Communications for the America's Cup Challenge

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Abstract: Two historic papers from a special issue of the *Journal* in 1986 featuring the communication requirements for the America's Cup 1986/87 challenge in Fremantle.

Keywords: Telecommunications, History, America's Cup, Fremantle

Introduction

In 1986, the Society produced a special issue of the *Telecommunication Journal of Australia* (Volume 36, Number 2) featuring ten papers on the communication needs for the America's Cup challenge scheduled for 1986/87. Two of these papers have been selected for this historic review.

In 1983, *Australia II* from the Royal Perth Yacht Club in Fremantle, Western Australia, was successful in winning the America's Cup from the New York Yacht Club, ending over 130 years of possession and 24 previously unsuccessful challenges. The race history is well known, with *Australia II* coming from 1/3 down to win 4/3, and the world yachting spotlight focussed on Fremantle for the Cup's defence in 1986/87.

The first paper (Hume, 1986) provides a summary of the America's Cup history and an overview of the infrastructure and telecommunication requirements in Western Australia. Logistically, seven syndicates challenged for the cup in the US in 1983. Initially, twenty-six syndicates indicated they were serious about challenging in 1986/87, which later was reduced to thirteen by the time of the elimination races. The paper details the necessary upgrades to dock facilities at Fremantle, and provides an explanation of the "12 metre" boat dimension rule and the race program for this first Australian defence.

The second paper (Herring, 1986) discusses the infrastructure establishment, service provision, television operations and navigational equipment. The number of additional visitors to Perth was estimated at well over one million people, of which twelve percent would be overseas visitors. This influx forced major capital works to be undertaken and helped the introduction of new technology, such as debit-card public phones. All spare telecommunications capacity in the surrounding area was also brought on-line for the event.

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The other papers in this special issue of the *Journal* on the communications for the America's Cup 1986/87 challenge are highly recommended for further reading and cover the following topics;

- Video and Sound Programme Network for America's Cup;
- Cabling for the Cup – A District Prospective;
- America's Cup Impact on Perth Interstate and International Telephony Traffic;
- 12 Metre Yacht Telemetry System;
- Frequency Management for the America's Cup;
- America's Cup Media Complex;
- The Official America's Cup Directory.

Dennis Conner skippered the *Stars and Stripes 87* yacht to a 4/0 victory over *Kookaburra III* at Fremantle in early 1987. The Cup subsequently returned to San Diego Yacht Club in America. This was the last time twelve metre yachts were raced for the America's Cup, as the rules were changed to allow for different boat designs such as multi-hull catamarans.

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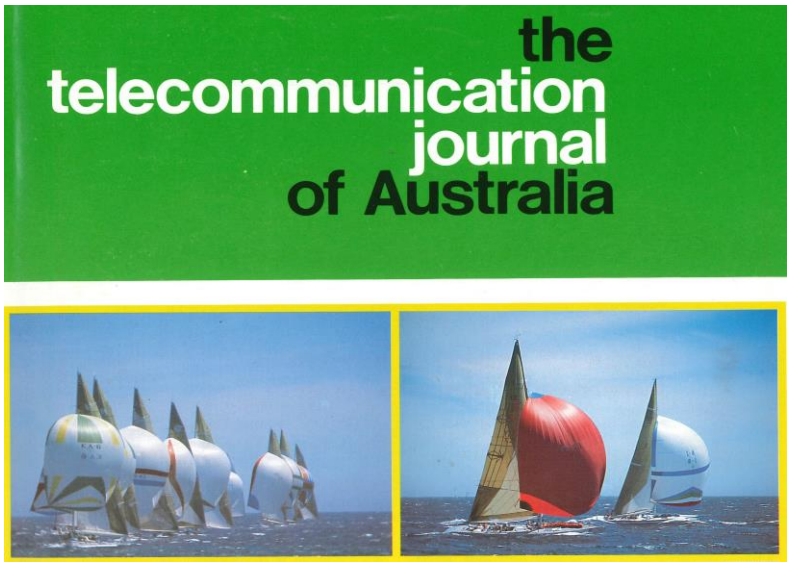
The Historic Papers



America's Cup History and Telecommunications Needs

B. R. HUME B.E. (Hons), M.I.E.Aust.

This paper briefly outlines the saga of the America's Cup and how the Twenty Sixth Challenge came to be held at Fremantle, Western Australia. The situation is considerably different to Newport, Rhode Island, both geographically and telecommunications-wise, and this latest challenge has many more challengers than any previous event. Telecom has had to develop the telecommunications facilities to meet all needs of syndicates, media and visitors.

