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COMMONWEALTH OF AUSTRALIA.



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# SIXTH ANNUAL REPORT

OF THE

# AUSTRALIAN BROADCASTING CONTROL BOARD.

YEAR ENDED 30TH JUNE, 1954.

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Printed for the GOVERNMENT of the COMMONWEALTH by A. J. ARTHUR  
at the Government Printing Office, Canberra.  
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# AUSTRALIAN BROADCASTING CONTROL BOARD.

## SIXTH ANNUAL REPORT.

*The Honorable the Postmaster-General:*

In conformity with the provisions of section 6P of the *Broadcasting Act 1942-1953*, the Australian Broadcasting Control Board has the honour to furnish its Report, being the Sixth Annual Report of the Board, on its operations during the year ended 30th June, 1954, 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.—Administration.
- Part III.—Technical Services.
- Part IV.—Programme Services.
- Part V.—General.

### PART I.—INTRODUCTORY.

#### MEMBERSHIP OF THE BOARD.

3. Section 6B of the *Broadcasting Act 1942-1953* provides that the Board shall consist of three members appointed by the Governor-General, one of whom shall be Chairman. There was no change during the year in the constitution of the Board which consists of Mr. Robert Gumley Osborne, B.A., LL.B., appointed as Chairman for a period of five years from 15th March, 1952, Mr. Robert Bruce Mair, B.E.E., A.M.I.E. (Aust.), S.M.I.R.E. (Aust.), appointed for a period of three years from 15th March, 1952, and Mr. Raymond Cottam Allsop, F.I.R.E. (Aust.), M.Brit. I.R.E., S.M.I.R.E. (U.S.A.), F.S.M.P.T.E. (U.S.A.), appointed for five years from 4th May, 1953.

#### FUNCTIONS OF THE BOARD.

4. 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. In the preceding Parts of this Report, the Board gives a detailed account of its activities in the discharge of these functions during the year.

### PART II.—ADMINISTRATION.

#### MEETINGS OF THE BOARD.

5. During the year, the Board continued its normal practice of holding meetings every week at its office in Melbourne. Meetings were also held in Sydney as circumstances demanded, at Surfers' Paradise, Queensland, in Adelaide, and in Perth. The visit to Surfers' Paradise was made at the invitation of the Australian Federation of Commercial Broadcasting Stations which held its Annual Convention there in October, 1953, and the representatives of several stations who were attending the Convention took the opportunity of discussing matters with the Board relating to the conduct of their services. The visit to Perth was made in May, 1954, when, in addition to holding a formal meeting, the Board investigated various matters in several country districts of Western Australia. Individual members of the Board and senior officers on its staff also visited Hobart and several areas outside the capital cities in the various States during the year.

#### CONSULTATION WITH THE AUSTRALIAN BROADCASTING COMMISSION, REPRESENTATIVES OF COMMERCIAL STATIONS, ADVERTISERS AND MANUFACTURERS.

6. In connexion with the exercise of its functions in relation to programmes, the Board is required by the *Broadcasting Act 1942-1953* to consult the Australian Broadcasting Commission and representatives of commercial broadcasting stations concerning programmes of the National and Commercial Broadcasting Services respectively. In our opinion, it is most desirable in the public interest that in addition to such consultations as may be necessary between the Board and the Commission in regard to programmes, there should be the closest collaboration between the Board, the Commission and the Post Office, all of whom have specific duties in connexion with the provision of the National Broadcasting Service. Each of these three organizations is, for example, much concerned with the implementation of the Board's plans for improving the technical efficiency of the National Service, and we are therefore glad to report that representatives of the Commission, the Department and the Board meet regularly to consider the progress which is being made in this important development. (See paragraph 52.)

7. As we have mentioned in our previous reports, the Board adopts the same policy in relation to the Commercial Broadcasting Service and consults representatives of the licensees of commercial stations not only concerning programmes but on all matters of major importance coming within the jurisdiction of the Board. The Board met the Liaison Committee, appointed by the Australian Federation of Commercial Broadcasting Stations to confer with the Board, on 24th August, 1953, and discussed with the Committee a wide range of subjects. The Federation, at its Annual Convention for 1953, decided on some changes in its organization, as a result of which it subsequently informed the Board that the Management Committee of the Federation would in future confer with the Board instead of the Liaison Committee. The first meeting between the Management Committee and the Board took place on 6th April, 1954.

8. The Board also had some very useful discussions during the year with representatives of the Australian Association of Advertising Agencies and the Australian

Association of National Advertisers on subjects to which reference is made in paragraphs 106-110 of this Report. Although there were no formal discussions during the past year with manufacturers' organizations, representatives of individual companies frequently consulted the Board on various technical matters.

#### STAFF OF THE BOARD—HEAD OFFICE.

9. 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, 1954, was 36.

#### STATE ORGANIZATION.

10. As has been explained in previous Reports, it is necessary for the Board to be fully and reliably informed on all aspects of the broadcasting services throughout the Commonwealth and to carry out detailed administrative and technical functions on an Australia-wide basis. For this purpose, the Board must have a competent staff at its disposal in the field. By arrangement with the Director-General, Posts and Telegraphs, officers of the Engineering Branch of the Postmaster-General's Department undertake certain technical duties, including the inspection of broadcasting stations and the conduct of field strength surveys, and officers of the Wireless Branch of that Department perform other duties on behalf of the Board. The Superintendent (Wireless) 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, the Board feels that it may be necessary, with the advent of television services, to re-consider the desirability of having its own officers in the States as was originally proposed. The Board, however, gratefully acknowledges the assistance it received from officers of the Department during the past year.

#### LICENSING OF COMMERCIAL BROADCASTING STATIONS.

11. The statutory provisions relating to the licensing of commercial broadcasting stations are contained in Part III. of the *Broadcasting Act 1942-1953*. 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.

12. 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*.

#### GRANT OF NEW LICENCES.

13. In its Fifth Annual Report, the Board pointed out that, even after its plans for expanding the effective coverage of existing commercial broadcasting stations have been completed, there will still be several areas in the Commonwealth in which considerable numbers of listeners will not be assured of consistently reliable reception from any commercial station. This state of affairs is due mainly to the topography of the country surrounding those areas or the existence of a high electrical or atmospheric noise level, and the simplest remedy would be the establishment of additional local stations. Unfortunately, however, there are serious difficulties (which are explained in paragraph 71) in the way of providing frequency channels for new commercial services in the medium frequency band in which Australian stations operate.

14. The situation in each State was reviewed at length in paragraphs 22-27 of the Fifth Annual Report, the position briefly being that—

- (a) in New South Wales, there were several areas where the Board would, but for the frequency problem, recommend to the Minister that new stations should be established;
- (b) in Victoria, a reasonably satisfactory service was being provided in most of the populous parts of the State excepting the Wangaratta-Beechworth district and the hill country to the east and north-east of Melbourne;
- (c) in Queensland, additional stations were required, especially because of the high atmospheric noise level which prevails;
- (d) in South Australia, a reasonably satisfactory service was being provided except in the area on the eastern side of the Spencer Gulf;
- (e) in Western Australia, new stations were required in the Northern Wheat Belt and Albany; and
- (f) in Tasmania, a satisfactory service was being provided for almost all the populous parts of the State.

15. Some progress was made during the year towards improving the position in Victoria and Western Australia. In Victoria, a licence was granted to Wangaratta Broadcasting Co. Pty. Ltd. on 19th February, 1954, for a station at Wangaratta and, using the call sign 3NE, this station commenced operations on 27th March, 1954. It is being well received over a wide area which, as mentioned in the preceding paragraph, was not previously being adequately served by any commercial station. The commercial broadcasting stations in Melbourne will, during 1955, commence operations on 5,000 watts on sites to the east of that city (see paragraph 62) and, under these new conditions, they are expected to provide a much improved service in the hill country to the east and north-east of Melbourne. In Western Australia, a local company, Albany Broadcasters Ltd., is being formed which will operate a commercial broadcasting station to which the Minister has, on the recommendation of the Board, agreed to grant a licence in order to provide a service in the Albany district. The company has taken preliminary steps in connexion with the selection of a site for the new station, which will be known as 6VA Albany.

16. The position in New South Wales and Queensland is still continuing to cause the Board some anxiety because of its inability to allocate channels for new stations in some areas where many listeners are unable to enjoy consistently reliable reception of the programmes of any commercial station and where there are local applicants for licences who are willing and competent to operate a station. The only way in which the Board could provide frequency channels for such

stations in the medium frequency band would be by sharing channels on conditions which would reduce the coverage of some existing stations and provide a very restricted coverage for the new stations. The Board doubts the wisdom of proceeding on this basis and has therefore decided not to recommend the grant of additional licences in the medium frequency band until a decision is reached on the question of the use by broadcasting stations of very high frequencies. This subject is discussed in paragraphs 82-85.

#### APPLICATIONS FOR LICENCES.

17. Seventeen applications were received during the year for licences for new commercial stations, distributed amongst the States as follows:—

New South Wales	..	..	..	7
Victoria	..	..	..	2
Queensland	..	..	..	4
South Australia	..	..	..	2
Western Australia	..	..	..	1
Tasmania	..	..	..	1
Total	..	..	..	17

Two of these applications were for licences to provide a limited night time service in Sydney and Adelaide respectively, but, as in each of these cities a continuous service is being provided by existing stations, the Board informed the applicants that it was not prepared to recommend to the Minister that the desired licences should be granted. Several of the remaining fifteen applications were for areas which are being adequately served by existing stations and, in these cases, the applicants were informed that the Board could not recommend the grant of a licence. In the other cases, the Board has deferred consideration for the reason mentioned in the preceding paragraph.

#### RENEWAL OF LICENCES.

18. Section 46 (2.) of the *Broadcasting Act 1942-1953* 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. The Board is required to advise the Minister on each application for renewal of a licence and, as it has explained in previous Annual Reports, it takes the opportunity so afforded to make a complete review of the operations of each station during the previous twelve months in order that it may be in a position to report to the Minister on the licensee's observance of the conditions of his licence and compliance with the relevant provisions of the Act. The technical efficiency of each station is examined in the light of information provided to the Board by its representatives in the field who make a comprehensive inspection of transmitting and studio equipment at least once a year and routine inspections from time to time, and by its own engineers who make special investigations as circumstances demand. The adequacy of the programmes being broadcast by each station is also investigated and for this purpose inspections are made by officers of the Programme Services Division; 34 stations were visited during the past year. The information obtained in this manner was supplemented by reports from the Board's State Representatives, who visited 26 stations, and from officers who undertake regular observations of programmes. The Board's review of the performance of stations during the past year disclosed a general improvement in the technical efficiency of the Commercial Broadcasting Service and this desirable state of affairs is, the Board believes, due to the fact that licensees are making commendable efforts to ensure that their equipment complies with the standards prescribed by the Board for the technical equipment and operation of broadcasting stations (*see* paragraph 76). There

are still a few stations whose technical equipment does not comply with the standards but in each of these cases, the deficiencies will be corrected when new plant is installed, as proposed, to enable them to operate on higher power which has been authorized by the Board. With regard to programmes, the most serious deficiencies noted were that in a few cases the periods of operation were inadequate and that licensees were not devoting sufficient time to items of local community interest. None of the shortcomings which were apparent were considered by the Board to be sufficiently serious to affect the renewal of any licence, but, following its usual practice, the Board informed the licensee of the deficiencies which had been noted. This procedure almost invariably results in the desired improvements being effected.

#### CURRENT LICENCES FOR COMMERCIAL BROADCASTING STATIONS.

19. On the 30th June, 1954, 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

#### FEES FOR LICENCES FOR COMMERCIAL BROADCASTING STATIONS.

20. 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 1953-54 was £25,441 made up as follows:—

	Fees Paid by—		Total.
	Metropolitan Stations.	Country Stations.	
	£	£	£
New South Wales	5,187	5,159	10,346
Victoria	4,124	2,463	6,587
Queensland	1,968	2,242	4,210
South Australia	1,289	291	1,580
Western Australia	781	753	1,534
Tasmania	542	642	1,184
Commonwealth	13,891	11,550	25,441

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.

21. 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:—

Year.	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

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.

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.
3CV Maryborough ..	Central Victoria Broadcasters Pty. Ltd. ..	17.12.41	31.12.54	J. R. Birt Pty. 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	30.6.56	3KZ Broadcasting Co. Pty. Ltd.
3XY Melbourne ..	Station 3XY Pty. Ltd. ..	17.5.35	1.5.56	Efttee Broadcasters Pty. Ltd.

24. The consent given by the Minister during the previous year for a continuance until 31st December, 1953, of the agreement between Central Victoria Broadcasters Pty. Ltd. and J. R. Birt Pty. Ltd. in respect of station 3CV Maryborough was extended to 31st December, 1954. Reference was made in the Fifth Annual Report to the purchase of all the shares in J. R. Birt Pty. Ltd. by 3AW Broadcasting Company Pty. Ltd., licensee of station 3AW Melbourne. When the Minister approved this purchase it was on the understanding that the objective of 3AW Broadcasting Company Pty. Ltd. and Central Victoria Broadcasters Pty. Ltd. was to combine their interests in a new company which would hold the licence for 3CV and that both parties would use their best endeavours to bring about this result as soon as possible on terms which were fair and reasonable. Tentative proposals of the companies to achieve this objective were considered by the Minister during the year and approved by him, on the understanding that at least 10 per cent. of the shares in the company operating 3CV would be held by shareholders resident in the Maryborough district. As the negotiations had not been completed by 31st December, 1953, the Minister gave his consent for a continuance of the existing leasing arrangements until 30th June, 1954, and later until 31st December, 1954.

OWNERSHIP OF COMMERCIAL BROADCASTING STATIONS.

25. Section 53 (1.) of the *Broadcasting Act 1942-1953* reads—

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

- one metropolitan commercial broadcasting station in any State;
- four metropolitan commercial broadcasting stations in Australia;
- four commercial broadcasting stations in any one State; or
- eight commercial broadcasting stations in Australia.

TRANSFER OF LICENCES AND LEASING OF STATIONS.

22. 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, gave his consent for the transfer of—

- the licence for commercial broadcasting station 2CK Cessnock from Coalfields Broadcasting Co. Pty. Ltd. to Hunter Broadcasters Pty. Ltd; (see paragraph 73)
- the licence for commercial broadcasting station 2HR Lochinvar from Hunter River Broadcasters Pty. Ltd. to Hunter Broadcasters Pty. Ltd.; (see paragraph 73)
- the licences for 3SR Shepparton, 3UL Warragul and 3YB Warrnambool from Argus Broadcasting Services Pty. Ltd. to Argus and Australasian Ltd.; and
- the licence for commercial broadcasting station 4LG Longreach from E. B. Connor to E. B. Connor and Company, a partnership consisting of Mr. E. B. Connor and his wife.

23. At 30th June, 1954, the following five stations were, with the consent of the Minister, being operated by persons other than the licensees:—

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.

26. Any contemplated changes in the ownership or control of stations by any of the methods mentioned in section 50 of the Act (see paragraph 22) 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—

- 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;
- each licensee company to submit an up-to-date list of shareholders and directors with its annual application for renewal of its licence; and
- 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.

27. 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 the principal changes in the ownership and control of stations which were effected by transactions in shares during the year, and of companies or persons who have a controlling interest in several stations.

28. *Herald and Weekly Times Ltd.*—This company, which holds the licences for stations 3DB Melbourne and 3LK Lubeck, in November, 1953, acquired a controlling interest in Queensland Newspapers Pty. Ltd., which holds the licences for stations 4BK Brisbane and 4AK Oakey and has 41,500 ordinary shares in Advertiser Newspapers Ltd. *Herald and Weekly Times Ltd.* is also the principal shareholder, with 956,017 ordinary shares (in a total of 2,213,320 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.

*John Fairfax and Sons Pty. Ltd.*—This company, which holds 7,000 shares (in a total of 49,685) in Broadcasting Station 2GB Pty. Ltd., in 1953 acquired a substantial interest in Associated Newspapers Ltd., which controls Radio 2UE Sydney Pty. Ltd.

*Country Broadcasting Services Ltd.*—This company, which holds the licence for station 2GZ Orange and had previously had a half interest in Northern Broadcasters Pty. Ltd., the licensee of station 2NZ Inverell, acquired the other half interest in the latter company early in 1954.

29. *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	22,234
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., IN WHICH BROADCASTING ASSOCIATES PTY. LTD. HAS A SUBSTANTIAL INTEREST (44.7 PER CENT.).

Company.	Station of which Company is Licensee.	Total Shares Issued.	Shares held by Broadcasting Station 2GB Pty. Ltd.
Canberra Broadcasters Ltd.	2CA Canberra ..	23,000*	22,798*
Young Broadcasters Pty. Ltd.	2LF Young ..	2,050† 8,557	450† 2,139
Lithgow Broadcasters Pty. Ltd.	2LT 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 ..	12,405	7,000

\* 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.

30. *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 5,500 shares (in a total of 11,000) 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.

31. *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 (1,060 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 7DY Derby, and shareholders in Findlays Pty. Ltd. hold all the shares in station 7AD Devonport and station 7BU Burnie.

*Nicholsons Ltd., Perth.*—Nicholsons 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.

32. *Newspaper Companies.*—Newspaper companies, or persons substantially interested in newspapers, owned 14 of the 106 stations in operation on 30th June, 1954, and held shares in 29 other stations. The principal newspaper interests in broadcasting stations, other than those of the English newspapers mentioned in paragraph 29, are set out below:—

#### CAPITAL CITY NEWSPAPERS.

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

#### OTHER NEWSPAPERS OWNING OR CONTROLLING COMMERCIAL BROADCASTING STATIONS.

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 2LF Young ..	..	{ 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.
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.
3GI, Geelong	..	The Geelong Advertiser Pty. Ltd. owns the station.

7EX Launceston .. W. R. Rolph and Sons Pty. Ltd. (the *Examiner*, 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.

33. 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.

34. The Macquarie Broadcasting Network is a proprietary company (Macquarie Broadcasting Service Pty. Ltd.), in which the following member stations were shareholders on 30th June, 1954:—

#### Macquarie Broadcasting Network.

New South Wales—	Victoria—
2CA Canberra.	3AW Melbourne.
2GB Sydney.	South Australia—
2LF Young.	5DN Adelaide.
2LT Lithgow.	Western Australia—
2MW Murwillumbah.	6IX Perth.
2PK Parkes.	6MD Merredin.
	6WB Katanning.
	6BY Bridgetown.
Queensland—	Tasmania—
4BH Brisbane.	7HO Hobart.
4BU Bundaberg.	7LA Launceston.
4GY Gympie.	

35. 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.

36. The Major Broadcasting Network is not a company, but is an association of stations of which the following were members on 30th June, 1954:—

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

37. There are also the following associations of stations or groups of stations in the same ownership which are described as networks, but their operation is confined to one State:—

Victorian Broadcasting Network—Stations 3HA Hamilton, 3SH Swan Hill and 3TR Sale.

The Queensland Broadcasting Network—Stations 4BC Brisbane, 4GR Toowoomba, 4MB Maryborough, 4RO Rockhampton and 4SB Kingaroy.

The Advertiser Broadcasting Network—Stations 5AD Adelaide, 5MU Murray Bridge, 5PI Crystal Brook and 5SE Mount Gambier.

Whitford's Broadcasting Network—Stations 6PM Perth, 6AM Northam, 6GE Geraldton and 6KG Kalgoorlie.

The Tasmanian Coastal Broadcasting Network—Stations 7AD Devonport, 7BU Burnie and 7SD Scottsdale.

In earlier reports, the Board has indicated its general approach to the question of networks.

#### AUSTRALIAN UNESCO COMMITTEE FOR RADIO.

38. The Chairman has continued to represent the Board on the Australian Unesco Committee for Radio. This Committee has, as in previous years, fulfilled two main functions, that of advising the Commonwealth Government on policy in relation to Unesco matters (particularly those relating to mass communications) and that of undertaking, with the co-operation of broadcasting organizations, special activities in Australia. The Committee's advice to the Government generally relates to the policy which the Government might adopt at Unesco Conferences when the organization's programme in radio and related fields is being determined. Matters of this kind on which the Committee has been asked to advise are: the place of broadcasting in fundamental education, the use of radio in promoting international understanding and an understanding of the United Nations and its specialized agencies, Unesco's agreement on the importation of educational, scientific and cultural materials, and the formulation of practical measures to promote the free flow of information across national frontiers.

