

1956.



THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA.

SEVENTH ANNUAL REPORT

OF THE

AUSTRALIAN BROADCASTING CONTROL BOARD.

YEAR ENDED 30TH JUNE, 1955.

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AUSTRALIAN BROADCASTING CONTROL BOARD.

SEVENTH ANNUAL REPORT.

The Honorable the Postmaster-General:

In conformity with the provisions of section 6P of the *Broadcasting Act 1942-1954*, the Australian Broadcasting Control Board has the honour to furnish its Report, being the Seventh Annual Report of the Board, on its operations during the year ended 30th June, 1955, together with financial accounts in the form approved by the Treasurer, and the report of the Auditor-General on those accounts.

2. This Report is arranged as follows:—

- Part I.—Introductory.
- Part II.—Broadcasting—Administration.
- Part III.—Broadcasting—Technical Services.
- Part IV.—Broadcasting—Programme Services.
- Part V.—Television—Administration.
- Part VI.—Television—Technical Services.
- Part VII.—Television—Programme Services.
- Part VIII.—General.

PART I.—INTRODUCTORY.

AMENDMENT OF BROADCASTING ACT 1942-1953.

3. A Bill to amend the *Broadcasting Act 1942-1953* was introduced into the House of Representatives on 10th November, 1954, by the Acting Postmaster-General, Sir Philip McBride. The Bill provided for an increase in the number of Members of the Australian Broadcasting Control Board from three to five by the addition of two part-time Members. Moving the second reading of the Bill, Sir Philip said that the objective of the Government was to secure the services, on a part-time basis, of Members of the Board who would be selected primarily to strengthen it in the discharge of its important functions in respect both of the licensing of commercial television stations and the maintenance of high standards in television programmes. Having passed both Houses of the Parliament, the Act was proclaimed to come into operation on 6th January, 1955, and the principal Act, as so amended, is now cited as the *Broadcasting Act 1942-1954*.

MEMBERSHIP OF THE BOARD.

4. The full-time Members of the Board are Mr. Robert Gumley Osborne, B.A., LL.B., Chairman, his appointment being for a period of five years from 15th March, 1952, and Mr. Robert Bruce Mair, B.E.E., A.M.I.E. (Aust.), S.M.I.R.E. (Aust.), who was re-appointed during the year for a period of five years from 15th March, 1955. Mr. Raymond Cottam Allsop, who was also a full-time member, resigned from the Board on 31st December, 1954, and at the time this report was being prepared, an appointment to the resultant vacancy had not been made. The part-time Members of the Board, appointed in pursuance of the amendment of the Act referred to in the preceding paragraph, are Dr. James Ralph Darling, M.A., D.C.L., and Mr. Randal Merrick White, M.A., appointed for a period of five years from 6th January, 1955. Prior to his appointment, Dr. Darling had made arrangements to visit Great Britain and the Continent during 1955, and pursuant to section 6G of the Act, he was granted leave of absence from the meetings of the Board from 15th March, 1955, until his return. Dr. Darling had not returned to Australia at the time this report was prepared and consequently did not participate in its preparation.

FUNCTIONS OF THE BOARD.

5. The principal functions of the Board are set out in section 6K of the Act, and are as follows:—

- (a) to ensure the provision of services by broadcasting stations, television stations and facsimile stations, and services of a like kind, in accordance with plans from time to time prepared by the Board and approved by the Minister;
- (b) to ensure that the technical equipment and operation of such stations are in accordance with such standards and practices as the Board considers to be appropriate;
- (c) to ensure that adequate and comprehensive programmes are provided by such stations to serve the best interests of the general public.

The Board has other detailed functions relating to broadcasting, television, and other services, and these are fully set out in paragraphs 42-45 of its First Annual Report. (They are also referred to, where appropriate, in this Report.) In particular, the Board is required to determine the location, operating

power and frequency of all broadcasting and television stations, and to advise the Minister on all matters relating to the licensing of commercial broadcasting stations. Under the *Television Act 1953*, the Board is required to advise the Minister also on matters relating to the licensing of commercial television stations. During the year, the Government decided to proceed with the introduction of television services in the Commonwealth. As a result, the Board is able, in this report, to give details of the action already taken to give effect to the decision of the Government in regard to television as well as a complete account of its activities in the discharge of its duties in relation to the broadcasting services.

MEETINGS OF THE BOARD.

6. During the first half of the year the Board continued its normal practice of holding meetings every week at its office in Melbourne, but with the addition of part-time members in January, 1955, it decided that the full Board should hold an ordinary meeting in the first week of every month and such additional meetings at other times as urgent business demanded. In between meetings, the full-time members transact the day to day business of the Board, ensuring that, on the one hand, the decisions of the Board are promptly implemented in conformity with the provisions of the Act and, on the other, that adequate information is prepared for meetings of the full Board in order that proper consideration can be given to the important questions of policy which have to be determined. The Board held several meetings in Sydney in February, 1955, mainly in connexion with its public inquiry into applications for licences for commercial television stations, and it visited Newcastle in October, 1954, at the invitation of the Australian Federation of Commercial Broadcasting Stations which held its Annual Convention in that city. As we have mentioned previously, the Board's presence at the functions associated with the Federation's Annual Convention gives the representatives of many licensees an opportunity to meet the Board and discuss matters connected with the conduct of their services. Individual members of the Board or its senior officers also visited all States of the Commonwealth during the year.

CONSULTATION WITH THE POSTMASTER-GENERAL'S DEPARTMENT, THE AUSTRALIAN BROADCASTING COMMISSION, REPRESENTATIVES OF COMMERCIAL STATIONS, MANUFACTURERS AND ADVERTISERS.

7. During the year, the Board and its officers conferred freely on matters relating to the National Broadcasting Service with the Postmaster-General's Department, which operates the national broadcasting stations, and the Australian Broadcasting Commission, which provides the programmes of the National Service. The Board also kept in close touch with the executive of the Australian Federation of Commercial Broadcasting Stations and had two meetings with the Management Committee of the Federation when a number of important matters affecting the Commercial Broadcasting Service were discussed. There were also consultations with the Australian Association of Advertising Agencies and the Australian Association of National Advertisers and several discussions with representatives of the radio manufacturing industry in connexion with their plans for the production of television receivers.

STAFF OF THE BOARD—HEAD OFFICE.

8. There was no substantial change during the year in the Head Office organization of the Board which consists of three Divisions, namely, the Administrative Division, the Technical Services Division and the Programme Services Division. The number of officers employed by the Board on 30th June, 1955, was 34.

STATE ORGANIZATION.

9. By arrangement with the Director-General, Posts and Telegraphs, officers of the Engineering Branch of the Postmaster-General's Department continued, during the year, to undertake certain technical duties in the States on behalf of the Board, including the inspection of broadcasting stations and the conduct of field strength surveys, and officers of the Radio Branch of that Department performed other duties on behalf of the Board. The Superintendent (Radio) in each State acts as the Board's State Representative, the following officers filling this role in the various States:—

New South Wales	..	..	..	..	..	Mr. T. Armstrong
Victoria	..	..	..	..	..	Mr. J. M. Dobbyn
Queensland	..	..	..	..	..	Mr. W. H. Conry
South Australia	..	..	..	..	..	Mr. H. K. Burbury
Western Australia	..	..	..	..	..	Mr. E. L. Greig
Tasmania	..	..	..	..	..	Mr. P. E. L. Dunne

Although, as a result of the co-operation of the officers of the Department who perform these duties on behalf of the Board, this arrangement produces fairly satisfactory results, it is becoming increasingly apparent that the important responsibilities which will have to be undertaken by the Board in respect of

television will necessitate further consideration of the desirability of the Board having its own officers in the States as was originally proposed.

PART II.—BROADCASTING—ADMINISTRATION.

LICENSING OF COMMERCIAL BROADCASTING STATIONS.

10. The statutory provisions relating to the licensing of commercial broadcasting stations are contained in Part III. of the *Broadcasting Act 1942-1954*. The power to grant, renew, suspend or revoke licences is conferred upon the Minister and, without his consent, a licence may not be transferred nor may the licensee sub-let or otherwise dispose of his licence. Section 52A of the Act provides that before exercising any of his powers in relation to the licensing of stations, the Minister shall take into consideration any recommendations which have been made by the Board as to the exercise of those powers. Subject to any direction of the Minister, the Board determines the location, operating power and frequency of each commercial broadcasting station. With the authority of, and on behalf of, the Minister, the Board undertakes the detailed administration of the provisions of the Act relating to the licensing of commercial broadcasting stations and of the *Commercial Broadcasting Stations Licence Fees Act 1942*.

CURRENT LICENCES FOR COMMERCIAL BROADCASTING STATIONS.

11. On the 30th June, 1955, there were 106 licences for commercial broadcasting stations in force. A list of licensees is contained in Appendix "A". A map of Australia showing the location of all broadcasting stations is included after Appendix "E". The disposition of the licences according to States is shown hereunder:—

State.	Metropolitan Area.	Country Districts.	Total.
New South Wales (including Australian Capital Territory)	7	30	37
Victoria	6	14	20
Queensland	4	16	20
South Australia	3	5	8
Western Australia	4	9	13
Tasmania	2	6	8
Commonwealth	26	80	106

GRANT OF NEW LICENCES.

12. As will be observed from the map mentioned in the preceding paragraph, the 80 commercial broadcasting stations which are operating in country districts are widely distributed throughout the Commonwealth and they ensure satisfactory reception of programmes from at least one commercial station by the great majority of listeners. However, as we have mentioned in previous reports, there are still several areas with substantial population in which the quality of reception leaves much to be desired and residents are denied the great benefits which a local station confers on a rural community. Since the inception of broadcasting in Australia, there has been a continuing demand for the establishment of new commercial stations in such districts and, with the rapid expansion and increasing population of various parts of the Commonwealth, it is inevitable that additional commercial stations must be licensed in order that the benefits of our dual system of broadcasting may be available in all localities where the population is sufficient to support a commercial station. During the past year, eleven new applications were received for licences for commercial broadcasting stations and previous applications for a number of districts were vigorously renewed. Most of the new applications were from areas which are receiving an adequate service from one or more existing commercial stations, but the Board has under consideration at the present time applications from several other areas where, in its opinion, there is complete justification for the establishment of new commercial stations.

13. We have expressed the view in previous reports that the following six conditions should exist before the Board recommends the grant of a licence:—

- (a) the need on technical grounds for the proposed station should have been established by a careful engineering survey of the area concerned;
- (b) the ability of the proposed station to earn sufficient income to permit of its satisfactory operation in accordance with the *Broadcasting Act 1942-1954* should have been established;
- (c) the effect of the operation of the proposed station on existing stations should have been determined;

- (d) the suitability of the applicants to provide a broadcasting service to meet the needs of the local community should have been established;
- (e) generally, the licensing of the proposed station would, in the widest sense, be in the public interest; and
- (f) a frequency channel should be available for the proposed station.

All these conditions, except the last, have been satisfied in several cases which have been thoroughly investigated by the Board but, as we explained in our last report, the obstacle to the grant of licences at the present time is the difficulty of allocating frequencies in the medium frequency band for additional stations and the statutory prohibition which exists on the use, by commercial broadcasting stations, of frequency modulation in the very high frequency band. This problem is discussed in paragraphs 45-60. It is clearly in the public interest that the further development of the Commercial Broadcasting Service in country districts should not be retarded and the Board hopes that it will be practicable for it to take early steps to ensure that new stations are established in the areas where they are already badly needed and to provide for the future expansion of the service.

RENEWAL OF LICENCES.

14. Section 46 (2.) of the *Broadcasting Act 1942-1954* provides as follows:—

The Minister, if he deems it desirable, may from time to time renew a licence for any period not exceeding one year from the date of expiration of the current licence or renewal.

During the year, the Minister, on the recommendation of the Board, renewed each of the current licences for commercial broadcasting stations for a period of twelve months. Prior to submitting its recommendations to the Minister, the Board, following its usual custom, made a complete review of the service being provided by each station.

15. The Board was glad to observe from the reports of officers, who each year make a thorough inspection of the transmitting and studio equipment and radiating systems of each commercial broadcasting station, that the technical efficiency of the stations is being improved, as licensees conform more closely to the standards prescribed by the Board. The main deficiency now seems to be the lack, at many stations, of the testing equipment prescribed by the Board's Standards, without which licensees are unable to apply regular tests to their equipment for the purpose of ensuring that it is operating at maximum efficiency. The standard and adequacy of the programmes being broadcast is also considered by the Board and for this purpose 49 inspections of stations were made during the year by officers of the Programme Services Division and extensive observations of programmes were undertaken by officers of the Board and its State Representatives. Although the Board's review revealed some shortcomings in the case of individual stations, they were not sufficiently serious to affect the renewal of any licence, but the appropriate action was taken in each case.

FEES FOR LICENCES FOR COMMERCIAL BROADCASTING STATIONS.

16. Under section 48 of the Act, the licensee of each commercial broadcasting station is required to pay an annual licence-fee, assessed in accordance with the *Commercial Broadcasting Stations Licence Fees Act 1942*, which provides for an annual fee of £25 per annum, plus one-half of 1 per centum of the gross earnings of any station which in the preceding year has made a profit. The total amount of licence-fees payable during 1954-55 was £29,344 made up as follows:—

	Fees Paid by—		Total.
	Metropolitan Stations.	Country Stations.	
	£	£	£
New South Wales	6,430	5,961	12,391
Victoria	4,598	2,773	7,371
Queensland	2,291	2,556	4,847
South Australia	1,391	206	1,597
Western Australia	915	876	1,791
Tasmania	583	764	1,347
Commonwealth	16,208	13,136	29,344

17. As mentioned in our last Annual Report, difficulties have been experienced in the administration of the Commercial Broadcasting Stations Licence Fees Act as a result of the general nature of some of its provisions and the Board has recommended to the Minister that consideration should be given to the

desirability of amendments being made for the purpose of clarifying the intention of the Parliament in respect of certain provisions which are capable of more than one interpretation.

COMMERCIAL BROADCASTING STATIONS—FINANCIAL RESULTS OF OPERATIONS.

18. The following particulars, which have been extracted from statements submitted by the licensees of commercial broadcasting stations since 1942, in pursuance of the provisions of section 67 (1.) (c) of the Act, show the financial results from the operations of such stations during the past ten years:—

	Number of Stations in Operation.	Stations Making a Profit.	Stations Showing a Loss.	Total Revenue.	Total Expenditure.	Total Profit.
				£	£	£
1941-42	97	53	44	1,330,000	1,248,188	81,812
1942-43	96	66	30	1,298,297	1,157,294	141,003
1943-44	98	87	11	1,871,851	1,491,967	379,884
1944-45	100	89	11	2,184,686	1,758,905	425,781
1945-46	100	86	14	2,279,719	1,851,042	428,677
1946-47	101	85	16	2,388,587	2,013,363	375,224
1947-48	102	86	16	2,774,371	2,278,319	496,052
1948-49	102	90	12	3,212,253	2,619,474	592,779
1949-50	102	84	18	3,178,360	2,748,594	429,766
1950-51	102	88	14	3,607,498	3,092,259	515,239
1951-52	103	87	16	4,329,675	3,729,554	600,121
1952-53	105	93	12	4,916,557	4,138,013	778,544
1954-55	106	94	12	5,647,494	4,587,234	1,060,260

It should be explained that seven of the twelve stations which made a loss were being operated on relay from capital city stations in the same ownership and that the combined accounts of the capital city stations and the relay stations showed a profit. Of the remaining five stations, three have in recent times been re-located in areas where they will have better prospects, and a fourth was operating for only part of the year and was expected to make a profit when its service was fully developed.

TRANSFER OF LICENCES AND LEASING OF STATIONS.

19. Section 50 (1.) of the Act provides that—

Except with the consent in writing of the Minister a licensee shall not transfer the licence or assign, sublet or otherwise dispose of the licence or admit any other person to participate in any of the benefits of the licence, or to exercise any of the powers or authorities granted by the licence.

During the year, the Minister, on the recommendation of the Board, approved of the transfer of the licence for station 2QN Deniliquin from Mr. F. P. O'Halloran, trading as Regent Broadcasting Co., to Southern Riverina Broadcasters, a partnership comprising Mr. E. V. Roberts, Mrs. I. A. Roberts, Miss W. J. Roberts, of Wagga, N.S.W., and Mr. R. F. Haig-Muir, of Melbourne. Mr. and Mrs. Roberts and Miss Roberts are partners in Riverina Broadcasting Company, licensee of commercial broadcasting station 2WG Wagga. The transfer of the licence was effected on 1st July, 1955.

20. At 30th June, 1955, the following four stations were, with the consent of the Minister, being operated by persons other than the licensees:—

Station.	Licensee.	Date of Original Consent.	Date of Expiry of Existing Consent.	Operating Company.
2CH Sydney ..	New South Wales Council of Churches Service	14.4.36	31.12.56	Amalgamated Wireless (A/asia) Ltd.
3SH Swan Hill	Swan Hill Broadcasting Co. Pty. Ltd.	4.4.37	13.12.56	Central Murray Broadcasters Pty. Ltd.
3KZ Melbourne	Industrial Printing and Publicity Co. Ltd.	12.2.32	30.6.59	3KZ Broadcasting Co. Pty. Ltd.
3XY Melbourne	Station 3XY Pty. Ltd.	17.5.35	1.5.56	Efftee Broadcasters Pty. Ltd.

When the Board submitted its Sixth Annual Report, station 3KZ Melbourne was being operated by 3KZ Broadcasting Co. Pty. Ltd. under an agreement with the licensee which covered the period up to 30th June, 1956. On 31st August, 1954, the companies advised the Minister that, in view of the financial commitments

which will be involved in increasing the operating power of station 3KZ to 5000 watts (*see* paragraph 41), they felt that the arrangements between them for the operation of the station should be reviewed, and they submitted for the Minister's consideration a new agreement modifying the principal agreement in the light of the changed circumstances, and extending it for a period expiring on 1st July, 1964. The Minister gave his consent to the new arrangements insofar as they relate to the period ending 30th June, 1959. Station 3CV Maryborough, the licensee of which is Central Victoria Broadcasters Pty. Ltd., was until 31st March, 1955, operated by J. R. Birt Pty. Ltd., under an agreement approved by the Minister pursuant to section 50 of the Act. The licensee company was reconstituted during the year, and resumed responsibility for the operation of the station on 1st April, 1955.

OWNERSHIP OF COMMERCIAL BROADCASTING STATIONS.

21. Section 53 (1.) of the *Broadcasting Act* 1942-1954 reads—

A person shall not own, or be in a position to exercise control, either directly or indirectly, of, more than—

- (a) one metropolitan commercial broadcasting station in any State;
- (b) four metropolitan commercial broadcasting stations in Australia;
- (c) four commercial broadcasting stations in any one State; or
- (d) eight commercial broadcasting stations in Australia.

For the purposes of this section, it is necessary for reliable information concerning the ownership and control of commercial broadcasting stations to be available to the Board, in order that the Minister may be advised whether the statutory limitations on the ownership and control of stations are being observed. Any contemplated changes in the ownership or control of stations by any of the methods mentioned in section 50 of the Act (*see* paragraph 19) are carefully examined by the Board, which in each case makes a report to the Minister, indicating whether, on the information available to the Board, the proposal would result in any infringement of section 53. There are no provisions in the Act regulating transfers of shares in companies holding licences for commercial broadcasting stations, but it is a condition of each licence that "the control of the station shall not be varied in any manner whatsoever, directly or indirectly, without the permission of the Minister". In addition, the Board's administrative procedure requires—

- (a) each company to submit a complete list of shareholders and a copy of its Memorandum and Articles of Association to the Minister prior to the grant of a licence;
- (b) each licensee company to submit an up-to-date list of shareholders and directors with its annual application for renewal of its licence; and
- (c) each licensee company to consult the Minister or the Board before any substantial transaction affecting the shareholding or control of the company is contemplated and to keep the Board informed of any changes in the Memorandum and Articles of Association of the company.

22. According to the information supplied by licensees to the Board during the year, 31 of the 106 stations then in service were being operated by persons or organizations which were in a position to control only one station, and twelve by persons or organizations which were in a position to control, or were substantially interested in, two stations. The remaining stations, 63 in number, are controlled by persons or organizations which are in a position to control, directly or indirectly, or have substantial interests in, three or more stations, but in no case did it appear to the Board from the information in its possession that there had been any infringement of section 53 of the Act during the year to which this Report relates. The matter is under constant review, and it is the practice of the Board to bring under the notice of the Minister any increases in the holdings of any person or organization which appear to be contrary to the intention of the legislation. In the succeeding paragraphs, details are given of companies or persons who have a controlling interest in several stations.

23. *Herald and Weekly Times Ltd.*—This company holds the licences for stations 3DB Melbourne and 3LK Lubeck, and has a controlling interest in Queensland Newspapers Pty. Ltd., which holds the licences for stations 4BK Brisbane and 4AK Oakey. *Herald and Weekly Times Ltd.* is also the principal shareholder, with 1,149,620 ordinary shares (in a total of 2,688,000 ordinary and 168,000 preference shares), in *Advertiser Newspapers Ltd.*, which controls stations 5AD Adelaide, 5MU Murray Bridge, 5PI Crystal Brook and 5SE Mount Gambier.

24. *M.P.A. Productions Pty. Ltd.*—*M.P.A. Productions Pty. Ltd.* is a company incorporated in Victoria in 1949, the issued capital in which is held equally by or on behalf of two public companies registered and carrying on business in England, namely, *The Daily Mirror Newspapers Limited* and *Sunday Pictorial Newspapers (1920) Limited*. *M.P.A. Productions Pty. Ltd.* owns all the shares in *Broadcasting*

Associates Pty. Ltd., a company which has shareholdings as set out hereunder in several companies holding licences for commercial broadcasting stations:—

SHARES HELD BY BROADCASTING ASSOCIATES PTY. LTD.

Company.	Station of which Company is Licensee.	Total Shares Issued.	Shares Held by Broadcasting Associates Pty. Ltd.
Broadcasting Station 2GB Pty. Ltd.	2GB Sydney	49,685	22,228
Young Broadcasters Pty. Ltd.	2LF Young	8,557	2,140
Lithgow Broadcasters Pty. Ltd.	2LT Lithgow	3,747	750
Mudgee Broadcasting Company Pty. Ltd.	2MG Mudgee	3,418	854
Parkes Broadcasting Company Pty. Ltd.	2PK Parkes	1,000	165
Wollongong Broadcasting Pty. Ltd.	2WL Wollongong	11,000	5,500

SHARES HELD BY BROADCASTING STATION 2GB PTY. LTD.

Company.	Station of which Company is Licensee.	Total Shares Issued.	Shares Held by Broadcasting Station 2GB Pty. Ltd.
Canberra Broadcasters Ltd.	2CA Canberra	{ 30,000* 2,050†	29,805* 450†
Young Broadcasters Pty. Ltd.	2LF Young	8,557	2,139
Lithgow Broadcasters Pty. Ltd.	2 LT Lithgow	3,747	749
Mudgee Broadcasting Company Pty. Ltd.	2MG Mudgee	3,418	856
3AW Broadcasting Company Pty. Ltd.	3AW Melbourne	6,000	1,500
Hume Broadcasters Ltd.	5DN Adelaide	{ 8,405* 4,000†	5,000* 2,000†

* Ordinary. † Preference.

The English companies which, as mentioned above, control M.P.A. Productions Pty. Ltd. are also in a position, through their interest in the Argus and Australasian Ltd., to control stations 3SR Shepparton, 3UL Warragul and 3YB Warrnambool.

25. *Amalgamated Wireless (Australasia) Ltd.*—This company has the following interests in commercial broadcasting stations:—

- it holds the licences for 2AY Albury, 3BO Bendigo, 4CA Cairns and 4TO Townsville;
- it owns all the shares in the companies which operate 2GF Grafton and 2GN Goulburn, and has a controlling interest (4,400 shares in a total of 5,000) in the company which operates 4WK Warwick;
- by agreement with the licensee, it conducts the service of 2CH Sydney;
- it holds 800 shares (in a total of 6,500) in 2SM Sydney; 400 shares (in a total of 4,975) in 3HA Hamilton; and 10,000 shares (in a total of 20,000) in 7LA Launceston;
- it holds 1,000 preference shares (in totals of 3,643 (£1) preference, 3,604 (£1) ordinary and 14,000 (5s.) ordinary shares) in Transcontinental Broadcasting Corporation Ltd., which controls 2KA Ltd., licensee of 2KA Katoomba.

26. *Commonwealth Broadcasting Corporation Pty. Ltd., Sydney, and Commonwealth Broadcasting Corporation (Queensland) Ltd., Brisbane.*—The shares in these two companies are owned by the same interests. The former is the licensee of 2UW Sydney, and the latter, which is the licensee of 4BC Brisbane, has a controlling interest in 4GR Toowoomba (1,663 shares in a total of 3,300), 4MB Maryborough (1,080 shares in a total of 2,000 shares) and 4RO Rockhampton (holds the total shares—2,000). Commonwealth Broadcasting Corporation (Queensland) Limited also holds 1,300 ordinary shares in totals of 3,395 ordinary and 2,405 preference in 4SB Kingaroy.

Findlays Pty. Ltd., Tasmania.—Findlays Pty. Ltd. has a third interest in 7HO Hobart, holds all the shares in 7SD Scottsdale, and shareholders in Findlays Pty. Ltd. hold all the shares in station 7AD Devonport and station 7BU Burnie.

