

An aerial photograph of a large, lattice-structured tower under construction. The tower is composed of numerous vertical and diagonal beams forming a complex grid. A crane is visible at the top of the tower. The surrounding area is a flat, open field with some smaller structures and utility poles in the distance.

Teleview

Vol. 1 - No. 2

APRIL - JUNE, 1951

2/-

AUSTRALIA'S FIRST TELEVISION MAGAZINE

For F.M. and Television

The new Noval (9 pin)
type Double Triodes and
Triple Diode Triode



With the rapid developments that are taking place in the F.M. and Television fields, amateurs everywhere will welcome the availability of these British-made Brimar Valves that already have proved their quality and reliability in thousands of Television Receivers in England. Brimar leads the V.H.F. field.



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VALVES

DISTRIBUTED BY:

Standard Telephones and Cables Pty. Ltd.
SYDNEY AND MELBOURNE.

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Separate cathode connections and tapped heater features enable this type to be used in a variety of applications. As a frequency changer it will operate at frequencies up to 300 Mc/s.

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This type is particularly suitable for use in discriminator circuits and for delayed A.V.C. application.

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This Offer Expires 15th July, 1951.

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I'm sending you the names and addresses of friends who want to take advantage of this special money-saving offer.

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NEWSPAPERS ACCEPT TELEVIEW AS THE TELEVISION AUTHORITY

Private Stations May Share T.V.

Commercial television is now likely to operate from the start of Australian T.V. broadcasts—despite Labor's opposition to the amendment of the Broadcasting Act to

This is disclosed in a television trade magazine, "Teleview," circulating among the press, health and overseas T.V. agents.

It is stated that the Labor Government will not allow a amendment to permit of television while in Senate majority.

But a loophole in the act has been found, and Government and commercial interests in this could probably let broadcasts being shared by A.B.C. and private stations. Under the act, private stations are prohibited from using any but "A.M." frequencies—but there is no provision to prevent them radiating programmes from Government transmitters.

It is forecast that the use of the 500 kilocycle station which is being used by the Sydney, within 18 months.

Tenders for this closed on November 15.

The policy of the Government is to have commercial T.V. when The Postmaster-General (Anthony), in an article in "Teleview" magazine, says that of thousands of hours soon be buying television sets.

With the definite intention of television manufacturers are being asked to make ready Amalgamated Wire "already built extra sets."

WILL COMMERCIAL STATIONS UNITE,

The possibility that commercial broadcasting stations may unite to share a licence to transmit sponsored T.V. programs is raised in the first issue of "Teleview," a television magazine just published.

It is stated that various means are being discussed by which commercial interests may be able to share in program production and financial period.

A T.V. station will cost at a cost of £100,000. Contracts are soon to be

that the Government part-time use of facilities to commercial stations if they can find a method of co-production of

difficult, but will be bearing on the Government commercial stations, it is noted by a contributor to the maga-

HISTORY

able to evolve private enterprise in the Australia will be a history of past and present conflict and continues "Tele-

commercial stations will be able to co-operate for the purpose. The television will be a precedent for private enterprise in anything we

Alan Nicholls says:

WILL Australian television be nationally conducted, or laid down by the late Labor Government? Will it be commercial, or

Government?

These are questions raised in Australia's first television magazine, "Teleview."

This brilliantly handled magazine is produced by a journalist, who, besides a wealth of knowledge of his special subject, knows how to write.

The editorial article in the first (December) issue sets out the alternatives briefly and clearly.

"We can take it as a firm basis for speculation," it says, "that the Government wants to erect only one station for a start, that station to be owned by the Government."

Owned by the Government, but necessarily operated by them?

THE Liberal-C.P. Government wants to grant licences to commercial operators, but is prohibited from doing so by the Australian Broadcasting Act 1942-48.

This act lays down that commercial stations may only use

amplitude modulation transmitters—that is, the system of broadcasting we are familiar with.

The Government has promised to amend the act, but, unofficially, Labor has made it clear that it will block any such move in the Senate. The Government would not force an election on such an issue as it seems that the act will not, for the present, be amended.

There is, however, an obstacle in the act though which commercial stations may circumvent. There is nothing in the present commercially sponsored television programmes being radiated from Government transmitters.

It is probable that the Government will take advantage of this loophole, and invite commercial interests to take over the production and sale of sponsored programmes.

So much, *inter alia*, from the editor of "Teleview." Since he wrote, however, another factor has entered into the situation.

THE huge defence programme which has been forecast will occupy almost the whole of Australia's radio workers and technicians in the manufacture of radar and field communication units.

The building of television transmitters and receivers will not only be an unjustified luxury, but a physical impossibility. In short, television is likely to be indefinitely delayed.

For one, would not lose a wink of sleep over this. It's an ill wind . . .

Television's Big Four — 1951 Version



MR. CHIPPINDALL.



MR. BOYER.



MR. FANNING.

Television Advisory Committee Formed

A Television Committee of three members has been formed to advise the Postmaster-General on all aspects of the introduction of television to Australia.

This was revealed by Mr. Anthony, Postmaster-General, in an interview with *Televue* last month.

The committee consists of the director-general of Posts and Telegraphs (Mr. G. T. Chippindall), the chairman of the Australian Broadcasting Control Board (Mr. L. B. Fanning) and the chairman of the Australian Broadcasting Commission (Mr. R. J. F. Boyer).

Mr. Anthony told *Televue* that the committee had been set up last year and had met several times.

It was in no sense a statutory body, but rather an "ad hoc" committee of men who were in a position to give the Government authoritative advice on television.

Most of the committee's meetings have been concerned with investigation of the best means of establishing the inaugural television service in Sydney.

"It has not yet discussed the question of commercial television," Mr. Anthony added.

THREE MEN OVERSEAS.

One of the committee's recent

decisions was to send three experts overseas to investigate specialised aspects of television.

They left Australia together by plane on February 17 for Britain, Canada and America, and expect to be back some time in April.

- Mr. Charles Moses, general manager of the A.B.C. went to look at television programme production.

- Mr. J. Donovan, assistant secretary for television of the Broadcasting Board, went to investigate administrative aspects.

- Mr. J. H. Fisher, P.M.G. divisional engineer, went to see how a television station should be built.

TECHNICAL SUB-COMMITTEE

The Television Committee has set up a technical sub-committee to advise it on engineering matters.

This consists of Mr. R. B. Mair, technical director of the Broadcasting Board; Mr. E. J. Stewart, P.M.G. supervising engineer of technical planning; and Mr. S. Darling, technical supervisor of the A.B.C.

Who Advise—



MR. ANTHONY.

One of the most contentious questions debated by this sub-committee has been the location of the studios for the Sydney station.

Mr. Menzies Has Another Look at Television

E.M.I. installed television sets in rooms occupied by the Prime Minister's party in London, David McNicoll cabled to the *Sydney Daily Telegraph*.

