Daily Mail

TELEVISION HANDBOOK

NEW EDITION

RECEPTION & TUNING

TV PERSONALITIES

HOW TELEVISION WORKS

20 QUESTIONS ON TV

FULLY ILLUSTRATED

WITH AREA MAPS OF
ALEXANDRA PALACE - SUTTON COLDFIELD - HOLME MOSS
KIRK O'SHOTTS - WENVOE

1/6

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Daily Mail

TELEVISION HANDBOOK

Useful information for the owner and intending owner of a television set is contained in this 96-page Handbook, which includes valuable hints on Installation and Tuning, Questions and Answers on Television, and Reception and Range Maps of the Home Counties, Midland, Northern, Scottish and South Wales and West Country Transmitting Stations.

Edited by

FRANK COVEN

Should you not find the answer to your television query in these pages, write to the Editor of the "Daily Mail" Television Handbook, Northcliffe House, London, E.C.4.

A Daily Mail PUBLICATION

ABOUT THIS BOOK

THE *Daily Mail*—sponsor of the National Television Awards—ever to the fore in reporting every phase of television development, offers a service to viewers of which it is justly proud. Collie Knox, the outstanding television and radio critic of the day, writes his famous weekly articles in the newspaper, and in addition regular comment appears daily upon the previous night's television programmes.

It is believed, however, that a more specialised type of assistance and comment on matters of general and technical interest may be welcomed by many people. It is to this end that we have published the *Daily Mail* Television Handbook, and it is hoped that viewers—and intending viewers—will find some value in what attempts to be a comprehensive survey of television problems and possibilities.

This New Edition marks the completion of the five transmitters which comprise the major part of the British Network of Television Stations.

Grateful acknowledgements for their co-operation and help are made to Mr. Cecil McGivern and the staff of the B.B.C. Television Service, Mr. Douglas Ritchie and the B.B.C. Publicity Department, the B.B.C. Engineering Information Department, the B.B.C. Display Section for photographs, and to Mr. G. W. Godfrey. F.C.

Television cameras watched Her Majesty the Queen inspecting the parade at the Trooping the Colour on her official birthday, June 5th, 1952.

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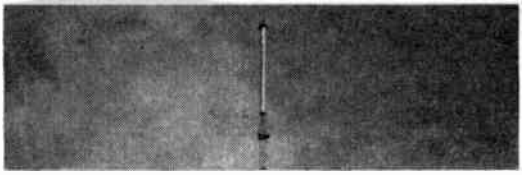
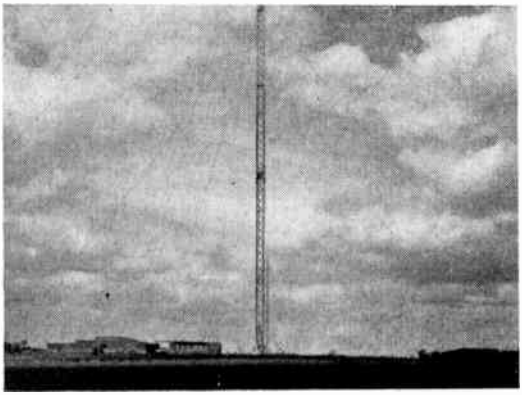


THE TELEVISION NETWORK

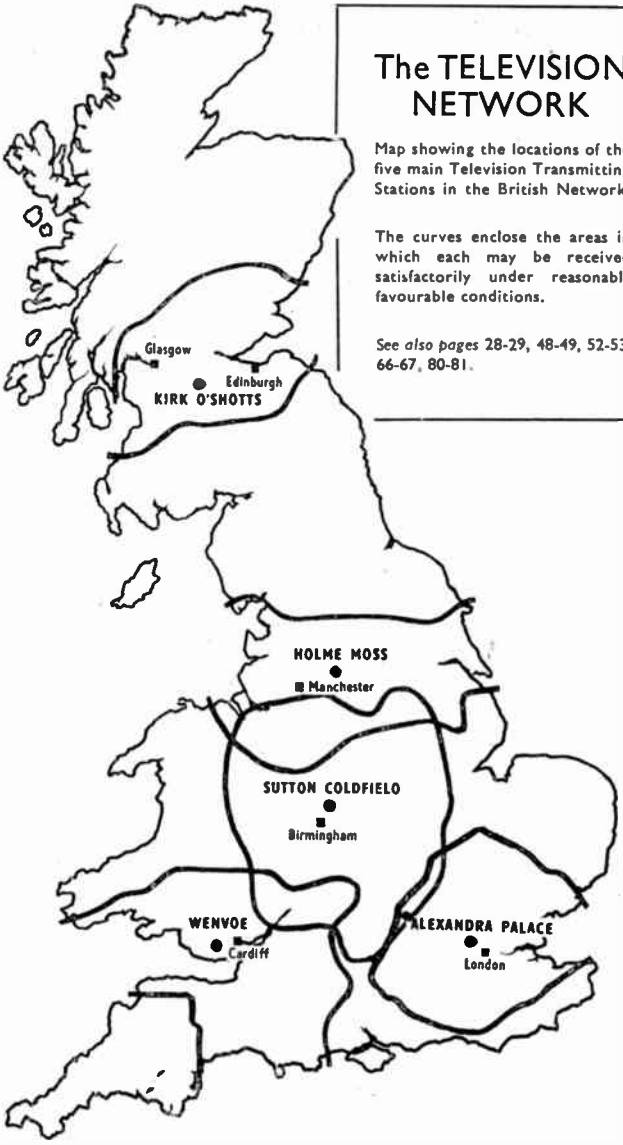


Wenvoe under construction. A view of the new South Wales and West Country Transmitting Station, showing the mast erected to 700 feet, in April, 1952.

WITH the opening of the television transmitter at Wenvoe in Wales, the British network of major television transmitting stations becomes complete. Wenvoe, situated approximately seven miles south-west of Cardiff, will bring television to Glamorgan, Carmarthen, Monmouth, Brecknock and the southern part of Hereford, as well as to Gloucester, Somerset, Wiltshire, Dorset and that part of Devon which lies east of Exeter to the Dorset border. Altogether, when the station is working on its full power of 50 kilowatts, another 3½ million people will have television made available to them.

The B.B.C. inaugurated the world's first high definition television service from Alexandra Palace in North London in November, 1936. Since then, although the expansion of the service has been curtailed by Government limitation of Capital Expenditure as well as the difficulties of finding suitable sites for stations, great strides have been made.

The Sutton Coldfield transmitter, which serves the Midlands, was opened in December, 1949; the Holme Moss transmitter, which brought television to the densely populated industrial North, commenced operations in October, 1951; and Kirk o'Shotts, between Glasgow and Edinburgh, introduced the



The TELEVISION NETWORK

Map showing the locations of the five main Television Transmitting Stations in the British Network.

The curves enclose the areas in which each may be received satisfactorily under reasonably favourable conditions.

See also pages 28-29, 48-49, 52-53, 66-67, 80-81.

television service to Scotland in March, 1952. Although gaps in the national coverage inevitably remain, the advent of Wenvoe has now made television available to 78.8 per cent of the population of Great Britain, although it should be pointed out that this percentage will only be achieved when both Kirk o'Shotts and Wenvoe are working at full power—however, at the time of writing in July, 1952, this is only expected to be a matter of months.

In July of 1952, licence holders within the London, Midland, Northern and Scottish station areas totalled well over 1,500,000, and this will be augmented by the addition of Wenvoe. Already —since it is estimated that during a popular programme on an average three viewers will be looking in at any one set—it can be said that regular viewers in Great Britain now number considerably over four and a half million, and during some outstanding broadcasts, especially the great sporting events, this total is a great deal larger.

Television Range

As explained in the chapter "Hints on Installation and Tuning," the effective range of a television station depends upon the height of its aerial, even more than upon its power, and it is noteworthy that whereas the Alexandra Palace vision transmitter has a peak power of 17 kilowatts and radiates from an aerial 600 feet above sea level, Sutton Coldfield has a peak power of 40 kilowatts and the aerial is 1,300 feet above sea level. This at one time made Sutton Coldfield easily the most powerful television station in the world, but Holme Moss, with a 45 kilowatt vision transmitter and 750-foot aerial mast, sited on the mountainous backbone of the North of England, at a height of 1,700 feet above sea level, subsequently achieved this distinction —to be succeeded in its turn by Kirk o'Shotts, again with a 750-foot high mast and aerial, 1,000 feet above sea level, but with a 50 kilowatt transmitter. Although the height of the aerial of Kirk o'Shotts is less than that of Holme Moss, this feature is offset by the provision of the 50 kilowatt transmitter, which justifies the claim that Kirk o'Shotts will supersede even Holme Moss in power. When the Wenvoe Station functions at full power it, too, will use a 50 kilowatt vision transmitter, but since, in its area of South Wales and part of the West of England, there is no suitable very high ground, its effective range may be less in some directions than one or two of the stations already erected.

Studio " G " at the Lime Grove Studio Centre, Shepherds Bush, London.
The Apparatus Room containing the electronic equipment for the cameras.

Subsidiary Stations

In addition to these Regional stations, the B.B.C. is going to build five medium-power stations, near Aberdeen, Belfast, Newcastle upon Tyne, Plymouth and in the Isle of Wight, to serve concentrations of population that will not be able to get good reception from any of the main transmitters. Unfortunately, however, the dates of their construction remain indefinite because of the increased defence programme. When, finally, all these and other subsidiary stations are providing a service, Television will be brought to at least 90 per cent of the total population of the United Kingdom.

For some time to come at least, all these stations will transmit mainly the same programmes which, normally, will originate in London, reaching the transmitting stations either by means of radio links or coaxial cables, provided by the Post Office. Increasingly frequent outside broadcasts, however, will be seen which will have their inception regionally, and sometimes these programmes will be shown throughout the entire network or sometimes merely in the region concerned.

To permit these regional activities, there are two special Outside Broadcast Units allocated—one to serve the Midlands and the southern section of the Northern Region in England, and the other, based upon Glasgow, to serve Scotland and the northern section of the Northern Region. These mobile units, as well as covering sport and outside events, will also handle local variety

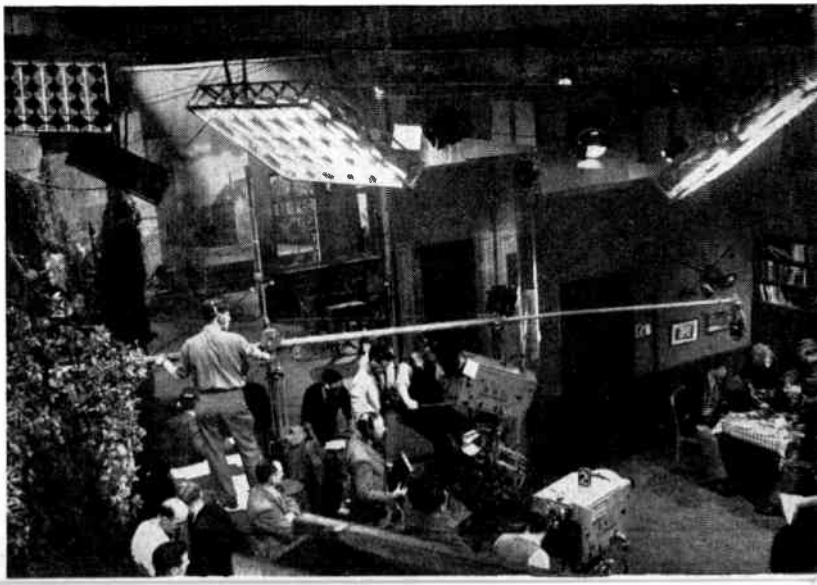
and shows from time to time, relaying entertainment from halls or theatres turned into studios for the evening, so that regular television features like " Music Hall " can be taken to the various Regions. Regional artistes will also be included in big shows screened from London. It is hoped that it may be possible to provide an Outside Broadcast Unit for the Wenvoe area by the end of 1952. At a later date—although at the moment nobody can say exactly when—permanent television studios will be provided in the Regions.

Studio Facilities

When the television service opened in 1936, for technical reasons the studios, as well as the transmitters, were installed at Alexandra Palace. Two studios were provided, measuring 70 feet by 30 feet, but even before the war inadequate studio accommodation was beginning to restrict programme expansion.

When, in June 1946, the service was resumed after the wartime suspension, efforts were made to find additional studios. Success was not achieved until January 1950, when the former Gainsborough Film Studios at Lime Grove, West London, became available. This building includes five large studios—the biggest being 120 feet by 84 feet, by itself considerably more than twice

Children's Television. A general studio scene during a rehearsal of the " Billy Bunter " series



GEORGE BARNES

Appointed in October, 1950, to the Directorship of B.B.C. Television, a new post with a seat on the Corporation's Board of Management. First joined the B.B.C. in September, 1935, as Assistant in Talks Department, after several years as Assistant Secretary of the Cambridge University Press. Educated at the Royal Naval Colleges of Osborne and Dartmouth, and at King's College, Cambridge. For a time was Assistant Master at Dartmouth.

In 1941, Mr. Barnes became B.B.C. Talks Director, later Assistant Controller. With the start of the B.B.C. Third Programme in 1946, he became its first Head, and eighteen months later was appointed Director of the Spoken Word.

His hobby is sailing.

ROBERT McCALL

Assistant Director of Television Broadcasting. Born Scotland, August 1906. Educated Sydney, New South Wales. On leaving school his main activities were in music and journalism, but after Gramophone Company experience he joined the Australian Broadcasting Commission in 1936. In 1940 he was loaned to the B.B.C. as the first Director of the Pacific Service. In November 1941 he returned to Australia to become Assistant General Manager of the A.B.C. In 1946, after acting as Press and Broadcasting Advisor to the Duke of Gloucester there, he returned to England as Assistant Controller Overseas Services. In April 1948 he became Controller of Overseas Services, and in May 1952 Assistant Director External Broadcasting. On 27th June 1952 was appointed to his present post, his duties commencing on 29th September, 1952.

the area of both the Alexandra Palace studios put together—and their adaptation to the requirements of television production is being pushed ahead as rapidly as possible. Three of these studios have now been taken into use, and a fourth is being prepared. A completely new innovation is also in hand. This is the development of a Presentation Studio, which will supply a long-felt want by providing a separate studio, adjacent to the producer's control room, for announcers, Tuning Signal cards, credit titles, etc. Thus the continuity of the service will be slickly maintained without utilising the studio from which the main broadcast is taking place.

But in addition to the Lime Grove Studios, the B.B.C. has made a start on the development of a site of 13 acres at White City, also in West London, where a very large and ultra-modern Television Centre is to be built. This is planned to include every worth-while feature and facility that has come out of the B.B.C's unique experience of a television service that saw its inauguration in 1932, as well as of studies the B.B.C. has made of services, either existing or planned, in other countries. Unfortunately, however, again on account of the rearmament drive and the national economic position, the Government has indicated to the B.B.C. that this great project will have to be delayed somewhat. The announcement in the House of Commons at the end of November, 1951, that the Treasury is to continue to appropriate 15 per cent of the B.B.C's sound and television licence revenue—£2,000,000 a year—indicates an even further postponement of this and other development schemes, although it seems that restriction of actual programmes will be avoided. This appropriation is to continue under the terms of the new ten-year Charter granted by Parliament to the B.B.C. on July 1st, 1952.

Another point of great importance in the new Charter is the condition laid down regarding sponsored, or competitive, television which would affect the B.B.C's monopoly in this field. It has been decided that, while competitive television may be permitted in the future, no stations of this nature will be licensed before the B.B.C. has completed its own full national network. This, in effect, leaves the door open for sponsored television but appears, to postpone it, at least for several years.

STANDARDS OF TRANSMISSION

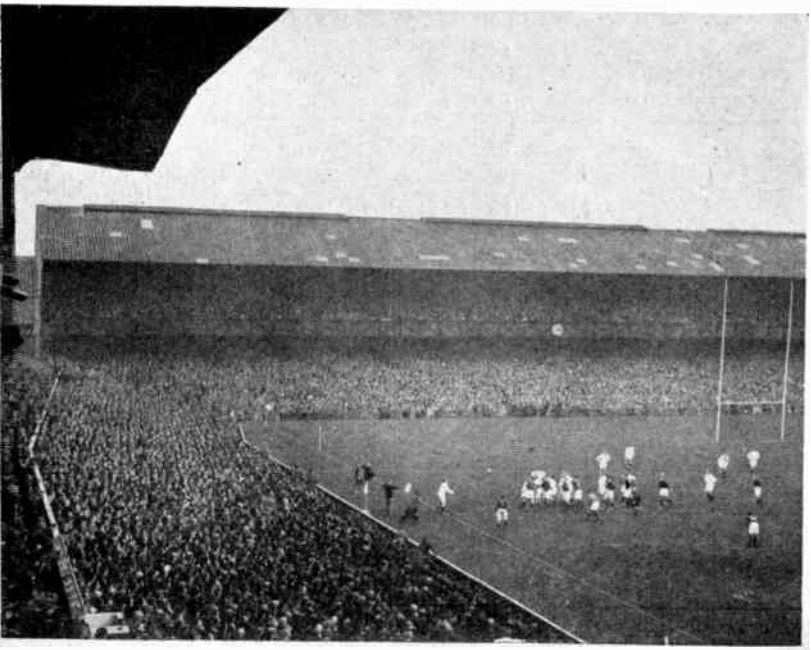
The British Television Standards were fixed in 1937, as representing the best compromise between picture quality and receiver cost. They are based upon a picture composed of 405

horizontal lines and equivalent definition along the lines. Experts report that technical developments since these standards were fixed have not rendered them obsolete, and that so-called improved standards of definition adopted or proposed elsewhere do not necessarily, in practice, result in clearer pictures in viewers' homes, although they may be made to produce better results under laboratory conditions.

Accordingly, these transmission standards have continued in force, and are being used by the network of stations described above. The practical effect of this for the viewer, or the potential viewer who is contemplating the purchase of a set, is that he need not worry whether his receiver will be rendered prematurely obsolete by the sudden adoption of different transmission standards.

Needless to say, technical research and development in this country are very much alive, and one of the results of this is that improvements are constantly being made in the quality of the pictures transmitted. Experts agree that the limit to the picture-quality that can be transmitted by the present standards has not yet been reached, but the improvements that have already been

Outside Broadcasts. Here, the Outside Broadcasts cameras are televising the 1952 International Rugby Match at Twickenham between England and South Africa.



CECIL McGIVERN

Controller of Television Programmes. Born in Newcastle of Irish parents, and from a very early age turned to stage acting and producing. For several years, however, he combined schoolmastering with these activities. He joined the B.B.C. in Manchester as a drama producer in 1934. Transferred to London in 1941 as feature writer and producer of such programmes as "Battle of Britain," "The Harbour Called Mulberry," "Their Finest Hour." Screen writer with Independent Producers Ltd. from July, 1945, until June, 1947. In charge of Television Programmes from that date, and achieved his present post on 20th October, 1950.

made, and those that will certainly be made in due course, benefit equally the users of the oldest television sets, as well as those who purchase a receiver to-day.

Nevertheless, the time will ultimately come when some change will be desirable—it might be to colour television, for instance—and the official announcements add that if any new system were adopted, and this was unsuitable for reception on the present-day sets, then transmissions would be made, for a reasonable period, by both the present system and the new system together, to avoid unduly early obsolescence of receivers in the hands of the public.

It is quite clear, then, that no one need put off buying a television receiver on the ground that it might quickly be out of date.

PROGRAMMES AND THEIR TIMING

Television programmes are transmitted, at present, every day of the week including Sundays, with both afternoon and evening sessions, the Sunday afternoon session starting with the Children's programmes at 5 o'clock. In the ordinary way, the weekday afternoon programmes last for about two hours, and the evening programmes start at either 7.30 or 8 o'clock and continue until 10 or 10.30.

Although they do not, strictly speaking, count as a programme, films specially made by the B.B.C. are transmitted on weekday mornings, except Saturdays, from 10 o'clock to 12 o'clock. These are for the benefit of television manufacturers and dealers, and they include periods when a complicated pattern appears on the screen. This pattern is designed to help the quality of reception to be judged, and is of considerable value to service-men engaged on installing or adjusting television sets. It also helps purchasers to compare the performance of different products. On Saturdays a composite edition of the Children's Newsreel is shown between 11 a.m. and 12 noon.

As more studio accommodation becomes available some further increase in programme hours will probably be made; the B.B.C.'s attitude, however, is that since television is in no sense a " background " entertainment, but requires the constant concentration and interest of the viewer, no attempt should be made to watch every programme available, and selectivity in the choice of programmes should be exercised. It is partly for this reason, as well as those of expenditure, that a good many " repeats " of plays and major productions take place.

Outside Broadcasts. Cameras of the B.B.C. Television Outside Broadcasts Unit visit Ascot during the Royal Meeting.

