a single or duplicate set of levers with the circuitry and controls of the Light Console type. The result is known as the Strand Console-Preset and we are confident that the new system provides the ultimate in control. These control desks are compact, basically simple and arranged for operation by one man.

The main advantages of the Strand CD/TH Console-Preset are as follows.

- ★ Only dimmers which are to move have to be selected or set up.
- ★ Dimmer levers need only be used for precise *intermediate* positions.
- ★ To dim or raise lights fully, only the selector keys need be used. These selector keys are rapid to handle and are in any case fitted with a memory device which can select and remember 14 groups of chosen circuits.
- ★ Dimmer levers can be set in advance, so that with slight modification only and use of selector keys several, if not all, cues can be carried out in rapid succession.
- ★ Any dimmers may be selected instantaneously at any time for modification without disturbing the set-up of the rest of the control board.
- ★ A push button is permanently preset to fade out all dimmers.
- ★ All dimmer changes are motorised so that they are smooth and, once determined, constant.
- ★ All controls are within arms reach of a seated operator, and the Control Desk is compact, 4 ft 4 in. wide × 4 ft 2 in. high × 2 ft 9 in. deep, (1.32×1.27×0.84 metres), connected by flexible cable, and may therefore be positioned anywhere convenient.
- ★ The dimmer bank is electro-mechanical employing only one dimmer motor, and does not require specialist engineers to understand maintenance of it.

KEY TO ANNOTATED PHOTOGRAPHS

1. Selector Keys (or Stopkeys)

One to each circuit. When put down, the circuit or circuits are *ready for action* (Dimming and/or switching and/or colour changes where fitted to lanterns). *Circuits not selected remain in the state to which they were last called.*

2. Memory Presets (for Selector Keys)

Any of these 14 buttons touched while the foot is on the Presetter (2A) remembers the combination of selector keys (1) above on at the moment. Subsequent pressure of the button without the setter will cause the selector keys to spring to that combination. A permanent cancel button causes all selector keys to spring off.

3. Dimmer Indicators

Second heavy touch on any selector key indicates on the dial the exact position of that dimmer and allows the dimmer individually to be moved irrespective of the number of circuits actually selected.

4. Raise Master

Raises dimmers selected at (1) above, as long as foot or thumb push is depressed. Without altering any positions preset on the dimmer levers (7).

5. Dim Master

Lowers dimmers, selected as (1) above, as long as foot or thumb push is depressed. Without altering any positions preset on the dimmer levers (7).

6. Move Master

Moves dimmers, selected as (1) above, to positions set up on dimmer levers below.

7. Dimmer Levers

One per circuit with large clear scale. These levers only take effect on circuits, selected as (1) above, while Move push is depressed. Dimmer levers are not required to hold dimmers, and therefore can preset the next change in advance.

8. Dimmer Speed

Pedal, balanced to stay at any position when foot is removed. Lamp indicator on panel above. Speed range from 2 seconds to 60 seconds dimmer travel. Slower speeds than this by inching the foot push on the left.

9. Master Dimmer

When switched in, this applies a proportional cut or fade to dimmers, selected as (1) above, whatever their position.

10. Blackout Master and BO Trip

All circuits are automatically held 'on' and operate through their dimmers. This push will blackout any circuits, selected as (1) above. These circuits are then held 'out' irrespective of the positions of the selector keys until the BO trip is used.

11. DBO

Dead blackout of all circuits (selected or not) so long as the switch is down.

12. Group Couplers

Normally these are kept on but they can be put off to limit action to particular groups and thus reduce the amount of circuit selection.

13. Filter Change

Master control for remotely operated colour screens.

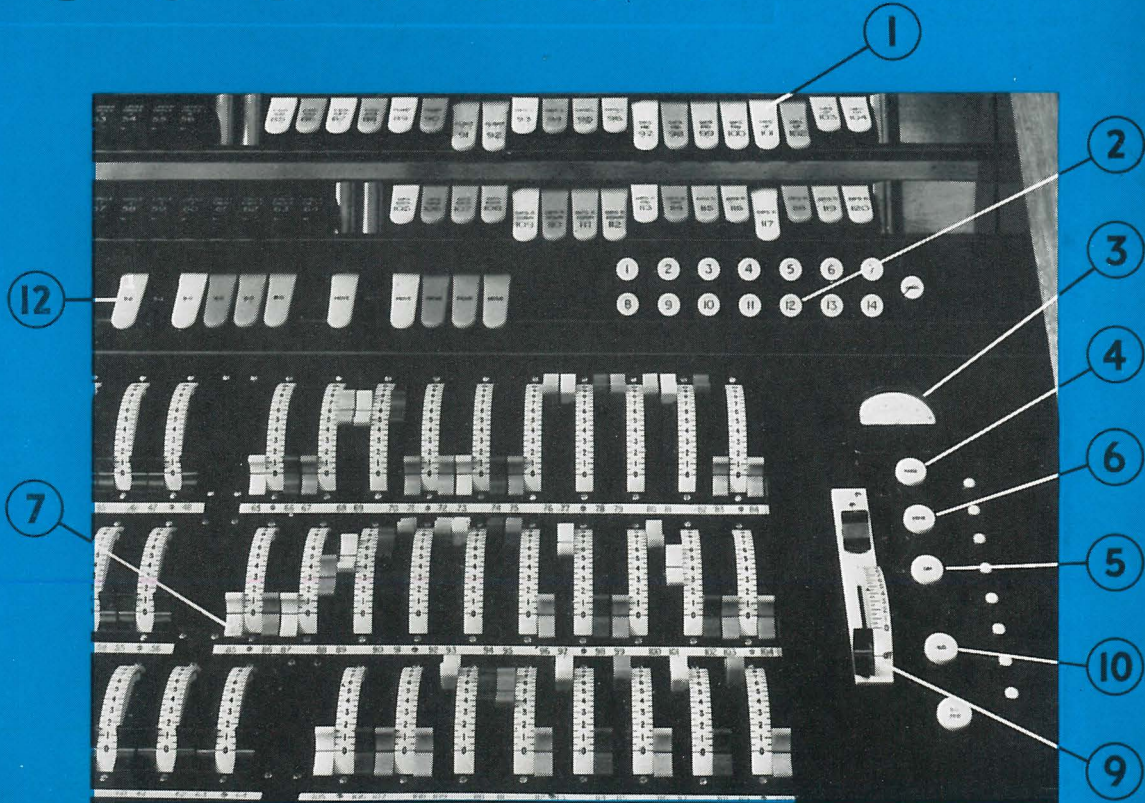
Detailed instruction books for operation, service and maintenance are always supplied.



(Left) The Strand Console-Preset System CD/TH as installed at Sadler's Wells Opera, and the Palace and Piccadilly Theatres, London.

(Below) A close up view of the keyboard.

See opposite for key to annotation.



STRAND PRESET CONTROL

SYSTEM C

System C employs similar circuits to CD on the previous pages, but provides the extra accommodation and facilities required where dimmer numbers exceed approximately 160. Instead of a single desk the control consists of a master desk with plotting space and two wings housing twin preset dimmer levers and an on-off luminous selector push (equivalent to a stopkey) to each circuit. *Every control on both wings is within reach of an Operator when seated at the Master Desk.*

The control gives all the facilities including memory and cancel action described in preceding pages and in addition two dimmer presets ahead of the lighting in use. Dimmer levers are only used for precise intermediate levels. General movement of dimmers

to raise or lower, or to coarse intermediate positions can be carried out using selectors and masters only, speed of operation being greatly facilitated thereby.

TELEVISION LIGHTING CONTROL

Both systems CD and C are installed in many television studios. In general, the facilities are the same except that control 10 (page 3) is arranged to switch on lights and trip at second touch instead of the normal theatre practice of keeping all circuits live and only tripping specifically for blackout effects.

Television lighting controls and patching methods are dealt with in detail in the Strand Electric's publication 'Television Lighting Control'.



The Strand system C Console-Preset control installed in the British Broadcasting Corporation's Television Studio 'Riverside I'.

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Goods are only offered subject to our terms of business

PRICE SCHEDULE

STANDARD AUTOMATIC DIMMERS

Item No.							£	s	d
Up-Down-Stop, by push button									
Auto 6	...	...	...	...	...	...	82	10	0
Auto 7	...	...	...	...	...	...	120	0	0
Auto 8	...	...	...	...	...	...	152	10	0

The above prices include one set of push-switches. Extra push-switches per set.

1 10 0

Drum Colour Change (Simple Cycle)

Auto 12	...	...	...	...	...	...	106	0	0
Auto 13	...	...	...	...	...	...	110	10	0
Auto 14	...	...	...	...	...	...	130	0	0
Auto 15	...	...	...	...	...	...	137	10	0
Auto 22	...	...	...	...	...	...	188	0	0
Auto 23	...	...	...	...	...	...	207	0	0
Auto 24	...	...	...	...	...	...	251	0	0
Auto 25	...	...	...	...	...	...	274	0	0

Drum Colour Change (Extended Cycle)

Auto 34	...	...	...	...	...	...	<i>On Application</i>		
Auto 35	...	...	...	...	...	...	<i>On Application</i>		
Auto 38	<i>On Application</i>		
Auto 39	<i>On Application</i>		



THE STRAND ELECTRIC & ENGINEERING CO. LTD.

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Continued overleaf

Item No.

£ s d

**Drum Colour Change with Remote
'On and Off' Control**

On Application

Drum Colour Change with 'Fade'

On Application

Reciprocating Action Dimmers

UD/R	...	...	...	...	...	...	46	0	0
CO/R	...	...	...	...	...	...	42	0	0

Strand Chromolux

On Application



THE STRAND ELECTRIC & ENGINEERING CO. LTD.
 LONDON - MANCHESTER - BIRMINGHAM - BANGOR
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STRAND AUTOMATIC CONTROL

Strand Electric can devise automatic or semi-automatic dimmers to fulfil any requirement. The dimmer units employed can be resistance, auto-transformer or direct valve electronic.

STANDARD AUTOMATIC DIMMERS

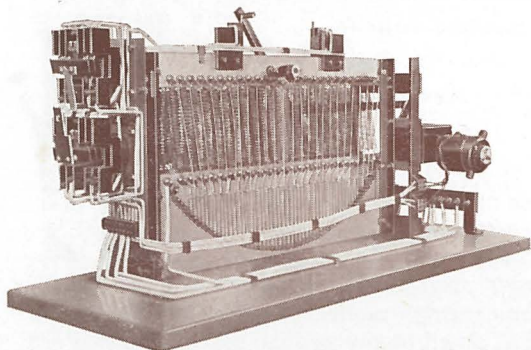


Fig. 1.—Up-Down-Stop automatic dimmer for 5 kw. with cover removed.

buttons can be connected to give control from any number of positions. Type D Sunset open coil 100 contact resistance dimmer plate with extra dead contacts at the dim end and limit switches to cut out motor at either end of travel. Heavier loads are obtained by ganging as a double or triple plate. Geared motor drives through a friction clutch to give a standard dimmer travel of 10 seconds. If desired the gearing can be arranged at time of manufacture to give a slower or faster speed.

Motor circuit includes S.P. fuse, but no lighting fuses are fitted as the dimmer is intended to be wired in the live feed to a standard lighting dis-board. All internal connections are brought to terminal panel. Unit is supplied complete with removable ventilated sheet metal cover (not shown in Figs. 1 and 2). Dimmer wired for a single specified wattage as limits shown below.

Although for even the simplest automatic dimmers the wattage, and therefore the size of the machine can vary enormously, a number of standard circuits have been devised to make the most economical use of apparatus. These are therefore to be preferred whenever possible on the grounds of cost and delivery time. These types are identified by the prefix "Auto" e.g. Auto 6.

UP-DOWN-STOP BY PUSH BUTTON

Automatic dimmer to raise, lower or stop at intermediate positions the house lighting of theatre, cinema, lecture hall, etc.

SPECIFICATION

Remote control by set of three push buttons in box 5½ in. by 2 in. by 2 in. deep: additional sets of push

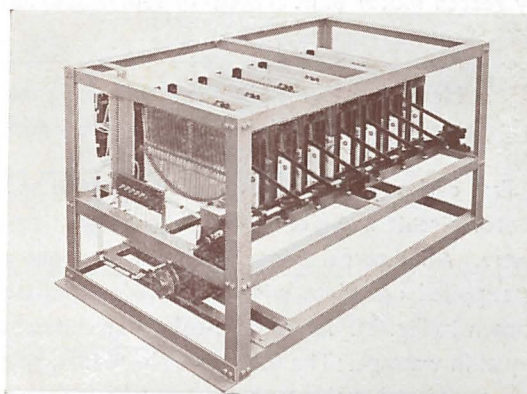


Fig. 2.—Up-Down-Stop automatic dimmer for 35 kw. with cover removed.

Item	Watts per phase*	Phases	Length	Depth	Height	Weight (approx.)
Auto 6	Up to 5,000 ...	1	2' 9" (84 cm)	1' 2" (36 cm)	1' 9" (53 cm)	¾ cwt. (38 Kg)
Auto 7	5,000 to 10,000 ...	1				
	Up to 5,000 ...	2	2' 9" (84 cm)	2' 0" (61 cm)	1' 9" (53 cm)	1 cwt. (51 Kg)
Auto 8	10,000 to 15,000 ...	1				
	Up to 5,000 ...	3				

* Variable load plus or minus ½ windings can be supplied provided top wattage does not exceed 80 per cent. of those shown in schedule above. Larger loads subject to special enquiry.

† Standard equipment includes one set of push-switches. Extra sets of push-switches can be supplied.

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Goods are only offered subject to our terms of business.

DRUM COLOUR CHANGE (Simple cycle)

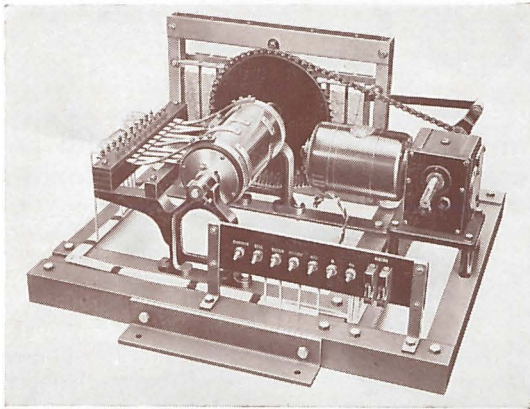


Fig. 3.—Colour change drum dimmer.