39. The Committee has had effective co-operation from broadcasting organizations in Australia during the year. Mention was made in the last report of the Board of a series of thirteen recorded programmes produced in the Unesco Radio studios in Paris for broadcasting in Member States. Sets of these were offered through the Committee to Australian radio stations and were accepted for broadcasting by 56 of them. A subsequent series of twelve quarter-hour folk music programmes has since been accepted for broadcasting by the Australian Broadcasting Commission and by 61 commercial stations, and a further series of thirteen programmes by the Australian Broadcasting Commission (in part) and by a total of 71 commercial stations. The titles of these programmes are as follows:—What Price Atomic Energy? Eight Years After; International Concert Nos. I. and II.; No Rights Reserved; Portrait of Sarah; The Dream of Asoka; The Teacher Was Black; Songs of Children's Town; Good Morning, Johnny!; Fate of the Dinosaurs; The Other Man's Language; and Back Page News.

40. An important though unspectacular part of the Committee's work is the provision of information to the Clearing House in Unesco's Department of Mass Communication. During the year, information on Australian radio developments has been supplied in response to specific requests and in addition the report of the Royal Commission on Television and the annual reports of the Australian Broadcasting Commission and of this Board have been forwarded to the Clearing House. Of the numerous Unesco publications produced during the

year, the following have particularly interested the Committee as evidence of one use to which the information gathered for or by Unesco in the field of Mass Communication is put: "The Child Audience" by Philippe Bauchard, a report on press, film and radio for children; "Transmitting World News" by Francis Williams, a study of telecommunications and the press; "Paper for Printing To-day and To-morrow" by the Intelligence Unit of The Economist; "News Agencies, Their Structure and Operation"; "One Week's News"; and "Education for Journalism, 1953", one of a series of Reports and Papers on Mass Communication.

#### STATE BROADCASTING ADVISORY COMMITTEES.

41. The State Broadcasting Advisory Committees, whose previous term of appointment expired on 30th September, 1950, have not since been reconstituted in conformity with the provisions of section 6Q of the Act.

#### DEFAMATION BY MEANS OF BROADCASTING.

42. In previous reports, the Board directed attention to the fact that it receives complaints from time to time from persons who allege that defamatory statements have been made about them in broadcasts and to the well-known legal difficulties which arise in the application to broadcasting of the law of defamation. As was mentioned in the Fourth Annual Report of the Board, the Parliament of the United Kingdom has passed legislation providing—

- (a) that for the purposes of the law of libel and slander, the broadcasting of words by means of wireless telegraphy (which in this context includes broadcasting) shall be treated as publications in permanent form; and
- (b) for the extension to broadcasting stations of the qualified privilege of newspapers to publish a fair and accurate report of many matters of public interest.

In view of the extensive news services and commentaries which are broadcast by Australian stations, the Board has again considered this question and it feels that it would be in the public interest for the existing laws on the subject in this country to be reviewed in the light of the developments which have taken place in the broadcasting field. In its Fifth Annual Report, the Board reported that it had been suggested that it may be possible to introduce appropriate legislation in Australia by means of an amendment of the *Broadcasting Act 1942-1953*. That suggestion has been noted for attention when amendments of the Act are next being considered, but in the meantime the Board has requested the Minister to propose to the Prime Minister that the Premiers of the States should be again asked to examine the question, especially in view of the action taken by the Parliament of the United Kingdom.

#### TELEVISION.

43. As was stated in our Fifth Annual Report, a Royal Commission on Television was appointed on 11th February, 1953, its terms of reference being—

To inquire into and report upon—

- (a) the number of national and commercial television stations which can effectively be established and operated having regard to the financial and economic considerations involved and the availability of suitable programmes;
- (b) the areas which might be served by television stations and the stages by which they should be established;
- (c) the conditions which should apply to the establishment of television stations;
- (d) the standards to be observed in the programmes of national and commercial television stations to ensure the best use of television broadcasting in the public interest;

- (e) any conditions which may be considered desirable to apply to the television broadcasting of—
- (i) political and controversial matter and issues;
  - (ii) religious services and other religious matter;
  - (iii) advertisements;
- (f) the conditions, if any, which should be imposed with respect to periods of broadcasting of television programmes.

44. The Royal Commission presented its report to the Governor-General on 5th May, 1954, and the following is a synopsis of its principal recommendations:—

*General.*

- (a) Television should be introduced on a gradual basis, a limit on the number of stations in the early stages being necessary not only on financial grounds, but also to secure reasonable standards of programmes.

*The National Television Service.*

- (b) The first national station should be erected in Sydney and the second in Melbourne, and expansion to other State capital cities and to other centres of population should proceed as soon as finances become available.
- (c) The service should be planned on the basis that within a reasonable period the major part of the expenditure involved will be covered by revenue which can be reasonably attributed to the provision of the service. (While the actual amount of the licence-fee is not recommended, certain estimates are made on the assumption that the fee (television only) will be of the order of £5.)
- (d) The national television authority should be the Australian Broadcasting Commission, the number of members of which should be increased from seven to nine. The Commission should operate with the same degree of independence of political control as is the case with broadcasting.

*The Commercial Television Service.*

- (e) Initially licences should be issued for two stations in both Sydney and Melbourne, and extension to other areas should be effected as soon as there is evidence that a satisfactory service can be provided.
- (f) There should be a licensing system similar to that which applies to commercial broadcasting stations. Licences should be granted for a period not exceeding three years and should be renewed for a period not exceeding one year. The licensing authority should be the Minister, who should exercise the functions of granting, renewing and revoking licences. In exercising these powers, he should be required to take into consideration recommendations made by the Australian Broadcasting Control Board, whose membership should be increased by two part-time members. The Board should discharge, in relation to the television service, substantially the same technical, administrative and regulatory functions as it does at present in relation to broadcasting, but in its exercise of these functions it should not be subject to direction by the Minister.
- (g) Before any licence is granted, a public hearing should be conducted by the Board. There should also be a public hearing before a licence is revoked, or where it is proposed that a licence should not be renewed.

- (h) The existing provisions of the Broadcasting Act relating to concentration of ownership and transfer of licences, &c., should be extended to cover television stations.

- (i) There is a strict obligation on commercial stations to maintain high standards of programmes. In general, the licensing system for commercial stations should be the means of ensuring that programmes are of a satisfactory standard, and renewals of licences should be conditional on provision of such programmes, and not a formality. Self-regulation is not sufficient to ensure programmes of suitable standard, but a code of programme standards should be formulated by the commercial stations in collaboration with the Broadcasting Control Board.

- (j) Legislative provision, along the lines of the present Broadcasting Act, will also be required so that prompt measures may be taken to prevent the televising of objectionable material.

*Televising of Political and Controversial Matter.*

- (k) The Australian Broadcasting Commission should have full and unrestricted power and responsibility to determine to what extent and in what manner political and controversial matter may be presented from national television stations.
- (l) Except during an election period, commercial stations should be free to allocate time for the televising of political and controversial matter in the ordinary course of business, subject to the obligation to afford reasonable opportunities for the presentation of opposing views.
- (m) During an election period, a commercial station which operates in an area where there is no national station should be required by law to make available without charge to the leaders of the parties or their nominees an amount of time equivalent to that allocated by the Australian Broadcasting Commission for the presentation of the main policy speeches of the parties.
- (n) During an election period, a commercial television station which operates in an area where there is a national station should be permitted to refuse to allocate time for political matter. If time is allocated by a station for political matter, however, equal opportunities shall be afforded to all parties contesting the election which are represented in Parliament at the time of the dissolution or vacancy.
- (o) There should be a similar prohibition on the dramatization of political matter as applies in the case of broadcasting.
- (p) The obligation on commercial television stations should be stated in legislation passed by Parliament and not left to the administrative discretion of a statutory body.

*Televising of Religious Programmes.*

- (q) Until practical experience has been obtained, it is undesirable to formulate any precise rules concerning the televising of religious matter. On national stations the same principles as have proved applicable and acceptable in the broadcasting field should, in general, be applied. It is premature, at this

stage, to lay down any specific provisions requiring the allocation of time by commercial broadcasting stations.

#### *Hours of Operation.*

- (r) The actual hours of operation of stations must be determined by experience. (Two members recommended that in the initial period there should be a compulsory break for one hour after the children's session and that the hours of transmission should not exceed 30 per week.)

A number of detailed recommendations were made concerning such matters as advertising, use of Australian talent, importation and censorship of films, provision of children's programmes and certain technical aspects which mainly involve administrative action: the general attitude of the Commission was that it was premature to arrive at policy decisions on these matters.

45. The report of the Royal Commission was considered by the Federal Cabinet, on 10th September, 1954, and, on that day, the Postmaster-General announced that the Government had reaffirmed its decision to proceed with the introduction of television within the limits of practical considerations, thus accepting the broad conclusions of the Royal Commission that, if television is introduced on a gradual scale, there is no reason to be apprehensive about the effects on Australian life or culture or about its economic effects. The Government proposed that the first stations would be established in Sydney and Melbourne and that as soon as practicable the service would be extended to cover other capital cities and to country areas, which are to receive special consideration. 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 Control Board would be directed to hear, in public, applications for two licences to provide commercial programmes in 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 is taken of the results of the very full and careful enquiry which was made. The introduction of television would not, the Minister emphasized, supplant the existing sound broadcasting service, which must indeed continue to expand in Australia as it had in overseas countries where, notwithstanding the development of television, sound broadcasting had maintained its important position in the lives of the community.

#### *TELEVISION FOR THE ROYAL VISIT.*

46. At the request of the Royal Tour Committee of New South Wales, the Minister granted permission to Amalgamated Wireless (Australasia) Limited to undertake a limited form of television of certain of the events associated with the visit of Her Majesty the Queen to Sydney. Her Majesty's landing at Farm Cove on 3rd February, 1954, was covered by a television unit, from which the pictures were transmitted over a coaxial cable to a location at Mrs. Macquarie's Point, from which they were transmitted by micro-wave link (6790 Mc/s.) to receiving equipment located at the Spastic Centre, Mosman. Scenes were also transmitted by coaxial cable and micro-wave link from the Royal Ball in the Sydney Town Hall on 5th February, 1954, to the Royal Alexandra Hospital for Children. Similar arrangements were made for the televising of the opening of the Commonwealth Parliament on 15th February, 1954, the proceedings being transmitted by micro-wave link to the Canberra Community Hospital, and the televising of the State Reception to Her Majesty at

Parliament House, Brisbane, on the 9th March, and the opening of the Queensland Parliament on the 10th March, both these events being transmitted by coaxial cable and micro-wave link to the Greenslopes Military Hospital.

### **PART III.—TECHNICAL SERVICES.**

47. Section 6k of the Act requires the Board 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". This important function imposes on the Board a continuing responsibility to ensure, so far as is reasonably practicable, that such measures are taken in respect of the national and commercial broadcasting services as are necessary to produce the result that listeners throughout the Commonwealth are assured of consistently reliable reception, and, as the Board has mentioned in previous Reports, this is a task of great complexity in a country like Australia with its great area and uneven distribution of population. On 30th June, 1954, broadcasting services in Australia were being provided by 152 medium frequency stations (46 national and 106 commercial) and by nine high frequency stations which provide for remote listeners in the Commonwealth and the Territories. Details of these stations are given in Appendices "A" and "B", and it will be observed from a map which follows Appendix E that they are widely distributed throughout the Commonwealth. Nevertheless, there are still many areas without adequate service, and in this Part of the Report details are given of the progress which is being made with the implementation of the Board's plans for overcoming existing deficiencies in both the National and Commercial Services. Means of overcoming obstacles in the way of further extending these Services, which arise from the shortage of channels in the medium frequency broadcasting band, are also discussed. Reference is made to various other technical subjects associated with the broadcasting services and to the technical standards which are to be applied to television services when they are introduced.

#### **PLANS FOR THE DEVELOPMENT OF THE NATIONAL BROADCASTING SERVICE.**

48. In previous Reports, the Board has explained that its plans for the development of the National Broadcasting Service were intended to achieve the following objectives:—

- (a) to extend the coverage of the medium frequency national stations so as to provide satisfactory day and night reception of at least one such station for listeners throughout the Commonwealth, except those in the distant isolated areas for whom transmissions are provided in the short-wave (high frequency) bands;
- (b) to enable the great majority of listeners, who are outside the primary coverage of the two national stations in each of the capital cities and Newcastle, to obtain from medium frequency stations satisfactory night time reception of alternative programmes of the Australian Broadcasting Commission;
- (c) to provide a higher signal to noise ratio in order to ensure a better service for listeners, particularly in industrial areas where interference from electrical equipment is prevalent and also in the large areas of the Commonwealth which are subject to high atmospheric noise levels during summer months;

(d) to protect the service to Australian listeners against interference from very high powered stations which are being erected in neighbouring countries. As was stated in the Board's Fourth Annual Report, the need to protect Australian listeners against interference from very high powered stations in neighbouring countries has been emphasized by developments in southern Asia and the region north of Australia, where according to the latest available information, the number of stations operating or planned for operation on 50,000 watts or greater is as under:—

Stations with power of 150,000 watts ..	6
Stations with power of 100,000 watts ..	22
Stations with power of 50,000 watts ..	10

In addition, two New Zealand stations operate on 60,000 watts. The general trend towards the use of higher power increases the possibility of interference from overseas stations to Australian services, particularly in those areas in which listeners, because of their great distance from local stations, must rely on comparatively weak signals. The increase in the power of Australian stations, which is part of the Board's plan, will do much to minimize this interference.

49. The complete plans provided, with the approval of the Minister as required by the Act, for the establishment of seventeen new stations and an increase in the operating power of twenty-six existing stations, and the following works have been completed:—

New regional stations—

	Power (watts).	Commenced operations on.
2CN Canberra ..	2,000 ..	21st January, 1953.
2KP Smithtown ..	10,000 ..	29th January, 1954.
3WL Warrnambool ..	200 ..	4th September, 1954.
4SO Southport ..	200 ..	11th October, 1952.
5WM Woomera ..	100 ..	18th September, 1953.
7QN Queenstown ..	200 ..	25th September, 1954.

Power increases effected—

2NR Grafton—	from 7,000 watts to 10,000 watts on 1st August, 1952.
2CO Corowa—	from 7,500 watts to 10,000 watts on 6th May, 1954.
4RK Rockhampton—	from 2,000 watts to 10,000 watts on 1st September, 1954.
7ZR Hobart—	from 500 watts to 2,000 watts on 24th December, 1953.

50. New regional stations with a power of 10,000 watts are to be established at Bega, New South Wales, and Glen Innes, New South Wales, and with a power of 2,000 watts at Wollongong, New South Wales, Penola and Renmark, South Australia. Low power stations are to be established in New South Wales at Armidale (100 watts) and Murwillumbah (200 watts), in Victoria at Bendigo (100 watts), in South Australia at Mount Gambier (200 watts), and in Western Australia at Albany (400 watts) and Northam (200 watts).

51. The power of national stations 2BL Sydney, 2FC Sydney, 2CR Cummoock, 2NR Grafton, 3AR Melbourne, 3LO Melbourne, 3WV Doon, 4QR Brisbane, 4QN Townsville, 5CL Adelaide, 6WF Perth and 6WA Wagin is to be increased to 50,000 watts. The power of national stations 2NA Newcastle and 2NC Newcastle, 3GI Sale, 4QB Pialba, 4QL Longreach, 5AN Adelaide, 6WN Perth, 7ZL Hobart, 7ZR Hobart and 7NT Kelso is to be increased to 10,000 watts and stations 5DR Darwin and 9PA Port Moresby to 2,000 watts.

52. Although the new stations at Bega and Murwillumbah and a 10,000 watt transmitter at 4QL Longreach are nearing completion and other projects are in various stages of development, the Board is disappointed that it has not been practicable for more rapid progress to be made with the implementation of its plans. Gratifying reports have been received by the Board concerning improved reception in country districts where

new stations have been established and the Board is most anxious that listeners in areas which are still inadequately served should, as soon as possible, secure the benefits which will result from the completion of the works which are still outstanding. As was explained in its Fifth Annual Report, the Board is responsible, under the Broadcasting Act, for the preparation of the plans for the development of the National Broadcasting Service, and the determination of the frequency, power and situation of each national station, but it has no direct part in the execution of the plans after they have been approved by the Minister. It is the function of the Postmaster-General's Department, under the Act, to construct the new stations which are proposed and to install the equipment required to increase the power of existing stations. The acquisition of land required for new stations is the responsibility of the Department of the Interior and the erection of the required buildings the responsibility of the Department of Works. A standing committee consisting of representatives of the Post Office, the Department of Works, the Australian Broadcasting Commission and the Board, meets regularly to co-ordinate the various parts of the construction programme, and each of these bodies doubtless proceeds as expeditiously as it can, but with the added complications of restrictions on funds and shortages of staff, the machinery for implementing the plans which have been designed to improve the broadcasting services, especially for country listeners, inevitably leads to unfortunate delays. The Board is particularly disturbed at the delay in the installation of 50,000 watt transmitters for stations 2NR Grafton, 4QN Townsville and 6WA Wagin (see paragraph 51) as these transmitters are urgently required to improve service for large numbers of country listeners, especially during evening hours.

PLANS FOR THE DEVELOPMENT OF THE COMMERCIAL BROADCASTING SERVICE.

*Increased Power for Country Stations on Shared Channels.*

53. Soon after its establishment in 1949, the Board decided that as a first stage in its plans for the development of the Commercial Broadcasting Service, it would increase the operating power of the shared channel country stations, because it felt that prompt action should be taken to improve the quality of service for listeners in areas which were being served by these stations. This first stage has now been almost completed with beneficial results both to country listeners and the licensees of the stations concerned. Increased power was authorized for sixty-three stations to the extent indicated hereunder, and in addition, thirteen of these stations were permitted to use higher power during daylight hours:—

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

The Board, in determining the power increases, proceeded in accordance with provisional standards for power and frequency allocations under which protection against co-channel interference is afforded to the 2.5 millivolt/metre contour. Co-channel interference is evident only during early morning and evening hours, and generally it is practicable to permit higher power during early morning and evening hours without causing interference with reception of other stations. The Board has advised licensees that it will consider

applications for the use of higher power during daylight hours, and, as mentioned above, has authorized thirteen stations to operate under these conditions as follows:—

Eleven 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.

Details of power increases authorized by the Board for shared channel stations are contained in Appendix "C".

54. All except four of the 63 stations referred to in the preceding paragraph are now operating on the higher power approved by the Board, and it is anticipated that the four exceptions will increase their power within the next few months. The great majority of the licensees concerned had to incur expenditure of several thousand pounds on the purchase of new equipment and many of them had to acquire new sites and erect new buildings, and as the Board has previously stated, it is greatly to their credit that, notwithstanding these high costs, they welcomed this opportunity to improve their services to listeners and completed the task with little delay. There is abundant evidence that, as a result of their efforts, listeners in the areas served by stations already operating on higher power are enjoying much improved reception, and the extent of the improvement in the commercial service in country districts as a whole may be gauged from the fact that—

- (a) instead of 37 such stations operating with power below 500 watts, there will be only one such station (and in that case the lower power is due solely to a restriction caused by a condition of an agreement between Australia and New Zealand relating to the use of medium frequency channels by broadcasting stations);
- (b) instead of four stations operating with 1,000 watts, there will be 24 using that power;
- (c) instead of four shared channel stations (located in Western Australia) operating with 2,000 watts, there will be 30 such stations and thirteen others using 2,000 watts during daylight hours.

55. The use of higher power improves reception for listeners because it enables a stronger signal to be laid down within the service area of a station and, to some extent, it enlarges the coverage of the station, although in the case of shared channel stations the increase in coverage is limited to 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 has no precise information as to the total cost of these improvements but it is estimated to be some hundreds of thousands of pounds.