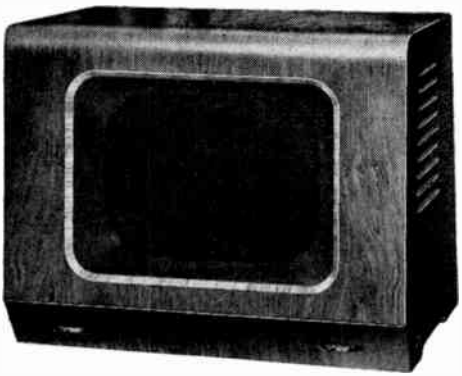
Richard Dimbleby, *Daily Mail* National Television Award Winner of 1951/2, talks to Gracie Fields at the televised opening of the Home Moss Station.

The entertainment offered from the studios themselves covers a very wide range of interests. Plays, which average two or three a week, are among the most popular, but the transmissions include magazine programmes, documentaries, illustrated talks, dance and variety shows, cooking and handicraft demonstrations, fashion parades, ballet and sporting interviews.

One of the most popular items is the Television Newsreel. Five new editions of this appear weekly at present, on Monday to Friday evenings inclusive, and they are produced by the B.B.C.'s own Film Unit, whose cameramen travel throughout this country and Europe, and indeed all over the world. The Film Unit has developed a style of its own which has proved very successful. For viewers who may have missed one of the weekday editions, or who may wish to see a particular item a second time, Sunday evening provides a complete composite edition of the week's five newsreels before the showing of the Sunday play ; sometimes the previous day's (or even two days') reels are televised during the afternoon programmes.

Some of the highlights of television are the outside broadcasts, where the television cameras are taken out to public ceremonies, ice shows, circuses, the theatres, sporting events, etc. During

BLACK SCREEN TV



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the last few years greatly improved apparatus has been available for this purpose, and more events are now being covered, with clear pictures even when the light is very poor indeed. Until recently, the cameras could be taken only to within about 20 miles of Alexandra Palace, owing to the technical difficulties in getting the pictures back there for transmission without distortion. The introduction of portable "microwave" equipment, for relaying the pictures, has greatly widened the outside broadcast horizon, and programmes have been taken from as far afield as Edinburgh, Glasgow, Manchester, Birmingham, Blackpool, Leeds, Nottingham and Calais—the latter making history as the first transmission of a programme televised in another country.

The outstanding achievement so far was the establishment of a television link between Paris and London, which enabled British viewers to see events in the French capital during the week culminating in the 1952 July 14th National celebrations. An outside broadcast which draws a large audience every year is the Oxford and Cambridge Boat Race, where, in addition to strategically-placed cameras on the banks, television cameras are

A famous documentary programme. An Assize Court built in the Studio at Lime Grove for Episode No. 5 of "The Course of Justice."

installed in a motor-boat which follows the crews, so that television viewers see the race from start to finish. Indeed, it is claimed, with some justification, that viewers see more than the spectator who is actually present at a televised ceremony or sports event.

Nevertheless, many of these programmes occur when most viewers cannot be at home, and B.B.C. engineers have invented a method of recording television programmes so that the highlights of the commentaries can be transmitted again during the evening programme. These are called " telefilms " and must not be confused with the special B.B.C. newsreels and other films that are televised.

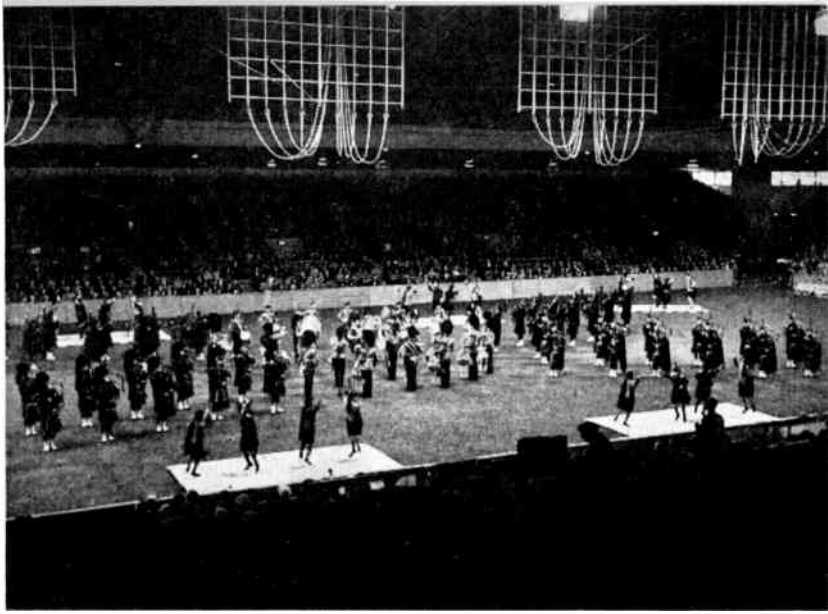
There is virtually no sport that is not televised, programmes including Racing at Ascot, Tennis at Wimbledon, Cricket at Lord's, the Oval and Trent Bridge, Association Football at Wembley and Rugby Football at Twickenham, to name just a few. Now these events will be augmented by others equally important from Wales, the West Country, Scotland and the North.

PLANS FOR 1953

The outside Broadcasting Department has also covered hundreds of public events, including such national occasions as the Coronation Procession of His late Majesty King George VI and Queen Elizabeth, which was the world's first television outside broadcast, the Victory Parade in 1946, the Wedding Procession of Her Majesty Queen Elizabeth II, when Princess Elizabeth, to the Duke of Edinburgh, the annual Lord Mayor's Show in London, and in February, 1952, the sombre and magnificent Funeral Procession of King George VI through London and in Windsor.

In the spring of 1952 plans were already being made for the elaborate arrangements in connection with televising the events of 1953 at the time of the Coronation of Queen Elizabeth II. Undoubtedly these telecasts will be amongst the most outstanding and historic that have ever appeared on viewers' screens.

Nor are the children forgotten ; indeed, the first Lime Grove Studio adapted for television was that devoted mainly to children's programmes. The early part of every evening, including Sundays, sometimes for as much as an hour is given over entirely to young people. All ages are catered for, with fairy tales and puppets, like the famous Muffin the Mule, for the



Outside Broadcasts. The B.B.C. Television Outside Broadcasts cameras cover the Royal Tournament at Earls Court, London.

5- and 6-year-olds, and competitions, serials, plays, films, music and how-to-do-things programmes, etc., for those up to 16 years old. The children also have their own highly successful Newsreel, which is shown on an average twice a week.

INSTALLATION AND LICENSING

This Handbook endeavours to indicate to intending television viewers, particularly those in the districts served by the Wenvoe station, what they may expect to receive for the financial outlay involved in purchasing a set and a Post Office licence. To this end will be discovered sections devoted to a Map of the potential Television Area, Hints on Installation (including Reception) and Tuning, People Who Matter and Who Provide the Entertainment on Television, Photographs and, finally, a series of twenty of the sort of questions about television which often arise and which have been answered by experts.

The television licence fee amounts to £2, which also covers sound reception. Viewers who already possess a radio set should not wait until the £1 sound licence expires, but should buy a television licence and then claim immediately from the Post Office a rebate on the unexpired portion of the sound licence.

One vital point must be borne in mind, however. A television set cannot be casually bought and installed as ordinary sound receivers often are, although there are on the market portable television sets that do not need separate aerials when they are used in favourable locations not too far from one of the transmitting stations. In general, it is hardly an exaggeration to say that the aerial is one of the most important parts of a receiving installation, and the reader is referred to the chapter " Hints on Installation and Tuning," particularly that part of it which deals with the different kinds of aerials required in varying circumstances. For instance, the familiar H-aerial is by no means the only type, and in many locations this kind is unnecessary or even unsuitable.

RECEPTION

Because of the peculiar behaviour of the very short waves that are necessarily used for television, it is not possible to define the service area of a television station simply in terms of distance from the station. These waves do not bend over the crests of hills in their path as readily as longer waves do, and consequently there are " shadow-zones " on the remote sides of hills. It is, therefore, quite possible for reception to be poor in some place unfavourably located on low ground, whatever precautions are taken, while reception is good at places twice as far from the station but situated on high ground.

However, generally speaking and except for isolated " bad spots," Wenvoe, particularly when it is working at full power, should—over considerable areas—offer television reception that is up to the high standard provided by the other transmitting stations in the British network. But to ensure that from the beginning the maximum advantage is obtained from this fact, viewers are recommended to purchase their receivers from experienced local television agents who, as well as being handy for carrying out the normal maintenance which is necessary from time to time to keep any complicated appliance in tip-top condition, will be well-informed about reception conditions in the locality and will know which aerial arrangements give the best results.

It is very difficult to explain to the layman the principle upon which television operates. It is hoped that the following article, which has this object in view, will succeed in describing in straightforward terms . . . .

HOW TELEVISION WORKS

Seeing and Hearing

In order to understand how television works we must first of all realise how seeing differs from hearing. It is not strictly true to say that the eye sees and the ear hears, because what they actually do is to collect information which they pass on to the brain, and the brain interprets this information as the familiar sensations. The best way of expressing the idea is to say that the brain sees through the eyes and hears through the ears, but although seeing and hearing are alike in this respect, they are otherwise very different.

Sounds

Sounds are the results of waves in the air. Anything that is making a sound of any sort is causing air-waves and the sound will be heard if the waves reach someone's ear and in this way can give rise to sensations in his brain. Pistol-shots, musical notes and voices sound different because the air-waves they make are of different shapes. An essential point, however, is that if a variety of sounds are going on at the same moment, the air-waves they make combine together to make a wave of a more complicated shape which conveys to the brain the sensation of all the sounds at once.

Vision

Seeing, however, is a much more complicated process. Any scene is composed of areas of highlight and shadow, and in order to appreciate the scene we must know how these highlights and shadows are placed. Any process similar to that of hearing, which *combines* all the information, would not work, because the highlights and shadows would cancel each other out and the result would be some medium grey all over.

The eye has a lens which throws a tiny image of the scene on to a screen, called the retina, inside the eye. The surface of the

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★ Works excellently from indoor aerial in many areas.

★ The 'Highlight' cabinet is of a typical H.M.V. high standard.

★ A really 'low' price for a receiver providing outstanding performance. Obtainable on convenient terms.

★ Specially engineered to provide lasting dependability.

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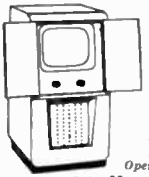

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Model 1816 has all the outstanding qualities of the 'Highlight' Table Model and a beautiful Walnut finish cabinet neatly fitted with doors. Operates on AC/DC mains.

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★ The quality of sound reproduction from the 'face-on' speaker is of the highest order.

★ Either 'Bright' screen or 'Black' screen at will by use of standard filter. (18/- extra).

The 'Tele-Snaps' by John Cura which appear in this publication were taken from an H.M.V. receiver.

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retina consists of a very large number of minute spots each connected by a separate nerve to the brain. These spots are sensitive to light and those where there is a highlight in the image cause a stronger impression in the brain than those where there is a shadow. As the brain is able to appreciate what point of the image each impression represents, it is able to build up the scene at which the eye is looking.

The Microphone

A microphone is like an ear. It is similarly affected by the sound waves in the air, but instead of giving rise to a sensation in the brain it generates an electric wave which is at each instant an exact replica of the air-wave. When there is only a simple musical note being sounded, a simple electric wave is produced, but if a complex mixture of sounds reaches the microphone, the electric wave it produces has a correspondingly complicated shape. All the information is contained in the one wave, however, and it can be sent over a single telephone circuit.

The Television Camera

A television camera is similar to the eye in that a lens throws an image of the scene on to a screen which corresponds to the retina. This screen is called the mosaic and it consists of a mica sheet covered with a very large number of separate, tiny grains of a special substance that has the property of acquiring an electric charge when exposed to light. When the image is thrown on to the mosaic, what we may call an electrical image of the scene is formed, with stronger electric charges where there are highlights and weaker electric charges where there are shadows. Now this electrical image could be transmitted to a distance if we had a separate telephone line from each grain on the mosaic and indeed something rather like this was tried in early television experiments. To get clear pictures with plenty of detail, however, it is necessary to use far too many grains for this to be practicable.

Scanning

This practical difficulty is overcome by the process known as scanning. No attempt is made to transmit the whole of the picture all the time, but it is dealt with piece by piece, the information about their electrical charges—that is to say, their brightness—being sent over a single circuit. At the receiving end a complete picture is built up piece by piece from this stream

of information, each piece being in its correct relative position, despite the very high speed at which the process has to be carried out.

The scanning process is probably most easily understood by considering the problem of having to describe to someone by telephone exactly what is on each page of a book, so that he can make an exact copy. We should read the first line of the first page to him and then tell him to start the second line. Then we should read the words along the second line and tell him to start the third line. In due course we should reach the end of the last line and have to tell him to start a new page.

The television scanning process is remarkably similar, except that it is very much more rapid and quite automatic.

The picture is considered in very thin horizontal slices, which are actually called lines, and a signal is sent which indicates the varying degree of electric charge (that is to say, of brightness) or whether each tiny element of the line is white, black or some intermediate grey, as the scan travels along the line from left to right. The signal corresponding to the brightness of the picture elements is called the picture signal.

The Synchronising Signals

When the scan reaches the right-hand end of a line, a special signal is transmitted, which causes the receivers to go back to the left-hand edge to begin the next line. Similarly, when the end of the lowest line is reached, another different signal is transmitted to cause the receivers to go back to the beginning of the top line to begin the next picture.

Now it will be realised that in this way still pictures and not moving pictures are built up on the receiver screens. Therefore the scanning process has to be carried out extremely quickly, so that the still pictures follow one another at such a rapid rate that the eye, or rather the brain, is deceived and gets the impression of continuous movement. In the British television system it takes slightly less than one ten-thousandth part of a second to scan a line, and the complete pictures follow one another at the rate of 25 per second.

The Cathode-ray Tubes

In order to transmit the information concerning the electric charge on each individual grain of the mosaic, it is necessary to discharge each grain successively and so produce an electric current of proportionate strength, which is subsequently amplified

as the picture signal. If the grains were larger and it were not necessary to scan so rapidly, we might be able to use some sort of metal contact that touched each grain in turn along the lines. The method actually adopted was first put forward by the British scientist, A. A. Campbell Swinton, as long ago as 1908. The mosaic is sealed up inside an evacuated glass bulb which also contains a device called an electron-gun. This electron-gun sprays a steady stream of electrons at the mosaic and the stream is deflected so that it travels along each line in order. A stream of electrons constitutes an electric current and the strength of this current is varied by the size of the electric charges on the individual grains of the mosaic. The varying electric current constitutes the picture signal.

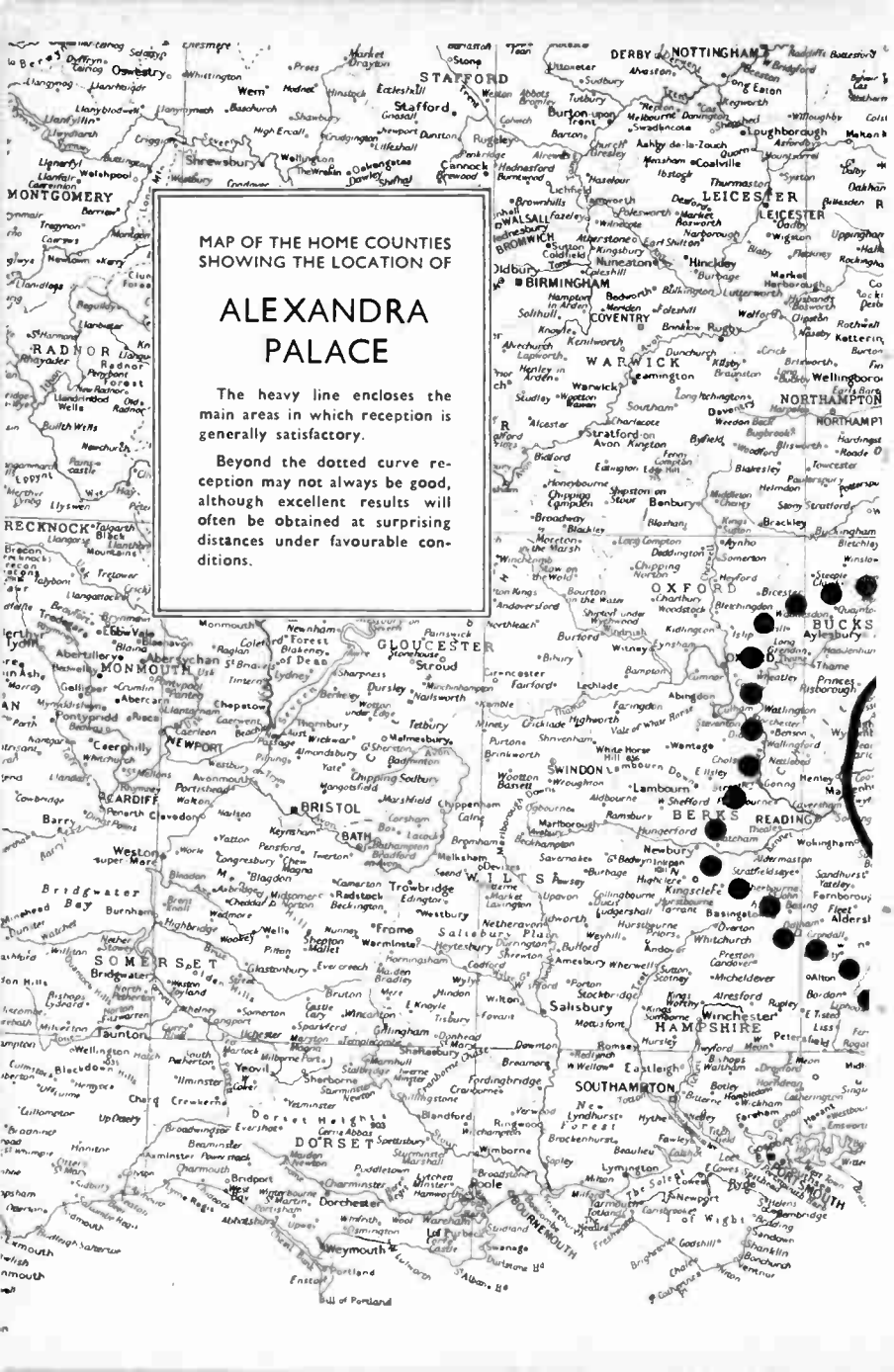
At the receiving end another electron-gun in an evacuated tube is used—this is the now-familiar cathode-ray tube. The flat end of the tube opposite the gun is coated with a fluorescent material that glows when electrons strike it, and the stream of electrons is deflected under the control of the synchronising signals so that it follows exactly in sympathy with the scanning in the television camera, starting each new line and each new picture at exactly the right instant.

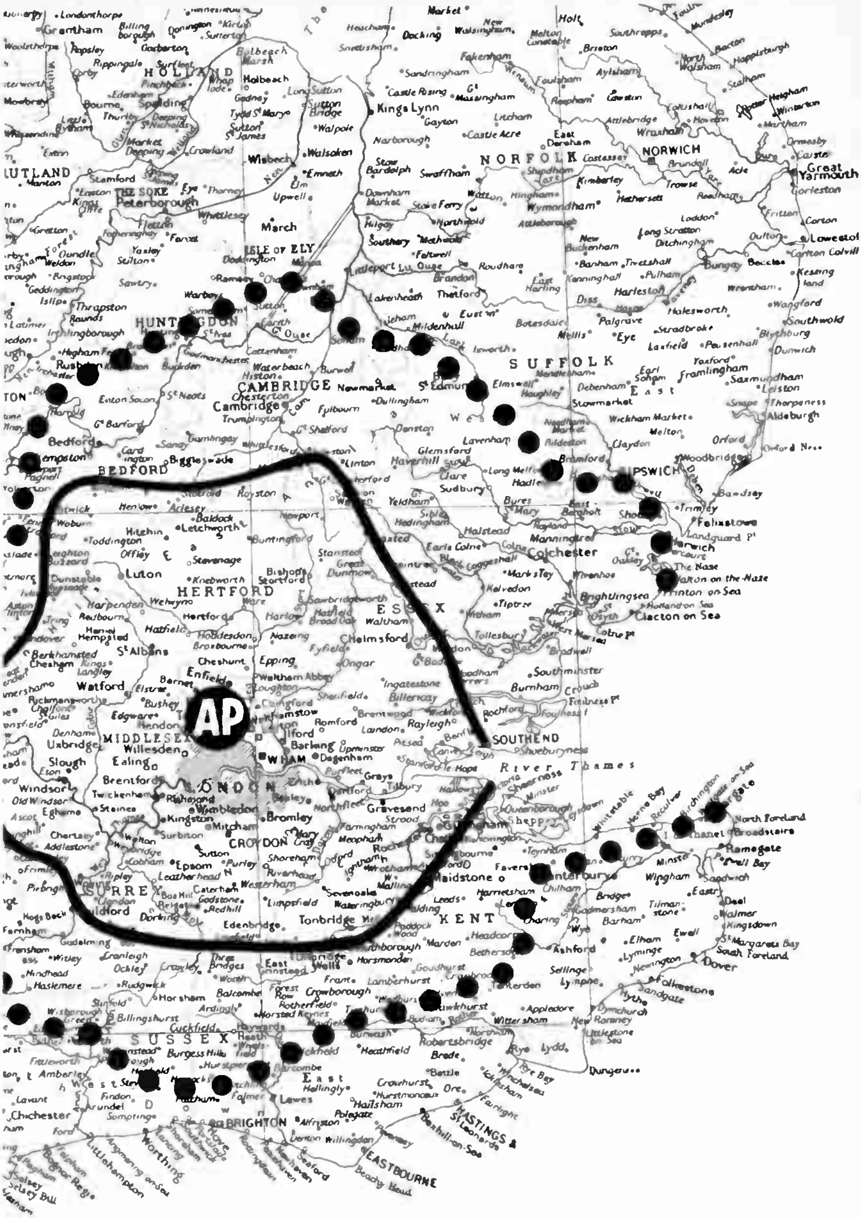
The strength of the electron stream is varied in accordance with the received picture signal and the fluorescent screen is thus caused to glow brightest when there are highlights in the original scene, remain dark where the scene is black and reproduce the intermediate greys proportionately.

