

STAGING THE 1956 OLYMPIC GAMES — THE TELECOMMUNICATIONS ROLE

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Fig. 1.—The Olympic Flame, Melbourne, 1956.

Ancient Olympic Games: History does not record accurately just how the ancient Olympics started, but legend has it that they began as a religious festival in honour of the Greek God of Gods, Zeus, at Olympia in the valley of Elis, Greece, about 776 B.C. From this time the Olympiads were introduced on the Greek calendar, each four year period being known as an Olympiad, Olympic Games being held in celebration of each Olympiad. The ancient Olympic Games were last held in A.D. 394. Theodosius, Emperor of Rome, abolished the Games, and later ordered the destruction of all pagan temples, included in which was the Temple of Zeus. Subsequent floods and deprivations of time completed the destruction of Olympia.

The absence of early reports of the first Olympic Games have led to contradictory statements concerning these Games, but it is believed that the stade foot race of about 200 yards (the length of the stadium) was the only contest at early Games. Coroebus, of Elis, was the first recorded victor, the four-year period to the next meeting being known as the Olympiad of Coroebus. Gradually other events were added, notably the pankration (a combination of boxing and wrestling); wrestling (as a symbol of the triumph of science over brute force); diskos (the winner of the discus throw was idolised, as this was a favourite sport); javelin throwing, jumping, chariot racing and foot racing between contestants clad in light and heavy armour. The pankration was said to be the most spectacular of the events, as, with only

gouging and biting barred, these contests were a fight to the death or surrender. Contestants fought nude. The only prize for victory was a garland of wild olive with which the winner was crowned.

The Revival of the Olympic Games: Discovery of the ruins of ancient Olympia by Richard Chandler in 1776, and subsequent excavation work by the French Government (1820) and the German Government (1876) were events which rekindled the Olympic flame after a lapse of time of more than 1,500 years. The world-wide interest in the ancient Olympics followed and, soon after, the seed for the revival of the Games was sown by the French visionary, Baron Pierre de Coubertin.

De Coubertin saw in an intensified athletic endeavour a hope for a stronger more virile French race, following the ill-effects of the Franco-Prussian War, and visualised a mammoth international sports festival which, he thought, would be a means of achieving universal peace. After contacting athletic bodies throughout the world in 1893, the Baron saw his dream come true with the first modern staging of the Olympic Games at Athens in 1896. Only track and field athletics, the 100 metres swim and weightlifting were contested in the inaugural meeting. An Australian won two events.

Such has been the triumphal progress of the Games since 1896 that the record number of 68 nations participated in the 1952 Olympic Games at Helsinki, Finland, and this record was equalled at the Melbourne Games, 1956.

The Role of Telecommunications in the Olympic Games: Throughout the history of the Games, telecommunications have played a part of ever increasing

importance. In the Ancient Games, we have examples of some of the oldest known communication methods (still in use in some parts of the world today)—the runner with the message stick and smoke signals. Nations were summoned to compete at Olympia by a runner sent out sometimes two years before the event and who in the course of his advertising campaign traversed many lands.

At the conclusion of each Olympiad the news of victory was signalled across the then known world by beacons lit on hilltops and bringing the glad tidings weeks and months before the victorious athletes arrived home. This was most important in order that the local heroes could be met with due pomp and ceremony and so that public holidays with feasting and pageantry could be organised.

In the modern Games, as the science of communications advances, the world is not prepared to wait on such methods for the news, and elaborate systems of telegraphic, telephonic and radio communications are essential. In addition, the Games have grown to such a mass concentration of numerous types of sports, with so many competitors, that officials must have the assistance of the best telecommunication methods in order to control the staging of events with split-second timing.

Telecommunications in the Melbourne Games: These aspects were of peculiar interest to the Melbourne Games because of two particular features. Firstly, because of its physical isolation from the rest of the world, Australia depends wholly on telecommunications for dissemination of news. When the Games

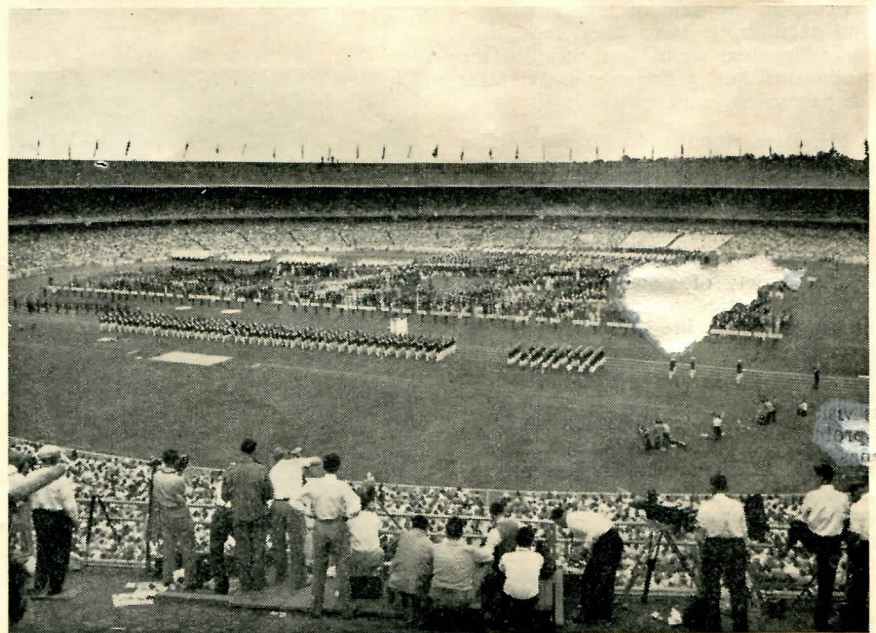


Fig. 2.—The Main Stadium on Opening Day—The Australian Team Marches Past.