One dimmer circuit only is used, the lighting circuits being switched on to the dimmer, held on the mains and switched off by Strand drum unit (Fig. 3). Cycle of colour change is gradual with all intermediate mixtures, the only apparent switching being when the main switch feeding the dimmer and lighting is closed or opened to begin or shut down. Figs. 4 and 5 show cycles. Full width white sections show lights full up. Angled sections denote increase or decrease of light. If circuits use Red, Green and Blue filters or Orange, Blue-green and Blue, results will be as shown in leaflet L.11.

SPECIFICATION

Type A 100 contact element Sunset Resistance dimmer (up to 2,500 watts) or type D 100 contact open coil Sunset Resistance dimmer (2,500 to 5,000 watts) driven in conjunction with selector switching drum by geared motor unit. Three- or four-colour drum supplied.

- Fast. Cycle period: 3-colour, 1 min.; 4-colour 1½ min.
- Medium. Cycle period: 3-colour, 1½ min.; 4-colour 2 min.
- Slow. Cycle period: 3-colour, 3 min.; 4-colour, 4 min.

Fast cycles are supplied unless otherwise specified at time of ordering. Motor circuit includes SP fuse but no lighting fuses unless ordered as an extra. All internal connections are brought to a terminal panel. Unit is supplied complete with removable ventilated sheet metal cover (not shown in Fig. 3). All 3- or 4-colour circuits should be as near as possible equal in wattage. The dimmer to be wound to take the load of one circuit at a time, within the ranges set out below (for 200/250 volts AC).

Item	Colour circuits	Watts per colour circuit per phase	Total kw. *	Max. demand kw. *	Phases	Length	Depth	Height	Weight (approx.)
Auto 12	3 } 4 }	Up to 2,500 each ...	7.5 10	5 5	1	2' 1" (64 cm) 2' 3" (69 cm)	2' 3" (69 cm) 2' 3" (69 cm)	1' 7" (48 cm) 1' 7" (48 cm)	} 1½ cwt. (64 kg)
Auto 13									
Auto 14	3 } 4 }	2,500 to 5,000 each	15 20	10 10	1	2' 9" (84 cm) 3' 0" (91 cm)	2' 6" (76 cm) 2' 6" (76 cm)	1' 7" (48 cm) 1' 7" (48 cm)	} 1¾ cwt. (89 kg)
Auto 15									
Auto 22	3 } 4 }	Up to 2,500 each ...	22.5 30	15 15	3	3' 11" (120 cm) 4' 4" (132 cm)	2' 6" (76 cm) 2' 6" (76 cm)	1' 7" (48 cm) 1' 7" (48 cm)	} 2 cwt. (102 kg)
Auto 23									
Auto 24	3 } 4 }	2,500 to 5,000 each	45 60	30 30	3	6' 3" (191 cm) 6' 9" (206 cm)	2' 6" (76 cm) 2' 6" (76 cm)	1' 7" (48 cm) 1' 7" (48 cm)	} 3 cwt. (152 kg)
Auto 25									

*Maximum demand.—Using a drum-type dimmer the maximum load is 2-colour circuits only: therefore the main supply need only equal the total $\frac{2}{3}$ watts on a 3-colour dimmer and $\frac{1}{2}$ the total on a 4-colour.

Automatic dimmer controlling the three or four colours of a multi-colour lighting equipment so as to give a cycle of change and then repeat until switched off. Suitable principally for shop window, ballroom, exhibition display and fountain work.

One dimmer circuit only is used, the lighting circuits being switched on to the dimmer, held on the mains and switched off by Strand drum unit (Fig. 3). Cycle of colour change is gradual with all intermediate mixtures, the only apparent switching being when the main switch feeding the dimmer and lighting is closed or

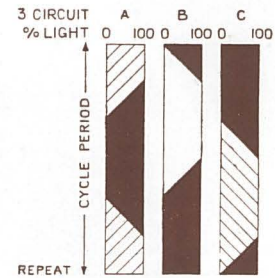


Fig. 4.—3-colour cycle.

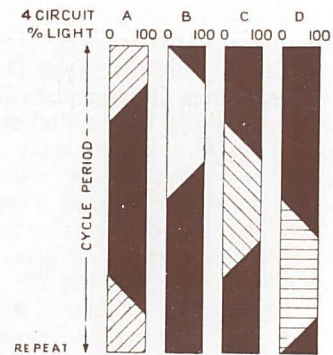


Fig. 5.—4-colour cycle.

Note.—The three-phase models can be used for single-phase loads so long as the output terminals are not paralleled. Thus Auto 24 above can control 5,000 watts per colour on each of three separate circuits making a total of 15,000 per colour, single phase.

DRUM COLOUR CHANGE (Extended cycle)

Automatic dimmer controlling three or four colours in two groups of lighting and arranged to give a colour cycle in unison followed by a cycle in contrast and then repeat until switched off.

This equipment is similar in construction and application to the simple cycle drum above except that the drum is arranged to give double the number of changes. Used on two groups of 3-colour lighting the first half cycle is the same as Fig. 4 for both sets. The second half repeats but in the first group circuits B and C change places providing a set of colour mixtures to contrast with the second group. On a 4-colour job the cycle is as Fig. 5 until the second half when in the first group A and B change places and C and D likewise.

Item	Colour circuits	Watts per colour circuit	Total kw.	Max. demand kw.	Phases	Length	Depth	Height	Weight (approx.)
Auto 34	6	Up to 2,500	15	10	1	2' 9" (84 cm)	2' 6" (76 cm)	1' 7" (48 cm)	} 1½ cwt. (89 kg)
Auto 35	8	Up to 2,500	20	10	1	3' 0" (91 cm)	2' 6" (76 cm)	1' 7" (48 cm)	
Auto 38	6	Up to 5,000	30	20	1 or 2	4' 6" (137 cm)	2' 6" (76 cm)	1' 7" (48 cm)	} 2 cwt. (102 kg)
Auto 39	8	Up to 5,000	40	20	1 or 2	5' 0" (152 cm)	2' 6" (76 cm)	1' 7" (48 cm)	

Other arrangements to special order.

DRUM COLOUR CHANGE WITH REMOTE ON AND OFF CONTROL

These dimmers are exactly as the Drum types in schedules above except that the lighting and colour cycle can be switched on or off by push-button. Additional sets of push-buttons can be connected to give control from any number of positions. This refinement, though not normally necessary, may be desirable in a ballroom to bring the colour lighting under control of the band leader or the M.C. In such an installation the ballroom white lighting would be on an Up-down-stop dimmer (such as Auto 6) and the colour lighting on a Drum colour change (such as Auto 13), the push-buttons being mounted on a common panel. The procedure for a colour dance would then be:—Press the colour drum dimmer "On" button and the white lighting "Dim" push. At the end of cycle, press white lighting "Raise" push, wait for the light to come to full, then press the colour drum "Off" push.

When enquiring or ordering quote the appropriate Auto item number above and specify "Remote Control".

DRUM COLOUR CHANGE WITH FADE

Similar to Drum dimmers above but arranged to fade out cycle when dim button is pressed instead of switching off sharply. Similarly the "Raise" button fades the cycle in. A third push, "Stop", stops the colour cycle motor and allows a particular colour combination to be held.

These units are a combination of the Drum and Up-down-stop types, the latter dimmer unit being wired in series with drum and dimmer. Such an arrangement may still represent an economy in apparatus since, for example, a 4-colour mixing unit with fade employs only two dimmers. Supplied only for remote push-button operation. Specify as appropriate Drum Auto number plus "Fade".

RECIPROCATING ACTION DIMMERS

There are two main types: one UD/R to raise, dim, raise, dim the same circuit automatically until stopped; the other CO/R to cross fade two circuits to and fro until stopped (Fig. 6). Both are suitable for small displays in shop windows, exhibitions, etc.

These dimmers are somewhat similar to that shown in Fig. 1 except that there is no contactor control. The main switch for the lighting also feeds the motor and starts or stops the dimmer. Motor circuit includes a single-pole fuse but no lighting fuses are included. Type UD/R has a 100-contact Sunset element resistance dimmer and type CO/R a slider type resistance element. Both are complete with ventilated sheet metal cover.

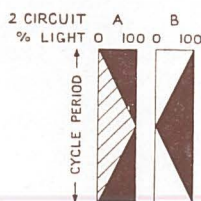


Fig. 6.—Reciprocating cycle

Item	Circuits	Watts per circuit	Length	Depth	Height	Weight (approx.)
UD/R	1	Up to 3,000	2' 0" (61 cm)	1' 1" (33 cm)	1' 4" (41 cm)	½ cwt. (25.4 kg)
CO/R	2	Each up to 300 only ...	2' 0" (61 cm)	1' 1" (33 cm)	1' 4" (41 cm)	½ cwt. (25.4 kg)

STRAND CHROMOLUX

The Strand Chromolux is designed to provide a range of preset colours by mixing either the three primary or secondary colours (see Leaflet L.11).

This device enables an operator unskilled in the technique of colour mixing to obtain, by moving a simple selector switch, any one of 23 attractive colours, previously set at the Strand factory. Two automatic mixing cycles, one giving pale colours and the other strong colours, are also provided. The Chromolux is ideally suited for ballrooms, cinema and display work.

The Strand Chromolux consists of a motor-driven magnetic clutch-operated dimmer bank situated in some position convenient to feed the lighting. Connected thereto by a low-voltage cable is a small panel with a rotary selector switch for each set of 3-colour lighting equipment to be separately controlled. The selector switch has the names of 23 hues and tints against it. On turning the selector to any colour, the dimmers will automatically travel to the appropriate positions to give that colour (for example sky blue). Turn the switch to Rose and the Sky Blue will dissolve into Rose Pink. Colours can be selected in any order and the result directly achieved without passing through the other colours on the dial between those in question.

The colours obtained from the Chromolux selector are static and remain until the next colour is chosen. The 2-way and off switch shown at bottom right in Fig. 7 provides changing colours. When this is pushed "left" a colour cycle beginning with the colour at that time on the selector (for example Blue) will take place and automatically provide all the rich hues possible by mixing the three primary colours. The cycle continues until it is desired to fade out or return to a static Chromolux colour.

When the cycle switch is placed in the "right" position a cycle of soft tints instead of strong hues is produced, otherwise working is the same. The 2-way and off switch down at bottom left in Fig. 7 gives "DIM" in left position, "STOP" in centre position, and "ON" in right position.

The Strand Chromolux being electro-magnetic in operation, the movement of the selector switch is effortless and there are no complicated mechanical cams to cause trouble; furthermore the small control panel can be any distance from the dimmer bank.

The Strand Chromolux is supplied with both dimmer bank and panel ready to operate, the sole addition required is a multicore low voltage cable to connect the numbered terminals on each. A motor fuse is fitted but circuit fuses and neutral links are to special order only. *Prices on application.*

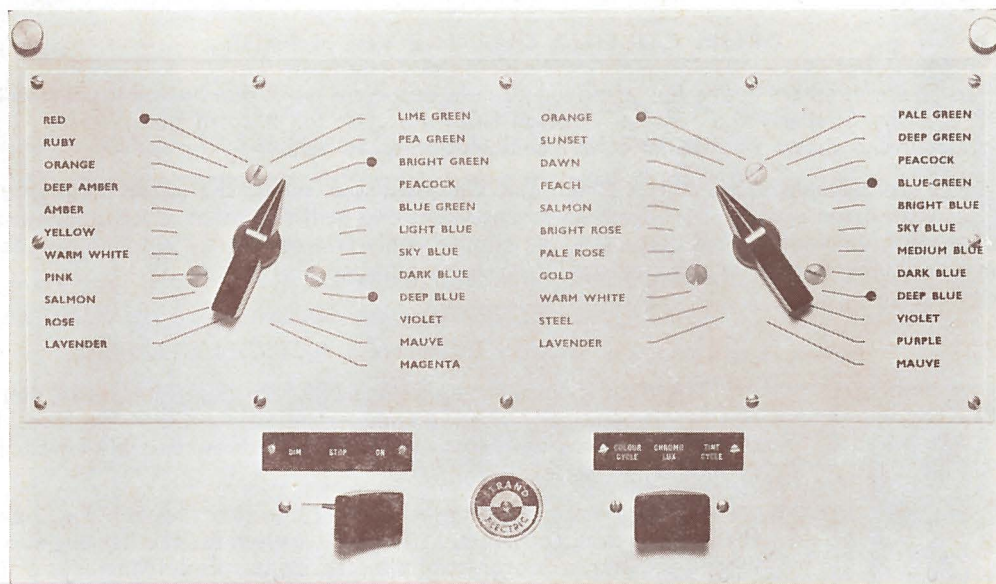


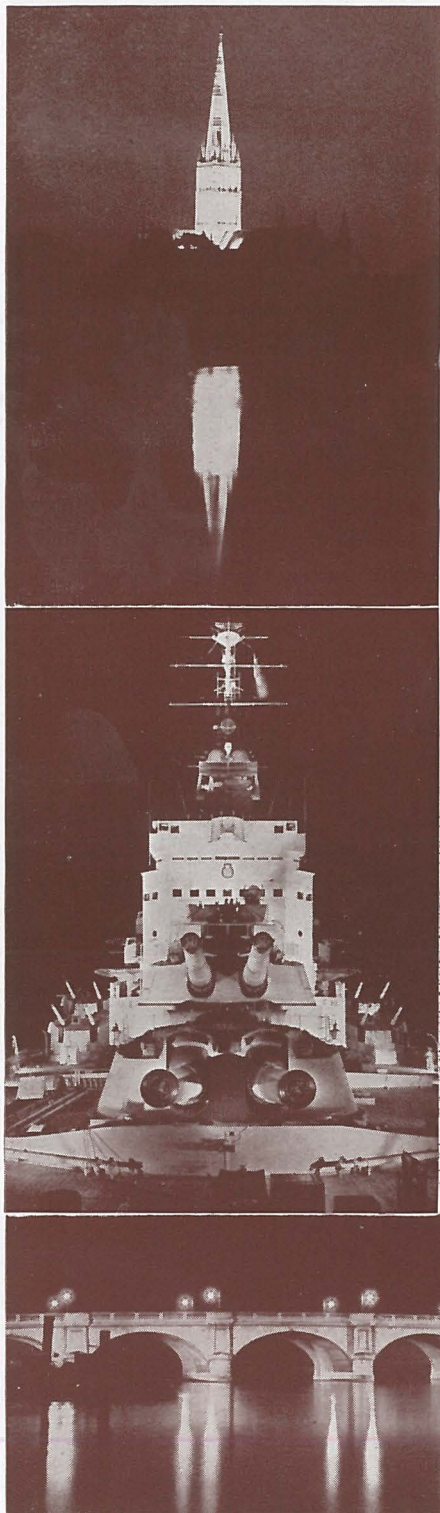
Fig. 7.—Strand Chromolux control panel for two sets of equipment. Dial on left is for primary colour filters, and dial on right for secondary colours.