On the previous occasion Mr. Menzies was in London, E. K. Cole did the same, as reported exclusively in the first issue of *Televue*.

McNicoll said: "Sir Ernest Fisk has turned all the Prime Minister's party into television fans."

Full-scale commercial television possible without amending Broadcasting Act?

By THE EDITOR

DISCLOSURES in the last issue of *Televue* that sponsored television was possible under the existing Broadcasting Act so long as the programmes were radiated from Government transmitters caused a minor stir in broadcasting circles and led to re-printing of sections of the article by three daily newspapers.

From our talks with representatives of Melbourne commercial interests it appeared that an offer which the Broadcasting Control Board had been authorised to make to them—a share in experimental transmissions—would be accepted.

A somewhat cooler reception was given in Sydney by "Broadcasting and Television," which, apparently speaking for the commercial broadcasters, said: "While pleasing, (the proposal) begs the main issue."

The "main issue" was defined as immediate amendment of the Act to enable commercial stations to be built. *Televue* has been informed by a high source in the Labor Party, which controls the Senate, that the party is united in its stand against commercial television, and would reject such an amendment.

If the attitude of the commercial stations to this proposal is as lukewarm as "Broadcasting and Television" indicates, there are other commercial interests which might take advantage of it, thereby securing a primary right to the limited number of commercial licences which can be issued.

MEANWHILE, the A.B.C. has been consolidating its claim for control of national television programmes.

The entry of both the A.B.C. and commercial stations into television is entirely contrary to the spirit of the Broadcasting Act and the intentions of its framers.

As a result, the A.B.C.'s control over programmes must be of a fragile nature until amendment of the Act. No licence can be granted to the A.B.C. as the Act now stands, but apparently so long as the A.B.C. can find the money there is no specific prohibition against it producing programmes to be radiated from a Government station—as distinct from a Commission station.

The position is precisely the same for commercial stations. No licence can be granted for the operation of a commercial television station, but there appears to be no legal reason why the Government should not build another transmitter for exclusive use by commercial interests, who could rent the station until the Act was amended and they could buy it, or rent it on a long lease subject to compensation in the event of nationalisation.

Neither is there a prohibition against sponsored programmes being radiated from such a station; so that despite the Broadcasting Act, commercial television could be a reality in Australia tomorrow.

If the commercial stations want to get anywhere, they should toss this suggestion up to the Government. If it is rejected, they have a legitimate com-

plaint that the Government has broken one of the promises which put it into power in December, 1949.

Until they make the suggestion, the commercial interests are merely proclaiming the fact that they have not "explored every avenue."

IN the terms of the Act, if it is right for the A.B.C. to have television, it is right for the commercial stations to have television.

Logically, therefore, the A.B.C.'s insistence that it should get television is simultaneously an insistence that the commercials should also get television.

We shall have more to say about the A.B.C. in a future issue, leaving you with the thought that the A.B.C. is apparently willing to see commercial television introduced here so long as A.B.C. television also becomes a reality.

Editor's note: This article was written before Mr. Menzies, Prime Minister, applied for a double dissolution of Parliament.



Plain talk, please!

ONE of our greatest amusements is to collect snippets from the trade and popular press which are designed to conceal rather than reveal the facts about anything.

Television provides many opportunities for this new type of gobbledygook, for while everyone is willing to talk about the probable effects of television on society, hardly anybody is willing to talk about the effect of television on their own business.

And so we read that when the A.B.C.'s general manager, Mr. Charles Moses, flies overseas, it is not to investigate television, but to study "latest radio developments."

Or, in a masterpiece of circumlocution, the world trip of radio factory manager is "in connection with various arrangements" made by his managing director when overseas.

On the reverse side of the coin you find a publicity-conscious cinema organisation announcing it has bought a broadcasting station so it can keep informed about television developments, whereas other film industry sources point out that those frozen dollars are still stacking up, nearly all independent theatres have been bought, and the only thing left to do is to buy radio stations.

Might we recommend a modicum of frankness in similar announcements in future? You don't fool anyone in the industry, and it might be just as well to let the public know that somebody, somewhere, is preparing to extend an unreserved welcome to television.

1,680,000 People Within Range of Sydney Station

How humbly starts a revolution! . . .



Looking out over the houses it will one day saturate with video-frequency signals, Sydney's embryo television station is as yet nothing more than a P.M.G. storage depot. Unmade roads lead up to the unimpressive-looking site on top of Gore Hill, North Sydney—formerly a brick quarry and having still a huge, smoking brick kiln nearby.

The gaping hole on the right hand side of the picture which will have to be filled in, should meanwhile make a good swimming hole to relieve tempers which become heated in the controversy over location of studios.

The site, next door to North Sydney branch of Sydney Technical College, commands an equal view of most parts of Sydney, although it is not the highest point in the district.

It is a fair step—about a quarter mile—from Pacific Highway, which is served by tram, train and bus.

Some of those pipes and coils of cable you can see lying round have been vanishing—not surprising, considering the unguarded picket fence which surrounds the site.

About 1,680,000 people are within range of the television transmitter to be erected at Gore Hill, North Sydney.

This has been calculated by Government engineers using a 50-mile radius around Sydney as the likely coverage of the station.

They emphasise that contours are only a rough guide to signal areas when high frequencies are being used. A more precise pin-pointing of the area would have to await large-scale field strength measurements.

There have been few developments in connection with the Sydney station since details of plans were given in the December issue of Television.

The Civil Aviation Department has not yet given its approval for the erection of a 500 ft. mast on the site, which is already 320 ft. above sea level.

STUDIOS ON SAME SITE?

A final decision on the question of whether studios should be on the same site as the transmitter has still not been made.

The point at issue is whether the studios should be at Gore Hill, 3½ miles from the city, where there is plenty of room for future expansion, or whether they should be closer to the city.

It is understood that a site at Forbes Street, Sydney, owned by the A.B.C., is under consideration by the television technical sub-committee which advises the Postmaster-General.

500,000 DWELLINGS

Calculations made for Television by the Commonwealth Statistician's Department indicate a maximum potential market of almost exactly 500,000 sets for the Sydney station.

In the metropolitan area alone there is a potential market for 440,000 sets for use in Sydney's 370,000 private homes, 57,000 flats and 13,000 tenements.

Private homes would have an average audience of four persons and flats three persons.

TELEVIEW

Australia's first magazine completely devoted to television.

Published quarterly by
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473 Bourke Street,
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Box 5037 Y, G.P.O.,
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Contributions: Highest rates paid for exclusive news. Contributors should note that ar-

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Ltd., King St., Melbourne

Manufacturers want T.V. fast and far

Federal Council of Electrical, Radio and Telephone Manufacturers of Australia has written to the Commonwealth Government urging the immediate erection of television stations in each capital city.

Failing this, the E.R.T.M.A. wants to see at least a station erected in Melbourne as well as in Sydney.