The Radio Transmission

In this description we have assumed that the picture and synchronising signals are sent from the camera to the receiver over telephone lines. In television broadcasting they are conveyed in this manner to a radio transmitter, where an aerial radiates waves pulsating in sympathy with the picture and synchronising signals. These waves are picked up by the receiving aerial, led to the receiver and there they control the movement and brightness of the spot on the screen, exactly as explained above.

These processes welded together thus produce the seeming miracle of modern entertainment allied to science, called Television.


MAP OF THE HOME COUNTIES
SHOWING THE LOCATION OF
ALEXANDRA
PALACE
The heavy line encloses the main areas in which reception is generally satisfactory.
Beyond the dotted curve reception may not always be good, although excellent results will often be obtained at surprising distances under favourable conditions.
DERBY
NOTTINGHAM
STAFFORD
LEICESTER
BIRMINGHAM
COVENTRY
WARWICK
OXFORD
GLOUCESTER
BRISTOL
BATH
SWINDON
READING
SOUTHAMPTON
WINCHESTER
HAMPSHIRE
SALISBURY
DORSET
SOMERSET
MONMOUTH
NEWPORT
CARDIFF
BOURNEMOUTH
Bull of Portland



Grantham
HOLLAND
Holbeach
Spalding
Kings Lynn
Holt
NORFOLK
NORWICH
Great Yarmouth
Lowestoft
RUTLAND
Stamford
Peterborough
Wisbech
March
ISLE OF ELY
Thetford
HUNTINGDON
SUFFOLK
CAMBRIDGE
Cambridge
Newmarket
Bedford
BEDFORD
Southwold
Aldeburgh
IPSWICH
Felixstowe
Harwich
Colchester
Clacton on Sea
HERTFORD
Luton
Letchworth
Stevenage
St Albans
Watford
ESSEX
Chelmsford
Epping
Enfield
AP
MIDDLESEX
Uxbridge
Slough
Ealing
Windsor
LONDON
Romford
SOUTHEND
River Thames
Gravesend
Bromley
CROYDON
Sheppey
Thanet
Margate
Ramsgate
Canterbury
Maidstone
KENT
SURREY
Guildford
Dorking
Edenbridge
Tonbridge
Ashford
Deal
Dover
Folkestone
SUSSEX
Horsham
Crowborough
Lewes
BRIGHTON
Worthing
Chichester
Hastings & St Leonards
EASTBOURNE
Dungeness

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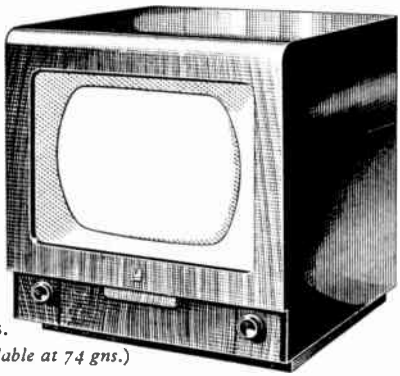

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HINTS ON INSTALLATION AND TUNING

PART I: AERIALS

The Receiver

Installing the television receiver itself involves little more than putting it in a convenient place in the room and connecting its mains cord to a suitable electric-supply socket. The best place for the set is one where the light from the windows cannot fall directly on the screen and, if possible, one which can readily be seen while the family sits round the fireside.

The Aerial Cable

The receiver has to be connected to the aerial by a special cable. There are two kinds in common use, one is called a " balanced pair " and the other a " co-axial " cable. The instruction book provided with the set, or the dealer who supplied it, will indicate which kind will be the most suitable. The cable can be installed in any convenient manner, and although it should not be any longer than essential, it is not necessary to keep it away from the walls, etc., as is normally done with ordinary radio aerial lead-in wires.

The Aerial

The choice of the correct type of aerial and the best position for it often makes all the difference between excellent and mediocre pictures.

The basic television aerial is called a " dipole," and it consists of a metal rod, tube or wire, divided at the centre point, the down-lead cable being connected across the gap at the centre. The length of the dipole has to be a little less than half the wave-length of the transmission it is desired to receive. The following table gives recommended dipole lengths for all five stations whose wavelengths have been fixed :

Recommended over-all lengths for simple receiving dipole aerials

Alexandra Palace	10′ 5″
Holme Moss	9′ 4″
Kirk o'Shotts	8′ 7″
Sutton Coldfield	8′ 0″
Wenvoe	7′ 2″

The dipole also has to be parallel to the transmitting aerial, and as all the above stations have vertical aerials, the receiving dipoles also have to be mounted vertically.

Viewers living within a few miles of one of the transmitting stations will only need the simple dipole, unless local interference is unusually severe. Quite close to a station the aerial need not be outside, and there are on the market several kinds of dipoles for installing indoors. In the usual way, however, the best arrangement is an outdoor dipole and this should be mounted on the side of the house nearest the transmitting station, or better still on a chimney stack. Near the station it is possible for a good aerial to pick up more energy than the set needs, even when

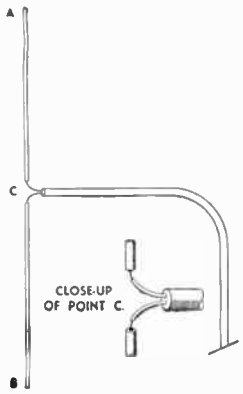

FIG 1.

A Simple Dipole Aerial with Co-axial Aerial Cable

The length A—B must be as in the Table. The inner wire of the cable is connected to one half of the dipole and the outer sheathing is connected to the other. Run the cable horizontally until it is at least half the over-all dipole length away from the centre point C.

it is adjusted to its least sensitive condition. This can do absolutely no harm to the set, and the difficulty is easily overcome by connecting a cheap and simple device called an " attenuator " between the down-lead cable and the set. Any radio service-man can make a suitable attenuator for a shilling or two, and a good aerial with an attenuator gives clearer pictures than would be given by a less efficient aerial.

At longer distances from the transmitting station, or in locations where reception is affected by some particular source of interference, a more complicated aerial may be used. The commonest is called a " dipole with reflector," the now-familiar H-aerial. It consists of a dipole, exactly as described above, and another

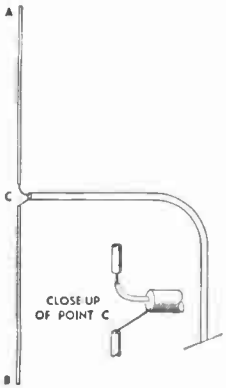

FIG II.

A Simple Dipole Aerial with Balanced-pair Aerial Cable

The length A—B must be as in the Table. One of the inner wires of the cable is to be connected to one half of the dipole and the other inner wire to the other half of the dipole. The outer sheathing, if metallic, may be connected to earth.

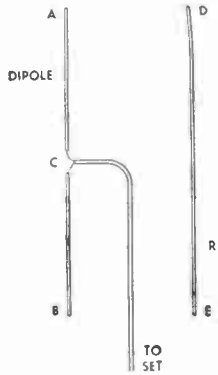

FIG III.

The Essentials of the H-Aerial

The lengths A—B of the dipole and D—E of the reflector are each as given in the Table. The spacing between them should be between $\frac{1}{4}$ and $\frac{1}{2}$ of the recommended dipole length in the Table.

The dipole is connected to the cable in either of the usual methods, but the reflector does not need to be connected electrically to anything.

rod, tube or wire, of about the same length, supported a little distance away from the dipole. *Fig. IV* shows how the sensitivity of such an arrangement is not the same in all directions, and this property is made use of by turning it so that the blind-spot in the backward direction points at the interference to be avoided. Naturally, this feature cannot be utilised if the transmitting station and the source of interference are in more or less the same direction, but it is particularly useful where the pictures are spoilt by what is called a "ghost" or "echo." This takes the form of a second image to the right-hand side of all the objects

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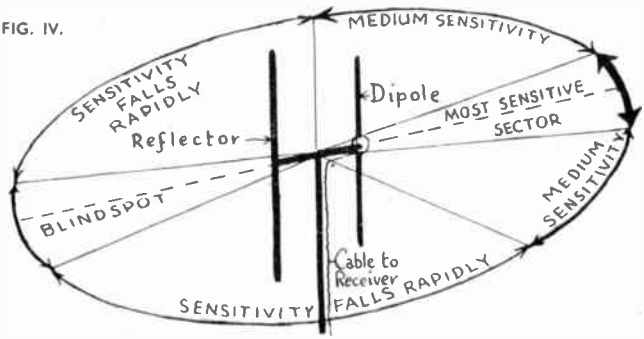
FIG. IV.



Sensitivity diagram of a typical H-shaped aerial

in the scene, and it may be either black or white. Occasionally multiple images are seen.

These ghosts or echoes are due to some of the energy from the transmitting station reaching the receiving aerial after being reflected from some large metal object such as a gas-works, or a metal-framed block of flats or even a hill, in which case it arrives a split-second later than the energy that came direct. In such cases the H-aerial is set up with its blind spot pointing at the gas-works, block of flats or whatever causes the reflection.

Except, as mentioned above, when it is very close to the transmitting station, the most important thing to bear in mind when choosing a location for the aerial is that it should be as high as possible. At longer ranges this is even more vital, and just a few feet of additional height can make all the difference between poor and good results. In the zones where fading is to be expected, a high aerial will not eliminate the fading, but it will make it less severe and less frequent. Furthermore, the stronger signal collected by a high aerial will render interference correspondingly less noticeable.

At still longer ranges, near the margins of the service areas or in shadow zones on the remote sides of hills, etc., it may be helpful to use one of the more elaborate aerials that have been developed for this purpose. These are often called " arrays " and consist of various arrangements of vertical rods in addition to the dipole itself. At such ranges height is extremely important, but it is sometimes found difficult to support these elaborate arrays, which are necessarily rather heavy and have considerable wind resistance, sufficiently high above the ground, so that an H-aerial

which can be mounted higher without difficulty may give results at least as good. Some arrays are very sensitive, but no aerial can do anything about a signal that fades almost to nothing, and one must not expect them to produce good pictures at extreme ranges. Nevertheless they can, and often do, make an entirely unsatisfactory picture tolerable on occasions.

Home-made Aerials

Many correspondents have complained of the high prices quoted by dealers for installing aerials. Actually, of course, the price of television aerials, especially the newer lightweight models bought over the counter, is quite moderate. The cost is made up by transportation, labour charges, insurance against damaging your house while working on the roof and last, but not least, some provision for the possibility of having to come again to reset the aerial after a day or two. This is because it cannot often be known in advance whether there will be any ghosts or echoes, or local interference, and if they occur the aerial may have to be turned, or even moved across to the other side of the roof, to get rid of them. For the same reason, dealers naturally find it better to quote for a dipole and reflector rather than a simple dipole, just in case the " blind-spot " feature turns out to be required in the particular installation.

The various aerials now available in radio dealers' shops have been tested and proved efficient over many years, and the great majority of people installing sets prefer to depend upon these. However, a reasonably competent handy-man can install an aerial for himself, provided he is prepared to find the best place for it by hit-and-miss methods, unless he has a technical friend who can give him a lead. It is also not difficult to make the aerial itself, but, except very close to the station, the special cable will have to be bought.

How to Construct a Loft Aerial

Viewers living within a few miles of a transmitting station who wish to try their hands at making their own aerials should attempt, first of all, a loft dipole. The cost is negligible and, should it prove inadequate, very little is wasted.

Screw an insulated hook upwards into the wooden beam under the ridge of the roof, in a place where there is as little obstruction as possible by chimneys or higher parts of the building in the direction of the transmitting station. Hang from this a length of insulated wire with a small " egg " insulator on the end, so that

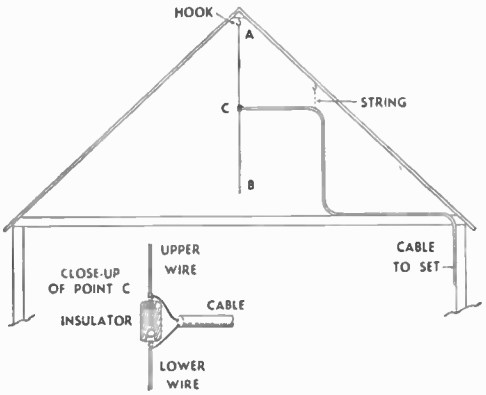


FIG. V.
A Simple Wire Dipole Aerial in the Loft
The length A—B is to be as in the Table.

the distance from the hook to the insulator is half the length of the dipole shown in the table. Take another length of insulated wire, of the same length as the first, and fix it to the lower side of the insulator and let it hang down. If the loft is not high enough for it to hang clear of the floor, lay the extra length along the floor in the direction of the transmitting station. This completes the aerial.

Now lay the special cable by the most direct route from the receiver to the egg insulator, but be careful that it approaches the insulator horizontally. It can usually be kept in place by one or two strings hung from nails in the roof woodwork, and a thin stick can be tied to the cable to hold it straight. If possible, it should approach the insulator from the direction opposite to the station, and the horizontal length should be at least half the dipole length.

It now remains only to connect the cable to the aerial. If a balanced-pair cable is used with your particular set, separate the two wires and connect one to the upper dipole wire and the other to the lower dipole wire. If a co-axial cable is used it will be found that it consists of a central wire surrounded by a screen usually made of copper braid. It is necessary only to work the screen back a short distance to expose the central wire, and then to join the inner wire to one dipole wire and the screen to the other dipole wire. If the distance between the dipole and the receiver is only a few yards, ordinary 15 amp. twin flex can be used as a balanced pair cable, but for longer distances it is better to use the correct type of cable.

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Earth Connections

A dipole aerial combines the functions of both the aerial and the earth of an ordinary receiver, so no separate earth connection is required with a television set for reception purposes, but a television set is a mains-supplied electrical appliance and, as such, a connection to the earth socket of the electric mains is required as a safety measure. The instruction booklet supplied with the set will explain how this should be connected.

How to Erect an Outdoor Dipole Aerial

If it is found that a dipole in the roof space is not good enough —for instance because the pictures have insufficient contrast or

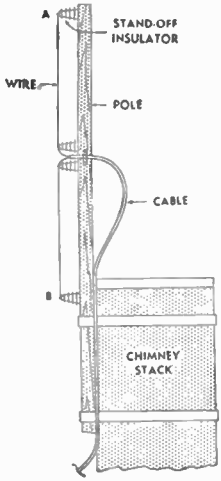

FIG VI.
A "Home-made" Dipole Aerial
The distance A—B is as given in the Table.

there are ghosts or echoes—exactly the same arrangement as described above could be used, hanging from a wooden bracket attached to the eaves or elsewhere on the side of the house nearest the transmitting station. A better method is to erect a wooden pole on the roof ; a good method is to fix it to a chimney stack. This pole should carry four small " stand-off " insulators —these can be bought at any radio shop—one sticking out sideways at the top and another below it so that the distance between them is the recommended dipole length given in the table. The

other two insulators go close together midway between the first two. Now fix two lengths of wire, one between the top insulator and the upper of the middle pair, and the second between the bottom insulator and the other middle one. The cable is joined to the two dipole wires at the centre exactly as before, but as it is not usually practicable to carry it away horizontally, a loop of cable should curve away from the pole and be tied to it lower down. Take care that it is firmly supported at the centre so that it does not break away in the wind, and wrap the joints with insulating tape so that water does not get into the cable.

Building an H-Aerial

For locations where the directional properties of the H-aerial can be utilised, such an aerial can fairly easily be contrived by erecting a pole with two crossbars, one at the top and the other far enough below the first for a dipole, as described above, to be slung between the extremities of the two crossbars. The length of the crossbars should be about one-third of the dipole length given in the table. The reflector consists merely of a wire of the dipole length, or a few inches longer, suspended between the other extremities of the crossbars. It does not have to be connected electrically to the dipole or the cable, and no special care

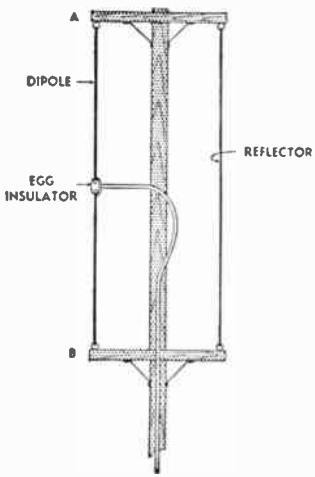

FIG. VII.

A "Home-made" H-Aerial

The length A—B is as in the Table. The connections at the centre of the dipole are exactly as shown in Fig. V, but they must be made weather-proof.

need be taken to insulate it. Its function is to screen the dipole from interference arriving from one direction.

Interference

It is probably true to say that interference is the factor that accounts for more cases of unsatisfactory television reception than any other cause. Some forms of interference can be dealt with at the source, and when the Postmaster-General shortly puts into effect the regulations to control radio interference which the Wireless Telegraphy Act, 1949, empowered him to make, it will be an offence to use any electrical appliance or machine that causes excessive interference.

In the meantime, the Post Office engineers will help viewers to identify the cause of interference and will show the users of the offending apparatus how to minimise the risk of interference. A form of application for this free advisory service can be obtained from any main Post Office, or by writing to the local Telephone Manager.

Although much can be done to obviate interference from many kinds of electrical apparatus, there are unfortunately some kinds that present special problems, and viewers who live close to these may themselves have to adopt special precautions to reduce it to a tolerable level.

The effect of any type of interference is naturally more severe for viewers who live rather far from the transmitting station, as the wanted signal is weaker, so that the receiver has to be adjusted to a more sensitive condition which makes it correspondingly more susceptible to interference of every kind.

Viewers who live beyond the real limit of reliable reception—and a surprising number of television sets appear to be in use in these conditions—are occasionally affected by quite another kind of interference. This comes from distant stations using the same wavelengths, but normally out of range. Due to special atmospheric conditions, the very short waves are sometimes enabled to travel very much longer distances than normal, so that mutual interference results. On account of the shortage of suitable wavelengths, it is not possible to avoid this sharing of wavelengths on a geographical basis ; a well-known case of this interference affects the Alexandra Palace and Paris stations.

Even less frequently—actually for about two hours in the afternoons of two winter months for two or three years in each eleven-year sunspot cycle—waves about 7 metres long can travel

some 2,000 miles, and when this happens viewers in the fringe area of Alexandra Palace may get interference from United States broadcasting and police transmissions. At the same time, of course, Alexandra Palace interferes with these American services. The last time this happened, the American station that caused most of the interference agreed to close down during the B.B.C. afternoon television programmes.

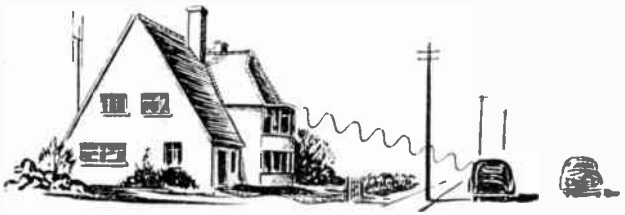

FIG. VIII.

Before the Post Office engineers can investigate a complaint of interference, the viewer must make sure that his aerial is properly installed, because a wrongly-located aerial can easily account for excessive interference. In general, the higher the aerial the less risk there is, but when interference from motor vehicles is the chief trouble it is often possible to overcome it by locating the aerial so that some part of the house acts as a screen between the aerial and the cars. (*See Fig. VIII*).