LONDON, MANCHESTER, GLASGOW



DARLINGTON, DUBLIN, MELBOURNE

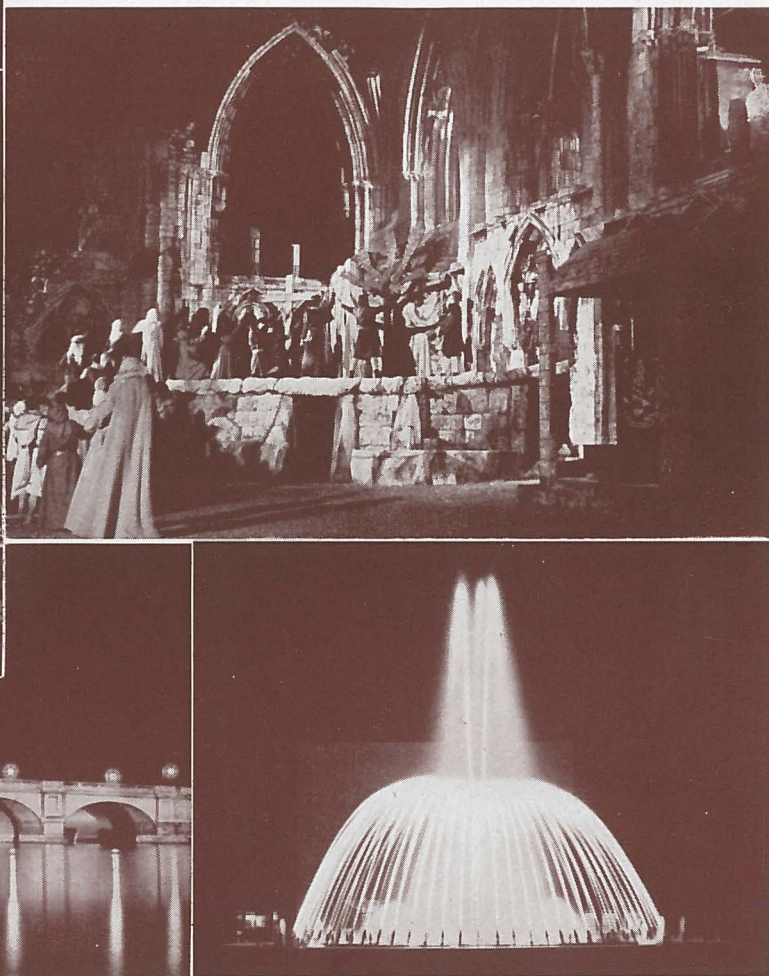
STRAND OUTDOOR FLOODS



Outdoor lighting may be either purely useful in character—a method in fact of creating a form of artificial daylight—or it may be decorative, used as a means of enhancing the natural beauty of some place or object.

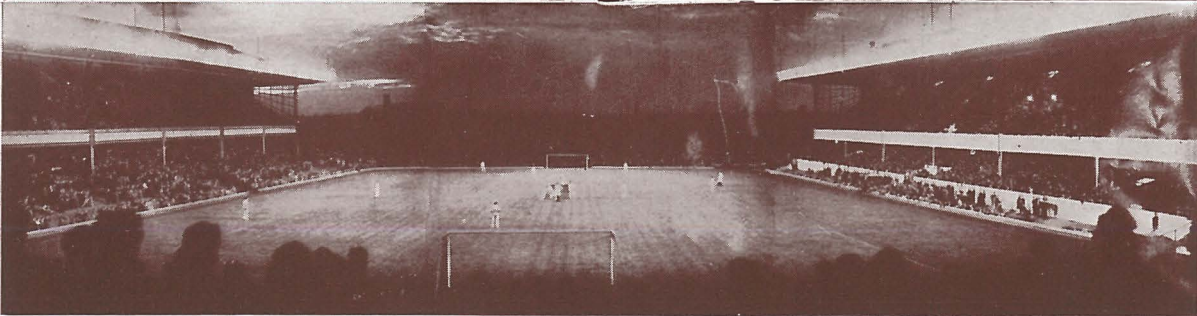
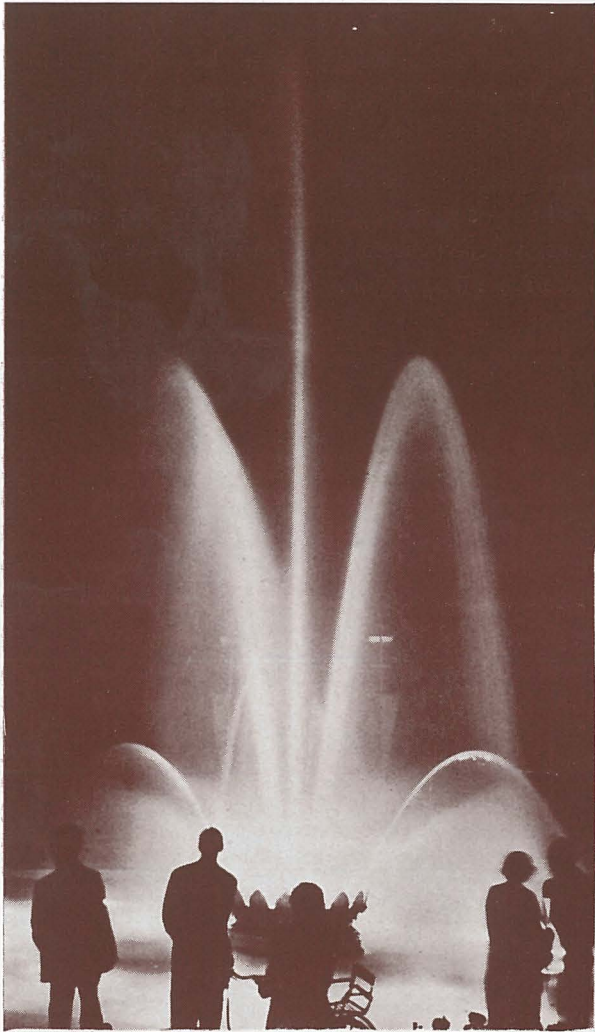
While the principles of illuminating engineering apply in both types of installation, the latter requires in addition the consideration of the artistic aspects. Long association with the Theatre puts us in a particularly good position to collaborate in this direction.

We have purposely restricted the number of floodlights in our range but in such a way that most problems can be met by the use where necessary of more than one type of lantern on the same installation.



<p>HEAD OFFICE AND SHOWROOMS 29, KING STREET, LONDON, W.C.2 SALES AND GOODS - 24, FLORAL ST., W.C.2 TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON</p>		<p>BRANCHES 313, OLDHAM ROAD, MANCHESTER 10 COLLYHURST 2736 62, DAWSON ST., DUBLIN - DUB 74030</p>
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Our experience includes installations both permanent and temporary, above ground and under water, for example in the case of illuminated fountains. In the latter connection particularly we are able to offer a number of alternative schemes for motor-driven colour-changing mechanism to provide colour changing displays. (For examples of colour changing gear see leaflet H.91.)



HEAD OFFICE AND SHOWROOMS
 29, KING STREET, LONDON, W.C.2
 SALES AND GOODS - 24, FLORAL ST., W.C.2
 TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON

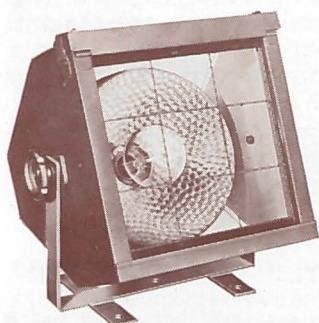


BRANCHES
 313, OLDHAM ROAD, MANCHESTER 10
 COLLYHURST 2736
 62, DAWSON ST., DUBLIN - DUB 74030

STRAND OUTDOOR FLOODS

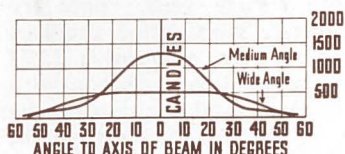
PATTERN 537 WIDE OR MEDIUM ANGLE FLOOD 60/100/150 watt

This is a small compact lantern with a large variety of uses. Lamps of three wattages and reflectors of two beam distributions (wide or medium-angle beam) can be fitted without physical alteration or adjustment of any kind. The squat shape lends itself to concealment behind parapets and in other places affording little cover.



SPECIFICATION

Body of lantern strongly constructed of sheet steel, all joints being soldered and is ventilated. Drain holes are provided for condensation. Front of lantern is fitted with removable toughened glass and a runner with colour frame for Cinemoid colour filter to be used *outside* glass. Both are covered by hinged flap with clip. Either a J.235 wide-angle silvered glass reflector (standard) or a J.236 medium-angle (alternative) is carried on a spider clamp, ensuring the correct relationship of reflector to E.S. lampholder. Lantern supplied unwired but fitted with $\frac{3}{4}$ -in. watertight gland to take tough rubber-sheathed cable. Gland can be removed to give a hole as conduit entry if preferred. Lantern clamped with handwheels to a cradle with two supporting feet, the whole stoved Dark Grey outside, White inside.

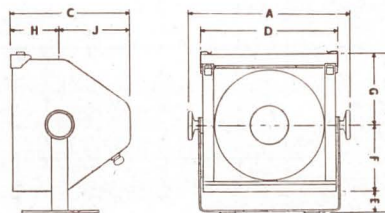


Beam Angles : 90° (wide) or 60° (medium). **Cut-off :** 105°.

Lamps: 60 or 100 w. clear General Service ES cap, or 150 w. Theatre batten ES cap.

DIMENSIONS

	Ft.	in.		Ft.	in.
A	1	0½	F	5	¼
B	1	1	G	5	¾
C	9	½	H	4	
D	10	¾	J	5	½
E	2				



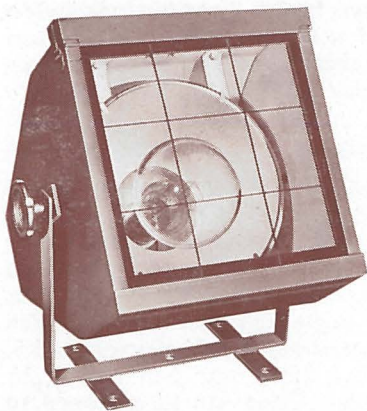
	£	s.	d.	
PRICE (exclusive of lamp)	5	5	0	each
J.347—Extra front glasses (10in. × 9½in.)	7	9		each
J.348—Extra Metal colour frames (10in. × 9½in.)	3	1		each
J.349—“Cinemoid” colours for J.348	15	0		per doz.
J.235—Extra wide-angle Sunray glass reflectors.. .. .	9	6		each
J.236—Extra medium-angle Sunray glass reflectors	9	6		each

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
 SALES AND GOODS - 24, FLORAL ST., W.C.2
 TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON

BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
 COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

STRAND OUTDOOR FLOODS

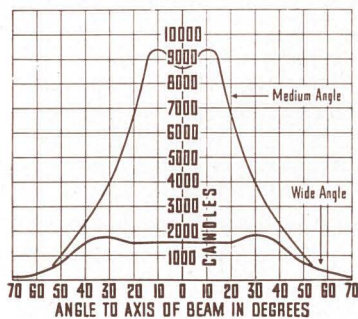
PATTERN 560 WIDE OR MEDIUM ANGLE FLOOD 300/500 watt



Lamps: 300 or 500 w. General Service with G.E.S. cap.

Beam Angles: 100° (wide) or 60° (medium).

Cut-off: 120°.



This floodlight allows a choice of two lamp wattages and of two reflectors without need of physical alteration or adjustment. The wide-angle J.275 reflector supplied as standard gives a wide even spread without hot spot, the medium-angle J.273 gives a localised beam of higher intensity for more distant objects.

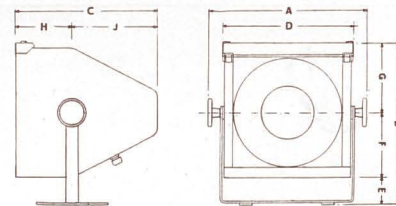
The lantern is strong and rigid in construction and built to last and should not be confused with lanterns in which the reflector, a light spinning, forms its own housing and is therefore without protection.

SPECIFICATION

Body of lantern strongly constructed of sheet steel, all joints being soldered, and is ventilated. Drain holes provided for condensation. The front is fitted with removable toughened glass and metal frame for "Cinemoid" colour filter to be used *outside* glass. Both are covered by hinged flap with clip. J.275 wide-angle, satin etched, anodised aluminium reflector is supplied as standard. An alternative J.273 electro-brightened and polished anodised aluminium reflector with wire cradle to bring into correct medium-angle focal position can be supplied. Lantern supplied unwired but fitted with $\frac{3}{4}$ -in. watertight gland to take tough rubber-sheathed cable. Gland can be removed to give a hole as conduit entry if preferred. Lantern clamped with hand-wheels to cradle with two feet drilled to take fixing screws. Stove enamelled Dark Grey outside, White inside.

DIMENSIONS

	Ft.	in.		Ft.	in.
A	1	3½	F	6	¼
B	1	4½	G	7	
C	1	2	H	5	¾
D	1	0½	J	8	¼
E	3	¼			



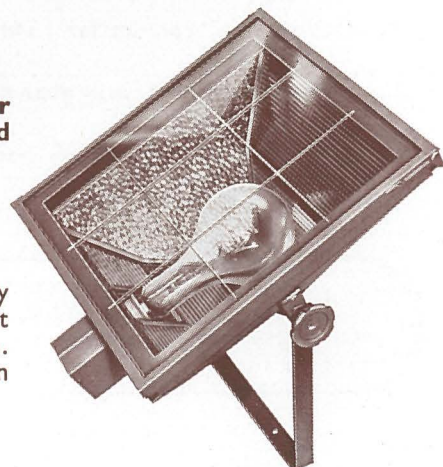
	£	s.	d.	
PRICE (exclusive of lamp)	8	10	0	each
J.350—Extra front glasses (11¾ in. × 11¾ in.)	8	3		each
J.351—Extra metal colour frames (11¾ in. × 11¾ in.)	4	2		each
J.352—"Cinemoid" colours for J.351	1	13	2	per doz.
J.275—Extra wide-angle anodised aluminium reflectors	2	1	0	each
J.273—Extra medium-angle anodised aluminium reflectors	2	1	0	each

PATTERN 47 WIDE ANGLE FLOOD 500/1000 w

This lantern gives a wide-angle horizontal beam suitable for even illumination of buildings at short range and may be mounted either on brackets or on canopies, etc.