Mr. C. B. Swyer, federal secretary, told *Televue*: "We consider that television has an important defence potential and that it is imperative to erect as many stations as is economically possible.

"This country must get experience in television manufacture and installation so that a pool of trained personnel will be available for radar and other defence telecommunications projects."

Mr. Swyer stated that since the Sydney station was to be a Government installation, a station in Melbourne should be operated by private enterprise.

Latest official statement on the extension of television to other capital cities after the Sydney station was built was made by Senator Cooper, representing the Postmaster-General, in the Senate at the end of last year. He said:

"In the light of experience with the Sydney station, it is the intention of the Government to consider the extension of the service to other centres of the Commonwealth."

From information supplied to *Televue*, it appears that at least ten manufacturers will offer television sets for sale to the Sydney public.

Although most are making arrangements to import certain parts of the set, heavy investments in plant and factory space will have to be made.

Three manufacturers stated they would make cathode-ray tubes here as soon as possible.

Some manufacturers expressed fears that the erection of one station in one city only might not provide a strong enough basis

for such a manufacturing structure.

If stations were erected in other cities, they said, sets could be mass-produced more efficiently and sell for much lower prices.

The danger was that prices would be so high—about £100—that few people would buy sets, and television would slowly starve to death.

PRODUCTION PLANS

Here is the second instalment of our summary of the television plans of the major firms:

KRIESLER AUSTRALASIA LIMITED is planning to produce television receivers for the Australian service.

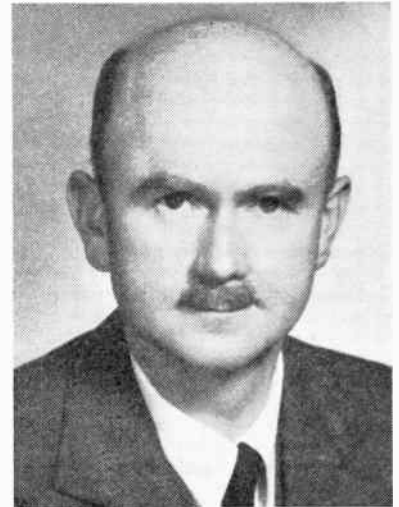
Kriesler's managing director, Mr. P. G. Tuit, recently spent three months in Britain, Europe, and America investigating production, installation, and servicing problems connected with television.

Kriesler's policy will be to manufacture as much of the television receiver as possible in Australia, and additional premises have already been acquired to provide space for television production.

STANDARD TELEPHONES & CABLES PTY. LTD. is one of the member companies of the International Telephone and Telegraph Corporation, the largest telecommunications organisation in the world.

The companies comprising I.T. & T., manufacture all types of communication apparatus, including television equipment, and S.T.C. Sydney is therefore vitally interested in the future progress of Australian television.

The Farnsworth Corporation, now renamed Capehart-Farns-



MR. BROWN.

... for S.T.C., he went to London town.

worth, is also one of the associated companies of the organisation, and the Farnsworth patents, which are controlled by I.T. & T., include many which are fundamental to the art.

It is probably true to say that no modern television receiver could be made without using the principles specified in many of these patents, and in the U.S.A. they are licensed to several other organisations including R.C.A.

S.T.C.'s overseas research organisations have long been associated with television development, and it is of interest to record that S.T.C. London manufactured the world's first coaxial cable and ancillary equipment for the transmission of television signals.

This cable was installed between London and Birmingham in

● Continued on Page 7.

A PRACTICAL COURSE IN TELEVISION

IS NOW AVAILABLE FOR THE

SERVICEMAN HOME CONSTRUCTOR AND HOBBYIST

BUILD YOUR OWN T.V. experimental set up, which will enable you to reproduce a picture on a Cathode Ray Tube in your own workshop, and thus gain valuable practical knowledge of video amplifiers, etc., before actual Television Transmissions take the air.

The Course to which we refer is being published in monthly instalments, in our "AUSTRALIAN RADIO AND ELECTRONICS" magazine.

Therefore, it is only necessary to subscribe to our new journal to receive the complete course, which is called the "R. & E. T.V. Project" for Home Construction.

If you are not already a subscriber, may we suggest you become one immediately by forwarding an annual subscription of 18/- in Postal Notes direct to us, which covers 12 issues.

AUSTRALIAN RADIO AND ELECTRONICS

Telegrams: "Cranlay" Sydney — 17 BOND STREET, SYDNEY, N.S.W. — 'Phone: BU 3879

1938 and extended to Manchester in 1940, and the company is at present manufacturing microwave relay equipment to extend the service from Manchester to Edinburgh.

Other types of T.V. equipment, including transmitters, studio facilities and receivers, are manufactured in U.S.A., England and France.

S.T.C. will make receiving sets for the Australian service at its Sydney works. The whole set except the valves, manufactured under the Brimar trademark by S.T.C. in Britain, will probably be made here.

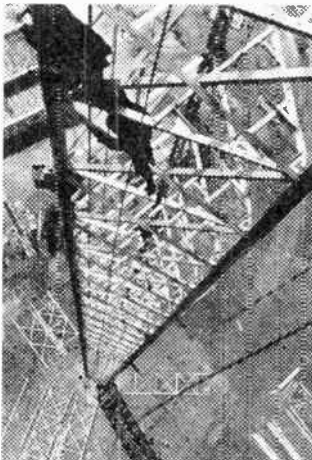
Mr. K. S. Brown, manager of the valve division, who recently spent six months studying television in Britain, Europe and America, told *Televue*:

"Plans for production of cathode ray tubes in this country are well advanced, but a final decision awaits a clearer picture of the Government's intentions on television."

Mr. Brown acted as Australian observer to Study Group II (Television) of the C.C.I.R. while abroad.

(Further contributions for this section are invited from manufacturers interested in television).

Front Cover



This remarkable bird's eye view of a television mast was taken from the 600 ft. level of the 750 ft. mast at Sutton Coldfield, near Birmingham, England. The 140-ton structure rests on a 2-inch steel ball and the mast-head sways as much as 7ft. 6in. from the perpendicular during gales.

DID YOU GET YOUR FIRST ISSUE?

We learn that several copies of *Televue*, posted during the week before Christmas, did not reach their destination.

Subscribers who failed to receive a copy of the first issue should write immediately to Video Publications, Box 5037 Y, G.P.O., Melbourne.

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DON'T DEBAUCH TELEVISION!

By A. A. CALWELL

Labor M.H.R. for Melbourne.



MR. CALWELL.

There are seven million viewers of television in the United States, according to the latest figures available. That means seven million sets, viewed possibly by 35 million people, are in operation daily and nightly, and particularly nightly, in a total population of 150 million people.

On a comparable basis, Australia would have 400,000 sets viewed by two million of eight million people.