Nicholson's Ltd., Perth.—Nicholson's Ltd. holds licences for 6PR Perth, 6CI Collie and 6TZ Bunbury, and has been authorized to establish a station in the Northern Wheat Belt of Western Australia.

Whitfords Interests, Perth.—Mr. and Mrs. A. P. H. Whitford and Mr. and Mrs. F. R. Whitford and their families, control the companies holding the licences for 6AM Northam, 6KG Kalgoorlie and 6PM Perth and have a controlling interest in 6GE Geraldton.

27. *Newspaper Companies.*—Newspaper companies, or persons substantially interested in newspapers, owned fourteen of the 106 stations in operation on 30th June, 1955, and held shares in 29 other stations. The principal newspaper interests in broadcasting stations, other than those of the English newspapers mentioned in paragraph 24, are set out below:—

CAPITAL CITY NEWSPAPERS.

2GB Sydney	John Fairfax and Sons Pty. Ltd. (the <i>Sydney Morning Herald</i>) holds 7,000 shares in a total of 49,685.
2UE Sydney	Controlling interest held by Associated Newspapers Ltd. (the <i>Sydney Sun</i>), in which company John Fairfax and Sons Pty. Ltd. has a substantial interest.
3DB Melbourne	Licences held by Herald and Weekly Times Ltd. (the <i>Melbourne Herald</i>).
3LK Lubeck ..	..
3SR Shepparton	Licences held by the Argus and Australasian Ltd. (the <i>Melbourne Argus</i>).
3UL Warragul ..	..
3YB Warrnambool ..	..
3AW Melbourne	Quarter interest held by David Syme and Co. Ltd. (the <i>Melbourne Age</i>) in 3AW Broadcasting Co. Pty. Ltd., which controls 3CV Maryborough.
3CV Maryborough ..	..
4AK Oakey	Licences held by Queensland Newspapers Pty. Ltd. (the <i>Brisbane Courier-Mail</i>).
4BK Brisbane ..	..
5AD Adelaide	Licence for 5AD held by Advertiser Newspapers Ltd. (the <i>Adelaide Advertiser</i>), which controls the companies holding the licences for the other three stations.
5MU Murray Bridge ..	..
5PI Crystal Brook ..	..
5SE Mount Gambier ..	..
2BH Broken Hill	News Ltd. (the <i>Adelaide News</i>) owns 2BH Broken Hill, has 3,405 ordinary and 2,000 preference shares (in totals of 8,405 ordinary and 4,000 preference shares) in the company which holds the licence for 5DN Adelaide, and 1,501 shares (in a total of 8,176 shares) in the company which holds the licence for station 5RM Renmark.
5DN Adelaide ..	..
5RM Renmark ..	..
6IX Perth	West Australian Newspapers Ltd. (the <i>West Australian</i> , Perth) has a half interest in W.A. Broadcasters Pty. Ltd., which controls stations 6IX Perth, 6WB Katanning, 6MD Merredin and 6BY Bridgetown.
6MD Merredin ..	..
6WB Katanning ..	..
6BY Bridgetown ..	..
7HO Hobart	Davies Bros. Ltd. (the <i>Hobart Mercury</i>) has a third interest in the station.

OTHER NEWSPAPERS.

2AD Armidale ..	..	The Armidale Newspaper Co. Ltd. has a half interest and one of its nominees a casting vote on the Board of Directors.
2LT Lithgow ..	..	Western Newspapers Ltd. (conducting country newspapers in New South Wales) has 2,248 shares (in a total of 3,747) in Lithgow Broadcasters Pty. Ltd., which holds the licence for 2LT Lithgow, and has 4,221 shares (in a total of 8,557 shares) in Young Broadcasters Pty. Ltd., which holds the licence for 2LF Young.
2LF Young ..	..
2LM Lismore ..	..	Northern Star Ltd. holds 4,000 shares (in a total of 7,125 shares) in Richmond River Broadcasters Pty. Ltd., which holds the licence for the station.
3BA Ballarat ..	..	The Ballarat Courier Pty. Ltd. holds 1,700 shares (in a total of 2,000 shares) in Ballarat Broadcasters Pty. Ltd., which holds the licence for the station.
3GL Geelong ..	..	The Geelong Advertiser Pty. Ltd. owns the station.
7EX Launceston ..	..	W. R. Rolph and Sons Pty. Ltd. (the <i>Examiner</i> , Launceston) holds 1,800 shares (in a total of 2,500 shares) in 7EX Pty. Ltd., which holds the licence for the station.

The above particulars do not take into account shareholdings of individuals or companies who are substantial shareholders in both broadcasting and newspaper companies.

NETWORKS OF COMMERCIAL BROADCASTING STATIONS.

28. Section 6K (4.) of the Act empowers the Board "to regulate the establishment of networks of broadcasting stations and the making of agreements or arrangements by licensees of commercial broadcasting stations for the provision of programmes or the broadcasting of advertisements". In addition, the licensee of each commercial broadcasting station is required to obtain the Board's consent before entering, or becoming a member of, any network, by a condition of the licence, which reads as under:—

The licensee shall not, without the consent in writing of the Australian Broadcasting Control Board, enter or become a member of any network of broadcasting stations, or any other association or organization of broadcasting stations formed for the purpose of making arrangements for the provision of programmes or the broadcasting of advertisements, or acquire by itself or any persons or company on its behalf, any shares or other interest in any such network, association or organization.

The two principal networks in existence at present are the Macquarie Broadcasting Network and the Major Broadcasting Network.

29. The Macquarie Broadcasting Network is a proprietary company (Macquarie Broadcasting Service Pty. Ltd.) in which the following member stations were shareholders on 30th June, 1955:—

MACQUARIE BROADCASTING NETWORK.

<i>New South Wales—</i>	<i>South Australia—</i>
2CA Canberra.	5DN Adelaide.
2GB Sydney.	<i>Western Australia—</i>
2LF Young.	6IX Perth.
2LT Lithgow.	6MD Merredin.
2MW Murwillumbah.	6WB Katanning.
2PK Parkes.	6BY Bridgetown.
2NM Muswellbrook.	<i>Tasmania—</i>
2NX Bolwarra.	7HO Hobart.
2WL Wollongong.	7LA Launceston.
<i>Victoria—</i>	
3AW Melbourne.	

Macquarie Broadcasting Service Pty. Ltd. has an arrangement with a number of other stations in accordance with which they may co-operate with the network on agreed terms in the sale of station time for the broadcasting of Macquarie programmes.

30. The Major Broadcasting Network is not a company, but is an association of stations of which the following were members on 30th June, 1955:—

<i>New South Wales—</i>	<i>Victoria—</i>
2GZ Orange.	3DB Melbourne.
2KO Newcastle.	3LK Lubeck.
2NZ Inverell.	<i>Western Australia—</i>
2UE Sydney.	6CI Collie.
<i>Queensland.</i>	6PR Perth.
4AK Oakey.	6TZ Bunbury.
4BK Brisbane.	<i>Tasmania—</i>
<i>South Australia—</i>	7EX Launceston.
5AD Adelaide.	7HT Hobart.
5MU Murray Bridge.	
5PI Crystal Brook.	
5SE Mount Gambier.	

There are also several associations of stations or groups of stations in the same ownership which are described as networks. Details of these are given in previous Annual Reports.

AUSTRALIAN UNESCO COMMITTEE FOR RADIO.

31. The Australian Unesco Committee for Radio, on which the Board is represented by its Chairman, has held two meetings in the period covered by this Report. The first meeting took place before the Eighth Session of the Unesco General Conference which was held in Montevideo, Uruguay, in November-December, 1954. At this meeting the Committee advised the Australian delegation on the Unesco programme for 1955-56 in the field of radio. In particular, the Committee considered that a more effective programme would be achieved if the budgetary allowance were concentrated on the most important items rather than on the numerous items proposed.

32. The second meeting was held after the Unesco programme for 1955-56 had been determined by the General Conference. Among the matters discussed was the re-organization of the Department of Mass Communication within the Unesco Secretariat. The functions of the Department have been defined as—

- (a) Public information and public relations functions to explain the purpose, objects, work and projects of Unesco, the United Nations and its other specialized agencies; and
- (b) Programme functions which are distinctive to Unesco, such as the reduction of obstacles to the free flow of information and assistance to Member States in the development of their means of mass communication.

The members noted with interest the changes in the organization of the Department and approved of the action taken. At this meeting the Committee also considered ways and means by which the Unesco programme in the field of radio could be implemented in Australia. One of the Committee's recommendations was that it should take part in the Unesco project on the role of broadcasting in the dissemination of culture. The aim of the project is to take the best representative programme series in Member States dealing with different branches of cultural activities and to analyse and describe them from

the point of view of purpose, content, techniques and effects. The Committee considered that Australia, as a country technically advanced in the field of radio, was in a position to assist Member States less technically advanced, particularly Member States in South-East Asia, in developing their radio facilities. The Committee therefore recommended that the Director-General of Unesco be advised of this fact and be asked to bear it in mind when requests for assistance of this kind were received.

33. As in previous years, the Committee has provided information on radio developments in Australia to the Clearing House in Unesco's Department of Mass Communication. Through the co-operation of various broadcasting organizations the Committee has also been able to answer specific requests for information received from the Secretariat. The results of these world-wide surveys by Unesco have attracted considerable interest in this country. The 1955 series of Unesco Radio recordings have been offered, through the Committee, to commercial broadcasting stations throughout Australia. These sets of recordings have been accepted by 57 originating commercial stations; with relays the programmes will be heard over 65 stations. This provides an outlet in every State and in each capital city. The Australian Broadcasting Commission also proposes to use some of this material in national broadcasts. One of the programmes "The Land of the Didjeridu" is of direct national interest as it is a feature on the culture of the Australian Aborigines and the Unesco Album of Aboriginal Paintings. The titles of the other programmes are: Tales of Ajanta, Voyage of the Sun Boat, They Wish to Serve, School in the Jungle, A Place called Klay, The Moving Earth, The Thirsty Land, Human Heritage, A Matter of Co-operation, A Better Time is Coming.

34. The Chairman of the Committee, Dr. K. Barry, in the course of an overseas visit had discussions at the Unesco Secretariat on a number of matters of importance and attended the Fifth General Assembly of the International Music Council in Paris as the representative of the Australian National Centre.

PART III.—BROADCASTING—TECHNICAL SERVICES.

35. On 30th June, 1955, broadcasting services were being provided by 156 medium frequency stations (50 national and 106 commercial) and by nine high-frequency stations, which are intended to provide for remote listeners in the Commonwealth and the Territories. Details of these stations are given in Appendices "A" and "B", and their location is shown in the map which follows Appendix "E".

36. The technical efficiency of both National and Commercial Broadcasting Services has been greatly increased as a result of plans developed by the Board soon after its appointment in 1949. The establishment of new stations, substantial increases in the power of many existing stations and a general raising of technical standards has greatly increased the effective coverage of both Services. These developments have provided a much stronger signal strength for the great majority of Australian listeners and this has enabled them to enjoy much better reception, especially in areas where atmospherics or noise caused by the operation of electrical equipment had previously proved an irritating obstacle to clear reception. Nevertheless, as will be seen from subsequent paragraphs, much still remains to be done to complete the Board's plans.

DEVELOPMENT OF NATIONAL BROADCASTING SERVICE.

37. The Board's plans for the development of the National Broadcasting Service provided for the establishment of seventeen new stations and an increase in the operating power of 27 existing stations. Ten of the new stations are now in operation, including the following four regional stations which commenced operations since the last report was prepared:—

	Power (watts).	Commenced operations on
2BA Bega	10,000	7th May, 1955.
2ML Murwillumbah	2,000	23rd October, 1954.
5MG Mount Gambier	200	26th September, 1955.
6NM Northam	200	1st July, 1955.

The position with respect to the other seven proposed stations was, according to the latest information available to the Board at the time this report was being prepared, as under—

2AN Armidale—100 watts	} Owing to limited funds, the establishment of these stations has been deferred to enable priority to be given to other works deemed more urgent.
2WN Wollongong—2,000 watts	
2GL Glen Innes—10,000 watts	
	A contract has been let for the construction of the station buildings and the technical equipment has been acquired.

3BN Bendigo	Establishment of this station has been deferred pending a final decision as to whether a "booster" station will be used instead of a normal station.
5MV Renmark—2,000 watts	Funds have been provided in the 1955-56 estimates for the transmitter building.
5PA Penola—2,000 watts	A contract has been let for the transmitter building and it is expected that the station will be ready for operation by July, 1956.
6AL Albany—400 watts	The transmitter building is being constructed and it is expected that the station will be ready for operation early in 1956.

38. The establishment of new stations has received priority in the implementation of the Board's plans, with the result that power increases have been effected at only the undermentioned five of the 27 stations where increases are contemplated—

2CO Corowa—increased from 7,500 to 10,000 watts.
4QL Longreach—increased from 200 to 10,000 watts.
4RK Rockhampton—increased from 7,000 to 10,000 watts.
6WN Perth—increased from 6,000 to 10,000 watts.
7NT Kelso—increased from 7,000 to 10,000 watts.

Good progress is being made in connexion with the increase in the power of the following:—

2NR Grafton	} Each to be increased to 50,000 watts. A contract has been let for the supply of the new transmitters and it is expected that the first will be delivered about June, 1956.
4QN Townsville	
6WA Wagin	
7ZL Hobart	} Each to be increased to 10,000 watts. These stations are to be re-established on a new site with the higher power. The construction of the new station buildings has been commenced and their completion is expected by February, 1956.
7ZR Hobart	
5DR Darwin	Will commence operation on 2,000 watts about December, 1955.

DEVELOPMENT OF THE COMMERCIAL BROADCASTING SERVICE.

Increased Power for Country Stations on Shared Channels.

39. In previous reports, the Board gave complete details of its plans for increasing the technical efficiency of the Commercial Broadcasting Service. In this connexion, the Board explained that for the dual purpose of providing better reception for listeners to stations operating on shared channels in country districts and of improving the economic position of those stations, it had authorized the use of higher power by 63 stations to the extent indicated below:—

From	100 watts to	500 watts	..	..	..	..	..	..	..	Number of stations.
	100	500	..	..	..	..	..	..	..	2
"	200	500	"	..	..	..	..	..	..	8
"	300	500	"	..	..	..	..	..	..	3
"	100	1,000	"	..	..	..	..	..	..	2
"	200	1,000	"	..	..	..	..	..	..	9
"	300	1,000	"	..	..	..	..	..	..	2
"	500	1,000	"	..	..	..	..	..	..	11
"	100	2,000	"	..	..	..	..	..	..	1
"	200	2,000	"	..	..	..	..	..	..	7
"	300	2,000	"	..	..	..	..	..	..	3
"	500	2,000	"	..	..	..	..	..	..	11
"	1,000	2,000	"	..	..	..	..	..	..	4

The Board also advised licensees that it would consider applications for the use of higher power during daylight hours, and it has authorized fourteen stations to operate under these conditions as follows:—

Twelve stations using 1,000 watts at night to use 2,000 watts during daylight hours.

Two stations using 500 watts at night to use 2,000 watts during daylight hours.

40. The use of higher power by the shared channel stations improves reception for listeners because it enables a stronger signal to be laid down within the service area of a station and at the same time increases coverage during daylight hours. The benefits which have been conferred on listeners by the power increases mentioned above have, however, been greatly enhanced by the fact that, at most of the stations concerned, new equipment conforming with the Board's technical standards has been installed and in many cases more efficient radiators have been erected. The Board is glad to report that, partly in consequence of these improvements, the financial position of nearly all the stations involved has improved considerably.

Increased Power for Commercial Stations in Capital Cities and Newcastle.

41. The Board has also authorized the use of higher power in the capital cities, and Newcastle, as under:—

	Power increased—			
	From	To		
Sydney	1,000 watts	5,000	watts	
Melbourne	600	5,000	”	”
Brisbane	1,000	2,000	”	”
Adelaide	500	2,000	”	”
Perth	500	2,000	”	”
Hobart	500	2,000	”	”
Newcastle	500	2,000	”	”

(The power of station 3AK Melbourne which operates with restricted hours is limited to 500 watts and the power of station 4KQ Brisbane is limited to 1,000 watts during hours of darkness because of a provision in the agreement between Australia and New Zealand relating to the allocation of frequencies to broadcasting stations. Station 4KQ operates on the same frequency as station 3YA Christchurch (N.Z.) and the purpose of the restriction is to avoid excessive interference with the reception in New Zealand of 3YA.) The stations in Sydney, Brisbane, Adelaide, Hobart and Newcastle are now operating on the higher levels. The five stations in Melbourne are being re-established in the Templestowe area, in which they are expected to commence operations on 5,000 watts early in 1956. Certain of the Perth stations will also have to move to new sites before commencing operations on 2,000 watts.

42. The increase in the power of the stations in the capital cities and Newcastle was a matter of great importance as these stations serve approximately 65 per cent. of the total population of the Commonwealth. In the opinion of the Board, the power previously allotted to them was quite inadequate to ensure the quality of reception which the great population served by these stations are entitled to expect, and this unsatisfactory state of affairs had been aggravated in recent times by the fact that, whilst the power had remained for several years at the low levels outlined above, the intensity of electrical noise had become more severe because of the greatly increased use of electrical appliances for industrial and commercial purposes. Moreover, there had been, since the war, a rapid outward expansion of the cities as a result of the erection of many homes and factories in new districts, with the result that there were many thousands of listeners on the fringe of the service area of the commercial stations in those cities who were not assured of consistently reliable reception. An indifferent service was also being provided for listeners in country towns who have to rely on the capital city stations for commercial programmes. With these stations operating on much higher power and with more efficient equipment, these deficiencies will be remedied and the very numerous listeners to the commercial broadcasting services in the capital cities and contiguous country districts will be assured of much better reception than in the past.

CLEAR CHANNEL STATIONS IN COUNTRY DISTRICTS.

43. The power of 93 of the 106 commercial broadcasting stations has been increased in consequence of the decisions of the Board referred to in paragraphs 39-42. The power of one of the remaining stations is limited to 200 watts because of a provision in the agreement between Australia and New Zealand relating to the allocation of frequencies to broadcasting stations. The other twelve operate in country districts on clear channels and with a power of 2,000 watts. In previous reports, the Board expressed the view that it was desirable that the effect of the increases in power already granted should be carefully studied before consideration was given to the possibility of increasing the power of the twelve clear channel stations. During the past year, this matter received careful attention because of representations made by some of the licensees of these stations, and the Board came to the conclusion that it would be undesirable to authorize the clear channel stations in country districts to use power in excess of the maximum power of the shared channel stations, namely 2,000 watts.

44. The clear channel stations have for several years enjoyed much more favorable conditions than their competitors on shared channels, and although the increase in the power of the shared channel stations has brought about a better balance between the various stations comprising the Commercial Broadcasting Service, the clear channel stations are still much more favorably placed than their shared channel competitors. They have a much wider coverage and this gives them a bargaining power with advertisers which is not enjoyed by the less fortunate shared channel stations, whose coverage is severely restricted during hours of darkness. The action which has been taken to improve the position of the shared channel stations has conferred great benefits on listeners in country areas, not only from a technical viewpoint in improving the grade of service, but also from a programme viewpoint in that the more popular programmes have become available over a larger number of commercial stations. It would, in the Board's opinion, be unfortunate to disturb the existing situation, as such a move would most probably in the long run be to

the detriment of listeners as well as to the licensees of the shared channel stations who, in many cases with much smaller resources than the clear channel stations, have invested some hundreds of thousands of pounds in improving the service to country listeners.

ADDITIONAL MEDIUM FREQUENCY BROADCASTING STATIONS.

45. Although the increase in the power of broadcasting stations has resulted in greatly improved reception of the programmes of these stations over very wide areas, there are still several districts where the establishment of new stations could be justified in the public interest, not only because of the poor reception of existing stations, but also because of the natural desire of the residents of large towns in which there is not a local station to secure what is now generally recognized as the benefits to be derived from a broadcasting station in their midst. As we have pointed out in paragraph 12, applications for licences continue to come from such centres and the Board would gladly recommend the immediate grant of several licences were it not for the fact that frequency channels cannot be made available for the purpose in the medium frequency band without lowering existing standards for the allocation of frequencies. We referred to this matter at some length in paragraph 71 of our Sixth Annual Report, but we think it is desirable to discuss it here again, because of the resurgence during the year of statements that provision could be made for many additional stations in the medium frequency band.

46. The normal broadcasting services of the Commonwealth operate within a band (known as the medium frequency band) of 1,070 kilocycles per second (kc/s.) from 535 to 1,605 kc/s., providing 107 channels each of 10 kc/s. width. All of these channels (with the exception of one which, under the terms of the agreement between the Commonwealth and New Zealand administrations concerning the allocation of frequencies to broadcasting stations, Australia has undertaken not to use) have been assigned to the 156 stations already in operation or reserved for others which are to be established. As there are many more stations than channels, it has been necessary to require the majority of them to share the use of a channel. Whilst the sharing of channels has enabled additional stations to be established, this system of operation has the great disadvantage that during hours of darkness transmissions from a shared channel station suffer interference from the transmissions of the other station or stations which operate on the same channel, with the result that in practice the night-time service range for acceptable listening is reduced appreciably below the range obtainable during daylight hours. In order to ensure a reasonable night-time coverage of a shared channel station, it is the practice of the Board to arrange the operating conditions of stations in accordance with technical standards which are designed to give protection against co-channel interference at least to the 2.5 millivolt per metre (mv/m.) contour. Despite the application of these standards, there is undoubtedly an undesirable restriction of the service area of many stations during night hours, resulting in a considerable reduction in the stations' audiences.

47. Rigid application of the abovementioned standards to all shared channel stations would entail some interference during night hours to all signals of a strength less than 2.5 mv/m. and as in many cases of shared channel operation it is undesirable to have such heavy sharing, protection is accordingly given to appreciably lower field strengths. If this practice were not followed, several towns with large populations would be denied a reasonable service during night hours. Bairnsdale and Lakes Entrance (populations 5,712 and 1,800 respectively), which are dependent on station 3TR Sale for reliable reception of a commercial station's programmes, may be taken as an example: if the channel used by 3TR were shared in such a manner that protection against interference was only to the 2.5 mv/m. contour, neither Bairnsdale nor Lakes Entrance would receive reliable night-time service from that station. There are many other similar examples throughout the Commonwealth.

48. The use which can be made of the available channels in the medium frequency band is largely dependent upon the distribution of population. From a frequency allocation point of view, the population of the Commonwealth is badly distributed, since it is concentrated largely in the south-eastern portion, and it is in that part of Australia that the most serious difficulties arise. To give protection during night hours to the 2.5 mv/m. contour of a station, it is necessary to have adequate geographical separation between stations on the same channel. The extent of this separation depends upon the operating power of the sharing station or stations, and the approximate separations provided by the Board's standards are as follows:—

Operating power of station sharing channel.	Geographical spacing for protection to 2.5 mv/m. contour (approximate).
500 watts	600 miles
1,000 "	700 "
2,000 "	850 "
5,000 "	1,050 "
10,000 "	1,250 "

49. In that part of the Commonwealth which lies to the south of an imaginary line drawn from the top of Spencer Gulf to Maryborough, Queensland, excluding Tasmania, there are 114 broadcasting

stations (existing and proposed) out of a total of 166, and these stations use 98 channels of the 106 available for use in Australia. The eight channels which are not being used in that area have been allocated as under:—

540 kilocycles per second	..	Used by 4QL Longreach, power 10 kw., and by 7QN Queenstown, power 200 watts.
600 " " "	..	Used by 7ZL Hobart, power to be 10 kw.; by 4AT Atherton, power 500 watts, and 6NM Northam, 200 watts.
630 " " "	..	Used by 4QN Townsville, power to be 50 kw.
710 " " "	..	Used by 7NT Kelso, power 10 kw.
840 " " "	..	Used by 4RK Rockhampton, power to be 10 kw.
940 " " "	..	Used by 7ZR Hobart, power to be 10 kw., and by 4QY Cairns, power 2 kw.
1,100 " " "	..	Used by 4LG Longreach, power 2 kw.; 6MD Merredin, power 2 kw.; and 7LA Launceston, power 2 kw.
1,550 " " "	..	Reserved for development of National Broadcasting Service.

None of the eight channels (with the exception of 1,550 kc/s.) would be satisfactory for any new station in the area referred to because protection during night hours would be only to field strengths appreciably in excess of 2.5 mv/m. Thus if it is desired to establish additional broadcasting stations in the south-eastern portion of Australia, it will be necessary for them to share channels with stations already in the area.

50. As an illustration of the difficulty of selecting a channel for stations in that part of the Commonwealth, it is interesting to consider the possibility of finding a frequency channel for a station at, say, Nambour, Queensland, a town which, being at one extremity of the area referred to, might be thought to present fewest difficulties. In order to ensure protection to a station at Nambour to the 2.5 mv/m. contour, the geographical separation between it and the station sharing the channel would have to be in accordance with the figures quoted in paragraph 48. An examination of the table of frequency assignments shows, however, that the only channels on which the necessary separation could be arranged would be—

1,090 kc/s	..	Used by 3LK Lubeck.
1,320 " "	..	Used by 3BA Ballarat and 6KY Perth.
800 " "	..	Used by 5RM Renmark.
970 " "	..	Used by 5DN Adelaide.
1,040 " "	..	Used by 5PI Port Pirie.
1,200 " "	..	Used by 5KA Adelaide.
1,310 " "	..	Used by 5AD Adelaide.