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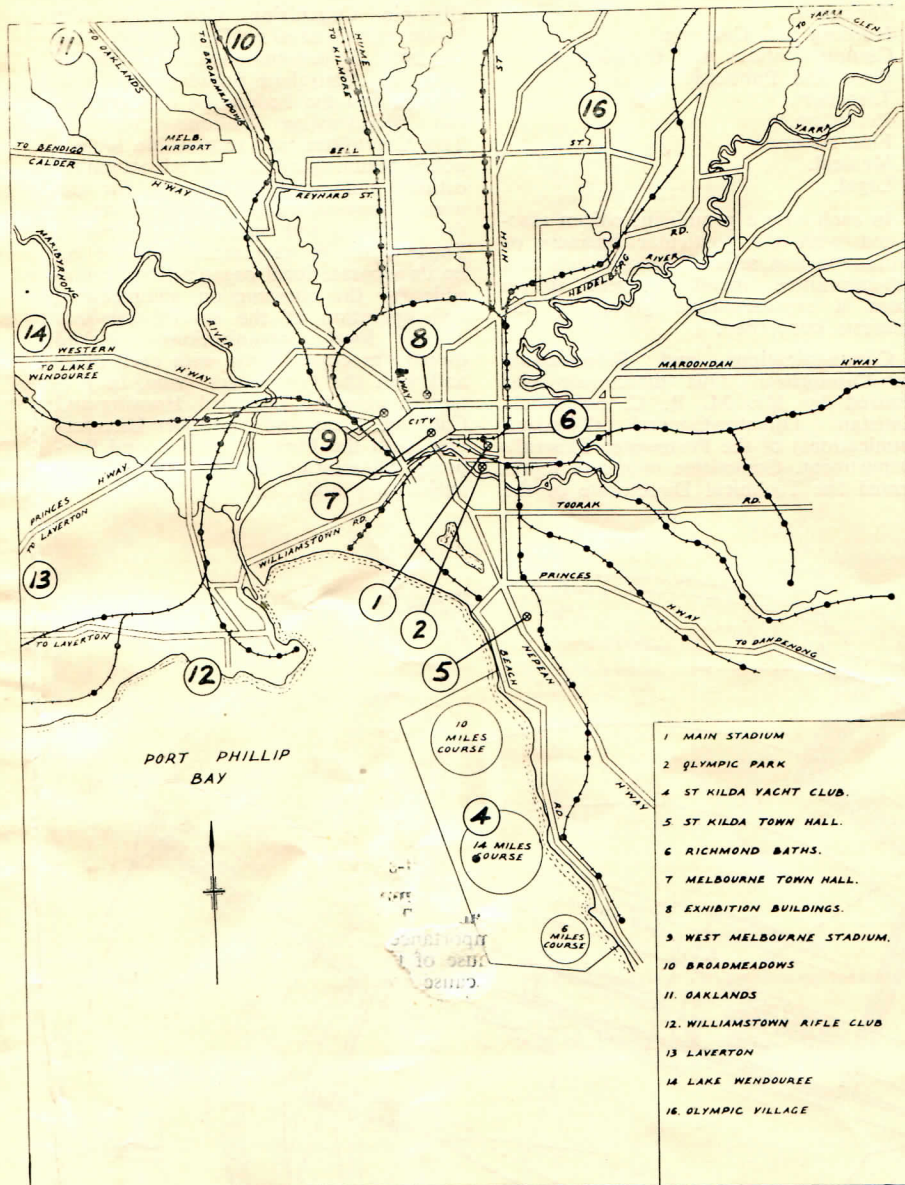


Fig. 3.—Map showing Location of Venues in Melbourne.

are held in Europe and North America reporters from foreign adjacent lands can attend particular events and be back in their own offices the same night to prepare copy. In the same way that a Sydney writer can visit Melbourne for the Melbourne Cup, fly home and have the full story in the next editions of his paper. This, of course, was impossible for overseas correspondents visiting Australia. Secondly, because of problems of buildings and suitable arenas in Melbourne, the venues for the various sports were scattered over a wide area, as can be seen from Fig. 3, and telecommunications played a large part in providing and maintaining the necessary co-ordinated control.

The clearing of overseas press and radio traffic was a joint problem for the Overseas Telecommunications Commission, the Postmaster-General's Depart-

ment and the Australian Broadcasting Commission. Facilities available were submarine telegraph cables, radio telephone and telegraph channels and short wave radio coverage from Radio Australia (Shepparton) and Lyndhurst short wave stations. Apart from direct transmission to some nearer countries such as New Zealand, Japan and South Africa, main routing of traffic is via London for distribution throughout Europe and San Francisco for relay to North and South America. Consequently, for the Games and subsequent use, reinforcement of circuits was to these two distributing centres. In support of this a number of radio telegraph channels suitable for high speed machine telegraphy was made available by the three Armed Services.

The Main Stadium at the Melbourne Cricket Ground, some 1½ miles from the heart of the city, was to become the

focal point from which the majority of all services associated with the Games were to operate. It accordingly had to be built up as the nerve centre of the communication network with quite large temporary radio, telegraph and telephone installations and associated operating facilities. Fig. 4 gives an indication of the extent and layout of the underground cabling required at this centre. Actually, more than half of the total room space at the M.C.G. was devoted to telecommunication facilities and an army of up to 200 engineers and technicians was engaged for four months on the various installations. Associated with these installations was the provision of junction cables to gain access to the normal civil networks and beyond these to overseas terminals. For security of communications these were planned and provided via several alternative routes. Fig 5 shows the circuits required on the various junction and trunk routes.

The several component sports covered by the Games were conducted at 15 separate venues, of which 14 were in the Melbourne Metropolitan area (within a 15 mile radius) and the other at Ballarat (Lake Wendouree) some 70 miles from Melbourne. The particular sport at each venue was controlled by a local Arena Manager with an overall co-ordinating control from the Technical Director located at the Main Stadium. Residentially all competing athletes were concentrated at Olympic Village, Heidelberg, and the Olympic Hostel, Ballarat.

The telecommunication services for control purposes consisted firstly of a local network at each venue, the nature of which depended on the particular requirements of each type of sport. As well as the standard speech circuits these included timing and signalling devices and, in some cases, local public address systems. Secondly, there was the inter-communication network of telephone and telegraph lines, in some cases supported by radio, connecting the venues and the accommodation centres with the main control centre at the Main Stadium. Apart from these special services there were the standard services provided for administrative purposes and those to meet the requirements of the general public.

The administrative organisation for the Games grew from a small central planning committee and, as the requirements arose, sub-committees or directorates were set up to handle particular aspects. By early 1956, eleven of these directorates were established with offices throughout the city and suburbs of Melbourne. A number of these directorate controls moved into the Main Stadium on the eve of the Games. There was a corresponding growth and movement of telecommunication facilities, most of which had to be planned and built in advance of the establishment, or movement of offices.

This administrative network included the two residential villages. These corresponded to the establishment of telephone networks to serve towns of 6,500 and 600 people respectively with the exception that the build-up of population

took place over a period of a mere four weeks. Consequently, about 95% of the construction had to be provided in advance and streamlined procedures devised for dealing with the customer requirements and the remaining 5% of the work without the normal administrative delay. Public facilities, mostly of the normal type (public telephones, post offices, etc.) were provided at all places where a demand was anticipated, but in a number of cases special designs to give utmost flexibility were adopted.

Organisation for Directing the Games:
The Olympic Organising Committee was formed in 1949 with the small planning group mentioned. In due course, the following directorates under the overall control and guidance of the Olympic Organising Committee were established:

- Finance and General Purpose.
- Construction.

- Technical.
- Housing and Catering.
- Communications and Broadcasting.
- Press and Publicity.
- Transport.
- Reception.
- Fine Arts.
- Medical.
- Legal.

In each case a prominent citizen associated with the particular business or profession was selected as chairman and sub-committee members were drawn from a representative group of the interests concerned.

Communications and Broadcasting Sub-Committee: This directorate was chaired by Mr. M. R. C. Stradwick, Assistant Director-General (Telecommunications) of the Postmaster-General's Department. Committee members represented the Technical Directorate of the

Olympic Organising Committee, the Postmaster-General's Department, the Overseas Telecommunications Commission, the Australian Broadcasting Commission and the Federation of Commercial Broadcasting Stations, Australia. This Committee was responsible for the policy planning relating to telecommunications and broadcasting and for the overall co-ordination and direction of the provision and operation of services. Each authority represented therein set up its separate local organisation responsible for the construction, maintenance and operation of the several services. These local organisations worked directly in close liaison with each other and with the "customers" who, in particular, were the Technical, Housing and Catering, Press and Transport Directorates, with the Finance and General Purposes Directorate in the role of the authorising body.