If television had reached the same stage of development in this country that it has attained in the United States, the effect on the social habits, social thought, and social relationships would probably be as profound and far-reaching as it has been in the United States and the United Kingdom, and wherever else it is operating.

Television will, without the slightest doubt, have marked effects upon our culture, our leisure and our future, and, as a medium of entertainment and information, must be community owned and operated.

The profit motive must not be allowed to debauch this valuable addition to the enjoyment of living.

Placed in the hands of those concerned merely with the idea of getting rich quickly, it could become a national menace, instead of a national benefit.

Commercial interests must, therefore, be kept out of the field of telecasting and every care must be taken to ensure that the programmes broadcast, or telecast, on this national possession shall not

women's programmes as part of the B.B.C. television session, "Women's Hour."

She also worked as public relations officer for Baird Television Ltd., to become acquainted with T.V. set manufacturing.

Miss Riley recently returned to Melbourne where she is forming one of Australia's first public relations companies.

Ultimately she hopes to produce television programmes in Australia.

Miss Riley will contribute regularly to "Televue."

Watch for the next issue for her first article.

Will Write For 'Televue'



TALENTED, attractive Doreen Riley is one of several young Australians who have broken into televue overseas.

For two years Miss Riley edited and compered young

EDITOR'S NOTE

Mr. Menzies, Prime Minister, was invited to write an article for Televue giving the opposite political views on television to those set forth here by Mr. Calwell.

As we went to press, the official answer was that the matter was still under consideration.

We are glad to be able to publish Mr. Calwell's vigorously-expressed views, but we apologise to readers for not being able in this case to present the other side with equal prominence in the same issue.

play down to the people as commercial radio does.

It should ever strive to educate and not to pander, and should give entertainment and enjoyment in a clean and pleasurable way.

All this strengthens my conviction that the Chifley Government was right when it made television a national monopoly.

The Menzies Government has announced its intention to introduce amending legislation to permit private ownership of television broadcasting licences.

That legislation will never pass the Senate while Labor holds its numbers there.

I believe that public opinion will support our attitude in that regard.

We cannot hold television back and any Government that fails to establish a nationally owned television station in each of the capital cities as soon as possible, is failing in its duty to the Australian people.

The plans of the Chifley Government in this regard have been thwarted temporarily, but, in spite of that setback, I am confident that each State capital will have its television broadcasting station before the end of 1953, owned by the people, enjoyed by the people and operated for, and on behalf of, the people and no one else.

Specialised Training in

- Television
- Frequency Modulation
- Facsimile
- Radio Servicing
- A.O.C.P.

For over 20 years A.R.C. training has helped ambitious radio-minded men towards technical positions, advancement, and business ownership. Now that Television is soon to be with us, we offer you a comprehensive course of training in Television Technique.

If you already have a knowledge of the basic principles of radio engineering, the new comprehensive course in Television, Frequency Modulation and Facsimile offered by the Australian Radio College must appeal to you. This course, only recently completed, deals with the latest system of television in use in America and England, and covers all phases of the television system to be adopted in this country.

Whilst the subject of television is covered very thoroughly from both the transmission, studio, radiation and reception angles, special emphasis is placed upon the design, construction and servicing of typical television receivers. The course will admirably suit those who are likely to be engaged in this field of activity.

You are invited to write or post the coupon for full details of our Television Training plan.

AUSTRALIAN RADIO COLLEGE Pty. Ltd.

E. S. & A. Bank Building, Cnr. City Road
and Broadway, Sydney, N.S.W.

Phone: M 6391, M 6392

To the Principal,
Australian Radio College Pty. Ltd.

Dear Sir,

Please send me full details of your Television Training plan.

Name

Address

.....

SUMMARY OF TELEVISION SECTION OF COURSE

(1) What Television, Frequency Modulation and Facsimile are. Historical background of Television. Large screen, colour and stereoscopic television. Advantages of F.M.

(2) Source of Television signals. Methods of scanning—mechanical and electronic. Production of the picture signal. Definition and its relation to number of lines per picture.

(3) Cathode Ray Tube—principles and operation. Magnetic and electrostatic focussing. Making the electron beam visible. Fluorescence.

(4) Electronic scanning and Television camera tubes. The Farnsworth camera. The electron multiplier. The iconoscope and emitron. The image iconoscope. The orthicon. The image orthicon. Camera control apparatus.

(5) Video amplification. The nature of the video signal. The frequency of the video signal. Requirements of the video amplifier.

(6) Transmission of Television signals. Band width for television signals. Single side band transmission. Characteristics of U.H.F. waves. The vision transmitter. Generation of U.H.F. carrier. Modulation of the carrier wave. Electronic interlaced scanning.

(7) Aerials. Resonant and non-resonant types. The half wave dipole. Directional properties of a half wave dipole.

(8) Television receivers. Problems of television reception. Types of receivers. Oscillator and mixer circuits. The intermediate frequency stages. The sound intermediate frequency channel. The picture intermediate frequency channel. Band pass circuits.

(9) Image reproduction. Polarity of detector output. The direct current component of the video signal. Loss and restoration of D.C. component. D.C. restorer circuits.

(10) Beam deflection synchronisation. Separation of synchronising pulses from video signals. Separation of line synchronising pulses from frame synchronising pulses. Generation of saw-tooth waves. Hard valve time base circuits. Impulse generators. The blocking oscillator. The multi-vibrator.

(11) Receiver Power supplies. Power transformers. Resistance capacity filtering. High voltage precautions. R.F. high voltage power supplies.

(12) Colour television. Sequential system. Simultaneous system. Black and white reception from colour transmitter.

(13) Recent television developments.

WHERE ARE OUR TELE

COURSES FOR 150 MEN

About 150 men throughout Australia are being trained as television technicians and servicemen.

Another 200 have attended introductory lectures on the subject given by various organisations.*

Several hundred more students are taking courses which will lead them directly to television.

The 150 men who are tackling television will be the "hard core" of the first public television services in Australia.

Some should be able to get jobs at the stations, while there will be a keen demand for trained men among manufacturers and large retail organisations.

Doubts have been expressed whether enough trained technicians and servicemen will be available in time for the opening of the Sydney station—but for anyone who wants to go into the field several good training courses are available.

To help overcome the servicing problem, several manufacturers are planning to set up their own servicing department where many trained men should be absorbed.

The different courses available are listed here in alphabetical order. A fairly extensive knowledge of radio is necessary before any can be taken.

AUSTRALIAN RADIO COLLEGE is running a combined course in television, F.M. and facsimile. The television section covers basic principles, transmission, reception and colour.

The course consists of 20 lessons, costs £10, and takes an average of nine months to complete.

Fifty personal and correspondence students are at present doing the course, and it is anticipated that a large proportion of the college's 1200 other students doing radio servicing courses will later take the television course.

Practical experiments with television equipment are due to begin soon for night class students, to be followed by the introduction of television kit sets for correspondence students.