#### *Increased Power for Commercial Stations in Capital Cities and Newcastle.*

56. During the year, the Board completed the second stage of its plans for developing the Commercial Broadcasting Service, which was directed to improving the grade of service available to listeners from commercial broadcasting stations in the capital cities and Newcastle. As the Board stated in its Fifth Annual Report, this is a matter of great importance as these stations serve approximately 65 per cent. of the total population of the Commonwealth, who reside in the metropolitan areas and Newcastle, and many thousands of additional listeners who live in adjacent country districts. The Board's investigations had disclosed that the grade of technical service being provided by these stations left much to be desired, due to the low power on which they

had in the past been required to operate and also, in some cases, to inefficient equipment. Prior to the establishment of the Board, the ceiling for operating power for commercial stations was 2,000 watts, but in the capital cities and Newcastle, the power had been restricted to the following levels:—

	Watts.
Sydney .. .. .	1,000
Melbourne .. .. .	600
Brisbane .. .. .	1,000
Adelaide .. .. .	500
Perth .. .. .	500
Hobart .. .. .	500
Newcastle .. .. .	500

57. In the opinion of the Board, the power allotted in each case was quite inadequate to ensure the quality of reception which the great populations 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 of commercial stations in the capital cities and Newcastle had remained for several years at the low levels outlined above, the intensity of electrical noise had been magnified by 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 capital cities and Newcastle as a result of the erection of thousands of homes and many 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.

58. As the Board has previously explained (see paragraph 51), it is intended to increase the power of national broadcasting stations substantially. National stations in the capital cities are being increased in some cases to 50,000 watts partly because of the considerations mentioned in the preceding paragraph, and the Board considered that the continued operation of commercial stations in the capital cities and Newcastle on the low powers mentioned in paragraph 56 could not be justified, especially as at present nearly all of them are permitted the exclusive use of the channels on which they operate in order that they may provide a thoroughly satisfactory service over a wide area. In this connexion, it should be stated that in the course of its review of the operating conditions of these stations, the Board considered the suggestion which has frequently been made that they should be required to operate on shared channels for the purpose of releasing frequencies for allocation to new stations in other areas. The Board, however, felt unable to adopt this course because—

- (a) at the present time there are a great many listeners in country areas surrounding the capital cities who rely on the metropolitan stations for commercial programmes and who would be deprived of such a service at night time if the coverage of the stations was restricted as a result of the sharing of channels; and
- (b) the operation of these stations on clear channels enables them to be received at night at great distances; although the strength of signal is low, reception in locations of low noise level is possible and as a result numerous country listeners have access to popular programmes which would not otherwise be available to them.

The Board considered that the disadvantages which would result if all the capital city stations and Newcastle stations were to share channels would outweigh any advantages which might be derived from the release of the channels which would become available.

59. Reference was made in paragraphs 82-83 of our Fifth Annual Report to the basis on which bands of frequencies have been reserved for broadcasting stations by international and regional agreements, and the fact that in frequency lists, prepared in conformity with these agreements, provision was made for the use of substantially higher power by Australian stations on the frequencies occupied by the capital city stations. The technical problems associated with proposals to increase the power of these stations were not so acute as those associated with the power of shared channel stations. There were, however, some involved economic factors which had to be considered in relation to this question because of the necessity for maintaining the stability of the Commercial Broadcasting Service as a whole, but, after discussions with the licensees of the stations concerned, the Board subsequently decided, with the concurrence of the Minister, that the power of commercial broadcasting stations in Sydney and Melbourne should be increased to 5,000 watts and the power of commercial stations in Brisbane, Adelaide, Perth, Hobart and Newcastle should be increased to 2,000 watts. Details are given hereunder of the present position in respect of each of the capital cities and Newcastle.

60. *Sydney*.—Four of the six stations operating in Sydney are situated in the Homebush Bay area and, as was mentioned in our Fifth Annual Report, some doubt existed as to whether certain of the sites were suitable for the operation of transmitters on 5,000 watts. Great care has to be exercised for various reasons in selecting a site for a broadcasting station, one of the main reasons being the need to limit the extent of the "blanket" area, which is that area in close proximity to a transmitter in which the field strength from it is so high that reception from another station is difficult or impossible on average receivers. The Board's Standards for the Technical Equipment and Operation of Broadcasting Stations contain provisions requiring the transmitter to be so located as to minimize the possibility of excessive "blanketing", and in any case where the power of a station is to be increased, it is necessary to determine whether the higher level of signal delivered to receivers may cause a serious increase of interference to listeners close to the transmitter and create what may be regarded as a nuisance in a thickly populated area adjacent to the station. Because of the doubt which existed in this regard in relation to some of the stations in the Homebush Bay area, the Board arranged for a trial operation of three of the four stations in that area on 2,000 watts (instead of their normal power of 1,000 watts) in order that the suitability of the existing sites for higher power might be determined with greater certainty. The trial was conducted for a period of three months from 10th August, 1953, at the end of which the stations concerned reverted to 1,000 watts. As a result of the tests, the Board came to the conclusion that 5,000-watt transmitters could be used on the existing sites of the Sydney stations, with one exception, namely station 2UE, without causing annoyance to neighbouring listeners. The Board, therefore, on 17th March, 1954, formally determined that the power of stations 2CH, 2GB, 2KY, 2SM, 2UE and 2UW should be increased to 5,000 watts as from a date to be determined. It is the policy of the Board that when power increases are authorized for more than one station in the same area, they should commence operation on the higher power on the same date. Because of the fact that station 2UE will have to be moved to a new site, there will be some unavoidable delay in implementing the Board's decision, but it is hoped that it will be found practicable for the Sydney stations to commence operating on 5,000 watts early in 1955.

61. Before finally determining the power of the Sydney stations, the Board carefully considered representations which had been made by the licensee of 2KA Katoomba concerning the adverse affect which, in the opinion of the licensee, the increase in the power of the Sydney stations would have on the operations of 2KA. The Board, however, feels that whilst the Sydney stations will be able to provide a much stronger signal over a wider area than is the case with their existing power of 1,000 watts, they will not be able to provide a consistently reliable service in the Blue Mountains area. Station 2KA operates on a very favorable frequency which enables it to provide a first-class service in the Blue Mountains area where there is a substantial population. Accordingly, the Board has informed the licensee that, in its opinion, whilst the operation of the Sydney stations on 5,000 watts will greatly improve conditions for Sydney listeners, it should not have any seriously detrimental effect on station 2KA which will continue to give a better grade of service to a large audience.

62. *Melbourne*.—The Board formally determined on the 23rd March, 1954, that the operating power of stations 3AW, 3DB, 3KZ, 3UZ and 3XY Melbourne should be 5,000 watts as from a date to be fixed. As was mentioned in the Board's Fifth Annual Report, transmitters could not be operated on 5,000 watts from any of the present sites of these five stations without infringing the Board's Standards for the Technical Equipment and Operation of Broadcasting Stations and the licensees of each of the five stations were notified that the increase in the power of their transmitters was subject to their removal to a suitable site. In this connexion, the Board after having made extensive field surveys came to the conclusion that it was desirable that the new sites for the Melbourne stations should be in an easterly direction in the Doncaster-Templestowe district in order that the stations with their increased power should ensure improved reception, not only in the outer metropolitan areas, but also in the hill country to the north and north-east of Melbourne where the quality of service at present available leaves much to be desired. As in the case of the Sydney stations, it is impracticable to say when the Melbourne stations will commence operations on 5,000 watts because in each case a new site has to be selected and a new radiator erected. Satisfactory progress has been made by each of the licensees in this regard and the Board is confident that the Melbourne stations will be in a position to commence operation on 5,000 watts in 1955.

63. Before finally determining the power of Melbourne stations, the Board carefully considered representations which had been made by the licensees of stations 3GL Geelong, 3CS Colac and 3UL Warragul, concerning the adverse affect which, in the opinion of those licensees, the contemplated increase in the power of the Melbourne stations was likely to have on their operations. The Board realizes that when the Melbourne stations are operating on 5,000 watts, they will deliver a better signal than at present into some of the areas served by the three stations mentioned, but the Board feels that as there is a substantial population within the primary service of each of the stations, with a community interest which can be best served by a local station, the three stations will continue to attract a large audience and will in consequence have the support of advertisers. As was mentioned in our Fifth Annual Report, the power of station 3AK Melbourne, which operates on a shared channel for restricted hours, was increased from 200 to 500 watts in September, 1951.

64. *Brisbane*.—The Board formally determined on 1st April, 1953, that, as from a date to be decided, the power of stations 4BC, 4BH, 4BK, and 4KQ Brisbane should be increased from 1,000 watts

to 2,000 watts, with the proviso that the power of station 4KQ shall be reduced to 1,000 watts at sunset. The limitation on the power of station 4KQ is necessary 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 interference with the reception in New Zealand of 3YA. The sites of the Brisbane stations were suitable for operation on 2,000 watts and they commenced transmissions on that power on 6th September, 1953.

65. *Adelaide*.—The Board formally determined on 1st April, 1953, that as from a date to be decided the power of stations 5AD, 5DN and 5KA Adelaide should be increased from 500 watts to 2,000 watts. The previous sites of the three stations were unsuitable for 2,000 watts, but, the licensees having acquired new sites and installed new radiating systems, the stations commenced operations on that power on 1st May, 1954.

66. *Perth*.—The Board formally determined on 1st April, 1953, that as from a date to be decided the power of stations 6IX, 6KY, 6PM and 6PR Perth shall be increased from 500 watts to 2,000 watts. It is impracticable to indicate at this stage when the increases will be effected as certain of the 2,000 watt transmitters will have to be established on new sites which are yet to be acquired.

67. *Hobart*.—Stations 7HO and 7HT Hobart operate on shared channels and their power was reviewed in conjunction with that of the other shared channel stations (see paragraphs 53-55). The Board authorized an increase in each case from 500 watts to 2,000 watts, on which power both stations commenced to operate on 9th May, 1953.

68. *Newcastle*.—The Board formally determined on 1st April, 1953, that the operating power of the two stations in Newcastle, namely 2HD and 2KO, should be increased to 2,000 watts as from a date to be decided with due regard to certain adjustments which were being made in the frequency, power and location of stations 2CK and 2HR which were situated close to Newcastle. It was subsequently decided that the increase in the power of stations 2HD and 2KO should take effect on 1st January, 1954, on which date station 2HR (re-designated 2NX Bolwarra) also commenced service on 2,000 watts (see paragraph 73).

#### *Clear Channel Stations in Country Districts.*

69. Having reviewed the operating conditions of shared channel stations and capital city and Newcastle stations as indicated in paragraphs 53-68, the Board has authorized substantial increases in the power of 87 of the 106 commercial broadcasting stations which are in operation at the present time. Four others have commenced operations in recent years on the higher level of power adopted by the Board, but one station had to be restricted to 200 watts because of a special condition in an agreement between New Zealand and the Commonwealth governing the allocation of frequencies to broadcasting stations.

70. Of the remaining fourteen stations, eleven were, prior to the establishment of the Board, operating on clear channels in the Eastern States and three on shared channels in Western Australia, all using 2,000 watts which (except in the case of the Sydney and Melbourne stations—see paragraphs 60-63) is the highest power authorized for commercial broadcasting stations. After carefully considering the position of these fourteen stations in relation to the rest of the commercial stations whose power has been increased, the Board does not propose to authorize any alteration in their operating conditions at the present time.

#### ADDITIONAL COMMERCIAL BROADCASTING STATIONS.

71. Although the increase in the power of commercial 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. As is mentioned in paragraph 17, there are many applications for additional licences and in some cases the Board would have no hesitation in recommending the grant of the desired 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 to stations operating on shared channels. This frequency problem was explained in the following terms in paragraphs 74 and 75 of the Board's Fifth Annual Report:—

The medium frequency band, within which the normal broadcasting services of the Commonwealth operate, covers a band of 1,070 kC/s. from 535 to 1,605 kC/s. and as the Australian standards provide for a 10 kC/s. separation between each channel in order to prevent side channel interference between stations, there are 107 channels available for allocation to broadcasting stations. All of these channels (with the exception of one which, under the terms of an agreement between the Commonwealth and New Zealand administrations, Australia has undertaken not to use) have been assigned to the 149 stations already in operation and others which are projected. . . . Eighty-eight existing stations are operating on shared channels, a system of operation which, whilst it has enabled additional stations to be established to provide a local service for most of the large centres of population throughout the Commonwealth, has the disadvantage of severely restricting the coverage of the sharing stations during hours of darkness. It is necessary, however, for them to be assured of a service area by day and night which embraces a sufficiently large audience to attract advertisers and the Board has therefore arranged sharing conditions in accordance with standards which afford protection against co-channel interference to the 2.5 millivolt/metre contour.

Frequencies can be allocated for additional stations only by an extension of shared channel operation and during the year the Board made a review of the frequency allocation plan for the purpose of ascertaining whether, by slight re-adjustments, channels could be reserved for new stations. It was forced to the conclusion that unless it were to lower the existing standards, a course which it would consider to be contrary to the public interest, only two channels could be made available for new commercial stations in the south-east area of the Commonwealth, one in Victoria, which has been allocated to the proposed Wangaratta station, and one in New South Wales. The position in those States is particularly acute because all the other channels which can be used on a sharing basis have already been allocated to the numerous stations which operate in what is the most densely populated part of the Commonwealth. The position in Western Australia and Northern Queensland is not so difficult because of their distance from this concentration of stations and, as indicated above, the Board has been able to provide frequencies for the expansion of the Commercial Service in Western Australia and at the time this report was being prepared, was considering the claims of certain areas in North Queensland. The Board is very concerned at its inability to authorize additional stations where they are needed in New South Wales and it is, of course, faced with a complex problem in deciding which of several areas in that State which are not at present well served by any station has the best claims to the single channel which is available. It is sometimes suggested that the shortage of frequencies might be overcome by a complete re-arrangement of the frequency allocation plan, but, in the opinion of the Board, this would cause great confusion both to the broadcasters and listeners without providing any worthwhile benefits. It has also been suggested that no great harm would result from a lowering of the standards governing the allocation of power and frequency of sharing stations and, in support of this view, conditions in the United States which, although using the same band of frequencies has licensed over 2,300 stations, are quoted as an example of what might be done in Australia. It would, however, be impracticable, for the reasons which were explained in paragraphs 96-98 of the Board's Second Annual Report, to adopt American practices in this country. The Board is continuing its investigations into this difficult question, bearing in mind the possibilities of the synchronization of stations and the ultimate use of very high frequencies for broadcasting stations in planning for the future development of the Australian broadcasting services.

72. The Board's further investigations have confirmed these views and, as will be seen in paragraphs 82-85, it is of the opinion that the best means of extending the Commercial Broadcasting Service to country districts in which commercial programmes cannot be satisfactorily received at the present time is by the use of the very high frequencies.

#### CHANGES IN LOCATION OF STATIONS.

73. The transfer of the licences for stations 2CK Cessnock and 2HR Lochinvar, to which reference is made in paragraph 22, followed the adoption of proposals for the merging of the two companies which had previously operated the two stations. These proposals had been the subject of protracted negotiations between the Board and the companies concerned, namely Coalfields Broadcasting Co. Pty. Ltd., the licensee of station 2CK, and Hunter River Broadcasters Pty. Ltd., the licensee of 2HR. The distance between the stations was only 8 miles; and although the service area of station 2HR was greater than that of station 2CK, there was considerable overlapping. The proximity of the stations to one another, combined with some additional competition from stations in Newcastle, produced a state of affairs which prompted the licensees to suggest to the Board that, on economic grounds, they be permitted to merge their interests and to transfer their stations to different locations. The suggestion appeared attractive, in principle, to the Board, mainly on technical grounds, because although it appreciated the difficulties which the licensees were experiencing, the Board welcomed the opportunity to remedy the mistake which, in its opinion, had been made when station 2CK was licensed in 1937. It would have been much better, the Board felt, to have used the frequency channel which was allocated to 2CK to provide a service in the Muswellbrook (Upper Hunter Valley) area, where a station was badly needed, than to provide an additional station in the Cessnock-Maitland area. The Board was anxious to see a station established in the Muswellbrook district and, accordingly, it recommended to the Minister that he might agree to the suggested merger, provided the new company undertook to re-establish stations 2CK and 2HR in localities from which one would provide a first-class service to the mining and industrial community in Cessnock and Maitland and the other would provide the much-needed service for the rural community in the Muswellbrook area. Some very complicated issues had to be settled before the Minister finally approved of the transfer of the licences to the new company—Hunter Broadcasters Pty. Ltd.—on conditions which provided, *inter alia*—

- (a) for station 2HR Lochinvar, which had operated on a frequency of 680 kC/s. and power of 500 watts, to be replaced by a new station—2NX Bolwarra operating on a frequency of 1,360 kC/s. and power of 2,000 watts; and
- (b) for station 2CK, which had operated at Cessnock on a frequency of 1,460 kC/s. and power of 200 watts, to be replaced by a new station—2NM Muswellbrook—on the same frequency and power of 500 watts.

Station 2NX Bolwarra commenced operations on 1st January, 1954, and station 2NM Muswellbrook on 17th February, 1954.

74. Approval was also given during the year for station 7DY Derby to be removed to Scottsdale, in which location it commenced operations on 5th September, 1954, using the call sign 7SD Scottsdale. Station 7DY was established at Derby in 1937, but because of the small population in its service area and the decline in the mining industry in Derby, the licensee had experienced great difficulty in avoiding a loss on the operations of the station. An investigation of the

licensee's application for permission to remove the station to Scottsdale disclosed that if the station were to be operated from that centre, it would provide a reliable service for more listeners than it did from Derby and that the change would in all probability overcome staffing problems which had caused the licensee great difficulties in continuing the service at Derby. In the circumstances, the Board reached the conclusion that the removal of the station to Scottsdale was justified in view of the continued losses which the licensee was sustaining at Derby.

#### UNATTENDED OPERATION OF BROADCASTING STATIONS.

75. During the past year, the Board gave approval to the licensees of twelve additional commercial broadcasting stations for the unattended operation of their transmitters on the usual conditions, namely—

- (a) the equipment to be used must be satisfactory with respect to supervision and control devices and protection against faults;
- (b) stand-by transmitters with satisfactory arrangements for change over in the event of a fault must be provided, except in special cases approved by the Board;
- (c) a qualified technician must be available at short notice to attend to any fault which occurs;
- (d) sufficient technicians must be employed to ensure that the equipment is adequately maintained.

A total of 30 licensees has now been authorized to operate by "remote control" and 24 of the stations have been operating on this basis for some time with satisfactory results. Four national regional stations are also being satisfactorily operated by "remote control" by the Postmaster-General's Department.

#### STANDARDS FOR THE TECHNICAL EQUIPMENT AND OPERATION OF BROADCASTING STATIONS.

76. Since the Board on 17th March, 1952, formally adopted Standards for the Technical Equipment and Operation of Broadcasting Stations, 300 copies of the Standards have been issued. Licensees of commercial broadcasting stations have shown a commendable willingness to comply with the Board's requirements and as a result the general efficiency of Australian stations has been greatly improved. The Board proposes to make some revisions of the standards at an early date after consultation with the Postmaster-General's Department and the Australian Federation of Commercial Broadcasting Stations.

#### SYNCHRONIZED OPERATION OF BROADCASTING STATIONS.

77. As was mentioned in paragraph 79 of the Board's Fifth Annual Report, the Board has been considering 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 for the provision of a network of stations in capital cities through which the Australian Broadcasting Commission might transmit a third programme, in addition to the present "national" and "interstate" programmes. Synchronous operation has been successfully used for a number of years in other countries, notably Great Britain and in Europe, where only a few medium frequency channels are available for the use of each country and the number of programmes broadcast by each country is limited to two or three, but the Board felt that before its suitability for Australian conditions could be determined, it was necessary to conduct tests under actual operating conditions.