The operation of a station at Nambour on the same channel as any of the above-mentioned stations would restrict the night-time service of the stations concerned and would deprive many listeners of reliable reception. For example, in the case of 3BA, reception at Daylesford (population 3,218) would be seriously degraded unless the Nambour station used very low power. If the station at Nambour were to operate on the same channel as any of the other stations, the restriction of their service area would be much more noticeable and large numbers of listeners would be deprived of a service to which they have been accustomed over many years. The general effect of limiting the night-time service to the 2.5 mv/m. contour is illustrated by considering the case of a station with a power of 1,000 watts operating on a channel in the middle of the medium frequency band in average type of country. Such a station would, on a clear channel, cover a radius of more than 30 miles with reliable signals, whereas under shared channel conditions, with night-time reception limitation to the 2.5 mv/m. contour, the radius would be reduced to approximately 15 miles. With a frequency channel towards the high end of the band the night-time limitation of service would be even more severe, especially in country of poor conductivity which exists in many parts of Australia.

51. In Australia with its rapidly developing population it is certain that there will be an increasing number of country areas in which new stations will have to be established. At the present time, as we have pointed out, there are several such places in the south-eastern section of the continent for which national or commercial stations or both could be justified if sufficient frequency channels were available. The Board is of the opinion that provision must be made for establishing stations in these areas, and from a technical viewpoint the following possibilities exist—

- (a) to establish stations to operate during daylight hours only in the medium frequency band;
- (b) to degrade the technical standards of allocation by decreasing substantially the distance separation now required between shared channel stations;
- (c) to provide for the sharing of channels at present used on an exclusive basis;
- (d) to introduce a broadcasting service in the very high frequency band (using frequency modulation).

52. Although stations operating during daylight hours would provide some service, their establishment is not favoured, as they would not be available during the most popular evening listening hours, and either from a national or commercial viewpoint would be unsatisfactory. The degrading of standards of allocation would result in much more widespread night-time interference than at present. The position could arise where the establishment of a new station under such conditions would provide a smaller number of people with a good grade of service than the number deprived by it of a good service because of interference to the station sharing the same channel.

53. For many years there have been a number of stations using clear channels and suggestions have been made from time to time that these channels should be shared. With regard to national stations operating on clear channels, these are generally of power of 10 kw. (with higher powers to be used in the future) and the sharing of the channels used by such high-powered stations would be impracticable. With regard to the commercial stations operating on clear channels, it would be technically practicable to share some of these to release channels for use by other stations, but, in the light of the service provided by these stations over a wide area and to a large population, the restriction of coverage by sharing is considered most undesirable. One further point with regard to the limitations of the medium frequency band for the development of the broadcasting service is that it is also used by New Zealand, and mutual interference is experienced between stations in both countries which operate on common channels. Many complaints have been received from New Zealand of excessive interference to services in that country, and in Australia, particularly on the eastern coast, of broadcasting services suffering appreciable interference from New Zealand stations during the winter months.

VERY HIGH FREQUENCY (FREQUENCY MODULATION) BROADCASTING.

54. In the light of the above considerations the Board is strongly of the opinion that the technical limitations of the medium frequency broadcasting band are such that in the development of broadcasting in the future frequency modulation (F.M.) in the very high frequency band (VHF) should be used. For the purpose of ultimately ensuring a full and comprehensive service for all listeners, frequency channels are required for the following developments in the broadcasting services:—

- (a) the establishment of additional national stations in areas where they are required to provide service for substantial numbers of people who cannot yet receive any national station satisfactorily;
- (b) the extension of the national service in such a way as to ensure the reception of a second programme of the Australian Broadcasting Commission by listeners in areas where at present only one such programme is available as a primary service;
- (c) the provision of a third national programme in accordance with proposals repeatedly made by the Australian Broadcasting Commission;
- (d) the granting of licences for additional commercial broadcasting stations, especially in country areas where no existing commercial station can be consistently received at present;
- (e) the establishment of stations in areas of rapidly increasing population.

55. It will be understood that the developments envisaged in the preceding paragraph are not set out in any order of priority. This will have to be determined in the light of the circumstances from time to time, and, in the case of the national service, having regard to the finances available. The preceding paragraph does, however, in the opinion of the Board, set out the basic long-range requirements for which provision must be made in the development of Australian broadcasting services. Having re-examined the possibility of providing channels for these developments in the medium frequency band, the Board is still convinced that future planning for the additional services envisaged above should be on the basis that, as soon as can be conveniently arranged, F.M. stations will be established in the VHF band. Insofar as the Commercial Broadcasting Service is concerned, it will be necessary first for the existing statutory prohibition on the use of F.M. to be repealed. The Board understands that the Government proposes to amend the *Broadcasting Act 1942-1954* for this purpose at the first opportunity.

56. Some doubts have been raised as to the wisdom of proceeding with the introduction of F.M. broadcasting on the grounds (a) that listeners' receivers will not be equipped to receive F.M. transmissions and (b) that it is inopportune to introduce F.M. broadcasting at a time when arrangements are being made to introduce television. There would undoubtedly be difficulties due to such considerations in the initial stages when F.M. stations were trying to attract listeners but most innovations encounter some troubles and opposition. There is little doubt, however, that taking the long-range view, F.M. broadcasting would in the course of years be providing a much better solution to our existing problem than would the tighter sharing of stations in the medium frequency band which has been advocated by some. Applicants for licences for F.M. stations obviously share that view, for which there is further support in the fact that, notwithstanding its already well-established medium frequency broadcasting and television services, the British Broadcasting Corporation has made arrangements for the installation of a network of F.M. stations. There are also extensive F.M. services in Europe and the United States.

57. The Board does not consider that the introduction of F.M. broadcasting should be delayed because of the advent of television services. In countries where television services have been established for some years an extensive broadcasting service is still being provided and, as already mentioned, it is notable that in some of these countries numerous F.M. stations are being used to supplement the services of the medium frequency broadcasting stations. In the opinion of the Board, there appears to be great scope for F.M. stations in parts of the Commonwealth, particularly where the existing service is inadequate and where television services are not likely to be provided for some years. Another factor of considerable importance is that the introduction of F.M. broadcasting simultaneously with, or prior to, the commencement of television services would encourage the development of combined television-F.M. receivers.

58. The Board, as has been pointed out, understands that early action will be taken by the Government to repeal the existing prohibition on the use of F.M. by commercial broadcasting stations. When this is done the Board proposes, subject to the concurrence of the Minister, to hold a public inquiry into the whole question of F.M. broadcasting in order that its introduction into the Commonwealth might be arranged after consideration of the most reliable information from all appropriate sources.

SYNCHRONIZED OPERATION OF BROADCASTING STATIONS.

59. In previous reports the Board has referred to the possibility of introducing synchronous operation of more than one station on the same frequency for the purpose of releasing additional channels for the extension of medium frequency services, both national and commercial, to areas which are not yet being adequately served and pointed out that synchronous operation has been successfully used for a number of years in other countries, notably in Great Britain and in Europe, where only a few medium frequency channels are available for the use of each country. For the purpose of determining the suitability of synchronized operation for Australian conditions, the Board, in co-operation with the Post Office and the Australian Broadcasting Commission, arranged for national regional stations 4QS Dalby and 4QN Townsville to be synchronously operated from 12th October, 1953, to 12th January, 1954. The results of this test have been analysed by the Board and it is considered that this system of operation may have some application if the development of the broadcasting services were to be confined to the medium frequency band. Certain aspects of synchronized operation are still somewhat obscure, in particular the effect of delayed echoes on the standard of the received programme, these echoes being due to the time difference in the reception of the programme from each of the two stations concerned. To elucidate these matters, laboratory tests are being undertaken by the Post Office. No further action will be taken on the general question of the desirability of introducing synchronized operation until a decision is made on the proposal that the more technically satisfactory techniques of F.M. broadcasting should be used as a means of expanding the broadcasting services.

MEDIUM FREQUENCY "BOOSTER" TRANSMITTERS.

60. For the same reason, the Board has deferred consideration of the use of "booster" transmitters. A "booster" transmitter would generally be used to provide a signal of adequate strength to a substantial population on the fringe of the service area of a normal broadcasting station. The "booster" is located in an area where the signal from the normal station, whilst strong enough to provide a service to the neighbouring rural community, is too weak to provide a service to an adjacent city, where there is a high noise level from electrical appliances. The signal is received at a location free from noise about a mile from the "booster" transmitter and after being transmitted over a telephone line and amplified, is re-radiated on the same frequency as the main transmitter at a level which ensures a satisfactory signal-to-noise ratio in the city it is desired to serve. As we pointed out in our Sixth Annual Report, tests of the practicability of using "booster" transmitters, which were conducted by the Post Office at Bendigo some time ago, proved that this system had great possibilities, but the use of a "booster" would have the disadvantage that its programme must always originate from its parent station, thus precluding the transmission of programmes from a local studio. An F.M. station would not suffer this disability.

EXPERIMENTAL INVESTIGATIONS.

61. Considerable experimental work on specific problems was undertaken by the technical staff of the Board during the year. For example, in connexion with the selection of intermediate frequencies for television receivers two European type television receivers were modified to two proposed values of intermediate frequency and examined exhaustively for spurious responses. The operation of these receivers under laboratory conditions simulating those likely to be experienced in the field was demonstrated to the representatives of the receiver manufacturers and contributed to their acceptance of the intermediate frequencies proposed by the Board (*see* paragraphs 164 and 165). Practical observations were made on the degree of interference likely to be caused to the reception of television programmes by scientific and medical equipment. In conjunction with officers of the Postmaster-General's Department, measurements were made on the radiation from typical television receivers and the recording of the magnitudes of night-time field strengths from medium frequency broadcasting stations were continued. An interim report

65. In its Sixth Annual Report, the Board published an analysis of the programmes of commercial broadcasting stations in Melbourne, and in the table hereunder it now publishes similar information in respect of the Sydney stations also, the figures for the former being based on a detailed examination of programme statistics for an average week in the autumn of 1954 and for the latter for an average week in the winter of 1954. For the purposes of these analyses, it was found necessary to adopt the following broad classifications:—

Music—

Serious—music of the first rank, irrespective of the period of its composition;

Light—including operetta, musical comedy and generally tuneful music (mostly of 19th and 20th century origin);

Popular—dance music, items included in “hit parades”, jazz, swing and allied types;

Hillbilly—recognition of which is necessary owing to the large part it plays in the quota of Australian compositions.

Variety includes all programmes which include more than one main type of entertainment, all “talent” shows, and quiz programmes in which the predominant interest is derived from the question and answer technique.

Children’s programmes include only those which are designed for children or adolescents, and are produced under the control of the station; serials and other transcribed matter are not included.

Women’s sessions include only those parts of a station’s programmes that are addressed directly to women, usually by women.

News refers only to the time occupied in the broadcasting of news; it excludes news commentaries, topical talks, interviews and actualities of the “roundsman” type, which are included under “Talks”.

(Other headings under “Type of Programme” are self-explanatory.)

Type of Programme.	Melbourne Stations.	Sydney Stations.
	Percentage of Programme Time.	Percentage of Programme Time.
Music—Serious	3.56	2.96
Light	11.64	9.35
Popular	43.07	40.75
Hillbilly	1.28	0.43
Total Music	59.55	53.49
Drama—Plays	1.41	1.43
Domestic Serials	3.13	5.34
Adventure Serials	3.16	2.46
Total Drama	7.70	9.23
Variety—Variety and Talent Programmes	2.55	2.08
Quiz Programmes	1.32	1.77
Total Variety	3.87	3.85
News and Weather	5.32	4.73
Sport	4.04	4.76
Religious Matter	2.98	4.15
Women’s Sessions	1.96	1.52
Children’s Programmes	1.90	3.06
Talks	1.56	3.25
Community Service	0.70	0.31
Advertising—Direct Announcements	6.95	7.45
In Sponsored Programmes	3.47	4.20
	10.42	11.65
	100.00	100.00

66. Although, as already mentioned, these figures relate only to one week's programme, care was taken to ensure that the week chosen was a normal week and, consequently, it can be assumed that the tables give a fairly accurate idea of the time devoted by the Commercial Broadcasting Service in Sydney and Melbourne to the various types of programmes. As would be expected, the table shows that music accounts for most of the time of commercial broadcasting stations, but that, nevertheless, almost every aspect of entertainment and matters of general interest receives attention. The impression gained from the analysis is that the programmes of commercial stations are comprehensive in character. Their adequacy is best assessed by the more detailed examination of the programmes which is made when officers of the Board visit the stations, and is considered by the Board in connexion with the annual renewal of licences (*see* paragraph 15). It should be mentioned that the figures shown for "community service" do not include the major charitable efforts of stations which, in most cases, would not be made during the periods to which the tables relate, or special emergency community services such as those to which reference is made in paragraphs 80 to 84.

VARIETY IN PROGRAMMES.

67. The investigations which the Board has made into programmes in recent years indicates that, on the whole, "reasonable variety" is being provided for listeners as is intended by section 6K (2.) of the Act. The normal practice of commercial station managements is to arrange their daily programme schedules so as to cater for the interests of the people who would normally comprise the majority of the listening audience. Thus, bright music is provided in the early morning when most people are pre-occupied with preparations for the day; domestic serials, household hints, etc., are interspersed with music in the "after breakfast" period when women in the home comprise the bulk of the listening audience. The second aspect of programme planning, that of providing listeners with a choice of programmes in areas where there are two or more stations, has recently been receiving more serious consideration by broadcasters, and as a result there has been a definite improvement during the year in overall programme performance. This state of affairs is to some extent also due to the sound financial position of most stations, which has provided the opportunity for many licensees to expand their studio facilities.

RELIGIOUS BROADCASTS.

68. The Board is obliged by the Act to ensure that Divine Worship or other matter of a religious nature is broadcast for adequate periods and at appropriate times. At the end of the year under review, licensees were undertaking broadcasts of a religious nature, free of charge, for a total period of 293 hours per week. This represents an average of about two and three-quarters hours for each of the 106 commercial stations in operation.

ADVERTISING.

69. Provision for the regulation of advertising by commercial broadcasting stations is contained in section 6K (2.) of the *Broadcasting Act* 1942-1954, which requires the Board "to determine the extent to which advertisements may be broadcast in the programmes of any commercial broadcasting station", and section 6L, which provides as follows:—

- (1). Subject to this Act, the licensee of a commercial broadcasting station may broadcast advertisements.
- (2). A licensee desiring to broadcast advertisements shall publish a tariff of advertising charges, and, except as prescribed, shall make his advertising service available without discrimination to any person.
- (3). A licensee shall not broadcast advertisements on a Sunday except in such manner and in accordance with such conditions as the Board determines.
- (4). Except as prescribed, an advertisement relating to any medicine shall not be broadcast unless the text of the proposed advertising matter has been approved in writing by the Director-General of Health, or, on appeal to the Minister under this section, by the Minister.
- (7). Any person may appeal to the Minister from any decision of the Director-General of Health or a delegate of the Director-General of Health.

70. Advertising revenue is, of course, the economic basis of commercial broadcasting. It will be noted from the table in paragraph 18 that the steady increase in advertising revenue of stations over the past few years has been maintained. This is no doubt the result, primarily, of extremely buoyant economic conditions. During the year 43 stations increased their advertising time rates, the average increase being of the order of 20 per cent. Broadcasting stations, in common with other business enterprises have had to meet steeply rising costs, and in some instances the previously existing rates had not been varied for a number of years. There is evidence that in a number of areas stations have been unable to meet demands for advertising time.

71. The Board's Advertising Time Standards were recently revised, after consultation with the Australian Federation of Commercial Broadcasting Stations, the Australian Association of National Advertisers and the Australian Association of Advertising Agencies, so as to allow for a slight increase in

the amount of advertising in sponsored programmes. The revised standards, which came into effect on 1st September, 1954, were set out in paragraph 110 of the Sixth Annual Report. In the opinion of the Board these standards permit broadcasters a generous amount of time for advertising purposes. This view is confirmed by the fact that many sponsors do not find it necessary to avail themselves of the full amount of time permitted for advertising in each programme. The Board has observed, however, that there are still some stations which tend to load their programmes with excessive advertising, and has found it necessary in some cases to take appropriate action.

SUNDAY ADVERTISING.

72. Advertising on Sundays is regulated by special conditions determined by the Board in pursuance of section 61 (3.) of the Act, which provides that "a licensee shall not broadcast advertisements on Sunday except in such manner and in accordance with such conditions as the Board determines". The Board's view is that advertisements on Sundays should be presented in good taste and with discretion and as unobtrusively as possible. For the information of broadcasters the Board has prescribed certain specific conditions in this regard and these may be stated in broad terms as follows:—

- (a) Sunday advertising should be confined to the general character of the advertiser's activities and products;
- (b) the number of advertising announcements should not be more than two in any period of fifteen minutes;
- (c) not more than six minutes in any period of one hour should be occupied in the broadcasting of advertisements;
- (d) advertisements in the form of a shopping guide are limited to one group, which may be broadcast for a maximum duration of fifteen minutes at a time not later than 6 p.m., and not between 11 a.m. and 12.15 p.m. (the time usually adopted by the majority of Churches for Divine Worship).

73. The Board is glad to report that no complaints concerning Sunday advertising were received during the year, and from periodical monitoring reports it would appear that the managements of commercial broadcasting stations recognize and observe the spirit of the day.

MEDICAL ADVERTISEMENTS AND TALKS.

74. In the Sixth Annual Report reference was made to a decision of the Director-General of Health that his approval for medical advertisements would be limited in future to two years, and would not, as formerly, be for an indefinite period. This decision has now been put into effect and the Board has informed all commercial broadcasting stations that approvals given prior to 30th June, 1953, have been withdrawn. No appeals against decisions of the Director-General were made under section 61 (7.) or section 94 of the Act during the year.

HOURS OF SERVICE.

75. The hours of service of 36 commercial broadcasting stations were permanently increased during the year. At 30th June, 1955, 106 stations were operating for a total of 12,209 hours a week, which was 69 hours a week more than at the close of the previous year. Temporary variations in the hours of commercial stations were authorized during the year on 562 occasions.

76. The 59 stations of the National Service were operating for a total of 7,010 hours a week at 30th June, 1955, which was an increase of 505 hours a week on the previous year. The greater part of the increase was due to the commencement of operation of stations 2BA Bega (7th May, 1955), 2ML Murwillumbah (23rd October, 1954), 3WL Warrnambool (4th September, 1954) and 7QN Queenstown (25th September, 1954). Temporary variations in the transmission times of national stations were made on 370 occasions. Transmission hours of each commercial and national station are shown in Appendices "A" and "B".

77. At 30th June, 1954, eight commercial broadcasting stations were providing a continuous service, namely, 2UW Sydney, 2DU Dubbo, 2KO Newcastle, 3DB, 3UZ and 3XY Melbourne, 4BC Brisbane and 5KA Adelaide. Applications by stations 3DB and 3UZ Melbourne to cease transmission during the early morning hours were approved and these stations withdrew from the all-night service on 29th August, 1954, and 31st December, 1954, respectively. Damage to the 2DU studios by floods in February, 1955, and subsequent staffing difficulties, which were accentuated by the acute housing position in Dubbo, resulted in 2DU seeking permission to suspend temporarily the station's all-night service. The station recommenced its continuous service on 1st October, 1955.

BROADCASTS IN FOREIGN LANGUAGES.

78. There has been a noticeable increase in the use of foreign languages in programmes during the year. For the most part these programmes appear to serve a useful purpose, but it is felt that in some cases the purpose of the general rules governing the use of foreign languages has been overlooked. These rules, which were drawn up after consultation with the Australian Broadcasting Commission, the Australian Federation of Commercial Broadcasting Stations, the Department of Immigration, and the Commonwealth Office of Education, are set out in paragraph 132 of the Fourth Report of the Board and are based on the principle that the spoken word, when transmitted from Australian broadcasting stations, should be intelligible to the great majority of listeners, and should therefore be in English. The use of foreign languages as an aid to the assimilation of migrants into Australian life, generally speaking, presupposes the association of an adequate translation into English with any words spoken in another language. The absence of such translations can only tend to isolate, rather than help to assimilate, the people to whom the message in the foreign language is addressed. The tendency to extend the use of foreign languages in advertisements, not always with adequate translations, is considered by the Board to be undesirable. It has been necessary to invite the attention of several stations to these considerations. So far as the Board is aware, little advantage has been taken of the exemption of religious matter from the general rules governing the use of foreign languages, which was intended to avoid restrictions which might entail unnecessary formalities in the broadcasting of public worship for the benefit of immigrants.

NEWS BROADCASTS.

79. During the year news services have improved in several respects. The Australian Broadcasting Commission introduced an additional early morning news bulletin for the benefit of the rural populations within the range of metropolitan transmitters. This service, which commenced on 3rd January, 1955, is similar in type to the district news bulletins broadcast from the national regional stations. A number of commercial stations which subscribe to a network news service moved their morning and evening news services away from the generally recognized news bulletin times (7.45 a.m. and 7 p.m.) thus providing listeners with news at an alternate hour, and reducing the extent of "blanket" programming, which the Board has always felt should be avoided. In addition many country stations have introduced an early morning news summary for the benefit of early risers. At least one country commercial station has appointed its own full-time news staff for the purpose of gathering and preparing bulletins of local news which it broadcasts five times daily; although the annual cost of this venture is reported to be substantial, listener reaction is so favorable that the station has considered the expenditure to be justified.

COMMUNITY SERVICES.

80. The Board is glad to report that with few exceptions licensees continued to provide essential local services by including in their programmes important items relating to the domestic, cultural and social life of the people they serve and the special interests of the community. Indeed, there have been significant improvements in the essential rural services of many stations. The exceptions referred to relate in the main to relay stations which are operated as country outlets for metropolitan stations. Programme management of these stations is generally so remote from the area in which the transmitter is located that licensees are unable to provide a public service which can compare with that of locally operated stations. However, in some cases provision has been made at relay stations for close co-operation with local authorities in an emergency.

81. The vital service that broadcasters can confer on the people in times of emergency was amply demonstrated when disastrous floods devastated areas of New South Wales and Queensland in February-April, 1955, causing the loss of many lives as well as great destruction of property, farms and stock.

82. In parts of New South Wales the volume and force of water disrupted all normal forms of communication, so that broadcasting services and amateur radio stations became the sole means of communication for some time. The principal flooding occurred in the Hunter, Macquarie, and Namoi river systems. As the gravity of the situation became apparent broadcasting stations in the affected areas abandoned their normal programmes and placed their whole resources at the disposal of the police, the civic authorities, and the military authorities who sent men and equipment to the danger areas. The broadcasting stations, both national and commercial, became the focal point on which all relief activities were centred and, to the extent to which it was humanly possible, transmitters were kept on the air day and night to advise and instruct relief parties, to warn residents as new dangers threatened and to pass on urgent messages. Neighbouring broadcasting stations unaffected by the floods supported their colleagues by monitoring and passing on messages from stations in the flooded area, and by appealing for food, clothing, bedding and medical supplies for people who had been compelled to leave their homes and who, in many instances, were isolated and without shelter. The managements and staffs

of the broadcasting stations accepted willingly the great responsibility which had been thrust upon them, even though some lost their own household and personal possessions because of the need to be in constant attendance at the station. Interruptions to services occurred as land lines linking studios to transmitters were swept away and power supplies failed; but station and post office technicians worked tirelessly under great difficulties to restore lines or bring into operation auxiliary equipment. In several instances studios were abandoned as they became submerged and emergency broadcasting was continued at the transmitter building. High-frequency radio links, which had in some cases been installed as a result of previous experience of flood conditions, enabled other studios to continue to function.

83. Within weeks of the New South Wales floods cyclonic weather caused serious risings in rivers in parts of Queensland—principally in the Mary, Thompson and Burdekin river systems—and as telephone and telegraphic circuits were interrupted by flood waters the broadcasting stations became the centre for directing relief operations and the only channel through which messages could be sent.

84. During and following the flood period broadcasting stations generally throughout Australia gave splendid support to the appeal for flood relief funds and were responsible for raising hundreds of thousands of pounds. The Board is happy to record what must be regarded as a splendid concept of public service, and wishes to congratulate all concerned on the magnificent work done under extremely difficult and trying conditions.

BROADCASTING OF OBJECTIONABLE MATTER.

85. There was no breach during the year of the provisions of section 91 of the Act which prohibits the broadcasting of any matter which is blasphemous, indecent or obscene. A number of minor complaints from listeners were investigated and in several instances brought under the notice of the stations concerned.

ENCOURAGEMENT OF LOCAL TALENT.

86. Section 88 of the Act imposes an obligation on the Australian Broadcasting Commission and the licensees of commercial broadcasting stations to encourage the development of local talent, including both the employment of Australian artists and the broadcasting of Australian music. Without attempting to arrive at specific figures, the investigations and observations that have been made by the Board during the year suggest that the Australian broadcasting industry, directly and indirectly, is making heavy demands on Australian artists, and that it could absorb more talent if it were available at an acceptable standard.

87. The requirements of section 88 of the Act relating to the prescribed percentage of Australian music have again been met by the Australian Broadcasting Commission and the commercial broadcasting stations generally, as will be seen in the following table:—

Year.	Australian Broadcasting Commission.	Commercial Stations.	
	Average Percentage of all Metropolitan Stations.	Average Percentage of all Commercial Stations.	Number of Stations below 2.5 per cent.
	Per cent.	Per cent.	
1950-51	4.08	4.11	12
1951-52	4.37	4.06	8
1952-53	4.23	4.21	7
1953-54	4.06	3.64	17
1954-55	4.78	3.91	3

The figure of 4.78 per cent. for the Australian Broadcasting Commission is the highest average yet attained, and represents a comparatively even distribution of Australian music in its programmes. Individual commercial stations have obtained much higher percentages, but it is doubtful whether these extremes constitute any ultimate benefit to Australian standards of music. The Board has felt for some time that a reasonable and steadily increasing proportion of Australian music of good quality will provide greater encouragement to Australian composers, and a better programme balance, than a disproportionate number of items of lower merit.