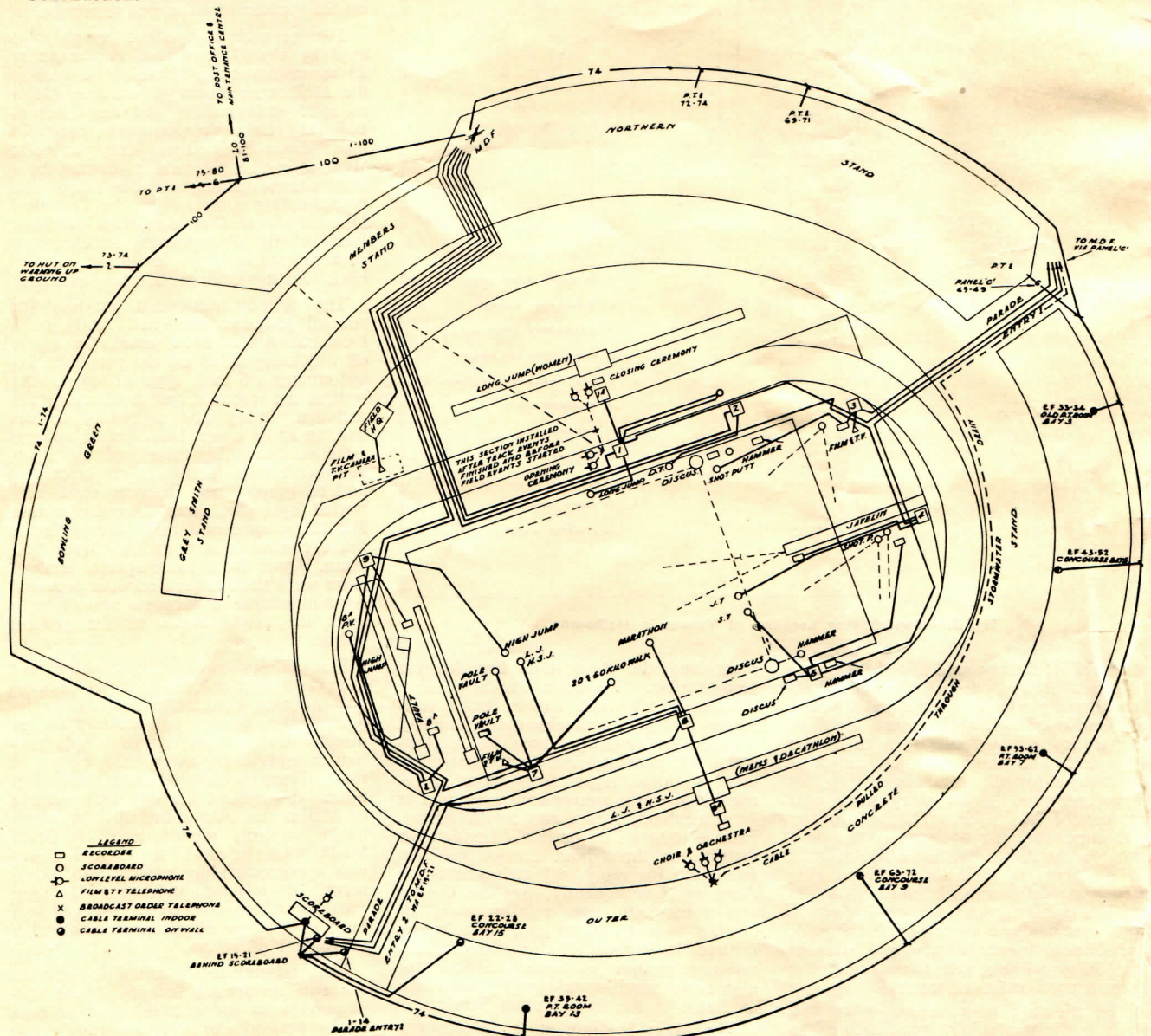


Fig. 4.—Plan of Melbourne Cricket Ground showing Underground Cabling.

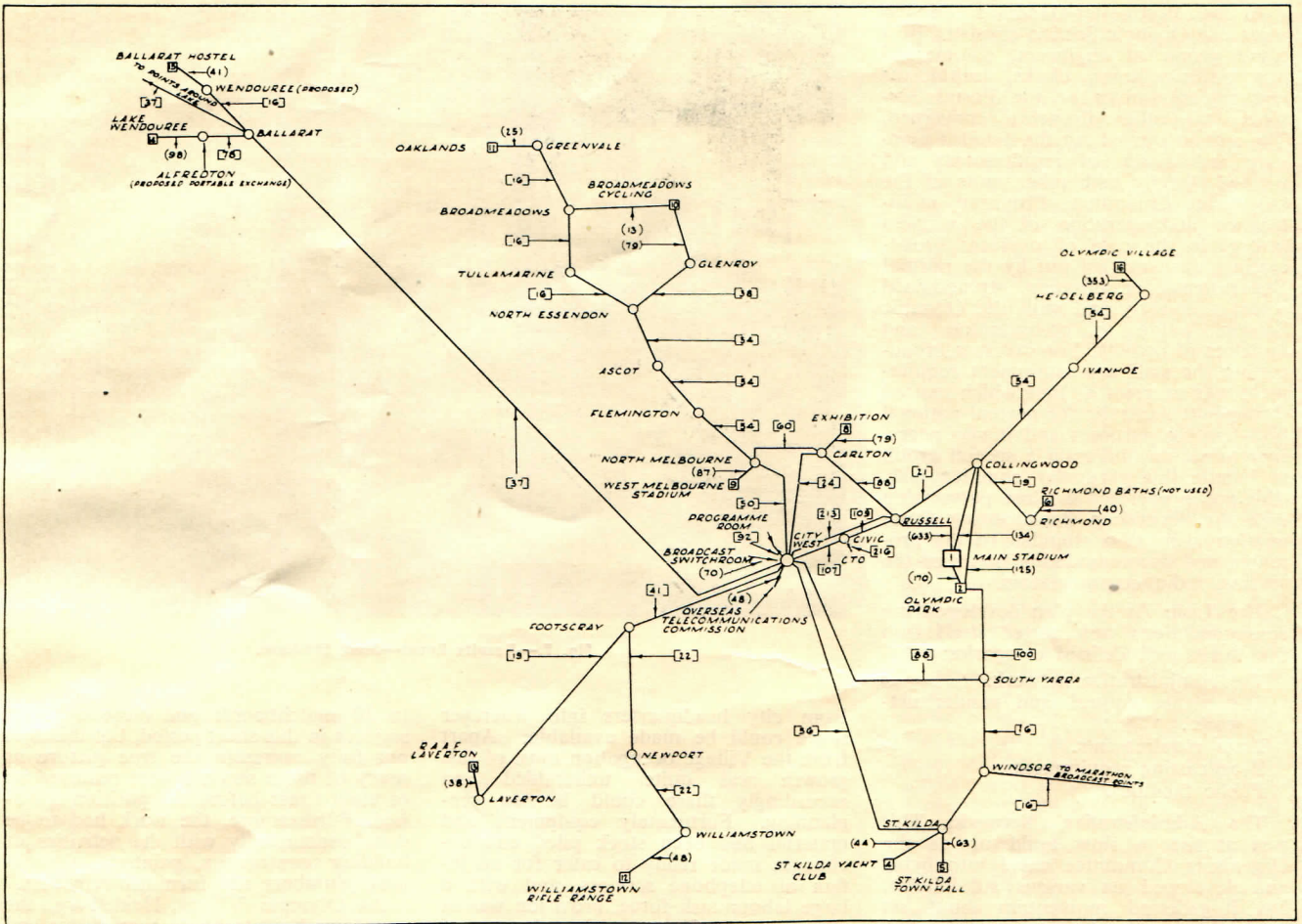


Fig. 5.—Circuits provided in Trunk and Junction Cables.