78. Accordingly, the Board arranged, in co-operation with the Post Office and the Commission, for national

regional station 4QS Dalby to operate synchronously with national regional station 4QN Townsville, on a frequency of 630 kilocycles per second for a period of three months from 12th October, 1953, till 12th January, 1954. The results of the test were still being analysed at the time this Report was being prepared and it is not practicable at this stage for the Board to express any definite views as to the advantages which might accrue from the introduction of synchronous operation. The Board is, however, inclined to the view that it will have only limited application in Australia because while it is necessary for synchronized stations to transmit the same programme, nearly every Australian station has an independent programme for at least part of every day, and that its introduction would not result in the release of any significant number of frequencies for new stations.

#### MEDIUM FREQUENCY "BOOSTER" TRANSMITTERS.

79. Another possibility the Board has considered as a means of providing an improved service in certain areas without the need for the allocation of a separate frequency is 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.

80. During the year, tests of its practicability were conducted by the Post Office at Bendigo, which is near the limit of the service area of station 3AR Melbourne. The experiment was successful, proving that the operation of a "booster" at a location in Bendigo would raise the level of the 3AR signal in that city sufficiently to provide a first-class service, notwithstanding the high noise level experienced in a city of this size. One important disadvantage of the "booster" system is that a zone where distortion occurs surrounds the area of good service from the "booster" transmitter. An interesting feature of the Bendigo experiments was the fact that distortion occurred only at well defined locations within an annular zone, those locations remaining fixed, in contrast to the normal case of synchronous operation where distortion occurs at recurring intervals everywhere in the annular zone. Distortion was limited in area and, where it did exist, it could in most cases be eliminated by the use of a suitably oriented L type receiving aerial.

#### HIGH FREQUENCY (SHORT WAVE) BROADCASTING.

81. High frequency (short wave) services are, as indicated in paragraph 47, broadcast from nine stations for the purpose of providing programmes to distant listeners not within the service area of medium frequency stations. In its Fifth Annual Report, the Board referred to a request made by the International Frequency Registration Board at Geneva (the I.F.R.B.) that, in view of the difficulties it was experiencing in regard to the allocation of channels for high frequency services, all nations should reconsider their high frequency requirements and reduce them as far as practicable. The Board, however, felt that, as far as internal services are concerned, the Australian requirements could not be reduced without curtailing the domestic short wave services which are being provided

to remote Australian listeners. This question had to be considered again during the past year in connexion with a draft resolution which had been prepared for consideration by the United Nations Economic and Social Council, reading as follows:—

Noting the increasing complexity of the problems arising from the lack of agreement on the utilization of radio frequencies, and that continuation of this situation is likely to affect the flow of information by broadcasting:

1. Affirms the vital need for such international agreement and urges governments, in the common interest, to moderate their request for frequencies, giving adequate attention when formulating such requests to the desirability of increasing the flow of objective news and information through international broadcasting;
2. Requests the Secretary-General, in conjunction with the International Telecommunications Union (I.T.U.) and in consultation with governments, to investigate the possibility of developing new techniques leading to economy in the use of frequencies and to the elimination of wasteful competition and duplication.

The Department of External Affairs sought advice on this matter and was informed that whilst the resolution might reasonably be supported in principle by Australian representatives on the Council, their attention should be drawn to the fact that it had been found impracticable to reduce, at the request of the I.F.R.B., Australian requirements for internal broadcasting services in the high frequency broadcasting bands, which services are an integral and essential part of the broadcasting structure of the Commonwealth. The employment of techniques designed to effect economies in the use of high frequencies, to which subject the second part of the resolution relates, is of course most desirable, and it is a matter which the Board keeps prominently in mind in connexion with the use of high frequencies in this country. The question of power for certain short wave services was discussed at the last meeting of the C.C.I.R.—see paragraph 89.

#### VERY HIGH FREQUENCY BROADCASTING.

82. In its Fifth Annual Report, the Board stated that the shortage of medium frequencies had been a serious limiting factor on its plans for developing the Australian broadcasting services, and the further investigations which the Board has made during the past year have confirmed the views it expressed in paragraphs 84-86 of that Report as to the desirability of utilizing the very high frequencies (V.H.F.) with frequency modulation (F.M.) to supplement the existing services in the medium frequency band. Details are given in paragraphs 53-68 of the Board's plans for the development of the National and Commercial Broadcasting Services, but even after those plans have been implemented, great numbers of listeners will still be outside the primary service area of any national station and there will still be several areas of substantial population, particularly in the Eastern States, without any reliable commercial service. Numbers of listeners are in consequence being denied the great advantage claimed for the Australian broadcasting system, namely the reliable reception of a choice of programmes, and the Board feels that for the purpose of ultimately ensuring a full and comprehensive service for all listeners, provision should be made for the following developments:—

- (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 programme by the 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.

83. The Board is convinced that most of these additional services can best be provided on the very high frequency bands and after consulting the Postmaster-General's Department and the Australian Broadcasting Commission, the Board has recommended to the Minister—

- (a) that the F.M. stations which are operating on an experimental basis in Sydney, Melbourne, Adelaide and Brisbane should be used for the broadcasting of a third national programme of high technical quality and wide audience appeal and that similar stations should be established for the same purpose in Perth and Hobart. The provision of this service could be arranged without great additional cost and as it would enable the Commission to provide a third programme to about 60 per cent. of the population, it would stimulate the manufacture and sale of F.M. receivers, and relatively inexpensive adaptors which when connected to a medium frequency receiver, enable listeners to tune into programmes transmitted by F.M. stations on the very high frequencies;
- (b) that concurrently with this development in the capital cities, a start should be made with the establishment on a planned basis of an F.M. service for rural areas which would overcome the difficulties at present being experienced, because of the shortage of medium frequencies, in improving reception for country listeners of both national and commercial programmes.

84. The Board thinks it is most desirable that for the reasons mentioned in paragraphs 13-16 additional licences should be granted for commercial broadcasting stations in country districts and it has suggested to the Minister that—

- (a) the *Broadcasting Act 1942-1953*, should be amended for the purpose of repealing the existing prohibition on the use of frequency modulation by commercial broadcasting stations; and
- (b) licences for the operation of further commercial broadcasting stations in the medium frequency band should not be granted in the meantime, because, as explained in paragraph 16, they could not be authorized, under existing conditions, without reducing the effectiveness of stations already in operation.

85. 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 it is notable that in these countries numerous F.M. stations are being used to supplement the service of the medium frequency broadcasting stations. In the United States, for example, there are about 560 F.M. stations in operation and 9,000,000 F.M. receivers are in use, and in Western Germany there are 103 F.M. stations. In Great Britain, tenders have been invited for more than 50 F.M. stations, the installation of which will be completed within the next ten years. In the opinion of the Board, there appears to be great scope for F.M. stations in parts of the Commonwealth where television services are not likely to be provided for some years and 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 television receivers capable of receiving F.M. programmes during periods when only sound broadcasting will be available.

MEETINGS OF THE C.C.I.R. (COMITE CONSULTATIF INTERNATIONAL DES RADIO-COMMUNICATIONS).

86. The function of the C.C.I.R. is to study technical problems, and operating problems, the solution of which depends principally on considerations of a technical character, and to issue recommendations relating to these matters. The seventh Plenary Assembly of the C.C.I.R. was held in London from 3rd September to 7th October, 1953, and many matters relating to broadcasting were discussed. The Board was represented at the Assembly by its Director of Technical Services (Mr. D. McDonald). The work of the C.C.I.R. is divided between fourteen study groups of which three relate directly to broadcasting, namely Study Group X (Broadcasting), Study Group XI (Television), and Study Group XII (Tropical Broadcasting).

87. Arising from the work of Study Group X, a recommendation was made concerning the technical standards to be used for single track magnetic tape recording for speeds of 7½, 15 and 30 inches per second, and for lateral cut disc recordings for 33½ and 78 r.p.m. It was recommended that the standards should be used for the international exchange of sound programmes between broadcasting organizations. Much of the work of Study Group X related to techniques which might be used for the more effective use of the high frequency broadcasting bands. Two important questions formulated for further study related to the standards for frequency modulation broadcasting on the very high frequencies and to the methods to be standardized for sound recording on films for the international exchange of television programmes. A resolution was adopted urging the extended use of the 26 megacycle per second broadcasting band as it was considered that this band is too little used for broadcasting purposes.

88. The increasing interest in television was evidenced by the range of subjects discussed by Study Group XI. Further consideration was given, in the light of practical information obtained with existing television services, to the protection ratios required for satisfactory reception of a wanted television signal in the presence of an unwanted signal on the same or on the adjacent channels. There was discussion also concerning transmission of television signals over long distances, this aspect being of great importance in the linking of television stations with a common programme.

89. The work of Study Group XII dealing with Tropical Broadcasting is relevant to Australian internal high frequency services. A recommendation was adopted concerning the design of transmitting aerials for such services with the object of obtaining adequate signals in the area to be served with a minimum of interference at long distances. Further consideration was given to a resolution passed at the 1951 meeting of the C.C.I.R. proposing that the upper limit of power for short distance high frequency broadcasting in the tropical zone should be—

- (a) for frequencies up to and including 5060 kC/s., 10,000 watts by day and 5,000 watts by night; and
- (b) for frequencies above 5060 kC/s., 5,000 watts by day and 1,000 watts by night.

This proposal was opposed by the Australian delegation mainly on the ground that it discriminated against short distance internal services, because, whilst an upper power limit was proposed for short distance transmissions, no such limit was suggested for other services sharing the same frequency bands. A reservation was accordingly entered on behalf of the Commonwealth.

## TELEVISION STANDARDS.

90. Particulars of the television standards which had been determined by the Board in 1950, as a preliminary to the calling of tenders for the national television stations, which it had previously been intended to establish, were contained in Appendix "D" of the Board's Second Annual Report. In the time which has elapsed since the standards were first determined, the Board has kept them under constant review in the light of overseas developments and practical tests which became possible following the Board's acquisition of television testing equipment. As a result of developments since 1950 the Board has determined that the following modifications should be made to the standards previously adopted:—

- (a) the channel width has been changed from 7.5 to 7 megacycles per second;
- (b) the frequency deviation of the sound transmission has been changed from  $\pm 25$  kilocycles per second to  $\pm 50$  kilocycles per second;
- (c) the sound channel pre-emphasis has been changed from 75 to 50 micro-seconds; and
- (d) the tolerance of the field and line frequencies has been changed from  $\pm 0.002$  per cent. to 0.1 per cent. and some minor changes have been made to the video wave-form.

The standards which will now be applicable to Australian television services are given in Appendix D of this Report. The result of the changes is to bring the standards into conformity with the 625 line standards recommended for use by Study Group XI of the C.C.I.R.

## COLOUR TELEVISION.

91. Reference was made in our Fifth Annual Report to the announcement made on 7th August, 1953, by the Federal Communications Commission of the United States (the F.C.C.) of its proposal to make rules covering the adoption of standards for the colour system developed by the National Television System Committee of the Radio Electronic and Television Manufacturers Association (the N.T.S.C.). The F.C.C. on 17th December, 1953, formally adopted this system and promulgated appropriate standards, which have been examined by the Board with great interest. The Board is, however, still convinced that whilst the Australian standards should be framed, as they are, in such a way as to facilitate the ultimate introduction of colour television if it should be desired, a commencement should be made in Australia with a monochrome service. It is probable that the N.T.S.C. standards for colour television on 525 lines could, with appropriate modifications, be applied to a 625-line monochrome system such as is proposed initially for Australia, so as to enable colour transmissions, if introduced here at a later date, to be received in monochrome on then existing receivers. It is, however, fairly evident that colour receivers for a 625-line system would be much more costly than monochrome receivers, as is the case in the United States. In the United States, typical colour receivers are being sold for about 1,000 dollars whereas monochrome receivers are sold for a fifth of that amount. It is predicted that when mass production of colour receivers is in full swing, the price may fall to 500 dollars, but it is obvious that the development of television in Australia as a popular public service would be hampered if it were introduced on the basis of a colour system which would necessitate the purchase of such expensive receivers.

## AVAILABILITY OF TELEVISION FREQUENCY CHANNELS.

92. The Third Annual Report of the Board contained particulars of the steps which were being taken for the purpose of securing sufficient frequency channels for the ultimate development of television. This matter

has since been kept under constant review by the Board in collaboration with other Government bodies operating services in the very high frequency (V.H.F.) band with the result that in that band the following provision has been made for television services:—

- 44-51.5 megacycles/second—Available from 1st January, 1956, for use only within 50 miles of State capital cities.
- 62.5-70 megacycles/second—Available from 1st January, 1956.
- 174-181.5 megacycles/second—Available now.
- 181.5-204 megacycles/second—Available now.
- 208.5-216 megacycles/second—Available now.

Having regard to the technical standards which have been determined, these bands of frequencies could provide for seven separate television channels. The possibility of securing additional channels for television stations in the V.H.F. band is still being explored. Provision has also been made for 50 channels in the ultra-high frequency band between 500 and 855 megacycles per second. The Board has done some preliminary work on the preparation of a plan for the allocation of frequencies for television services, but it will be impracticable to reach any definite conclusions on this matter until the Government has, after considering the Report of the Royal Commission on Television, finally determined the basis on which television is to be introduced.

## EXPERIMENTAL INVESTIGATIONS.

93. The technical staff of the Board has continued to undertake experimental work on specific problems, and, during the past year, with the co-operation of the Post Office, has made systematic observations of variations in daylight field strengths. These observations have not indicated any significant seasonal variations in this country, which is of considerable interest in view of the fact that similar investigations in Europe and the United States of America have disclosed substantial seasonal variations. In these countries, the variations in daylight field strengths have been demonstrated to be associated with the freezing of sap in trees in cases where propagation is over wooded paths, a condition which does not exist to any appreciable extent in Australia. Arrangements have also been made for field strengths of broadcasting stations to be recorded for a number of years in order that data may be available as to the variation in night-time field strengths over the major part of the sunspot cycle. Some useful practical work has been done with the television equipment which was purchased by the Board in 1953. Observations have been made in regard to the tolerable flicker in television pictures under various degrees of brightness of illumination, and to the dot pattern produced in a monochrome picture by a subcarrier similar to that employed in the colour system developed by the National Television System Committee of the United States of America. Tests which were made for the purpose of determining the possibility of interference with a television system from a civil aviation radar beacon provided useful information on the general subject of interference which could be caused to television reception by radar services.

## PAPERS AND ARTICLES PRESENTED.

94. During the year two technical articles were prepared by officers of the Board for the Australian Institute of Radio Engineers, namely—

- (a) Technical Requirements of the Australian Television System—A. J. McKenzie.
- (b) Dual Frequency Operation of a Loaded Vertical Medium Frequency Radiator—A. J. McKenzie and W. H. Hatfield of the

Board's Staff, in conjunction with V. F. Kenna of the Post Office Engineering Branch.

The first paper covered various proposals for the allocation of frequencies for television stations and explained the reasons for the adoption of the 625-line television standards, and the second related to a loaded radiator at Brisbane operating simultaneously at the optimum mode of excitation at two medium broadcast frequencies. This represents an economical use of a loaded radiator which was developed and put into operation while Messrs. McKenzie and Hatfield were officers of the Post Office Engineering Branch. It is the policy of the Board to encourage its officers to participate in the activities of the Institute and other similar bodies because it believes that it is in the public interest that the widest possible publicity should be given to the important work which its officers are doing by direction of the Board in pursuance of its statutory functions.

#### CONSULTATIVE COMMITTEE ON RADIO RESEARCH.

95. During the year, meetings of this committee, which consists of Commonwealth Departments and instrumentalities engaged in activities involving the use of radio, were held at regular intervals. Of particular interest to the Board is the proposal of the Committee to develop plans for tests of the magnitude of atmospheric noise in Australia. Statistical data of this nature is necessary if standards of acceptable field strengths are to be based on sound premises. These standards are at the present time, in some respects, of an arbitrary nature and the situation can be improved only when the results of extensive experiments become available.

#### MARKINGS ON RECEIVER DIALS.

96. It is the general practice of manufacturers of broadcast receivers in this country to mark the call sign of stations on the dial at the position at which the various stations may be "tuned in" by listeners. Some new stations are established nearly every year and in addition to inserting their call signs on the dials of new receivers, manufacturers have from time to time, to re-arrange details on the dial because of changes in the frequency channels of some existing stations which the Board finds it necessary to make in its efforts to put the limited number of available channels to the best possible use. Consequently, the dial markings on receivers become out of date and are not a reliable guide for listeners. Moreover, as the number of medium frequency stations is constantly increasing—it now numbers 152—it is becoming increasingly difficult to mark accurately all the call signs on the average dial. Without the call signs on the dial, listeners would almost invariably know where to tune in the stations to which they most frequently listen, and a more reliable guide to all stations could probably be provided by the manufacturers if they were to mark channel numbers on the dial and provide an up-to-date list of stations occupying the various channels. American manufacturers follow this, or a similar procedure, in preference to marking the call signs of stations on the dial.

#### PART IV.—PROGRAMME SERVICES.

97. As the Board has pointed out in previous reports, the primary responsibility for the production and presentation of programmes rests, in the case of the National Broadcasting Service, with the Australian Broadcasting Commission and, in the case of the Commercial Broadcasting Service, with the licensees of

commercial broadcasting stations. The functions of the Commission are prescribed in the Act in very broad terms—it is required to "take in the interests of the community all such measures as, in the opinion of the Commission, are conducive to the full development of suitable broadcasting programmes" for transmission from the national stations. In the discharge of this responsibility, the Commission provides a programme service from each of the national stations for an average of 16½ hours daily, and in its annual report for each year gives to the Parliament a full account of its activities. In its report for the year ended 30th June, 1953, the Commission gave the following summary in respect of programmes broadcast during that year by national stations in the capital cities of the States:—

	Sydney, Melbourne, Adelaide and Brisbane.	Hobart and Perth.
	Per cent.	Per cent.
Classical music .. ..	22.33	21.76
Light music .. ..	17.10	18.52
Variety .. ..	15.99	13.83
Drama and features .. ..	4.32	4.57
Children's session .. ..	1.99	1.97
Youth education .. ..	3.35	3.05
Talks .. ..	7.31	7.34
Parliament .. ..	3.67	3.65
Religion .. ..	3.57	2.76
News .. ..	7.62	7.18
Sport .. ..	5.89	6.55
Rural services .. ..	1.61	1.88
Other items .. ..	5.25	6.94

98. The Board's general function in relation to programmes is described in section 6K (1.) of the Act as an obligation to ensure that adequate and comprehensive programmes are provided by broadcasting stations "to serve the best interests of the general public", but it is more directly concerned with the programmes of the Commercial Service than those of the National Service because the licensee of each commercial station is obliged "to supervise the broadcasting of programmes from the station in such manner as to ensure as far as practicable that the programmes broadcast are to the satisfaction of the Board". This is indeed an onerous task when it is remembered that most of the commercial stations broadcast programmes daily from early in the morning until late at night. The problem of providing programmes to satisfy the varying tastes of listeners for such long periods is, of course, one which calls for expert knowledge and wide experience in this field and the actual production of programmes is, generally speaking, a duty delegated by licensees to persons with those qualifications. It is, however, necessary to emphasize that each licensee has a special responsibility to ensure that the persons to whom this important duty is entrusted are specifically required to exercise, and do in fact exercise, the constant supervision of the programmes to be transmitted by stations which is required by the Act, an obligation which has particular significance in relation to programmes produced by a sponsor or other person who has no responsibilities under a licence.

99. As we explained in paragraph 18, the Board reviews the programme service of each commercial station annually as a preliminary to the preparation of a report to the Minister concerning the renewal of the licence for each such station and the reviews undertaken during the past year justify the opinion that, generally speaking, licensees are making commendable efforts "to serve the best interests of the general public". Particular deficiencies observed in the programmes of individual stations were brought to the notice of licensees but, in this Part of the Report, the Board will furnish much detailed information concerning the programmes of the Commercial Service as a

whole and some observations on various aspects of those programmes. In its Fifth Annual Report, the Board stated that because of the great public interest in broadcasting, it wished to publish in future reports some additional details of the extensive service which is being provided by the commercial stations and, with this object in mind, it has, after consulting the Australian Federation of Commercial Broadcasting Stations, requested each licensee to supply full particulars of programmes broadcast during a typical week, from which a reliable estimate might be made of the proportion of time devoted by commercial stations to various types of programmes.

