

Western Electric

WESTERN ELECTRIC
SOUND
PROJECTOR
SYSTEM

WESTERN ELECTRIC COMPANY LIMITED
BUSH HOUSE · ALDWYCH
LONDON · W.C.2

1st JULY 1929

HISTORICAL BACKGROUND AND RESOURCES OF THE WESTERN ELECTRIC COMPANY, LIMITED

The American Telegraph and Telephone Co., the largest corporation in the world, with an invested Capital of £400,000,000, has continued uninterruptedly for forty years research, experiment and development in sound transmission.

The Bell Telephone Laboratories in New York, the research company to which this tremendously important work is entrusted, maintains a staff of 3,500 people at a cost of £4,000,000 per year. All these resources of staff and equipment are used in the service of their associated company, Western Electric.

It is generally admitted throughout the world that the Bell Telephone Laboratories are the foremost organisation of their kind in existence. It is their keen specialisation and unremitting effort that made possible the steady improvement of quality in

telephone communications in America and the rendering of a great public service to a tremendous and ever growing population at a reasonable cost.

This is important because it shows the resources available to Western Electric not only for the maintenance of the quality of its present system of sound transmission as applied to moving pictures, but also for the further development and refinement of quality to the highest possible point of illusion.

Above all things quality is a fundamental factor in entertainment success. The history of the motion-picture business, as well as that of any other entertainment enterprise, shows that continued progress in Quality is absolutely essential to continued prosperity.

Great Producers use the WESTERN ELECTRIC Recording System

As a step in the creation of this new medium of entertainment, Western Electric licensed the following producers of motion pictures in England and America to use its system of recording :—

**WARNER BROTHERS
FOX FILMS
PARAMOUNT
METRO-GOLDWYN
UNITED ARTISTS
FIRST NATIONAL
HAL ROACH**

**CHRISTIE
UNIVERSAL
COLUMBIA
HAROLD LLOYD
SONO-ART
METROPOLITAN SOUND STUDIOS
BRITISH AND DOMINIONS FILMS**

This imposing list will be increased shortly by the addition of further famous British and Continental producers.

Fundamental Reasons why these Producers adopted the WESTERN ELECTRIC System

These producer licensees only decided to adopt the Western Electric system after a period of long and careful investigation. These investigations, and the decisions that were based on them, were not merely to determine which process provided the finest method of recording and reproduction of sound. They were also to decide which company had the organisation, resources and history in electrical and sound transmission development most likely to make the introduction and maintenance of sound and talking pictures a complete, solid and permanent feature of the motion picture industry.

In order to prove the commercial value of the process as applied to thousands of equipments, it is not sufficient to demonstrate a sound reproducing process in a specially prepared

demonstration room or theatre. It must be demonstrated conclusively that this process will operate equally well in all the many and various types of theatres, in various conditions and in all countries. It is also necessary for the Company in question to have the financial resources and organisation to market their equipments, instal them and service them, so that the exhibitor may be certain of obtaining the height of quality at all times.

Therefore the producer licensees of Western Electric were satisfied that this company had not only evolved a system which gave the finest recording and reproduction of sound available in quality and realism, but they were also satisfied that Western Electric, owing to its heritage from the forty years

of experimental investigation of its parent company, had the history and powers of research needed to maintain its leading position.

Furthermore, it has the organisation necessary for the manufacturing, marketing, installing and servicing its equipment throughout the world. And it has all the financial resources

requisite for this tremendous undertaking, including whatever extension of credit that may be necessary to exhibitors for the leasing of the equipment.

As a result, Western Electric has equipped over 2,500 theatres throughout the world, and is proceeding with further installations at the rate of over 250 per month.

Poor Quality will soon destroy this New Medium and the Great Investments in it

Both Western Electric and its producer licensees are firmly convinced [and all experienced exhibitors will agree with them], that the primary essential of talking pictures is Quality. An audience may tolerate a poor organ as an accessory to a good picture. If, however, a character speaks on the screen, nothing short of the most perfect illusion will be tolerated by an audience—after the novelty period is over. The public will not accept the talking picture unless it gives a quality performance, and their standard of judgment will be more critical as the technique of production and reproduction is developed.

Poor quality must result, not only in the failure of talking pictures, but also in the very serious disturbance of the motion-picture industry. This latter fact is particularly true because of the heavy commitments, amounting to millions of pounds, that have already been made by producer licensees in the creation and equipment of new sound studios under the Western Electric system. These total sixty to date in the United States—a number which will be added to—without including studios soon to be equipped in Great Britain and the Continent.

Western Electric also has a very heavy investment in sound pictures amounting to millions of pounds through its manufacture of equipment, inventories, organisation and the extension of credit to exhibitors. The commitments of the producer licensees, thousands of exhibitors and Western Electric, particularly the latter, will be tremendously increased by the end of 1929.

It is obvious that the producer, who is often also an exhibitor, is vitally concerned with Western Electric to see that the quality, not only of production, but of reproduction, is maintained at its topmost point.

The millions spent in securing the best results in sound recording by producers would be absolutely wasted, and the investment endangered, were those pictures to be reproduced over sound equipment which could not give a performance equal to that of Western Electric. So it is evident that exhibitors, producers and Western Electric are on common ground in respect of the vital necessity of quality in sound reproduction.

Great Sums to be spent in Further Research to secure Ultimate Perfection

A sum considerably exceeding £200,000 will be spent during the year 1929 in the laboratories on research in the field of sound recording and reproducing. That this research will result in improved quality of process and apparatus is without doubt, and already proved by past results.

Western Electric, in association with its producer licensees, is vitally interested in the improvement of technique in the recording of sound as applied to the motion picture. It is intended to keep pace in the development of this technique in the same ratio as progress is made in the refinement of apparatus.