Venue	Lines to:—									Key to Fig. 5	Activity
	Public Exchange	Main Stadium	Other Venues	Central Telegraph Office	A.B.C. Switch-room	Melbourne Programme Room	Ballarat	Olympic Switch-board	Other Points		
Main Stadium	296		415	100	50	40		4	30	1	Athletics
Olympic Park	142	160	1	8		20		4	50	2	Swimming, Hockey, Water Polo, Soccer, Track Cycling
St. Kilda Yacht Club	20	13		3				1	7	4	Yachting
St. Kilda Town Hall	23	23		3	2	4		2	6	5	Fencing
Richmond Baths	21	15	1	2				1		6	Water Polo (not used)
Exhibition Buildings	27	26		4	2	8		2	10	8	Wrestling, Weightlifting, Pentathlon Fencing, Basketball
West Melbourne Stadium	31	28		4	2	8		2	12	9	Boxing and Gymnastics
Broadmeadows	41	17		3	2	8		2	6	10	Road Cycling
Oaklands	11	13		2				1		11	Pentathlon Riding and Running
Williamstown Rifle Range	26	15		3	2			2		12	Rifle and Pistol Shooting
Laverton	19	15		3				1		13	Clay Pigeon Shooting
Lake Wendouree	20	11	4	6	4	10		1	36	14	Rowing and Canoeing
Ballarat Hostel	25	1	4	4			6	1		15	Living Quarters
Olympic Village	317	19		6	2	2	6	2	5	16	Athletes' Living Quarters
Athletics Road Events	13	16								—	Marathon Run and 50 Km. Walk

In the Postmaster-General's Department, the Olympic Section consisted of a small group of engineers, commercial and traffic officers, clerks, technicians and representatives of the Postal Services and other Branches concerned. The section carried out the detailed planning and design of requirements and worked directly with other units of the Organising Committee. Provision, maintenance and operation of the services (except in the case of overseas broadcasting) were carried out by the normal Departmental organisation, strengthened where necessary, and with the Olympic Section acting as co-ordinators and directors of activity. For overseas broadcasting the staff and equipment requirement was as great as that which existed throughout Australia for normal national broadcasting purposes and it was necessary to set up and train a special group to handle this particular complex task. This group operated in close partnership with the Australian Broadcasting Commission team who attended to the programme and accommodation needs of the visiting radio commentators.

The Task: As the plan developed the communications task sorted itself into five fairly well defined categories:

- The administrative network.
- The venue control and results network.
- Press requirements.
- Broadcasting requirements.
- Public facilities.

The Administrative Network: This was at first a slow build up as the Organising Committee came into being and developed its various subsidiaries, but it gathered momentum about six weeks before the Games opened when Olympic Village was occupied and Directorate office staffs, sometimes doubled overnight, started to overflow

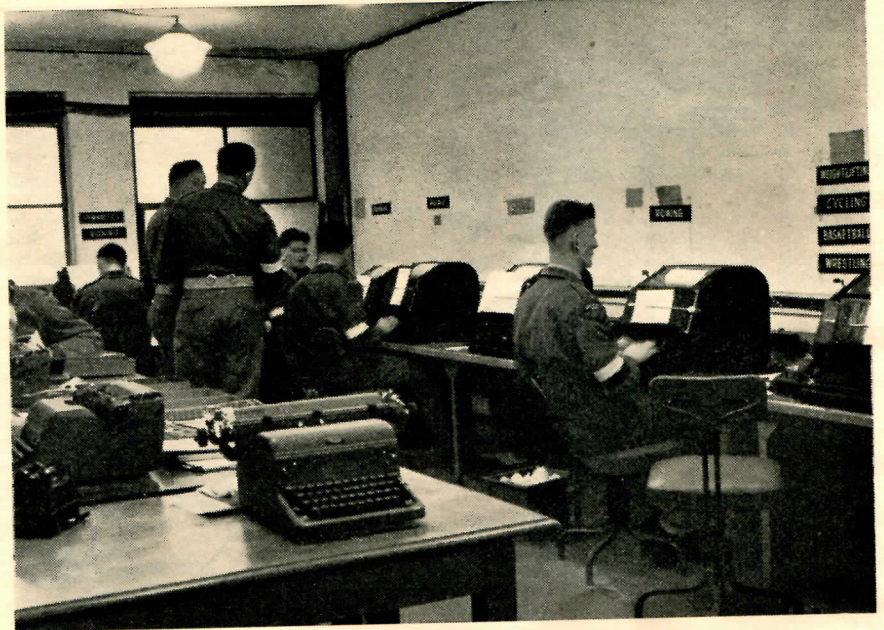


Fig. 7.—Results Room—Main Stadium.

from city headquarters into wherever space could be made available. Apart from the Village occupation most of this growth was quite unheralded and accordingly there could be no pre-planning. Fortunately equipment and material had been stock piled and exchanges made ready to cater for an influx of telephone services, and with a large labour task force, provision was in all cases met, usually in advance of occupation. The administrative telephone network grew from four P.B.X. switchboards and 100 or so telephone services

to 30 switchboards and close on 3000 services in this short period, but this does not fully represent the true picture as many of those services were removed up to eight times before the position stabilised. Furthermore, the work had to be done concurrently with the activities of building contractors, painters, electricians, plumbers and furniture removers.

As Olympic Village, Heidelberg, the new town built to house competitors and officials, was later to be converted to normal housing, telephone facilities were planned on a permanent basis. The difference, however, to a normal distribution system was that the location or density of services was quite unknown until the teams actually arrived; service then was required on demand. The system installed, then, had to be entirely flexible to meet whatever situation ensued, the only fixed factor being that teams were limited to telephone services in accordance with their numerical size. This entailed a cabling system far more elaborate than is normally necessary, but one which is not entirely wasted in that it will meet all possible future development of the area up to 100% saturation. In addition, at Olympic Village and the Ballarat Hostel, temporary post offices were installed with full mail, telegraphic, money order and all other standard facilities. These operated on a seven day week, 8 a.m. to 10 p.m. basis, in keeping with the continental pattern. Special facilities were installed to overcome the language problem and staff with multi-lingual knowledge were concentrated in the appropriate locations.

The administrative network covered airport and seaport terminals to cater for the arrival (and later the departure) of visiting teams and overseas visitors. Facilities were also expanded at some 45 city hotels which provided the accommodation for visiting officials and pressmen.

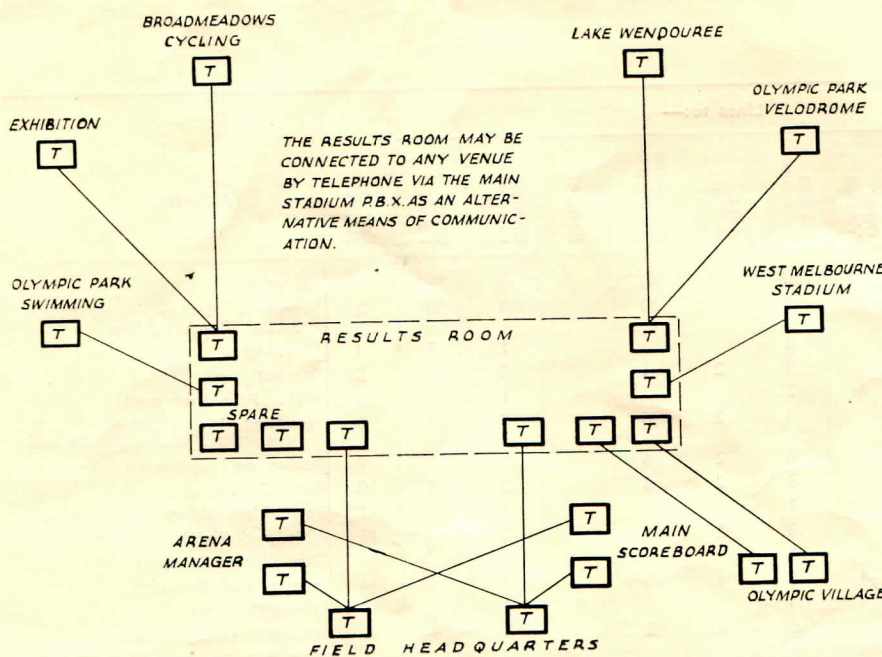


Fig. 6.—Results Teleprinter Network.