88. In the Sixth Annual Report it was mentioned that the cause of the large number of failures on the part of commercial stations to broadcast the required percentage of Australian compositions had not been ascertained at the time of printing. There were, in fact, many causes but they can be grouped under four main headings—

- (a) confusion in the minds of programme arrangers between Australian compositions and Australian performers (works performed by Australian artists are by no means all Australian compositions);

- (b) changes in staff, coupled with inadequate instruction of the new programme arrangers;
- (c) variations in the incidence of Australian compositions in transcribed programmes, the unobserved absence of which had deprived a station of a source of Australian music on which it had unconsciously depended;
- (d) increases in overall hours of service and overall time devoted to music without a corresponding increase in time devoted to Australian music.

In order to remove as far as possible the evident confusion as to what constitutes an Australian composition, the Australasian Performing Right Association has prepared a list of all Australian compositions which have been released in recorded form. This useful guide has been circulated to all commercial broadcasting stations by the Australian Federation of Commercial Broadcasting Stations, and there is no doubt that it has been of great help to programme arrangers and others. It may be added that in the past it has not been easy to ascertain each station's percentage of Australian compositions in sufficient time to allow stations to adjust their programmes where this is necessary because the required percentage is not being broadcast: this is mainly because of the amount of detailed work which must be done to extract the figures from the data supplied. This work is carried out by the Australasian Performing Right Association, by arrangement with the Board and the Australian Federation of Commercial Broadcasting Stations, and is now being checked at the end of each six months.

89. The figures for both national and commercial stations are now such as to suggest that the prescribed proportion of Australian music could reasonably be increased from 2½ per cent. to 5 per cent. and the Board has recommended that this should be done when the Act is next being amended. During the year the Board re-examined the definitions which have been applied to Australian compositions for a number of years, and prepared a revised explanatory statement as a guide to stations in the observance of their responsibilities under the Act. The effect of this revision is to expand the field from which Australian music may be drawn by removing certain arbitrary restrictions on the time of residence of a composer in Australia before being regarded as an Australian composer. After consultation with the Australian Broadcasting Commission, the Australian Federation of Commercial Broadcasting Stations and the Australasian Performing Right Association the explanatory statement was issued in the following terms:—

- (1) *Works of Australian composers* is to be construed as meaning—
 - (a) compositions by an Australian-born person, irrespective of the place of residence;
 - (b) compositions written in Australia by a British-born person who is a bona fide resident of Australia.
 - (c) compositions, written in Australia by an alien-born person after the date of naturalization.
- (2) *Sound records made in Australia* may be regarded as including those processed in Australia from imported matrices on which the work of an Australian composer has been recorded.
- (3) *Not less than two and one-half per centum of the total time* refers to the total time devoted to the broadcasting of music in the period of twelve months ending on 30th June of each year.
- (4) The time occupied by the broadcasting of "theme" items should not be regarded as *time devoted to the broadcasting of works of Australian composers*.

CHILDREN'S PROGRAMMES.

90. In its Sixth Annual Report, the Board referred to the need for broadcasters to comply with the spirit, as well as the letter, of the principles adopted in 1945 (printed in the Appendix to the Fifth Annual Report) which should govern the arrangement and presentation of children's programmes. It also stated that comprehensive observations of children's programmes were being made and it was proposed that a conference would be called at which the suitability of current children's programmes and associated matters could be discussed with representatives of the broadcasters and other appropriate bodies.

91. The Board's observations of children's programmes show that, in general, broadcasters are making a real attempt to devise programmes which conform to the principles agreed upon in 1945. The main deficiencies of these programmes appear to be the rather uneven quality of the sessions, the undue concentration of some stations on the older children (with some instances of poor taste in the comperes' choice of jokes and comments), instances of excessive and inappropriate advertising in sessions of this nature, and, particularly, the apparent absence of positive objectives by some stations in conducting children's programmes.

92. It is evident from the complaints which the Board receives from the general public, however, that the main objections to children's programmes relate to sessions which follow closely on those designed for children: it is objected that in these programmes are to be found instances of violence, use of slang and undue emphasis on crime and the less savoury aspects of life. The Board's observations of these sessions tend to justify some of the complaints it has received. Unfortunately, many programmes (usually serials) broadcast immediately after the normal children's session contain little of positive value to a child

audience and often contain material that could be actually harmful. The Board in its Fifth and Sixth Annual Reports has referred to parental responsibility for children's listening. The fact remains, however, that many parents cannot, or will not, control the quantity and quality of material to which their children listen on the radio. In this specially difficult field broadcasters themselves can assist parents by using more discretion in selecting the programmes to be broadcast, particularly between the end of the children's session and the commencement of the main evening programme.

93. The Board is continuing its investigations into the problems of children's programmes generally, with particular reference to the matters referred to in the preceding paragraphs and to the new problems of television.

OBSERVATIONS OF PROGRAMMES.

94. The Board's State Representatives and officers of the Board's staff continued to observe various programmes throughout the year for the purpose of ensuring that licensees comply with the relevant provisions of the Broadcasting Act and the Board's determinations.

POLITICAL BROADCASTS.

95. In the year ended 30th June, 1955, there were no Federal elections held in Australia. There were State elections held as follows:—

Tasmania—House of Assembly, 19th February, 1955.

Victoria—Legislative Assembly, 28th May, 1955.

Legislative Council, 18th June, 1955.

96. Following its usual practice, the Board obtained details of the broadcasts undertaken in connexion with the State elections in Victoria and Tasmania during the "election period" in each case. The "election period", which may vary with each election, is the period commencing on the date on which the writs are issued, and ending on the Wednesday preceding polling day. In general, commercial stations (both metropolitan and country) were able to provide political parties, candidates and organizations with the facilities requested.

PART V.—TELEVISION—ADMINISTRATION.

97. In its Sixth Annual Report, the Board referred to the fact that the Government, having considered the report of the Royal Commission on Television, had, on 10th September, 1954, announced its decision that television services should be introduced on a gradual basis, commencing with one national and two commercial television stations in Sydney and Melbourne and extending the services, as soon as practicable, to the other capitals and to country districts. Announcing this decision, the Postmaster-General said that his Department would call for tenders immediately for the supply of the technical equipment for national stations at Sydney and Melbourne, that the Australian Broadcasting Commission would provide the programmes for the National Television Service, that the Australian Broadcasting Control Board would be directed to hear, in public, applications for two licences to provide commercial programmes in each of those cities, and that the many important and far-reaching recommendations contained in the report of the Royal Commission would be considered in detail in order to ensure that full advantage was taken of the results of the very full and careful inquiry which had been made. In this part, and also in subsequent parts of this Report, the Board records the action which has been taken to give effect to the decisions of the Government.

THE NATIONAL TELEVISION SERVICE.

Responsibilities of the Australian Broadcasting Commission.

98. Pursuant to section 5 of the *Television Act 1953*, the Australian Broadcasting Commission was, on the 20th July, 1955, formally directed by the Postmaster-General to "provide, subject to that Act, television programmes for transmission from such television stations as are made available by the Postmaster-General under section 3 of the Act". (See *Gazette*, 1955, p. 2353.)

99. In a further direction given by the Postmaster-General, on the 8th August, 1955, the Commission was made responsible, pending the submission to Parliament of a Bill to amend the *Broadcasting Act 1942-1954* and the *Television Act 1953*, for providing buildings for studio and associated activities through the appropriate authority within the limits of available funds or Treasury authorizations, supervising the installation by contractors of the equipment in the studios and in vehicles, providing funds to the Postmaster-General's Department to pay the contractors for equipment certified by the Commission as being satisfactory, and maintaining and operating the equipment in studios and for outside pickups, including the provision and training of necessary staffs. In respect of these directions, the Minister stipulated that the Commission will conform to the standards laid down by the Board, or such directions which the Board may find it necessary to issue in relation to matters within its control.

Responsibilities of Postmaster-General's Department.

100. On the 8th August, 1955, a direction was also issued by the Minister to the Director-General, Posts and Telegraphs, making the Post Office responsible for procuring the transmitter buildings within the limits of available funds or Treasury authorizations, obtaining under contract the necessary towers, aerials, transmitting and associated equipment, and any radio links required between the transmitters and the studios, supervising the installation by contractors of these facilities, operating and maintaining the transmitting equipment and links between the transmitters and the studios, and providing at the cost of the Commission or on a rental basis, whichever is determined by the Post Office, outdoor links between studios and pick-up points except where an alternative arrangement is agreed upon with the Commission. In respect of these directions the Minister stipulated that the Department will conform to the standards laid down by the Board, or such directions which the Board may find it necessary to issue, in relation to matters within its control.

Orders for the Equipment.

101. Tenders for the supply and/or installation of the transmitting, studio and associated equipment for the national stations in Sydney and Melbourne were invited by the Postmaster-General's Department on 25th November 1954. The closing date was originally 17th February, 1955, but at the request of certain manufacturers it was extended to 14th April, 1955. Twenty-two tenders were received. Some covered the supply and installation of the full equipment, including the masts and aerials, while others were for portions only, such as masts, radio links between the transmitters and the studios, or studio or film equipment. The tenders related to equipment to be produced in Australia, the United Kingdom, France, Holland, Western Germany and the United States of America.

102. Following on a close examination of the tenders for the transmitting and associated equipment by the Department in consultation with the Board, approval was given for the acceptance of the tender of Amalgamated Wireless (A/asia) Ltd. for the transmitting equipment, masts, radio links and emergency power plant for the National television stations in Sydney and Melbourne. The transmitting equipment is being manufactured in the United Kingdom by the Marconi Wireless Telegraph Company Limited and the components for the steel masts are also being produced in that country.

Location of Stations and Operating Conditions.

103. The transmitters for the national television stations for Sydney and Melbourne will be located at Gore Hill and Mount Dandenong respectively (*see* paragraphs 149 to 151). A contract for the transmitter building at Gore Hill has been let by the Department of Works and plans for the studios, which will also be erected at Gore Hill, are being prepared. A tender for the transmitter building at Mount Dandenong has been accepted by the Department of Works. The Melbourne studios will be erected on a site at Ripponlea which is within five miles of the General Post Office. The stations have been allocated channel No. 2 (63-70 Mc/s.) and will transmit with effective radiated power (e.r.p.) of 100 kilowatts. (The technical considerations involved are fully set out in Part VI. of this Report.)

Television Committee.

104. A Television Committee comprising the Director-General, Posts and Telegraphs, the Chairman, Australian Broadcasting Control Board, and the Chairman, Australian Broadcasting Commission, has been set up by the Minister to co-ordinate the necessary action for the establishment of the National stations in Sydney and Melbourne. The Committee held several meetings during the year.

THE COMMERCIAL TELEVISION SERVICE.

Applications for Licences.

105. Section 4 of the *Television Act 1953* provides—

(1.) The Minister may, subject to the regulations and any determination made by the Board under section six of the *Broadcasting Act* (i.e., *Broadcasting Act 1942-1954*) grant to a person a licence for a commercial television station upon such conditions, and in such form, as the Minister determines.

(2.) Before exercising the power conferred on him by this section, the Minister shall take into consideration any recommendations that have been made by the Board as to the exercise of that power.

Regulations under the *Television Act 1953* were made on 19th October, 1954 (Statutory Rules 1954, No. 106) prescribing, amongst other things, that—

2.—(1.) The Minister may, by notice, published in the *Gazette*, invite applications for the grant of licences for commercial television stations in a specified area.

(2.) The Minister may, in the notice, specify the number of licences which he proposes to grant in the specified area.

(3.) An application for the grant of a licence shall be in accordance with a form approved by the Minister and shall be made in such manner, and within such time, as the Minister specifies in the notice.

3. The Minister may refer applications made in pursuance of the last preceding regulation to the Board for its recommendations as to the exercise by him of the powers conferred by sub-section (1.) of section 4 of the *Television Act* 1953.

4.—(1.) Before making its recommendations as to the exercise of those powers, the Board may, if it thinks fit, hold an inquiry into the applications referred to it by the Minister.

106. Pursuant to Regulation 2 of the Television Regulations, the Minister by notice dated 19th October, 1954, published in the *Gazette* on 28th October, 1954, invited applications, to be lodged with the Secretary of the Board, not later than 1st January, 1955, for the grant of—

- (a) two licences for commercial television stations in the Sydney area; and
- (b) two licences for commercial television stations in the Melbourne area.

In response to this invitation applications were received from the following:—

A. For the Sydney Area.

1. Broadcasting Station 2SM Pty. Ltd.
2. Amalgamated Television Services Pty. Ltd.
3. (a) Consolidated Press Limited on behalf of a company to be formed;
(b) Consolidated Press Limited and Associated Newspapers Limited (England);
(c) Consolidated Press Limited.
4. Associated T.V. Pty. Ltd. on behalf of a company to be formed.
5. Transcontinental Broadcasting Corporation Limited.
6. Truth and Sportsman Limited.
7. T. N. P. Dougherty and H. V. Evatt as joint and provisional trustees of the Australian Workers Union and the Australian Labour party.
8. L. H. Benson Greene.

B. For the Melbourne Area.

1. Vernon de Witt Margetts on behalf of a company to be formed.
2. General Television Corporation Pty. Ltd.
3. J. F. Williams on behalf of the Herald and Weekly Times Ltd.
4. T. N. P. Dougherty and H. V. Evatt as joint and provisional trustees of the Australian Workers Union and the Australian Labour party.

Public Inquiry by the Board.

107. Pursuant to Regulation 3 of the Television Regulations, the Minister, by instrument in writing dated 5th January, 1955, referred the applications to the Board for its recommendation as to the exercise by him of the powers conferred by sub-section (1.) of section 4 of the *Television Act* 1953. The Board on 6th January, 1955, resolve to hold an inquiry into the applications referred to it by the Minister, and, having given notice of the time and place of the proposed hearings by public notice published in all daily newspapers in Sydney and Melbourne, it held a public inquiry into the applications in Melbourne on 21st and 24th January, 1955, and in Sydney on 1st to 4th February, 14th to 18th February, and 21st to 23rd February, 1955.

108. Pursuant to Regulation 7, the Board approved of the representation of applicants by counsel. In Melbourne, Mr. D. I. Menzies, Q.C., and Mr. B. J. Dunn appeared for General Television Corporation Pty. Ltd., Mr. K. A. Aickin for J. F. Williams on behalf of the Herald and Weekly Times Ltd., and Dr. H. V. Evatt, Q.C., for T. N. P. Dougherty and H. V. Evatt. Mr. V. Margetts presented his own case. In Sydney, Mr. A. Bridge appeared for Broadcasting Station 2SM Pty. Ltd., Sir Garfield Barwick, Q.C., and Mr. R. Else Mitchell for Amalgamated Television Services Pty. Ltd., Mr. A. Larkins for Consolidated Press Ltd., Mr. K. W. Asprey, Q.C. and Mr. W. P. Redapple for Associated T.V. Pty. Ltd., Mr. J. W. Shand, Q.C., and Mr. R. J. M. Newton for Truth and Sportsman Ltd., and Dr. H. V. Evatt, Q.C. for T. N. P. Dougherty and H. V. Evatt. Mr. A. C. Paddison, General Manager of Transcontinental Broadcasting Corporation Ltd. represented this company and Mr. L. H. Benson Greene presented his own case.

109. In addition to the applicants for licences, the Board granted permission to—

- (a) The Returned Sailors, Soldiers and Airmen's Imperial League of Australia, New South Wales Branch; and
- (b) Actors and Announcers Equity Association of Australia,

to be heard in respect of certain matters in the course of the inquiry in Sydney. Mr. V. Brady appeared for the Returned Sailors, Soldiers and Airmen's Imperial League of Australia, New South Wales Branch, and Mr. Clive Evatt, Q.C., appeared for Actors and Announcers' Equity Association of Australia. An application by the Director of the Methodist Social Service Department (New South Wales) for permission to be heard was withdrawn.

Board's Report to the Minister.

110. The Board submitted a report dated 14th March, 1955, to the Minister, in which, after reviewing the applications which had been made and the evidence which had been given to it, the Board recommended that, subject to the conditions and stipulations set out in the following paragraph, licences for commercial television stations should be granted to the undermentioned companies:—

In the Sydney Area—

Amalgamated Television Services Pty. Ltd.

Television Corporation Ltd., a company to be formed pursuant to the application of Consolidated Press Ltd. on behalf of a company to be formed.

In the Melbourne Area—

General Television Corporation Ltd.

To a company to be formed by the Herald and Weekly Times Ltd.

111. The general conditions recommended by the Board were as follows:—

- (a) not less than 80 per cent. of the issued capital of a licensee company shall be held by Australian residents or companies controlled by Australian residents;
- (b) not more than 15 per cent. of the issued capital of a licensee company shall be held by any person who is not an Australian resident or by any company which is controlled, directly or indirectly, by persons other than Australian residents.
- (c) the control of the station shall not be varied in any manner whatsoever without the consent of the Minister;
- (d) two directors shall be appointed to the board of directors of the company who are not associated with the major groups constituting the company;
- (e) the licence shall be granted for a period of three years, commencing on a date to be determined by the Minister as the date on which the station commences its service, and shall be renewable thereafter for periods not exceeding one year;
- (f) the allocation of time for the televising of political and controversial matter shall be strictly on the basis of equal treatment for all parties in the manner recommended by the Royal Commission on Television;
- (g) the allocation of time for the televising of religious matter shall be arranged on the same basis as governs the broadcasting of religious matter from commercial broadcasting stations;
- (h) the licensee shall observe such standards in regard to the technical equipment and operation of the station as the Board determines;
- (i) the periods of operation of the station shall be such as the Board determines;
- (j) the licensee shall provide programmes, and shall supervise the televising of programmes, from his station in such a manner in all respects as to comply with such standards as the Board determines;
- (k) all advertising matter televised by the licensee shall be in accordance with such standards as the Board determines;
- (l) such other conditions as may be determined from time to time by the Minister.

and the particular stipulations with respect to each of the proposed licences were—

(a) As to Amalgamated Television Services Pty. Ltd.—

- (i) not more than 15 per cent. of the issued capital of the company shall be held by the group called in the application "The 2GB-Macquarie-Artransa Group", instead of 36.4 per cent. as proposed in the application;
- (ii) the shares to be re-allocated as a result of the reduction of the number of shares proposed to be held by the group mentioned in sub-paragraph (i) shall be allotted to persons approved by the Minister;
- (iii) the board of directors of the company shall be reconstituted, to the satisfaction of the Minister, so as to provide for appropriate representation of the shareholders to whom shares are allotted under sub-paragraph (ii) and for the appointment of two directors as proposed in sub-paragraph (d) above.

(b) As to Television Corporation Ltd.—

- (i) not more than 20 per cent. of the issued capital of the company shall be held by Associated Newspapers Ltd., England, Philips Electrical Industries Pty. Ltd., and Paramount Film Services Pty. Ltd., instead of 32.7 per cent. as proposed in the application;
- (ii) not more than 15 per cent. of the issued capital of the company shall be held by any one of the shareholders mentioned in sub-paragraph (i);

- (iii) the shares to be re-allocated as a result of the reduction of the number of the shares proposed to be held by the companies mentioned in sub-paragraph (i) shall be made available for public subscription;
 - (iv) the board of directors of the company shall be reconstituted, to the satisfaction of the Minister, so as to provide for appropriate representation of shareholders other than those already represented on the board, and for the appointment of two directors as proposed in sub-paragraph (d) above.
 - (v) no special rights or privileges shall be granted to Broadcasting Station 2SM Pty. Ltd. or 2KY Broadcasting Station in connexion with the allocation of time for televising of religious and political matter respectively.
- (c) *As to General Television Corporation Pty. Ltd.—*
- (i) not more than 20 per cent. of the total issued capital of the company shall be held by The Argus and Australasian Ltd., Hoyts Theatres Ltd., Greater Union Theatres Pty. Ltd., Efftee Broadcasters Pty. Ltd., and Cinesound Productions Pty. Ltd., instead of 54.5 per cent. as proposed in the application;
 - (ii) not more than 15 per cent. of the issued capital of the company shall be held by any one of the shareholders mentioned in sub-paragraph (i);
 - (iii) the shares to be re-allocated as a result of the reduction of the number of shares proposed to be held by the companies mentioned in sub-paragraph (i) shall be allotted to persons approved by the Minister;
 - (iv) the board of directors of the company shall be reconstituted, to the satisfaction of the Minister, so as to provide for appropriate representation of shareholders other than those already represented on the board, and for the appointment of two directors as proposed in sub-paragraph (d) above.
- (d) *As to Herald and Weekly Times Ltd.—*
- (i) the licence shall be granted to a company to be formed by the Herald and Weekly Times Ltd. for the purpose of conducting a television service;
 - (ii) the constitution of the company mentioned in sub-paragraph (i) shall be subject to the approval of the Minister;
 - (iii) the board of directors of the company to be formed pursuant to sub-paragraph (i) shall be constituted to the satisfaction of the Minister so as to provide for the appointment of the two directors as proposed in sub-paragraph (d) above.

Decision of the Government.

112. On 18th April, 1955, the Minister announced that the Government had decided to grant licences to the companies recommended by the Board, subject to the following conditions:—

- (a) Not less than 80 per cent. of the issued capital of a licensee company shall be held by Australian residents or companies controlled by Australian residents.
- (b) Not more than 15 per cent. of the issued capital of a licensee company shall be held by any person who is not an Australian resident or by any company which is controlled, directly or indirectly, by persons other than Australian residents.
- (c) The Memorandum and Articles of Association of the companies shall contain provisions ensuring that voting rights of shareholders shall be those which are required of companies listed upon the Australian Stock Exchanges.
- (d) No change in the proportionate shareholding or beneficial ownership of any of the constituent corporations of any licensee shall be made without the approval of the Minister.
- (e) Each licensee shall each half year make a declaration that the conditions (a) and (b) are being complied with.
- (f) The licence shall be granted for an initial period of five years from the date that the applicant satisfies the Minister that the conditions in respect of capital and control have been complied with and shall be renewable thereafter for periods not exceeding one year.
- (g) The allocation of time for the televising of political and controversial matter shall be strictly on the basis of equal treatment for all parties in the manner recommended by the Royal Commission on Television.
- (h) The allocation of time for the televising of religious matter shall be arranged on the same basis as governs the broadcasting of religious matter from commercial broadcasting stations.
- (i) The licensee shall observe such standards in regard to the technical equipment and operation of the station as the Board determines.

- (j) The periods of operation of the station shall be such as the Board determines.
- (k) The licensee shall provide programmes, and shall supervise the televising of programmes, from his station in such a manner in all respects as to comply with such standards as the Board determines.
- (l) All advertising matter televised by the licensee shall be in accordance with such standards as the Board determines.
- (m) Such other conditions as may be determined from time to time by the Minister.

(Subsequently, the Government decided to omit condition (c)). On 19th April, 1955, the four successful applicants were informed by the Minister of the Government's decision, of the conditions upon which licences would be granted to them, and of the special stipulations applying to particular applicants.

The Licensees.

113. *Amalgamated Television Services Pty. Ltd.*—Amalgamated Television Services Pty. Ltd. was incorporated in New South Wales on the 23rd December, 1954. The authorized capital of the company is £2,000,000, consisting wholly of ordinary shares of £1 each. In the application submitted by the company for a licence, it was proposed that the following original members of the company would, by agreement, subscribe for a total of 825,000 shares, as follows:—

							Shares.
<i>The Sun-Herald-2UE Group—</i>							
Associated Newspapers Ltd.	..	..	..	..	..	..	112,500
John Fairfax & Sons Pty. Ltd.	..	..	..	..	..	..	150,000
Radio 2UE Sydney Pty. Ltd.	..	..	..	..	..	..	37,500
							300,000
<i>The 2GB-Macquarie-Artransa Group—</i>							
Broadcasting Station 2GB Pty. Ltd.	..	..	..	..	..	..	100,000
Macquarie Broadcasting Service Pty. Ltd.	..	..	..	..	..	..	100,000
Artransa Pty. Ltd.	..	..	..	..	..	..	100,000
							300,000
<i>The A.W.A. Group—</i>							
Amalgamated Wireless (Australasia) Ltd.	..	..	..	..	..	..	150,000
							150,000
(The Articles of Association provided that an additional 150,000 shares may be taken up by this group.)							
<i>The 2UW Group—</i>							
The Australian Broadcasting Company Pty. Ltd.	..	..	..	..	..	..	75,000
							75,000

114. It was also indicated that the first directors of the company would be Mr. R. A. G. Henderson (Chairman) and Sir John Butters, representing the Sun-Herald-2UE Group, Messrs. Clive Ogilvy and J. D. Patience representing the 2GB-Macquarie-Artransa Group, Messrs. L. A. Hooke and J. I. Carroll, representing the A.W.A. Group and Mr. A. F. Albert representing the 2UW Group. The company informed the Minister, on 11th May, 1955—

- (a) that for the purpose of complying with the Government's requirement that the interest of the "2GB-Macquarie-Artransa Group" should be reduced from 36.4 per cent. to 15 per cent. of the total issued capital (see paragraph 112 (b)), the shareholding of that group would be reduced from 300,000 to 119,118; and
- (b) that an additional 150,000 A.W.A. Group shares would be allotted as permitted by the Articles of Association.