100. These particulars have already been received from the licensees of the commercial broadcasting stations in Melbourne and Sydney but it had been practicable, at the time this Report was being prepared, to analyse the information received from the Melbourne stations only. The result of this analysis is set out below:—

Type of Programme.	Percentage of Programme Time.
Music—Serious .. .. .	3.56
Light .. .. .	11.64
Popular .. .. .	43.07
Hillbilly .. .. .	1.28
Total Music .. .. .	59.55
Drama—Plays .. .. .	1.41
Domestic serials .. .. .	3.13
Adventure serials .. .. .	3.16
Total Drama .. .. .	7.70
Variety—Variety and “talent” programmes .. .. .	2.55
“Quiz” programmes .. .. .	1.32
Total Variety .. .. .	3.87
News and weather .. .. .	5.32
Sport .. .. .	4.04
Religious matter .. .. .	2.98
Women’s sessions .. .. .	1.96
Children’s programmes .. .. .	1.90
Talks .. .. .	1.56
Community service .. .. .	0.70
Advertising—Direct (spot) announcements .. .. .	6.95
In sponsored programmes .. .. .	3.47
Total Advertising .. .. .	10.42
	100.00

Method of Presentation.	Percentage of Programme Time.
Live programmes .. .. .	18.96
Gramophone records .. .. .	59.86
Transcriptions .. .. .	10.18
Received on relay .. .. .	0.58
Advertisements (as in preceding table) .. .. .	10.42
	100.00

101. For the purpose of the foregoing analysis, it was found necessary to adopt a series of fairly broad classifications; for example, under the heading of drama, serials covering a very wide range of subjects in very different ways have been divided into two main types—“domestic” and “adventure”. Music has been broadly classified under four main headings—

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 (*see* paragraph 124).

Variety embraces 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. “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”. The problem of adequately classifying women’s sessions has not been easy of solution, owing to the wide interpretation given to the term by different licensees. In some cases a station regards as its women’s session only that part of the programmes addressed directly to women, usually by women; in other cases the entire programme between 9.00 a.m. and 4.00 p.m. is regarded as a women’s session, irrespective of its contents. The former view has been adopted by the Board for statistical purposes. Some technical difficulties have had to be overcome in classifying the methods of presentation. Programmes shown as “Live” include appearances before a microphone at the time of broadcast and the initial playing of a transcription that has been made under the control of the station originating that programme. Included under the heading “Transcriptions” are all playings of a transcription except that mentioned above, and all playings of programmes which are produced and recorded by organizations other than licensed broadcasting stations.

102. The charitable and community service activities of the commercial broadcasting stations, of which separate mention is made in paragraphs 120-122, are considerably greater in quantity than would appear from the figures given above. These figures represent only those services occurring in a normal week’s programming, whereas the major charitable efforts of these stations take the form of all-day appeals on New Year’s Day, Good Friday, Mother’s Day, and other special occasions. The use of landlines for the transmission of commercial programmes has been declining over several years, and the small proportion of items received on relay is noticeable in the table shown in paragraph 100. The widespread use of transcriptions has largely replaced interstate landline relays of programmes, but the Board has been informed that subsequent to the period covered by this Report one network of commercial stations proposed to make use of permanent landlines on an extensive scale, both within and between several of the eastern States.

103. The table in paragraph 100 is of interest insofar as it gives some idea of the general nature of programmes provided by the commercial stations in Melbourne for the very large audience which they serve, but it has been computed from insufficient information to provide any basis of comparison between the proportion of time devoted by commercial stations to particular types of programmes and the proportion devoted to similar programmes by national stations (*see* paragraph 97). The Board hopes to be in a position to provide much more information of this character in subsequent reports and in the meantime it merely expresses the tentative view that the statistical analysis which has so far been made seems to support the view that the National and Commercial Services are on the whole complementary to one another and that their programmes cover a very wide field.

### VARIETY IN PROGRAMMES.

104. Apart from its general responsibilities in respect of programmes, the Board has under section 6k (1.) of the Act, certain specific functions, one of which requires the Board to "ensure reasonable variety in programmes". The programmes of both the national and commercial stations are, as we have pointed out, very comprehensive in character, and the Board's observations during the past year indicate that in centres where there are two or more stations a choice of programmes is generally available to listeners. Occasional complaints are still made concerning the extent to which descriptions of the same sporting events are broadcast by a number of stations, but the Board feels that there is some validity in the argument that in the case of "actuality" broadcasts which command a large audience, a choice of commentators should be provided for listeners. One welcome trend noted during the year was the provision of news services at different times from those universally observed by stations during the war and in the following years. There is other evidence that the broadcasters are alive to the desirability of providing alternative programmes for listeners and in this connexion one matter which the Board thinks merits their consideration is the tendency of many stations to broadcast sessions of a similar nature simultaneously during popular listening hours.

### RELIGIOUS BROADCASTS.

105. The Board is also obliged to ensure that divine worship or other matter of a religious nature is broadcast for adequate periods and at appropriate times. The satisfactory quality and extent of religious broadcasts arranged by the Australian Broadcasting Commission is, the Board believes, generally recognized. The position in respect of religious broadcasts from commercial stations is also, on the whole, satisfactory. At the end of the year under review, licensees were undertaking broadcasts of a religious nature, free of charge, for a total period of 292 hours per week, an average of about 2½ hours for each of the 106 stations which were then in operation.

### ADVERTISING.

106. Provision for the regulation of advertising by commercial broadcasting stations is contained in the *Broadcasting Act 1942-1953*. Section 6k (2.) requires the Board "to determine the extent to which advertisements may be broadcast in the programmes of any commercial broadcasting station", and section 6l 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.

107. In its Fifth Annual Report, the Board explained that, because of evidence of excessive advertising, it had, after consultation with the Australian Federation of Commercial Broadcasting Stations, the Australian Association of Advertising Agencies and the Australian Association of National Advertisers, made a determination, pursuant to the provisions of section 6k (2.) of the Act, as to the extent to which advertisements might be broadcast by commercial stations on any day, except Sundays, in respect of which special conditions

apply. These advertising standards, which became effective on 13th October, 1952, have produced the very satisfactory result that, except for some sponsored sessions to which reference will be made, a reasonable balance is now being maintained between, on the one hand, the entertainment and the various services provided by commercial stations and, on the other, the amount of advertising which they broadcast. From time to time instances of failure to observe the standards are observed by the Board, but on each occasion during the past year when the Board had to direct the attention of a licensee to advertising excesses, prompt action was taken to reduce the volume of advertising in the sessions in question. The Board has, however, refrained from taking any action in regard to excessive advertising in a limited number of sponsored sessions, including several well-known "give away" sessions, because of representations from the broadcasters and advertisers that the Board's advertising standards in relation to sponsored sessions were unduly restrictive in comparison with those applying to direct advertising announcements. On this point, the Board feels that the advertising content of a given period should be less at times when the audience is likely to be listening with reasonable concentration and continuity, than at times when listening is intermittent and forms a background to some other activity. Whilst on this general principle the Board considered that the existing advertising standards for sponsored sessions were not unreasonable, it felt there was some merit in the case made by the broadcasters and the advertisers for a review of those standards insofar as they restricted the amount of permissible advertising in any period of 60 minutes to 10 per cent. (six minutes) as against 30 per cent. (eighteen minutes) in the same period for direct advertising announcements.

108. The Australian Federation of Commercial Broadcasting Stations, the Australian Association of Advertising Agencies and the Australian Association of National Advertisers made three requests to the Board, namely—

(a) that the permissible advertising in sponsored sessions of 30 minutes or over should be increased as shown hereunder:—

Duration of of Sponsored Programme.	1952 Standards.		Standards proposed by Broadcasters and Advertisers.
	Wordage.	Duration.	Wordage.
5 minutes ..	150 words	1 minute	150
7½ minutes ..	200 words	1½ minutes	200
10 minutes ..	250 words	2 minutes	250
15 minutes ..	300 words	2½ minutes	300
30 minutes ..	450 words	3 minutes	600
45 minutes ..	600 words	4½ minutes	900
60 minutes ..	750 words	6 minutes	1,200

(b) that a further 150 words and 300 words respectively be allowed in "give away" and "contest" programmes of 30 minutes and 60 minutes duration, for the purpose of descriptions of the "goods or services" to be given away; and

(c) that the same rules should be applied to sponsored programmes on Sundays as on week days.

The three organizations did not suggest any increase in the amount of permissible advertising in sessions up to 15 minutes but put the view that if the advertiser were prepared to sponsor a session for 30 minutes or more, he should be permitted to include advertising at the rate of 300 words for each quarter of an hour instead of being restricted to a total of 750 words for a full hour as at present. The Board agreed to this

request in principle, although it decided in the formal determination which it subsequently made, that the permissible amount of advertising should be expressed only in terms of time. The Board realized that it might be more convenient from the point of view of the organizations if the standards were to be expressed in terms of wordage but after careful examination of the matter it came to the conclusion that, from the point of view of the administration of the *Broadcasting Act 1942-1953*, the only practicable way in which permissible advertising can be expressed is in terms of time. The Board, however, does not believe that this will create any real difficulties for the organizations concerned because, if they agree amongst themselves to prepare their advertising copy on the basis of 150 words for each minute, there would not be much likelihood of any significant departure from the permissible time devoted to advertising. The effect of the alterations which were subsequently incorporated in revised standards which are set out in paragraph 110 was that in a 30-minute sponsored session, the permissible advertising was increased from three minutes to four minutes, and in a 60-minute session from six minutes to eight minutes, in each case an increase of  $33\frac{1}{3}$  per cent. The Board feels that as a result of these substantial increases, there will be a better balance between the standards governing direct advertising announcements and advertising in sponsored sessions.

109. Before reaching a decision on the second proposal that additional wordage should be permitted for "give away" and "contest" programmes, the Board arranged for extensive observations to be made of sponsored sessions and was gratified to observe that in a very large proportion of such sessions the advertising content conformed to the then existing standards. It, therefore, appeared to the Board that the three organizations were asking for exceptional treatment for a comparatively small number of "give away" programmes which from its observations were the only class of programme which normally contained advertising considerably in excess of the amount which would be authorized under the revised standards. The Board's observations had also indicated that little or no attempt had been made to reduce the number of advertising announcements in these few programmes so as to comply with the advertising standards which had been issued in October, 1952, and it was forced to believe that the principal reason for the request for a special rule for "give away" programmes was a desire, on the part of the sponsors of these programmes, to have their excessive advertising sanctioned by a special rule in the standards. The Board realized that there may be some merit in the contention that in this class of programme a brief mention of the articles and prizes to be "given away" could reasonably be regarded as part of the entertainment but it felt obliged to reach its decision on this request with due regard to general principles which appeared to the Board to rule out the possibility of giving exceptional treatment to any class of programme or advertising. Accordingly, it declined to agree to the organizations' second proposal for the following reasons:—

- (a) It is undesirable to admit the principle of setting up a special standard for one class of programme (i.e., sponsored sessions) and at the same time making an exception from that standard for a particular kind of programme falling within that class.
- (b) Such an exception would establish a precedent which could cause great difficulties to the three organizations and the Board.
- (c) There should be no such discrimination between advertisers as would arise if the "give away" and "contest" programmes received special treatment.

- (d) An express exception in the case of "give away" and "contest" programmes could only be interpreted as a direct invitation to advertisers to extend the number of these programmes and it would be unfortunate if the Advertising Time Standards were to be interpreted as giving specially favorable treatment to "give aways".
- (e) By extending the permissible advertising in sponsored sessions to four minutes in half an hour and eight minutes in each full hour, the Board was liberalizing the standards to such an extent that they would permit more advertising in such sessions in Australia than is permitted elsewhere.
- (f) No special provision is made for additional advertising in "give away" programmes overseas.
- (g) If exceptions from the advertising time standards are made, it would establish a precedent which might create a difficult situation in respect of similar problems relating to television.

110. The revised standards which were to come into operation on 1st September, 1954, are set out hereunder:—

1. In these standards the expression "advertising matter" includes all words relating to goods or services, whether in the form of a direct announcement, a slogan, a description, or any other identifiable reference, together with all music and sound effects associated with such words.

2. In sponsored sessions not exceeding 15 minutes in duration, the time devoted to advertising matter should not exceed the following periods:—

Duration of Sponsored Programme.	Maximum Duration of Advertising Matter.
5 minutes .. .. .	1 minute
7½ minutes .. .. .	1 minute 30 seconds
10 minutes .. .. .	2 minutes
15 minutes .. .. .	2 minutes 30 seconds

3. In sponsored programmes of 30 minutes duration or longer, the total time devoted to advertising matter should not exceed a period calculated at the rate of two minutes for each fifteen minutes or part thereof.

4. Direct advertising announcements should be distributed at reasonable intervals throughout any programme period set aside for the broadcasting of such announcements, having regard to the entertainment or service provided in the remainder of the period.

5. The following standards should be observed in respect of direct advertising announcements and time purchased for announcements only—

Type of Announcement.	Maximum Time or Words Permitted for Complete Presentation of Announcement.
25 word announcement .. .. .	15 seconds
50 word announcement .. .. .	25 seconds
100 word announcement .. .. .	45 seconds
1 minute .. .. .	140 words

6. Direct advertising announcements may be broadcast in groups if—

- (a) each announcement complies with these standards;
- (b) not more than three announcements, or three announcements plus an advertising slogan of not more than twelve words, are included in any group; and
- (c) no group exceeds one and one-half minutes in duration.

7. Not more than 30 per centum of any programme period during which direct advertising announcements are broadcast may be devoted to advertising matter; and not more than eighteen minutes may be so occupied in any period of sixty minutes.

8. The preceding paragraphs do not apply to advertising matter which is broadcast in the form of a service programme such as a "shopping guide", or programmes consisting of

market reports or service matter, provided that the total time devoted to such programmes does not exceed nine hours in any one period of seven days.

9. This determination shall take effect on and from the first day of September, 1954.

It will be noted that in addition to providing for additional advertising in sponsored sessions exceeding thirty minutes, the new standards now permit a short advertising slogan not exceeding twelve words to be included in groups of direct advertising announcements in addition to the specified number of announcements.

#### SUNDAY ADVERTISING.

111. Advertising on Sundays is regulated by special conditions determined by the Board in pursuance of section 61 (3.) of the Act which prescribes that "a licensee shall not broadcast advertisements on Sunday except in such manner and in accordance with such conditions as the Board determines". The conditions determined by the Board for Sunday advertising were fully explained in paragraphs 125-127 of its Fourth Report. In paragraph 108 it was mentioned that the Australian Federation of Commercial Broadcasting Stations, the Australian Association of Advertising Agencies and the Australian Association of National Advertisers had requested that the conditions governing broadcasting of advertisements in sponsored sessions on Monday to Saturday should apply also to sponsored sessions on Sunday but the Board felt obliged to refuse to agree to this proposal for the following reasons:—

- (a) Section 61 of the Broadcasting Act provides that "a licensee shall not broadcast advertisements on a Sunday, except in such manner and in accordance with such conditions as the Board determines".
- (b) It is, therefore, clear that Parliament intended that different provisions should apply to Sundays, and particularly, that there should be less advertising, of a different type, on Sundays than on week days.
- (c) The background of section 61 is the unanimous recommendation of the Joint Parliamentary Committee on Broadcasting that "on Sundays advertising shall be for sponsored programmes only and that the advertisements sponsoring these programmes shall be limited to the names of the sponsors without any details of their products".
- (d) The existing conditions relating to Sunday advertising (especially after the variations made by the Board at the request of the organizations concerned in 1952) are certainly much more liberal than those which were in the mind of the Parliamentary Committee.

#### MEDICAL ADVERTISEMENTS AND TALKS.

112. After reviewing a number of advertisements for the broadcasting of which he had given approval, the Director-General of Health informed the Board that, because of modern developments in medicine, he considered that a limit should be placed on the period for which his approval of advertisements or talks on medical matters should remain effective and at his request the Board notified the licensee of each commercial broadcasting station that the limit would be two years. No appeals were made during the year under section 61 (7.) or section 94 of the act, which provide for a right of appeal to the Minister from any decision of the Director-General of Health concerning the text of an advertisement relating to any medicine, and the text of a talk on a medical subject respectively.

#### HOURS OF SERVICE.

113. The hours of service of 39 commercial broadcasting stations were permanently increased during the year. At 30th June, 1954, 106 stations were operating for a total of 12,140 hours a week, which was 579 hours a week more than at the close of the previous year. Two requests for reduction in hours of service were received during the year. Although the Board is generally reluctant to agree to reductions, it is prepared to approve of them in certain circumstances which would not be disadvantageous to listeners. The requests, which were from country stations, were examined carefully by the Board, which rejected them on the ground that listeners would be deprived of the only commercial programme which could be heard satisfactorily in the districts concerned during the hours the licensees desired to close the stations. Temporary variations in the hours of commercial stations were authorized during the year on 703 occasions. The 55 stations of the National Service were operating for a total of 6,505 hours a week at 30th June, 1954. Temporary variations in the transmission time of these stations were made on 871 occasions. Transmission hours of each commercial and national station are shown in Appendix "A" and Appendix "B" respectively.

#### HOURS OF SERVICE—STATION 3AK MELBOURNE.

114. Station 3AK Melbourne was licensed in 1931 under special conditions in accordance with which its hours of service were restricted to the following:—

##### Week-days—

12 midnight—7 a.m.; 11.30 p.m.—12 midnight.

##### Saturdays—

12 midnight—7 a.m.; 1 p.m.—2 p.m.; 11.30 p.m.—12 midnight.

##### Sundays—

12 midnight—4 a.m.; 12.30 p.m.—2.30 p.m.; 10 p.m.—12 midnight.

The licensee of station 3AK subsequently made representations to successive Ministers on many occasions with the object of securing some variation in the permitted hours of operation, and made several similar requests to the Board since it was established in 1949. The position of 3AK was reviewed during the past year because the Board was anxious to find a solution of a problem which had confronted the administration ever since the licence for the station was granted under such unusual conditions and had been aggravated in more recent times by the limitations which had to be imposed on the hours of operation of station 2BS Bathurst, which operates on the same frequency channel as 3AK, namely 1,500 kc/s. As the geographical separation between them is insufficient to permit of their simultaneous operation during hours of darkness without causing severe interference to each other, the hours of operation of 2BS had normally to be restricted to times when 3AK was not transmitting, and this prevented station 2BS from extending its service as it desired for the important rural community within its primary coverage.

115. The Board had several discussions with the general manager of station 3AK, during which he expressed the opinion that circumstances had changed considerably since the station was first licensed, and that the cost of providing a service had increased immeasurably and the station's capacity to attract advertisers had been diminished since the normal broadcasting stations in Melbourne had been permitted to operate during hours which were exclusive to 3AK when it was first established. For these reasons, he proposed that the Board might agree to permit 3AK to operate from 11 p.m. to 11 a.m., daily. The Board did not favour this proposal because it felt that the

suggested change would, on the one hand, not materially assist 3AK, and, on the other, would not eliminate the trouble resulting from its operation on the same channel as station 2BS.

116. It appeared to the Board that the most logical solution of the problem would be found in an arrangement which would enable station 3AK to operate during daylight hours, when a greater audience would be available than during its "all night" service and when it would not cause any interference to, or suffer any interference from, station 2BS Bathurst. The licensee having informed the Board that it would welcome this arrangement, the Board recommended the Minister's approval for the proposal as it constituted a major change in the conditions of the licence for the station. The Minister gave his approval and station 3AK commenced on 1st February, 1954, to operate during daylight hours, which vary as under, according to the season:—

From 16th August-15th October ..	7 a.m. to 6 p.m.
From 16th October-15th February ..	6 a.m. to 7 p.m.
From 16th February-15th April ..	6 a.m. to 6 p.m.
From 16th April-15th August ..	7 a.m. to 5 p.m.

#### CONTINUOUS OPERATION OF STATIONS.

117. Following the discontinuance of the "all night" service which had been provided by station 3AK, the licensees of stations 3DB Melbourne, 3UZ Melbourne, and 3XY Melbourne sought permission to operate continuously and, having received approval, extended their hours accordingly as from 1st February, 1954. 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.