SPECIFICATION

The lantern is constructed in lead coated sheet steel, efficiently ventilated. A sectional silvered glass reflector and toughened front glass are fitted together with a frame for "Cinemoid" colour medium. The G.E.S. lampholder is adjustable, giving correct filament position for either 500 w. or 1,000 w. lamps. Stoved Dark Grey.

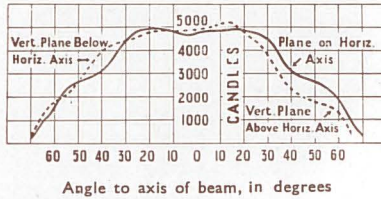


STRAND OUTDOOR FLOODS

PATTERN 47 (continued)

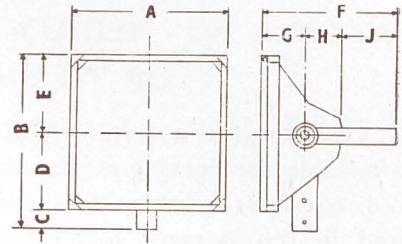
Lamps : 500 or 1,000 w. General Service type with GES caps.

Beam Angle: Vertical plane 99°. Horizontal plane 103°.



DIMENSIONS

	Ft.	in.		Ft.	in.
A	1	8	F	1	4 1/2
B	1	11	G		5
C		3 1/2	H		4 1/4
D		9	J		7 1/4
E		10 1/2			

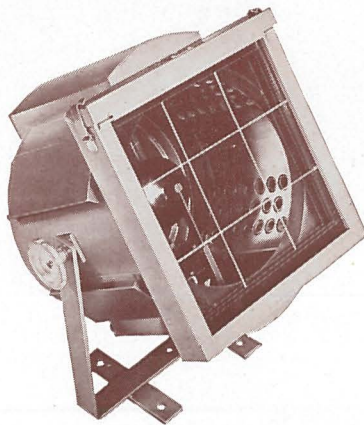


Nett Weight 25 lb.

PRICE (exclusive of lamp)

	£	s.	d.	
J.216—Metal colour frames (17 1/2 in. x 17 1/2 in.)	14	11	6	each
J.217—"Cinemoid" colours for J.216		5	0	each
J.218—Spare set of reflector pieces	2	14	0	per doz.
J.220—17 1/2 in. square toughened glass front	2	4	0	per set
	1	13	0	each

PATTERN 558 NARROW ANGLE SPOTLIGHT 1000 watt



This lantern provides a very intense narrow angle soft edged beam of light with slight variation in size of beam. For lighting church towers and distant objects. Particularly useful for spot-lighting in pageants.

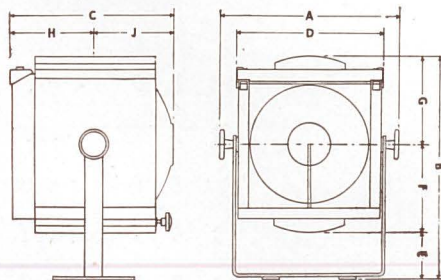
SPECIFICATION

Ventilated sheet steel housing with spun fixed back carrying a 10-in. diameter anodised aluminium parabolic reflector. The lamp tray, which gives adjustment to G.E.S. lampholder, is focussed by worm drive from rear outside. Prefocus lampholder extra.

Front of lamp is fitted with chemically-blackened masking disc to cut off direct rays of light and make cut-off angle similar to beam angle. This disc can be removed when this direct light may be useful. Front of lantern is fitted with removable toughened glass for access and a runner with frame for "Cinemoid" colour filter outside the glass. Both are covered by hinged flap with clip. Lantern supplied unwired but with removable 3/4-in. watertight cable gland.

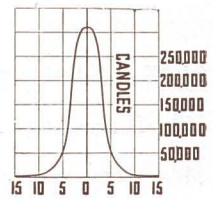
Lantern is clamped to a cradle with feet drilled to take fixing screws. Stove enamelled Dark Grey outside, Black inside.

Lamps: 1,000 w. Class A.1 or Class B.1 Projector. G.E.S. cap.
Beam Angle: Max. 17°, min. 11°.



DIMENSIONS

	Ft.	in.		Ft.	in.
A	1	3 1/2	F		7 1/2
B	1	7	G		7 1/2
C	1	2	H		7
D	1	0 1/2	J		7
E		4			



ANGLE TO AXIS OF BEAM IN DEGREES

PRICE (exclusive of lamp)

	£	s.	d.	
J.350—Extra front cover glasses (11 3/4 in. x 11 3/4 in.)	18	3	0	each
J.351—Extra Metal colour frames (11 3/4 in. x 11 3/4 in.)		8	3	each
J.352—"Cinemoid" colours for J.351	4	2		each
J.94 —Glass diffuser (11 3/4 in. x 11 3/4 in.)	1	13	2	per doz.
J.281—Extra aluminium reflectors	9	0		each
J.280—Alternative glass reflectors	2	15	0	each
	3	6	0	each

STRAND OUTDOOR FLOODS

PATTERN 502 MEDIUM ANGLE FLOODLIGHT UP TO 1500 WATTS

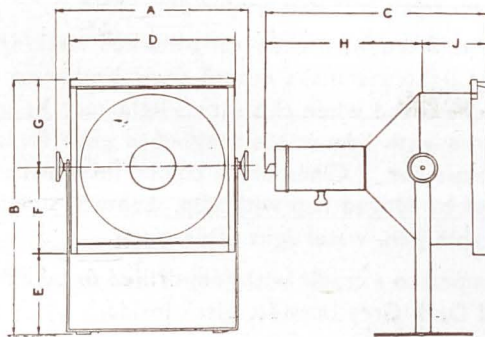
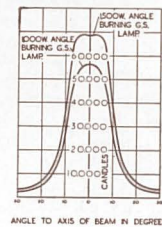
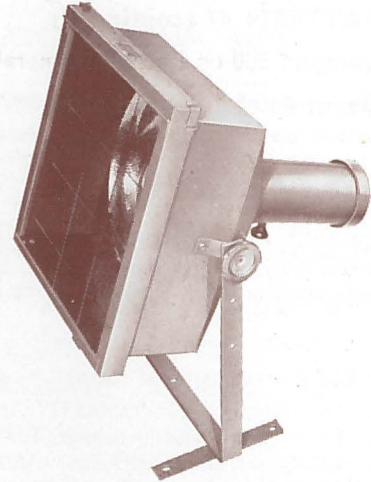
This lantern gives a medium angle, symmetric beam of light and is suitable for lighting outdoor arenas, football pitches and the like, particularly when fitted with a visor. These lanterns are used in the Arsenal football ground at Highbury, London.

SPECIFICATION

Ventilated lantern constructed in sheet steel, all joints being soldered. A colour medium frame is accommodated in suitable runners at the front, the medium itself being protected from the radiated heat of the lamp by a toughened glass heat resisting screen. Access to both of these is by means of a hinged lid. A G.E.S. lampholder is mounted on a sliding carrier, focussing by a knob outside lantern. The anodised aluminium reflector, which gives a medium narrow beam angle, is easily removable for cleaning, etc. The lantern is carried in a fork with feet drilled to take fixing screws. Stoved White inside and Grey outside.

Lamps: 500 w., 1,000 w. or 1,500 w. General Service angle burning type with G.E.S. cap.

Beam angles: Beam angle 35°, cut-off 80°. Beam angles and cut-off angles are approximately the same with either 500 w., 1,000 w. or 1,500 w. lamps.



DIMENSIONS

	Ft.	in.		Ft.	in.
A	1	8	F	8	½
B	2	2	G	9	
C	1	11½	H	1	4½
D	1	5	J	7	
E	8	½			

Nett weight 28½ lb.

	£	s.	d.	
PRICE (exclusive of lamp)	14	5	0	each
J.212—Spare toughened front cover glass	1	11	6	each
J.214—Metal colour frames (16 in. × 16 in.)	5	0		each
J.215—"Cinemoid" colours for J.214	2	6	3	per doz.
J.279—Extra aluminium reflectors	3	3	0	each
J.213—Sheet metal visor hood	1	4	6	each

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
SALES AND GOODS - 24, FLORAL ST., W.C.2
TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON



BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

STRAND COLOUR MEDIUMS

A GUIDE TO COLOUR MIXING

When coloured light is mixed, one colour is added to another, whereas when pigments are mixed the colours are subtracted from each other. The more colours of light that are mixed the nearer the result approaches white; the more pigments the nearer to black.

The three primary colours of light are matched by our 6 Red, 39 Green and 20 Blue (double wattage required). Secondary colours are obtained by using dimmers as follows:

Adding Green to Red — Orange, Amber, Yellow.

„ **Red to Green — Light Green, Pea Green, Yellow.**

„ **Green to Blue — Medium Blue, Light Blue, Blue-Green.**

„ **Blue to Green — Deep Green, Peacock Green, Blue-Green.**

„ **Red to Blue — Violet, Mauve, Magenta.**

„ **Blue to Red — Scarlet, Claret, Magenta.**

To obtain tints, all three colours must be mixed; thus salmon pink is the same mixture as orange but with some blue added, steel blue is the same as blue-green but with some red added.

By mixing the primaries in various proportions several hundred secondary colours are obtained. However, for much theatre work the primary system is very wasteful—for example in realistic effects on a cyclorama or sky-cloth. Red, Green and some of the more vivid hues are seldom required. An alternative three-colour system using 16 Blue-Green, 20 Blue and 35 Deep Golden Amber is suggested for realism. This system provides all the more usual sky colours at much greater intensity. Thus, Light Blue is two circuits full up, instead of one full, and the other one third dimmed (30 per cent. light). The primary mixture produces only 65 per cent. of the light of the alternative mixture.

The schedules overleaf show diagrammatically the approximate positions to place the dimmer handles to obtain the colours in the first column. The percentages are of handle travel, 0 per cent. being the “ off ” position; 100 per cent. the “ full on.” The hues are names at steps of one third dimmer travel; tints (for which no dimmer is taken below 50 per cent.) are named at steps of one half dimmer travel. This is due to the limitations of useful colour nomenclature, the actual number of recognisable colour steps running into hundreds.

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
SALES AND GOODS - 24, FLORAL ST., W.C.2
TEMPLE BAR 4444 GRAMS: SPOTLITE RANG LONDON



BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

STRAND COLOUR MEDIUMS

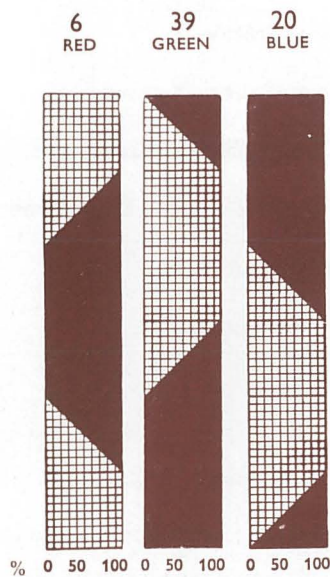
The percentage figures on the charts are approximate guides only since the characteristics of dimmers and circuits vary; slight movement of the dimmer handles either side of the positions given will bring in the required colour. If double wattage is not available for the blue, then No. 19 may be substituted for No. 20. The schedules show diagrammatically the positions in which to place the dimmer handles to obtain the colours in the first column. The percentages are of handle travel, 0 per cent. being the "off" position, 100 per cent. the "full on." For the tints no dimmer is taken below 50 per cent.

PRIMARY COLOUR MIXING

From which the largest selection of colours may be derived

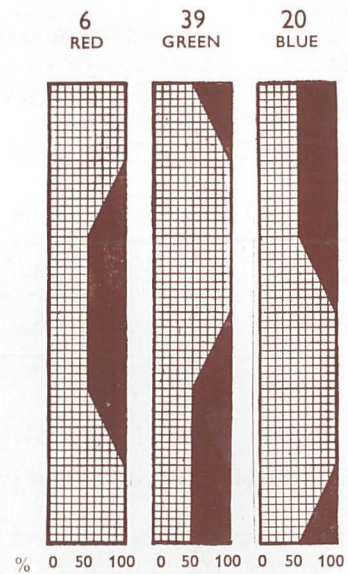
HUES

RED
Orange
Amber
Yellow
Pea Green
Light Green
GREEN
Deep Green
Peacock Green
Blue-Green
Light Blue
Medium Blue
DEEP BLUE
Violet
Maive
Magenta
Claret
Scarlet
RED



TINTS

Deep Salmon
Light Salmon
Warm Grey
Green Tint
Pale Green
Steel Grey
Steel Blue
Cold White
Lavender
Pale Rose
Deep Rose
Pink (Deep)
Deep Salmon

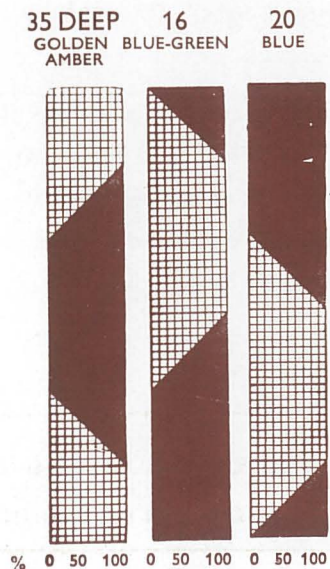


ALTERNATIVE THREE-COLOUR MIXING

For realistic colours at maximum intensity

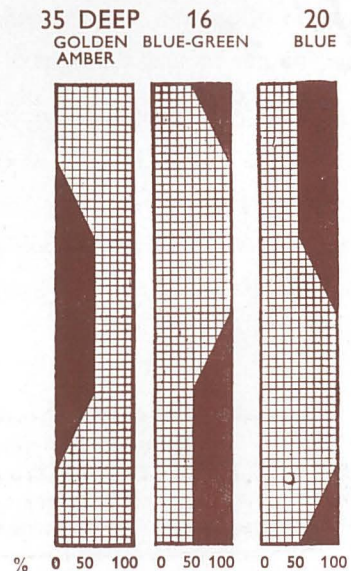
HUES

ORANGE
Amber
Straw
Warm White
Grey
Pale Green
BLUE-GREEN
Peacock Green
Peacock Blue
Light Blue
Medium Blue
Dark Blue
DEEP BLUE
Violet
Maive
Rose
Pink
Salmon
ORANGE



TINTS

Deep Salmon
Light Salmon
Gold Tint
Warm Grey
Green-Grey
Blue-Grey
Steel Blue
Lavender
Rose Tint
Pale Rose
Pink
Deep Pink
Deep Salmon



STRAND COLOUR MEDIUMS

LIST OF STANDARD STAGE FILTERS

COLOUR ORDER.