HINTS ON INSTALLATION AND TUNING

PART II : TUNING

The Controls

Strictly speaking, the viewer does not have to tune his television set, for as there is usually only a single programme being broadcast, and very few viewers are so located as to be able to receive satisfactorily from more than one station, each set is tuned by the maker or the dealer to the transmitter that gives the best service in the particular district. The control knobs provided are for adjusting the shape, size and position of the picture, to correct its tonal values and to control the volume of the sound.

This may sound a pretty formidable list of knobs, but in practice some of them are set once and for all, some need attention only very rarely indeed, while others have to be used more often. For this reason most makers have located most of the knobs inside or at the back of the set. These are adjusted by the serviceman who installs the set and the owner can, as a rule, forget them. Some makers have left only a single vision control readily available to the user, and while this arrangement is perfectly satisfactory in a favourable location, it is less convenient if the local electricity voltage fluctuates or if the television signal is subject to fading in that locality.

Adjusting the Brightness and Contrast

Most television sets, however, have two knobs marked "Brightness" and "Contrast," and as soon as possible the new owner should learn the simple routine for using these, as if these two are adjusted incorrectly, unsatisfactory reproduction is almost certain to result.

First of all, however, one important rule for viewers must be stressed : Do not make any adjustment unless you are quite sure that it is necessary and always give the set time to warm up beforehand. *Any adjustment you make while the set is warming up will probably be wrong.* Furthermore, it takes considerable practice to adjust a set correctly while a programme is in progress, so do it while the Tuning Signal is being transmitted. This lasts for about five minutes before each programme.

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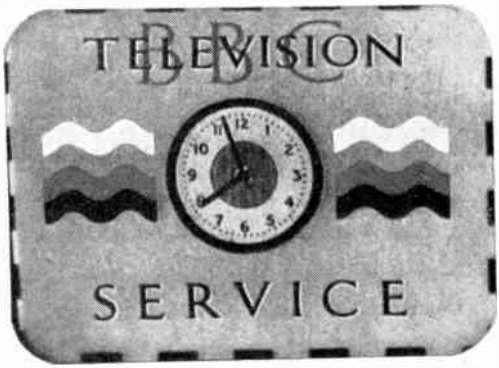
It must be assumed here that the picture size, shape and position have already been adjusted by the dealer, and that they are at least nearly correct after the set has been working for a few minutes. Then, the *first time* you adjust the set, or on any occasion afterwards *when the knobs have been disturbed*, follow this routine :

(*i*) Switch the receiver on about 15 minutes before the programme is due to begin, and turn down both the brightness and contrast controls as far as they will go.

(*ii*) After about ten minutes the set should be warm enough internally for setting the controls. The screen should appear blank and dark. Slowly turn up the brightness control until the faintest possible glow appears on the screen, and then turn it very slightly down again until this glow just fades out.

(*iii*) Now turn up the contrast control, again quite slowly, (always move any of the controls on a television set slowly, because the full effect of the adjustment sometimes takes a second or two to appear) until the highlights of the Tuning Signal glow full white. The Telesnap below shows the present form of the Tuning Signal, and it will be seen that the white parts are the uppermost patterns on either side of the circle. The two patterns immediately below these are light grey, and you will have turned the contrast up too far if these, too, are nearly white. This last is a very common maladjustment, and it causes the picture to lack detail—the features of actors' faces are lost, for instance, as shown in Telesnap No. 3 (*See Page* 50).



(*iv*) Next, go back to the brightness control and see whether it needs to be turned up—very little should be needed to secure good contrast between the two lowest patterns on each side of the circle. Maladjustment here will cause either a lack of detail in the shadows, the picture generally being too dark, as in Telesnap No. 2, or if the brightness is turned up too high a light grey fog all over the picture, as shown in Telesnap No. 1 (*See Page* 50).

(*v*) As the brightness and contrast controls react on one another to a certain extent, go back to the contrast control and make any slight final adjustment needed to get the right contrast between the light grey and white.

The Focus Control

If the set has a focus control, adjust this so that the horizontal lines that form the picture stand out as crisply as possible. The pattern in the centre of the clock should then appear as a series of upright black and white stripes. If these stripes are not clear the set cannot reproduce the full detail of the pictures, and this may be due either to some maladjustment inside the set or to unfavourable local conditions.

Wrongly Adjusted Brightness and Contrast

The point to be stressed is that the brightness and contrast are not independent, and if the brightness is incorrectly adjusted it is possible to find some setting of the contrast control that will tend to compensate for this error, and a reasonably good picture will be obtained, *but only so long as the total amount of highlight in the scene remains unchanged.* If then, your picture goes too dim or too pale on its own, for instance when the scene changes, the probability is that your brightness control is wrongly adjusted.

Refrain from Meddling

We said earlier that it is important to avoid unnecessary adjustments. In particular, if the quality of reproduction was satisfactory when the set was switched off at the end of a programme period, and if the knobs have not been disturbed in the meantime, then it is reasonable to assume that the adjustments will be not very far from correct when the set is switched on again and has warmed up. At the worst, only slight adjustment should be needed. For this reason it is unnecessary in the ordinary way to switch the set on so long in advance of the programme as was

suggested when explaining the routine for initial adjustment, and after a little experience you will know how long it takes your particular set to warm up. Therefore, when you switch on (assuming the adjustment was correct when you last switched off) do not worry if the picture is not right, and above all do not try to correct it. Wait a few minutes and it will probably correct itself.

Fading

It must be added here, however, that the above only applies fully to viewers who live in the true service areas of the transmitting stations. Beyond these, as explained previously, the signal will be subject to considerable fluctuations of strength under the influence of the weather, and these may necessitate resetting the receiver.

The Other Controls

So far we have confined our remarks to the brightness, contrast and focus controls. It may happen, however, for one reason or another that the shape of the picture is obviously distorted, or it may not fit the frame. If this is the case, it is best to consult the instruction booklet provided with the set, which will explain where these controls are to be found on your model, and how they are to be used.

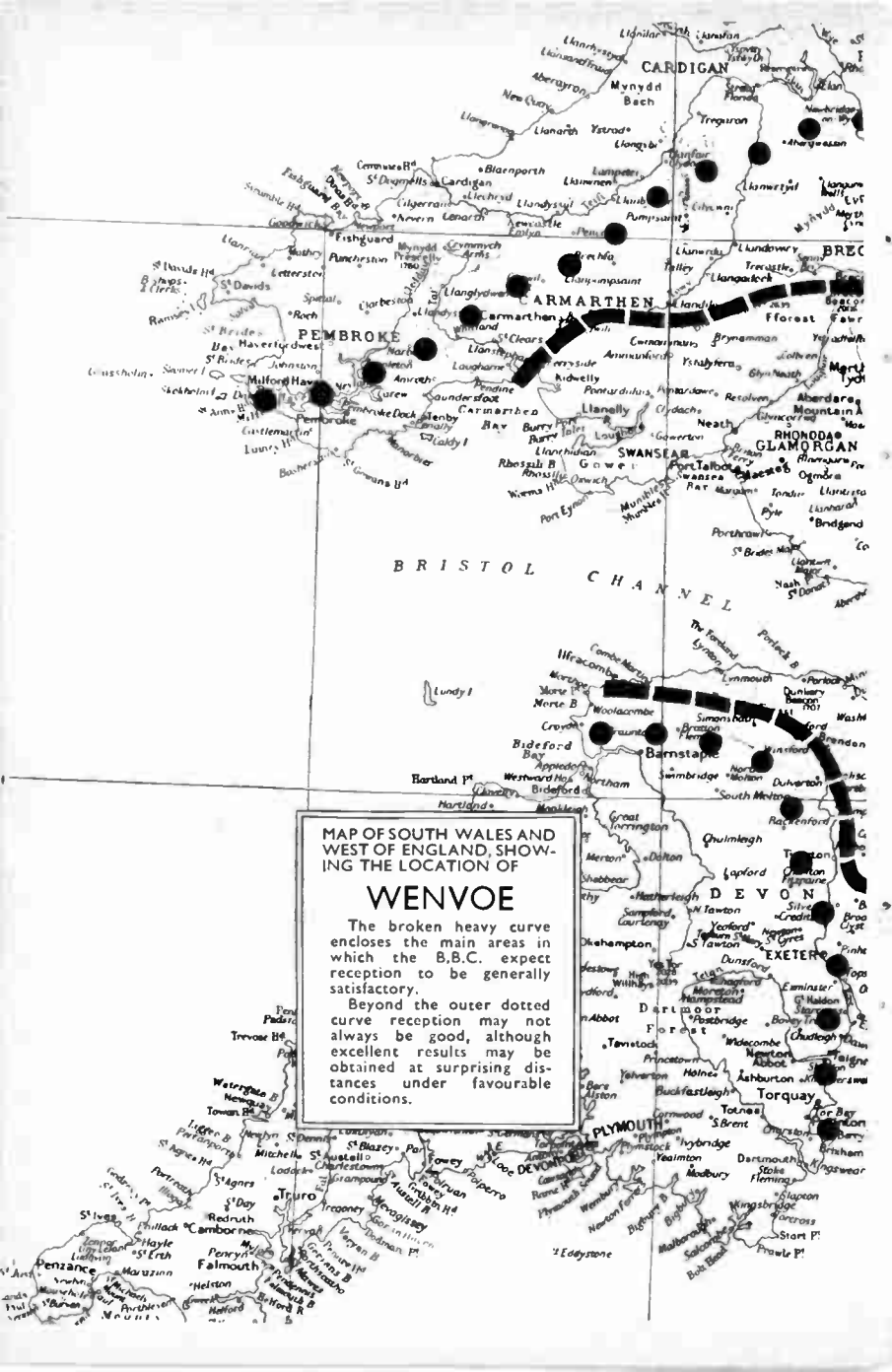
The Shift Controls

As their name implies, these controls are used for shifting the picture bodily. Use them only during the transmission of the Tuning Signal and contrive to get the clockface exactly in the centre of the screen.

The Height and Width Controls

Their use is self-evident. Having centred the picture, adjust the width so that the sides of the picture just fit within the sides of the frame, than adjust the height control so that the clock as reproduced is truly circular.

Having studied the suggestions for control efficiency given above, the reader is recommended to consider the Telesnaps on pages 50 and 51.

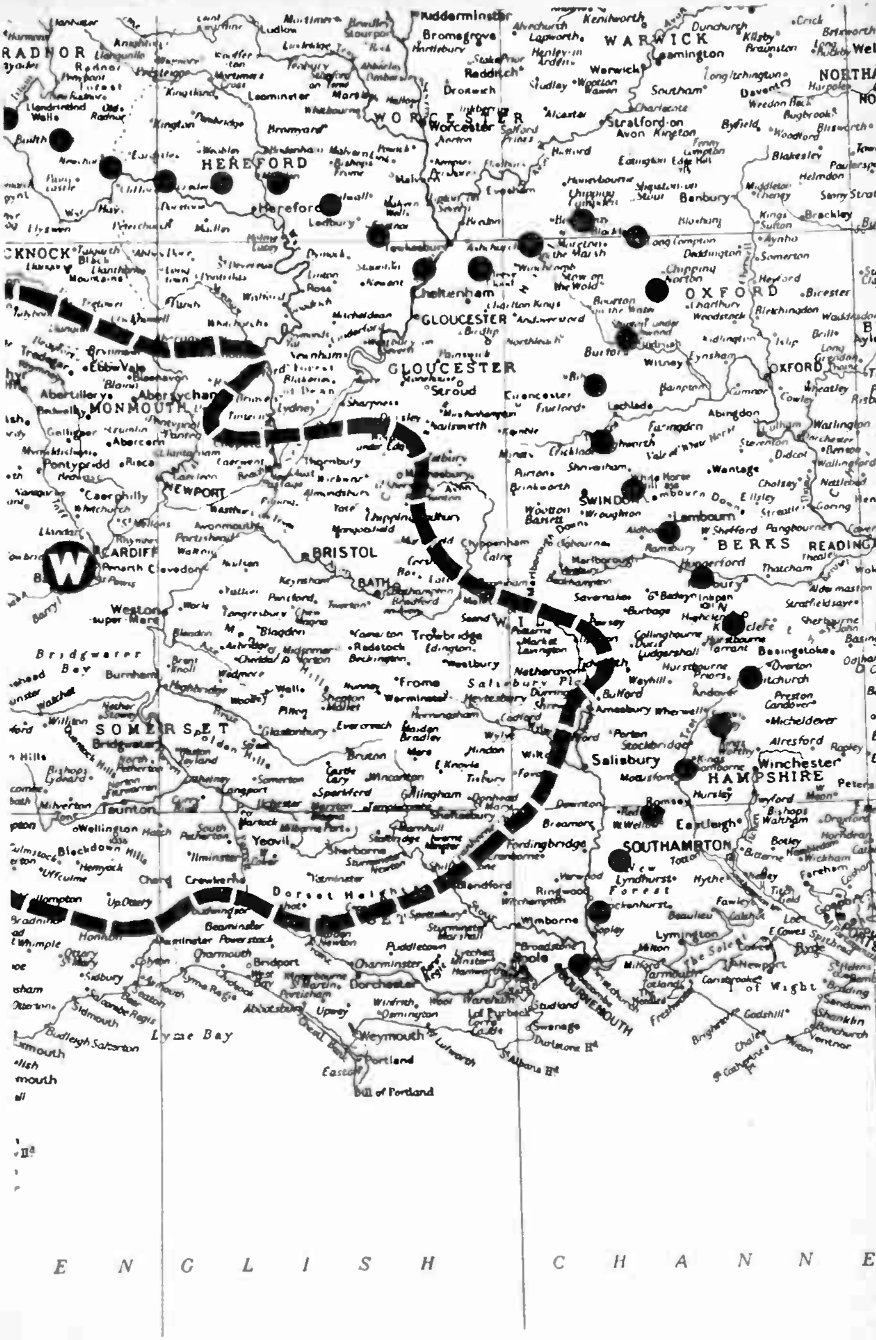


MAP OF SOUTH WALES AND WEST OF ENGLAND, SHOWING THE LOCATION OF

WENVOE

The broken heavy curve encloses the main areas in which the B.B.C. expect reception to be generally satisfactory.

Beyond the outer dotted curve reception may not always be good, although excellent results may be obtained at surprising distances under favourable conditions.


RADNOR
HEREFORD
WORCESTER
WARWICK
NORTHA
OXFORD
GLOUCESTER
MONMOUTH
BERKS
SOMERSET
HAMPSHIRE
Kidderminster
Bromsgrove
Kenilworth
Leamington
Warwick
Worcester
Stratford on Avon
Banbury
Hereford
Ledbury
Cheltenham
Gloucester
Stroud
Cirencester
Abingdon
Wantage
Swindon
Lambourn
Reading
Ebbw Vale
Abertillery
Abersychan
Pontypridd
Caerphilly
Newport
Cardiff
Penarth
Clevedon
Avonmouth
Bristol
Bath
Chippenham
Trowbridge
Westbury
Frome
Weston super Mere
Bridgwater Bay
Burnham
Bridgwater
Glastonbury
Salisbury
Salisbury Pl
Winchester
Basingstoke
Andover
Alresford
Taunton
Wellington
Yeovil
Ilminster
Crewkerne
Blackdown Hills
Dorset Heights
Beaminster
Bridport
Dorchester
Weymouth
Portland
Bill of Portland
Lyme Bay
Sidmouth
Budleigh Salterton
Exmouth
Poole
Bournemouth
Wimborne
Ringwood
Fordingbridge
Southampton
Eastleigh
Lymington
Lyndhurst
New Forest
I. of Wight
The Solent
Swanage
Blandford
Shaftesbury
Gillingham
Warminster
Amesbury
Stockbridge
Romsey
Hythe
Fareham
Hurstbourne Priors
Micheldever
Winchester
W
E N G L I S H C H A N N E

FAULT DIAGNOSIS TO

1. Effect of setting brightness control too high

These telesnaps have been taken exclusively for this book by Mr. John Cura. They show the effects on your television screen of maladjustment of the control settings and of outside interference, i.e., motor vehicle ignition, transmitting stations in the vicinity and electro-medical apparatus.

2. Effect of setting brightness control too low

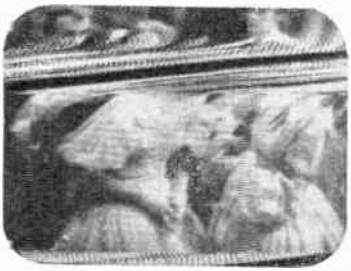
3. Effect of setting contrast control too high

4. Effect of setting contrast control too low

5. Effect of interference from another transmitting station

IMPROVE YOUR RECEPTION

Should outside interference be severe and beyond the control of set owners, Post Office engineers will advise on how to minimise the effect. A form for free advisory service can be obtained from your main Post Office, or by writing to the Local Telephone Manager.
(See page 41.)



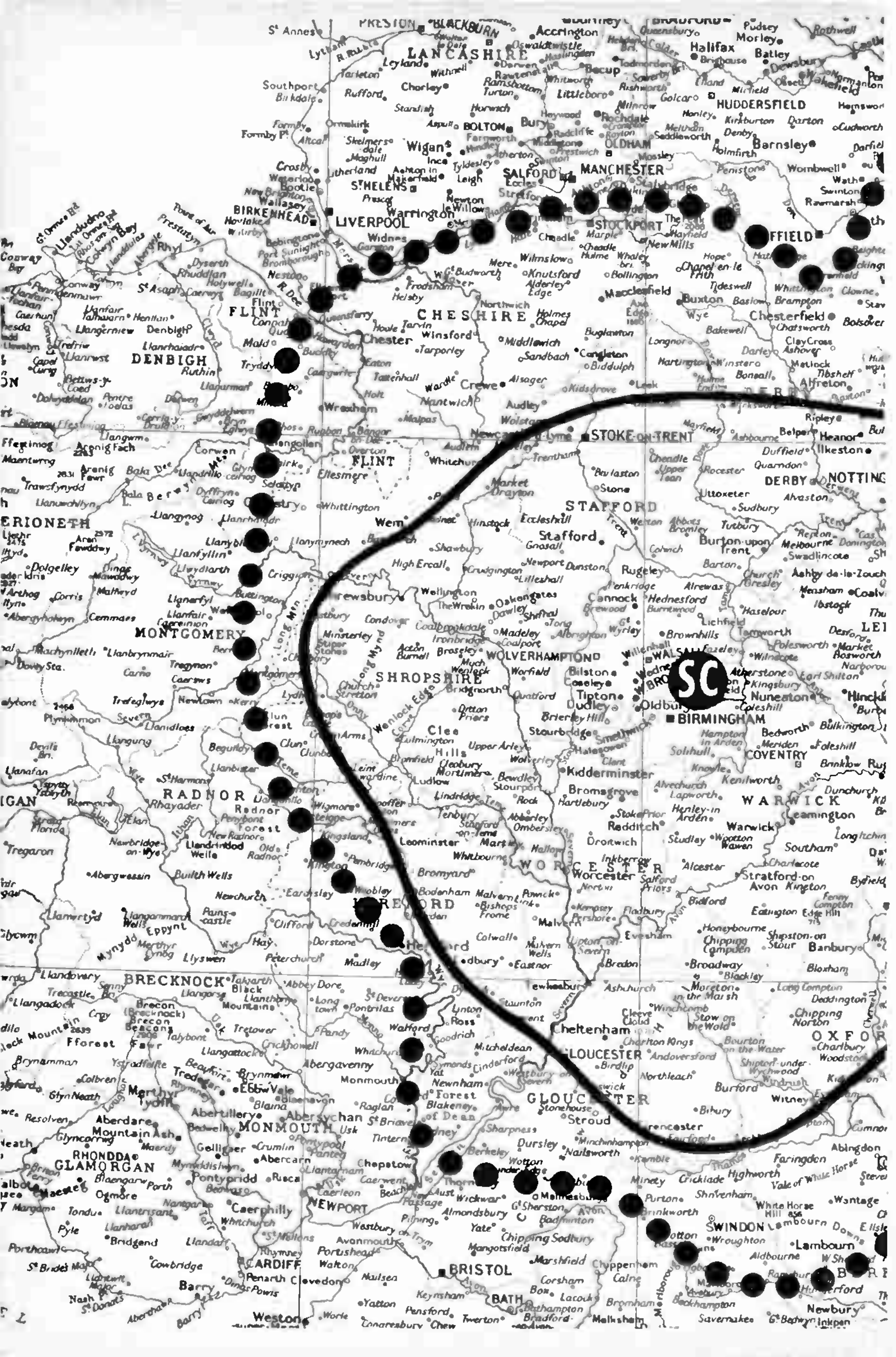
6. Effect of local interference—electro-medical apparatus