Several changes in the original list of shareholders were subsequently approved by the Minister, and at the time this report was being prepared, the shareholders in the company were—

							Shares.
<i>The Sun-Herald-2UE Group—</i>							
Associated Newspapers Ltd.	..	..	..	..	..	..	125,000
John Fairfax & Sons Pty. Ltd.	..	..	..	..	..	..	150,000
Radio 2UE Sydney Pty. Ltd.	..	..	..	..	..	..	25,000
							300,000

The 2GB-Macquarie-Artransa Group—

Broadcasting Station 2GB Pty. Ltd. . . . .	..	..	..	..	..	..	..	..	Shares.
Macquarie Broadcasting Service Pty. Ltd. } ..	..	..	..	..	..	..	..	..	119,118
Artransa Pty. Ltd. ..	..	..	..	..	..	..	..	..

The A.W.A. Group—

Amalgamated Wireless (Australasia) Ltd. ..	..	..	..	..	..	..	..	..	75,000
Email Ltd. ..	..	..	..	..	..	..	..	..	89,000
G. B. S. Falkiner ..	..	..	..	..	..	..	..	..	10,000
Sir Norman Nock ..	..	..	..	..	..	..	..	..	5,000
E. W. Salkeld ..	..	..	..	..	..	..	..	..	10,000
Washington H. Soul Pattinson & Co. Ltd. ..	..	..	..	..	..	..	..	..	25,000
T. G. Murray ..	..	..	..	..	..	..	..	..	5,000
Mrs. C. Murray ..	..	..	..	..	..	..	..	..	5,000
W. H. Paling and Co. Limited ..	..	..	..	..	..	..	..	..	10,000
Australian Record Co. Limited ..	..	..	..	..	..	..	..	..	5,000
Australian United Investment Co. Ltd. ..	..	..	..	..	..	..	..	..	10,000
Gearin O'Riordan Limited ..	..	..	..	..	..	..	..	..	10,000
The Anglo-Australian Corporation Pty. Limited ..	..	..	..	..	..	..	..	..	10,000
Beale and Co. Limited ..	..	..	..	..	..	..	..	..	10,000
C. N. McKay ..	..	..	..	..	..	..	..	..	7,000
H. V. McKay ..	..	..	..	..	..	..	..	..	7,000
Mrs. H. M. Stevenson	7,000

300,000

The 2UW Group—

The Australian Broadcasting Co. Pty. Ltd.	75,000
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Grand Total	794,118
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115. *Television Corporation Ltd.*—In the application made by Consolidated Press Ltd. on behalf of Television Corporation Ltd., a company to be formed, it was proposed that the company would have a nominal capital of £2,000,000 divided into 4,000,000 shares of 10s. each. A total of 1,500,000 shares would be issued initially, of which 500,000 would be offered to the general public and the remainder would be taken up by the following:—

Consolidated Press Ltd. ..	..	..	..	..	..	..	..	..	Shares.
Associated Newspapers Ltd. (Daily Mail—London) ..	..	..	..	..	..	..	..	..	400,000
Philips Electrical Industries Pty. Ltd. ..	..	..	..	..	..	..	..	..	300,000
Broadcasting Station 2SM Pty. Ltd. ..	..	..	..	..	..	..	..	..	150,000
2KY Broadcasting Station ..	..	..	..	..	..	..	..	..	50,000
Tivoli Circuit Australia Pty. Ltd. ..	..	..	..	..	..	..	..	..	20,000
World Council of Churches (Australian Council) and/or Council of Churches in New South Wales—(undecided)	..	..	..	..	..	..	..	..	20,000
Paramount Film Service Pty. Ltd. ..	..	..	..	..	..	..	..	..	40,000

116. It was indicated that the qualification of a director would be the holding of 1,000 shares and the first directors to be appointed would be Messrs. D. F. H. Packer (Chairman), F. N. Leddy, C. Von Hake, R. A. King, D. N. Martin, D. F. S. McLean, G. F. Sanger and Rev. Father M. R. Prendergast.

117. Some alteration in the original proposals of this company were necessary in view of the Government's requirement that the interests in the company of Associated Newspapers Ltd., England, Philips Electrical Industries Pty. Ltd. and Paramount Film Service Pty. Ltd. should be reduced from 32.7 per cent. to 20 per cent. of the total issued capital, and that no one of these shareholders should hold more than 15 per cent. of the capital (see paragraph 112 (b)). At the time this report was being prepared the principal shareholders in the company were—

Consolidated Press Ltd. ..	..	..	..	..	..	..	..	..	Shares.
Associated Newspapers Ltd., England ..	..	..	..	..	..	..	..	..	569,493
Philips Electrical Industries Pty. Ltd. ..	..	..	..	..	..	..	..	..	232,000
Broadcasting Station 2SM Pty. Ltd. ..	..	..	..	..	..	..	..	..	115,500
Paramount Film Service Pty. Ltd. ..	..	..	..	..	..	..	..	..	49,500
2KY Broadcasting Station ..	..	..	..	..	..	..	..	..	30,500
Tivoli Circuit Australia Pty. Ltd. ..	..	..	..	..	..	..	..	..	19,500
Church of England Property Trust, Diocese of Sydney ..	..	..	..	..	..	..	..	..	20,000
	..	..	..	..	..	..	..	..	60,000
Total ..	..	..	..	..	..	..	..	..	1,096,493

In addition, 803,500 shares which were offered for public subscription were allotted to 4,330 shareholders in lots ranging from 100 shares to 30,000 shares.

118. *General Television Corporation Pty. Ltd.*—General Television Corporation Pty. Ltd. was incorporated in Victoria as a public company on the 23rd December, 1954, and was converted to a proprietary company on the 31st December, 1954. The authorized capital of the company is £1,000,000 in 1,000,000 shares of £1 each. In the application made by the company, it was stated that the following original members of the company would, by agreement, subscribe for a total of 700,000 shares, allocated as set out hereunder:—

	Shares.
David Syme and Co. Ltd.	116,000
The Argus and Australasian Ltd.	116,000
Hoyts Theatres Ltd.	116,000
Greater Union Theatres Pty. Ltd.	100,000
Electronic Industries Ltd.	116,000
J. C. Williamston Theatres Ltd.	20,000
Efftee Broadcasters Pty. Ltd.	33,333
Nilsen's Broadcasting Service Pty. Ltd.	33,334
3KZ Broadcasting Co. Pty. Ltd.	33,333
Cinesound Productions Pty. Ltd.	16,000

119. It was also indicated that provision would be made for the appointment of seven directors, the first directors being Messrs. A. J. Moir, C. B. Bednall, E. Turnbull, N. B. Rydge, A. G. Warner, F. S. Tait and O. J. Nilsen.

120. Substantial alterations to the company's proposals were necessary in consequence of the Government's requirement that the aggregate holdings of The Argus and Australasian Ltd., Hoyts Theatres Ltd., Greater Union Theatres Pty. Ltd., Efftee Broadcasters Pty. Ltd., and Cinesound Productions Pty. Ltd. should be reduced from 54.5 per cent. to 20 per cent. of the total issued capital and that no one of these shareholders should hold more than 15 per cent. of the capital (*see* paragraph 112 (b)). At the time this report was being written, the shareholding in the company and the representation on the Board of Directors was as follows:—

	Shares	Directors.
Electronic Industries Ltd.	246,667	2
David Syme and Co. Ltd.	246,667	2
The Argus and Australasian Ltd	40,466	1
Hoyts Theatres Ltd.	40,466	1
Greater Union Theatres Pty. Ltd.	34,886	1
Nilsen's Broadcasting Service Pty. Ltd.	33,333	1
3KZ Broadcasting Company Pty. Ltd.	33,333	
Efftee Broadcasters Pty. Ltd.	11,624	1 non-voting
J. C. Williamson Theatres Ltd.	6,978	
Cinesound Productions Pty. Ltd.	5,580	—
	700,000	

121. *Herald-Sun T.V. Proprietary Limited.*—This company was incorporated on 11th August, 1955, to conform with the Government's decision to grant a licence to a company to be formed by the Herald and Weekly Times Limited. The nominal capital of the company is £2,000,000 in £1 shares. To meet initial capital requirements, the Herald and Weekly Times Limited will subscribe for 637,500 shares and it is expected that Associated Newspapers Limited (London Daily Mail) will subscribe for 112,500 shares.

122. The Herald and Weekly Times Limited has an issued capital of 125,000 "A" 6½ per cent. preference shares and 275,000 "B" 6 per cent. preference shares of £1 each and 7,760,000 ordinary shares of 5s. each. The ordinary shares are held by approximately 6,000 persons, of whom only 33 hold 20,000 or more. Of these the main shareholder is Advertiser Newspapers Limited with 640,000 ordinary shares.

123. At the time the application was made by the Herald and Weekly Times Limited, the directors of the company were Messrs. H. D. Giddy, G. A. Caro, E. T. H. Richardson, Sir Lloyd Dumas, W. Dunstan, S. G. C. MacIndoe and J. F. Williams.

Location of Stations and Operating Conditions.

124. As indicated in paragraphs 150 and 151, the transmitters for the commercial television stations to be established to serve the Sydney and Melbourne areas will be located at Gore Hill and Mount Dandenong respectively. Pursuant to Section 6K of the *Broadcasting Act* 1942-1954, the Board determined that the operating power of the four commercial stations should each be 100 kilowatts (e.r.p.) and that channel No. 7 (181-188 Mc/s.) should be allocated to the station to be operated by Amalgamated Television Services Proprietary Limited, Sydney, and to the station to be operated by Herald-Sun T.V. Proprietary Limited, Melbourne, and that channel No. 9 (195-202 Mc/s.) should be allocated to the stations to be operated by Television Corporation Limited, Sydney, and by General Television Corporation Limited, Melbourne. (The technical considerations involved with respect to these matters are set out fully in Part VI, of this Report.)

COMMENCEMENT OF SERVICES.

125. It is not practicable, at this stage, to make any precise estimate of the likely date of the commencement of any of the television services which have been authorized by the Government. Since the approval of the Government was given, on 10th September, 1954, for the introduction of television, and on 18th April, 1955, for the grant of licences for commercial stations in Sydney and Melbourne, all the parties concerned, in particular the Postmaster-General's Department, the Australian Broadcasting Commission, the four companies which will operate the commercial stations, and the Board, have been actively engaged in making preparations for the commencement of the services.

126. The task is however one of considerable magnitude and difficulty. Sites for stations have to be acquired; transmitter buildings erected; suitable premises obtained and reconstructed for studios or built for the purpose; transmitting and studio equipment and radiating systems purchased and installed; staff recruited and trained; the supply of programme material of acceptable quality ensured; and the manufacture of television receivers commenced. Television is a new venture for Australia and in the early stages it is necessary to draw freely on the experience of other countries and to obtain most of the equipment overseas. There are therefore many factors which will affect the date of commencement which are outside the control of the Australian organizations which are to establish the services. In these circumstances, the Board proposes to keep the Minister fully informed concerning the progress which is being made in order that the Government may at the appropriate time determine the date or dates on which the services will be inaugurated.

PART VI.—TELEVISION—TECHNICAL SERVICES.

127. Under section 6K of the *Broadcasting Act* 1942-1954, the Board is obliged, amongst other things—

- (a) "to ensure the provision of services by . . . , television stations . . . , in accordance with plans from time to time prepared by the Board and approved by the Minister;"
- (b) "to determine the situation and operating power of any . . . , television station;" and
- (c) "to determine the frequency of each . . . , television station . . . within bands of frequencies notified to the Board by the Postmaster-General as being available for such stations."

This part of the Report contains information with respect to technical matters which the Board has been required to consider in connexion with its responsibilities, pursuant to the above provisions of the Act, to ensure the establishment and development of the television services of the Commonwealth in a manner which will best serve the public interest.

TELEVISION STANDARDS.

128. Full details of the general technical standards determined by the Board for application to the Australian television service were contained in Appendix D of the Board's Sixth Annual Report. As was explained, the standards are in conformity with the 625 line standards recommended for use by the appropriate Study Group of the Comité Consultatif International des Radio-communications (C.C.I.R.). Copies of the standards may be obtained from the Secretary of the Board. The Board has also prepared Standards for the Technical Equipment and Operation of Television Stations (*see* paragraph 161).

FREQUENCY CHANNELS FOR TELEVISION STATIONS.

129. The first step in the preparation of a plan for the provision of television services for the Australian people in accordance with the policy of the Government (*see* paragraph 97) that a dual national and commercial system should be established is the consideration of the availability of frequency channels.

130. As is the case with sound broadcasting, channels for television stations have to be selected from bands of frequencies made available by the Postmaster-General. Channels have been made available for Australian television stations in the very high frequency (VHF) band and in the ultra high frequency (UHF) band with due regard to the requirements of other services.

131. The Royal Commission on Television recommended that the television services of the Commonwealth should be planned on the basis of the use of VHF channels. At the time it made its report (November, 1953) there were seven such channels available for television stations and the Royal Commission urged that every effort should be made by the authorities concerned to release additional VHF channels for television services. In accordance with this recommendation, discussions were commenced in June, 1954,

between the Post Office and other users of channels and the Board with a view to having three or more additional VHF channels released for television. As a result of these negotiations, three additional channels became available, and at the present time, the following ten channels are reserved for television.

- Channel 1—49-56 megacycles per second.
- Channel 2—63-70 megacycles per second.
- Channel 3—85-92 megacycles per second. (For use in inland country areas only.)
- Channel 4—132-139 megacycles per second. (Available from 1st July, 1963.)
- Channel 5—139-146 megacycles per second. (Available from 1st July, 1963.)
- Channel 6—174-181 megacycles per second.
- Channel 7—181-188 megacycles per second.
- Channel 8—188-195 megacycles per second.
- Channel 9—195-202 megacycles per second.
- Channel 10—209-216 megacycles per second.

In the UHF band of 500 megacycles per second to 855 megacycles per second, which is available for television purposes, 50 channels each of 7 megacycles per second bandwidth are reserved.

CHANNELS TO BE USED IN AUSTRALIA.

132. One of the first questions to be settled by the Board before proceeding with the preparation of plans for the development of television services was whether the VHF or the UHF channels should be used, or both VHF channels and UHF channels. On this matter the Royal Commission on television made the following observations in paragraphs 104 and 105 of its report:—

104. Having regard to the recommendations which we later make as to the basis on which television should be introduced into Australia, it seems evident that the channels which have been reserved in the VHF band are sufficient to meet requirements for a considerable time. We have, therefore, reached the conclusion that the television services of the Commonwealth should be planned on the basis of the use of VHF channels. There is some merit in the argument advanced by the Australian Federation of Commercial Broadcasting Stations and other witnesses that, from the outset, planning should be on the basis that both VHF and UHF channels will be used: but, apart from the fact that the coverage of UHF stations is less than that of those using VHF channels, there is the important consideration that the cost of receivers would be increased materially if this proposal were adopted, without any commensurate gain to viewers for a long time, if at all. We have also taken into consideration the evidence of manufacturers who indicated to us that if future requirements demanded recourse to the UHF band, receivers could be suitably equipped or modified.

105. It may be, however, that it will be unnecessary to make use of UHF channels and that as the service develops it will be found practicable to meet all requirements by making available additional facilities in the VHF band. Because of the decided advantages of developing the Australian television service on this basis, we feel strongly that every effort should be made to provide facilities which will enable the service to be developed and expanded without necessity for utilizing channels in the UHF band.

133. The evidence which was given to the Royal Commission by expert witnesses and by representatives of electronic equipment manufacturers supported the generally accepted views—

- (a) that the propagation characteristics of the VHF band are considerably superior to those of the UHF band and that, because of this, it is more economical to provide an adequate service over a wide area with stations operating on VHF channels than with stations on UHF channels;
- (b) that transmitter techniques are more difficult in the UHF band and that the higher powers necessary to compensate for the inferior propagation on UHF channels present serious manufacturing difficulties at the present time; and
- (c) that receiver techniques are not so well developed at UHF as at VHF, and that the higher noise level of UHF receivers aggravates the effects of the inferior propagation characteristics.

In order to overcome the limitations of UHF channels, the Federal Communications Commission (F.C.C.) in the United States authorizes the use of power up to 1000 kilowatts e.r.p. by UHF stations compared with 100 kilowatts on the lower VHF channels, but in the light of recent experience proposals have been made in the United States that power of the order of 5000 kilowatts should be used on UHF channels to provide comparable conditions in regard to service area with those obtained from the use of 100 kilowatts on VHF channels. Although UHF techniques will undoubtedly develop in the course of time as equipment problems are overcome, it seems certain that it will not be as economical to serve an area with UHF as with VHF stations.

134. It is significant that in every country where television services are established, excepting the United States, the stations are operating only on VHF channels. In this connexion, the following extract from a report by the Television Advisory Committee in Great Britain is of considerable interest (in the extract Band III. relates to VHF channels and Bands IV. and V. to UHF channels)—

Transmitters operating in Band III can give a much greater service area coverage than is at present possible with higher frequencies. This band is essentially suitable for a system of transmitters providing substantially

complete coverage of the whole country. In broad terms, within the limitations of present knowledge of propagation at, and the present stage of development of valves for, the higher frequencies, at least twice as many stations would be required to give substantial coverage of the whole country using frequencies in Bands IV. and V. as would be required if frequencies in Band III. were used. In addition, the circuits, valves and other components required for both transmitters and receivers operating in Bands IV. and V. have not been developed to the point of large-scale production. The start of television transmissions in these bands does not therefore represent quite such an easy progressive development of television broadcasting as would the opening of Band III. stations.

Notwithstanding the fact that UHF channels are being used in the United States, the advantages of VHF channels are recognized by the Federal Communications Commission. The Chairman of that Commission in evidence presented to a Senate Committee in 1954 stated—

“With the transmitters now available to UHF operators, they generally cover their local community but they cannot reach out as far as VHF stations nor can they overcome poor viewing conditions as well as VHF stations.”

135. The Board's investigations, the general practice in countries overseas, and the views of Australian manufacturers all point to the wisdom of planning the commencement of the television services of the Commonwealth “on the basis of the use of VHF channels”, as recommended by the Royal Commission on Television, if it can be demonstrated that sufficient of those channels are available to develop television in accordance with the policy of the Government that television services should be introduced on a gradual basis and that the advantages of the dual system of national and commercial services are to be made available to the Australian people. The provisional frequency assignment plan which has been prepared by the Board (*see* paragraphs 138 to 147) indicate that provision can be made with the available VHF channels for—

- (a) four stations in all capital cities, and
- (b) two stations in all the populated areas outside the State capital cities.

It is, in the opinion of the Board, necessary to look far into the future to contemplate a situation when a real need would exist for more than four television stations in the capital cities of the States and more than two stations in other parts of the Commonwealth. Moreover, much time will elapse before it can be expected that sufficient programme material of acceptable quality will be available to enable more than four stations to provide a full-scale service of the high standard which all witnesses emphasized in evidence to the Board at its inquiry into applications for licences for Sydney and Melbourne should be maintained by Australian television stations. It is not realistic to look to the present number of broadcasting stations in Sydney and Melbourne as a guide to the requirements of the people of those cities in the television field, and having regard to the much greater cost and difficulty of providing television services, there are good grounds for accepting the view that four stations should be sufficient to provide a great variety of television programmes even for the large populations of Sydney and Melbourne for a very long time. For this reason, and because of the technical advantages to be gained from the use of the VHF channels, the Board has reached the conclusion—

- (a) that the Australian television service should be developed in the VHF band in which ten channels will be available; and
- (b) that if in the light of developments additional VHF channels are considered to be necessary, steps should be taken to secure the release of such channels by the other authorities which are using them.

Before reaching this conclusion, the Board considered the alternatives which are discussed hereunder—

- (a) *Use of UHF channels only.*—In view of the inferior propagation characteristics of UHF compared with VHF, this course could only be justified if insufficient VHF channels were available to meet all reasonable requirements. This is not the case.
- (b) *Use of VHF and UHF channels in separate areas.*—This could be done in either of two ways—
 - (i) VHF to be used in capital cities and UHF in other areas; or
 - (ii) UHF to be used in capital cities and VHF in other areas.

The first method would have the disadvantage of imposing on country areas (and perhaps areas like Newcastle and Wollongong) the technical disadvantages of UHF, particularly that of limited coverage in areas where extensive coverage is very necessary. The second method is regarded as unrealistic, particularly as in Sydney there would be appreciable difficulty in ensuring an adequate service to all the metropolitan area from a single station. The proposal would involve special difficulties for the purchaser of receiving sets. Receivers designed specifically for UHF reception would not be suitable in areas where VHF stations only were operating and vice versa, while a combined receiver would involve increased costs for a facility which might not be used.

- (c) *Allocate VHF and UHF channels to the same areas now.*—Although this may have to be done in the future if additional television stations are to be established beyond the limits obtainable with the VHF channels, there are some serious disadvantages involved in doing so now. The provision of UHF facilities in receivers *at this stage* would necessitate an appreciable increase in cost notwithstanding that there will probably be no UHF stations available for that receiver facility to be used.

136. The Board appreciates that if unforeseen developments prove that more channels must be provided for television stations than are available or can be secured in the VHF band, it will be necessary to use UHF channels. We feel, however, that in that event, there would have been evidence of the likely need of the additional stations for some years before they are established, and that manufacturers would therefore have had adequate notice of the need to incorporate additional facilities in receivers to enable viewers to see also the programmes transmitted on UHF. (A comparable procedure was followed when it was decided to extend the medium frequency broadcasting band to 1600 kc/s.) To provide for this eventuality now, manufacturers would need to incorporate in receivers, at additional cost to the purchasers, facilities which in all probability would not be used during the life of the receivers. Apart from the fact that such a course would be wasteful to manufacturers, the increased aggregate investment of the public in receivers would be considerably increased without any commensurate advantage.

137. In planning for the future it is important to bear in mind the possibility of developments in regard to colour television which would make its introduction a more economical proposition than is at present the case, and that UHF would be the most appropriate portion of the spectrum in which colour television stations should operate. In this connexion, the International Radio Consultative Committee (C.C.I.R.) of the International Telecommunications Union has emphasized the advantages and desirability of achieving a common television standard, especially for colour television in the UHF band. There has been criticism at various times of the mistakes made in allocation of frequencies. The history of the use of radio channels over the years has indicated the wisdom of proceeding cautiously and in the light of the considerations referred to above, there is no doubt that the public interest would be best served by making the widest use of the VHF channels available and conserving the UHF channels for possible future development. Apart from their shortcomings in comparison with VHF channels, to make use of UHF channels, at a stage when they are not essential to enable adequate services to be provided, would be a most serious step in freezing the use to be made of valuable frequencies, and could have unfortunate repercussions in future years.

THE FREQUENCY ASSIGNMENT PLAN.

138. The Royal Commission on Television recommended that—

At an early stage in the development of the Australian Television Service, a complete frequency allocation plan, which will make adequate provision for future developments, should be formulated by the Australian Broadcasting Control Board. In particular such a plan should make adequate provision for developments in country areas.

The Board is in complete agreement with this view and it has accordingly prepared the provisional frequency assignment plan which is contained in Appendix C. The purpose of preparing a frequency assignment plan is to ensure that channels will be reserved for the development of the Australian television services in accordance with the fundamental policy of the Government that Australian television is to be conducted along much the same lines as the broadcasting system, under which alternative services are provided by a national instrumentality and private enterprise operating stations in accordance with the conditions of licences granted by the Minister. The Government has decided that television is to be introduced on a gradual basis, commencing with stations in Sydney and Melbourne, and it may be some years before television services are extended to the less populous country districts of the Commonwealth. It is, however, the Government's intention that they should be made available in country centres as soon as it is practicable to do so and it is, therefore, necessary to make plans accordingly. Great difficulties have been experienced in recent times in developing broadcasting services in country districts because of the non-availability of frequency channels, a situation which is largely due to the fact that sufficient channels were not reserved in the early days of broadcasting for country stations, and, with that experience to guide it, the Board is obliged to make adequate provision now for the establishment of both national and commercial television stations in rural areas, even though it realizes that they may not be established for some years. In this connexion, the Board subscribes to the view of the Federal Communications Commission of the United States that "a table of assignments makes for the most efficient technical use of the relatively limited number of channels available for television purposes. It protects the public residing in smaller cities and rural areas more adequately than any other system for distribution of service".

139. The provisional plan in Appendix C makes provision for the allocation of VHF channels for stations which would provide—

- (a) four services in each capital city; and
- (b) two services in every town with a population in excess of 5,000,

and, in the opinion of the Board, the adoption of these proposals would provide a satisfactory basis for the development of television services throughout the Commonwealth. The relatively close proximity of Sydney, Newcastle and Wollongong with their dense populations, and of Katoomba and Orange with substantial populations presents a special difficulty in connexion with the allocation of frequencies, and in particular precludes the reservation of more than two VHF channels for Newcastle. At first glance, it may appear unreasonable that whilst only two channels are provided for Newcastle, with its great population, four channels are reserved for Hobart. The explanation is, of course, that four channels can be provided for any area which is sufficiently distant from other areas where stations will be established. However, by the time an additional service is required for Newcastle, the Board would hope that a greater number of VHF channels would be available for television purposes.