Fig. 8.—Field Headquarters—Main Stadium.

The Venue Control and Results Network: The general control and results reporting system consisted of mutually supporting teleprinter, telephone and radio networks radiating from the Main Stadium. All were controlled and co-ordinated by a communications co-ordinating officer on the staff of the Technical Director. Fig. 6 shows the results teleprinter network in diagrammatic form. The teleprinters were provided on point to point working between the Results Room at the Main Stadium (shown in Fig. 7) and all venues required to report any volume of results. This actually covered seven venues outside the Melbourne Cricket Ground, but included some locations such as the Exhibition Buildings, where one installation was used to report several sports, in this case wrestling, weight lifting, basketball and pentathlon fencing. All results reported, progressive and final, were received on stencil sheets on machines at the Main Stadium. Approximately 1,200 copies of each results sheet were run off and distributed by messengers to Organising Committee officials, team officials, pressmen and radio commentators. Selected results were also relayed by teleprinter to the main scoreboard at the Main Stadium and to Olympic Village.

A telephone network radiating from the Main Stadium switchboard supported the teleprinter network and also covered those venues not served by teleprinter, for example, the Soccer and Hockey Stadia, where only limited results were required at the end of matches. U.H.F. Radio also provided emergency circuits to some venues in case of line breakdown, but in general these were limited to road events such as the Marathon and the 20 and 50 km. walks. Radio was also used as an intercommunication system for these road

events and for athletic events at the Main Stadium.

The local intercommunication and control system at each venue was designed to cater for the particular requirements of the sport conducted there. For example, the arena at the Main Stadium was cabled to provide a number of reporting points fitted with field telephones with light weight headsets. Progressive results were phoned back to the "Field Headquarters" which consisted of a dugout on the boundary of the arena.

Fig. 8 is a view of "Field Headquarters" showing the telecommunication equipment. The radio network mentioned in the preceding paragraph also fed back results and information to this same centre. Results were assembled and checked by officials, and when authorised were transmitted back to the Main Results Room by teleprinter. Reporting points, Field Headquarters and the Results Room were manned by Olympic Officials and Army Servicemen from the Corps of Signals. For some events, for example, road events and rowing, the starters signal was transmitted to check points and the time-keepers at the finish line by electrical means over either line or radio.

The particular design at each venue required a detailed study of the method of conducting each sport and what information was required at the central control. As very few officials had any previous experience of conducting international sporting events, little information was available as the basis of these designs. Accordingly, rehearsals at each venue were arranged for the dual purpose of training officials and testing the effectiveness of communications. These rehearsals were invaluable and resulted in many important last minute alterations to systems and procedures. In some instances problems arose due to the lack of knowledge of the English language by competitors and visiting officials who reinforced local officials on some sports not commonly conducted in Australia.

Press Facilities: Some 700 pressmen were in Melbourne to cover the Games. Some of these represented large news combines and agencies like Reuters, American Associated Press, Agencie France, etc., others, periodical sporting magazines and others again were free-



Fig. 9.—Reuters Press Agency—Main Stadium.

lance journalists who sold their copy independently. The Press and Publicity Directorate for some months prior to the Games had endeavoured to assess requirements of accommodation, press seating and other facilities but met with little success except from the large agencies and combines. They accordingly concentrated on preparing full facilities for this group and skeleton facilities for an unknown number of others, commonly referred to as "unaffiliated press".

The Main Stadium was the hub of the press services. A number of rooms were fitted up as agency headquarters and copy rooms, and telecommunication facilities to collect and clear copy overseas were concentrated in these rooms. Most agencies leased telegraph channels either to their home cities and/or to London and San Francisco. These channels were extended from overseas terminals in Sydney, Canberra (Navy), Diggers Rest (Army), and Frognall (Air Force), to the Main Stadium Pressrooms and fitted with the appropriate equipment. Fig. 9 shows a typical press room at the Main Stadium. For local collection of copy, telephone services were installed in press seats and in the case of agencies these were extended on private lines to private branch exchanges

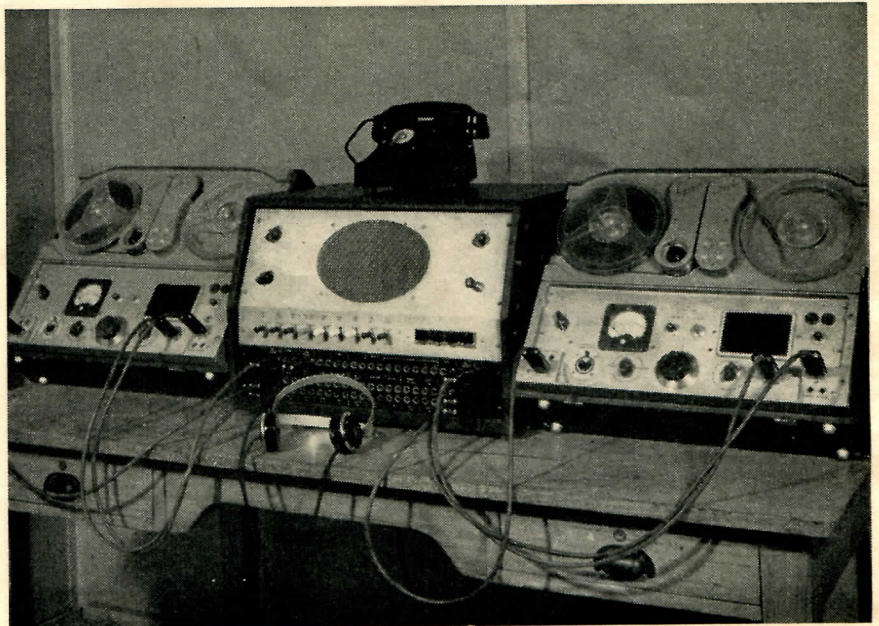


Fig. 10.—Studioette Equipment.