The huge investment already made by Western Electric and its producer licensees must be protected by this constant research and progress. Both producers and Western Electric are well aware that the public will demand the same increase in quality in the talking motion picture that they have demanded in the silent. Pictures already produced show that this process is under way. The technical problems which confronted the producers at the beginning are being rapidly solved. The latest productions indicate that the new medium will shortly be just as flexible, mobile and capable of expansion as its silent predecessor.

Tremendous Organisations are being created by WESTERN ELECTRIC for Protection of Producer and Exhibitor Interests

The field of talking motion pictures is not confined merely to the successful installation of apparatus in theatres nor to the installation of recording apparatus for producer licensees.

Before such results can be accomplished there must be a tremendous concerted effort, not merely in the manufacture of equipment and apparatus in ever-increasing quantities to

satisfy the demands of the world market, it must cover also the stocking and warehousing of apparatus and the creation and development of a qualified engineering staff to take care of its installation and manipulation. Furthermore, it must include the creation and development of an engineering organisation to inspect, service and maintain the system and

equipment, as well as the continuance of research for the further refinement of Quality.

The above does not take into consideration the world-wide and extensive organisation necessary to take care of the commercial detail and development of the business.

Policy of Uniform Treatment and Limited Profits

Western Electric has always been operated upon the public utility basis—that is always to provide the best possible service at the lowest possible price. The entire efforts of the Bell Laboratories have been combined to bring about this continued result in telephone and telegraph communication in America, as well as in transoceanic cables. The same policy will continue in the new sphere of sound motion pictures.

The “public utility” policy in effect classes the Company as a great public servant, and will not permit of any monopoly except that secured by unequalled quality and commercial enterprise.

The profits of the Company are strictly limited to a reasonable

All this effort requires a tremendous financial investment, and, of course, the financial resources to supply such investment.

It is important for exhibitors to note that Western Electric has gone into this new field as an investment and not as a speculation.

figure. Any excess is expended to secure reduction of prices and constantly rising quality.

It is obvious therefore that Quality in all things is the essential characteristic of this organisation—based on the indisputable fact that only quality can endure.

An essential part of the public utility of Western Electric is absolutely uniform treatment of all customers. This uniformity and non-preferential principle is extended to all producers—whether large or small—no matter what nationality or type.

The same fixed plan is followed with exhibitors.

Price is only Important when considered in Terms of Permanent Investment

The technical problems arising in sound system and apparatus little concern the exhibitors. They are primarily the problem of Western Electric and the Company is exerting every effort towards their solution.

The exhibitor is mainly concerned with the system and apparatus as a profit-making investment. Once he has determined that, because of its character and policy, Western Electric is not only the Company that offers him the best quality and opportunity for profit at the moment, but is also the Company that will continue to give him these in future, he can rest assured that his investment will be fully protected for as long as he is concerned in it.

Price is only important in terms of investment. The price of apparatus or service is unimportant provided that the profits made from the investment are commensurate. If higher prices are necessary to secure enduring quality, the investment is sounder and safer than if cheap prices are sought without regard to quality or long life.

Concrete evidence that Western Electric is proceeding along this broad outline of principle is shown by the fact that, whilst to-day its apparatus and system for the recording and reproducing of sound motion pictures are admittedly the best, it is not slackening its efforts to produce better results.

Our Promises have been kept and our Pledges will be fulfilled

It is generally admitted that Western Electric has carried out faithfully and completely its obligations to producer licensees and exhibitors. It will continue to carry out all its promises and maintain its equipment at that peak of efficiency

so essential to quality. So far it is generally admitted throughout the industry that Western Electric is alone in the development and pioneering work that has been done in this field.

THE STANDARD FOR THE INDUSTRY

A DESCRIPTION OF THE MAIN TECHNICAL FEATURES

Introduction

THE following description covers in a broad manner the applications and outstanding technical features of Western Electric Sound Projector Systems, as used in theatres for talking motion pictures and for the reproduction of music.

Detailed operating instructions are not included in this

pamphlet, but are supplied with each installation and supplemented by personal instruction of the theatre staff in the operation and maintenance of the equipment. Regular inspection is provided by the Western Electric Company, Ltd., when the equipment is in use.

Applications of the Equipment

Western Electric Sound Projector Systems can be used for any or all of the following purposes, the type of apparatus installed depending on the use to which it is to be applied.

Talking Motion Pictures

Speech or music can be reproduced in conjunction with motion pictures in such a realistic manner that the effect is practically equivalent to the speakers or artists being present in person.

Synchronised Accompaniments

Cued music in the form of specially recorded accompaniments can be provided with feature pictures so that every scene can be accompanied by appropriate music, and if the character of the music changes with a new scene, the change is accurately made.

In the two types of application just mentioned, the voice or music is always synchronised with the picture—that is,

the sound is heard at the same instant that the action producing it is seen on the screen, or, in the case of synchronised accompaniments to features, where the musicians are usually not seen in the picture, the score is cued before recording so that, as the scene changes in the picture, the corresponding change in the character of the music takes part at the same instant. Hence this is called synchronised reproduction.

Non-Synchronised Accompaniments

Pictures for which no special synchronised accompaniments are available can be provided with an orchestral accompaniment from commercial gramophone records. In this case it is necessary for the exhibitor to cue the selection to be played, and records must be changed as required during each reel. This is called non-synchronous reproduction and requires special turntable apparatus.

Methods of Recording

Two methods of recording are employed. In one, called the disc method, the record is made on a disc similar to a gramophone record. This was first used by Vitaphone. In the other, known as the film method, the sound record is photographed on the edge of film. Movietone first employed this system. Theatre equipment is available which can be used with either or both of these methods, the only difference being the pick-up apparatus used at the projector. The amplifiers and horns are identical in both systems. Productions made by either method of recording can be used in the same programme, as a simple method of switching permits immediate change from one system to the other.