140. The plan makes provision for the reservation of VHF channels for 120 stations, but it must not be concluded from that fact that there is any intention at the present of proceeding with the establishment of so many stations in the Commonwealth. The plan is strictly a frequency assignment plan—it is not a proposal that at any particular stage national stations will be established in or commercial stations licensed to operate in, the areas for which channels are reserved. It may well prove to be the case that more than one station cannot be justified in many of the areas and that no service will be established in others for many years. However, on the experience of the past, the frequency assignment plan should, in conformity with the policy of the Government, reserve channels in such a manner as to provide for the dual system to be established in any areas where it appears that it can be justified either by existing circumstances or might be justified by subsequent developments.

141. Before issuing standards for the allocation of channels for television stations in 1952, the Federal Communications Commission conducted extensive public hearings and it is the intention of the Board before submitting its frequency assignment plan for the approval of the Minister as required by the Act, to provide full opportunities for all who are interested to submit their views on the proposed plan. In this connexion, it should be mentioned that the allocation of Channels No. 2, 7 and 9 to the stations to be established in Sydney and Melbourne would not prevent considerable changes being made to the provisional plan if this were deemed desirable. The succeeding paragraphs contain information concerning some of the technical considerations on which the plan is based.

142. The number of stations which can be established depends upon a number of inter-related technical factors, namely, the minimum separation between stations using the same or adjacent channels, the operating power of the stations concerned and the limits to which protection is to be afforded from interference by other stations using the channels.

143. The frequency assignment plan has been prepared on the basis that the maximum effective radiated power of Australian television stations shall, for all VHF channels, be 100 kilowatts, which is considered adequate to serve all the major centres of population in the Commonwealth, and in addition large rural areas surrounding them. The actual power to be used in any particular case will be the subject of a careful engineering and economic analysis: lower powers than 100 kilowatts have been specified in some instances in the plan for the purpose of minimizing interference between stations. (The question of power is discussed further in paragraphs 152 to 160.)

144. In preparing the frequency assignment plan the Board, has, as far as practicable, kept the spacing between co-channel and adjacent channel stations greater than the following minimum values:—

Co-channel same polarization—	Miles.
100 kW.	170
Co-channel different polarization—	
100 kW.	135
Co-channel same polarization—	
100 kW. and 14 kW.	140
100 kW. and 1 kW.	120
Co-channel different polarization—	
100 kW. horizontal }	100
1 kW. vertical }	
Adjacent channel—	
100 kW.	60

145. The proposed separations conform with practice overseas and have been determined in the light of all available information on tropospheric propagation of very high frequencies. There may be some interference between stations operating on common channels in areas where the signal is relatively weak, but this is inevitable if the most effective use is to be made of the available VHF channels. In such areas it will probably be the general practice for receivers to be associated with directional receiving aerials to increase the strength of signal available. These aerials have the additional useful characteristic of reducing the effect of the interference resulting from common channel operation. The separations assume the use of offset carriers, a technique which reduces interference between co-channel stations. It is proposed to work out details of offset carrier spacings when the frequency plan has been

completed. Stations operating on channel 1, sufficiently far apart, could be subject to interference transmitted by means of the F layer of the ionosphere, particularly during the high sunspot period of the eleven-year cycle. The most distant stations in the plan using channel 1 are Maryborough (Queensland) and Geelong, and these are not far enough apart to involve serious F layer interference. A further possible source of interference could be by means of sporadic E layer transmission on channels 1 and 2 but it is expected that such interference will be of lower intensity generally than is tropospheric interference with the separations adopted for co-channel stations in the plan.

146. The technical standards which are referred to in paragraph 161 specify that the polarization of radiators should, as a general rule, be horizontal. However, in the case of two stations operating on the same channel, there is some advantage to be gained if one uses horizontal polarization and the other vertical polarization, because the distance between the stations can be reduced without any increase in interference. It is desirable, however, to avoid the use of different polarization by stations located in the same area as that would necessitate the use of two receiving aerials to ensure satisfactory reception. Apart from this consideration there are no serious objections to the use of different polarizations, and because of the advantages to be gained from the reduced separation between co-channel stations, provision has been made, as will be seen in the preceding paragraph, in the frequency assignment plan for the use of vertical polarization in some instances. Some overlap of signals from stations using vertical and horizontal polarization is inevitable, but in any areas where this occurs, viewers will, under the plan, be assured of reception of at least two services from stations using the same type of polarization.

147. In preparing a frequency assignment plan, considerable care must be exercised in the detailed allocations to avoid the possibility of interference from sources such as second and third harmonic radiation, receiver oscillator radiation, intermediate frequency beat, and image interference. The plan has been prepared with due regard to the need for avoiding serious trouble of this nature and on the assumption that standardized intermediate frequencies for television receivers of 36 megacycles per second vision, and 30.5 megacycles per second sound, are universally used (*see* paragraph 165).

TELEVISION TRANSMITTING SITES.

148. As a result of investigations made by the Board shortly after its establishment in 1949, the conclusion was reached that the most suitable location for a television station to serve Sydney was Gore Hill. The whole matter has been reviewed recently with the result that the previous conclusion was confirmed.

149. Before finally approving the Gore Hill site, the Board considered other sites at higher altitudes but more remote from the city. The Gore Hill site is about 320 feet above sea level, and with the mast height of 500 feet approved by the Department of Civil Aviation giving the total height above sea level of 820 feet it is regarded as the most satisfactory site for a television transmitter to serve the Sydney area. A station on this site will provide high field strengths in the city and inner suburbs and adequate field strengths in practically all of the metropolitan area, will have reasonable coverage in the surrounding country districts, and also have the important advantage of being close to the centre of the population to be served. The other areas close to the city of Sydney which were examined as alternatives to the Gore Hill site included—

Pennant Hills-Wahroonga	..	550-700 feet above sea level, 11 miles from city.
Beedham	.. ..	300 " " " " 8 $\frac{3}{4}$ " " "
North Ryde	.. ..	270 " " " " 7 $\frac{1}{2}$ " " "
Middle Harbour	.. ..	400 " " " " 7 $\frac{1}{2}$ " " "
Belrose	.. ..	550 " " " " 9 $\frac{1}{2}$ " " "

None of these was considered to be as satisfactory as the Gore Hill area which is nearer the centre of the city (approximately four miles) except possibly the Pennant Hills-Wahroonga area, which would give somewhat greater country coverage at the expense of a marked reduction in city field strength. However, because of restrictions imposed by the requirements of the Departments of Civil Aviation and of Air the actual height of a mast in this area would probably be only 180 feet above that in the Gore Hill area, and the disadvantage of weaker signals in the city area outweighed any advantages which the Pennant Hills-Wahroonga site had over Gore Hill on other counts. Other more distant sites have been suggested from time to time including—

Mount Kembla	.. ..	1,752 feet above sea level, 44 miles from city.
Mount Kerna	.. ..	1,533 " " " " 40 " " "
Wentworth Falls	.. ..	2,844 " " " " 48 " " "
Kurrajong Heights	.. ..	1,800 " " " " 40 " " "
Mount Victoria	.. ..	3,424 " " " " 57 " " "

A station established in any one of these localities, except perhaps Mount Victoria, which cannot be seriously considered because of its distance from Sydney, would undoubtedly encompass a greater population within its rural service area than a station at Gore Hill, but the city field strength would be inadequate, even if somewhat higher powers than 100 kw. e.r.p. were employed. The choice of some of them could also involve the hazards of tropospheric fading in Sydney.

150. The Board accordingly decided on the Gore Hill area as the most suitable site for the Sydney national and commercial stations. The question then arose as to the possibility of locating the three transmitting stations sufficiently close together to enable directional receiving aerials to be orientated on all the stations simultaneously, which has appreciable advantages including reduction of ghost images. The ideal solution would have been to locate all the stations' radiators on one mast but this was not practicable, because of inadequate space at any one location and the apparent reluctance of the parties to agree in principle to this course. The Board decided that the sites for the two commercial stations must be located within a radius of one mile of the site for the national station as this would allow all viewers (except those in the immediate area surrounding the three masts) to obtain the advantage of using a directional receiving aerial of a non-rotating type. Suitable sites have since been acquired in this area by Television Corporation Ltd. and Amalgamated Television Services Pty. Ltd.

151. For Melbourne the high country in the Mount Dandenong district has some obvious advantages, but there were some doubts concerning the adequacy of the signal strength which would be provided in Melbourne because of the distance (approximately 20 miles) from the centre of the city. Accordingly, the Postmaster-General's Department was requested by the Board to undertake field strength surveys of transmissions from Mount Dandenong. The surveys showed that field strengths would be adequate in the metropolitan area, both on 60 Mc/s. and 200 Mc/s., with effective radiated powers of the order of 50 or 100 kW. and that the service even in many parts of Geelong would be adequate although, taken as a whole, it could only be regarded as marginal for a city of that size. An examination of the area was made to locate a definite site for establishment of a national station, and a site on Barnes' Lookout approximately $\frac{3}{4}$ of a mile from the Mount Dandenong observatory appeared to be very suitable. The Postmaster-General's Department has since acquired a block of land at this location. Sites have also been acquired in this area by the two licensees of commercial television stations in Melbourne, Herald-Sun Television Pty. Ltd. and General Television Corporation Pty. Ltd. These three sites are sufficiently close together to enable practically all the viewers in the service area to employ directional aerials orientated simultaneously in the same direction.

POWER OF TELEVISION STATIONS.

152. The propagation characteristics of channels in the VHF band enable a number of stations to operate on each individual channel in that band without giving rise to objectionable interference if proper engineering standards of allocation are observed. These standards must be formulated basically with the object of making maximum use of the channels available, while at the same time ensuring the provision of optimum services to the public.

153. In formulating the engineering standards of allocation used as a basis for the preparation of the Frequency Assignment Plan, referred to in paragraphs 138-147, it was necessary to utilize propagation data secured from the Federal Communications Commission (F.C.C.), as similar information is not available from Australian sources. The Board has relied substantially on the data published by the F.C.C. in fixing the minimum distance separation between stations operating on the same and adjacent channels, and in determining the operating power which might be used by such stations.

154. In the United States, the F.C.C. has authorized the use of a maximum power of 100 kilowatts e.r.p. by stations operating at the low end of the VHF band which, in the absence of limitation by interference from other stations, have the greatest range for rural service, and, with the object of equalizing, as far as practicable, the rural coverage of all VHF stations, it permits stations at the high end of the band to use a maximum power of 316 kilowatts e.r.p.

155. The following table, based on data published by the F.C.C., provides a comparison of the estimated rural service range of stations operating on channels at the high end of the VHF band (Australian channels 4-10) on various levels of power:—

TABLE 1.

Effective Radiated Power.	Estimated Rural Service Range.* (Miles.)	
	Column 1.	Column 2.
10 kW	35	35
30 kW	41	41
100 kW	47	47
300 kW	47	53

* Rural service is regarded as being provided in that area having median field strength of more than 620 microvolts per metre for channels 4-10 and 220 microvolts per metre for channels 1-3 for receiving aerial height of 30 feet above ground.

The figures in column 1 show the range with a co-channel station 170 miles distant, and column 2 the range which would be obtained if there were no limitations due to co-channel operation.

156. The ranges in Table 1 are based on a typical case of a station with transmitting antenna 500 feet above the level of the surrounding country and for average terrain. The considerations, however, remain substantially the same if different conditions are used.

This table discloses that—

- (a) power in excess of 100 kilowatts does not increase the rural service range in the area between stations sharing the channel and would therefore largely be wasteful; and
- (b) the increased range at higher powers of a station whose service area is not limited by a sharing station is relatively small and incommensurate with the appreciably higher capital and operating costs of operation at those powers.

157. While it is a fact that in areas where there is no limitation on the service range of stations due to co-channel operation, stations on the low end of the VHF band (Australian channels 1 to 3) have a wider coverage, the service range of these stations can be actually less than those on the high end of the band under the same sharing conditions, as the figures in the following table, when compared with those in Table 1, show:—

TABLE 2.

Effective Radiated Power.	Estimated Rural Service Range.* (Miles.)	
	Column 1.	Column 2.
10 kW	41	43
30 kW	41	50
100 kW	41	57
300 kW	41	64

* These figures pre-suppose the same operating conditions as in the case of Table 1.

158. Table 3 hereunder shows the estimated urban service range of stations under the same typical conditions as in Tables 1 and 2:—

TABLE 3.

Effective Radiated Power.	Estimated Urban Service Range.* (Miles.)	
	Channels 1-3.	Channels 4-10.
10 kW	16	17
30 kW	21	22
100 kW	27	29
300 kW	32	35

* Urban service is regarded as being provided in that area having median field-strength of more than 3.5 millivolts per metre for channels 4-10 and 2.5 millivolts per metre for channels 1-3 for receiving aerial 30 feet above ground.

It will be seen from Table 3 that equality of power on all channels gives approximately equal coverage over the urban areas where the bulk of the population served by a station resides.

159. The question of the appropriate power to be used by television stations in Australia has been carefully considered by the Board in the light of the information available, including that set out in the preceding paragraphs. The Board has come to the conclusion that the maximum power to be used by Australian television stations should be 100 kilowatts e.r.p. The Board's principal reason for reaching this decision was its anxiety to ensure that the best possible service is provided throughout the whole of the populated areas of the Commonwealth as economically as possible. The Board took into consideration the fact that the Provisional Frequency Assignment Plan, which had been formulated on this basis, provided for sufficient stations to enable alternative services to be established throughout the Commonwealth. It took into account the economic considerations involved which may perhaps be summarized briefly by saying that, since operating power is closely related to both capital and operating costs of stations, the power should be no higher than necessary to provide an adequate service.

160. It may be noted that, although the F.C.C. has authorized stations on the high frequency end of the VHF band to use powers of up to 316 kilowatts, less than a third of them are at present operating on that power. In Great Britain, operating powers to be used by the British Broadcasting Corporation on low frequency channels are at least equal to those proposed for the higher frequency channels to be used by the Independent Television Authority. In European countries using the 625 line standard as adopted for Australia, it is understood that powers are limited to 100 kilowatts e.r.p. on both low and high frequency channels. It may also be added that the only country where equipment is available for powers of the order of 300 kilowatts e.r.p. on the higher channels in the VHF band is the United States, and, in view of the prevailing economic conditions, there would be great difficulties in obtaining equipment from that country.

STANDARDS FOR THE TECHNICAL EQUIPMENT AND OPERATION OF TELEVISION STATIONS.

161. In pursuance of section 6K (1.) of the *Broadcasting Act* 1942-1954, which requires the Board to ensure that the technical equipment and operation of television stations are in accordance with such standards and practices as the Board considers to be appropriate, the Board has prepared a provisional draft of standards which it intends ultimately to issue for the guidance of the Postmaster-General's Department, the Australian Broadcasting Commission and the licensees of commercial television stations. The standards are intended to indicate generally the type of equipment and method of operation of television stations which will be approved by the Board. They are similar in form to the standards determined by the Board for medium frequency broadcasting stations and they specify standards of technical staffing, requirements for technical operation and minimum requirements of equipment for capital city stations. The Board made the draft of the standards available to the Post Office, the Commission and the licensees of commercial television stations for their examination. Very few changes were considered necessary and the standards are now being revised in the light of the observations made.

TELEVISION OPERATOR'S CERTIFICATE OF PROFICIENCY.

162. The Board has also given consideration to the question of the qualifications which should be required of persons responsible for the maintenance and operation of television equipment and during the year discussed this matter with representatives of the Postmaster-General's Department and the principal technical colleges and schools in the various States. With their co-operation, the Board prepared a syllabus for an examination for a Television Operator's Certificate of proficiency, a copy of which is contained in Appendix D. Subsequently, the Board determined that—

- (a) all technical staff operating television transmitters should be required to hold the proposed certificate or to be otherwise qualified to the satisfaction of the Board;
- (b) during all actual broadcasts of programmes from studios or outside broadcast units, an operator holding the proposed certificate, or otherwise qualified to the satisfaction of the Board, should be present at the location from which the programme originates, to supervise all the technical officers concerned; and
- (c) a person holding the proposed certificate, or otherwise qualified to the satisfaction of the Board, should be responsible for the maintenance of studio transmitting and outside broadcast equipment.

163. The Board has further determined that the possession of a Broadcast Operator's Certificate of Proficiency issued by the Postmaster-General's Department, or equivalent qualifications approved by the Board, shall be a prerequisite for candidates for the Television Operator's Certificate of Proficiency. The Board proposes to hold quarterly examinations for this certificate, the first examination being held in Sydney and Melbourne in December, 1955.

TELEVISION RECEIVERS.

Intermediate Frequencies.

164. In previous reports, the Board drew attention to the need for determining a standard intermediate frequency for television receivers and stated its intention of conferring with manufacturers on this important matter. It is essential that standard intermediate frequencies for vision and sound should be employed for all receivers used in the Commonwealth, in order that the Board may be able to make frequency allocations for television stations in specific locations in such a manner as to avoid mutual interference between television and other services arising from image responses, intermediate frequency difference responses and beat oscillator radiation. If a multiplicity of intermediate frequencies were to be used in receivers, it would be impracticable to ensure maximum protection from interference, and receivers using non-standard intermediate frequencies could not be used on certain television channels without retuning of the intermediate frequency sections.

165. During the year, the Board had several discussions with representatives of the receiver manufacturing industry arranged through the Associated Chambers of Manufactures of Australia, as a result of which the Board decided to recommend to manufacturers that the following intermediate frequencies should be employed in all television receivers used in Australia:—

Sound carrier	30.5 Mc/s.
Vision carrier	36 Mc/s.

It was agreed that these frequencies should be adhered to within ± 0.25 Mc/s. and that the oscillator frequency should be above the channel frequency. Although representative manufacturers expressed the view that higher values of intermediate frequencies would, for a number of reasons, be preferable, it was agreed that the above standard frequencies should be used because of the difficulties of protecting higher frequencies from interference from industrial, scientific and medical equipment in the internationally assigned band of 40.68 Mc/s. The Postmaster-General's Department has agreed to arrange frequency assignments in the band encompassing the above intermediate frequencies as far as practicable to ensure protection of television services from interference by other services.

LIMITS OF RADIATION FROM TELEVISION RECEIVERS

166. Because of the effects of radiation from television receivers, it is necessary that beat oscillator and sweep circuit radiation be kept within reasonable limits. This matter is of particular importance in connexion with the protection of navigational services such as those conducted by the Department of Civil Aviation and the Board recommended after conferring with the manufacturers' representatives, that radiation from television receivers due to beat oscillators should not exceed the following levels for the channels indicated:—

Channels 1-3	..	..	..	..	50 microvolts per metre at 100 feet.
Channels 4-5	..	..	..	..	100 microvolts per metre at 100 feet.
Channels 6-10	..	..	..	..	150 microvolts per metre at 100 feet.

Radiation in the band 535-1605 kc/s. from sweep circuits of television receivers and sweep circuit voltages fed back through the mains should be kept as low as possible in order that interference to broadcast reception be kept to a minimum. (It has not been found practicable to recommend limits, covering sweep circuits at this stage.)

PART VII.—TELEVISION—PROGRAMME SERVICES.

167. It will be seen from paragraph 112 (*k*) of this Report that one of the conditions of the grant of a licence for a commercial television station is that "the licensee shall provide programmes, and shall supervise the televising of programmes, from his station in such a manner in all respects as to comply with such standards as the Board determines."

168. In the course of the public inquiry conducted by the Board into applications for licences for television stations, all applicants emphasized the desirability of commencing, and continuing Australian television services on a high standard and as an indication of the Board's opinion as to the major safeguards which it will be necessary to adopt to achieve this end, we quote hereunder the views which we expressed on the subject in the report which we submitted to the Minister on the applications for licences for commercial television stations:—

In the course of our inquiry, we discussed with representatives of all applicants the basic problem of achieving adequate standards in the presentations of programmes, and sought from them their views on the steps which should be taken to secure something more than mere compliance with minimum standards or requirements. Very serious and difficult issues arise in this field. It is of the essence of commercial television that holders of licences should have a large measure of true freedom and scope for experiment and enterprise in the presentation of programmes. On the other hand, there is universal agreement about the grave dangers which may arise from the unwise use of this new medium of mass communication. A balance must be struck between these two points of view and the Board has given deep consideration to the measures which should be taken at this stage, not only to provide essential safeguards against possible abuses, but also to develop positive means of ensuring that the best possible use will be made of the new medium. It is significant that all applicants, without exception, when questioned by the Board in this connexion seemed genuinely concerned with their responsibility, and expressed readiness to submit wholeheartedly to such guidance, and, if necessary, supervision, as the Board might find to be required both in respect of general programme standards and particular kinds of programmes.

It was generally agreed, as indeed the Royal Commission had pointed out, that while self-regulation is a desirable objective and is effective in the hands of competent and responsible executives of commercial stations, some reserve of authority in the hands of the Board would be required. We hope that it would seldom be necessary for us to use this authority, and the willingness expressed by all applicants to co-operate with the Board has given us great encouragement. We think that, properly considered, there is no real conflict between the kind of supervision of television programmes which all applicants agreed is required in the public interest, and the successful use of all the qualities of vigour, initiative and ingenuity which, it may be expected, will make Australian television worthwhile. We may add that we obtained assurances from each applicant that all programmes transmitted from the station (if a licence were granted) would be under the direct control of the licensee and that this responsibility would not be delegated to advertisers or other persons sponsoring programmes.

Without pretending to do more than set out some of the major matters, we propose at least the following minimum requirements for the establishment period:—

- (i) Hours of operation of commercial stations should be fixed by the Board, which will be guided by its knowledge of the availability of programmes of good standard. (There was unanimous agreement among all applicants as to the desirability of this, and modest, in some cases very modest, proposals were made to us as to the transmission hours of stations in the early period.)
- (ii) The strictest control should be exercised over all imported film material for use on television, both in respect of quality and quantity. We have already commenced discussions, with very useful results, with the Chief Commonwealth Film Censor on this subject. It would be our objective to take whatever action is necessary, both in co-operation with the Film Censor and independently, to eliminate from television programmes all classes of films which are unsuitable for Australian programmes.
- (iii) Special action should be taken in respect of programmes intended for children and special precautions should be taken in respect of the programmes transmitted when children are likely to see them. An advisory committee, consisting of persons specially interested in and capable of understanding the tastes and needs of children, should be appointed to assist the Board in its consideration of this aspect of television programmes; if it appears necessary, the Board should supervise the selection and presentation of programmes for children.

- (iv) Continuous investigations into the social, cultural and educational effects of television, with particular reference to those sections of the community likely to be specially affected, should be conducted by the Board in consultation and co-operation with the Australian Broadcasting Commission, the licensees of commercial stations, the advertising associations and other interested bodies. The need for this is, indeed, obvious as well as urgent.
- (v) A monitoring service should be maintained by the Board in respect of television programmes; it is clearly necessary for the Board to undertake closer supervision of television programmes than has been necessary in the case of broadcasting programmes. In some cases it will be necessary for programmes recorded on film to be seen before transmission.
- (vi) The selection and training of the staff required, as a result of these proposals, should be taken in hand immediately.

169. Although some time will elapse before television services commence in Australia, much preparatory work has to be done in connexion with arrangements for the production and presentation of programmes. As the programmes of the commercial stations must comply "with such standards as the Board determines", it is only fair to the licensees that they should be informed as soon as possible of the requirements of the Board. For this purpose, the Board has prepared provisional general television programme standards and special standards for children's programmes, and these will be discussed with the licensees before they are finally adopted. The Board also proposes to discuss the question of the hours of operation of commercial stations with the licensees as soon as they are in a position to indicate in some detail the nature of the programmes which they intend to provide.

170. Reference is made in paragraph 168 above to the need for strict control over all imported film material for use on television, and to discussions we have had with the Chief Commonwealth Film Censor on this subject. Under the Customs (Cinematograph Film) Regulations all imported films are examined by the Chief Censor and under Acts of certain States films produced in Australia for theatrical exhibition are examined by the Chief Censor on behalf of those States. In view of the special nature of the television medium, and the fact that almost all film can be used both for exhibition by cinematograph and on television, it appears to the Board to be desirable that the censorship authorities should take into consideration the possible use on television of all film passing through their hands. This would involve the classification of such films into suitable categories in relation to television as well as in relation to public exhibition, and if the Board and the censorship authorities were in agreement on this matter, it would enable their respective functions in relation to films which may be used on television to be co-ordinated and prevent duplication and overlapping in their respective administrations. At the time this report was being prepared, discussions along these lines were proceeding between the Chief Censor and the Board.

171. Representations have been made to the Government by Actors' and Announcers' Equity Association of Australia and other organizations urging that not less than 55 per cent. of each television station's time should be devoted to the televising of programmes produced in Australia, and other organizations support the idea of a quota system designed to ensure that the television services provide liberal opportunities for Australian artists and musicians. The Board's views on this matter were expressed in the following paragraph of the report which it made to the Minister on applications for licences for commercial television stations in Sydney and Melbourne:—

It was contended on behalf of the Actors' and Announcers' Equity Association of Australia that in order to ensure that the services of Australian artists should be adequately used by licensees of commercial television stations, every licence should contain a condition requiring the licensee to devote not less than 55 per cent. of his station's total hours of service to the televising of programmes produced in Australia. Television should provide great opportunities for Australian artists and we agree with the Royal Commission on Television (paragraph 409) that "there is an undoubted obligation on the operators of television stations to ensure that the best use is made of Australian talent". We are satisfied by the evidence which was given to us on this subject that licensees will discharge this obligation and we therefore do not propose to recommend that any specific condition should be incorporated in licences for television stations. Apart from any other consideration we think it is desirable that more experience should be gained and more knowledge obtained as to the availability of programme material before any decision is made on the subject of quotas. In paragraph 52 we draw attention to the need for control to be exercised over all imported film material, a matter which was also raised by the Association.