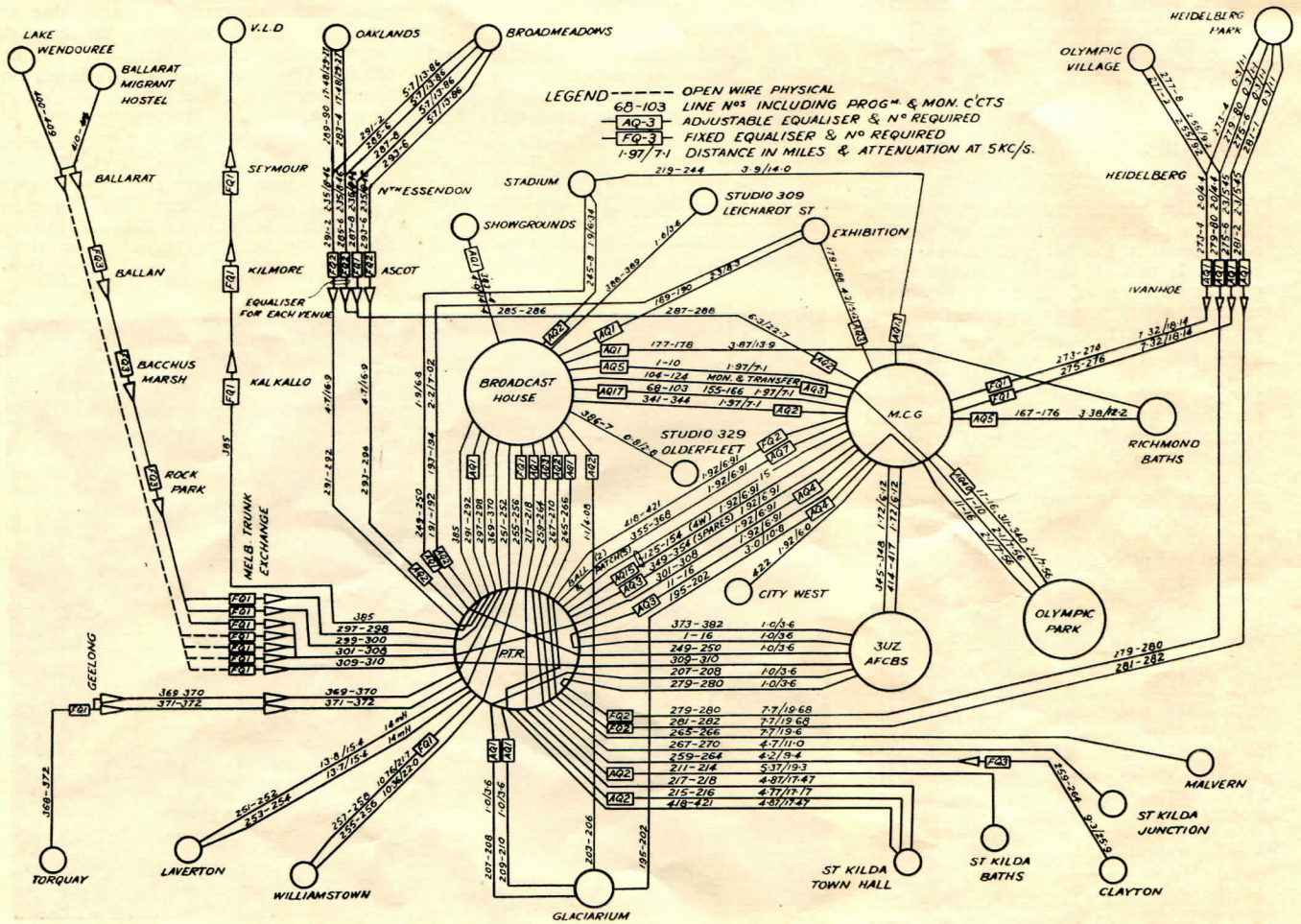


Fig. 11.—Programme Lines Provided for Olympic Games.

in the Main Stadium pressrooms. Other pressmen at times used leased telephone services on the public network for clearing copy to Overseas Telecommunications Commission and public telegraph offices. For the unaffiliated press, public telephones were available, either at pay stations or call boxes.

The Overseas Telecommunication Commission set up a large terminal office at the Main Stadium with a subsidiary at Olympic Park. The Post Office also set up public telegraph offices in the press reserve at all venues and also at Olympic Village, Heidelberg, Olympic Hostel, Ballarat, and the Airways Terminal, Essendon. Most of the visiting pressmen were quartered in city hotels and, when required, telephone and teleprinter services were installed in bedrooms or in lounges reserved for the press visitors. A night press telegram collection service was also operated with collection boxes located at the reception desks of a number of hotels. As equipment available in Australia only catered for telegraphic transmission of English letters and numerals, all messages handed in for transmission over the public system or using leased Australian equipment had to be converted to the Roman alphabet. It was not generally appreciated how many of the competing

nations use other characters in their alphabet and, at first, there was some little delay until all became accustomed to the requirements.

Broadcasting Facilities: The problem of radio coverage of the Games for overseas nations was rendered complex by virtue of the difference in times between Australia, Europe and the Americas and also because of the rather limited channels available for passing programmes. There are no interconnecting land line circuits suitable for programmes whatever and the other two methods, short wave broadcast transmission via Radio Australia and radio telephone, are suitable only when ionospheric conditions permit. Transmission of programmes is usually satisfactory only during our night hours which, however, fortunately correspond with daylight hours in Europe and America. As 45 of the competing nations were represented by radio commentators, transmission time had to be rationed and bookings of time organised on a fairly tight schedule. All these limitations meant that the only satisfactory method of obtaining and transmitting sufficient and suitable radio coverage was to tape record commentaries at the various venues, assemble and edit these

virtually a condensed story of the day's events during the night.

This was the basic plan behind the broadcasting organisation, and, apart from the Australian Home Service and some daytime direct broadcasts to adjacent countries such as New Zealand and Japan, all material was put on tape from commentators' seats and assembled at the Main Stadium at night where the final editions were prepared and transmitted. This entailed a vast installation at the Melbourne Cricket Ground capable of handling all the technical requirements normally found in permanent studios and programme transmission centres.

A complete floor of the new Northern Stand was taken over for these facilities. Forty-eight studioettes were constructed and specially treated for acoustical characteristics and installed with equipment to originate or edit tape recordings, and with facilities for transmission by land line via a central switching centre to Radio Australia or a radio telephone terminal or to both simultaneously. The equipment provided in each studioette is shown in Fig. 10. Other rooms were devoted to booking and staff offices, repair workshops, equipment storerooms, etc. The switching centre was connected by land line to all venues so that, if necessary, tape recordings made at remote venues like Ballarat or late at night such as for night events like wrestling, could be transmitted direct to the studioette used by a particular nation. Fig. 11 shows the network of programme lines set up for broadcasting the Games, and a block schematic of the equipment and switching arrangements is shown in Fig. 12.