Recording is done electrically with both methods. The voice or music to be recorded is picked up by a microphone, which generates a small electric current whose variations

correspond to the sound waves. In disc recording, this current controls an electro-magnetic stylus, whose movements cut the record on a wax disc in the usual manner, the undulations of the groove corresponding to the sound waves. In film recording the amount of light falling on a moving film is made to vary in accordance with the fluctuations of the microphone current, causing a photographic record corresponding to these fluctuations, and therefore to the voice or music to be impressed on the film. A section of such a film is shown in Fig. 3 and is described in more detail later. The amount of light falling on the film can be varied as just mentioned by using the microphone current either to control the brightness of the lamp furnishing the light (the "flashing-lamp" method), or to open and close a narrow aperture through which the light reaches the film (the "light-valve" method).

Types of System

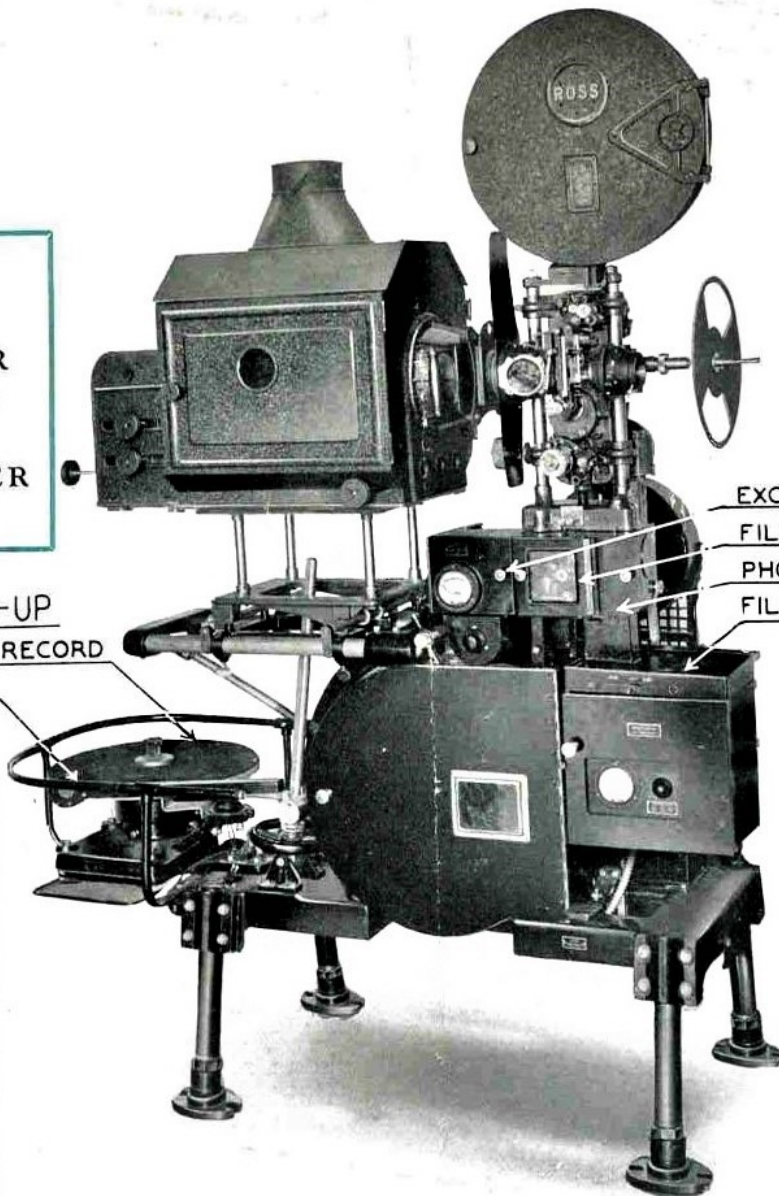
In addition to the several types of apparatus required for the various applications previously described, there are available systems of different capacities to suit theatres of different sizes.

A general idea of the main items forming a Western Electric Sound Projector System for combined film and disc reproduction is given by the accompanying illustrations.