#### BROADCASTS IN FOREIGN LANGUAGES.

118. Further consideration was given during the year to the use of foreign languages in broadcasts, to which matter reference was made in previous reports of the Board. The basic principle in regard to the spoken word transmitted by Australian broadcasting stations is that as it should be intelligible to the great majority of listeners, it should normally be expressed in the English language. The influx of migrants from various European countries in recent years has led to requests by commercial stations for permission to broadcast talks and advertisements in foreign languages and the Board has had to consider whether, in certain circumstances, the use of a language other than English should be authorized, and, if so, on what conditions. It is realized that, on the one hand, broadcasts in foreign languages may encourage migrants to segregate themselves into non-English speaking groups and thereby retard the process of their absorption into the Australian community. On the other hand, however, our new citizens, require time to learn the English language and it may be that there is no better method of introducing them to the Australian way of life than through the language they best understand. After a careful examination of the matter and consultations with the Australian Broadcasting Commission, the Australian Federation of Commercial Broadcasting Stations, the Department of Immigration and the Commonwealth Office of Education, the Board decided that the judicious use of foreign languages could be both helpful and desirable. Certain general rules covering the use of foreign languages in programmes from commercial broadcasting stations were determined, the principal being that in any programme in which the use of a foreign language is permitted, the matter spoken in that language should be preceded or followed by an adequate translation into English. One session is being regularly broadcast in Dutch and a few in Italian. The Board's observations indicate that, on the whole, these programmes are being well produced and should serve a very useful purpose.

#### NEWS BROADCASTS.

119. Further improvements in news broadcasts from commercial broadcasting stations have been noted during the year and the position in this respect could be considered as reasonably satisfactory but for the fact that 25 country stations are still unable to arrange for adequate local news services. In some of these cases, however, items of district interest are broadcast in appropriate sessions during the day. Considerable value is attached to mining news in the Hunter Valley district of New South Wales, and there has been keen competition among several stations to secure the co-operation of the appropriate mine personnel in providing current items for the information of miners.

#### COMMUNITY SERVICES.

120. In its Second Annual Report, the Board drew attention to the following statement, issued by the Federal Radio Commission of the United States of America in 1928, of the duty of broadcasting stations to serve the communities in the centre of which they were established—

In a sense a broadcasting station may be regarded as a sort of mouthpiece on the air for the community it serves, over which its public events of general interest, its political campaigns, its election results, its athletic contests, its orchestras and artists, and discussion of its public issues may be broadcast. If . . . the station performs its duty in furnishing a well-rounded programme, the rights of the community have been achieved.

The Board expressed the view that, suitably enlarged to cover other aspects of Australian life, this statement might well be adopted as the charter of Australian broadcasting stations, and it has since taken every opportunity to encourage the licensees of commercial broadcasting stations, especially those located in country districts, to expand their community services.

121. The Board is gratified to report that, with very few exceptions, licensees show great enthusiasm in their approach to this important aspect of their work. In their efforts to promote the well-being of the communities which they serve, commercial stations cover a wide field and provide time free of charge for many worthy objects. Reference has already been made to the fact that an average of 2½ hours per week is devoted to religious broadcasts, most of which are undertaken by local ministers of religion, and to the fact that the majority of stations include local items in their news sessions.

122. Another very notable service is that rendered to the police and other public authorities in times of emergency; commercial stations have, for example, rendered invaluable assistance in times of bushfires and floods. Publicity is provided for the activities of many local organizations such as the Red Cross Society, Ambulance Services, Country Women's Association, Returned Soldiers League, Agricultural Societies, Parents and Citizens Associations, and local sporting bodies. The Australian Federation of Commercial Broadcasting Stations has informed the Board that the value of the time made available by 80 of its 106 member stations for this type of service was £133,402 during the year ended 30th June, 1954. Special mention should be made of the assistance which the licensees of commercial broadcasting stations give to charitable causes, appeals for which resulted in more than £800,000 being raised during the past year.

#### BROADCASTING OF OBJECTIONABLE MATTER.

123. There was no serious 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. The Board is happy to report that it received full and prompt support from licensees to its appeal for the elimination of offensive material from programmes and as a result the tendency to vulgarity and suggestiveness mentioned in the Fifth Annual Report was arrested. The few complaints

which were received related mainly to variety programmes and experience over the years has clearly demonstrated that it is this type of programme over which licensees must continue to exercise the closest supervision. A notable exception was a serial which was withdrawn by the station concerned on its own volition after the broadcasting of the second episode. In announcing the withdrawal of the serial the station manager publicly admitted that the programme, which had been produced by an outside organization, had not been heard by any person on the staff of the station before it was broadcast. This incident gives added point to the observations made in paragraph 98 concerning the responsibility of licensees for all material broadcast whether the programmes are produced under the control of the licensee, or by a production company, or are received on relay from another station.

#### ENCOURAGEMENT OF LOCAL TALENT.

124. The Australian Broadcasting Commission and the licensees of commercial broadcasting stations have a statutory obligation to encourage the development of local talent. This obligation is contained in section 88 of the Act which reads—

(1.) The Commission and the licensee of each commercial broadcasting station shall, as far as possible, give encouragement to the development of local talent and endeavour to obviate restriction of the utilization of the services of persons who, in their opinion, are competent to make useful contributions to broadcasting programmes.

(2.) Not less than two and one-half per centum of the total time occupied by the National Broadcasting Service and not less than two and one-half per centum of the total time occupied by any commercial broadcasting station in the broadcasting of music shall be devoted to the broadcasting of works of Australian composers, produced either on sound records made in Australia or by artists actually present in the studio of the broadcasting station concerned.

125. In its Fifth Annual Report the Board stated that the ratio of live performances to recorded matter broadcast by the National Broadcasting Service during 1951-52 was approximately 53:47, and that although comparable figures were not available for the Commercial Broadcasting Service, a survey by the Board over a period of four weeks showed that 4.8 per cent. of the total programme time of commercial stations in the capital cities was occupied by live artist performances. This statement was criticized by the Australian Federation of Commercial Broadcasting Stations on the ground that the 53 per cent. of live performances from the National Broadcasting Service included the broadcasting of Parliamentary debates and consequently presented an unreal picture of normal broadcasting. The Australian Broadcasting Commission also pointed out to the Board that the figures (which were taken from the Commission's Annual Report) were not themselves meant to indicate the amount of programme time devoted to the encouragement of local talent but rather to give the proportions of "live" and recorded components of its programmes. Re-examination of the figures on this basis, and excluding time occupied by broadcasts of Parliamentary proceedings (which amounted to about 4 per cent.), shows that 48.83 per cent. of Australian Broadcasting Commission programmes, and 14.25 per cent. of the commercial programmes mentioned above may be classified as "live". It will be seen that even after adjustment of the figures to make them truly comparable the views expressed by the Board in its Fifth Annual Report, that "the percentage of time devoted in the National Service to live artist performances and Australian-made transcriptions is very much greater than in the Commercial Service" were well founded.

126. The Australian Broadcasting Commission and the licensees of commercial broadcasting stations have continued to observe the requirements of section 88 (2.) of the Act as will be seen in the following table which shows the percentage of time occupied in the broadcast-

ing of music which is devoted to the broadcasting of Australian compositions:—

	Australian Broadcasting Commission.	Commercial Stations.	
		Average Percentage of all Metropolitan Stations.	Number of Stations below 2.5 per cent.
	Per cent.	Per cent.	
1949-50 .. .. .	3.75	4.08	7
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

The Board is concerned at the apparent reduction in the use of Australian compositions during 1953-1954 and the failure of so many commercial stations to comply with the provisions of section 88 (2) of the Act during the year. It was not possible to ascertain the reason before this report was prepared but the Board is now investigating the matter.

127. During the year further representations were made to the Government by several organizations seeking an amendment of the *Broadcasting Act 1942-1953* so as to require broadcasting stations to devote not less than 10 per cent. of the total time occupied in the broadcasting of music to works of Australian composers. It is doubtful whether any such action on the part of the Government at this stage would be effective as the real problem is to secure a more adequate supply of recorded Australian compositions. A healthy move during the current year towards a more adequate supply of Australian music is the proposed establishment of a foundation library by the Australasian Performing Right Association. The library will consist of selected Australian compositions, the scores and orchestral parts of which will be printed by A.P.R.A. and made available for performance not only in this country but also overseas. The first fourteen works to be published have already been chosen. The Board welcomes this practical gesture, as it is essential for a composer's work to be heard frequently if it is to become known; limiting factors in the past have been the difficulty and the cost of preparing scores and orchestral parts in sufficient quantities.

#### CHILDREN'S PROGRAMMES.

128. In its Fifth Annual Report, the Board published the principles governing the general nature of children's programmes, which had been adopted in 1945 following a conference convened by the Postmaster-General and, in connexion with complaints which are received from time to time concerning programmes to which children may listen, the Board expressed the view that it could not accept the impossible task of exercising that type of control over children's listening which was properly an individual parental responsibility. It is nevertheless important that in arranging children's programmes, the broadcasters should comply not only with the letter but also the spirit of the conditions which were determined in 1945 after careful consideration by a very representative gathering of people who were well qualified to advise the Minister on this important subject. The Board has arranged for comprehensive observations of children's broadcasts to be undertaken and it proposes, when additional information is available, to consider whether it would be advisable to convene another conference at which the suitability of current children's programmes, and associated matters, could be discussed by representatives of the broadcasters and other appropriate bodies.

#### OBSERVATION OF PROGRAMMES.

129. The Board's State representatives and officers of the Board's own 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. The observations extended over more than 13,000 hours.

#### POLITICAL BROADCASTS.

130. The Board is required by section 6K of the Act "to ensure that facilities are provided on an equitable basis for the broadcasting of political or controversial matter" but, as previously explained, this requirement relates only to the Commercial Broadcasting Service, because the Australian Broadcasting Commission has complete authority under the Act to arrange as it thinks fit for the broadcasting of political and controversial matter by national stations. For reasons which were fully explained in its second annual report, the Board did not, during the year under review, take any positive action in pursuance of the above quoted provision of the Act, but from observations and information obtained from commercial stations concerning facilities made available for political broadcasts during the federal election campaign in May, 1954, the Board has formed the opinion that it is the policy of the great majority of licensees to make reasonable facilities available for the presentation of opposing views on the major issues of Federal and State politics.

#### BROADCASTS FROM COMMERCIAL STATIONS DURING THE CAMPAIGN PRECEDING THE FEDERAL ELECTION—29TH MAY, 1954.

131. Following its usual practice, the Board obtained details of the broadcasts undertaken in connexion with this election, and particulars relating to the

political matter broadcast within the election period, that is between the issue of writs (on 23rd April, 1954) and the Wednesday preceding polling day (26th May, 1954) are given hereunder. The initial speeches which were delivered by the parliamentary leaders of the Government and Opposition parties were broadcast throughout the Commonwealth by the Australian Broadcasting Commission for a period of one hour in each case. Returns indicate that of the 105 commercial stations in operation at the time, 100 stations broadcast all or part of both speeches, and four stations broadcast all or part of one speech. In addition to the broadcasts of initial speeches by party leaders, the commercial stations allocated a total of 757 hours for the broadcasting of political matter by the parties and candidates. This represents an average of approximately seven hours per station. The allocation of time by metropolitan and country stations was as follows:—

	Hours.
Metropolitan (24 stations) .. .. .	144
Country (80 stations) .. .. .	613
<b>Total .. .. .</b>	<b>757</b>

Political matter of some kind was broadcast by all stations except 3AK Melbourne, which operates during restricted hours.

#### TIME ALLOCATED TO THE VARIOUS PARTIES AND CANDIDATES.

132. The following table shows the allocation of time under this heading among various parties and candidates:—

	Commonwealth.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
<b>METROPOLITAN STATIONS.</b>							
Labor Party .. .. .	51.5	58.5	64.4	45.7	44.4	37.8	51.0
Liberal Country Party .. .. .	48.2	41.5	32.7	52.9	53.9	60.0	41.8
*Other Parties .. .. .	0.1	..	2.9	..	1.7	2.2	..
Independent candidates .. .. .	0.2	..	..	1.4	..	..	7.2
<b>Total .. .. .</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>COUNTRY STATIONS.</b>							
Labor Party .. .. .	39.0	38.7	44.9	37.8	38.8	25.9	58.6
Liberal Country Party .. .. .	54.5	53.0	52.7	55.4	58.6	68.4	41.4
*Other parties .. .. .	1.4	1.5	3.4	0.8	2.6	1.9	..
Independent candidates .. .. .	5.1	6.8	..	6.0	..	3.8	..
<b>Total .. .. .</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>METROPOLITAN AND COUNTRY STATIONS COMBINED.</b>							
Labor Party .. .. .	40.9	40.1	50.1	39.5	40.8	29.3	56.4
Liberal Country Party .. .. .	53.3	52.2	47.3	54.9	57.0	65.9	41.4
*Other parties .. .. .	1.4	1.4	2.6	0.6	2.2	2.0	..
Independent candidates .. .. .	4.4	6.3	..	5.0	..	2.8	2.2
<b>Total .. .. .</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

\* Other Parties included—Communist Party (Victoria, South Australia, Western Australia, New South Wales and Queensland.); Henry George Justice Party (Victoria.)

#### BROADCASTS FROM COMMERCIAL STATIONS BY ORGANIZATIONS WHICH CONDUCTED PROGRAMMES CONTAINING POLITICAL MATTER DURING ELECTION PERIOD.

133. Broadcasts in this category occupied an additional thirteen hours from 29 commercial stations, and represented approximately 1.3 per cent. of the total time (including party leaders' initial speeches) devoted by commercial stations to broadcasts connected with the federal elections. The majority of these broadcasts took place from stations in country towns, the division

of the total time involved between metropolitan and country areas being as follows:—

	Hours.
Metropolitan .. .. .	2
Country .. .. .	11
<b>Total .. .. .</b>	<b>13</b>

Twelve organizations participated in these broadcasts but only three used more than 10 per cent. of the total time allocated to organizations. The following

table sets out the distribution of time between these organizations generally:—

BROADCASTS BY ORGANIZATIONS—ALLOCATION OF TIME (PERCENTAGES).

Organization.	Per cent.
People's Union .. .. .	47.7
Miners Federation .. .. .	11.9
Queensland Trades and Labour Council .. .. .	11.9
Carpenters' and Joiners' Union .. .. .	6.0
Waterside Workers .. .. .	5.4
Queensland Institute of Public Affairs .. .. .	5.3
Australian Coal and Shale Employees Federation .. .. .	4.0
Australian Postal Workers' Union .. .. .	2.0
New England State Movement .. .. .	2.0
Amalgamated Engineering Union .. .. .	1.7
Boiler Makers Union .. .. .	1.4
Australian Railways Union .. .. .	.7
Total .. .. .	100

134. The total time allocated to broadcasts of political matter by commercial stations during the federal election period amounted to 989 hours made up as follows:—

	Hours
Party Leaders' initial speeches .. .. .	219
Broadcasts by Parliamentary parties and members of such parties .. .. .	757
Broadcasts by organizations .. .. .	13
	989

This total of 989 hours represents an average of 9.4 hours per station or 1.69 per cent. of the total hours of transmission by the commercial stations during the election period of 34 days. The following table shows the use made of commercial broadcasting stations for political purposes in the election periods preceding the last four federal elections:—

Election.	Total Time occupied by Political Matter during Election Period.	Average Time per Station.	Percentage of Station Time during Election Period.
	Hours.	Hours.	Per cent.
House of Representatives, December, 1949 .. .. .	2,146	21.25	4.2
Senate and House of Representatives, April, 1951 .. .. .	1,256	12.3	3.1
Senate, May, 1953 .. .. .	706	6.8	1.22
House of Representatives, May, 1954 .. .. .	989	9.4	1.69

BROADCASTS FROM NATIONAL STATIONS DURING THE FEDERAL ELECTION CAMPAIGN 1954.

135. Political broadcasts from the national stations were allocated on the same principle for the 1954 election as had been applied to the preceding elections of the Senate and of the House of Representatives, namely, an equal division of time between the Government and the Opposition at the rate of eight hours per station. No provision was made for other parties, or for independent candidates. Broadcasts were made from one national station in Canberra, one in each State capital city and in Newcastle, and all regional stations. The time was made up of party leader's initial speeches (one hour for each party, on relay throughout the Commonwealth, and made available to all commercial broadcasting stations), a second period on relay (one

hour for each party) and a series of shorter broadcasts originating separately in each State (totalling two hours for each party).

THE ROYAL VISIT.

136. It is appropriate to give in this report some account of the plan by which listeners in the Commonwealth and in many other countries received day-to-day broadcasts of the Royal Tour which commenced in Sydney on the 3rd February and ended at Perth on 1st April, 1954. Her Majesty Queen Elizabeth and His Royal Highness the Duke of Edinburgh travelled more than 14,000 miles in Australia by sea, air, rail and road, and visited some 60 cities and towns. The task of providing daily broadcast coverage was one of great complexity, involving the most detailed planning. For the first time in the history of broadcasting in Australia, the Australian Broadcasting Commission and the licensees of commercial broadcasting stations combined their resources to present a joint coverage. Commentators from the staffs of the Commission and commercial stations were selected some months in advance and were given intensive training in the technique of outside broadcasting to ensure that full and accurate descriptions would be broadcast. For the Royal arrival in Australia on 3rd February, 23 commentators manned fixed and mobile observation points in and around Sydney. During the two months of the Royal visit nearly 200 hours of descriptive broadcasts were given by Australian stations. The descriptions were also recorded for subsequent use in special sessions and for relay to overseas listeners.

137. The technical arrangements were in the hands of the Postmaster-General's Department whose officers showed great initiative and remarkable ingenuity in resolving the many problems which presented themselves. The demands on some items of equipment—amplifiers, splitting amplifiers, tape recorders, microphones and frequency modulated radio link systems—were far in excess of the normal stock and it was necessary to arrange "leap-frogging" movements between the various States as well as within the States themselves. Microphone amplifiers and line equipment used for broadcasts by the Queen or the Duke were provided in duplicate to guard against failure. Special microphone holders were designed and manufactured by the Postmaster-General's Department so that several standard type microphones could be unobtrusively mounted on a single stand. Wind shields designed by the Department were used on microphones in exposed locations in order to reduce wind noise. This noise was further reduced by means of high-pass filters designed to restrict the extreme low-frequency response of the microphone circuits. Frequency modulated radio link equipment (operating in the 75 Mc/s. band) was employed to facilitate mobile commentaries from cars in the Royal Progress. The length of the Royal Progress in Melbourne, Brisbane and Toowoomba, coupled with the low driving speed of about 6 miles an hour, presented an acute technical problem particularly as the use of an efficient antenna was not permissible. Three receivers were strategically located so that any two covered the route at any one time, and by means of specially arranged commencing equipment, the receiver contributing the least noisy signal was fed to the programme to the exclusion of the remaining two. Splitting amplifiers were provided to feed speeches and descriptions to public address systems and, where required, to film or newsreel sound tracks.

138. The welcome given by Australians to the Queen and the Duke was projected to people in other countries in programmes broadcast by Radio Australia which included a series of seventeen talks on cities, towns and

rural districts in the Royal itinerary. These were broadcast in English, French and Indonesian on the day preceding the actuality broadcast. On the seven days on which the Queen and the Duke arrived in Australian capital cities, direct descriptions, lasting up to three hours, were relayed to the Australian forces abroad and to listeners in the South Pacific Islands.

#### AUDIENCE MEASUREMENT SURVEYS.

139. Since its inception the Board has endeavoured to keep itself informed of the trend of programme popularity, and of listeners' tastes, by means of audience measurements and other surveys. The reports prepared by commercial research organizations on audience measurements are available to broadcasting stations, to advertisers and other branches of the broadcasting industry, and notwithstanding that the organizations which conduct the surveys are sometimes not in agreement in their findings, the measurements have been put to a variety of uses by stations and advertisers. In view of the statistical and other problems which confront any organization making such surveys, it is clear that the reports should be accepted with some reservations as to the absolute accuracy of the results, as will be evident from the differences in reported audiences for the same programme, and it is therefore desirable that stations should regard the reports as only one of several factors which should be taken into account in their assessment of the quality and popularity of their programmes.