THE ORIGIN OF THE AMERICA'S CUP

The saga of the America's Cup began in 1851, when a syndicate of members of the New York Yacht Club got together to build an advanced racing yacht called the America. They wanted to show off this yacht in England so they sailed across the Atlantic to Cowes, the home of the Royal Yacht Squadron. One thing led to another and a challenge was mounted between the America and the best yachts that the Royal Yacht Squadron could enter in the field. The race took place against fifteen English yachts, around the Isle of Wight, and the America was of such a superior construction that it beat the English yachts with ease. Thus the America's Cup was presented to the New York Yacht Club in recognition of this great event.

The letter of presentation which was sent from the Royal Yacht Squadron subsequently became what is known as the "Deed of Gift." The letter stated that "any organised yacht club of any foreign country shall always be entitled, through any one or more of its members, to claim the right of sailing a match for this cup." Over the past 130 years there have been 24 unsuccessful challenges to try and regain the cup from the New York Yacht Club.

OUTLINE OF SUBSEQUENT CHALLENGES

The first challenge was held in 1870, when the Englishmen set out to try and regain their cup, which they had lost to the America. In those days the challenging yacht had to sail across the Atlantic Ocean to challenge the New York Yacht Club at New York. These challenges were then held at irregular intervals up until 1980 and in total England mounted 14 challenges, Scotland 1, Canada 2 and Australia had 6 attempts to wrest the cup from the New York Yacht Club.

Many changes were made to the "Deed of Gift" from time to time as conditions varied and yachting designs advanced. The major change was that it was not necessary for the yacht to sail itself to New York.

Some highlights of the Challenges:

In 1930 the 14th challenge was held and the location of the races was shifted to Newport because of the congestion of shipping in the vicinity of New York.

In 1958, the 17th challenge, the class of yacht was changed to the 12 metre class for economic reasons. Over the previous challenges the yachts had become bigger and bigger and much more expensive and it was decided to rationalize to the 12 metre class.

In 1962 the 18th challenge was held and this was the first one where Australia challenged with the yacht Gretel.

In 1970, for the 21st challenge, trials had to be arranged between the foreign challengers to select the one to meet New York Yacht Club's defender. This was the first time that more than one challenger had made a simultaneous challenge and this time the Australian Yacht, Gretel II, beat the French entry for the right to make the challenge.

THE 1983 SUCCESSFUL CHALLENGE

The 25th challenge, held in 1983, was notable for the increased number of challengers. In fact, there were seven yachts entered from five nations so that an extensive pre-selection series of races was needed. The Royal Sydney Yacht Syndicate was selected as the Challenger of Record and many races were conducted over a 3 month period at Newport.

The yacht chosen to challenge the New York Yacht Club was Australia II, entered by the Royal Perth Yacht Club and owned by a syndicate headed up by Alan Bond.

There were four yachts entered to become defender of the cup for the New York Yacht Club. Over the same 3 month period trials were conducted by the New York Yacht Club to pick the best defender and finally Liberty, skippered by Dennis Connor, was selected.

The history of the challenge is well known, with Australia II being down 1/3 after the first 4 races and then coming back to level the score at 3 all. In the tradition of America's Cup there was plenty of controversy during these races. The final race was then won by Australia II to make it a 4/3 victory and the public and media attention was aroused as never before. It was realised that the New York Yacht Club had finally lost the cup.

REACTION IN WESTERN AUSTRALIA

The Royal Perth Yacht Club suddenly found themselves to be the possessor of the America's Cup and immediately set about preparing for a new challenge series. An avalanche of challenges was received by the Club and, at the time of paying the first deposit, there were 26 syndicates that said they were serious about challenging for the cup.

The W.A. State Government and the Royal Perth Yacht Club quickly decided that there was insufficient accommodation to cater for such a large number of challengers and a new marina was put on the drawing-board. With the large interest being generated over the America's Cup, it appeared that Perth and Fremantle were in for a tourist

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invasion and careful preparation was needed to ensure that the 26th Challenge would be a great success.

It was realised very early by Telecom that extensive telecommunication facilities would be needed to support the 26th Challenge for the America's Cup. Early discussions were held with people who had been at Newport at the time of the successful challenge to assess the communication provisions and shortages at that time. These discussions showed the need to prepare a very extensive media centre to house a large number of media personnel who could be expected to cover the event. Similarly, television could be expected to place heavy demands on the infrastructure. To assess the situation at first hand the author visited Newport late in 1984.