7. Effect of interference—motor vehicle ignition

8. Picture height control requiring adjustment

9. Picture width control requiring adjustment

10. THE PERFECT TELEVISION PICTURE



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BLACKBURN
LANCASHIRE
Accrington
Halifax
Morley
Batley
Dewsbury
HUDDERSFIELD
Barnsley
Southport
Chorley
BOLTON
Bury
Wigan
Rochdale
OLDHAM
MANCHESTER
SALFORD
ST HELENS
Warrington
BIRKENHEAD
LIVERPOOL
Widnes
STOCKPORT
SHEFFIELD
Rhyl
St Asaph
FLINT
Conway
Denbigh
DENBIGH
Ruthin
Mold
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Winsford
Northwich
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Chesterfield
Crewe
Congleton
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STOKE-ON-TRENT
FLINT
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Whitchurch
MERIONETH
Dolgelley
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Burton-upon-Trent
Wem
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MONTGOMERY
Welshpool
Wellington
Cannock
Lichfield
Walsall
WOLVERHAMPTON
SHROPSHIRE
Bridgnorth
Dudley
Tipton
Oldbury
BIRMINGHAM
Nuneaton
SC
Coventry
Newtown
Llanidloes
Clee Hills
Ludlow
Kidderminster
Bromsgrove
Redditch
WARWICK
Warwick
Leamington
RADNOR
Rhayader
Knighton
Leominster
Bromyard
Tenbury
WORCESTER
Worcester
Stratford-on-Avon
Builth Wells
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HEREFORD
Hereford
Malvern
Evesham
Ledbury
Tewkesbury
BRECKNOCK
Brecon
Abergavenny
Monmouth
Ross
Cheltenham
GLOUCESTER
Gloucester
Merthyr Tydfil
Aberdare
MONMOUTH
Chepstow
Stroud
Cirencester
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Witney
OXFORD
RHONDDA
GLAMORGAN
Pontypridd
Caerphilly
NEWPORT
Cardiff
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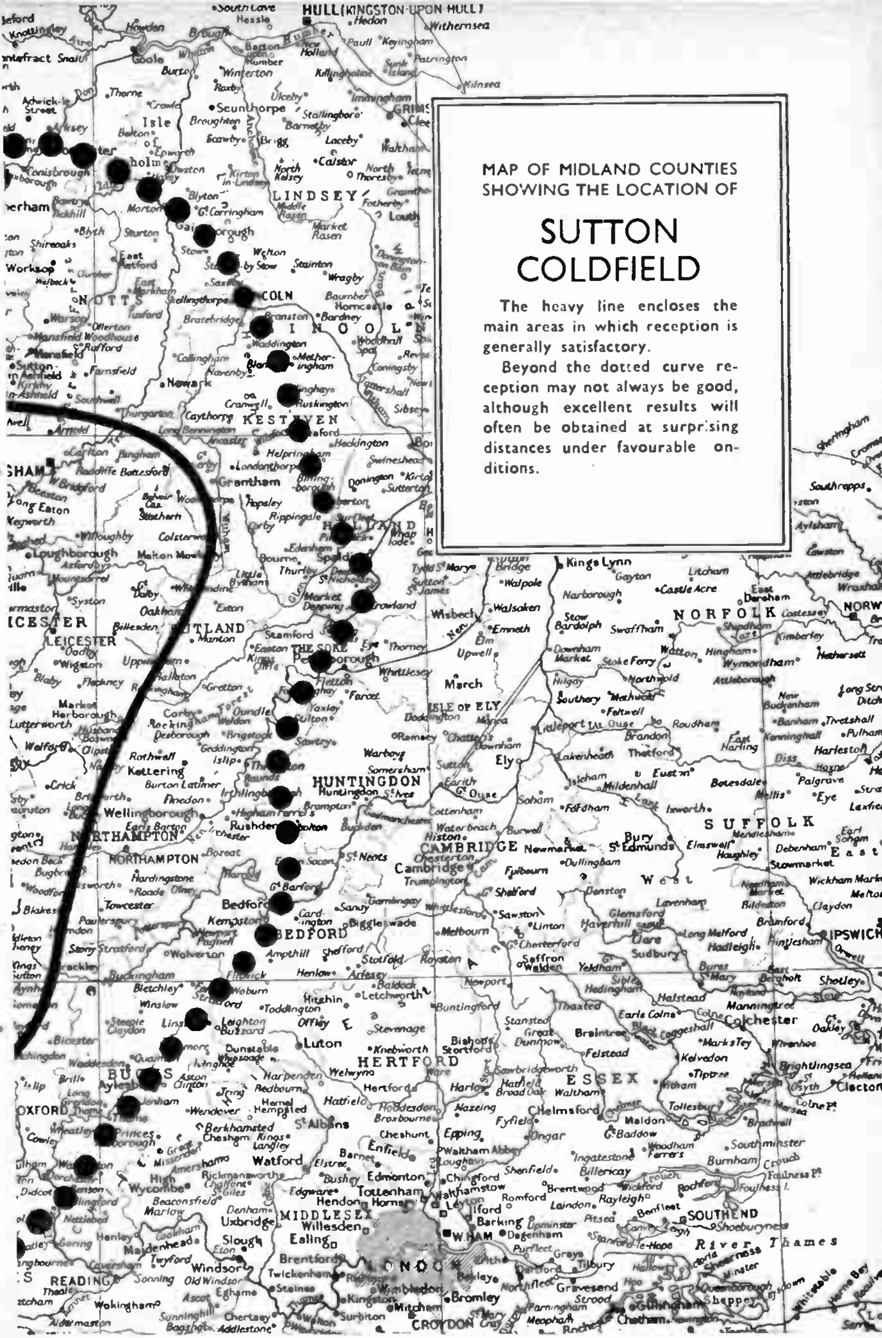
Penarth
Clevedon
BRISTOL
Bath
Chippenham
Malmesbury
SWINDON
Faringdon
Wantage
Lambourn
Hungerford
Newbury
Weston



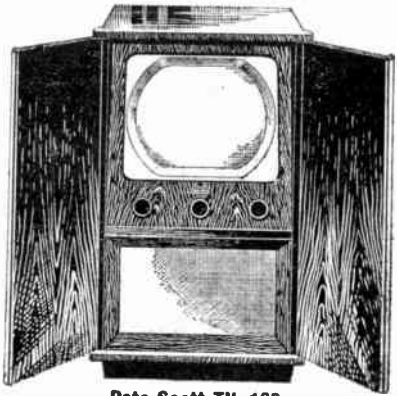
MAP OF MIDLAND COUNTIES SHOWING THE LOCATION OF

SUTTON COLDFIELD

The heavy line encloses the main areas in which reception is generally satisfactory.

Beyond the dotted curve reception may not always be good, although excellent results will often be obtained at surprising distances under favourable conditions.

Great PETO SCOTT



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ON AND OFF THE SCREEN

Well-known Television personalities who contribute to your entertainment.

MARY ADAMS

Head of Television Talks. M.Sc., Newnham College, Cambridge. Joined Talks Staff of B.B.C. in 1930. 1936-39 Producer in Television Service. 1940-41 Director Home Intelligence, Ministry of Information. 1941 B.B.C. Empire programme Producer (Features) and Senior Producer, Television, 1946. Author of " Talks on Heredity " and papers on biological subjects.

MICHAEL BARRY

Head of Television Drama. He has had wide experience in the theatre, including acting and producing in repertory. Joined B.B.C. Television as producer in January, 1938, producing twelve full-length plays before the war, of which his major production was the " Marvellous History of St. Bernard." From 1939-45 served with the Royal Marines, rejoining Television in March, 1946. Since then has produced many successful plays, including " Behold the Man." " Deep Waters," his own play " Promise of To-morrow," and also the much-discussed " Shout Aloud Salvation," with Charles Perrot as co-author. Was appointed to his present post in April, 1952.

PETER BAX

Head of Television Design. Educated at Reading and Derby Technical College, where he studied electrical engineering. Joined the Territorial Army in 1913, and in the 1914-18 war served first with the Royal Engineers and subsequently in the Navy. Continued with electrical engineering and graduated to stage lighting in 1919. With Basil Dean in 1923 and Assistant Stage Manager at Drury Lane, 1924-30. In 1936 joined the B.B.C. and went to Television as Art Director. In Charge of " Programme Parade " from its beginning in 1940 until 1944. Produced the " Brains Trust " in 1944, and in 1946 was appointed Design Manager of the Television Service, becoming Head of Television Design in 1947.

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most wonderful of all when it's

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When television comes to the West, and its wonderful new world opens before your eyes, you will do well to remember that G.E.C. television is most wonderful of all: for from the earliest days G.E.C.'s great background of scientific experience and skill has been building up a great reputation for brilliantly clear picture and sound and unique *dependability*. Ask your approved dealer to give you a demonstration.

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THE GENERAL ELECTRIC CO. LTD.

DOUGLAS CROSBIE BIRKINSHAW

Superintendent Engineer Television. Educated at Oundle and Cambridge. Joined the Research Department of the B.B.C. in May, 1932. Concerned with the development of Television from 1932 to 1935. In 1936 appointed Engineer in Charge of London Television Station at Alexandra Palace and, on the outbreak of war and the suspension of the Television Service, became Engineer in Charge of B.B.C. Short-Wave Station, Daventry, carrying overseas programmes. On 1st December, 1945, was appointed to his present post in Television.

THORNTON HOWARD BRIDGEWATER

Superintendent Engineer, Television Outside Broadcasts. Born 1st June, 1908. Educated at Cranbrook School and Toronto University. In 1928 joined Baird Company and assisted with the development of "30-line" television. Joined B.B.C. when they took this over in 1932. Associated with high-definition service from its commencement at Alexandra Palace in 1936. During war years served in R.A.F.V.R. as Signals Officer, specialising in Radar Navigational Aids. In 1946 returned to B.B.C. as Engineer in Charge of Television Outside Broadcasts. Appointed to present post, with responsibilities for nation-wide outside broadcasts extension, in January 1952.

ALAN CHIVERS

Outside Broadcasts producer. In 1935 was Assistant Stage Manager in repertory and film studios. During this period flew in his spare time. From 1936 to 1938 took up civil aviation, also joining the Auxiliary Air Force. From 1939-45 was in the Royal Air Force itself, first of all in Fighter Command for 2½ years, followed by 18 months as a test pilot, and 12 months as a flying instructor, returning to operational duties until the end of the war. Joined the B.B.C. in 1946 as a Recorded Programme Assistant, becoming a Television Outside Broadcasts producer in May, 1948.

PETER DIMMOCK

Assistant Head of Outside Broadcasts (Television). Born London, 6th December, 1920, and educated at Dulwich College. A member of the Territorial Army, he was transferred to the R.A.F. in April, 1941, for pilot duties, subsequently becoming a Flight Lieutenant Flying Instructor in 1943, and in 1944 a Staff Officer in the Directorate of Flying Training at the Air Ministry. After demobilisation joined the staff of the Press Association, becoming a special Course Correspondent on horse racing. In 1946 joined the B.B.C. Television Service as an Outside Broadcasts Producer and Commentator. Has since produced more than 150 Outside Broadcasts and commentated on even more. In 1947 became Deputy Outside Broadcasts Manager for Television, and in July, 1949, was appointed to his present post.

PHILIP DORTE

Head of Television Films. 1926-30 radio engineer with General Electric Company, Schenectady and Trans-Canada Broadcasting Company, Toronto. 1930-37, Associated Radio Pictures and Gaumont-British Picture Corporation. 1937, Joined B.B.C. as Television Outside Broadcasts Manager. 1939, called up as Signals Officer in R.A.F.V.R., reached rank of Group-Captain, three times mentioned in despatches and awarded the O.B.E. 1946, returned to B.B.C. as Television Outside Broadcasts and Film Supervisor, subsequently achieving his present post.

JOAN GILBERT

Born in Cambridge, joined the B.B.C. in January, 1933, and shared with Brian Michie the job of interviewing people in "In Town To-night." When Television started became interviewer and script-writer for "Picture Page" and later was the Assistant Editor to Cecil Madden on this programme. During the war did a great deal of work in B.B.C. sound broadcasting, being responsible for such programmes as "Calling Gibraltar," "American Eagle Club," etc. On 6th May, 1946, returned to "Picture Page" as Editorial Assistant, subsequently becoming Editor of this very popular programme. Having recently completed a series "Joan Gilbert At Home," she is currently appearing in a fortnightly feature "Week-end Magazine" as well as compering various women's programmes.

McDONALD HOBLEY

Announcer at Alexandra Palace. Apart from normal duties, is the regular interviewer in the fortnightly magazine programme "Kaleidescope" and is an expert at putting people at their ease in front of the television cameras though he confesses he is still nervous himself. Six-and-a-half years in the army, four of them in the Far East. Before the war was an actor and toured the country in various plays under the name of Val Blanchard. Married with one daughter.

J. A. C. KNOTT

Head of Television Administration. Born at Birmingham, 16th December, 1913, and educated privately at Dudley, Worcs, and various technical colleges. After doing Wireless Engineering with the Marconi Wireless Telegraph Co., joined the B.B.C. as an engineer in the Midland Region on the 26th April, 1937. On the 6th April, 1939, joined the Television Service, but was called to the Colours on the outbreak of war, serving in France, Malaya, Burma, China and India, becoming a Colonel in June, 1945, and being awarded the O.B.E. On demobilisation in December, 1945, returned to the B.B.C. as Temporary Executive Assistant to the Director of Television. Was subsequently Administrative Officer, and achieved his present post on 20th October, 1950.

FREDA LINGSTROM

Head of Children's Television Programmes. Joined the B.B.C. in Home News Talks Department, 1942, transferring to Schools Broadcasting in 1943, where her influence has been considerable. The current series of schools broadcasts, "Looking At Things," owed its beginnings to her inspiration. As well as being an artist of distinction, has written several scripts and four novels, and created the well-known Television puppet, "Andy Pandy." Appointed to her present post at Whitsun, 1951.

SEYMOUR JOLY DE LOTINBINIERE

Head of Outside Broadcasts (Television). Born 1905, educated Eton and Trinity College, Cambridge. Called to the Bar where he practised in Chancery at Lincoln's Inn. In 1932 joined the B.B.C. Talks Department and did many Outside Broadcasts commentaries, becoming Head of Outside Broadcasts in 1935. He was made Regional Director in Bristol in 1940 and subsequently became Director of Empire Programmes in 1941. In 1943, became the first Head of the B.B.C. War Reporting Unit and went to Canada as B.B.C. Canadian Representative in that year. Returned to London on the 9th July, 1945, when he was appointed Director of Outside Broadcasting and took Television, as well as Sound, under his wing in June, 1949. Now, since April, 1952, concentrating on Television only.

CECIL MADDEN

Assistant to the Controller of Television Programmes. Produced the very first Television Programme at Alexandra Palace in 1936 ("Here's Looking At You!") and created "Picture Page." Appointed Television Programme Organiser, 1936. Pioneered production of four major B.B.C. services: Empire Service (1934), Television Service (1936), Programmes to Forces Overseas (1940), A.E.F. Programmes (1944). Created and personally produced "Variety Bandbox"—then back to post-war television in 1946. First Head of Television's popular Children's Hour. Playwright, author of ten West End plays, books, films, discoverer of many stars. Appointed to present post, 6th July, 1951. Awarded M.B.E. New Year's Honour's List, 1952.

STEPHEN McCORMACK

Documentary producer. Trained for stage production with Prince Littler. Enlisted in the Irish Guards in 1940. Two years with British Forces Radio, broadcasting from All-India Radio, New Delhi, after being commissioned from Indian Military Academy in 1942. Organised the broadcasting of messages from the Far East Troops to their homes. Joined the B.B.C. in 1946 as Studio Manager, becoming Television Producer in 1947. Past Productions include "Going Places," "Kaleidescope," "Under the Counter" and "Cinderella" with Jack Hulbert, and "First Time Ever." Producer of the famous documentary programme "London Town," which has recently been extended to include country-wide topics under the title "About Britain."

MARY MALCOLM

Television announcer. Born in London in 1918, but as a child spent her holidays in Argyllshire, home of the Malcolm family, and her schooldays in London and the Home Counties. In 1937 she married the actor and dramatic author, Sir Basil Bartlett. In 1942 joined the B.B.C. Home Service as an announcer and transferred to the Overseas Service a year later. In 1948 she joined Television. Lives in West Sussex, and has three daughters —Julia Jane (14), Lucy (11), and Annabel (7). Is one of the "voices" in Children's Newsreel and also does a number of outside broadcast commentaries.

MICHAEL MILLS

Drama producer. Entered the B.B.C. in 1938 as Junior Programme Assistant (Effects Boy). On outbreak of war joined the Royal Navy. Joined B.B.C. Television in January, 1947, as Light Entertainment producer. Has covered every sort of entertainment from Drama to Ballet, Cabaret, Revue, Experimental Programmes, and Parlour Games, etc. Some of his outstanding productions include "Family Affairs," the Lido Show from Paris, the "Regency Room" series, "Consider Your Verdict," etc. Responsible, with Freddie Carpenter who produced the musical numbers, for "The Passing Show," a most successful series of surveys of light entertainment in this country, from 1900 to the present day.

LESLIE MITCHELL

His broadcasting connections date back to 1929. Joined the B.B.C. as an announcer in 1934, and in August, 1936, was appointed Television announcer, resigning in February, 1938, to join the British Movietone Newsreel Company. He continued to do a great deal of B.B.C. work and started a series of successful interviews in the programme "Close-up." Appointed Director of Publicity for Korda—British Lion Pictures—as from January 1st, 1947, but subsequently resigned and returned to British Movietone. Has renewed his interest in Television, however, and is again one of the most popular commentators and interviewers on the screen.

FRED O'DONOVAN

Drama producer. Prior to the war was leading man and producer at Abbey Theatre, Dublin, and subsequently toured the British Isles, America, and Canada with the Irish Players and his own company. Became Director for the Film Company of Ireland, and afterwards continued to act in Oxford and London as well as touring the Continent and South and East Africa. Joined B.B.C. Television and then, during the war, produced for sound radio. Rejoined Television when it started again. Invented and specialises in his "one-camera" technique.

SYLVIA PETERS

Television Announcer, sharing duties with Mary Malcolm. Applied for this job in March, 1947. Did a series of tests for B.B.C. and joined the staff at Alexandra Palace in June, 1947. Appeared as Fairy Queen in Television Panto at Christmas, 1949. Made a short film during the summer of 1950 called "Shooting Stars." This was done in spare time from the B.B.C. On August 28th, 1950, married Kenneth Milne-Buckley, Studio Manager and Producer at Alexandra Palace. Now has a flat in Surrey, furnished mostly with antique furniture. Plays golf, watches cricket, and drives a small and ancient car. Interests also include opera, ballet and the theatre—and criticising Television on own Television set.

MARTIN JOHN LANGLEY PULLING

Senior Superintendent Engineer, Television Broadcasting. Born May 30th, 1906. Educated Marlborough College and King's College, Cambridge. Honours Degree in Mechanical Sciences, Cambridge, 1928. Research work in radio laboratories, Cambridge, followed by a year's course with International Telephone and Telegraph Laboratories Incorporated. Murphy Radio Ltd. for two years. Joined B.B.C. in 1934 in Engineering Information Department. Became Personal Assistant to Assistant Chief Engineer in 1937. In charge of Recording Department from 1941 to 1949. Appointed to his present post in November, 1949.