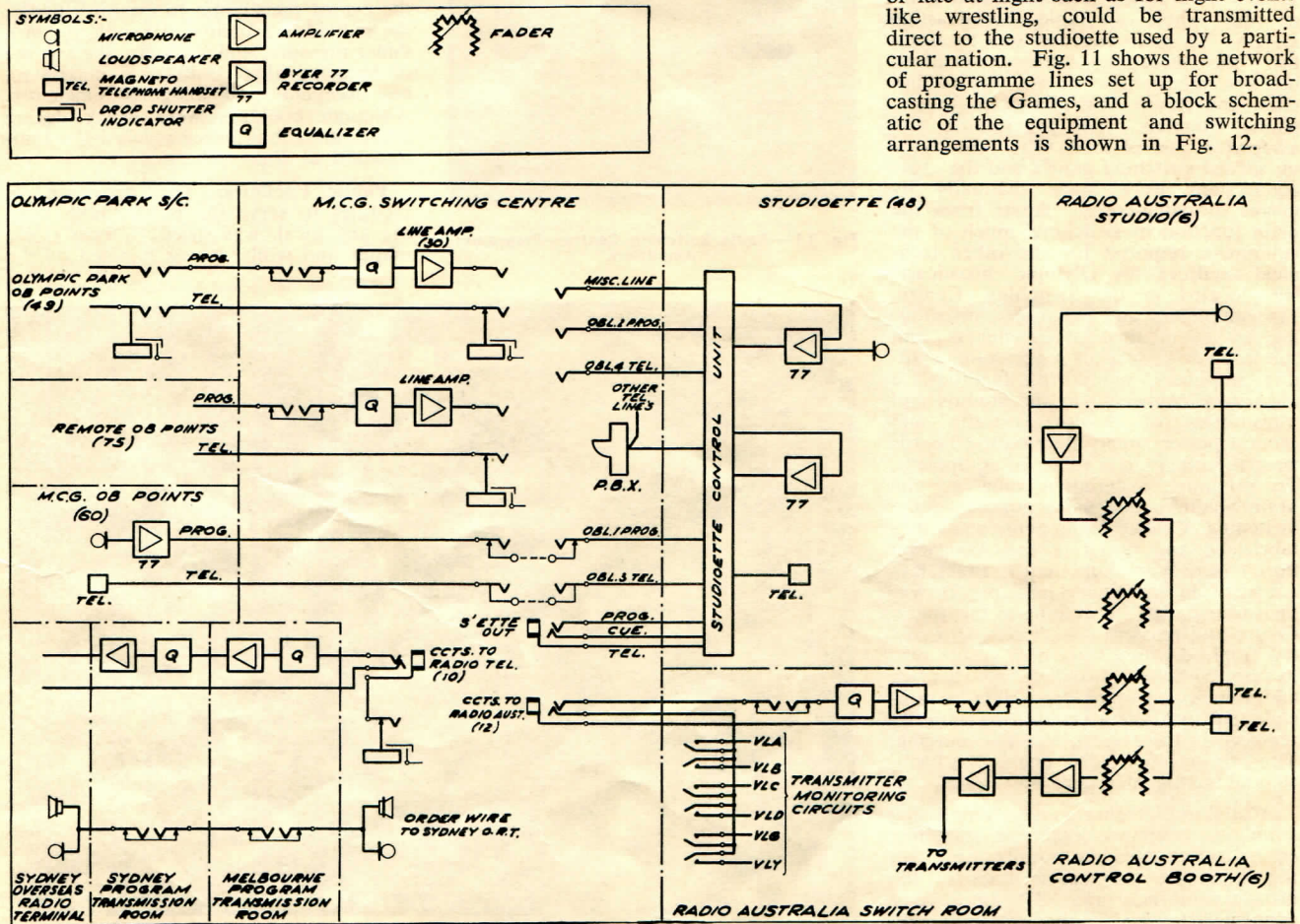


Fig. 12.—Schematic of Broadcasting Facilities.

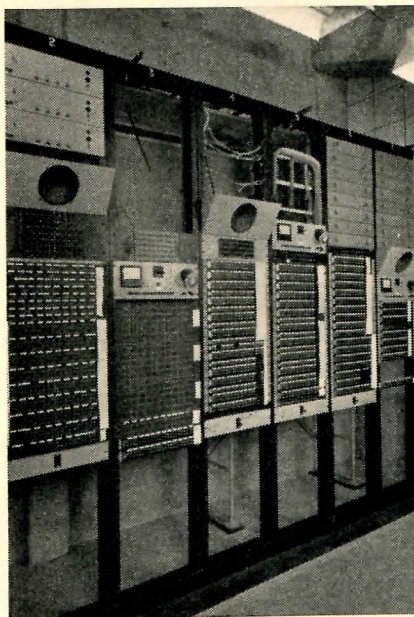


Fig. 13.—Radio Switching Centre—Line Terminations.

The Switching Centre shown in Figs. 13 and 14 was the technical focal point of the whole Olympic broadcasting system. Its main function was to establish the necessary cross-connections between microphone points, the studioettes, and Radio Australia or radio-telephone channels. All programme and associated control lines were terminated on special switching panels and the cross connections were made manually by means of patch-cords. Apart from the main function of switching, much of the equipment required for the other technical facilities for Olympic broadcasts was located in the Switching Centre. Line amplifiers and equalisers, distributing amplifiers for public address and "atmosphere", special programme splitting amplifiers, monitoring facilities, a teleprinter connected to the studios and transmitters of Radio Australia and general power supply distribution boards were the other main items of equipment. To minimise installation time at the Main Stadium, the major portion of the Switching Centre equipment was prefabricated and tested in the Australian Post Office Workshops to the exact layout used in the final location. It was then transported in sections to the Radio Centre and reassembled there. Many of the amplifiers used were of a design new to the National Broadcasting Service and were constructed on a plug-in principle so that they could be readily replaced in the event of faults occurring. This arrangement also enabled a substantial saving in space.

A dial monitoring system employing automatic telephone exchange switching equipment enabled the monitoring of all the important programme lines of the broadcasting network. 270 lines were connected to the monitoring equipment and considerable use was made of the

system, particularly in checking that the correct connections were established between the studioettes and Radio Australia. A telephone switchboard, separate from the broadcast switching panels, provided intercommunication between the Switching Centre, the Studioettes and the Venue Supervisors. Lines from this switchboard also connected to Radio Australia and the Melbourne Trunk Exchange. The telephone switchboard operator also controlled the system of coloured lights along the studio corridor which indicated that a technician in a studioette required advice or assistance.

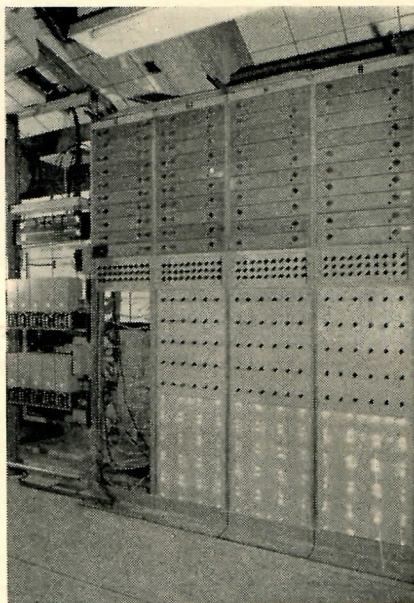


Fig. 14.—Radio Switching Centre—Programme Amplifiers.

Some 250 tape recorders of a type designed and developed in Australia were concentrated in Melbourne. These were distributed amongst the venues in proportion to the bookings received. Each commentator's seat was wired with a control unit to give facilities for tape recording, transmission to his studioette at the Main Stadium or to broadcasting stations, sound effects such as crowd noise or music that could be dubbed on tape as a background and telephone lines back to studioettes and the radio switching centre. A technician was allocated to each commentator and was responsible for all the technical operations and the equipment. Figs. 15 and 16 show radio commentators at the Main Stadium and Exhibition Building.

As the force of technicians required for this task exceeded the normal broadcasting staff in the Commonwealth and as this latter staff was, in any case, required for the Home Broadcasting Service and the many other special broadcasts made concurrently with the Games and with the Duke of Edinburgh's visit, it was necessary to select and train other technical staff in the P.M.G. Department for the purpose. From some 1,200 volunteers, technicians were selected and trained to an ever increasing pitch of efficiency over a period of nine months. 283 were finally put through an exhaustive rehearsal on the eve of the Games to establish firstly, the individual's ability to handle his task under pressure, and secondly, the volume of bookings that could, as a maximum, be accepted and handled efficiently. Although bookings were heavy during the Games, they never reached the limit imposed at these rehearsals.

Public Facilities: The provision of facilities to serve the public, both visiting and local, was strictly a Post Office matter and whilst it was handled by the



Fig. 15.—Press and Broadcasters' Seats during Opening Ceremony.