1
ROSS
PROJECTOR
MOUNTED
ON W.E.
REPRODUCER
SET

DISC PICK-UP
TURNTABLE & RECORD
REPRODUCER

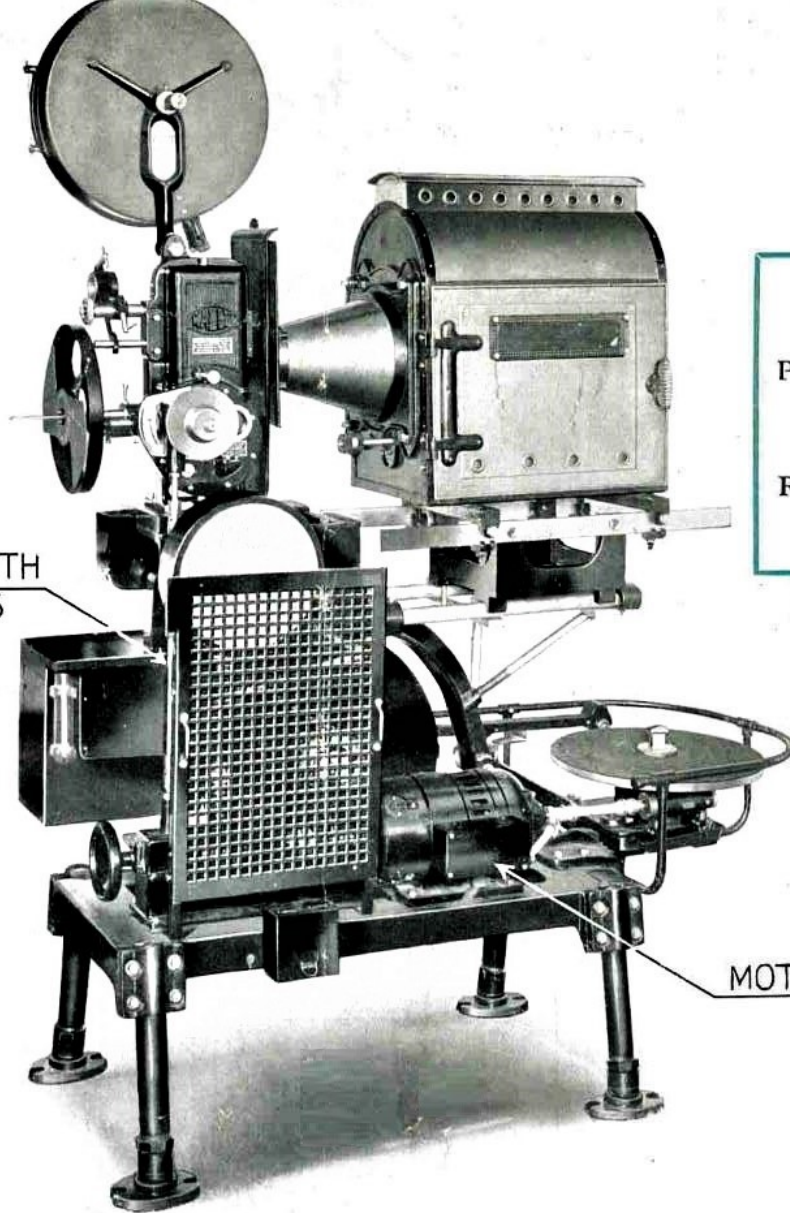
FILM PICK-UP
EXCITING LAMP COMPARTMENT
FILM COMPARTMENT
PHOTO ELECTRIC CELL COMPARTMENT
FILM AMPLIFIER