CHRISTIAN SIMPSON

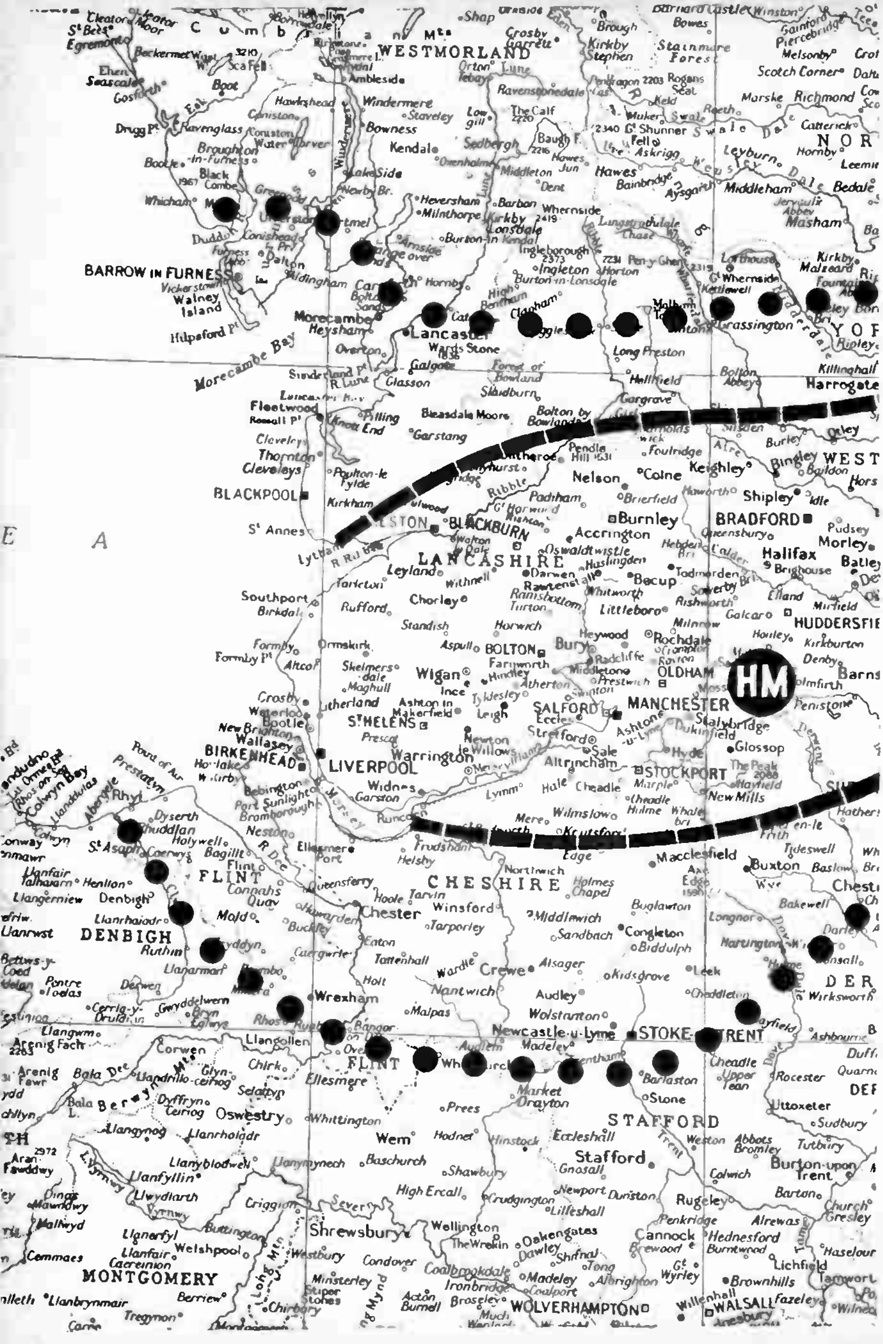
Music and Ballet producer. Joined the B.B.C. Television Service at its opening, in November, 1936. Commenced on sound duties in 1937, changed to camera work, graduating from Assistant to No. 1 Cameraman. In 1940 joined Royal Air Force in Radar Section. 1946, returned to Alexandra Palace as lighting technician. 1948, transferred to Productions Department as Studio Manager. 1949, confirmed as "Producer of Music and Ballet." Aims to develop pure music and movement for the television screen. Productions include "Dance of Salome," "Eve of St. Agnes," etc. Adaptations include "Les Sylphides," "Le Pavillon d'Armide," "The Sleeping Beauty" and "Swan Lake."

RONALD WALDMAN

Head of Television Light Entertainment. Born London, 1914. Educated L.C.C. Elementary School and Owen's School, Islington. Gained Senior History Scholarship to Pembroke College, Oxford. At University became member of O.U.D.S. Joined Brighton Rep. at £2.10s. per week, eventually became leading man and Producer of Company. Joined B.B.C. Variety Department, February, 1938. Co-Producer of "Monday Night At Seven" with Harry S. Pepper, 1939. Served in R.A.F.V.R. during the war. In 1944 detailed to work on Allied Expeditionary Forces Programme. Produced programmes with Bing Crosby, Marlene Dietrich, Dinah Shore, etc. Rejoined B.B.C. October, 1945. Became Senior Producer in 1946 and Assistant Head of Variety Productions in 1948. Joined Television Service as Senior Producer. Light Entertainment, January 1st, 1950. Achieved present post November, 1950.

MICHAEL WESTMORE

Children's Programmes producer. Served six years in the army in England, Middle East and Italy. Returned to Cambridge 1946, obtained Honours Degrees in History and Law and was a leading member of The Footlights and other dramatic clubs. Student member of the Inner Temple, but abandoned the Law for the Stage. Appeared in revue, pantomime and music-hall as character singer and "straight man." Appointed producer in the newly-enlarged department of Children's Programmes in April, 1950. Currently produces the outstanding programme "Whirligig."



WESTMORLAND
Shap
Brough
Bowes
Barnard Castle
Winston
Kirkby Stephen
Stainmore Forest
Gainford
Piercebridge
Melsonby
Scotch Corner
Egremont
St Bees
Seascale
Gosforth
Boot
Sca Fell
Ambleside
Hawkshead
Windermere
Staveley
Bowness
Kendal
Coniston
Ravenglass
Drigg Pt
Broughton-in-Furness
Bootle
Black Combe
Whicham
Lake Side
Orton
Tebay
Ravenstonedale
The Calf
Sedbergh
Baugh F.
Dent
Middleton
Hawes
Bainbridge
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Aysgarth
Keld
Muker
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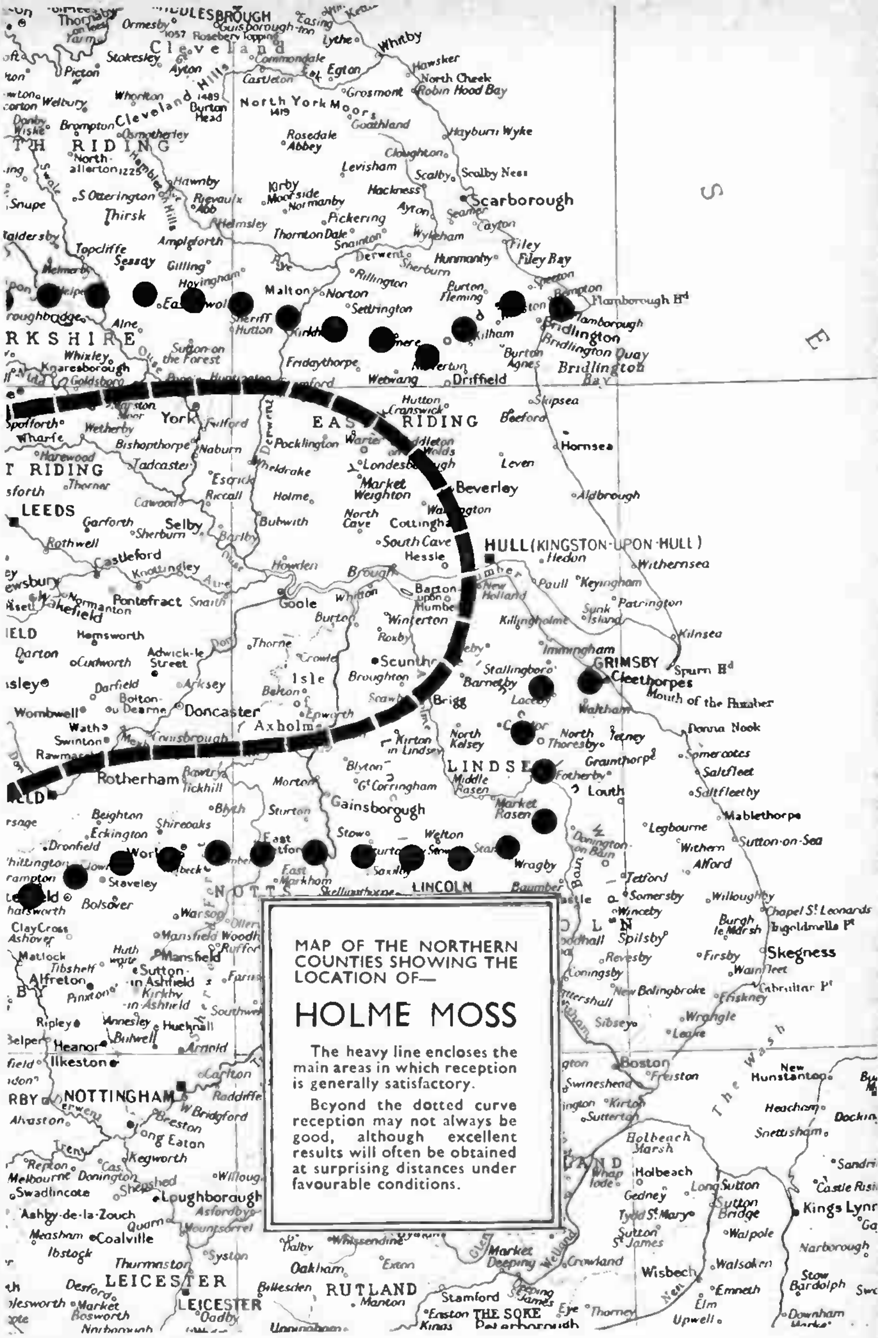
Marske
Richmond
Catterick
Leyburn
Hornby
Middleham
Bedale
Jervaulx Abbey
Masham
Heversham
Milnthorpe
Barbon
Kirkby Lonsdale
Whernside
Burton-in-Kendal
Ingleborough
Ingleton
Horton
Burton-in-Lonsdale
Langstrothdale Chase
Pen-y-Ghent
Kettlewell
Kirkby Malzeard
BARROW IN FURNESS
Walney Island
Dalton
Aldingham
Conishead
Hornby
High Bentham
Clapham
Malham
Grassington
Morecambe
Heysham
Lancaster
Wards Stone
Long Preston
Morecambe Bay
Hilpsford Pt
Overton
Sunderland Pt
Galgate
Glasson
Forest of Bowland
Slaidburn
Hellifield
Bolton Abbey
Killinghall
Harrogate
Fleetwood
Rossall Pt
Pilling
Knott End
Bleasdale Moors
Bolton by Bowland
Gargrave
Garstang
Skipton
Silsden
Burley
Otley
Cleveleys
Thornton Cleveleys
Poulton-le-Fylde
Pendle Hill 1831
Foulridge
Keighley
Bingley
Baildon
WEST
Nelson
Colne
Haworth
Shipley
Idle
BLACKPOOL
Kirkham
Padiham
Brierfield
Burnley
BRADFORD
Pudsey
St Annes
Lytham
Ribble
BLACKBURN
Accrington
Morley
Halifax
Batley
Brighouse
LANCASHIRE
Leyland
Oswaldtwistle
Haslingden
Todmorden
Hebden Bridge
Calder
Sowerby Bri.
Elland
Mirfield
Southport
Birkdale
Tarleton
Withnell
Darwen
Rawtenstall
Bacup
Chorley
Ramsbottom
Turton
Whitworth
Littleborough
Rishworth
Golcar
HUDDERSFIELD
Rufford
Standish
Horwich
Heywood
Rochdale
Milnrow
Honley
Kirkburton
Formby
Formby Pt
Ormskirk
Aspull
BOLTON
Bury
Radcliffe
Royton
Denby
Barnsley
Altcar
Skelmersdale
Maghull
Wigan
Farnworth
Hindley
Middleton
Prestwich
OLDHAM
Ince
Atherton
Tyldesley
Holmfirth
Crosby
Waterloo
Bootle
Litherland
Ashton in Makerfield
Leigh
SALFORD
Eccles
MANCHESTER
Stalybridge
Dukinfield
Penistone
HM
New Brighton
Wallasey
ST HELENS
Prescot
Newton le Willows
Stretford
Ashton-u-Lyne
Glossop
BIRKENHEAD
Hoylake
West Kirby
LIVERPOOL
Warrington
Sale
Altrincham
Hyde
STOCKPORT
The Peak
Hayfield
Marple
New Mills
Cheadle
Point of Air
Prestatyn
Llandudno
Gt. Ormes Hd.
Rhos on Sea
Colwyn Bay
Llandulas
Abergele
Rhyl
Dyserth
Rhuddlan
Holywell
Bebington
Port Sunlight
Bromborough
Neston
Widnes
Garston
Mersey
Runcorn
Lymm
Hale
Mere
Wilmslow
Knutsford
Cheadle Hulme
Whaley Bridge
Chapel-en-le-Frith
Hathersage
Conway
St Asaph
Bagillt
Flint
Dee
Ellesmere Port
Frodsham
Helsby
Northwich
Macclesfield
Tideswell
Buxton
Baslow
Llanfair Talhaiarn
Henllan
FLINT
Connahs Quay
Queensferry
Hoole
Tarvin
CHESHIRE
Holmes Chapel
Axe Edge
Chesterfield
Llangerniew
Denbigh
Mold
Hawarden
Buckley
Chester
Winsford
Tarporley
Middlewich
Sandbach
Buglawton
Congleton
Biddulph
Longnor
Hartington
Bakewell
Darley
Llanrhaiadr
Llanrwst
DENBIGH
Ruthin
Caergwrle
Eaton
Tattenhall
Wardle
Crewe
Alsager
Kidsgrove
Leek
Betws-y-Coed
Llanarmon
Pentre Foelas
Derwen
Holt
Nantwich
Audley
Cheddleton
DERBY
Wirksworth
Cerrig-y-Druidion
Gwyddelwern
Bryn Eglwys
Wrexham
Malpas
Wolstanton
Ashbourne
Llangwm
Arenig Fach
Llangollen
Corwen
Bangor
Overton
Newcastle-u-Lyme
STOKE-ON-TRENT
Madeley
Audlem
Chirk
Glyn-Ceiriog
Llandrillo
Arenig Fawr
Bala
Berwyn Mts
Selattyn
Ellesmere
Whitchurch
Barlaston
Cheadle
Upper Tean
Rocester
Duffield
Market Drayton
Stone
Dyffryn Ceiriog
Oswestry
Whittington
Prees
STAFFORD
Uttoxeter
Sudbury
Llangynog
Llanrhaiadr
Wem
Hodnet
Hinstock
Eccleshall
Weston
Abbots Bromley
Tutbury
Aran Fawddwy
Llanyblodwel
Llanymynech
Baschurch
Shawbury
Stafford
Gnosall
Colwich
Burton-upon-Trent
Llanfyllin
Vyrnwy
High Ercall
Crudgington
Newport
Lilleshall
Rugeley
Barton
Dinas Mawddwy
Llwydiarth
Criggion
Severn
Penkridge
Alrewas
Church Gresley
Mallwyd
Llanerfyl
Buttington
Shrewsbury
Wellington
The Wrekin
Oakengates
Dawley
Shifnal
Cannock
Brewood
Hednesford
Burntwood
Haselour
Lichfield
Cemmaes
Llanfair Caereinion
Welshpool
Westbury
Condover
Coalbrookdale
Madeley
Tong
Gt Wyrley
Brownhills
Tamworth
MONTGOMERY
Long Mynd
Minsterley
Stiper Stones
Ironbridge
Coalport
Albrighton
Willenhall
Fazeley
Llanbrynmair
Berriew
Chirbury
Acton Burnell
Broseley
WOLVERHAMPTON
WALSALL
Tregynon
Much Wenlock



MAP OF THE NORTHERN COUNTIES SHOWING THE LOCATION OF—

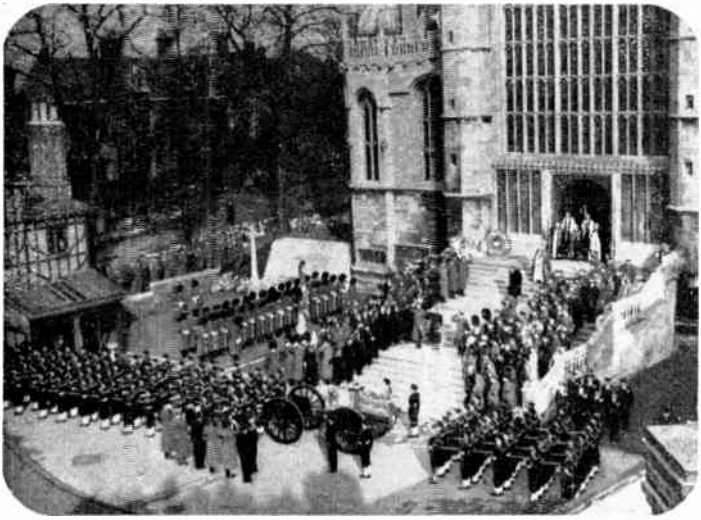
HOLME MOSS

The heavy line encloses the main areas in which reception is generally satisfactory.

Beyond the dotted curve reception may not always be good, although excellent results will often be obtained at surprising distances under favourable conditions.

MEMORABLE SCENES ON TELEVISION

Pictures that will revive memories of some outstanding events covered by Television during recent years.



The Funeral Procession of His late Majesty King George VI arriving at St. George's Chapel, Windsor, on the 15th February, 1952.

Her Majesty the Queen, when Princess Elizabeth, accompanied by the Duke of Edinburgh, at the luncheon at the Guildhall given for Their Majesties the King and Queen of Denmark by the Lord Mayor of London, Alderman Sir Denys Lowson, on 10th May, 1951.

A scene following the ceremony at the opening of the Scottish Television Transmitting Station at Kirk o'Shotts on 14th March, 1952.

The Oxford Boat sinks in the blustery waters of the Thames in the 1951 Oxford and Cambridge Boat Race. An exclusive *Sunday Dispatch* photograph shot by John Cura directly from the television screen.

The first inter-capital television relay. A scene from "Stars in the Sky," a cabaret staged on the second platform of the Eiffel Tower for British viewers on 8th July, 1952.

COSSOR

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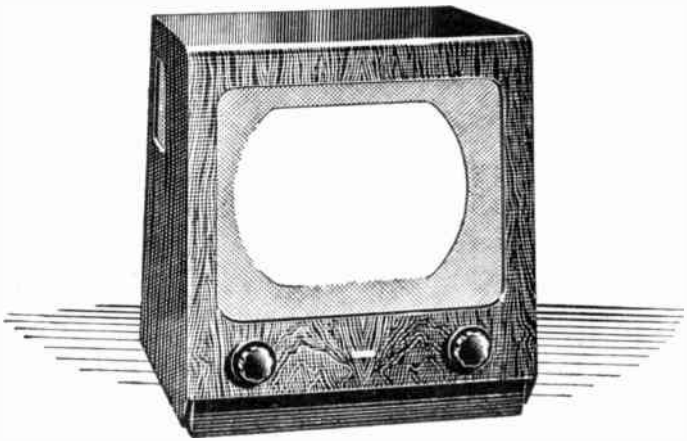

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TWENTY QUESTIONS AND ANSWERS ON TELEVISION

Q. 1 Is a television set simple to operate ?

A. Modern television receivers are hardly more complicated to adjust than sound receivers. Nevertheless, it is important to learn the proper use of each control. Hints on Installation and Tuning (Part II) in this Book goes into this subject very fully, and it will be wise to read that chapter in conjunction with the instruction booklet provided by the maker of your set. After a few trials you should have no difficulty in adjusting the picture correctly.

Q. 2 In the map of the Wenvoe service area on the centre pages of this book, is the effect of television waves being obstructed by high ground between the transmitting station and the receiving aerials taken into consideration ?

A. No, not entirely. Where the country is not very flat, and of course it is far from that in South Wales and some parts of the West of England, it is not possible to do so on a map of reasonable size. The boundaries shown on the map represent average conditions, but within the areas shown as served there are numerous districts of less satisfactory reception where individual hills obstruct the transmission. On the other hand, there are also areas of better reception beyond the boundaries shown in places where the ground at the receiving point is higher than the surrounding district, thus providing an unobstructed path for the waves. The choice of Wenvoe for the station ensures good reception over most of South Wales and an even larger area of the other side of the Bristol Channel, which together cover a very considerable percentage of the population. Nevertheless, viewers living in the more remote valleys, or just beyond high ground, may find that reception is not so good as might be supposed from the actual distances from Wenvoe.

This is one of the reasons why it is a good idea to obtain your television receiver from a local agent, who will know which receivers and particularly which aerials give the best results in the different parts of the district he serves.

An Opera outside broadcast. The cameras visit Sussex to televise "Cosi Fan Tutte." John Christie, the founder of Glyndebourne, is interviewed.

Q. 3 What should I look for when choosing a television set ?

A. Unfortunately it is not at all easy for an inexperienced viewer to assess the performance of television receivers, as one may be seen while an excellently-lit studio play is in progress and the next while a football match is being televised on a dull, misty afternoon. If at all possible, then, it is best to try to see the sets you are interested in at the same time, preferably working side by side. The most convenient course is to consult a reputable television dealer in your neighbourhood—even the best receivers need skilled attention from time to time if their original performance is to be maintained, and so it is wise to deal with the man on the spot—for he should be able to demonstrate to you a range of makes and models that are known to give good results in your particular district.

The first thing to look for is good general picture-quality—the detail should be good, both in highlights and shadows; the outlines should be crisp and clear.