140. A forceful criticism of audience measurement surveys in the United States of America was made by the President of the National Broadcasting Company (General Sarnoff) in a statement in which he pointed to a number of weaknesses in, and misuses of, the figures produced. He attacked the industry's "pre-occupation with top-rated programmes" and added that "ratings to-day simply do not reflect the real audience. They are certainly not conclusive on the essence of the matter, which is the ratio between listening and sales . . . Ratings do not properly measure the size of the audience and do not even undertake to indicate the quality and influence of the medium". It is in the quality and influence of broadcasting that the Board is interested, and it feels that General Sarnoff's comments are equally applicable to Australian surveys. Some attempts have been made, in limited fields, by other organizations to ascertain the impact of different programmes on listeners and much credit is due to the promoters of these studies for the painstaking manner in which the base figures have been analysed and presented. The present survey practice of concentration almost entirely on quantitative measurement does not, the Board thinks, appear to provide a wholly adequate guide to broadcasters and sponsors, and it is to be hoped that the survey organizations will turn their attention towards qualitative surveys in due course. This whole question has an important bearing on various aspects of programme production: it would be a great pity if what General Sarnoff described at "pre-occupation with top-rating programmes" were to produce the result in this

country that licensees of commercial stations in their efforts to build "ratings" for certain types of programmes might neglect opportunities to present other programmes equally as, if not more, acceptable to listeners.

#### PART V.—GENERAL.

##### FINANCIAL ACCOUNTS OF THE BOARD.

141. 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, 1954, together with the report of the Auditor-General as to those accounts, appears in Appendix E of this Report.

142. 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.
30th June— 1924 .. ..	4	..	1,206
	Class "A"	Class "B"	
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	2,041,613

In addition to the above national stations, there were, as at 30th June, 1954, nine short-wave transmitters providing services to listeners in remote areas.

##### LISTENERS' LICENCES.

143. The following table shows the various classes of broadcast listeners' licences which were current on 30th June, 1954:—

Class of Licence.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Commonwealth.
Ordinary .. ..	704,863	513,071	265,465	205,683	136,953	65,129	1,891,164
Pensioners .. ..	61,480	30,255	20,781	13,331	10,654	5,517	142,018
Blind persons .. ..	916	590	298	304	345	184	2,637
Schools .. ..	2,219	1,232	1,139	747	240	217	5,794
Total .. ..	769,478	545,148	287,683	220,065	148,192	71,047	2,041,613
Ratio to 100 of population .. ..	21.90	22.42	22.57	27.92	23.25	22.36	22.78

## COST OF NATIONAL BROADCASTING SERVICE.

144. Expenditure on the operation of the National Broadcasting Service (i.e. programme and technical services) during 1953-54 was £4,607,331, this amount being made up as follows:—

	£
Australian Broadcasting Commission ..	2,590,002
Technical and other services ..	2,005,900
Audit of accounts ..	3,000
Repairs and maintenance of buildings ..	8,429
	<u>4,607,331</u>

The gross expenditure of the Australian Broadcasting Commission was £2,995,225 but revenue amounting to £405,223 was derived from public concerts, subsidies for symphony orchestras, 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 £3,866,641, viz.:—

	£
Broadcast listeners licence-fees ..	3,826,971
Broadcasting station licence-fees ..	25,021
Miscellaneous ..	14,649
	<u>3,866,641</u>

The expenditure on Broadcasting Capital Works was £309,075 of which £28,201 was provided from Australian Broadcasting Commission reserves.

## ACKNOWLEDGMENTS.

145. Once again, the Board is happy to acknowledge that it has received wholehearted co-operation from the Postmaster-General's Department, the Australian Broadcasting Commission and the Australian Federation of Commercial Broadcasting Stations in connexion with the various aspects of its work which bring it into close association with these bodies. The Board is specially grateful to the officers of the Postmaster-General's Department in the States who perform many important duties on its behalf. During the year, the Director-General of Civil Aviation gave approval for the Civil Air Attaché in Washington (Mr. D. J. Anderson) to act as the Board's representative in the United States of America. This arrangement has proved of great value to the Board, which is glad to express its gratitude to the Director-General for his co-operation and to Mr. Anderson for the extremely useful work he has done on behalf of the Board.

R. G. OSBORNE, Chairman.

R. B. MAIR, Member.

RAY ALLSOP, Member.

J. O'KELLY, Secretary,  
30th September, 1954.

## APPENDIX A.

## COMMERCIAL BROADCASTING STATIONS IN OPERATION ON 30TH JUNE, 1954.

Call Sign.	Location of Station.	Frequency (kc/s).	Authorized Power (Watt-).	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., Mort-street, Braddon, Canberra .. ..	119
NEW SOUTH WALES.					
<i>Metropolitan.</i>					
2CH ..	Sydney ..	1,170	1,000	New South Wales Council of Churches Service, Diocesan House, St. Andrew's Cathedral, Sydney .. ..	117
2GB ..	Sydney ..	870	1,000	Broadcasting Station 2GB Pty. Ltd., 136-138 Phillip-street, Sydney ..	121
2KY ..	Sydney ..	1,020	1,000	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 .. ..	119
2SM ..	Sydney ..	1,270	1,000	Broadcasting Station 2SM Pty. Ltd., City Mutual Building, 60 Hunter-street, Sydney .. ..	118
2UE ..	Sydney ..	950	1,000	Radio 2UE Sydney Pty. Ltd., 29 Bligh-street, Sydney .. ..	121½
2UW ..	Sydney ..	1,110	1,000	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 .. ..	105
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 .. ..	80½
2BH ..	Broken Hill ..	660	200	Radio Silver City Pty. Ltd., cnr. Blende and Sulphide streets, Broken Hill .. ..	100
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., 71 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 .. ..	128½
2KA ..	Katoomba ..	780	D. 2,000 N. 1,000	2KA Ltd., 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 .. ..	108½
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 .. ..	115½
2LM ..	Lismore ..	900	D. 2,000 N. 1,000	Richmond River Broadcasters Pty. Ltd., Northern Star Building, 11 Molesworth-street, Lismore .. ..	112
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 .. ..	104
2MO ..	Gunnedah ..	1,080	1,000	2MO Gunnedah Ltd., 59 Marquis-street, Gunnedah .. ..	101½
2MW ..	Murwillumbah ..	1,440	D. 2,000 N. 1,000	Tweed Radio and Broadcasting Co. Pty. Ltd., 19 Church-lane, Murwillumbah .. ..	107
2NM ..	Muswellbrook ..	1,460	500	Hunter Broadcasters Pty. Ltd., 315 High-street, Maitland .. ..	121
2NX ..	Bolwarra ..	1,360	2,000	Hunter Broadcasters Pty. Ltd., 315 High-street, Maitland .. ..	122½
2NZ ..	Inverell ..	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 .. ..	106
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 .. ..	104½
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 .. ..	111½
2WL ..	Wollongong ..	1,430	2,000	Wollongong Broadcasting Pty. Ltd., Edward-street, Wollongong .. ..	121½
2XL ..	Cooma ..	920	1,000	Cooma Broadcasters Pty. Ltd., 134 Sharp-street, Cooma .. ..	114½
VICTORIA.					
<i>Metropolitan.</i>					
3AK ..	Melbourne ..	1,500	500	Melbourne Broadcasters Pty. Ltd., 262 Flinders-lane, Melbourne, C.1 .. ..	70
3AW ..	Melbourne ..	1,280	600	3AW Broadcasting Co. Pty. Ltd., 382 Latrobe-street, Melbourne, C.1 .. ..	128
3DB ..	Melbourne ..	1,030	600	The Herald and Weekly Times Ltd., 44-74 Flinders-street, Melbourne, C.1 .. ..	168
3KZ ..	Melbourne ..	1,180	600	Industrial Printing and Publicity Co. Ltd., 24-30 Victoria-street, Carlton, N.3 .. ..	121
3UZ ..	Melbourne ..	930	600	Nilsen's Broadcasting Service Pty. Ltd., 45-47 Bourke-street, Melbourne, C.1 .. ..	168
3XY ..	Melbourne ..	1,420	600	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 .. ..	118½
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 .. ..	104
3CV ..	Maryborough ..	1,440	1,000	Central Victoria Broadcasters Pty. Ltd., 29 Pall Mall, Bendigo .. ..	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 .. ..	129½
3MA ..	Mildura ..	1,470	2,000	Sunraysia Broadcasters Pty. Ltd., 22 Deakin-avenue, Mildura .. ..	109½

## COMMERCIAL BROADCASTING STATIONS IN OPERATION ON 30TH JUNE, 1954—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).
<i>VICTORIA—continued.</i>					
<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 ..	113
3YB ..	Warrnambool ..	1,210	1,000	The Argus and Australasian Ltd., 365 Elizabeth-street, Melbourne, C.1 ..	110½
<i>QUEENSLAND.</i>					
<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 Bourong-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 ..	73½
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 ..	107
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
<i>SOUTH AUSTRALIA.</i>					
<i>Metropolitan.</i>					
5AD ..	Adelaide ..	1,310	2,000	Advertiser Newspapers Ltd., 121 King William-street, Adelaide ..	119
5DN ..	Adelaide ..	970	2,000	Hume Broadcasters Ltd., C.M.L. Building, 41 King William-street, Adelaide ..	119
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 ..	119
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
<i>WESTERN AUSTRALIA.</i>					
<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	111½
6PR ..	Perth ..	880	2,000	Nicholson's Ltd., 86-90 Barrack-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	92
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., 86-90 Barrack-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	75½
6MD ..	Merredin ..	1,100	2,000	W.A. Broadcasters Pty. Ltd., Lyric House, 223 Murray-street, Perth ..	82½
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., 86-90 Barrack-street, Perth ..	108½
6WB ..	Katanning ..	1,070	2,000	W.A. Broadcasters Pty. Ltd., Lyric House, 223 Murray-street, Perth ..	82½

## COMMERCIAL BROADCASTING STATIONS IN OPERATION ON 30TH JUNE, 1954—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 ..	86
7DY ..	Derby ..	1,450	500	North-East Tasmanian Radio Broadcasters Pty. Ltd., 29 Paterson-street, Launceston	54¼
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	76¼

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

## APPENDIX B.

## NATIONAL BROADCASTING STATIONS IN OPERATION ON 30TH JUNE, 1954.

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	116
<i>Regional.</i>				
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
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	116
3LO ..	Melbourne ..	770	10,000	118½
<i>Regional.</i>				
3GI ..	Gippsland Regional (Sale) ..	830	7,000	122½
3WV ..	Western Regional (Dooen) ..	580	10,000	122½
<i>Queensland.</i>				
<i>Metropolitan.</i>				
4QG ..	Brisbane ..	790	10,000	116
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, 1954—continued.

Call Sign.	Station.	Frequency (kc/s).	Aerial Power (watts).	Hours of Service per Week (to nearest Quarter Hour).
<i>South Australia.</i>				
Metropolitan.				
5AN	Adelaide	890	2,000	119
5CL	Adelaide	730	5,000	117½
Regional.				
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>				
Metropolitan.				
6WF	Perth	690	5,000	116
6WN	Perth	810	6,000	118½
Regional.				
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>				
Metropolitan.				
7ZL	Hobart	600	2,000	116
7ZR	Hobart	940	2,000	118½
Regional.				
7NT	North Regional (Kelso)	710	7,000	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	90½

## 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
VLX	Perth, Western Australia	10,000	119

*Frequencies of Short Wave Services.*—The frequencies on which these stations transmit are varied, as required, to obtain optimum results.

FREQUENCY MODULATION SERVICES.  
(Experimental.)

	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 D.

## AUSTRALIAN TELEVISION STANDARDS.

## THE TELEVISION CHANNELS.

*Channel Width.*—The width of the standard television channel shall be 7 megacycles per second.

*Location of the Transmitted Carriers within the Channel.*—The unmodulated sound carrier shall be 0.25 megacycles per second below the upper frequency limit of the channel and the picture carrier 1.25 megacycles per second above the lower limit, so that the carriers are spaced 5.5 megacycles per second apart.

*Picture Transmission Amplitude Characteristics.*—Vestigial sideband transmission shall be used, and the maximum amplitude versus frequency characteristic of the radiated picture signal shall be as shown in Drawing No. ZC-9-A, sheet 2, issue 1, attached to these standards.

## SCANNING SPECIFICATIONS.

*Number of Lines and Interlacing.*—The standard number of scanning lines per picture shall be 625 interlaced two to one. The adiated signal shall be monochrome.

*Picture and Field Frequencies.*—The picture frequency of the radiated signal shall be 25 per second and the field frequency shall be 50 per second non-synchronous with the power mains supply and held within a tolerance of  $\pm 0.1$  per cent.

*Aspect Ratio.*—The standard aspect ratio of the transmitted television picture shall be 4 units horizontally to 3 units vertically.

*Scanning Order.*—During active scanning intervals, the scene shall be scanned from left to right horizontally and from top to bottom vertically at uniform velocities.

## PICTURE SIGNAL MODULATION.

*Type of Modulation.*—The carrier within a single television channel with both picture and synchronizing signals shall be amplitude modulated, the synchronizing and picture modulation occurring alternately on a time division basis in accordance with Drawing No. ZC-9-C, sheet 1, issue 2, attached to these standards. The wave form shown in the drawing ZC-9-C, sheet 1, represents the carrier envelope at the transmitter output before the lower side band is attenuated, and not necessarily the video waveform at the transmitter input.

*Polarity of Modulation.*—Negative modulation shall be employed; that is, a decrease in initial light intensity shall cause an increase in radiated power.

*Brightness Characteristic.*—The black level shall be represented by a definite carrier level independent of light and shade in the picture.

The transmitter output shall vary in substantially inverse logarithmic relationship to the brightness of the subject. No tolerances are specified at this time.

*Percentage Modulation of Black Level.*—The transmitter shall transmit the black level at 75 per cent. of the peak carrier amplitude with a tolerance of 2.5 per cent. of the peak carrier amplitude. The black level shall be as nearly equal to the pedestal level as the state of the art will permit.

*Line Frequency.*—The line frequency shall be maintained at 15,625 cycles per second  $\pm 0.1$  per cent.

*White Level.*—In the modulation of the picture transmitter, the radio frequency signal amplitude for the maximum white shall not exceed 15 per cent. nor be less than 10 per cent. of the maximum carrier amplitude.

## SOUND SIGNAL MODULATION.

*Type of Modulation.*—Frequency modulation shall be used for the television sound transmission.

*Modulation Band and Pre-emphasis Characteristic.*—The transmitter shall be capable of operating with modulation frequencies between 30 cycles per second and 15,000 cycles per second.

Pre-emphasis shall be employed in the sound transmitter in accordance with the impedance-frequency characteristic of a series inductance resistance network having a time constant of 50 microseconds.

*Frequency Deviation.*—In the sound transmitter, the deviation for full modulation shall be  $\pm 50$  kilocycles per second.

## TRANSMITTER CHARACTERISTICS.

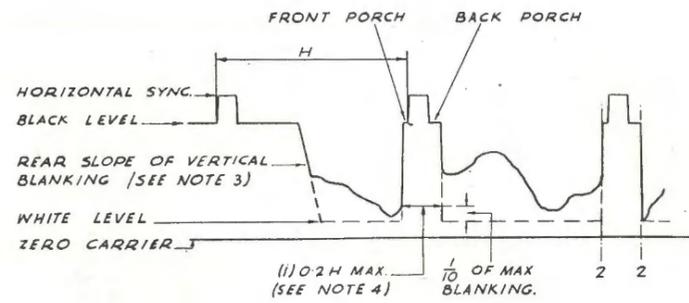
*Polarization of Radiated Signal.*—The radiated signals from both sound and picture transmitters shall be horizontally polarized.

*Power Output.*—The ratio of peak power output of the picture transmitter to mean power output of the sound transmitter shall be five to one.

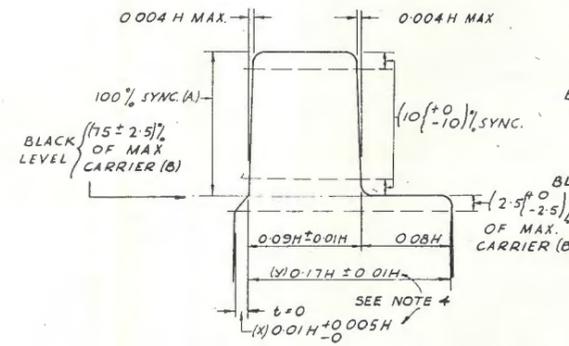
*Frequency Response of Picture Transmitter.*—The overall frequency response of the picture transmitter shall be within the limits of the demodulated output specified in drawing No. ZC-9-A, sheet 3, issue 1, attached to these standards, from the transmitter input to the output of the vestigial sideband filter.

*Frequency Response of Sound Transmitter.*—The frequency response of the sound system from microphone output to sound transmitter output shall be within the limits set out in Drawing ZC-9-A, sheet 4, issue 1, attached to these standards.

*Phase Modulation of Picture Transmitter.*—The picture transmitter shall be suitable for use with inter-carrier type of receivers. The phase modulation of the transmitted picture shall be such as to cause negligible noise in an inter-carrier receiver for modulating frequencies in the range 30 to 15,000 cycles per second.

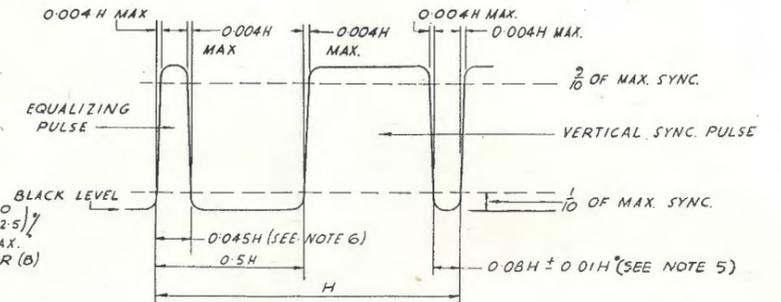


DETAILS OF 1-1

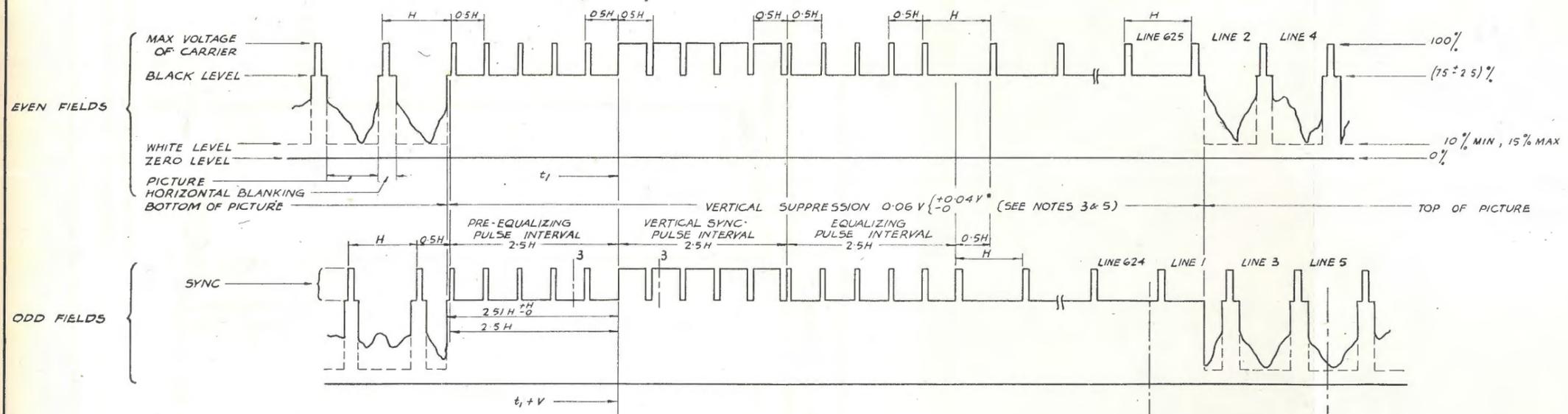


DETAILS OF 2-2

A - MEASURED BEFORE MODULATION.  
B - MEASURED AFTER IDEAL DETECTION.