2 TYPICAL
AMPLIFIER
GROUP



3
SECTION OF SOUND FILM
WITH PHOTOGRAPHIC
RECORD



4
KALEE
PROJECTOR
MOUNTED
ON W.E.
REPRODUCER
SET

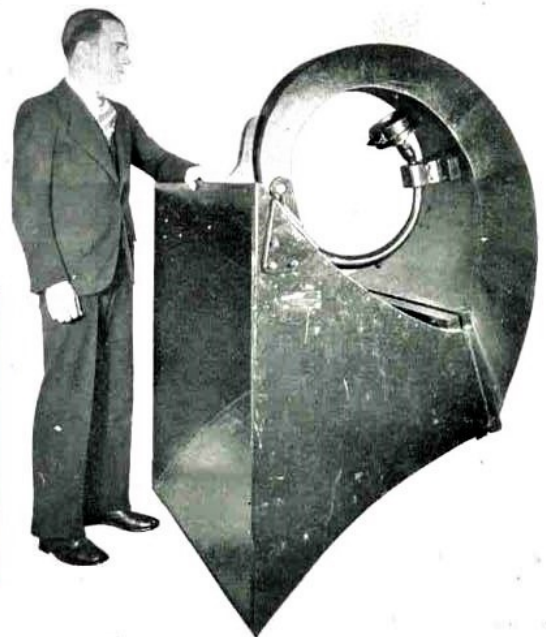
DRIVING SHAFT WITH
UNIVERSAL JOINTS

MOTOR

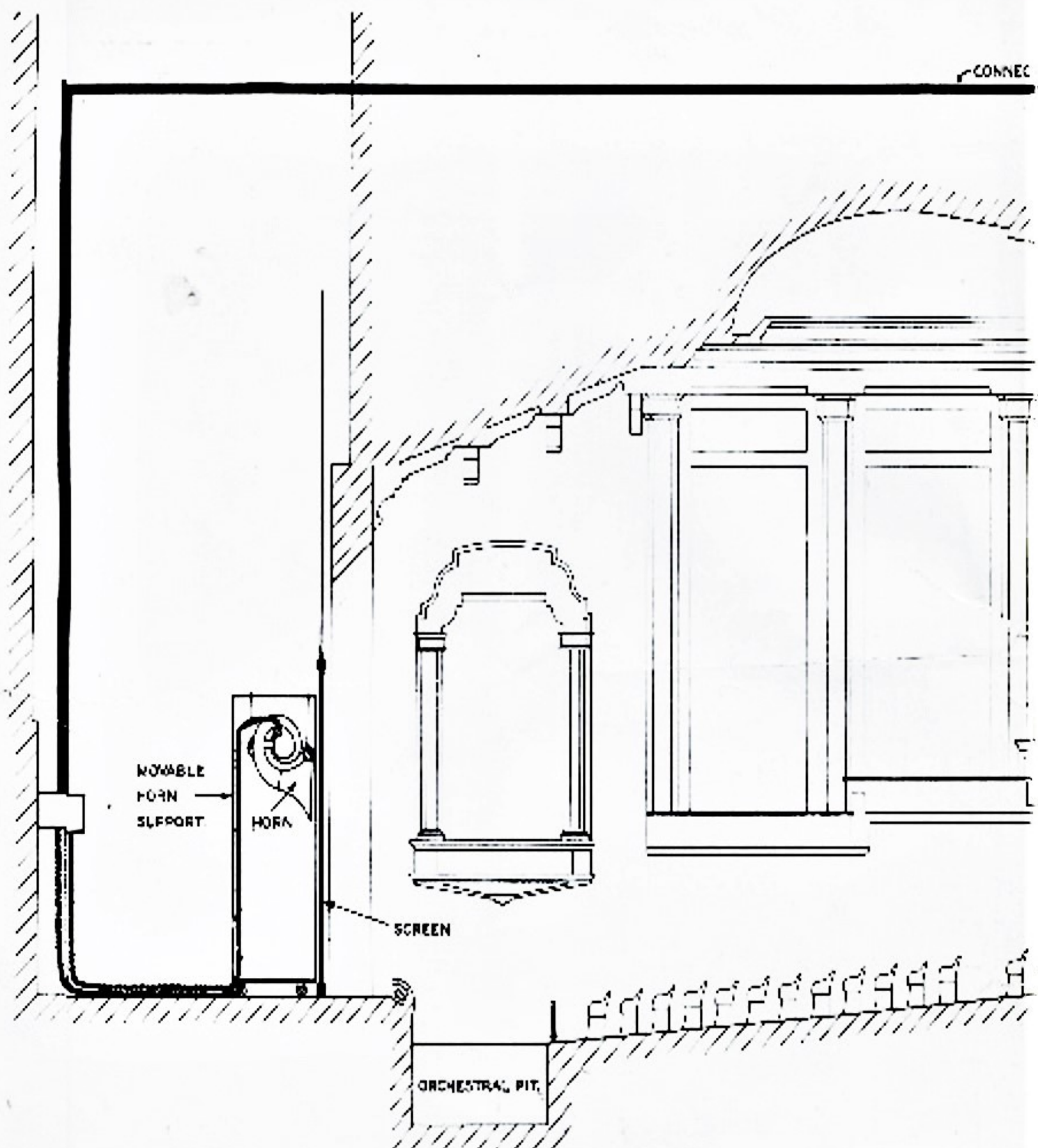


5 FADER OR
VOLUME CONTROL
& CHANGE-OVER
DEVICE

6
LOUD
SPEAKING
HORN
AND
RECEIVER



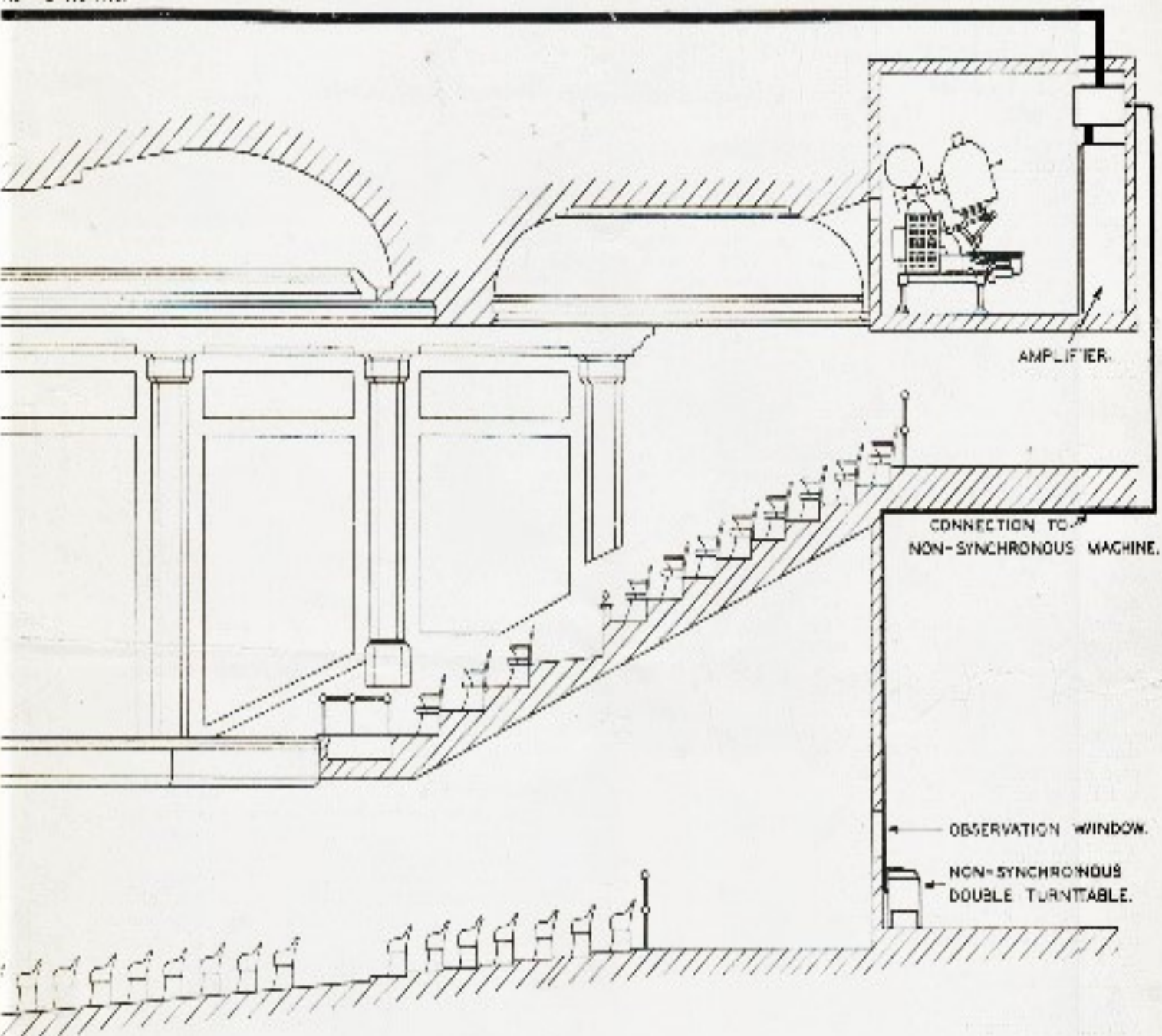
TYPICAL WESTERN E



GENERAL INSTALLATION
WESTERN ELECTRIC

ELECTRIC THEATRE PLAN

NS TO HORNS.