THE SITUATION IN NEWPORT, RHODE ISLAND

Newport is about 200 km from New York, 50 km from Providence, the capital of Rhode Island, and in summer is the centre of a very popular yachting season. Several oceanic events start from Newport, including the famous annual Newport-to-Bermuda race. Newport is located on Narragansett bay, which houses 25 individual yacht clubs. The America's Cup challenge is just one of a series of racing carnivals to be held on Narragansett Bay during the summer.

Newport is historically orientated as many of its buildings date back to the 17th Century. The main street, Thames Street, feeds the shipyards, where the 12 metre yachts were docked and the area is so compact that it is ony 100 m from the pens to the main street. The media centre was located in Thames Street among the shipyards so that it was a short walk between any of the points of the waterfront. As the crowds built up Thames Street had to be closed to make it available for pedestrians.

Newport has hosted several challenges, which have all been very one-sided affairs. As the event has grown, Newport has been able to accommodate it with little effort. The seven challengers in 1983 were located within the existing harbour facilities. **Fig 1** shows the typical berthing arrangements which were temporarily converted for syndicate use. The large restaurant "Christies" was a favourite haunt for Australian supporters.

The local telephone company provides telephones at Newport. For the 25th Challenge they installed additional lines and telephones in the harbour area and in the media building. Telex services are provided by Western Union International using cable pairs provided by the local telephone company. Apart from these additional lines and augmentation of the circuits from Newport back to

FIG. 1. Waterfront at Newport near Australia II berth.

Providence, the capital of Rhode Island, there was little work needed by the telephone company. At that time there was no International dialling and all calls had to be placed through an operator. There was no paging or mobile telephone service available.

The major television networks in the United States largely ignored the America's Cup series. The local television station provided outside broadcast links to a boat, helicopter and the blimp and a video link from Newport to Providence. This station provided live coverage during the final series.

The only radio broadcast coverage was provided by the local Newport Radio Station. They used a reporter on a boat following the race and provided frequent updates on the contestants' positions during their normal programme.

The arrangements outlined above worked well during the elimination series of races and the first few races of the final seven. However, when Australia II won its second and then its third race there was a totally unprecedented increased interest in following the event. Suddenly Newport was deluged with media representatives who wanted to cover the final races and television stations were demanding live coverage of the event. Only the NBC network was able to get the live coverage because it has affiliations with the local television station in Providence. The local radio company was also able to sell its coverage of the America's Cup extensively throughout the United States, using dial-up STD circuits.

The overall impression of Newport was that they were not prepared for the huge increase in interest during the latter races. To avoid this situation at Fremantle,

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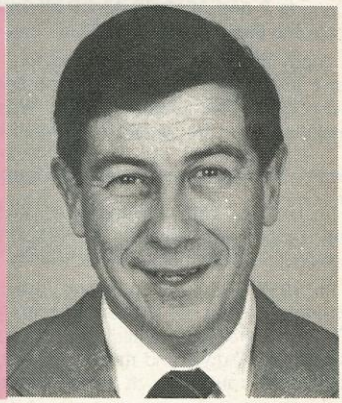
In 1983, when Australia won the cup, he was Superintending Engineer of the Planning Branch, Western Australia. Here he controlled the planning of telecommunications facilities for the twenty-sixth defence to provide the basic switching, cabling and transmission infrastructure. In December 1985 he was promoted to the position of Regional Engineer, Metro Region where he now also controls the installation of the engineering plant to support America's Cup telecommunications.



telecommunications facilities would have to be augmented considerably.

COMPARATIVE SITUATION AT FREMANTLE

Fremantle is 16 km from Perth at the mouth of the Swan River and is the major port for Western Australia. It is also an historical site, being the point where the first European settlers landed here in 1829. The aim was to develop America's Cup facilities in a compact location to allow people to walk between the various facilities.

It became apparent that the Fishing Boat Harbour would be able to provide some facilities for the visiting syndicates. In fact two syndicates, Bond's Australia III and the New York Yacht Club, established themselves in this harbour at the end of 1983. Not all of the visitors could be accommodated in this area, so an additional marina called Challenger Harbour was constructed. **Fig 2** shows a panoramic view of the harbours during preparations for the elimination series.

The most suitable existing building for the media complex proved to be a hall owned by the Fremantle Port Authority **(Ref 1).** This is located about 400 m from the new Challenger Harbour towards the main Fremantle Harbour. **Fig. 3** shows the layout of the area and the location of the significant points together with berthing arrangements for the syndicates. The theatrette in the Fremantle Port Authority building was also designated as the media interview room.