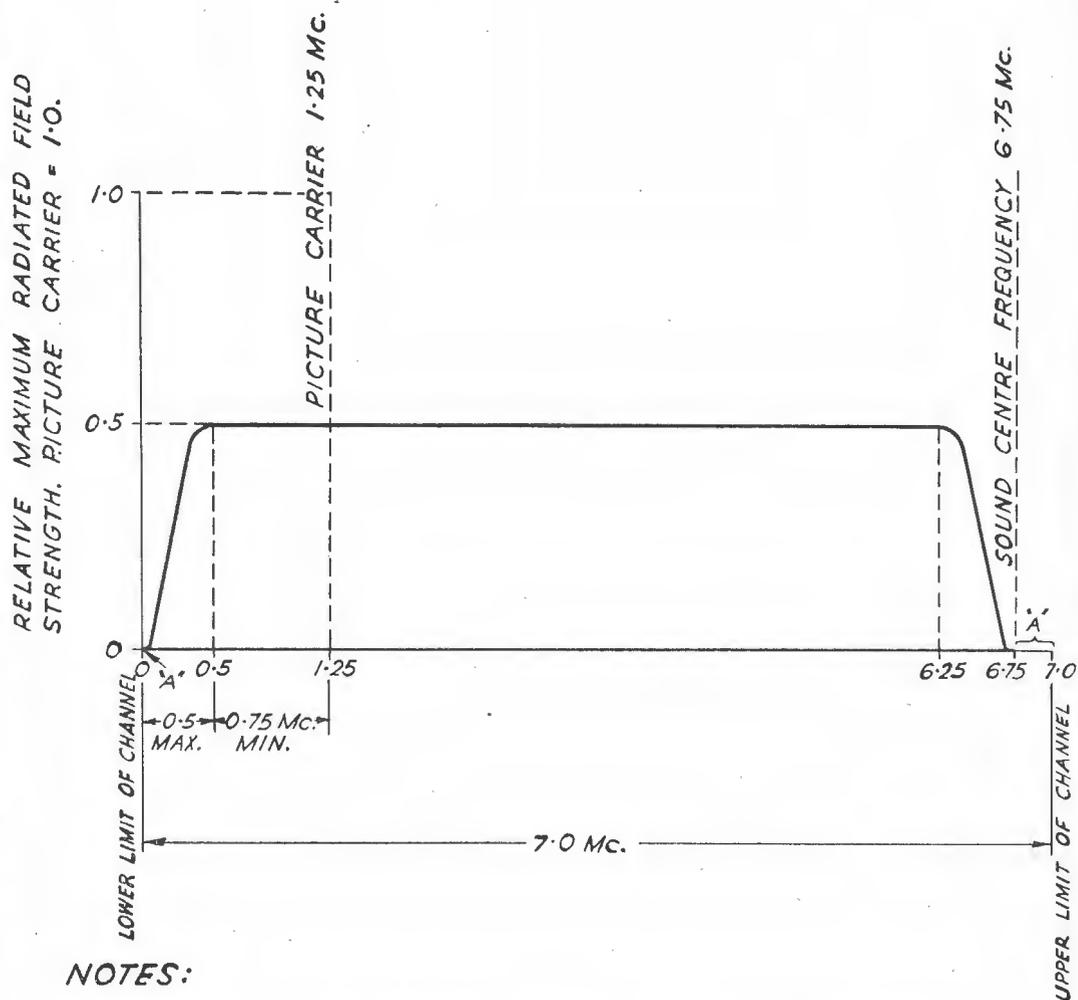


DETAILS OF 3-3



- NOTES
1. H = TIME FROM START OF ONE LINE TO START OF NEXT LINE.
  2. V = TIME FROM START OF ONE FIELD TO START OF NEXT FIELD.
  3. LEADING & TRAILING EDGES OF VERTICAL BLANKING SHOULD BE COMPLETE IN LESS THAN 0.1H.
  4. LEADING & TRAILING SLOPES OF HORIZONTAL BLANKING SHOULD BE STEEP ENOUGH TO PRESERVE MIN. & MAX. VALUES OF (X+Y) AND (I) UNDER ALL CONDITIONS OF PICTURE CONTENT.
  5. DIMENSIONS MARKED WITH AN ASTERISK INDICATE THAT TOLERANCES GIVEN ARE PERMITTED ONLY FOR LONG TIME VARIATIONS, & NOT FOR SUCCESSIVE CYCLES.
  6. EQUALIZING PULSE AREA SHALL BE BETWEEN 0.45 & 0.5 OF THE AREA OF A HORIZONTAL SYNC PULSE.
  7. THE VALUES OF H & V SHOULD NOT VARY BY MORE THAN ± 0.1% FROM THE ASSIGNED VALUES.
  8. THIS WAVE FORM REPRESENTS THE CARRIER VIDEO ENVELOPE BEFORE THE LOWER SIDE BANDS ARE ATTENUATED, AND NOT NECESSARILY THE VIDEO WAVE FORM AT THE TRANSMITTER INPUT.

ISSUES						COMMONWEALTH OF AUSTRALIA AUSTRALIAN BROADCASTING CONTROL BOARD	
DL	DRAWN	ORDER	NO	DATE	APPRO.		
	N.E.	14942	1	30-12-54	D.M.D.	TELEVISION STANDARDS. STANDARD VIDEO WAVEFORM 625 LINES/PICTURE	
	J.G.M.	965	2	15-9-56	D.M.D.		
						AMENDMENTS	
						NOTE 7 TOLERANCE CHANGED	
DRAWN N.E.						DRAWING NO.	
EXAMINED H.R.B.						ZC-9-C	
APPROVED D.M.D.						SHEET 1 (1 SHEET)	
DATE 30-12-54							

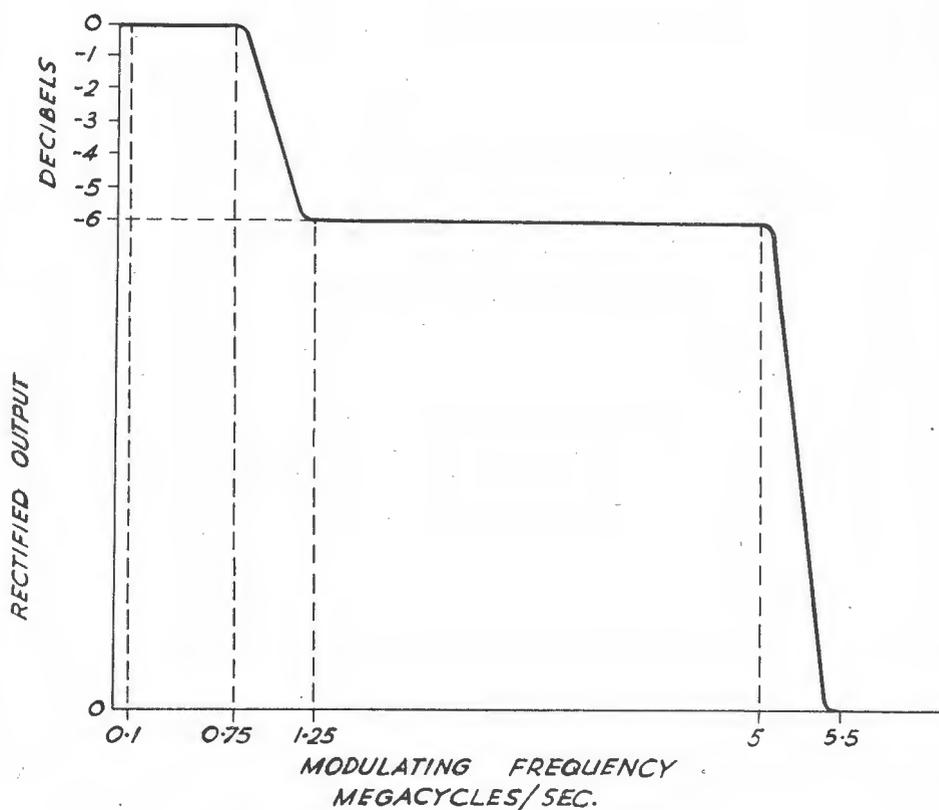


**NOTES:**

1. SIDEBAND ATTENUATION AT FREQUENCIES  $\lambda^*$  TO BE AT LEAST 20 db. GREATER THAN THE ATTENUATION AT FREQUENCY 1.15 Mc.
2. ALL FREQUENCIES GIVEN TO BE ADDED TO THE LOWER LIMIT OF THE CHANNEL.

DRAWING NOT TO SCALE.

ENGINEERING BRCH.			DRAFTING SECTION			ISSUES		COMMONWEALTH OF AUSTRALIA AUSTRALIAN BROADCASTING CONTROL BOARD	
DATE	APPD.	EXAMD.	CHECKD.	DRAWN	AMENDMENTS	ORDER	NO.		
15-9-54	D.M.D.	D.M.D.	A.D.G.	J. G. M.		965	1	<b>TELEVISION STANDARDS. IDEALIZED PICTURE TRANSMISSION AMPLITUDE CHARACTERISTIC.</b>	

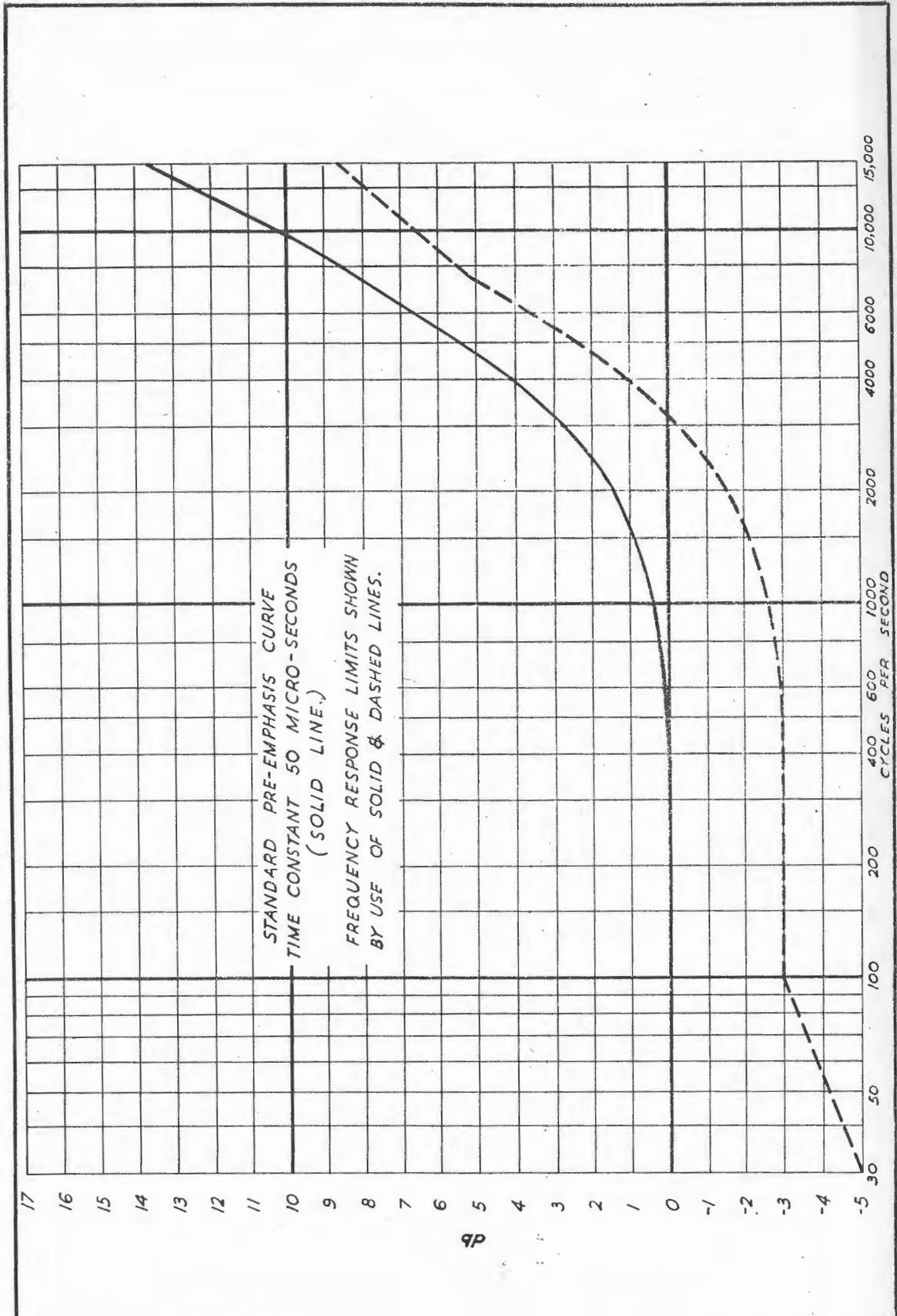


**NOTES:**

1. THIS IS THE RECTIFIED OUTPUT IN THE IDEAL CASE.
2. TOLERANCES ARE GIVEN BELOW, RELATIVE TO 0db, WHICH IS THE CASE FOR 100% DOUBLE SIDEBAND MODULATION RECTIFIED WITHOUT LOSS.

MOD. FREQ.	MAX. RESPONSE	MIN. RESPONSE
0.5 Mc/s.	0 db	-2 db
1.25 "	-6 "	-8 "
2.5 "	-6 "	-8 "
4.0 "	-6 "	-10 "
5.0 "	-6 "	-11 "

ENGINEERING		BRCH.		DRAFTING SECTION			ISSUES		COMMONWEALTH OF AUSTRALIA	
DATE	APPD.	EXAMD.	CHECKD.	DRAWN	AMENOMENTS	ORDER	NO	AUSTRALIAN BROADCASTING CONTROL BOARD		
15-9-54	D.M.F.D.	D.M.F.D.	A.D.G.	J.G.M		965	1	<p align="center"><b>TELEVISION STANDARDS. DEMODULATED OUTPUT OF VESTIGIAL SIDE BAND TRANSMISSION.</b></p>		



ENGINEERING BRCH.					DRAFTING SECTION		ISSUES		COMMONWEALTH OF AUSTRALIA AUSTRALIAN BROADCASTING CONTROL BOARD	
DATE	APPD.	EXAMD.	CHECKD.	DRAWN	AMENDMENTS	ORDER	No.			
15-9-54	D.M <sup>c</sup> D.	D.M <sup>c</sup> D.	A.D.G.	J.G.M.		965	1	TELEVISION STANDARDS. SOUND TRANSMISSION STANDARD PRE-EMPHASIS CURVE.		
							DRAWING NO.			
							ZC-9		4	
									OF 4 SHEETS	

## APPENDIX E.

AUSTRALIAN BROADCASTING CONTROL BOARD.  
STATEMENT OF RECEIPTS AND PAYMENTS FOR THE YEAR ENDED 30TH JUNE, 1954.

<i>Receipts.</i>		<i>Payments.</i>	
<i>Previous Year.</i>	<i>30th June, 1954.</i>	<i>Previous Year.</i>	<i>30th June, 1954.</i>
£	£	£	£
56,391	Parliamentary Appropriation .. .. .	43,240	Salaries and Wages—
11	Miscellaneous Revenue .. .. .	1,407	Salaries .. .. .
		469	Temporary Assistance .. .. .
			Extra Duty Pay .. .. .
56,402		45,116	
			49,438
			General Expenses—
		3,381	Travelling and Subsistence .. .. .
		1,109	Postages, Telephones, &c. .. .. .
		4,132	Incidentals .. .. .
		8,622	
			10,363
			Stores and Material—
		1,435	Office Requisites .. .. .
		1,229	Technical Equipment .. .. .
		2,664	
			15,205
			Cash on Hand (Provision for Equipment in
			Transit) .. .. .
			2,064
56,402		56,402	
	77,072		77,072

NOTE.—Adjusted to nearest £.

J. O'KELLY, Secretary.

R. G. OSBORNE, Chairman.

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 of the Australian Broadcasting Control Board for the year ended 30th June, 1954.

J. BROPHY,

Auditor-General for the Commonwealth,  
9th September, 1954.

STATEMENT OF ASSETS AS AT 30TH JUNE, 1954.

<i>30th June, 1953.</i>	<i>Description of Assets.</i>	<i>30th June, 1954.</i>
£		£
Nil	Land and Buildings .. .. .	Nil
	Office Furniture and Equipment—	
6,537	At cost to 30th June, 1953 .. .. .	6,537
	Additions during year .. .. .	642
		7,179
1,596	Less—Depreciation .. .. .	1,983
	Items written off .. .. .	
		1,983
4,941		5,196
	Library—	
1,362	At cost to 30th June, 1953 .. .. .	1,362
1,362	Additions during year .. .. .	355
		1,717
288	Less—Depreciation .. .. .	430
	Items written off .. .. .	3
		433
1,074		1,284
	Technical Equipment—	
2,084	At cost to 30th June, 1953 .. .. .	2,084
	Additions during year .. .. .	13,936
		16,020
339	Less—Depreciation .. .. .	1,904
	Items written off .. .. .	
		1,904
1,745		14,116
	Cash on Hand .. .. .	2,064
343	Office Stores and Material on Hand .. .. .	361
8,103		23,021

J. O'KELLY, Secretary.

R. G. OSBORNE, Chairman.

The above statement has been examined and is in agreement with the books. In my opinion it exhibits a true and fair view of the assets of the Australian Broadcasting Control Board at 30th June, 1954.

J. BROPHY,

Auditor-General for the Commonwealth,  
9th September, 1954.

AUSTRALIAN BROADCASTING CONTROL BOARD.  
STATEMENT OF RECEIPTS AND PAYMENTS FOR THE YEAR ENDED 30TH JUNE, 1954.

Particulars	30th June, 1954.		Previous Year.		30th June, 1954.	
	£	2s	£	2s	£	2s
Salaries and Wages—	77,050	22	43,240		47,211	
Salaries .. .. .			1,407		1,814	
Temporary Assistance .. .. .			469		413	
Extra Duty Pay .. .. .						
			45,116		49,439	
General Expenses—						
Travelling and Subsistence .. .. .			3,381		4,133	
Postages, Telephones, &c. .. .. .			1,109		1,955	
Incidentals .. .. .			4,132		4,277	
			8,622		10,365	
Stores and Material—						
Office Requisites .. .. .			1,435		1,269	
Technical Equipment .. .. .			1,229		13,936	
			2,664		15,205	
Cash on Hand (Provision for Equipment in Transit) .. .. .						2,064
	77,072		56,402		77,072	

NOTE.—Adjusted to nearest £.

Secretary. R. G. OSBORNE, Chairman.  
I have examined and is in agreement with the books. In my opinion it is a correct statement of the cash of the Australian Broadcasting Control Board for the year ended 30th June, 1954.

J. BROPHY,  
Auditor-General for the Commonwealth,  
9th September, 1954.

STATEMENT OF ASSETS AS AT 30TH JUNE, 1954.

Description of Assets.	30th June, 1954.	
	£	2s
Equipment—		
June, 1953 .. .. .		Nil
Year .. .. .		6,537
		642
		7,179
Provision .. .. .	1,983	
Written off .. .. .		1,983
		5,196
June, 1953 .. .. .		1,362
Year .. .. .		355
		1,717
Provision .. .. .	430	
Written off .. .. .		3
		433
		1,284
June, 1953 .. .. .		2,084
Year .. .. .		13,936
		16,020
Provision .. .. .	1,904	
Written off .. .. .		
		14,116
Material on Hand .. .. .		2,064
		361
		23,021

Secretary. R. G. OSBORNE, Chairman.  
I have examined and is in agreement with the books. In my opinion it exhibits a true and fair view of the Australian Broadcasting Control Board at 30th June, 1954.

J. BROPHY,  
Auditor-General for the Commonwealth,  
9th September, 1954.

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