LAYOUT FOR TALKING MOTION PICTURES
AND PROJECTOR SYSTEMS FOR THEATRES

PRINCIPLE OF THE EQUIPMENT

Synchronous Reproduction

The first step in synchronous reproduction is to generate a small electric current whose variations correspond to the sound waves forming the voice or music that was recorded. Depending on which of the two previously mentioned methods was used in recording, this current is obtained either from an electrical reproducer playing on a disc record, or from a film reproducing attachment through which the film passes on leaving the projector head (Figs. 1 and 4).

Disc Records

The disc records employed are similar to the best types of gramophone record, except that they are much larger and run at about half standard speed; this enables each record to play throughout a whole reel. The film used with the disc record, called a synchronised film, is similar to an ordinary film, except that one frame at the beginning is specially marked to give the starting-point.

Film Records

With the film method, the sound record consists of a band about $\frac{1}{8}$ in. wide, called the sound track, which runs down one side of the film and consists of microscopic lines (Fig. 3). The spacing of these lines at each point depends on the pitch of the sound which was recorded at that moment. The difference in density of the lines depends on the loudness of the sound recorded; that is, the greater the contrast between light and dark lines, the louder the sound produced. Such a film is called a sound film, and is otherwise similar to an ordinary film. After leaving the lower sprocket of the projector head, the sound film enters the reproducing attachment, where it passes over a sprocket that moves it along at constant speed. A narrow beam of light is focussed on the sound track through a system of lenses and an aperture plate. The light which has passed through the moving film will then vary in intensity according to the variations of the lines recorded on the sound track. This light falls on a photoelectric cell, which produces a small electric current whose variations correspond to those of the light, and therefore to the sound which was recorded.

Amplification

The small current from the electrical reproducer or the photoelectric cell passes along to one or more valve amplifiers (Fig. 2), similar to those used in the low-frequency stages of wireless sets; these amplifiers deliver a greatly magnified copy of this current.

Sound Projectors

The current from the amplifiers is converted into sound by means of sound projectors consisting of receivers and horns located at the screen (Fig. 6). The number of horns used, and their exact location, depends on the size and acoustic properties of the house. A special type of screen is employed, which reflects light well and enables a good picture to be obtained, but is practically transparent to sound waves. The horns are placed immediately behind the screen so that a perfect illusion that the voice or music is coming from the speakers or artists seen on the screen is obtained in all parts of the house. Obviously, if the sound is not coming directly from the screen, the illusion is lost.

The horns used in all these systems can be mounted in such a manner that they can be removed whenever the stage is used

for purposes other than pictures. This can be done either by flying them or by mounting them on towers that are easily and quickly movable.

Synchronism

In the disc method, perfect synchronism between sound and picture is assured by having the projector and the turntable carrying the record both driven by the same motor; hence the film and record, if started together, must necessarily keep in step throughout the remainder of the reel. In the film method the fact that the sound record is on the same film with the picture makes synchronism inherent, provided that the film is set up in the attachment with the proper loops to ensure that, when a picture is at the picture aperture in the projector head, the accompanying portion of the sound track will be at the light aperture in the reproducing attachment.

Fader

By using two projectors alternately, a continuous programme can be run just as with ordinary pictures. A device called a fader is employed in making the transition from one machine to the other, the transfer being effected with no break in the music. All that is necessary for this purpose is to turn the fader knob when the incoming machine is started. Auxiliary faders suitably situated permit of the change over being made from any projector position. At the end of each record or sound film the music overlaps the opening notes of the next, so that with proper operation the audience is unaware of any change being made. The volume of sound heard in the theatre is also controlled by means of the fader.

Speed Regulation

As will be seen from Fig. 4, the film reproduction attachment is driven through gears and universal joints from the forward end of the motor, while the turntable is similarly driven from the rear end.

In ordinary moving-picture projection the film is usually shown at a faster speed than it was taken. However, this cannot be done with a synchronised film or a sound film, as the pitch would be changed, and this would cause the music or voice to be distorted and spoiled. All synchronous subjects have therefore to be shown at exactly the same speed they were made, which is 90 ft. per minute. This speed is maintained automatically by means of a special type of motor and an electrical governing system contained in the motor control box.

To permit of running silent films in the usual manner means are provided on the motor control box for regulating the speed within the usual range employed in projection.

Mechanical Filter

In all mechanical equipment using gears, etc., vibrations and speed fluctuations are produced. Even when the most accurate manufacturing processes have reduced such disturbances to a point where they would be quite negligible in any ordinary mechanism, their effects might, in the case of apparatus for sound reproduction, be noticeable to the listener as a kind of "flutter" or tremolo. This effect is completely eliminated, in both the disc and film reproducing attachments, by means of special spring drive systems for the turntable and the film sprocket respectively. This important refinement is called a mechanical filter.

Non-Synchronous Reproduction

This is essentially similar to synchronous disc reproduction, already described, with the difference that, since the record does not have to be synchronised with the film, it is not necessary to drive projector and turntable by the same motor; therefore the turntable need not be in the projection room, but can be in any part of the theatre where the operator can see the screen and hear the music. Then, again, since it is not necessary for each record to play throughout a whole reel, large slow-speed records are not required, and therefore records of the usual type, operating at the standard speed of about 78 r.p.m., can be employed.

To permit continuous playing, two turntables are employed; these are driven by universal motors, and the change from one record to the next is made by means of a fader. It is often desirable with this equipment to play only a portion of a record; a special guide is provided for this purpose which enables the desired part to be conveniently and accurately selected from the record and played as desired. By adding the necessary apparatus to the projectors, a system of this type can at any time be equipped for synchronous reproduction in addition to non-synchronous.