LAVENDER—GOLD—PINK

Pale Violet	42	Pale Rose	54	Deep Salmon	8
Pale Lavender	36	Light Salmon	9	Bright Rose	48
Gold Tint	51	Light Rose	7	Deep Rose	12
Pale Gold	52	Middle Rose	10	Magenta	13
Pale Salmon	53	Dark Pink	11		

YELLOW—AMBER—RED

Pale Yellow	50	Medium Amber	4	Deep Orange	5A
Straw	3	Deep Amber	33	Deep Golden Amber	35
Yellow	1	Golden Amber	34	Primary Red	6
Canary	49	Deep Salmon	8	Ruby	14
Light Amber	2	Orange	5		

BLUE—PURPLE—VIOLET

Blue-green	16	Light Blue	18	Deep Blue (Primary)	20
Peacock Blue	15	Bright Blue	41	Purple	25
Steel Blue	17	Medium Blue	32	Mauve	26
Pale Blue	40	Dark Blue	19	Pale Violet	42
Pale Navy Blue	43				

GREEN—NEUTRAL—FROST

Pale Green	38	Primary Green	39	Pale Grey	60
Pea Green	21	Blue-green	16	Light Frost	31
Moss Green	22	Peacock Blue	15	Heavy Frost	29
Light Green	23	Chocolate Tint	55	Clear	30
Dark Green	24	Pale Chocolate	56		

NUMERICAL ORDER.

1. Yellow	25. Purple
2. Light Amber	26. Mauve
3. Straw	29. Heavy Frost
4. Medium Amber	30. Clear
5. Orange	31. Light Frost
5A. Deep Orange	32. Medium Blue
6. Red (Primary)	33. Deep Amber
7. Light Rose	34. Golden Amber
8. Deep Salmon	35. Deep Golden Amber
9. Light Salmon	36. Pale Lavender
10. Middle Rose	38. Pale Green
11. Dark Pink	39. Primary Green
12. Deep Rose	40. Pale Blue
13. Magenta	41. Bright Blue
14. Ruby	42. Pale Violet
15. Peacock Blue	43. Pale Navy Blue
16. Blue-green	48. Bright Rose
17. Steel Blue	49. Canary
18. Light Blue	50. Pale Yellow
19. Dark Blue	51. Gold Tint
20. Deep Blue (Primary)	52. Pale Gold
21. Pea Green	53. Pale Salmon
22. Moss Green	54. Pale Rose
23. Light Green	55. Chocolate Tint
24. Dark Green	56. Pale Chocolate
	60. Pale Grey

GELATINE colour filters are suitable for indoor use when not subjected to undue heat and where not required to last very long or when initial outlay is of primary importance.

"CINEMOID" colour filters may be used for both

interior work and such exterior purposes as the floodlighting of buildings etc., in colour. The dyes are practically permanent under normal working conditions and the material is of considerably greater mechanical strength than gelatine and is impervious to moisture.

COLOUR MEDIUMS—SHEETS

(See overleaf for prices of cut pieces)

	Sheet size (ins.)	Price	Postage and packing (U.K. only)
GELATINE			
Item 265—Colours	22 × 17½	2/- per sheet } 2/9 per sheet }	Under 12 sheets ... 1/5 12 sheets and over ... Free
Item 266—Frost	22 × 17½		
CINEMOID			
Item 268—Colours or Frost	49 × 21	10/- per sheet } 5/- per half sheet }	Under 12 half sheets or 6 sheets ... 1/5 Above these quantities ... Free
Item 267—Colours or Frost	24½ × 21		

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
SALES AND GOODS - 24, FLORAL ST., W.C.2
TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON



BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

COLOUR MEDIUMS — CUT PIECES

	GELATINE (Price per doz. pieces)		" CINEMOID " (Price per doz. pieces)
	Coloured	Frost	Coloured or Frost
	£ s. d.	£ s. d.	£ s. d.
A and B Type Float	4 2	5 9	7 4
C Type Float, B and C Type Batten, Pattern 23/N, 53	6 2	8 6	11 0
S Type Float and Batten	7 2	9 10	12 2
Pattern 30, 50a, 58, 60, 70, 75, 102	13 9	18 11	1 13 2
Pattern 35, 49a, 49, 55, 56, 59, 66	1 4 0	1 13 0	2 6 3
Pattern 76	16 6	1 2 8	1 16 3
Pattern 237	7 2	9 10	12 2
Pattern 23, 23W, 27	2 2	3 0	4 6
Pattern 45 and narrow side only of double sided Hanging Length	2 6	3 5	5 6
Pattern 44, single sided Hanging Lengths and wide side only of double sided ditto	3 4	4 7	6 7
Pattern 22, 32, 42, 43, 63, 73, 81a, 501	4 6	6 2	11 0
Pattern 53, 73 and 83 Auto Colour Changers	6 4	8 8	13 2
Pattern 58, 76 Auto Colour Changers	16 6	1 2 8	1 16 3
Pattern 47	—	—	2 14 0
Pattern 502	—	—	2 6 3
Pattern 93, 537	—	—	15 0
Pattern 558, 560	—	—	1 13 2

MAKE UP

Item 158. Red make up for Samoiloff effect (used with colour filters No's. 14 & 16) 3/3 per jar plus 2/- purchase tax

LAMP LACQUER

	Colours	Price per Pint
Item 264—LAMP LACQUER (for vacuum lamps only)	Nos. 1-7 inclusive, 10, 11, 14, 17, 18, 19, 22, 23, 24, 32, 39 only (approximating to the colours on page 3)	8/3
Item 271—Thinners for use with L.264 lacquers (only)	—	4/6
Item 270—WHITE FROST incandescent lamp lacquer (for vacuum lamps only)	(Not to be used, mixed with, or on top of, L264 lacquers)	9/-
Item 269—OPAQUE LAMP LACQUER FOR OUTSIDE USE ONLY (for vacuum lamps only)	1091 Amber 969 Orange 939 Green 893 Blue 760 Red 1117 Pink 979 White	12/-

NOTE 1.—Lamp lacquer is inflammable and can only be sent per goods train or carrier licensed for such traffic. 14 days notice should be given to ensure arrival in British Isles by required date. Special regulations affect overseas consignments, for details of which please apply to us.

NOTE 2.—The prices given above for lamp lacquer are exclusive of packing and carriage which are charged extra at cost.

HEAD OFFICE AND SHOWROOMS 29, KING STREET, LONDON, W.C.2 SALES AND GOODS - 24, FLORAL ST., W.C.2 TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON		BRANCHES 313, OLDHAM ROAD, MANCHESTER 10 COLLYHURST 2736 62, DAWSON ST., DUBLIN - DUB 74030
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STRAND COLOUR MEDIUMS

LIST OF STANDARD STAGE FILTERS

COLOUR ORDER.

NUMERICAL ORDER.

LAVENDER—GOLD—PINK			
Pale Violet	42	Pale Rose	54
Pale Lavender	36	Light Salmon	9
Gold Tint	51	Light Rose	7
Pale Gold	52	Middle Rose	10
Pale Salmon	53	Dark Pink	11
		Deep Salmon	8
		Bright Rose	48
		Deep Rose	12
		Magenta	13
YELLOW—AMBER—RED			
Pale Yellow	50	Medium Amber	4
Straw	3	Deep Amber	33
Yellow	1	Golden Amber	34
Canary	49	Deep Salmon	8
Light Amber	2	Orange	5
		Deep Orange	5A
		Deep Golden Amber	35
		Primary Red	6
		Ruby	14
BLUE—PURPLE—VIOLET			
Blue-green	16	Light Blue	18
Peacock Blue	15	Bright Blue	41
Steel Blue	17	Medium Blue	32
Pale Blue	40	Dark Blue	19
Pale Navy Blue	43		
		Deep Blue (Primary)	20
		Purple	25
		Mauve	26
		Pale Violet	42
GREEN—NEUTRAL—FROST			
Pale Green	38	Primary Green	39
Pea Green	21	Blue-green	16
Moss Green	22	Peacock Blue	15
Light Green	23	Chocolate Tint	55
Dark Green	24	Pale Chocolate	56
		Pale Grey	60
		Light Frost	31
		Heavy Frost	29
		Clear	30

1. Yellow	25. Purple
2. Light Amber	26. Mauve
3. Straw	29. Heavy Frost
4. Medium Amber	30. Clear
5. Orange	31. Light Frost
5A. Deep Orange	32. Medium Blue
6. Red (Primary)	33. Deep Amber
7. Light Rose	34. Golden Amber
8. Deep Salmon	35. Deep Golden Amber
9. Light Salmon	36. Pale Lavender
10. Middle Rose	38. Pale Green
11. Dark Pink	39. Primary Green
12. Deep Rose	40. Pale Blue
13. Magenta	41. Bright Blue
14. Ruby	42. Pale Violet
15. Peacock Blue	43. Pale Navy Blue
16. Blue-green	48. Bright Rose
17. Steel Blue	49. Canary
18. Light Blue	50. Pale Yellow
19. Dark Blue	51. Gold Tint
20. Deep Blue (Primary)	52. Pale Gold
21. Pea Green	53. Pale Salmon
22. Moss Green	54. Pale Rose
23. Light Green	55. Chocolate Tint
24. Dark Green	56. Pale Chocolate
	60. Pale Grey

GELATINE colour filters are suitable for indoor use when not subjected to undue heat and where not required to last very long or when initial outlay is of primary importance.

interior work and such exterior purposes as the floodlighting of buildings etc., in colour. The dyes are practically permanent under normal working conditions and the material is of considerably greater mechanical strength than gelatine and is impervious to moisture.

“CINEMOID” colour filters may be used for both

COLOUR MEDIUMS—SHEETS

(See overleaf for prices of cut pieces)

	Sheet size (ins.)	Price	Postage and packing (U.K. only)
GELATINE			
L.265—Colours	22 × 17½	2/- per sheet } 2/9 per sheet }	Under 12 sheets ... 1/5 12 sheets and over ... Free
L.266—Frost	22 × 17½		
CINEMOID			
L.267—Colours or Frost ...	24 × 20	5/- per sheet } 10/- per double sheet }	Under 12 sheets or 6 double sheets 1/5 Above these quantities ... Free
L.268—Colours or Frost ...	48 × 20		

HEAD OFFICE AND SHOWROOMS

29, KING STREET, LONDON, W.C.2

SALES AND GOODS - 24, FLORAL ST., W.C.2

TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON



BRANCHES

313, OLDHAM ROAD, MANCHESTER 10

COLLYHURST 2736

62, DAWSON ST., DUBLIN - DUB 74030

"CINEMOID"

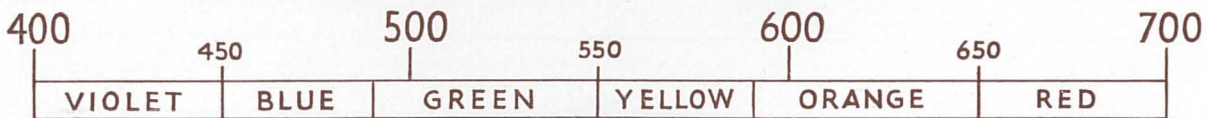
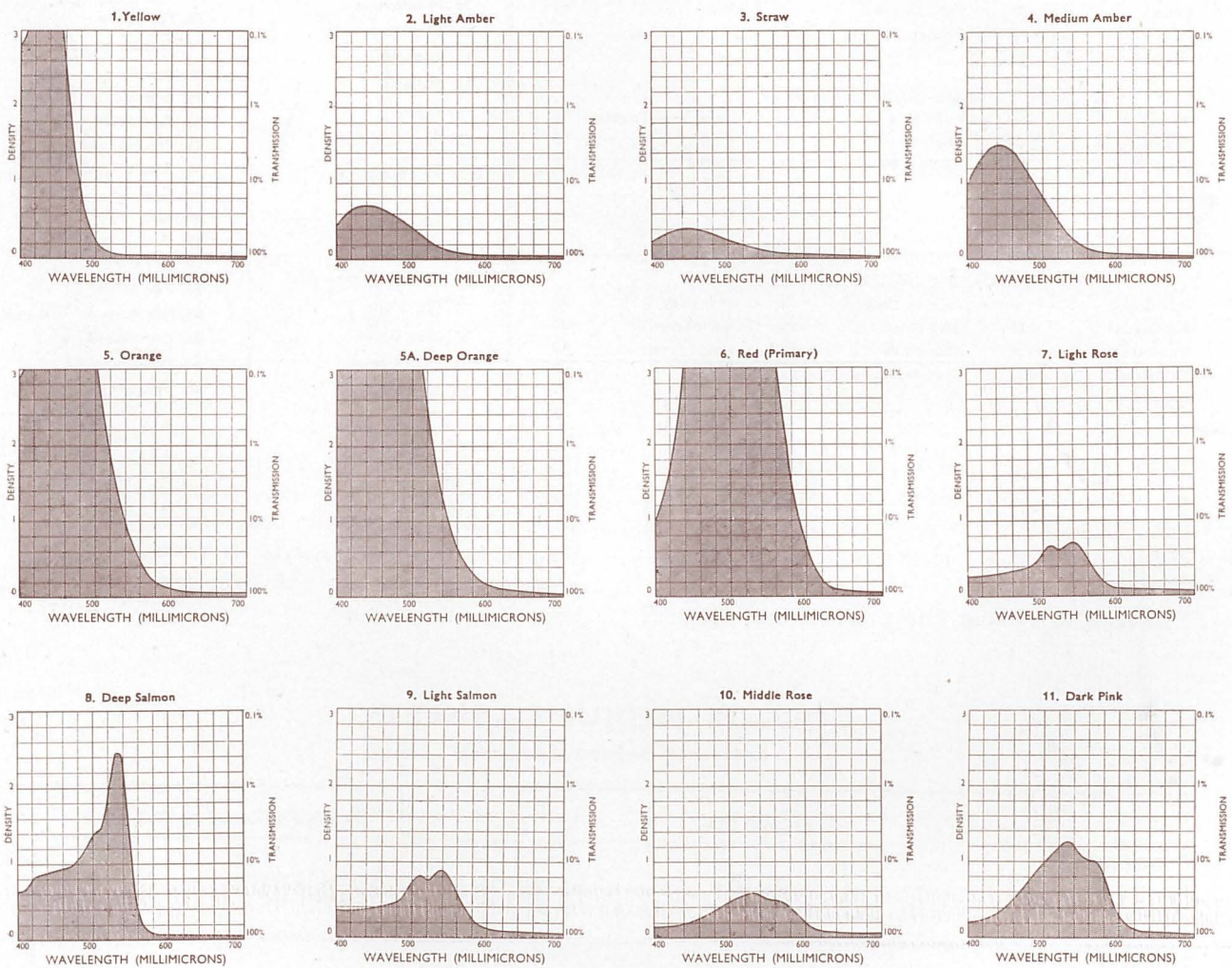
Below and on the next two pages are given density and transmission curves for the "Cinemoïd" range of filters. The amount of light transmitted is indicated by the area **above** the shaded area. The latter indicates the degree of absorption.