* These figures are believed to be correct within a small margin. Most organisations supplied full data, although not necessarily for publication as individual figures.

E.M.I. (AUSTRALIA) PTY. LTD., is handling a basic television course for E.M.I. Institutes Ltd., London, to whom answers to correspondence lessons are sent for correction.

Cost is 19 guineas, and the course takes an average of 40 weeks to complete.

The emphasis is on servicing, but general principles are also discussed.

INTERNATIONAL CORRESPONDENCE SCHOOLS' combined F.M.-television course has been operating in Australian capital cities and New Zealand since the end of last year.

The course was planned at a meeting of I.C.S. representatives from Australia, New Zealand, Canada and U.S.A. at Christchurch (N.Z.) in April, 1950.

It deals entirely with installation, testing and servicing of television receivers and aerials.

Description given to the course is "NOT academic discussion, but practical postal instruction in servicing all types of receivers up to 13 channels."

This course, planned by seven of the world's leading receiver specialists, costs £9/10/0, and is planned to occupy 140 hours of home study. The average student would complete the syllabus in about a year.

Pupils with a sound general knowledge of radio immediately take the main part of the course, entitled "T.V. and F.M. Receiver Servicing, 7 Tests."

Synopsis of this part of the course is as follows: Antenna system: operation and installation T.V. receiver installation; test equipment. R.F. and video amplifiers. Sweep and control circuits. Alignment and trouble-shooting. Fundamentals of F.M.: commercial circuits, alignment, servicing.

Beginners must first do a general radio course. Principles of

television have been imparted to thousands of I.C.S. students who have done the complete radio course which began in 1938.

Several dozen students have taken on the television course, many with the idea of becoming T.V. set salesmen.

Possible arrangements for practical work on television sets are now being investigated.

MARCONI SCHOOL OF WIRELESS has a course which takes the student through elementary radio theory, F.M., and television reception.

Parts four and five covering the technique of transmission and studio control, may be available at the end of this year.

Personal and correspondence students are accepted for the three-part course, which lasts 18 months and costs £48. Next course begins on May 8.

MELBOURNE TECHNICAL COLLEGE has what is probably the best training set-up in Australia. Equipment includes a complete Pye camera chain and 18 receivers, an image orthicon camera tube, and all necessary test equipment.

Twenty-five trained radio technicians who have already a sound knowledge of radio have been accepted for training during 1951.

Others will study general radio theory and practice before attempting the television course next year.

Before getting equipment for practical work, the College had already begun training men in the theory of pulse techniques and television transmission and reception. About 30 students have been awarded a diploma in these subjects.

The television course consists of two nights' study a week for 12 months for a total cost of £4/10/-.

A course of television receiver servicing for those already skilled in the servicing of radio receivers will begin soon.

● See Next Page.

VISION TECHNICIANS ?

T.V. NEEDS EXPERTS

By PROFESSOR
H. J. BROWN



Professor Brown needs little introduction to most of our readers. In charge of the Electrical Engineering Department at the N.S.W. University of Technology, he organised a series of lectures on all aspects of television last year.

In England and America television has grown up through the normal process of experiment, small scale trials, preliminary commercial trials and full-fledged production based on some 20 years of background and experience.

It is coming to Australia suddenly with little or no background or experience, like an adopted child already grown up and fixed in its habits.

For this reason we shall probably experience many difficulties in attempting to fit it into our own way of life, and shall probably make many mistakes because of lack of understanding.

One of the difficulties which will face receiver manufacturers is the lack of a group of technicians who have grown up with the experiments and who can form the nucleus of a servicing and repair organisation.

Engineers can go overseas and read the technical journals and reach a reasonable stage of proficiency in design, but it is the testing technicians, the service and repair men, the installation men who are going to be the important men to ensure that the public is satisfied and remain satisfied when they purchase a receiver.

The ordinary radio serviceman who conducts a local business and

perhaps sells radio and electrical goods in a small shop is going to find himself completely lost when it comes to handling a T.V. receiver.

Generally, he is unfamiliar with the idiosyncrasies of 200 megacycles and in addition has had little experience with cathode ray tubes and complicated waveforms, with their clippers, levellers, synchronizers, sharpeners, compensators, differentiators, integrators and all the other peculiar circuit tricks which go to make up a television receiver circuit.

It is not sufficient just to pick up the knowledge haphazardly. It must be learnt properly, thoroughly and well, for the television receiver has to handle a great deal more information than the radio receiver.

I fear that the radio trade has not yet fully realized what a problem servicing is going to be.

It will be absolutely necessary to organize training courses to introduce these men into the new concepts, new circuits and new ideas of closer tolerances.

These courses must include a great deal of practical work as well as theory.

In the early stages it may be necessary and probably advisable for each manufacturing company to service its own receivers and to take no account of the average private radio serviceman.

As more men become trained in the intricacies of television, it may be possible to leave servicing to private individuals who have received appropriate training and hold a certificate from some central organization.

INTRODUCTORY LECTURES

Organisations which have been giving lectures on more general aspects of television include the N.S.W. University of Technology, Institution of Radio Engineers (Sydney) and Radio and Electrical Retailers' Association (Victoria)

N.S.W. UNIVERSITY OF TECHNOLOGY conducted a series of 27 lectures last year. Enrolment was restricted to 85.

Main object of the course was to survey the whole field of television, pointing out the features requiring study in each branch, and the problems facing manufacturers, designers and operators.

Professor H. J. Brown, who conducted the course, told *Television*: "If it did little else, the course impressed on engineers the complexity of television compared with radio, and the need for careful and thorough design and careful attention to detail."

INSTITUTION OF RADIO ENGINEERS (Sydney division). has

begun a series of television lectures for its members.

Professor Brown gave the introductory address on technical, economic and social problems.

RADIO AND ELECTRICAL RETAILERS ASSOCIATION (Victoria), is arranging lectures on television whenever suitable speakers become available.

First talk on general aspects was given by Mr. O. F. Mingay, managing director of the Mingay Publishing Company, on his return from overseas; followed by Mr. O. G. Oliver, of Radio Corporation, on "Television from the Retailer's Angle."

Technical talks on the installation and servicing of receivers will be given this year.

★ Professor Brown's article continued from previous page

EXPERIMENTAL TRANSMITTERS NEEDED

One of the best ways of preparing for scale television in Australia would be to allow the manufacturers of receiving companies to set up small scale low power transmitters for experimental purposes.

These companies could then issue experimental or pilot model receivers to their engineering and technical staffs for operation in their homes, thus providing a group of working receivers which would present to the staff most of the problems with which they are likely to meet, both in installation and operation.

This could be done now with almost standard equipment from overseas and would prove invaluable over the next few years.

GOOD PICTURES.

It is remarkable how many shapes, distortions, blotches and streaks can be produced on a T.V. screen, but there is only one perfect picture. To pick that one perfect reproduction from the mess requires skill, knowledge and experience. Without these the chances are much the same as winning first prize in a lottery.