POWER CONVERSION EQUIPMENT

The Western Electric Sound Reproducing Apparatus is designed to work from a 110 volts 50-60 cycles single phase supply with a voltage variation of not greater than 5 per cent., and a frequency variation of not greater than ± 5 per cent., but such a supply voltage is not widely available at the present time in this country, and therefore some form of power conversion equipment is usually required.

To this end as the result of an extensive study of the various existing supply voltages and the wide variations of both voltage and frequency generally encountered, we have designed and developed several types of power conversion equipment, each admirably suited to meet the local requirements and having the highest possible degree of reliability. Each type is entirely of British manufacture both in respect of materials and in workmanship.

The cost of supplying power conversion equipment depends

upon the type of electrical power available at the theatre. If a 110 volts 50-60 cycles alternating current supply is available, no conversion equipment is needed. For all other supply voltages some form of conversion equipment is required, and these may be summarised as follows:—

1. Direct current.
2. Alternating current of 50-60 cycles.
3. Alternating current of all periodicities other than 50-60 cycles.

There is at present a movement to standardise electrical supply voltages throughout Great Britain. When this has been completed, it is believed that a static transformer only will be required.

On receipt of information relative to the existing electric supply prices will be quoted.

PRICES, TERMS AND CONTRACT LEASES

Western Electric does not sell its talking-picture apparatus, but leases it for a period of ten years.

The purpose of this leasing arrangement, also explained previously, is that the exhibitor may rely on his reproducing apparatus giving him the highest efficiency in reproduction during the entire period of the lease.

This is accomplished by the servicing plan instituted by the Company, which makes it possible for the exhibitor to receive regular inspection adjustments of the apparatus as well as rapid emergency service at any time during the hours that the theatre is open.

Payment may be made either on a cash basis or on credit terms extending over one or two years.

On the cash basis the exhibitor receives the benefit of a 5 per cent. discount on the list price.

On the credit basis one payment is made upon signing the contract and the second payment upon completion of the installation, the total of these two payments being approximately

25 per cent. of the whole. The balance to be paid is spread out over fifty-two or one hundred and four weekly payments. On the instalment plan the weekly service charge is included in the weekly payments mentioned above, and on the completion of the instalments this service charge continues for the balance of the period of lease.

When the apparatus is paid for by cash, the service charge alone is payable immediately each week commencing at completion of installation. This service charge varies from £4 to £8 per week maximum, according to the size of the necessary apparatus.

The service charges as at present set up are subject to downward revisions as soon as lower cost will permit, as it is not the object of the Company to make the service charge a profit feature of its contract.

The size of the apparatus and its consequent price is entirely dictated by the cubic content of the theatre and the volume of sound necessary to be reproduced without distortion and with full clarity in tone.

How to Place an Order for WESTERN ELECTRIC Sound Reproducing Apparatus

The procedure of the Company is to issue what is known as an Exhibitor's Application for our apparatus, or "Binder" Agreement.

By virtue of this Agreement the exhibitor authorises the Company to proceed with a survey of his theatre and to confirm that the theatre will require a certain definite set, the price of which is indicated on the Binder Agreement.

When this Agreement, signed by the exhibitor and accompanied by a cheque for £25, has been received by the Company, a survey is made as rapidly as possible, and what is known as "Engineering Requirements" are made up. These "Engineering Requirements" cover fully all changes that may be necessary in the theatre to accommodate the equipment, and also indicate the type and cost of Power Conversion Equipment that will be necessary.

It is well to repeat here that Western Electric Sound Reproducing Apparatus is designed to operate on one standard power—namely, 110 volts, 50 cycles A.C. As there are many varieties of power in existence in England, a suitable Power Conversion Equipment must be installed to convert the power available to the needs of the apparatus. This conversion apparatus must be of the most sturdy and reliable type, and while it may be purchased by the exhibitor, if he so desires, the Company, by virtue of the large quantity order it is placing, is not only able to offer the exhibitor a lower price, but to secure for him a very much more reliable piece of machinery.

It is essential for successful sound reproduction that there be absolutely no vibration and fluctuation in power supplied to the apparatus.

The Company is continuing its experiments in Power Conversion Apparatus with the intention of securing at all times the finest and most satisfactory units possible.

Accompanying the "Engineering Requirements," which are given in great detail, is issued the Main Lease and Agreement, and the exhibitor is given a period of seven days in which to check the Agreement.

Upon the return of the Agreement properly signed to the Company, the opening date as arranged is inserted and the Agreement returned to the exhibitor, also signed by a director of this organisation.

At the time the Binder Agreement is issued, an opening date is given to the exhibitor, and he may consider it as absolutely definite to proceed to book pictures on the basis of this opening date without any fear, as the Company will exert every effort to meet the opening date as set up. It should be noted that not one theatre installed by Western Electric has yet been late on its scheduled opening date.

The prices given for the apparatus cover the complete installation of the system, a stock of spare parts, and the training of the exhibitor's operators in the use of the apparatus.

It is necessary for the Exhibitor to place his Theatre in proper form to take the apparatus, making such alterations as may be necessary, the masking of the screen and stage, and the erection of horn towers, etc. These alterations, which are clearly set forth on the reverse side of the Exhibitor's Application, or Binder Agreement, are not included in the cost of installation.

PRODUCT AVAILABLE TO THEATRES INSTALLING WESTERN ELECTRIC SOUND REPRODUCING APPARATUS

The exhibitor installing the Western Electric Sound Reproducing Apparatus is in a very happy position from the standpoint of the product available for his use.