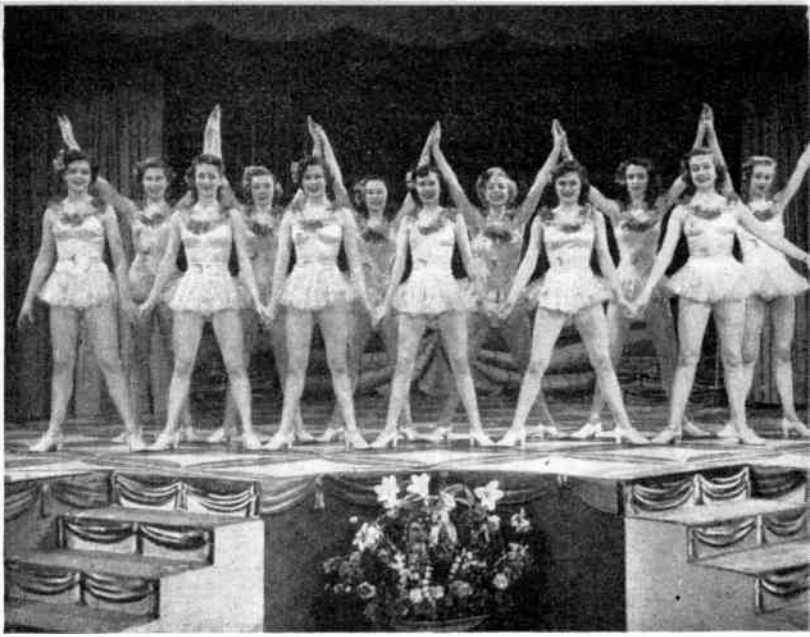
On close examination the picture will be seen to be made up (as explained in "How Television Works" in this Book) of a large number of horizontal lines, and these should be quite separate and clear, both in the centre of the screen and also round the edges. Of course, from ordinary viewing distances you cannot see the lines separately.

Then, make sure that the shapes of actors or objects do not seem to change as they approach the edge of the picture. This effect, sometimes called the "goldfish bowl" effect, is commonly supposed to be due to the slightly rounded end of the cathode-ray tube on which the picture is seen, but it is actually due to an electrical shortcoming. Pay particular attention to the right-hand edges of objects in the picture; they should be clean, without any tendency to smear. There may be evidence of "ghosts" or echoes in the form of multiple verticals, but this will almost certainly be due to the aerial installation itself and will affect all the receivers working from that aerial.

Humphrey Lestocq, *Daily Mail* National Children's Television Award Winner of 1951/2, accompanied by famous puppet "Mr. Turnip," greets Jacqueline Joubert, French television announcer.

Unfortunately, busy shopping streets are by no means favourable to good television demonstrations, and when you have narrowed down your choice, it is a good idea to ask for a demonstration in your home, if at all possible. Here, too, the pictures may not be as good as it is possible to get, because the dealer can hardly be expected to go to the expense of erecting a proper aerial unless he is fairly certain that you are a genuine buyer. As the aerial is so very important in television, the temporary one he provides for the demonstration may not do full justice to the set, and this must be allowed for. See that the upright straight lines in the picture really are straight—some sets reproduce them as curves or slightly zig-zag—and see that there is no tendency for the picture to shake or change momentarily in brightness. The edges of objects should not show a black or white border, but this effect may be due to a transmission fault, especially if the programme is an outside broadcast.

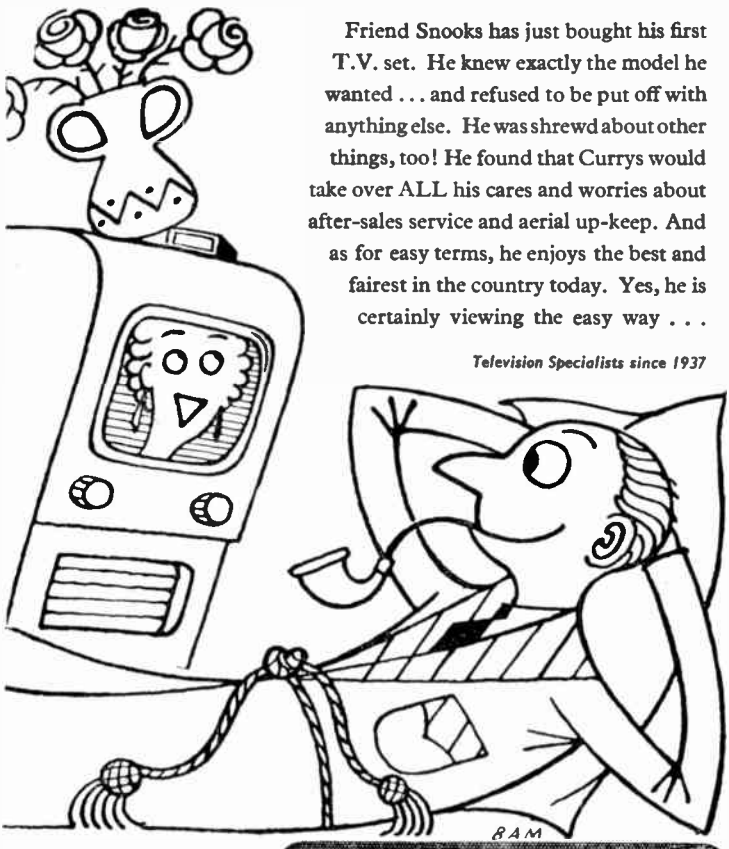
It is most desirable that the picture should show a good range of contrast between the black and the white



Television glamour. The Twelve Toppers, who dance in the cabaret programme "Top Hat Rendezvous."

objects. The appraisal of contrast range is rather difficult to describe in words and it is made more complicated by the fact that the amount of light in the room affects the apparent range, although this is less important if there is a filter in front of the screen—as in the so-called "black-screen" sets. The B.B.C. transmits each weekday morning from 10 to 12 o'clock a special film, for the benefit of television makers and service-men, and this includes several periods when a special test pattern is shown for about a quarter of an hour. If you can see this pattern reproduced on the set you have chosen, you can get a very good idea of its performance. Needless to say, the circle should be truly circular, and the white "overcheck" should consist of equal squares all over the screen, with no tendency to be distorted into narrow rectangles at the sides of the picture for instance. The contrast is indicated by the tones of the black, grey and white squares, and the goodness of the definition by the sets of black and white vertical stripes. A receiver need not reproduce the narrowest stripes distinctly, but it should certainly be able to reproduce the next narrowest as individual black and white stripes.

Viewing the easy way . . .



Friend Snooks has just bought his first T.V. set. He knew exactly the model he wanted . . . and refused to be put off with anything else. He was shrewd about other things, too! He found that Currys would take over ALL his cares and worries about after-sales service and aerial up-keep. And as for easy terms, he enjoys the best and fairest in the country today. Yes, he is certainly viewing the easy way . . .

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Currys LTD.

The "What's My Line?" Team: Marghanita Laski, Jerry Desmonde, Elizabeth Allan and Gilbert Harding. This programme was judged the most entertaining of 1951/2 in the *Daily Mail* National Television Awards.

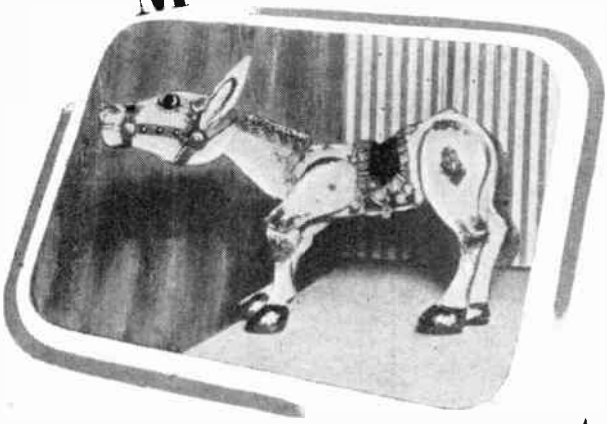
Finally, make sure that the sound reproduction is of the high quality that is possible on television wavelengths.

Q. 4 Should I buy a separate television set or one that is also an ordinary radio receiver?

A. This is really a matter of individual preference and domestic circumstances. For use in a very small flat, with a "household" of one or two, considerations of space may make the use of separate sound and television receivers inconvenient.

Where space is not a problem, there are several advantages in having separate sets. For instance, some members of the family may wish to see the television programme while others would prefer to listen to a sound programme, and this is not possible with a combined receiver. Most families already possess a sound receiver, and this, or an extra loudspeaker connected to it, can be installed in another room. This feature is more important than many would-be viewers suppose, because viewing is a full-time occupation, and one cannot get on with domestic tasks such as washing-up while watching a television programme. If possible, then, it is usually

MUFFIN...



You'll see him best on AMBASSADOR T.V.

This is not a literary statement, it is a true fact. You'll see him best because AMBASSADOR TV gives you full B.B.C. picture definition. You need only compare AMBASSADOR with any other receiver to be convinced.

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better to have separate sets. All scientific instruments —and both radio and television receivers are really scientific instruments—require a certain amount of technical adjustment periodically, and if separate receivers are used you will not be deprived of reception of all kinds while this is being done.

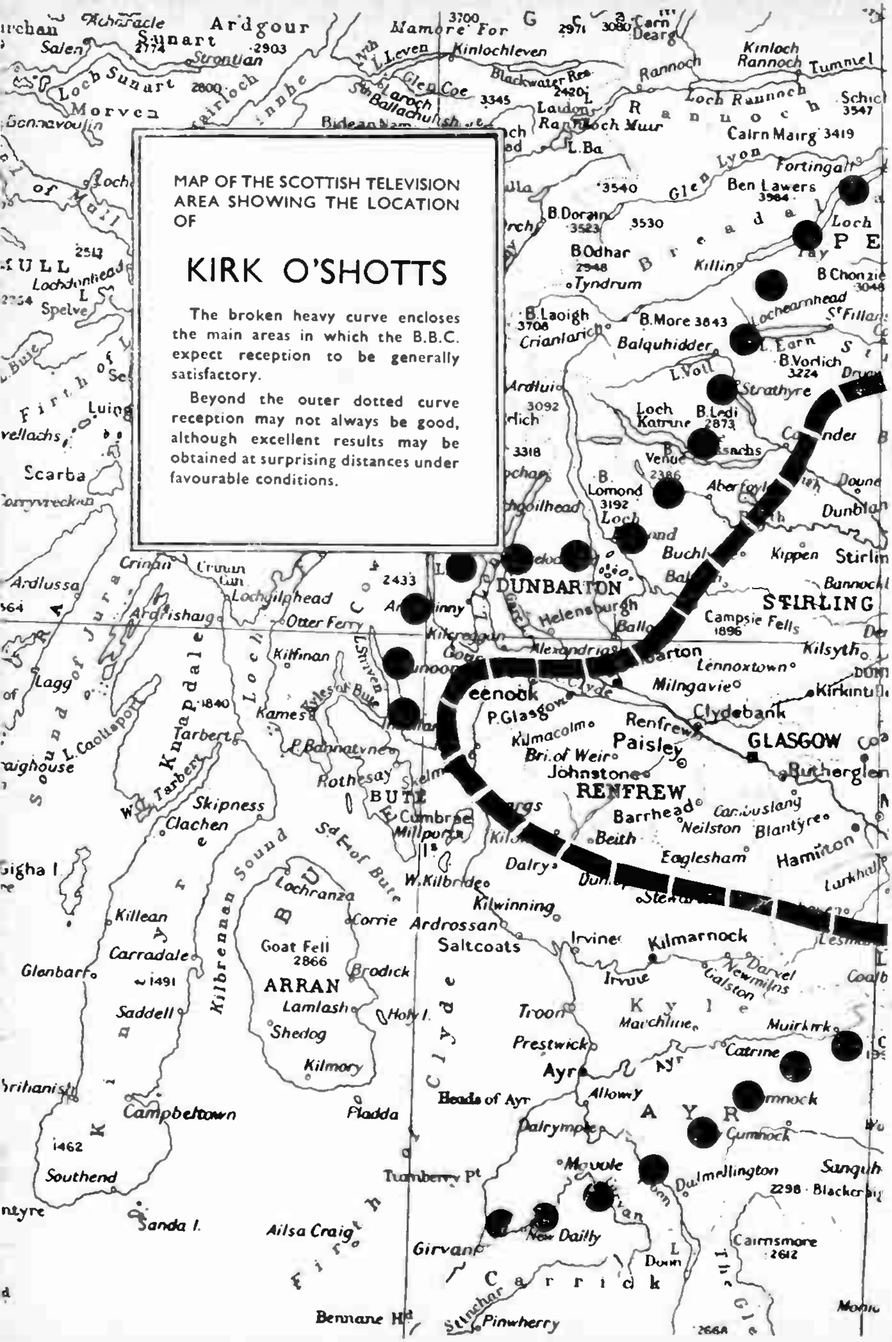
We are also often asked whether a table receiver or a set standing on the floor (usually called a console receiver) is best. As far as television is concerned, there is nothing in it, but, all other things being equal, the sound is usually better with a bigger cabinet, and on this ground the console is to be preferred.

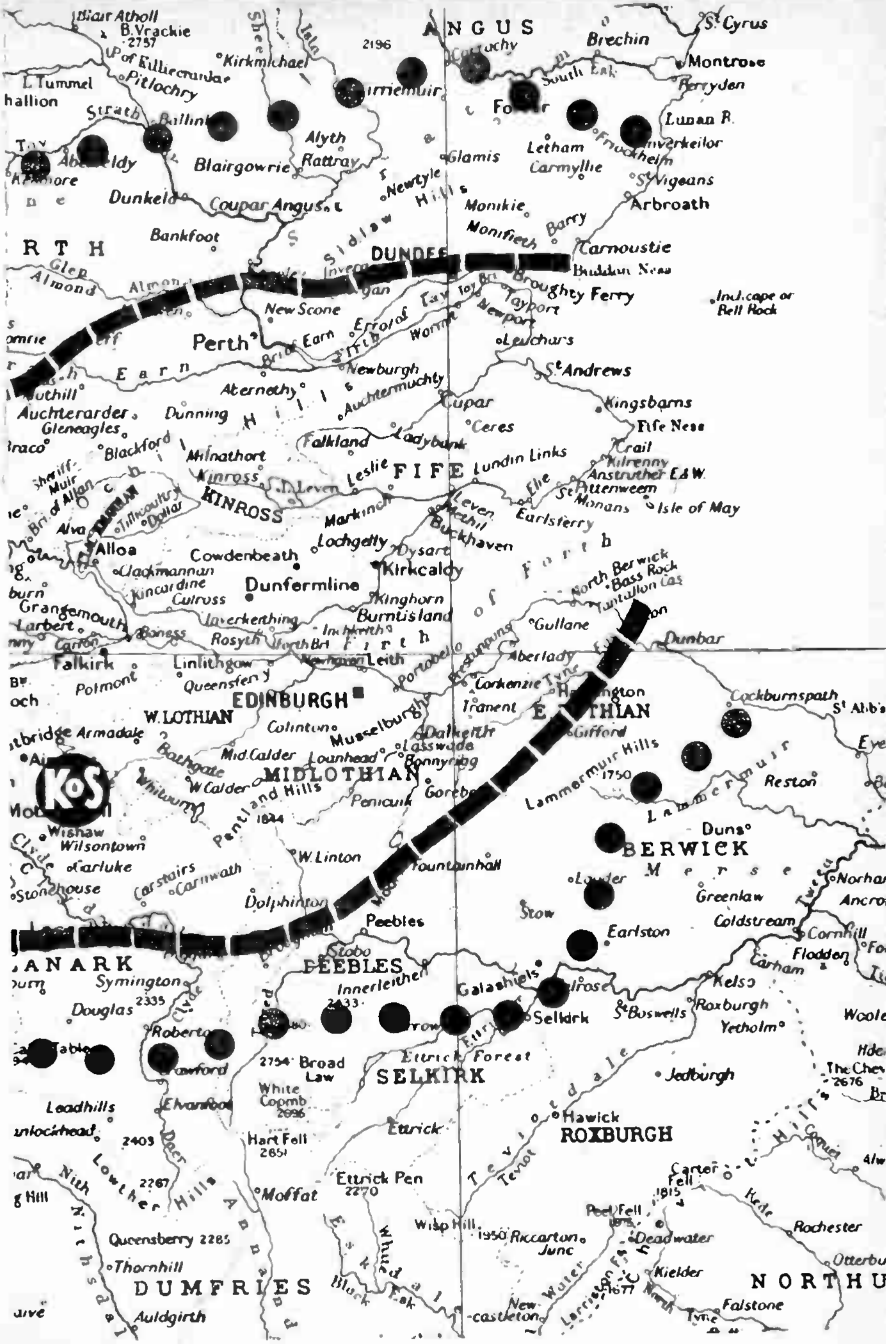
Q. 5 What size screen should I get ?

A. This depends on the size of your room, the number of people who will normally be viewing, and of course, how much you are prepared to spend. Nearly all the receivers at present on the market are what are called " direct-viewing " sets, that is, the screen is actually the end of the cathode-ray tube itself. It is necessary to sit farther away therefore, from the bigger sizes in order not to see the lines of which the picture is composed, and so it is useless to buy the biggest size for a small room, where it is impossible to get far enough away to see the pictures properly. On the other hand, it is inconvenient for a large number of people to try to view a set of the smallest size, as many of them will be too far away to see any detail.

For the average size of room and family, a 12-inch diameter tube is usually about right, and this is mounted behind a frame, giving a picture of something like 10½ inches by nearly 8 inches. The sizes of direct-viewing television sets are always quoted as the diameters of their cathode-ray tubes: 9-inch, 10-inch, 12-inch and 15-inch being the sizes most commonly used in receivers for the home.