Such experimental transmitters would also provide opportunity for the training of cameramen, studio supervisors, producers, and the host of specialists needed to put on a television programme.

The cameramen need to be a mixture of movie camera operator, portrait photographer and stage producer.

NOT AT HOME.

Our radio station announcers and producers would be as little at home in a television studio as they would be in a Hollywood film studio.

The average staff for a reasonable television studio is about 50, and when the show is on the studio bears as much resemblance to a radio studio as Central Railway Station at the beginning of a holiday week-end does to the Sahara Desert.

The training of studio personnel is as urgent a problem as the training of technicians.

It will be of little use to produce a well engineered T.V. receiver if they are not installed properly and serviced well. It

will be a bad start for T.V. if a reasonable standard of programme is not achieved in a short time.

I hope the radio industry in Australia will realize the importance of this aspect of T.V. and not forget it till the public begin to complain.

It could give a very bad start to this new industry and cause a set-back from which it might take some time to recover.

There are enough economic problems associated with T.V. without creating another unnecessarily.

PRAISE FOR SUGGESTION

"Professor Brown's suggestions are timely, practical, and vital to the successful development of television in Australia."

This was stated by Mr. F. A. Kempson, senior radio instructor at Melbourne Technical College, when asked by Teleview to comment on Professor H. J. Brown's article recommending the licensing of low power experimental transmitters. (See this page.)

Mr. Kempson, who will conduct the College's television training course, made these points:

● The Government's plan to erect a station only in Sydney will give an unfair advantage to Sydney manufacturers over those in other States. Professor Brown's suggestion would enable all manufacturers to test their sets on actual transmissions.

● The Sydney station must operate experimentally for a start. This experimental period will be lengthened by the limitation on the amount of research work that can be done by manufacturers.

PROBLEMS OUTLINED.

Mr. Kempson outlined possible objections to the proposal:

● It would be difficult to purchase even low power equipment

BRITAIN LICENSES T.V. AMATEURS

Amateurs will be allowed to build their own television stations in Britain as a result of a recent decision by the British Postmaster-General.

First off the mark with an experimental transmission was Television Weekly, working in conjunction with an amateur radio society.

Articles on the significance of the P.M.G.'s announcement were also published by Television Weekly.

Other recent outstanding articles in Britain's first weekly television newspaper have been:

- **Scientific:** Does T.V. strain the eyes?
- **Puppetry:** Muffin—the Donald Duck of T.V.
- **Political:** Report on the Beveridge Report.
- **Viewers:** Half a million now licensed.

Television Weekly is distributed in Australia by Video Publications, publishers of Teleview.

An annual subscription is only 25/-, post free; while free sample copies are available on request.

Write to: Video Publications, Box 5037 Y, G.P.O., Melbourne.

to operate on the 625-line standard immediately. Equipment of either British or American standards could be used, as it is readily available and techniques are quite similar.

● Programme production would be costly, but amateur bodies such as the Ballet Guild and dramatic societies are eager to learn television techniques and willing to co-operate on an amateur basis. Test cards, monoscope pictures and puppets could be used for testing between programmes.

● Companies operating low power transmitters, possibly on inefficient radiating systems because of cost, would produce signals liable to suffer from interference, because of poor signal-to-noise ratio. This would be rather an advantage from the experimental point of view, but the service would have to be kept strictly on an experimental basis to prevent unfavorable comment from public viewers.



Philips working on film programmes

By **GORDON GOW**

Our European Correspondent.

When I had a request to go along to an Amsterdam studio recently to speak the sound-track commentary for the English version of a short Dutch film, I expected it would be either the usual documentary or advertising short.

Instead I found myself caught up unexpectedly in an experimental television feature.

The Martin Toonder studios, in co-operation with Philips, had been at work on the task of turning out a ten-minute cartoon as cheaply as possible for use in the Dutch experimental transmissions and later abroad.

This was one of a group for children's programmes, the story of a panda who wanted to fly.

As the accent was on economy, the cartoonists had used as little animation as possible: at times only still pictures rapidly replaced by other still pictures.

The illusion of movement was gained by liberal use of panning effects, and in the ultimate view-

ing only the acute eye would register the fact that the central figures seldom moved, although their expressions changed in still close-ups.

The style placed strong reliance upon sound, with the customary cartoon noises and an almost non-stop commentary.

The Toonder studios are now developing the same technique in documentaries, and are planning to use puppet films for T.V. purposes.

With Dutch television almost ready to be launched, the problem of finding suitable programme material is one of immediate con-

Watch for Television News from Europe

Gordon Gow, well-known Australian broadcaster, has been appointed Teleview's European Correspondent.

He will send articles from the world's capitals describing the progress of television abroad.

Mr. Gow worked in Melbourne, Sydney and Brisbane for more than ten years as announcer, actor, news-reader and commentator.

For several years he handled "Stage and Screen Newscast" in Melbourne for the A.B.C.

Gordon Gow's B.B.C. experience includes features, talks and film reviews. At present in Holland, he has been handling on-the-spot commentaries, and interviews.

cern. Films are one of the easiest solutions.

The stop-gap use of old and sometimes worn cinema features is often a lamentable necessity elsewhere, and it is encouraging to find an attempt in progress to construct films specially for the new medium.

MAGAZINE LAUNCHES AMATEUR T.V. PROJECT

A method by which amateur radio enthusiasts can gain practical workshop experience in many basic principles of television has been announced in Sydney by Mr. L. W. Cranch, Australian director of Radio and Electronics.

The project is designed to enable closed-circuit transmissions to be made with inexpensive equipment before regular television broadcasts begin.

First stage is the transmission of still images. A cathode ray tube on which "scanning lines" are produced by means of a pair of time-bases is used as a light source, eliminating costly camera tubes.

A transparency is placed in front of the C.R. tube, and the light falls on a photocell. With the light intensity at any given time determined by the transparency, the output of the photocell becomes the video signal.

This is amplified and fed to a second C.R. tube for reception.

"Radiotronics" tackles servicing problems

The first issue for 1951 of "Radiotronics," the Amalgamated Wireless Valve Company's well-known publication, was almost entirely devoted to television servicing problems.

Articles included "Television Trouble-Shooting," by the field supervisor of R.C.A. Service Company, and descriptions of television alignment equipment and procedures.

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- Sydney Dental Hospital.

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"I have put the idea before the management committee, who are enthusiastic about it."