We have had reason to consider this matter again on several occasions since that report was prepared in March, 1955, and as a result we are even more convinced of the need for additional information being available concerning the quantity and quality of local and overseas programme material which can be obtained by the Australian Broadcasting Commission and licensees of commercial television stations before any decision is made with respect to quotas for Australian programmes.

172. It is one of the conditions of the grant of a licence for a commercial television station that all advertising matter televised by licensees shall be in accordance with such standards as the Board determines. At the time of writing this report the Board was commencing discussions with licensees and advertising associations on the principles to be adopted in the formulation of advertising standards, both in respect of the time to be devoted to advertisements and the general conditions to be applied to advertising on television.

PART VIII.—GENERAL.

FINANCIAL ACCOUNTS OF THE BOARD.

173. In conformity with the provisions of section 6P of the Act, a statement of the financial accounts of the Board for the year ended 30th June, 1955, together with the report of the Auditor-General as to those accounts, appears in Appendix E of this Report.

ANNUAL DEVELOPMENT OF BROADCASTING.

174. The following table shows the progressive development in the number of broadcasting stations and licensed listeners since the inception of broadcasting in 1923:—

Year.	Number of Broadcasting Stations in Operation.		Number of Licensed Listeners.
	Class "A"	Class "B"	
30th June— 1924	4	..	1,206
1925	7	6	63,874
1926	8	9	128,060
1927	8	12	225,240
1928	8	12	270,507
1929	8	12	301,199
	National	Commercial	
1930	8	13	312,192
1931	9	27	331,969
1932	12	43	369,945
1933	12	48	469,477
1934	12	53	599,159
1935	12	57	721,852
1936	14	73	825,136
1937	20	80	940,068
1938	24	94	1,057,911
1939	24	98	1,131,861
1940	26	100	1,212,581
1941	27	96	1,293,266
1942	27	97	1,320,073
1943	27	96	1,370,000
1944	28	98	1,394,880
1945	29	100	1,415,229
1946	29	100	1,436,789
1947	32	101	1,678,276
1948	33	102	1,703,970
1949	37	102	1,762,675
1950	39	102	1,841,211
1951	41	103	1,884,834
1952	42	103	1,961,044
1953	44	105	1,985,655
1954	46	106	2,041,615
1955	50	106	2,034,676

In addition to the above national stations, there were, as at 30th June, 1955, nine short-wave transmitters providing services to listeners in remote areas.

LISTENERS' LICENCES.

175. The following table shows the various classes of broadcast listeners' licences which were current on 30th June, 1955:—

Class of Licence.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Commonwealth.
Ordinary	678,324	513,786	268,454	207,916	137,935	65,442	1,871,857
Pensioners	65,080	34,025	23,555	14,616	11,707	5,739	154,752
Blind Persons	731	569	281	304	320	209	2,414
Schools	1,915	1,310	1,252	727	237	212	5,653
Total	746,050	549,690	293,542	223,593	150,199	71,602	2,034,676
Ratio to 100 of population ..	21.35	22.16	22.19	27.12	23.13	22.41	22.38

COST OF NATIONAL BROADCASTING SERVICE.

176. Expenditure on the operation of the National Broadcasting Service (including both programme and technical services) during 1954-1955 was £4,787,629 made up as follows:—

	£
Australian Broadcasting Commission	2,701,495
Technical and other services	2,068,311
Audit of accounts	3,000
Repairs and maintenance of buildings	14,823
	4,787,629

177. The gross expenditure of the Australian Broadcasting Commission was £3,158,128 but revenue amounting to £456,633 was derived from public concerts, subsidies for symphony orchestras, sales of the *A.B.C. Weekly*, the sale of news services, and miscellaneous sources. The total cash revenue received, excluding that received by the Commission, was £3,847,642, viz. :—

	£
Broadcast listener's licence fees	3,830,843
Miscellaneous	16,799
	3,847,642

178. The expenditure on Broadcasting Capital Works was £289,240, of which £16,008 was provided from the Australian Broadcasting Commission's reserves.

ACKNOWLEDGMENTS.

179. In the discharge of its functions, the Board is brought into close and frequent association with the Postmaster-General's Department, the Australian Broadcasting Commission and the Australian Federation of Commercial Broadcasting Stations, and we are glad of the opportunity of expressing our gratitude to each of these three organizations for the co-operation which we receive. We are grateful too to our representatives in the various States for their willing assistance at all times and to Mr. D. J. Anderson, the Civil Air Attaché in Washington, who, through the kindness of the Director-General of Civil Aviation, represents the Board in the United States and is the source of much useful information on development in broadcasting and television in that country.

R. G. OSBORNE, Chairman.

R. B. MAIR, Member.

R. M. WHITE, Member (part time).

J. O'KELLY, Secretary.

24th October, 1955.

APPENDIX A.

COMMERCIAL BROADCASTING STATIONS IN OPERATION ON 30TH JUNE, 1955.

Call Sign.	Location of Station.	Frequency (kc/s).	Authorized Power (Watts).	Licensee and Registered Office.	Hours of Service per Week (to nearest Quarter Hour).
AUSTRALIAN CAPITAL TERRITORY.					
2CA ..	Canberra ..	1,050	2,000	Canberra Broadcasters Ltd., Northbourne-avenue, Braddon, Canberra ..	119
NEW SOUTH WALES.					
<i>Metropolitan.</i>					
2CH ..	Sydney ..	1,170	5,000*	New South Wales Council of Churches Service, c/o St. Andrew's Rectory, 17 Church-street, Ryde ..	117
2GB ..	Sydney ..	870	5,000*	Broadcasting Station 2GB Pty. Ltd., 136-138 Phillip-street, Sydney ..	121½
2KY ..	Sydney ..	1,020	5,000*	The Trustees, R. H. Erskine and J. N. Thom, and the Secretary, R. A. King, of the Labor Council of New South Wales, Trades Hall, Goulburn-street, Sydney ..	123½
2SM ..	Sydney ..	1,270	5,000*	Broadcasting Station 2SM Pty. Ltd., City Mutual Building, 60 Hunter-street, Sydney ..	118
2UE ..	Sydney ..	950	5,000*	Radio 2UE Sydney Pty. Ltd., 29 Bligh-street, Sydney ..	121½
2UW ..	Sydney ..	1,110	5,000*	Commonwealth Broadcasting Corporation Pty. Ltd., 49 Market-street, Sydney ..	168
<i>Country.</i>					
2AD ..	Armidale ..	1,130	D. 2,000 N. 1,000	New England Broadcasters Pty. Ltd., 173a Beardy-street, Armidale ..	110
2AY ..	Albury ..	1,490	2,000	Amalgamated Wireless (A/asia.) Ltd., 47 York-street, Sydney ..	117
2BE ..	Bega ..	1,480	1,000	J. A. Kerr, Belmore-street, Bega ..	98½
2BH ..	Broken Hill ..	660	200	Radio Silver City Pty. Ltd., cnr. Blende and Sulphide streets, Broken Hill ..	106½
2BS ..	Bathurst ..	1,500	2,000	Bathurst Broadcasters Pty. Ltd., 109 George-street, Bathurst ..	121
2DU ..	Dubbo ..	1,250	2,000	Western Broadcasters Pty. Ltd., 45 Macquarie-street, Dubbo ..	168
2GF ..	Grafton ..	1,210	D. 2,000 N. 1,000	Grafton Broadcasting Co. Pty. Ltd., 47 York-street, Sydney ..	113½
2GN ..	Goulburn ..	1,380	2,000	Goulburn Broadcasting Co. Pty. Ltd., 47 York-street, Sydney ..	114
2GZ ..	Orange ..	990	2,000	Country Broadcasting Services Ltd., Hosking House, Hosking-place, 84½ Pitt-street, Sydney ..	121
2HD ..	Newcastle ..	1,140	2,000	Airsales Broadcasting Co. Pty. Ltd., Maitland-road, Sandgate ..	129½
2KA ..	Katoomba ..	780	D. 2,000 N. 1,000	2KA Ltd., 4th Floor, Stanway House, 77 King-street, Sydney ..	114
2KM ..	Kempsey ..	980	D. 2,000 N. 1,000	Radio Kempsey Ltd., 4th Floor, Stanway House, 77 King-street, Sydney ..	110
2KO ..	Newcastle ..	1,410	2,000	Newcastle Broadcasting Co. Pty. Ltd., C.M.L. Building, 72 Hunter-street, Newcastle ..	168
2LF ..	Young ..	1,340	2,000	Young Broadcasters Pty. Ltd., A.M.P. Buildings, Lynd-street, Young ..	116
2LM ..	Lismore ..	900	D. 2,000 N. 1,000	Richmond River Broadcasters Pty. Ltd., Northern Star Building, 11 Molesworth-street, Lismore ..	115
2LT ..	Lithgow ..	1,370	500	Lithgow Broadcasters Pty. Ltd., Great Western Highway, Lithgow ..	113
2MG ..	Mudgee ..	1,450	500	Mudgee Broadcasting Co. Pty. Ltd., Wellington-road, Mudgee ..	106½
2MO ..	Gunnedah ..	1,080	1,000	2MO Gunnedah Ltd., 59 Marquis-street, Gunnedah ..	107½
2MW ..	Murwillumbah ..	1,440	D. 2,000 N. 1,000	Tweed Radio and Broadcasting Co. Pty. Ltd., 19 Church-lane, Murwillumbah ..	113
2NM ..	Muswellbrook ..	1,460	500	Hunter Broadcasters Pty. Ltd., 315 High-street, Maitland ..	122½
2NX ..	Bolwarra ..	1,360	2,000	Hunter Broadcasters Pty. Ltd., 315 High-street, Maitland ..	122½
2NZ ..	Liverell ..	1,190	2,000	Northern Broadcasters Pty. Ltd., Hosking House, Hosking-place, 84½ Pitt-street, Sydney ..	114
2PK ..	Parkes ..	1,400	500	Parkes Broadcasting Co. Pty. Ltd., 307 Clarinda-street, Parkes ..	113
2QN ..	Deniliquin ..	1,520	2,000	Regent Broadcasting Co., 28 George street, Deniliquin ..	110
2RE ..	Taree ..	1,560	D. 2,000 N. 500	Manning Valley Broadcasting Pty. Ltd., Pulteney-street, Taree ..	115
2RG ..	Griffith ..	1,070	D. 2,000 N. 1,000	2RG Broadcasters Pty. Ltd., Ulong-street, Griffith ..	110½
2TM ..	Tamworth ..	1,300	2,000	Tamworth Radio Development Co. Ltd., 312 Peel-street, Tamworth ..	116½
2WG ..	Wagga ..	1,150	2,000	Riverina Broadcasting Co., 16 Fitzmaurice-street, Wagga ..	114½
2WL ..	Wollongong ..	1,430	2,000	Wollongong Broadcasting Pty. Ltd., Edward-street, Wollongong ..	122½
2XL ..	Cooma ..	920	1,000	Cooma Broadcasters Pty. Ltd., 134 Sharp-street, Cooma ..	119
VICTORIA.					
<i>Metropolitan.</i>					
3AK ..	Melbourne ..	1,500	500	Melbourne Broadcasters Pty. Ltd., 262 Flinders-lane, Melbourne, C.1 ..	70
3AW ..	Melbourne ..	1,280	5,000*	3AW Broadcasting Co. Pty. Ltd., 382 Latrobe-street, Melbourne, C.1 ..	128½
3DB ..	Melbourne ..	1,030	5,000*	The Herald and Weekly Times Ltd., 44-74 Flinders-street, Melbourne, C.1 ..	133½
3KZ ..	Melbourne ..	1,180	5,000*	Industrial Printing and Publicity Co. Ltd., 24-30 Victoria-street, Carlton, N.3 ..	121
3UZ ..	Melbourne ..	930	5,000*	Nilsen's Broadcasting Service Pty. Ltd., 45-47 Bourke-street, Melbourne, C.1 ..	127½
3XY ..	Melbourne ..	1,420	5,000*	Station 3XY Pty. Ltd., Charter House, 4 Bank-place, Melbourne, C.1 ..	168
<i>Country.</i>					
3BA ..	Ballarat ..	1,320	1,000	Ballarat Broadcasters Pty. Ltd., 56 Lydiard-street North, Ballarat ..	118
3BO ..	Bendigo ..	960	1,000	Amalgamated Wireless (A/asia.) Ltd., 47 York-street, Sydney ..	121
3CS ..	Colac ..	1,130	1,000	Colac Broadcasting Co. Pty. Ltd., 241 Murray-street, Colac ..	104½
3CV ..	Maryborough ..	1,440	1,000	Central Victoria Broadcasters Pty. Ltd., 382 Latrobe-street, Melbourne ..	107
3GL ..	Geelong ..	1,350	1,000	Geelong Broadcasters Pty. Ltd., Little Malop-street, Geelong ..	117
3HA ..	Hamilton ..	1,000	2,000	Western Province Radio Pty. Ltd., The "Age" Chambers, 239 Collins-street, Melbourne, C.1 ..	120
3LK ..	Lubeck ..	1,090	2,000	The Herald and Weekly Times Ltd., 44-74 Flinders-street, Melbourne, C.1 ..	124
3MA ..	Mildura ..	1,470	2,000	Sunraysia Broadcasters Pty. Ltd., 22 Deakin-avenue, Mildura ..	109½

* See paragraph 41.

COMMERCIAL BROADCASTING STATIONS IN OPERATION ON 30TH JUNE, 1955—continued.

Call Sign.	Location of Station.	Frequency (kc/s).	Authorized Power (Watts).	Licensee and Registered Office.	Hours of Service per Week (to nearest Quarter Hour).
VICTORIA—continued.					
<i>Country—continued.</i>					
3NE ..	Wangaratta ..	1,600	D. 2,000 N. 1,000	Wangaratta Broadcasting Co. Pty. Ltd., Templeton-street, Wangaratta ..	116½
3SH ..	Swan Hill ..	1,330	2,000	Swan Hill Broadcasting Co. Pty. Ltd., 125 Campbell-street, Swan Hill ..	117
3SR ..	Shepparton ..	1,260	2,000	The Argus and Australasian Ltd., 365 Elizabeth-street, Melbourne, C.1 ..	117
3TR ..	Sale ..	1,240	2,000	Broadcast Entertainments Pty. Ltd., The "Age" Chambers, 239 Collins-street, Melbourne, C.1	120
3UL ..	Warragul ..	880	D. 2,000 N. 1,000	The Argus and Australasian Ltd., 365 Elizabeth-street, Melbourne, C.1 ..	113½
3YB ..	Warrnambool..	1,210	1,000	The Argus and Australasian Ltd., 365 Elizabeth-street, Melbourne, C.1 ..	113½
QUEENSLAND.					
<i>Metropolitan.</i>					
4BC ..	Brisbane ..	1,120	2,000	Commonwealth Broadcasting Corporation (Q'ld.) Ltd., 5th Floor, T. & G. Building, 189-191 Queen-street, Brisbane	168
4BH ..	Brisbane ..	1,390	2,000	Broadcasters (Aust.) Pty Ltd., cnr. Albert and Charlotte streets, Brisbane	121
4BK ..	Brisbane ..	1,290	2,000	Queensland Newspapers Pty. Ltd., 288-298 Queen-street, Brisbane ..	125½
4KQ ..	Brisbane ..	690	D. 2,000 N. 1,000	The Trustees, H. Boland and J. M. Schmella, of the Queensland Branch of the Australian Labor Party, 231 Elizabeth-street, Brisbane	125
<i>Country.</i>					
4AK ..	Oakey ..	1,220	2,000	Queensland Newspapers Pty. Ltd., 288-298 Queen-street, Brisbane ..	125½
4AY ..	Ayr ..	960	D. 2,000 N. 1,000	Ayr Broadcasters Pty. Ltd., Penneys Building, 386 Flinders-street, Townsville	110½
4BU ..	Bundaberg ..	1,330	2,000	Bundaberg Broadcasters Pty. Ltd., 190 Bourbong-street, Bundaberg ..	113½
4CA ..	Cairns ..	1,010	1,000	Amalgamated Wireless (A/asia.) Ltd., 47 York-street, Sydney ..	112½
4GR ..	Toowoomba ..	860	2,000	Gold Radio Service Pty. Ltd., 5th Floor, T. & G. Building, Queen-street, Brisbane	118½
4GY ..	Gympie ..	1,350	D. 2,000 N. 500	Gympie Broadcasting Co. Ltd., Smithfield Chambers, 237 Mary-street, Gympie	106½
4IP ..	Ipswich ..	1,010	1,000	Ipswich Broadcasting Co. Pty. Ltd., 233 Brisbane-street, Ipswich ..	113½
4LG ..	Longreach ..	1,100	2,000	E. B. Connor and Co., Duck-street, Longreach ..	80½
4MB ..	Maryborough ..	1,160	2,000	Maryborough Broadcasting Co. Pty. Ltd., 5th Floor, T. & G. Building, Queen-street, Brisbane	113½
4MK ..	Mackay ..	1,380	2,000	Mackay Broadcasting Service Pty. Ltd., 38 Gordon-street, Mackay ..	114½
4RO ..	Rockhampton	1,000	2,000	Rockhampton Broadcasting Co. Pty. Ltd., 5th Floor, T. & G. Building, Queen-street, Brisbane	114½
4SB ..	Kingaroy ..	1,060	2,000	South Burnett Broadcasting Co. Ltd., Alford-street, Kingaroy ..	117½
4TO ..	Townsville ..	780	D. 2,000 N. 1,000	Amalgamated Wireless (A/asia.) Ltd., 47 York-street, Sydney ..	114½
4VL ..	Charleville ..	920	1,000	Charleville Broadcasting Co. Ltd., Alfred-street, Charleville ..	110½
4WK ..	Warwick ..	880	1,000	Warwick Broadcasting Co. Pty. Ltd., Glennie Hall, Albion-street, Warwick	110½
4ZR ..	Roma ..	1,480	1,000	Maranoa Broadcasting Co. Ltd., McDowell-street, Roma ..	81
SOUTH AUSTRALIA.					
<i>Metropolitan.</i>					
5AD ..	Adelaide ..	1,310	2,000	Advertiser Newspapers Ltd., 121 King William-street, Adelaide ..	122
5DN ..	Adelaide ..	970	2,000	Hume Broadcasters Ltd., C.M.L. Building, 41 King William-street, Adelaide	122
5KA ..	Adelaide ..	1,200	2,000	5KA Broadcasting Co. Ltd., 43 Franklin-street, Adelaide ..	168
<i>Country.</i>					
5AU ..	Port Augusta ..	1,400	500	Port Augusta Broadcasting Co. Ltd., 43 Franklin-street, Adelaide ..	119½
5MU ..	Murray Bridge	1,460	500	Murray Bridge Broadcasting Co. Ltd., 11 Waymouth-street, Adelaide ..	119
5PI ..	Crystal Brook ..	1,040	2,000	Midlands Broadcasting Services Ltd., 11 Waymouth-street, Adelaide ..	122
5RM ..	Renmark ..	800	2,000	River Murray Broadcasters Ltd., 47 Waymouth-street, Adelaide ..	119½
5SE ..	Mount Gambier	1,370	500	South-Eastern Broadcasting Co. Ltd., 47 Waymouth-street, Adelaide ..	119
WESTERN AUSTRALIA.					
<i>Metropolitan.</i>					
6IX ..	Perth ..	1,240	2,000	W.A. Broadcasters Pty. Ltd., Lyric House, 223 Murray-street, Perth ..	109½
6KY ..	Perth ..	1,320	2,000	The People's Printing and Publishing Co. of Western Australia Ltd., 17-19 James-street, Perth	118
6PM ..	Perth ..	1,130	2,000	6PM Broadcasters Pty. Ltd., St. George's House, 115 St. George's-terrace, Perth	112½
6PR ..	Perth ..	880	2,000	Nicholson's Ltd., 340 Hay-street, Perth ..	113
<i>Country.</i>					
6AM ..	Northam ..	980	2,000	6AM Broadcasters Pty. Ltd., St. George's House, 115 St. George's-terrace, Perth	105½
6BY ..	Bridgetown ..	900	2,000	W.A. Broadcasters Pty. Ltd., Lyric House, 223 Murray-street, Perth ..	107
6CI ..	Collie ..	1,340	2,000	Nicholson's Ltd., 340 Hay-street, Perth ..	88½
6GE ..	Geraldton ..	1,010	2,000	Great Northern Broadcasters Ltd., E.S. & A. Bank Buildings, 145 Marine-terrace, Geraldton	68
6KG ..	Kalgoorlie ..	1,210	2,000	Goldfields Broadcasters (1933) Pty. Ltd., St. George's House, 115 St. George's-terrace, Perth	80
6MD ..	Merredin ..	1,100	2,000	W.A. Broadcasters Pty. Ltd., Lyric House, 223 Murray-street, Perth ..	87½
6NA ..	Narrogin ..	920	2,000	The People's Printing and Publishing Co. of Western Australia Ltd., 17-19 James-street, Perth	118
6TZ ..	Bunbury ..	960	2,000	Nicholson's Ltd., 340 Hay-street, Perth ..	108½
6WB ..	Katanning ..	1,070	2,000	W.A. Broadcasters Pty. Ltd., Lyric House, 223 Murray-street, Perth ..	87½

COMMERCIAL BROADCASTING STATIONS IN OPERATION ON 30TH JUNE, 1955—continued.

Call Sign.	Location of Station.	Frequency (kc/s).	Authorized Power (Watts).	Licensee and Registered Office.	Hours of Service per Week (to nearest Quarter Hour).
TASMANIA.					
<i>Metropolitan.</i>					
7HO ..	Hobart ..	860	2,000	Commercial Broadcasters Pty. Ltd., A.M.P. Building, cnr. Collins and Elizabeth streets, Hobart	117½
7HT ..	Hobart ..	1,080	2,000	Metropolitan Broadcasters Pty. Ltd., cnr. Elizabeth and Melville streets, Hobart	117½
<i>Country.</i>					
7AD ..	Devonport ..	900	500	Northern Tasmania Broadcasters Pty. Ltd., 29 Paterson-street, Launceston	108½
7BU ..	Burnie ..	560	500	Burnie Broadcasting Service Pty. Ltd., 29 Paterson-street, Launceston ..	88
7EX ..	Launceston ..	1,010	2,000	7EX Pty. Ltd., 71 Paterson-street, Launceston ..	108½
7LA ..	Launceston ..	1,100	2,000	Findlay and Wills Broadcasters Pty. Ltd., 21 Paterson-street, Launceston	108½
7QT ..	Queenstown ..	720	500	West Coast Broadcasters Pty. Ltd., 21 Paterson-street, Launceston ..	78
7SD ..	Scottsdale ..	1,450	500	North-East Tasmanian Radio Broadcasters Pty. Ltd., 29 Paterson-street, Launceston	74½

D. = Day-time.
N. = Night-time.

APPENDIX B.

NATIONAL BROADCASTING STATIONS IN OPERATION ON 30TH JUNE, 1955.

Call Sign.	Station.	Frequency (kc/s).	Aerial Power (Watts).	Hours of Service per Week (to nearest Quarter Hour).
MEDIUM FREQUENCY SERVICES.				
<i>Australian Capital Territory.</i>				
2CN ..	Canberra ..	1,540	2,000	112
2CY ..	Canberra Regional (Canberra) ..	850	10,000	122½
<i>New South Wales.</i>				
<i>Metropolitan.</i>				
2BL ..	Sydney ..	740	10,000	118
2FC ..	Sydney ..	610	10,000	119
<i>Regional.</i>				
2BA ..	Bega ..	810	10,000	122½
2CO ..	Riverina Regional (Corowa) ..	670	10,000	122½
2CR ..	Central Regional (Cumnock) ..	550	10,000	122½
2KP ..	Kempsey Regional (Smithtown) ..	680	10,000	122½
2LG ..	Lithgow Regional (Lithgow) ..	1,570	200	122½
2ML ..	Murwillumbah ..	560	200	122½
2NA ..	Hunter River Regional No. 2 (Newcastle) ..	820	2,000	116
2NB ..	Broken Hill Regional (Broken Hill) ..	760	1,000	123
2NC ..	Hunter River Regional No. 1 (Newcastle) ..	1,230	2,000	118½
2NR ..	Northern Rivers Regional (Grafton) ..	700	10,000	122½
2NU ..	Northern Tablelands Regional (Manilla) ..	650	10,000	122½
2TR ..	Manning River Regional (Taree) ..	720	200	122½
<i>Victoria.</i>				
<i>Metropolitan.</i>				
3AR ..	Melbourne ..	620	10,000	119
3LO ..	Melbourne ..	770	10,000	118½
<i>Regional.</i>				
3GI ..	Gippsland Regional (Sale) ..	830	7,000	122½
3WL ..	Warrnambool ..	1,570	200	122½
3WV ..	Western Regional (Dooen) ..	580	10,000	122½
<i>Queensland.</i>				
<i>Metropolitan.</i>				
4QG ..	Brisbane ..	790	10,000	119
4QR ..	Brisbane ..	590	10,000	118½
<i>Regional.</i>				
4AT ..	Atherton Regional (Atherton) ..	600	500	122½
4GM ..	Gympie Regional (Gympie) ..	1,570	200	122½
4QA ..	Mackay Regional (Mackay) ..	720	2,000	122½
4QB ..	Wide Bay Regional (Pialba) ..	910	2,000	122½
4QL ..	Longreach Regional (Longreach) ..	540	10,000	122½
4QN ..	North Regional (Townsville) ..	630	7,000	122½
4QS ..	Darling Downs Regional (Dalby) ..	750	10,000	122½
4QY ..	Cairns Regional (Cairns) ..	940	2,000	122½
4RK ..	Rockhampton Regional (Rockhampton) ..	840	2,000	122½
4SO ..	South Coast Regional (Southport) ..	1,590	200	122½

NATIONAL BROADCASTING STATIONS IN OPERATION ON 30TH JUNE, 1955—continued.