As indicated previously in this booklet, there are twelve important American producers and at least one English producer now producing pictures on this system.

Allowing for the exhibitor's quota percentage of British pictures, the statistics show that the average British cinema utilised the product of the above-mentioned producers for about sixty to seventy-five per cent. of its requirements during the early stages of the development of this new medium of entertainment. Some remarkable results have been produced in cinemas by such productions as "The Singing Fool," "In Old Arizona," "The Doctor's Secret," "Weary River," "The Broadway Melody," "Coquette," "Show Boat," "Close Harmony," "Blackwaters."

It is very apparent to even the most casual observer that the quality of talking pictures is rising very rapidly. A comparison of some of the latest productions with those placed on the market six months ago is very striking proof of this fact. Therefore the exhibitor is asked to remember that, with this rise in quality and the consequent rapid education of the public to distinguish between good and bad sound pictures, his own

position as a purveyor of this type of entertainment is bound to be more and more influenced by it. Whereas at the inception of talking pictures the public in his particular locality might accept poor sound picture recording and equally poor sound picture reproduction in his theatre, they will leave him severely alone and go to his competitor if he does not continue to keep pace with the increasing quality and if his apparatus is not capable of reproducing the best of talking pictures in the finest possible manner.

Such points as loss of illusion and indistinct articulation, distortion of low notes to compensate for lack of high notes, and many other deficiencies apparent in systems on the market to-day, may be passed over by the public in the glamour of something new. That stage has now gone by, and the public, knowing that it can see and hear this new form of entertainment without these drawbacks, is not now content to visit a theatre where they are the weaknesses of the reproducing apparatus.

For the convenience of exhibitors we have placed on the cover of this booklet an Application Form, which, when filled up and signed, will bring to them immediately a Binder Agreement and an approximate date for installation. We shall be pleased for you to use it, and also at the same time to ask for any additional information on points that do not happen to be covered herein.

SOME THEATRES EQUIPPED WITH WESTERN ELECTRIC SOUND REPRODUCING APPARATUS

NEW GALLERY
PICCADILLY THEATRE
EMPIRE
CARLTON
PLAZA THEATRE
RIALTO
REGAL
PLAZA
HIPPODROME
HAYMARKET
WESTOVER
CAPITOL
MANOR PARK PAV.
KENSINGTON KINEMA
STRAND, TIVOLI
TWICKENHAM THEATRE
CORONATION
FOX PREVIEW ROOM
ASTORIA
STOLL'S OPERA HOUSE
CARLTON
REGENT
COLISEUM
LA SCALA
OPERA HOUSE
KINGS
OXFORD THEATRE
HIPPODROME
PREMIER
PALLADIUM
THEATRE ROYAL
CLAREMONT
OLYMPIA
LA SCALA

REGENT STREET, W.
PICCADILLY, W.
LEICESTER SQ.
UPTON PARK
PICCADILLY
COVENTRY STREET
MARBLE ARCH
PORTSMOUTH
CROYDON
NORWICH
BOURNEMOUTH
FOREST HILL
ALDERSHOT
LONDON
STRAND, LONDON
TWICKENHAM
MANOR PARK
BERNERS STREET, W.
LONDON
KINGSWAY, LONDON
HAYMARKET
BOURNEMOUTH
GLASGOW
GLASGOW
KIRKCALDY
KILMARNOCK
MANCHESTER
BLACKPOOL
CHEETHAM HILL, M'TER.
BOLTON
MANCHESTER
MANCHESTER
LIVERPOOL
SOUTHPORT

RIALTO
SAVOY THEATRE
CECIL
PRINCESS
CENTRAL
FUTURIST
DE LUXE
QUEENS
KINGS
CAPITOL
EMPIRE
FUTURIST
ALEXANDRA
STOLL THEATRE
CAPITOL
PICTURE HOUSE
PALACE, LANCASTER
PICTURE HOUSE
PRINCE OF WALES
ROYALTY
RIALTO
SCALA
CENTRAL
ALHAMBRA
REGENT
SAVOY
CAMEO
REGENT
FORRESTERS
NEW VICTORIA
QUEENS
PALACE
PICTURE HOUSE
PLAYHOUSE

LEEDS
BRADFORD
HULL
HUDDERSFIELD
HARROGATE
SCARBOROUGH
GLOUCESTER
CARDIFF
BRISTOL
CARDIFF
NEATH
BIRMINGHAM
COVENTRY
NEWCASTLE
DUBLIN
BELFAST
LANCASTER
EDINBURGH
LEWISHAM
RICHMOND
CRYSTAL PALACE
LEEDS
SHEFFIELD
LONDON
SHEFFIELD
LEYTON
BEAR ST.
POOLE
BETHNAL GREEN
PRESTON
NEWCASTLE
LEICESTER
LEICESTER
EDINBURGH

Why Paramount adopted the Western Electric System of Sound Pictures

PARAMOUNT PICTURES
LASKY CORPORATION



Office of Adolph Zukor
President

May 28th,
1928.

Western Electric Company,
185 Broadway,
New York, N.Y.

Gentlemen:

For the past two years we have been investigating the performance of every device for the reproduction of talking pictures. After intensive study of every reproduction machine we have decided that the "sound-projector system" of the Western Electric Company is the best.

Another factor considered in this decision is the ability of the Western Electric Company to produce in quantity, for it was realized that there would be an immediate call for a great quantity of these sound projectors from Public Theatres, which own, control or direct the activities of a great number of theatres throughout this country and abroad.

Very truly yours,

Adolph Zukor

"After intensive study of every reproduction machine"

Mr. Adolph Zukor makes decisions not only as an Exhibitor, but also as a Producer with world-wide interests at stake. What he has to say about Sound Pictures is therefore doubly important.