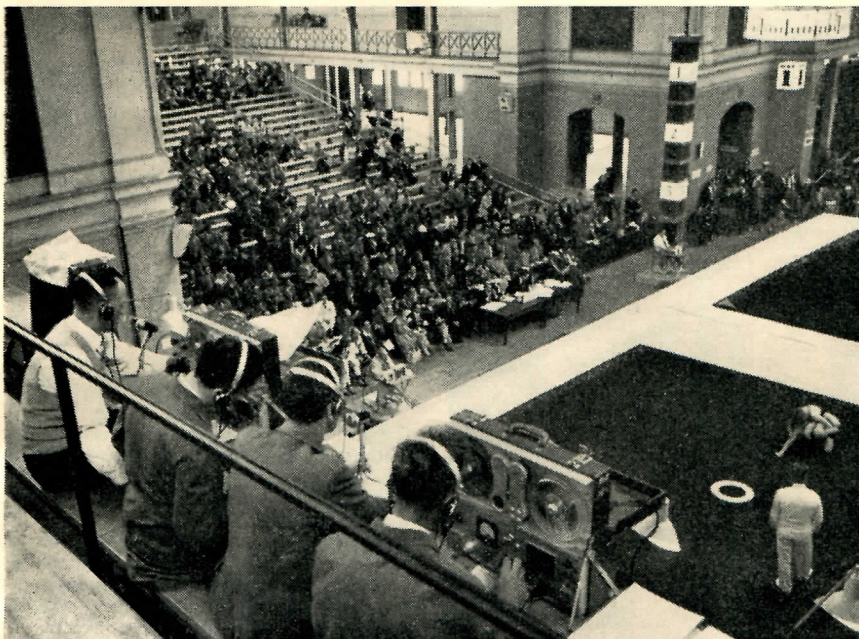


Fig. 16.—Broadcasters' Seats at Exhibition Building.

Olympic Games unit in the P.M.G. Department, it was not related to any requirements requested by the Olympic Organising Committee.

A telephone information bureau with the call sign MOLY-16 (Melbourne Olympic Games of the 16th Olympiad) was set up in part of the old Central C.B. Manual Exchange, and is shown in Fig. 17. Whilst originally intended to handle only enquiries relating to postal and telecommunication matters, it became the established policy to answer all questions within reason. In the process a card index dossier of questions and appropriate answers was built up and made available on a rotary container to each of the 15 telephonists staffing the bureau. Some of these telephonists were linguists and in addition a panel of linguists employed by the Department was made available for contact by telephone when queries could not be understood.

Three post offices of modern design were erected in the parklands surrounding the Main Stadium and Olympic Park and provided the public with full postal facilities including sales and Olympic postmarking of the special stamps designed to commemorate the Games. As will be seen from Fig. 18, these present a very attractive appearance. Two mobile trailer Post Offices were built to serve smaller venues where no other accommodation was available and also to support the park post offices on busy days. These mobile offices were equipped with postal, public telephone and telegraph services, and one of the units is shown in Fig. 19.

Other special facilities provided for the public were:—

(i) A number of public telephone cabinets installed in busy locations, in parti-

cular in the two villages and adjacent to the Main Stadium.

(ii) Special philatelic bureaux for the sale and postmarking of Olympic stamps.

(iii) Compartmented letter receivers at the village and several of the main venues. Each compartment was designated by a distinctive postmark so that customers could pre-select a particular stamping for their letters.

Information booklets on postal and telecommunication matters and a special Olympic telephone directory were

printed and distributed to visitors and the local public.

Summary of Facilities Provided: Some of the interesting statistics of P.M.G. Department facilities provided, and traffic handled are:

Telephone facilities installed—	
Exchange lines	1,500
Private lines	560
Switchboards	36
Extension services	750
Telephone information bureau: positions	15
Public Telephones	190
Total line provision (including telegraph, broadcasting and television)	4,000
Olympic telephone directories	6,000
Telephone traffic handled—	
Overseas daily average connections (100% increase on normal)	135
Interstate connections (25% above normal)	5,345
Intrastate connections (10% above normal)	15,571
P.T. Calls from venues (daily average)	5,500
Telegraph facilities provided—	
Teletypewriters	300
Telegraph offices (including 2 in mobile post offices)	12
Mobile picturegram transmitting units	4
Leased channels (local and overseas)	45
Telegraph traffic—	
Messages originating—Press (305,179 words)	1,698
Others	2,319
Messages terminating	11,365
TOTAL	15,382



Fig. 17.—Telephone Information Bureau "MOLY 16".

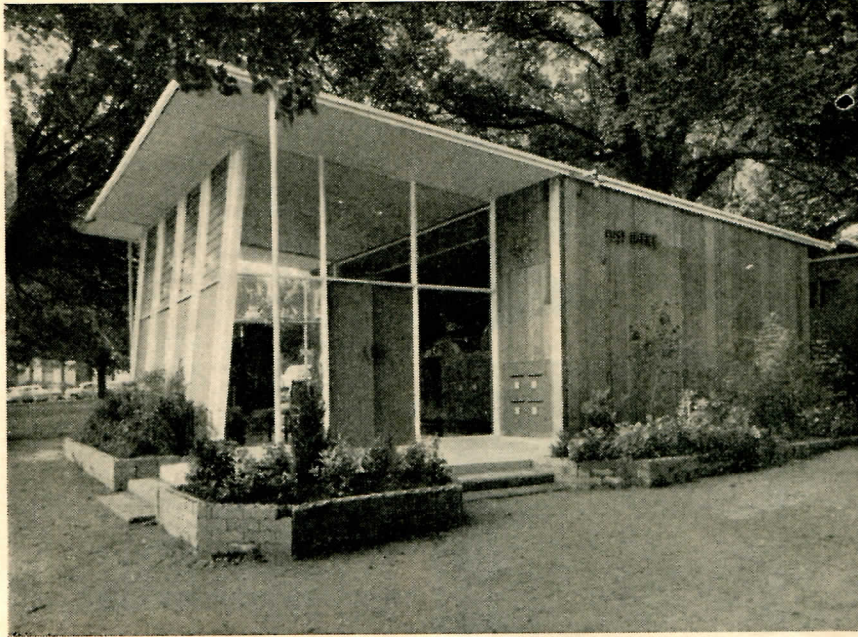


Fig. 18.—Temporary Post Office near Main Stadium.

Postal facilities—

Temporary post offices	10
Mobile post offices	2
Special Olympic stamps (From 4d. to 2/-)	140,500,000
Special Olympic post- markers	52
Postal information centres	2
Philatelic bureaux	2
Olympic postal guide book- lets	10,000

Postal business—

Mail handled at venues:	
articles	750,000
Stamp sales at venues	£36,766
First day cover sales	330,000

Conclusion: The striking feature of the work was that, as the Games ran for a mere 15 days, the operating period for the majority of the services provided was confined to this short term. There was consequently no time once the "balloon went up" to make any major variations. Everything was accordingly planned with the primary object of adequate provision, without being lavish, and utmost flexibility. The success of the telecommunication services proved that these principles were correct.

Total traffic transmitted over public channels: words	2,897,357
Picturegrams:	
Commonwealth	1,029
Overseas	2,110
TOTAL	3,139
Picturegrams: Private line bookings: hours	166
Broadcasting facilities—	
Studioettes	48
Tape recorders	300
Special lip microphones	175
Broadcast microphone points	200
Broadcasting lines	400
Switch and repair centre, Main Stadium.	
Broadcasting business—	
Overseas transmissions:	
Radio Australia	857
occupying 537 hours.	
Radio telephone	285
occupying 200 hours.	
TOTAL	1142
occupying 737 hours.	
Bookings lodged at radio centre for various facilities	4,116



Fig. 19.—Mobile Post Office.