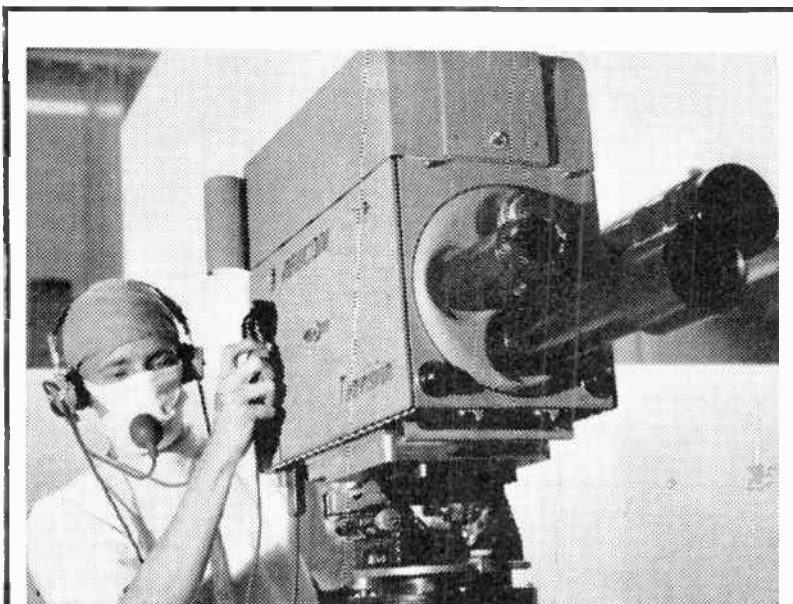
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In June of 1949 in Philadelphia, American doctors watching the unfamiliar, transparent screens of new television sets gasped in amazement as bright, clearly defined pictures of a Caesar's head in color flashed before their eyes.



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Harold E. Stassen, president of Pennsylvania University, immediately said he would see that the university's new £4,000,000 medical centre would be equipped with color television.

Du Mont Laboratories Inc. followed up the C.B.S. successes with demonstrations of its all-electronic system in New York.

In Britain Pye Ltd. used color equipment based on the C.B.S. system costing £60,000 to televise dental and eye operations.

So lifelike was the color rendition that on several occasions doctors in the viewing rooms were able to make a diagnosis from the television screen.

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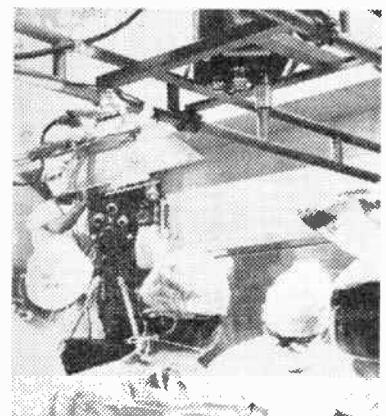
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Internal organs can now be televised

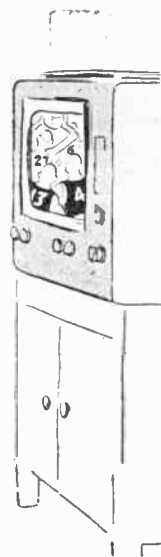
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Eye operations being shown in minute detail to Australian eye specialists at Sydney Hospital by means of television.

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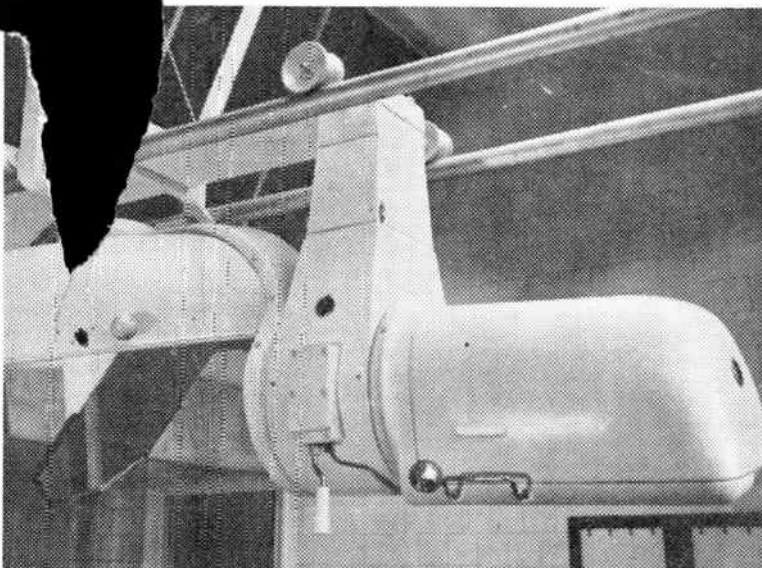
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To conclude this article and supplement, the reaction of "The Times" to E.M.I.'s first demonstrations, expressed in a few words, is worth quoting:

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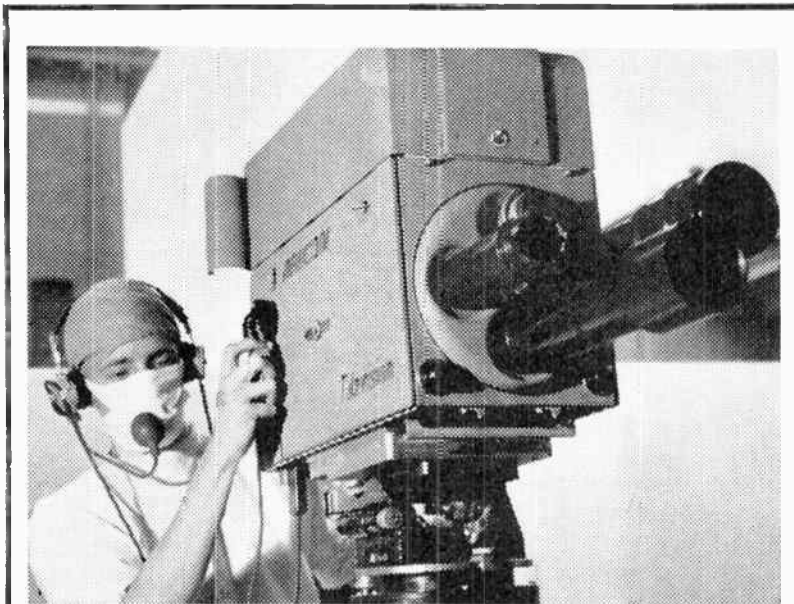
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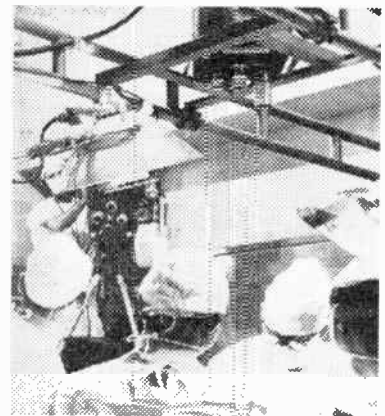
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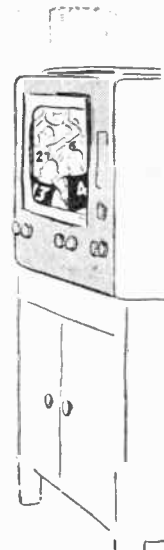
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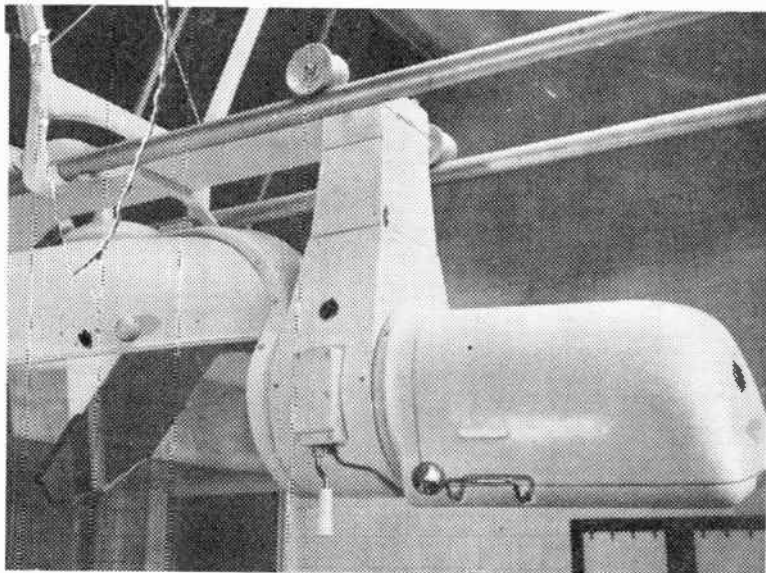
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Usual method of commentary on televised operations is through a throat microphone worn by the surgeon. Commentaries may also be given by experts seated outside the operating theatre watching a monitor screen, as in this A.W.A. set-up.