The wave length is indicated horizontally in millimicrons and the density (which is the common logarithm of $\frac{1}{\text{transmission}}$) to a linear scale on the left vertically. The percentage transmission is shown

on the right hand vertical and is consequently to a logarithmic scale.

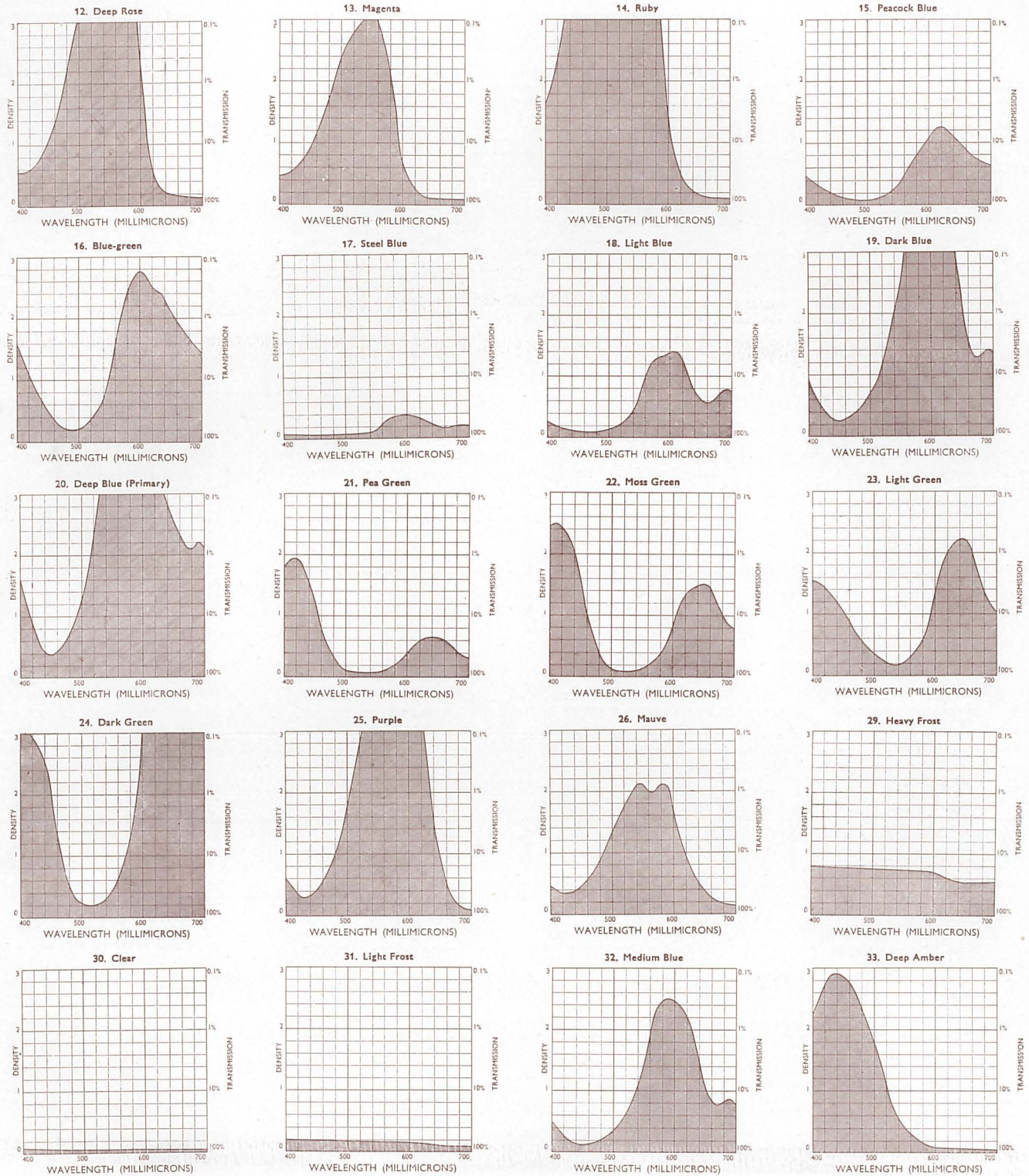
To find intermediate percentage transmission values, use density figures as logarithms. Then percentage transmission = $\frac{100}{\text{antilog. of density}}$.

To find the density at any given wavelength of 2 or more filters superimposed, add the density figures given for each. Percentage transmission figures can then be obtained from the result.



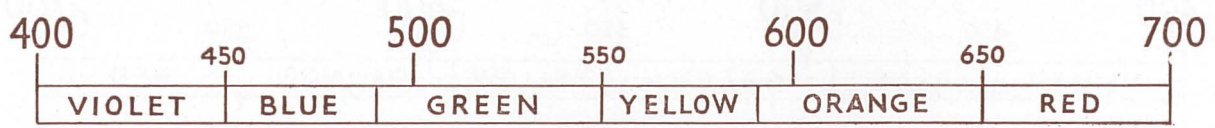
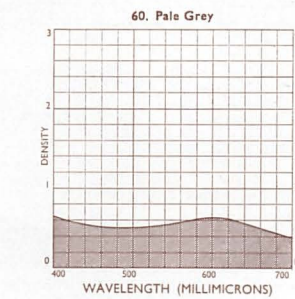
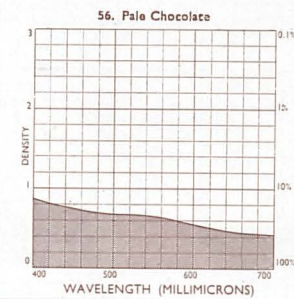
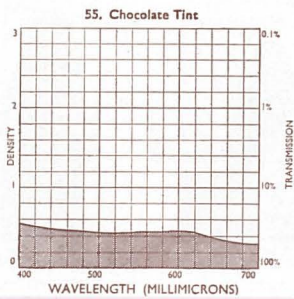
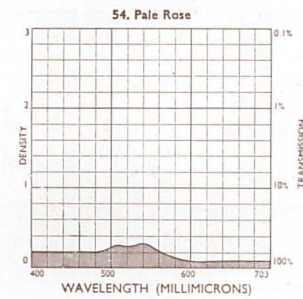
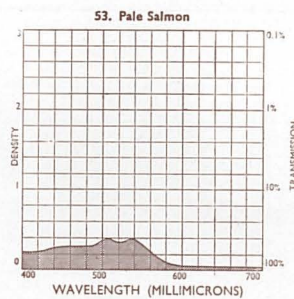
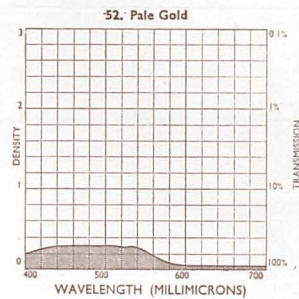
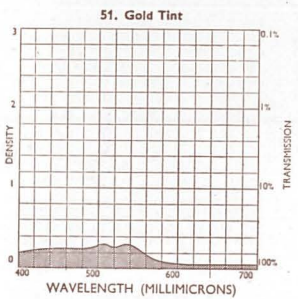
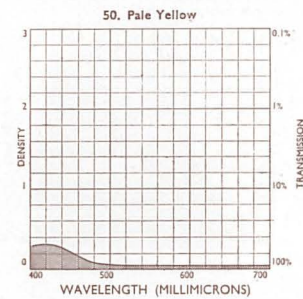
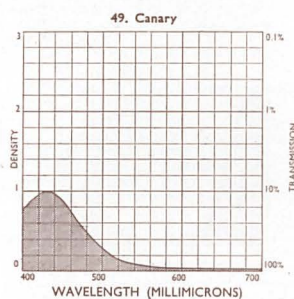
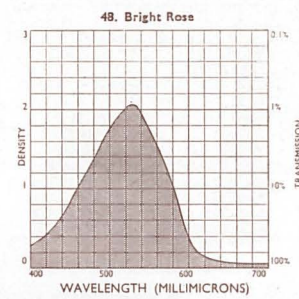
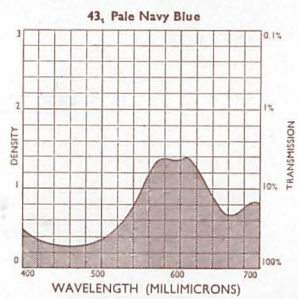
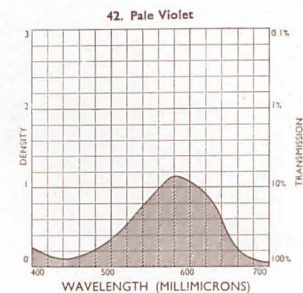
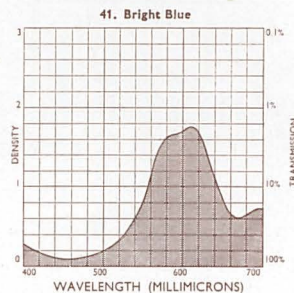
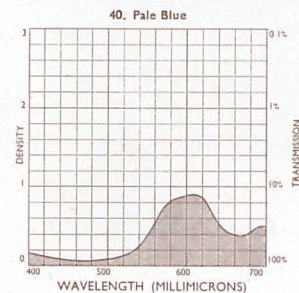
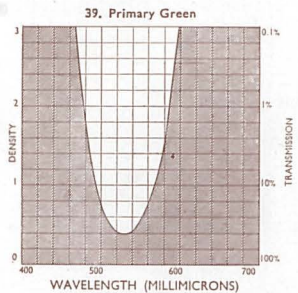
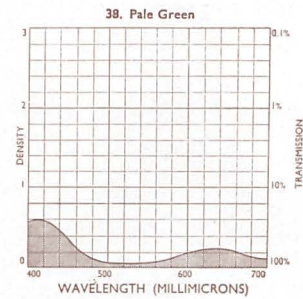
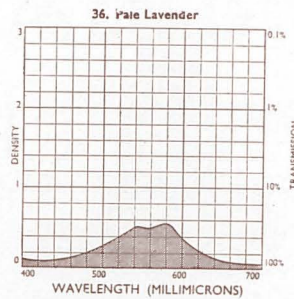
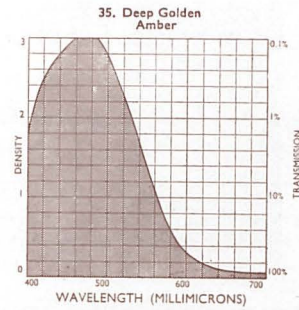
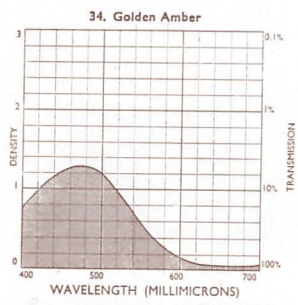
WAVELENGTH *mμ*

The above are generally accepted wavelengths for basic colours



WAVELENGTH $m\mu$

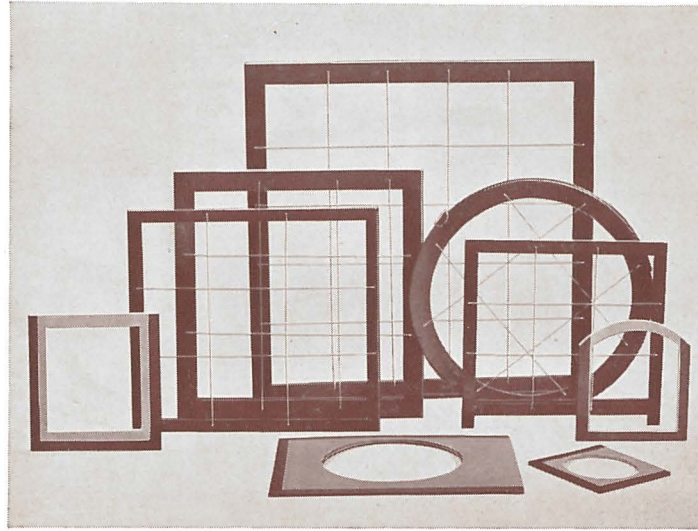
The above are generally accepted wavelengths for basic colours



WAVELENGTH *mμ*

The above are generally accepted wavelengths for basic colours

STRAND COLOUR FRAMES



	Lantern pattern	Size	Materials	Price per doz.
INTERIOR LANTERNS				
L.61— 500-watt Flood and Pageant ...	Nos. 30, 60 and 58	11 $\frac{3}{4}$ in. by 11 $\frac{3}{4}$ in.	Metal	£ s. d. 1 19 0
L.85— 1,000-watt Spot and Arc ...	Nos. 42, 43, 73, 83 and 501	10 $\frac{3}{4}$ in. by 7 $\frac{1}{2}$ in.	Millboard	11 6
L.370—Super Mirror Spot ...	No. 93	9 $\frac{7}{8}$ in. by 9 $\frac{7}{8}$ in.	Metal	1 8 0
L.284—Mirror Spots ...	Nos. 23/N, 53	7 $\frac{3}{4}$ in. by 7 $\frac{3}{4}$ in.	Metal	1 8 0
L.359—Baby Mirror Spot ...	Nos. 23, 23/W	4 in. by 4 in.	Metal	1 4 0
L.80— 500-watt Spot ...	No. 44	6 in. by 6 in.	Millboard	8 3
L.76— Miniature Spot ...	No. 45	5 $\frac{5}{8}$ in. by 5 $\frac{1}{4}$ in.	Millboard	7 9
L.73— Baby Spot ...	Nos. 27, 41	4 $\frac{1}{2}$ in. by 4 $\frac{1}{4}$ in.	Millboard	6 8
L.67— 1,000-watt Flood ...	No. 49A	16 $\frac{3}{4}$ in. by 16 $\frac{3}{4}$ in.	Metal	2 15 0
L.226—Acting Area ...	No. 76	11 $\frac{1}{2}$ in. diam.	Metal	4 8 0
L.70— Arena Flood ...	No. 35	16 in. diam.	Metal	5 14 0
L.95— 2 KW. Spot ...	No. 102	11 $\frac{1}{2}$ in. by 10 $\frac{1}{4}$ in.	Metal	2 6 0
L.240—Float, Batten and Baby Flood ...	Type S and Patt. 237	9 $\frac{1}{4}$ in. by 8 in.	Metal	1 8 0
L.99— Colour change Pageant ...	No. 58	11 $\frac{1}{2}$ in. diam.	Metal	8 17 0
L.325—Colour change FOH Spot ...	Nos. 53, 73, 83	9 $\frac{1}{4}$ in. diam.	Metal	7 13 0
L.100—Colour change Acting Area ...	No. 76	11 $\frac{1}{2}$ in. diam.	Metal	8 17 0
EXTERIOR LANTERNS				
L.348—150-watt Flood ...	No. 537	10 in. by 9 $\frac{1}{2}$ in.	Metal	1 14 0
L.351—500-watt Flood and Pageant ...	Nos. 560 and 558	11 $\frac{3}{4}$ in. by 11 $\frac{3}{4}$ in.	Metal	2 5 0
L.214—Medium-angle Flood ...	No. 502	16 in. by 16 in.	Metal	2 15 0
L.216—Wide-angle Flood ...	No. 47	17 $\frac{1}{2}$ in. by 17 $\frac{1}{2}$ in.	Metal	2 15 0

The above prices are exclusive of colour mediums. When ordering the latter, state Pattern number of lantern or Code number of frame concerned as mediums should be cut slightly smaller than frames containing them.