Call Sign.	Station.	Frequency (kc/s).	Aerial Power (Watts).	Hours of Service per Week (to nearest Quarter Hour).
<i>South Australia.</i>				
<i>Metropolitan.</i>				
5AN	Adelaide	890	2,000	119
5CL	Adelaide	730	5,000	119
<i>Regional.</i>				
5CK	North Regional (Crystal Brook)	640	10,000	123
5LN	Port Lincoln Regional (Port Lincoln)	1,530	200	123
5WM	Woomera	1,580	100	123
<i>Western Australia.</i>				
<i>Metropolitan.</i>				
6WF	Perth	690	5,000	119
6WN	Perth	810	10,000	118½
<i>Regional.</i>				
6GF	Goldfields Regional (Kalgoorlie)	720	2,000	122½
6GN	Geraldton Regional (Geraldton)	830	2,000	122½
6WA	South-West Regional (Wagin)	560	10,000	122½
<i>Tasmania.</i>				
<i>Metropolitan.</i>				
7ZL	Hobart	600	2,000	119
7ZR	Hobart	940	2,000	118½
<i>Regional.</i>				
7NT	North Regional (Kelso)	710	10,000	122½
7QN	Queenstown	540	200	122½
<i>Northern Territory.</i>				
5AL	Alice Springs	1,530	50	123
5DR	Darwin	1,500	200	123
<i>Papua.</i>				
9PA	Port Moresby	1,250	500	90

HIGH FREQUENCY SERVICES.*

Call Sign.	Location.	Power (Watts).	Hours of Service per Week (to nearest Quarter Hour).
VLG	Lyndhurst, Victoria	10,000	53½
VLH	Lyndhurst, Victoria	10,000	119
VLI	Sydney, New South Wales	2,000	119
VLM	Brisbane, Queensland	10,000	122½
VLQ	Brisbane, Queensland	10,000	122½
VLR	Lyndhurst, Victoria	5,000	116½
VLT	Port Moresby, Papua	2,000	90½
VLW	Perth, Western Australia	2,000	119
V LX	Perth, Western Australia	10,000	119

* The frequencies on which these stations transmit are varied, as required, to obtain optimum results.

FREQUENCY MODULATION SERVICES.
(Experimental.)

Location.	Frequency (Mc/s).	Power (Watts).
Melbourne, Victoria	91,100	2,000
Sydney, New South Wales	92,100	2,000
Adelaide, South Australia	97,300	3,000
Brisbane, Queensland	91,100	1,000

APPENDIX C.

PROVISIONAL PLAN FOR THE ASSIGNMENT OF CHANNELS FOR AUSTRALIAN TELEVISION SERVICES.

Area.	Channel Numbers.	Power (kw.) and Polarization, Horizontal (H) or Vertical (V).	Population Served (1954 Census).	Main Towns Served and Grade of Service.	
				Urban.	Rural.
1.	2.	3.	4.	5.	6.
<i>New South Wales.</i>					
Sydney	2 7 9 10	100 H	2,000,000	Sydney metropolitan area (including Cronulla)	Penrith, Camden Campbelltown Windsor Palm Beach
Newcastle-Hunter River ..	6 8	100 H	314,000	Newcastle Cessnock Maitland Singleton Kurri Kurri Weston The Entrance Raymond Terrace	Gosford Muswellbrook Dungog Woy Woy
Blue Mountains	4	100 H	165,000 (not including Sydney)	Katoomba Penrith Windsor Camden Campbelltown Riverstone	Lithgow Mittagong Bowral Picton
Illawarra	1 5	100 H	133,000	Wollongong Mittagong Bowral Kiama Nowra Port Kembla Berry Shellharbour	Ulladulla Moss Vale
Central Tablelands	1 5	100 V	113,000	Orange Cowra Canowindra Molong	Bathurst Parkes Forbes Wellington Young
Richmond-Tweed	1 5	100 H	93,000	Lismore Casino Byron Bay Ballina Tweed Heads Coolangatta Mullumbimby	Murwillumbah Kyogle
South Western Slopes	2 9	100 H	76,000	Cootamundra Junee Temora Murrumburrah	Wagga Young Narrandera Gundagai Grenfell Coolamon
Blue Mountains (West)	3	100 H	63,000	Lithgow Katoomba Portland Blackheath	Bathurst
Eastern Riverina	4 6	100 H	62,000	Wagga Junee Coolamon	Leeton Temora Narrandera Lockhart
Macleay-Hastings	9 10	100 H	54,000	Kempsey Coffs Harbour Pt. Macquarie Macksville	Dorrigo
Upper Namoi River	3 5	100 H	50,000	Tamworth Gunnedah Manilla Quirindi	Barraba
Australian Capital Territory ..	7 10	100 V	44,000	Canberra Queanbeyan	Yass

APPENDIX C.—continued.

Area. 1.	Channel Numbers. 2.	Power (kw.) and Polarization, Horizontal (H) or Vertical (V). 3.	Population Served (1954 Census). 4.	Main Towns Served and Grade of Service.	
				Urban. 5.	Rural. 6.
<i>New South Wales—continued.</i>					
Southern Tablelands ..	6 8	100 V	43,000	Goulburn Crookwell Moss Vale	Bowral
New England	6 8	100 H	40,000	Glen Innes Inverell	Barraba Part of Armidale
Clarence	2 7	100 H	39,000	Grafton South Grafton Maclean	Coffs Harbour Dorrigo
Manning River	1 4	100 H	37,000	Taree Wingham	Port Macquarie Gloucester
Central Western Slopes ..	7 9	100 H	36,000	Dubbo Narromine	Gilgandra Wellington
Murrumbidgee Irrigation Areas (M.I.A.)	7 10	100 H	36,000	Griffith Leeton	Narrandera
Broken Hill	4 7	100 H	32,000	Broken Hill	
Bathurst	2 10	1 V	20,000	Bathurst	
Gwydir River	2 10	100 H	19,000	Moree	Warialda Bingara
Armidale	1 4	1 V	12,000	Armidale	
<i>Victoria.</i>					
Melbourne	2 7 9 10	100 H	1,600,000	Melbourne metropolitan area, Mornington Rosebud Sorrento Werribee Healesville Sunbury	Geelong Bacchus Marsh Parts of Kilmore
Ballarat	3 8	100 H	207,000 (not including Melbourne)	Ballarat Maryborough Daylesford (Parts of Geelong and Corio)	Colac Camperdown Ararat Bacchus Marsh Werribee
Latrobe Valley	4 6	100 H	132,000	Morwell Yallourn Traralgon Maffra Sale Warragul Korumburra Yarram, Moe Drouin Leongatha	Bairnsdale Wonthaggi
Bendigo	4 6	100 H	130,000	Bendigo Castlemaine Maryborough Kyneton	Seymour St. Arnaud Kyabram Rochester Echuca
Geelong	1 5	14 H	127,000	Geelong Queenscliff	Werribee Mornington Rosebud Sorrento Winchelsea
Goulburn Valley	1 5	100 H	102,000	Shepparton Wangaratta Euroa Benalla Yarrowonga Kyabram Tatura Mooroopna Numurkah Cobram	Beechworth Corowa Echuca Rutherglen Rochester

APPENDIX C.—continued.

Area. 1.	Channel Numbers. 2.	Power (kw.) and Polariza- tion, Horizontal (H) or Vertical (V). 3.	Population Served (1954 Census). 4.	Main Towns Served and Grade of Service.	
				Urban. 5.	Rural. 6.
<i>Victoria—continued.</i>					
Upper Murray	3 8	100 H	87,000	Albury Wodonga Corowa	Beechworth Wangaratta Yarrawonga Rutherglen
Western District	2 9	100 H	75,000	Hamilton Warrnambool Port Fairy Terang	Casterton Camperdown Portland Ararat
Wimmera	7 10	100 H	48,000	Horsham Stawell Dimboola	Warracknabeal Nhill St. Arnaud
Mildura	3 8	100 H	32,000	Mildura Wentworth Red Cliffs Merbein	
Murray Valley	2 9	100 H	30,000	Swan Hill Kerang	Deniliquin
Colac	7 10	1 V	23,000	Colac	Camperdown
<i>Queensland.</i>					
Brisbane	2 7 9 10	100 H	600,000	Brisbane metropolitan area Ipswich Southport Redcliffe Beaudesert Rosewood Caboolture	Caloundra Gatton Boonah
Darling Downs	6 8	100 H	107,000	Toowoomba Oakey Gatton	Dalby Warwick Rosewood
Wide Bay	1 4	100 H	77,000	Maryborough Gympie Pialba	Bundaberg
Rockhampton	6 8	100 H	65,000	Rockhampton Mt. Morgan Yeppoon	Gladstone
Townsville	7 9	100 H	61,000	Townsville Ayr Home Hill	
Cairns	2 6	100 H	56,000	Cairns Innisfail Atherton Gordon Vale	
South Downs-North England	3 4	100 H	44,000	Warwick Tenterfield Stanthorpe	Inglewood
Mackay	2 9	100 H	43,000	Mackay Mackay North Sarina	Proserpine
Bundaberg	7 9	100 H	33,000	Bundaberg	Childers
<i>South Australia.</i>					
Adelaide	2 7 9 10	100 H	600,000	Adelaide metropolitan area Salisbury Gawler Mt. Barker	Murray Bridge Tailem Bend Victor Harbour Maitland Tanunda Balaclava Meningie
Spencer Gulf (North)	4 8	100 H	67,000	Port Pirie Whyalla Port Augusta Jamestown Peterborough	Walleroo Kadina Clare Moonta

APPENDIX C.—continued.

Area. 1.	Channel Numbers. 2.	Power (kw.) and Polarization, Horizontal (H) or Vertical (V). 3.	Population Served (1954 Census). 4.	Main Towns Served and Grade of Service.	
				Urban. 5.	Rural. 6.
<i>South Australia—continued.</i>					
South East	1 8	100 H	37,000	Mt. Gambier Millicent Penola	Casterton
Renmark	1 5	100 H	22,000	Renmark Berri Loxton Barmere	Waikerie
<i>Western Australia.</i>					
Perth	2 7 9 10	100 H	400,000	Perth Metropolitan Area Gosnell Armadale Mundaring Kalamunda	Coates Pinjarra Gin Gin
Bunbury	4 8	100 H	39,000	Bunbury Collie Harvey	Busselton
Kalgoorlie	3 8	100 H	24,000	Kalgoorlie Boulder	Coolgardie
Albany	2 7	100 H	17,000	Albany Mt. Barker	Denmark
Geraldton	2 6	100 H	15,000	Geraldton Northampton	Mullewa Dongarra Mingenew Ajana
<i>Tasmania.</i>					
Hobart	2 4 6 8	100 H	120,000	Hobart Metropolitan Area New Norfolk Sorell Richmond	Geeveston Cygnet Franklin Oatlands
North-Eastern Tasmania	7 10	100 H	85,000	Launceston Scottsdale Longford	Georgetown Deloraine
Burnie-Devonport	5 9	100 H	59,000	Burnie Devonport Ulverstone Wynyard Latrobe Penguin	Smithton

APPENDIX D.

AUSTRALIAN BROADCASTING CONTROL BOARD.

SYLLABUS OF EXAMINATION FOR TELEVISION STATION OPERATOR'S CERTIFICATE OF PROFICIENCY.

Pre-requisite Qualification.—All candidates for the examination shall have qualified previously for the Broadcast Station Operator's Certificate of Proficiency issued by the Postmaster-General's Department or shall have other qualifications which, in the opinion of the Board, are at least equivalent in standard to that Certificate.

General.—In general the treatment of the subject matter in the syllabus is required to be descriptive. Candidates will not be required to be familiar with design theory or calculations, and mathematics will be restricted to the simplest requirements consistent with the knowledge which can reasonably be expected of operating personnel. This applies to all headings and items in the syllabus which follows.

Fundamental Principles.—Scanning—Synchronizing—Picture signal—Composite signal—Aspect ratio—Horizontal and vertical resolution—Interlacing—Frequency content of picture signal—Utilization of channel width—Positive and negative modulation.

Television Systems.—Australian 625 line system, in detail—Brief outline and comparison of British 405 line system, American 525 line system and French 819 line system—Comparison with Australian 625 line system.

APPENDIX D.—*continued.*

Analysis and Synthesis of Images.—Essential aspects of picture structure—Tonal gradation—Significance of Gamma—Test charts—Relation of ocular resolution to viewing distance and brightness—Relation between flicker and brightness.

Fundamental Optics.—Nature of light—Photometric units used in television (Foot candle, foot lambert, candle power, lumen)—Spectral response of light sensitive device—Tone rendition—Contrast—Basic theory of camera lenses—Effect of image size upon lens capabilities—Depth of field, aperture, focal length and angle of view—Perspective distortion of pictures by wide or narrow angle lenses—Choice of lenses—Focusing of cameras—Telephoto lenses—Zoom lenses—Outline of television lighting techniques—Effect of camera characteristics on lighting technique.

Electron Optics.—Behaviour of electrons in magnetic and electric fields—Analogy between electron and light beams—Electron lenses.

Camera Tubes.—Photo electrical translation—Mosaics—Photo-electric multiplication—Photo conduction—Low and high velocity scanning beams—The Iconoscope—The Image Iconoscope—The Orthicon—The C.P.S. Emitron—The Image Orthicon—The Vidicon—The Monoscope—Comparison of Camera Tubes—Photo electric stabilization of the Image Iconoscope—Defects of televised pictures.

Picture Tubes.—Electron guns—Phosphors—Picture tube transfer characteristic—Resolution of picture tubes—Construction of picture tubes—Scanning—Electrostatic deflection—Electro-magnetic Deflection Ion spot—Time bases and time base linearity.

Pulse Techniques.—Differentiating—Integrating—Clipping—Squaring—Clamping—Gating—The Multivibrator—Scanning generators—The blocking oscillator—Scanning amplifiers for electrostatic and electromagnetic deflection—Generation of pulses—Triggered flip-flops—Matched and unmatched delay line pulse timing—Frequency dividers—Pulse counting circuits—Binary counters.

Television Waveform Generation.—Analysis of Synchronizing Waveform (Australian 625 line)—Separation of synchronizing pulses—Generation of line synchronizing pulses—Generation of equalizing pulses—Generation of Frame Synchronizing pulses—Complete synchronizing waveform—Generation of line blanking pulses—Generation of frame blanking pulses—Application of complete blanking to camera tube (drive)—Insertion of complete blanking to camera output—Synchronization of camera scanning generators by complete synchronizing (drive)—Insertion of complete synchronizing to camera output—Complete television waveform—Comparison of various waveform generators—Generation of Blackcross test pattern—Generation of cross-hatch test pattern.

Transmission of Video Signals.—The video signal—Black level—D.C. and A.C. transmission—D.C. restoration—Distortion of video waveform and compensation for distortion—Pulse rise time and brief outline of pulse spectra—Noise and sources of noise—Use of frame frequency non-synchronous with power supply frequency.

Video Amplification.—Phase and amplitude frequency characteristics required for video amplification—Transient response of video amplifiers—Square wave testing—Frequency response testing—Methods of compensation for distortion in video amplifiers—Cathode followers and cathode coupled amplifiers—Non linear video amplifiers and gamma compensation—Video transmission lines balanced and unbalanced—Brief treatment of voltage regulated power supplies.

Carrier Transmission of Television Signals.—Frequencies suitable for picture transmission—Description of and reason for vestigial sideband transmission—Receiver attenuated and transmitted attenuated vestigial sideband transmission—The structure of the television channel (Australian 625 line)—Relative power of picture and sound channels—Field strength required for satisfactory reception—Interference suffered by carrier signals—Co-channel interference—Improvements in interference conditions effected by synchronization and offset carrier operation—Reason for using offset carrier spacing of 2/3 line frequency—Adjacent channel interference—Interference from other services—Relation between interference conditions and separation of carriers over the video spectrum—Interference of television signals with other services—Ghost interference—Interference due to receiver spurious responses—Local oscillator interference—Television test patterns—Test pattern generators—F.M. Sweep signal generator—Electrostatic Voltmeter.

Television Transmitting Equipment.—Generation of carrier frequency at the transmitter—Frequency stability of vision and sound transmitters—Picture modulation—Modulation circuits—High level and low level modulation—Sideband suppression in transmitter amplifiers, and by vestigial sideband filters—Radio frequency power amplifiers—Radio frequency transmission lines and auxiliary equipment—Necessity for minimizing reflections—Picture and sound transmitter filtering equipment for common aerial operation—Outline of turnstile aeriels—Outline of supergain aeriels—Aeriels suitable for mounting on large cross section towers.

Studio Techniques and Equipment.—Dimensions and layout of studios—Studio control rooms—Studio camera control units and control room equipment—Studio control, patching, and fading equipment—Studio amplifying equipment—Stabilizing and correction amplifiers—Synchronizing stretch—Bridging amplifiers.

Very brief outline of the following:—Organization of technical staff and equipment in control rooms and studios, in conjunction with programme staff for production—Different systems of production for scripted and unscripted shows—Equipment for special effects—Outline of a studio production and its relation to a complete programme as it fits in with outside broadcast, film and network programmes—Switching between programmes derived from separate sources, and methods of maintaining continuity of synchronizing signals—Camera dollies, pedestals and cranes—Outline of lighting requirements—Microphone types and mountings—Studio acoustics—Audio facilities—Inter-communication facilities—Staffing of a typical studio.

Outside Broadcasts.—Outline of outside broadcast pick-up facilities—Portable equipment—Suitability of cameras—Brief outline of layout of mobile vans—Staffing of outside broadcasts—Switching and fading arrangements—Use of camera lenses for outside broadcast pick-ups—Outside broadcast microwave relay equipment—Brief outline of organization of an outside broadcast including field survey and preliminary organization.

Film Transmitting and Recording Equipment.—Outline of film scanning and recording problem making reference to relative advantages and disadvantages of approximate synchronization of motion picture and television field rate—Reference to 60 field equipments—3/2 pull down and shutter bar splice—Necessity for rapid pull down or continuous film motion or 50 field equipment and disadvantages and advantages—Iconoscope scanner—Flying spot scanner—Optical devices to enable flying spot scanner to operate non-synchronously with the picture—Vidicon scanner—Slide Projectors—Disadvantage of a flying spot scanner synchronized with the television field rate—Recording methods.

Remote Control.—Reasons for using remote control—Forms of electrical remote control—Relays, solenoids and motor drives—Applications of remote control in television equipment—Video switching relays—Remote control of cameras—Remote control of film projectors—Slide changing mechanisms and tape sound-recorders—Methods of back-indication of remote operation—Interlocking push-button mechanisms for control circuit operation.

V.H.F. Propagation.—Simple propagation theory—Necessity for transmitter and receiver aerial height—Effect of terrain—Outline of specification of median value—Assumption of 30-ft. high receiving aerial—F.C.C. charts for median signals—Modification by obstructions—Tropospheric bending.

Television Relay Circuits.—Outline of microwave techniques—Propagation and limit to range—Frequencies used and relative merits—Equipment for microwave transmission—Outside broadcast links—Studio Transmitter links—Use of telephone cables for short distances—Use of coaxial cable links—Outline of coaxial cable equipment—Use of microwave equipment for permanent interstation links with brief outline of equipment.

Receiver Techniques.—Input and radio frequency amplifier circuits—Turret tuners—Mixer and local oscillator circuits—Intermediate frequency amplifiers for vision and sound—Intercarrier system with necessity for constant phase of vision transmitter—Adjacent channel and traps—Use of d.c. roosterer—Automatic gain control—Synchronizing signal separation—Separation of horizontal and vertical synchronizing pulses—Receiver deflection system—Power supplies.

Practical Examination.—A practical and oral examination will be held covering the following:—Adjustments of a typical camera chain for production of a satisfactory picture including precautions to be taken to avoid damage to equipment and to ensure safety of life—Clearance of simple faults on such equipment—Diagnosis of faults from observation of the monitor screen and from photographs of test patterns.

Text-books.

Television Engineering—Amos and Birkinshaw.
Television Broadcasting—Howard Chinn.

Reference Books.

Television Engineering—Fink.
Practical Television Engineering—Scott Helt.
Principles and Practices of Telecasting Operations—Ennes.

APPENDIX E.

AUSTRALIAN BROADCASTING CONTROL BOARD.
STATEMENT OF RECEIPTS AND PAYMENTS FOR YEAR ENDED 30TH JUNE, 1955.

STATEMENT "A"

Receipts.		Payments.	
Previous Year.	30th June, 1955.	Previous Year.	30th June, 1955.
£	£	£	£
..	Cash on Hand—1st July, 1954 (Provision for Equipment on Order)	47,211	Salaries and Wages—
77,050	Parliamentary Appropriation	1,814	Salaries
22	Miscellaneous Revenue	413	Temporary Assistance
			Extra Duty Pay
		£49,438	56,229
		4,133	General Expenses—
		1,955	Travelling and Subsistence
		4,277	Postages, Telephones, &c.
		£10,365	Incidentals
			11,035
		1,269	Stores and Material—
		13,936	Office Requisites
		£15,205	Technical Equipment
			6,240
		2,064	Cash on Hand—1st July, 1955 (Provision for Equipment on Order)
			11,725
77,072	85,229	77,072	85,229

NOTE.—Adjusted to nearest £1.

J. O'KELLY, Secretary.
2nd August, 1955.

R. G. OSBORNE, Chairman.
2nd August, 1955.

STATEMENT OF ASSETS AS AT 30TH JUNE, 1955.

STATEMENT "B"

30th June, 1954.	Description of Assets.	30th June, 1955.		
£		£	£	£
Nil	Land and Buildings .. .. .	..	..	Nil
7,179	Office Furniture and Equipment—			
	At cost to 30th June, 1954 .. .. .	..	..	7,179
	Additions during year .. .. .	..	..	579
				7,758
1,983	Less—Depreciation .. .. .	..	..	2,410
	Items Written Off .. .. .	..	..	2,410
5,196				5,348
1,717	Library—			
	At cost to 30th June, 1954 .. .. .	..	..	1,717
	Additions during year .. .. .	..	..	344
				2,061
430	Less—Depreciation .. .. .	..	..	593
3	Items Written Off .. .. .	..	..	3
1,284				596
				1,465
16,020	Technical Equipment—			
	At cost to 30th June, 1954 .. .. .	..	..	16,020
	Additions during year .. .. .	..	..	4,544
				20,564
1,904	Less—Depreciation .. .. .	..	..	3,770
	Items Written Off .. .. .	..	..	..
14,116				3,770
				16,794
2,064	Cash on Hand .. .. .	..	..	11,725
361	Office Stores and Material on Hand .. .. .	..	..	613
23,021				35,945

J. O'KELLY, Secretary.
2nd August, 1955.

R. G. OSBORNE, Chairman.
2nd August 1955.

The above statement has been examined and is in agreement with the books. In my opinion it is a correct statement of the cash transactions and assets of the Australian Broadcasting Control Board at 30th June, 1955.

J. BROPHY,
Auditor-General for the Commonwealth.
12th August, 1955.

APPENDIX E.

AUSTRALIAN BROADCASTING CONTROL BOARD.

STATEMENT OF RECEIPTS AND PAYMENTS FOR YEAR ENDED 30TH JUNE, 1955.

STATEMENT "A"

30th June, 1955.	Payments.	
	Previous Year.	30th June, 1955.
£	£	£
1954 (Provision for)		
Salaries and Wages—		
Salaries	47,211	53,399
Temporary Assistance	1,814	1,901
Extra Duty Pay	413	929
	<u>£49,438</u>	<u>56,229</u>
General Expenses—		
Travelling and Subsistence	4,133	3,348
Postages, Telephones, &c.	1,955	2,140
Incidentals	4,277	5,547
	<u>£10,365</u>	<u>11,035</u>
Stores and Material—		
Office Requisites	1,269	1,696
Technical Equipment	13,936	4,544
	<u>£15,205</u>	<u>6,240</u>
Cash on Hand—1st July, 1955 (Provision for Equipment on Order)	2,064	11,725
	<u>85,229</u>	<u>85,229</u>

NOTE.—Adjusted to nearest £1.

R. G. OSBORNE, Chairman.
2nd August, 1955.

STATEMENT OF ASSETS AS AT 30TH JUNE, 1955.

STATEMENT "B"

Description of Assets.	30th June, 1955.		
	£	£	£
Equipment—			
carried over, 1954			Nil
Acquired during year			7,179
			<u>7,179</u>
Depreciation—			
carried over, 1954			2,410
Provision for year			2,410
			<u>5,348</u>
Net value, 1954			1,717
Net value, 1955			<u>344</u>
Net value, 1954			2,061
Net value, 1955			<u>593</u>
			<u>596</u>
Net value, 1954			16,020
Net value, 1955			<u>4,544</u>
Net value, 1954			20,564
Net value, 1955			<u>3,770</u>
			<u>16,794</u>
Material on Hand			11,725
			<u>613</u>
			<u>35,945</u>

R. G. OSBORNE, Chairman.
2nd August 1955.

examined and is in agreement with the books. In my opinion it is a correct statement of the cash and assets of the Australian Broadcasting Control Board at 30th June, 1955.

J. BROPHY,
Auditor-General for the Commonwealth.
12th August, 1955.

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