We said earlier that you must not sit too near a television screen. The actual distance that gives the best results varies widely, depending to some extent on personal preference and to some extent on one's eyesight. One authority quotes an average figure of eight times the height of the picture, which means that your eye should not be less than about five feet from a set with a 12-inch tube, to get the best effect. The corresponding distance for a 15-inch tube is seven feet six inches. For


MAP OF THE SCOTTISH TELEVISION AREA SHOWING THE LOCATION OF
KIRK O'SHOTTS
The broken heavy curve encloses the main areas in which the B.B.C. expect reception to be generally satisfactory.
Beyond the outer dotted curve reception may not always be good, although excellent results may be obtained at surprising distances under favourable conditions.
Ardgour
Sunart
Strontian
Loch Sunart
Morvern
Kinlochleven
Glen Coe
Rannoch
Loch Rannoch
Kinloch Rannoch
Tummel
Schiehallion 3547
Carn Mairg 3419
Fortingall
Glen Lyon
Ben Lawers 3984
Loch Tay
Killin
B.Dorain 3523
B.Odhar
Tyndrum
B.Laoigh 3708
Crianlarich
B.More 3843
Balquhidder
Lochearnhead
St Fillans
L.Earn
B.Vorlich 3224
L.Voil
Strathyre
Loch Katrine
B.Ledi 2873
Callander
B.Lomond 3192
Loch Lomond
Aberfoyle
Doune
Dunblane
Kippen
Stirling
Bannockburn
Buchlyvie
Campsie Fells 1896
STIRLING
Kilsyth
Lennoxtown
Milngavie
Kirkintilloch
Clydebank
GLASGOW
Rutherglen
DUNBARTON
Helensburgh
Alexandria
Greenock
P.Glasgow
Kilmacolm
Renfrew
Paisley
Johnstone
Bri.of Weir
RENFREW
Barrhead
Cambuslang
Blantyre
Neilston
Hamilton
Eaglesham
Beith
Dalry
Larkhall
Kilwinning
W.Kilbride
Ardrossan
Saltcoats
Irvine
Kilmarnock
Newmilns
Galston
Darvel
Troon
Prestwick
Ayr
Mauchline
Muirkirk
Catrine
Cumnock
AYR
Alloway
Heads of Ayr
Dalrymple
Dalmellington
Sanquhar
Maybole
New Dailly
Girvan
Carrick
Pinwherry
Bennane Hd
Turnberry Pt
Ailsa Craig
Cairnsmore 2612
Firth of Clyde
ARRAN
Goat Fell 2866
Brodick
Lamlash
Holy I.
Shedog
Kilmory
Lochranza
Corrie
Pladda
Kilbrennan Sound
BUTE
Rothesay
Kyles of Bute
Millport
Cumbrae
Skipness
Clachen
Killean
Carradale
Saddell
Glenbarr
Campbeltown
Southend
Sanda I.
Kintyre
Knapdale
Tarbert
W.Tarbert
Kames
Kilfinan
Loch Fyne
Lochgilphead
Otter Ferry
Ardrishaig
Crinan
Crinan Can.
Ardlussa
Sound of Jura
Lagg
Scarba
Luing
Firth of Lorn
Loch Spelve
Lochdonhead
MULL
Sound of Mull
Gigha I.
Salen
Acharacle
Kilcreggan
Arrochar
Lochgoilhead
Ardlui
Arrochar
2433



Blair Atholl
B.Vrackie
2757
P. of Killiecrankie
Kirkmichael
L.Tummel
Pitlochry
2196
ANGUS
Brechin
St. Cyrus
Montrose
South Esk
Ferryden
Lunan R.
Inverkeilor
Friockheim
Letham
Carmyllie
St. Vigeans
Arbroath
Glamis
Alyth
Rattray
Blairgowrie
Dunkeld
Coupar Angus
Newtyle
Sidlaw Hills
Monikie
Monifieth
Barry
Carnoustie
Buddon Ness
Bankfoot
DUNDEE
Broughty Ferry
Tayport
Newport
Inchcape or Bell Rock
Glen Almond
Almond
New Scone
Errol
Firth of Tay
Perth
Earn
Leuchars
St. Andrews
Newburgh
Auchtermuchty
Abernethy
Cupar
Kingsbarns
Fife Ness
Ceres
Auchterarder
Gleneagles
Dunning
Blackford
Milnathort
Falkland
Ladybank
Crail
Kilrenny
Anstruther E.& W.
Lundin Links
Elie
St. Monans
Isle of May
Earlsferry
Sheriff Muir
Bri. of Allan
Tillicoultry
Dollar
KINROSS
Kinross
L. Leven
Leslie
FIFE
Markinch
Leven
Methil
Buckhaven
Alva
Alloa
Cowdenbeath
Lochgelly
Dysart
Kirkcaldy
Firth of Forth
Clackmannan
Kincardine
Culross
Dunfermline
Kinghorn
Burntisland
North Berwick
Bass Rock
Tantallon Cas.
Grangemouth
Larbert
Carron
Bo'ness
Inverkeithing
Inchkeith
Rosyth
Forth Bri.
Gullane
Dunbar
Falkirk
Linlithgow
Queensferry
Newhaven
Leith
Portobello
Aberlady
Polmont
EDINBURGH
Cockenzie
Tyne
Haddington
Cockburnspath
St. Abb's
Tranent
EAST LOTHIAN
W. LOTHIAN
Colinton
Musselburgh
Dalkeith
Gifford
Armadale
Lasswade
Bonnyrigg
Lammermuir Hills
1750
Bathgate
Mid Calder
Loanhead
MIDLOTHIAN
Reston
W. Calder
Pentland Hills
Penicuik
Gorebridge
Whitburn
1844
Duns
BERWICK
Wishaw
Wilsontown
Carluke
W. Linton
Fountainhall
Merse
Lauder
Norham
Greenlaw
Carstairs
Carnwath
Stonehouse
Dolphinton
Stow
Coldstream
Cornhill
Peebles
Earlston
Flodden
LANARK
Stobo
PEEBLES
Carham
Symington
Innerleithen
Galashiels
Melrose
Kelso
2335
2433
Douglas
Roxburgh
Selkirk
St. Boswells
Yetholm
Roberton
Crawford
2754 Broad Law
Ettrick Forest
SELKIRK
Jedburgh
The Cheviot
2676
White Coomb
2696
Leadhills
Elvanfoot
Wanlockhead
2403
Hart Fell
2651
Ettrick
Hawick
ROXBURGH
Teviotdale
Teviot
Cheviot Hills
Nith
Lowther Hills
2267
Annan
Moffat
Ettrick Pen
2270
Carter Fell
1815
Peel Fell
1975
Rede
Rochester
Wisp Hill
1950
Riccarton Junc
Deadwater
Queensberry 2285
Thornhill
Kielder
NORTHUMBERLAND
DUMFRIES
Nithsdale
Black Esk
New-castleton
Liddel Water
Larriston Fells
1677
North Tyne
Falstone
Auldgirth
Otterburn

this reason it is evident that the choice of such a receiver is ruled out for a small flat, as these usually have living-rooms about 12 feet square. Allowing about three feet for the depth of the set and another three feet for an easy chair, it will be realised that even with the set touching one wall and the chair against the opposite wall, there is not enough space to view the screen to the best advantage.

In addition to the direct-viewing sets, there are on the market now a number of receivers using the projection principle. In these the picture is formed on a very small but very bright cathode-ray tube, and a system of lenses and mirrors throws an image of it on to a fairly large screen of a size which, in a direct-viewing set, would need a tube of about 18-inch diameter or more. Because the light in the picture has to be spread over a bigger area, however, projection sets are generally not quite so bright as direct-viewing sets, but they do provide a big, flat screen. One claim made for these sets is that the small tube is much cheaper to replace than the big ones used for direct-viewing.

Television Drama. Donald Wolfit plays the King in " The Life And Death Of King John " by William Shakespeare.

Q. 6 Wouldn't it be better to wait a year or two in case the system of transmission is changed ?

A. No. The Postmaster-General has announced that no other system at present known is likely to give better pictures in viewers' homes than that now used by the B.B.C., and the present system is to be used for all the ten stations that will constitute the British television network.

It has also been authoritatively stated that when, in the future, some improved system may reach a state of development that would justify its adoption on a public-service basis, then, if the existing receivers could not work with the new system, both would be operated together for a reasonable time so that receivers in the hands of viewers would not go out of date prematurely. The B.B.C. is introducing improvements all the time, which result in better pictures, but do not require any change in the receivers. All you will do by waiting is to miss a great deal of very entertaining television.

Q. 7 What are the " lines " we hear so much about ?

A. As explained in " How Television Works," the television picture is " drawn " on the screen by a travelling spot of light, which crosses the screen horizontally many times,

drawing each line just below the previous one. In the British system, 405 such lines go to one complete picture. As soon as one picture is finished, the next is begun, and successive pictures follow one another at the rate of 25 to the second so quickly that the eye is deceived and the brain interprets the effect as continuous movement. The idea that systems based on larger numbers of lines give better pictures is not entirely true. Such systems can certainly be made to give better pictures in laboratory demonstrations, but we must take into account the effect on the picture of conveying signals from studios and outside-broadcast points to the transmitting stations, of broadcasting them and also, of course, the effect of a receiver that has been in use for several months. In these circumstances, systems using large numbers of lines suffer so much distortion that the net result is usually a less satisfactory picture. 405 was chosen for British television by the scientific advisers of the Post Office and the B.B.C. as the highest number of lines that will not be distorted in this manner.

At any rate, it is commonly conceded that the standard of the pictures seen on British viewers' screens is not surpassed anywhere in the world.

Q. 8 What about colour television ?

A. The answer to this question is very much the same as that to Question 6. The B.B.C. and the big television firms have been studying this problem for several years, and while most impressive demonstrations of colour television can be given in the laboratory, the economic problems involved suggest that it will be many years before it will be feasible to consider the introduction of any system of colour television on a real public-service scale in the United Kingdom.

Q. 9 Is it true that television is bad for the eyesight ?

A. This is a question that has been asked ever since television was introduced on a large scale, in 1936, but there seems no evidence to suggest that viewing under reasonable conditions is in any way harmful.

It may well be that the eyes become tired by peering at a small picture which is out of focus, but even this is unlikely to have any permanent effect, even if persisted in for long periods.

Winner of the *Daily Mail* National Television Award in 1950, charming Petula Clark.

From every point of view, however, it is undesirable to allow any strong light actually to fall on the screen. Many people find that viewing is more satisfactory if there is a diffused light in the background ; especially if this light has an orange tint. This lamp must not, of course, be directly in sight of the viewers, nor must it be placed so that a reflection of it appears on the screen.

Some receivers on the market are fitted with what are called " black screens " or " dark screens," which permit them to be used with more light in the room. Viewers with sets that do not have this fitting, and who find it difficult or inconvenient to get their rooms dark enough, can obtain suitable dark filters separately from any television dealer.

In any case, however, it is desirable to locate the television set in a position where the light from the window, fireplace or lamp does not fall on the screen, but also where the viewers do not face any of these sources of light.

Q. 10 How can I choose between all the different shapes of television aerials on the market ?

A. This problem worries many would-be purchasers of television receivers, and it is certainly one that the layman cannot solve without expert advice. As explained in Part I of " Hints on Installation and Tuning " in this Handbook, the " basic " television receiving aerial is a vertical half-wave element—that is to say, a metal wire, rod or tube about half the wavelength of the station it is desired to receive. This can be used alone or, where appropriate, in conjunction with other elements, or it can be bent, sloped or modified in many ways to produce more complicated aerials having special advantages (and disadvantages).

At reasonably short distances from a transmitting station it is not usually important which type of aerial is used, and one of the simpler types should be chosen. At longer distances or where, for other reasons, reception is less easy, a more elaborate aerial may have to be used. In such cases it will be advisable to consult a reputable

Children's Television. "The Parvo Puppets," directed by Laurence Primmer, in "A Christmas Fantasy."

Television Ballet. The Ballet Rambert dancing the finale from "Plaisance" by Walter Gore

local television dealer. This is one of the reasons why it is wise to purchase your receiver from a local firm, which should know which makes, models and aerials can be relied upon to give the best possible results in your particular district.

Q. 11 Does a television set use much electricity ?

A. This depends on the size of the set and, of course, on the amount you use it. An average set should work for six or seven hours on one unit of electricity. If you wish to work this out for any particular set, find out from the catalogue or the dealer the *consumption*, which will be quoted in *watts*, then divide this number of watts into 1,000. The answer is the number of hours that set will work on one unit. Your last electricity account, or the local office of the Electricity Board, will tell you what a unit of electricity costs in your district—it is often round about one penny. This means that many television sets cost less than a farthing an hour for electricity.

Q. 12 Are there any television battery sets ?

A. There are no television receivers made for operation from batteries, you need to have an electricity supply of the kind obtained from public mains for a television set.

A scene from the extremely successful Television play "To Live in Peace." Victor Rietti plays the priest in this charming production.

Either A.C. or D.C. is satisfactory, but if it is D.C. it must also be at least 220 volts.

Television sets are classed as A.C. or A.C./D.C. This means that if you have A.C. electricity mains, you may use *either* an A.C. set *or* an A.C./D.C. set, whereas if you have D.C. mains you *must* use an A.C./D.C. set. Although, in the first case you nominally have a choice, there are certain technical advantages in using a receiver exclusively designed for A.C. if you actually have A.C. mains. Incidentally, A.C. means *alternating current* and D.C. means *direct current*; A.C. is the standard in Britain, but there are still certain districts which have not yet been standardised.

For would-be viewers who are not on public supply mains, there are on the market special rotary and vibratory converters which produce the kind of electricity needed for television sets from private accumulator supplies, or even from accumulators of the kind used in motor-cars. When ordering such a convertor, make sure that it has been designed for television, as special frequency stability is necessary, and verify that working the receiver from such a supply does not invalidate the maker's guarantee.

Q. 13 Is it true that the cathode-ray tube only lasts a few months ?

A. The cathode-ray tube, upon the flat end of which the pictures appear, is undoubtedly a very complex and fairly delicate piece of apparatus, but nowadays these tubes are also reliable. A cathode-ray tube, like most electronic devices, cannot be tested in the factory for reliability, the factory tests can only determine whether its performance is satisfactory. If a particular tube is properly made, all well and good, and it will probably go on working almost indefinitely until in the end the picture gradually starts to get dimmer and dimmer, and at some point the owner decides that it would be worth while to replace the tube. On the other hand, if there was some imperfection in the manufacture of the tube, it will almost certainly fail during its first few working hours. In this case, of course, it will be replaced under the guarantee.

Q. 14 I would like to be able to use my television receiver in either of two rooms at will. Can I have two down-lead cables from the aerial, one to each room ?

A. Yes, this is possible, but it is usually more convenient to have an ordinary cable from the aerial to the nearer room and an extension cable from there to the second room. This extension cable should be provided with a socket into which the plug on the ordinary cable can be inserted when the receiver is to be used in the second room.

Q. 15 Can a television receiver sold for receiving, say Sutton Coldfield, be used to receive from Wenvoe ?

A. In general, no. Television receivers have what is called pre-set tuning, which means that a more or less complicated internal adjustment is required to alter the tuning from one station to another. Your dealer will supply you with a set that suits the station that gives the

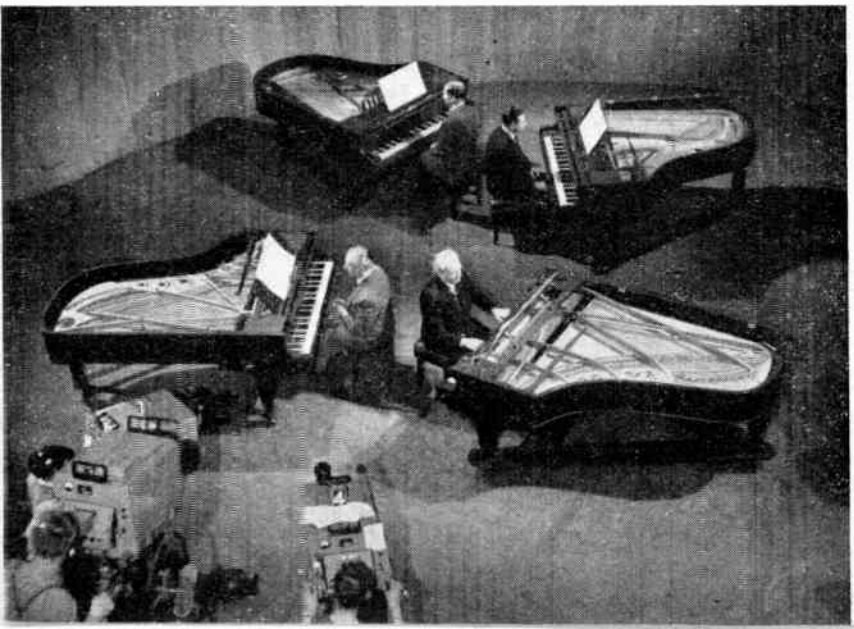
best results in your district. Should you later move into the service area of another station, the set will have to be modified. It is best to write to the maker of the set for the name of their local agent near your new address. Do not overlook that the aerial also has to be the correct size for the particular transmission.

There would be no point in making the receivets with provision for immediately tuning from one station to another, because it would add considerably to their cost and there is no prospect of any alternative programmes for some years to come.

Q. 16 Is it true that electrical interference is particularly troublesome on television ?

A. All other things being equal, it is probably true to say that the answer is " no," but the question is complicated by the fact that the eye is much less tolerant of interference (and distortion) than the ear, and that many people buy television receivers hoping to get good pictures, although they live well outside the recognised service areas. If you should experience electrical interference,

Rawicz and Landauer in foreground, with Alan Bristow and Donald Phillips, playing Bach's Concerto for Four Pianos.



NORMAN COLLINS

Former Controller of the B.B.C. Television Service and author of many books, including three Book Society choices—"Anna," "London Belongs To Me" and "Children Of The Archbishop." Since leaving the B.B.C. has brought the electronic and film worlds together in a recently formed company. This Company of which Mr. Collins is Chairman, has developed electronic recording for making motion pictures. The first public demonstration of the new method was on the 5th May, 1952. Mr. Collins has confidence that, by the use of electronic equipment, film production costs can be slashed, and thus envisages yet new fields opening up to television.

and you think that your aerial is as efficient as you can make it, you should ask the help of the Post Office engineers, as explained in "Hints on Installation and Tuning, Part I (Interference)."

Q. 17 At what distance can television signals be regularly received from a high-power transmitter ?

A. This is a question which is always being asked and one that can only be answered by an intimate knowledge of reception conditions in the area under consideration.

Owing to the contours of the country, we cannot just draw circles around the transmitter and define good and bad reception areas in terms solely of concentric circles. It is much more complicated than that, and in some directions and in favourable areas satisfactory and reliable reception can be established as far away as 70 miles or even farther, whereas in other directions it is difficult to receive a satisfactory signal at even twenty miles' distance. Until a new transmitter has been working long enough for its performance at all seasons and in all kinds of weather to have become known, we can only speculate on the basis of the general behaviour of very

short radio waves. Nevertheless, and purely as a guide, if we take an area extending 30 miles in the northerly directions and, say, 50 miles in the southerly directions from Wenvoe then, in a general sense, everybody resident within this district can regard his house as being inside the reception area, unless there is high ground directly between him and the television station. As explained above, some months' experience is necessary before local dealers in fringe areas can be in a position to give knowledgeable information to their prospective customers as to the likelihood of consistently successful reception in the immediate vicinity. In answering this question, we have not concerned ourselves with freak or hit-and-miss reception. We only consider as satisfactory a standard of reception that can be relied upon, and although, in directions screened by hills, the range may be shorter, it is equally true that in other directions it will be considerably longer.

Q. 18 What does a television licence cost ?

A. Before you install a television receiver, you have to obtain a Television Receiving Licence from the Post Office at a cost of £2, and this licence also covers the reception of sound broadcasting. If you already have an ordinary £1 sound licence, you can get a refund from the Post Office for every full month unexpired when you take out the television licence.

This low licence fee presents remarkably good value for money when we consider that on an average there are approximately thirty programme hours a week, and this goes on every day throughout the year. Some weeks, of course, we have additional hours arising from outside broadcasts associated with international tennis, cricket, football, swimming, racing, pageantry, etc. Reduced to its cost per hour, we get the amazing figure of over 1,500 hours at a cost of £1, which is considerably less than a farthing per programme hour.

At the present moment, the cost of providing the service is out of proportion to the revenue from the television licences and is likely to remain so for some time. It is promised, however, that the lion's share of money spent on B.B.C. development will in future go to television, and therefore the fact that television will not be

able for some time, so to speak, to pay its way by itself may not be a handicap, and increasingly better programmes in terms of star artistes, orchestras, etc., may be expected.

The Beveridge Committee report touched upon the possibility of an increased television licence fee, but it can be assumed that even should this happen, the amount demanded will not be excessive.

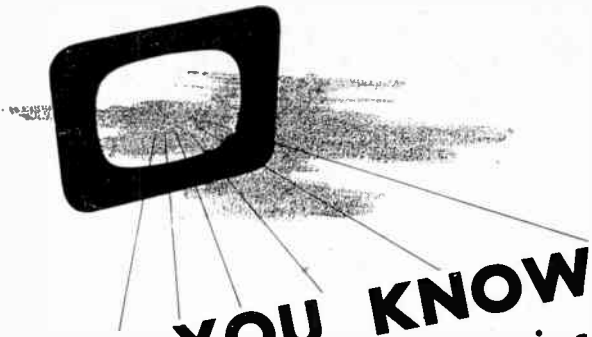
Q. 19 Is television entertainment comparable with that of the cinema ?

A. The two should never be compared. They are supplementary. Due to the complexity of television production it is almost impossible to get the polish which is the hall-mark of the first-class motion picture, and in sitting at home watching television you never get the sense of "an outing" which you get when you go out to the cinema.

On the other hand, the fact that actors are acting at the very moment that you are looking at them—and may faint or fluff or forget their lines—gives television a sense of immediacy and excitement which is unknown in the cinema, where only the best of many " takes " in a film are incorporated in the final version. Equally, only by television can you get the sense of excitement which prevails at a football game or race meeting, and of which you are aware only if you are present or listening to a sound broadcast ; it is not felt in either a cinema or television film newsreel, because you already know the result.

Q. 20 In short, is television worth while ?

A. Emphatically, " Yes " ! The fact that personalities of every description are brought visually into your own sitting-room or lounge at the very moment in which they are engaged in interesting and intriguing activities, alone introduces a completely new element into home entertainment. When, added to this, the whole scope of Television Drama, Magazine Programmes, Films, Cabaret Entertainment, Ballet and Outside Broadcasts generally is considered, even the most confirmed " diehard " must hesitate before denying its advantages in some respects over any other known form of human recreation, while it is quite unnecessary to stress its value to the aged and infirm, or those living in remote parts who cannot make the journeys involved in other forms of entertainment.



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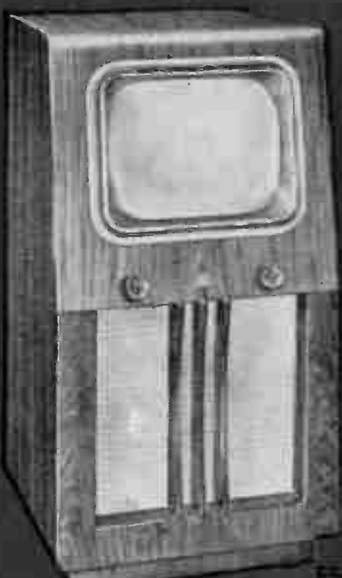

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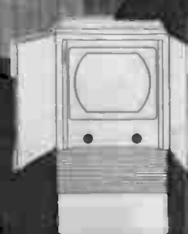

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