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
SALES AND GOODS - 24, FLORAL ST., W.C.2
TEMPLE BAR 4444 GRAMS: SPOTLIGHT RAND LONDON



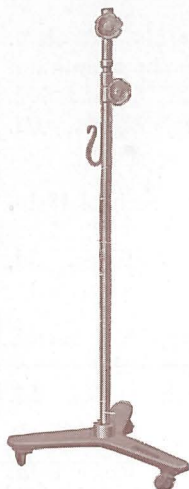
BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

Goods are only offered subject to our terms of business.

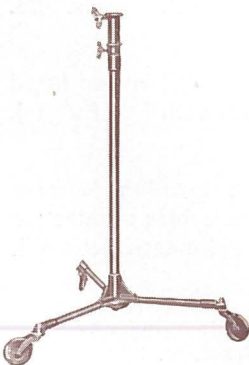
STRAND SUSPENSIONS and STANDS



L.66



L.260



L.258

L.66 Standard telescopic stand (as illustrated), consisting of wrought iron barrel screwed into cast iron base, with extending liner, cable hook, swivelling collar and locking handles. Will take all lanterns except Patts. 27, 83 and 102. Minimum height 4 ft. 3 in.; maximum height 7 ft.; radius of feet at base 12 in.; net weight 37 lb. Price each £4 6s. 0d.

L.260 As L.66 but fitted with rubber-tyred castors (as illustrated). Price each £5 19s. 6d.

L.257 Miniature telescopic stand, generally as L.66 but of lighter construction, complete with swivelling collar and cable hook. For use with lanterns, Patts. 45, 81a and 237. Minimum height 3 ft. 7 in.; maximum height 5 ft. 9 in.; radius of feet at base 8 in.; net weight 15 lb. Price each £2 15s. 0d.

L.258 Telescopic stand for Patt.102 2kw. Spotlight (as illustrated). Constructed of tubular steel with removable rubber-tyred castors. Minimum height 3 ft. 10 in.; maximum height 6 ft. 3 in.; radius of legs over castors 20 in.; net weight 21 lb. Price each £8 5s. 0d.

L.112 Heavy cast iron bench base (as illustrated) with locking handle, for lanterns with $\frac{1}{2}$ or $\frac{3}{8}$ in. fork pin. Height $6\frac{1}{4}$ in.; diameter $6\frac{3}{4}$ in.; net weight $5\frac{1}{2}$ lb. Price each £1 3s. 6d.

L.367 Cast aluminium ceiling plate or base, 6 in. diam. for Patt. 23 spotlight. Nett weight 1 lb. Price each 18s. 0d.

L.259 Ceiling fixing saddle (as illustrated). Drilled for two $\frac{3}{8}$ in. diameter bolts, or coach screws (not supplied), for suspending lanterns (except Patts. 27, 83 and 102) or "S" type battens, where head room is limited. Price each 8s. 9d.

L.64 Safety chain, 22 in. long (for use when lanterns are suspended), with ring, on one end and clip hook at the other. Price each 4s. 0d.

L. 246 As L.64 but stronger for lanterns with remote colour change. Price each 6s. 0d.



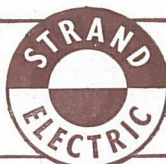
L.112



L.259

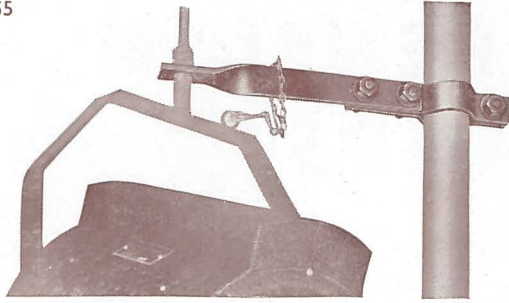
(continued overleaf)

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
SALES AND GOODS - 24, FLORAL ST., W.C.2
TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON

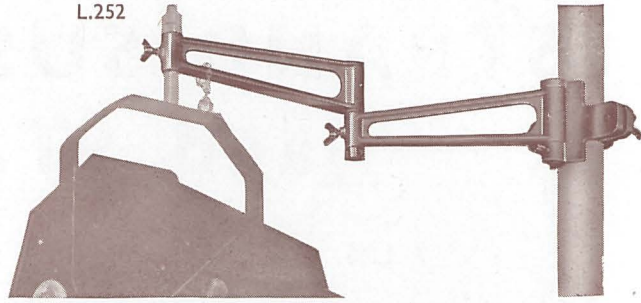


BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

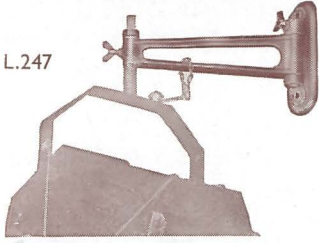
L.255



L.252



L.247

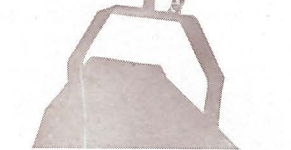


- L.247** Swivel arm wall bracket (as illustrated), reach 10 in. Made in aluminium throughout, the backplate being drilled for two $\frac{3}{8}$ -in. rag bolts or coach screws (not included). Not suitable for Patts. 27, 83 and 102.
Net weight $1\frac{1}{2}$ lb. Price each £1 11s. 6d.

L.65



- L.248** As L.247 but with double extension arm, increasing maximum reach to 19 in.
Net weight $2\frac{1}{4}$ lb. Price each £2 6s. 0d.

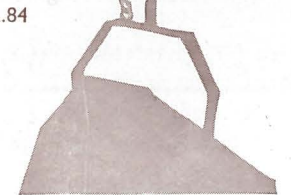


- L.251** Adjustable boomerang bracket, consisting of clamp for 2 in. ext. diam. barrel, and adjustable arm giving reach of 10 in. In aluminium with locking wing bolts. Not suitable for Patts. 27, 83 and 102.
Net weight $1\frac{1}{4}$ lb. Price each £2 11s. 0d.



- L.252** As L.251 but with extension arm giving a maximum reach of 19 in. (as illustrated).
Net weight 2 lb. Price each £3 6s. 0d.

L.84

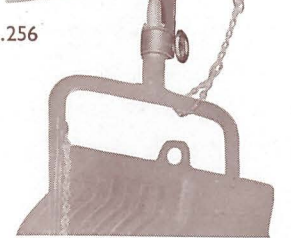


- L.255** Fixed boomerang bracket (as illustrated), for 2 in. diameter barrel, giving 11 in. reach. Not suitable for Patts. 27, 83 and 102.
Net weight $2\frac{3}{4}$ lb. Price each 14s. 6d.

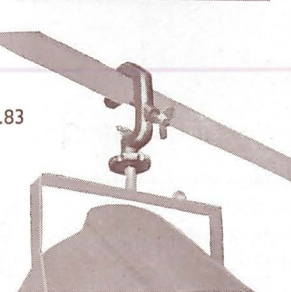


- L.65** "L" clamp (as illustrated), for suspending lanterns from 2 in. diameter barrel. Not suitable for Patts. 27, 83 and 102.
Net weight 1 lb. Price each 4s. 0d.

L.256

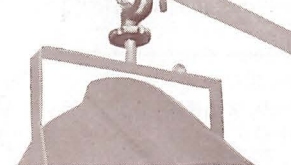


- L.249** As L.65 but stronger, for use with Patts. 50A, 73 and 76 when fitted with remote colour change mechanism. Price each 8s. 0d.



- L.84** Adjustable barrel clamp (as illustrated), for suspending lanterns from $1\frac{1}{4}$ to 2 in. gas barrel ($1\frac{3}{4}$ to $2\frac{3}{8}$ in. ext. diam.). Not suitable for Patts. 27, 83 and 102. Net weight $1\frac{1}{2}$ lb. Price each 12s. 6d.

L.83



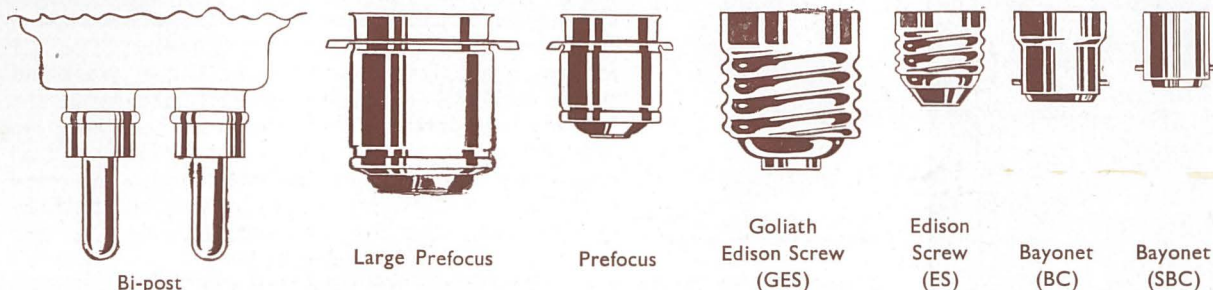
- L.256** Aluminium barrel clamp (as illustrated), for suspending Patt. 102, 2 kw. Spots from 2 in. ext. diam. ($1\frac{1}{2}$ in. gas) barrel.
Net weight $1\frac{1}{2}$ lb. Price each £2 15s. 0d.

- L.83** Hook (G) type barrel clamp (as illustrated) for $1\frac{1}{4}$ to 2 in. gas barrel ($1\frac{3}{4}$ to $2\frac{3}{8}$ in. ext. diam.) with locking handle. Price each £2 3s. 6d.

NOTE.—For standard batten suspensions see leaflet A.21.

ELECTRIC LAMPS

The lamps set out in this leaflet are those in common use in places of entertainment. The types recommended for use in standard Strand Equipment are tabulated for convenience on page 4.



The diagrams above (which are approximately half full size) show the types of cap used and the abbreviations (in brackets) are those used in tables below.



GENERAL SERVICE TYPE

Voltage	Wattage	Cap Contact to Filament Centre	Type of Cap	Price
210, 230, 240, 250	60	85 ± 3 mm.	ES	s. d. 1 4½*
	100	100 ± 3 mm.	ES	1 10*
	300	178 ± 6 mm.	GES	7 6
	500	202 ± 7 mm.	GES	10 0
	1,000	225 ± 8 mm.	GES	17-6
110	60	85 ± 3 mm.	ES	1 6½*
	100	100 ± 3 mm.	ES	2 0*
	300	178 ± 6 mm.	GES	8 0
	500	202 ± 7 mm.	GES	10 6
	1,000	225 ± 8 mm.	GES	17-6

* Subject to 21.1% Purchase Tax in British Isles.

Watts	Cap	Pearl—Single Coil		Clear—Single Coil		Dimensions					
		Standard Voltages and Price per Lamp		Standard Voltages and Price per Lamp		Length ± 3½ mm.		Bulb Diameter ± 1 mm.		Light Centre ± 3 mm.	
		200, 210, 220, 230, 240, 250	100, 110	200, 210, 220, 230, 240, 250	100, 110	mm.	in.	mm.	in.	mm.	in.
15	BC	s. d. 1 6½*	s. d. 1 6½*	s. d. 1 6½*	s. d. 1 6½*	92.5	3 5/8	55	2 3/16	65	2 1/2
25	BC	1 6½*	1 6½*	1 6½*	1 6½*	100	3 1/4	60	2 3/8	70	2 3/4
40	BC	1 4½*	1 6½*	1 4½*	1 6½*	110	4 5/16	60	2 3/8	80	3 1/8
60	BC	1 4½*	1 6½*	1 4½*	1 6½*	117.5	4 7/16	65	2 9/16	85	3 5/16
75	BC	1 10*	2 0*	1 10*	2 0*	125	4 7/8	70	2 3/4	90	3 1/2
100	BC	1 10*	2 0*	1 10*	2 0*	137.5	5 3/8	75	2 11/16	100	3 11/16
150	BC	2 7*	2 9*	2 7*	2 9*	160 ± .45	6 1/4	80 ± 1	3 1/8	120 ± 4	4 3/4
200	ES	3 9*	4 9*	3 9*	4 3*	178 ± 5.5	7	90 ± 1	3 1/2	133 ± 5	5 1/4

* All lamps in this table are subject to 21.1% Purchase Tax in British Isles.