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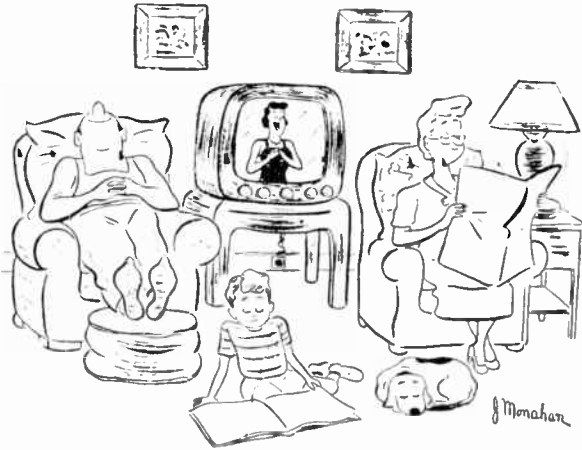
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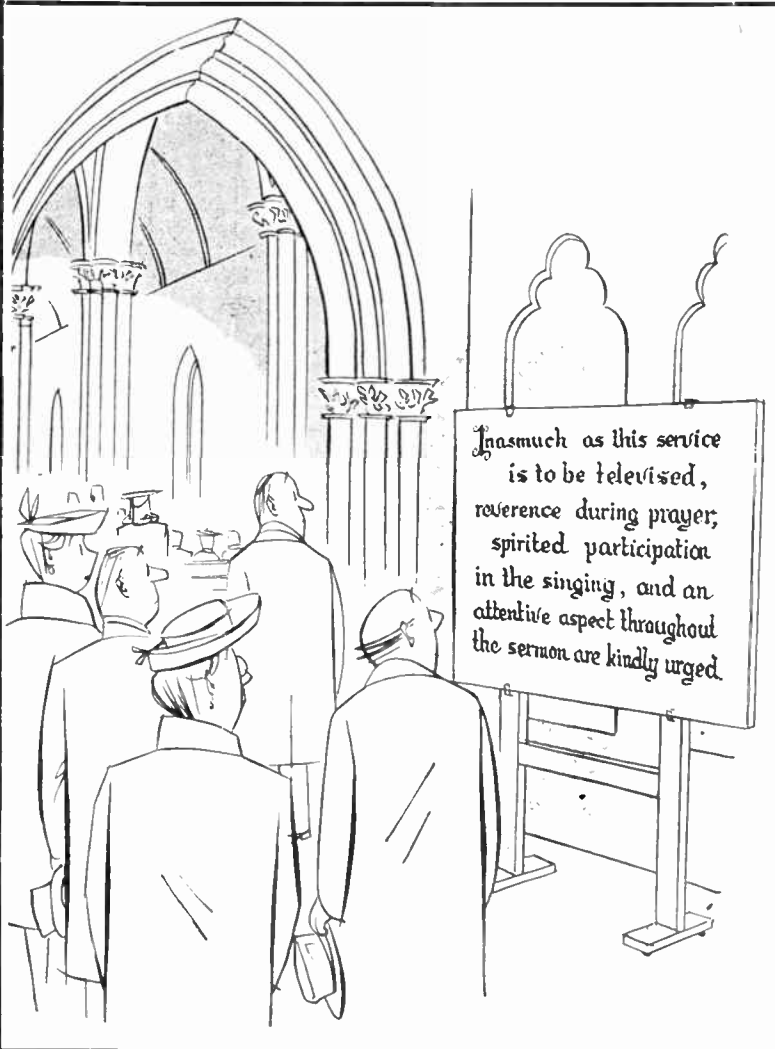
BRITISH RADIO SHOW. — 18th National Radio Show will be held at Earls Court, London, from August 28 to September 8, 1951, says Radio Industry Council.

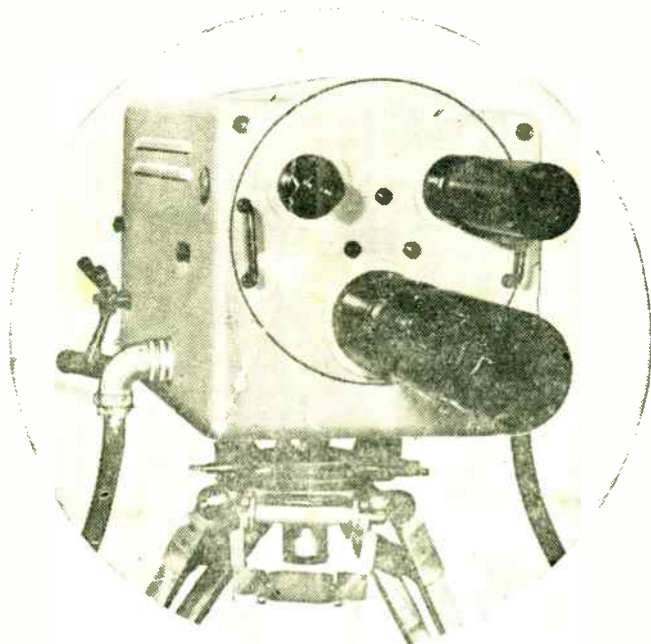
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