HEAD OFFICE AND SHOWROOMS

29, KING STREET, LONDON, W.C.2

SALES AND GOODS - 24, FLORAL ST., W.C.2

TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON

BRANCHES

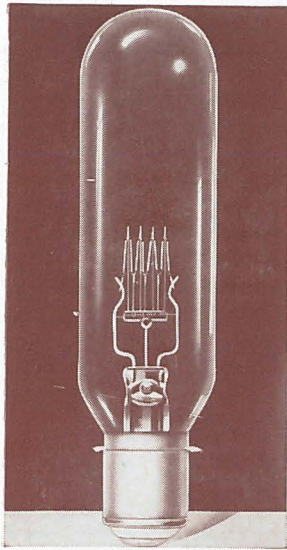
313, OLDHAM ROAD, MANCHESTER 10

COLLYHURST 2736

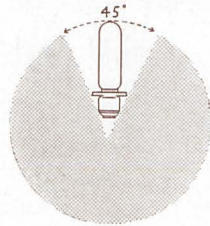
62, DAWSON ST., DUBLIN · DUB 74030

ELECTRIC LAMPS

PROJECTOR TYPE



CLASS A.1.



Shading shows position in which this lamp must not be used.

CLASS A.1

Class A.1. Objective average life 50 hours. In view of their greater efficiency this class is preferred to B.1 for the projection of effects, long throw work and other cases where maximum light output is the primary consideration. On the other hand they can only be safely tilted within $22\frac{1}{2}^\circ$ of the vertical (cap down). The life can be considerably increased (with a corresponding drop in light output) by using lamps rated for 10 volts in excess of the supply on which they are to be used.

Voltage	Wattage	Light Centre Length	Cap	Price
115	100	34.5 ± 2 mm.	ASBC double contact	£ s. d. 12 9
115, 210, 230, 240, 250	250	75 ± 5 mm.	ES	1 2 0
	250	55.5 ± 0.5 mm.	Medium Prefocus	1 3 0
	500	75 ± 5 mm.	ES	1 6 6
	500	90 ± 5 mm.	GES	1 6 6
	500	55.5 ± 0.5 mm.	Medium Prefocus	1 7 6
	1,000 1,000	120 ± 5 mm. 84.0 ± 0.5 mm.	GES Large Prefocus	1 13 0 1 15 6



CLASS B.1.



Shading shows position in which this lamp must not be used.

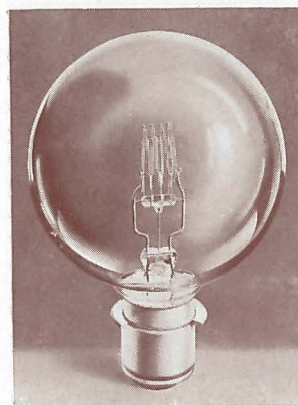
CLASS B.1

Class B.1. Objective average life 800 hours. Where length of life and the ability to tilt to sharp angles are of greater importance than maximum light output, this class of lamp is to be preferred to Class A.1.

Voltage	Wattage	Light Centre Length	Cap	Price
115, 210, 230, 250	100	75 ± 5 mm.	ES	£ s. d. 10 0*
	250	75 ± 5 mm.	ES	19 3*
	250	55.5 ± 0.05	Medium Prefocus	1 0 3*
	500	115 ± 5 mm.	GES	1 5 3
	1,000	115 ± 5 mm.	GES	1 13 0
	1,000	84 ± 5 mm.	Large Prefocus	1 15 6

CLASS T (Theatre spotlight type)

Class T. Objective life 200 hours. The A.1 type grid filament is housed in the B.1 round glass bulb, giving a most useful compromise in filament concentration, life and tilt.



CLASS T.

Voltage	Wattage	Light Centre Length	Cap	Price
115, 210, 230, 240, 250	250	55.5 ± 0.5 mm.	Medium Prefocus	£ s. d. 1 0 3*
	500	55.5 ± 0.5 mm.	Medium Prefocus	1 8 0
	1,000	84.0 ± 0.5 mm.	Large prefocus	1 15 6

Burning position, between vertical, cap down, and horizontal

CLASS S (Cinema Studio type. Not shown)

Class S. Objective life 100 hours. Bi-post self-focusing cap.

Voltage	Wattage	Light Centre Length	Cap	Price
115, 230, and 250	2,000	127 ± 2 mm.	Bi-post	£ s. d. 4 13 6

Burning position, between vertical, cap down, and horizontal.

* Subject to 21.1% Purchase Tax in British Isles.

ELECTRIC LAMPS

These lamps were designed for use in our type A, B and C Footlights and Battens manufactured up to 1940. Unlike the general service class of lamp, the distance between centre contact and filament centre is constant for all three wattages so that lamps of different sizes can be used, the filament still remaining at the correct position in the reflector. For "S" type Footlights and Battens manufactured since 1945, see equipment table overleaf for lamp recommendations.

THEATRE BATTEN TYPE*

Voltage	Wattage	Cap Contact to Filament Centre	Type of Cap	Price
110, 210, 230, 250	60	120 ± 4 mm.	ES	s. d. 2 0*
	100	120 ± 4 mm.	ES	2 7*
	150	120 ± 4 mm.	ES	3 11*

SILVERLIGHT*

COLOUR SPRAYED*

ROUGH SERVICE VACUUM*

Watts	Cap	200, 210, 220, 230, 240, 250, etc.	Watts	Cap	200, 210, 220, 230, 240, 250	100 110	Watts	Cap	100, 110, 200, 210, 220, 230, 240, 250
40	BC	s. d. 2 0*	15	BC	s. d. 1 8½*	s. d. 1 8½*	40	BC	s. d. 2 0*
60	BC	2 0*	25	BC	1 8½*	1 8½*	60	BC	2 0*
100	BC	2 4½*	40	BC	1 7½*	1 9½*			
150	BC	3 1*	60	BC	1 7½*	1 9½*			
200	ES	4 3*	75	BC	2 2*	2 4*			
			100	BC	2 2*	2 4*			

The dimensions of these lamps are the same as Pearl and Clear shown on page 1 of this leaflet.

Silverlight Lamps 40, 60 and 100 watts have coiled coil filaments.

For Colour Sprayed Lamps the standard colours are: Red, Blue, Green, Yellow, Flame, Amber, Pink, White.

STRIPLITE* LAMPS

Watts	Cap	Length ± 1 mm.		Diameter ± 1 mm.		Voltage and Price per Lamp 100, 110, 200, 210, 220, 230, 240, 250	
30	CC	mm.	in.	mm.	in.	s. d.	
30	CC	221	8 11/16	25	1	5 9*	
60	CC	284	11 1/16	25	1	5 9*	
60	CC	221	8 11/16	25	1	6 6*	
60	CC	284	11 3/16	25	1	6 0*	

SPOTLIGHT REFLECTOR LAMPS (INTERNALLY SILVERED BULB)*

Watts	Cap	Length		Diameter		Voltage	Ring Filament Spotlight	Grid Filament (Concentrated Spotlight)
150	ES	mm.	in.	mm.	in.	110, 210, 230, 250	s. d. 15 6*	s. d. 18 6*
		175 ± 5	6 3/4	126 ± 1.5	5			

* All lamps listed above are subject to 21.1% Purchase Tax in British Isles.

HEADLIGHT LAMPS Satin etched finish with V filament

Watts	Voltage	Cap	Price
36	12	SBC (double contact)	s. d. 2 7 (Purchase Tax 19½% in British Isles.)

ULTRA VIOLET (Black Glass) TYPE, FOR FLUORESCENT EFFECTS

Voltage	Wattage	Light Centre Length	Type of Cap	Price
200/210, 220/230, 240/250	125	128 ± 5 mm.	3-Pin BC	£ s. d. 3 3 0

**PYGMY*
SIGN
LAMPS**

Watts	Cap	Length ± 3 mm.		Diameter ± 1 mm.		Voltage 100, 110, 200, 210, 220, 230, 240, 250
		mm.	in.	mm.	in.	
15	BC	56	2 $\frac{3}{16}$	28	1 $\frac{1}{8}$	These lamps colour-sprayed 2d. per lamp extra. 1s. 10d.* Standard colours: Red, Green, Blue, Yellow, Flame, Pink, White.
	ES	58 ± 4	2 $\frac{1}{4}$	28	1 $\frac{1}{8}$	
	SBC	62	2 $\frac{7}{16}$	28	1 $\frac{1}{8}$	
	SES	64	2 $\frac{1}{2}$	28	1 $\frac{1}{8}$	

* All lamps in above table are subject to 17 $\frac{5}{8}$ % Purchase Tax in British Isles.

CANDLE LAMPS*

Watts	Cap	Shape	Finish	100, 110, 200, 210, 220, 230, 240, 250		Length		Diameter	
				s.	d.	mm.	in.	mm.	in.
25	SBC	Plain	Clear	2	6*	116 ± 5	4 $\frac{4}{16}$	38 ± 1	1 $\frac{1}{2}$
40	SBC	Plain	Clear	3	0*	126 ± 9	4 $\frac{3}{16}$	45 ± 1	1 $\frac{3}{16}$
25	SBC	Twisted	Clear	3	0*	108 ± 3	4 $\frac{1}{16}$	35 ± 1	1 $\frac{3}{16}$
40	SBC	Twisted	Clear	3	6*	144 ± 5	5 $\frac{1}{16}$	55 ± 2	2 $\frac{3}{16}$

Colour Sprayed Lamps 25 watt 6d. each extra; 40 watt 6d. each extra.

Standard colours: Red, Blue, Green, Yellow, Flame, Amber, Pink, White.

* All lamps in above table are subject to 21.1% Purchase Tax in British Isles.

RECOMMENDED LAMPS FOR STRAND EQUIPMENT

BATTENS AND FOOTLIGHTS

Pattern	Cap	Lamps Recommended
Type S as manufactured since 1945.	ES	60 or 100 watt General Service or 150 watt Theatre Batten type. Clear, NOT Pearl.
Types A, B and C, as manufactured prior to 1940.	ES	60, 100 or 150 watt Theatre Batten type. Clear, NOT Pearl.
Junior Type foot-light.	BC	40 or 60 watt Silica Sprayed Silverlight.
Type L hanging length.	BC	25, 40, 60 or 100 watt Pearl. General Service Type.

FLOODLIGHTS

Pattern	Cap	Lamps Recommended
237 and 537	ES	60 or 100 watt General Service or 150 Theatre Batten Type.
30, 60 and 560	GES	500 watt General Service.
35, 49A and 56	GES	1,000 watt General Service.
76	GES	500 or 1,000 watt Class B.1 projector.
47	GES	500 or 1,000 watt General Service.
502	GES	500, 1,000 or 1,500 watt General Service, Angle burning.

SPOTLIGHTS

Pattern	Cap	Lamps Recommended
81	SBC	12 volt, 36 watt, Satin headlamp.
23	Medium prefocus	250 watt Class B.1 or T. 500 watt Class A.1 or Class T. projector.
27			100 or 250 watt Class B.1 projector.
41	ASBC (double contact)	115 volt, 100 watt, Class A.1 projector.
43	GES	1,000 watt Class A.1 or B.1 projector.
44	GES	500 watt Class B.1 projector.
45	Medium prefocus	250 watt Class B.1 or T or 500 watt Class T projector.
51	† Large prefocus	1,000 watt Class T or B.1 projector.
52	Large prefocus	1,000 watt Class A.1 projector.
53 and 58	Large prefocus	1,000 watt Class A.1 or B.1 projector.
73	† Large prefocus	1,000 watt Class A.1 or B.1 projector.
83	Large prefocus	1,000 watt Class A.1 or B.1 projector.
93	Large prefocus	1000 watt Class A.1 projector.
102	Bi-Post	2,000 watt Class S.
50A and 558	GES	1,000 watt Class A.1 or B projector.

† Older types use GES cap. Check lantern before ordering.

HEAD OFFICE AND SHOWROOMS
29, KING STREET, LONDON, W.C.2
SALES AND GOODS - 24, FLORAL ST., W.C.2
TEMPLE BAR 4444 GRAMS: SPOTLITE RAND LONDON



BRANCHES
313, OLDHAM ROAD, MANCHESTER 10
COLLYHURST 2736
62, DAWSON ST., DUBLIN - DUB 74030

11th January, 1957.

ELECTRIC LAMPS.

Alterations to prices contained in Strand Electric leaflet L.51 dated 3/56.

Page 2.

CLASS A.1

<u>Voltage</u>	<u>Wattage</u>	<u>Cap</u>	<u>Price</u>
115	100	A.S.B.C. Double Contact	15/6
115, 210, 230, 240, 250	250	E.S.	£1. 6. 6.
	250	Medium Pre-Focus	£1. 7. 9.
	500	E.S.	£1.12. 0.
	500	G.E.S.	£1.12. 0.
	500	Medium Pre-Focus	£1.13. 0.
	1000	G.E.S.	£1.19. 6.
	1000	Large Pre-Focus	£2. 2. 9.

CLASS B.1

115, 210, 230, 240, 250.	100	E.S.	12/- *
	250	E.S.	£1. 3. 3.*
	250	Medium Pre-Focus	£1. 4. 6.*
	500	G.E.S.	£1.10. 6.
	1000	G.E.S.	£1.19. 9.
	1000	Large Pre-Focus	£2. 2. 9.

CLASS T.

115, 210, 230, 240, 250.	250	Medium Pre-Focus	£1. 4. 6.*
	500	" " "	£1.13. 9.
	1000	Large Pre-Focus	£2. 2. 9.

CLASS S.

115, 230, 240, 250.	2000	Bi-Post	£5.12. 6.
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Prices above marked thus * are subject to 21.1% Purchase Tax in British Isles.

COLOUR SPRAYED LAMPS.

<u>Wattage</u>	<u>Cap</u>	<u>200, 210, 220, 230, 240, 250v.</u>	<u>100 110v</u>
15	B.C.	1/11d *	1/11d *
25	B.C.	1/11d *	1/11d *
40	B.C.	1/9d *	1/11d *
60	B.C.	1/9d *	1/11d *
75	B.C.	2/3d *	2/5d *
100	B.C.	2/3d *	2/5d *

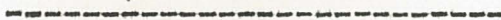
SPOTLIGHT REFLECTOR LAMPS (Internally Silvered Bulb).

<u>Wattage</u>	<u>Cap</u>	<u>Voltage</u>	<u>Ring and Grid Filament.</u>
150	E.S.	110, 210, 230, 240	10/6d *

Prices above marked thus * are subject to 21.1% Purchase Tax in British Isles.

PYGMY SIGN LAMPS.

Extra charge for colour spraying increased to 4½d per lamp, plus 17½% Purchase Tax in British Isles.



Prices above marked thus * are subject to 21.1% Purchase Tax in British Isles.