The area selected is not as compact as Newport. This is to be expected as the Fremantle challenge will be a much larger event involving many more syndicates. There are several advantages at the Fremantle location as compared to Newport.

- the site is free of main streets and traffic will not be a problem;
- there is a railway skirting the area to provide access for large numbers of people without the necessity of providing parking space;
- the access from the marina to the America's Cup course area is very direct for the competing yachts;
- the main deep water port in Fremantle for overseas ships is within walking distance;
- the area is more open and will allow larger groups to be accommodated.

Telecom Australia is in a much better situation to provide facilities for this event as it provides all types of communication facilities and is able to plan the complete facilities for telephones, telex, facsimiles, data, TV bearers, radio programme lines, mobile telephones and radio paging. The early selection of the basic plan enabled Telecom to move into the construction phase of the new facilities.

ASSESSMENT OF TELECOMMUNICATION REQUIREMENTS

Because of the long lead times to purchase telecommunication equipment, early advice of the requirements was needed. This proved impossible to obtain as those involved had not reached that stage of their planning. From discussions it appeared that the syndicates and the media complex would be the main focus for telecommunication efforts. The author's overseas visit included other locations which were related because they were all sporting events which aroused worldwide interest. The experiences of overseas organisations had then to be translated into what would be required in the Fremantle situation.

All the early planning work by Telecom was done by the Engineering Department as an extension of normal network development activities. The increased activity at Fremantle will require additional telephone services, causing greater traffic loads on connecting junctions. An additional 1000 lines of subscribers capacity was provided, together with augmented cable to the marina area and the media complex. Junction relief was a more complex problem requiring the earlier installation of an optic fibre cable, containing 10 fibres, from Perth to Fremantle. This cable is now providing circuits between the Wellington and Fremantle exchanges on a 140 Mbit/s bearer. Additional switches have been provided at coastal

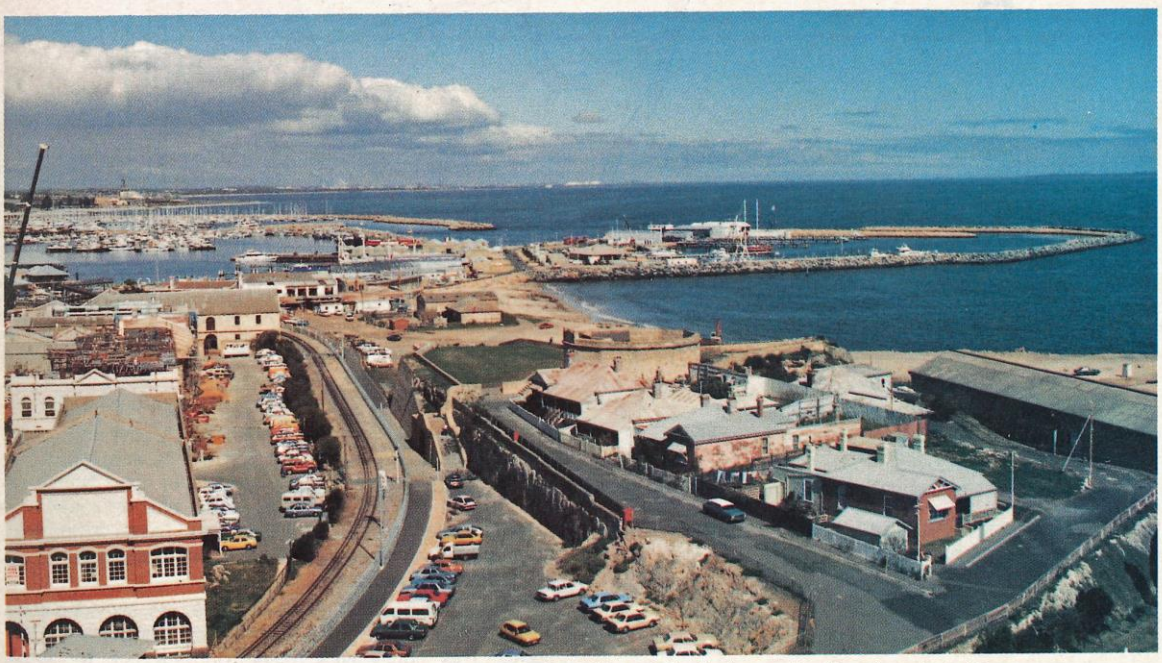


FIG. 2. View from Fremantle Port Authority Office of the harbours for the America's Cup.

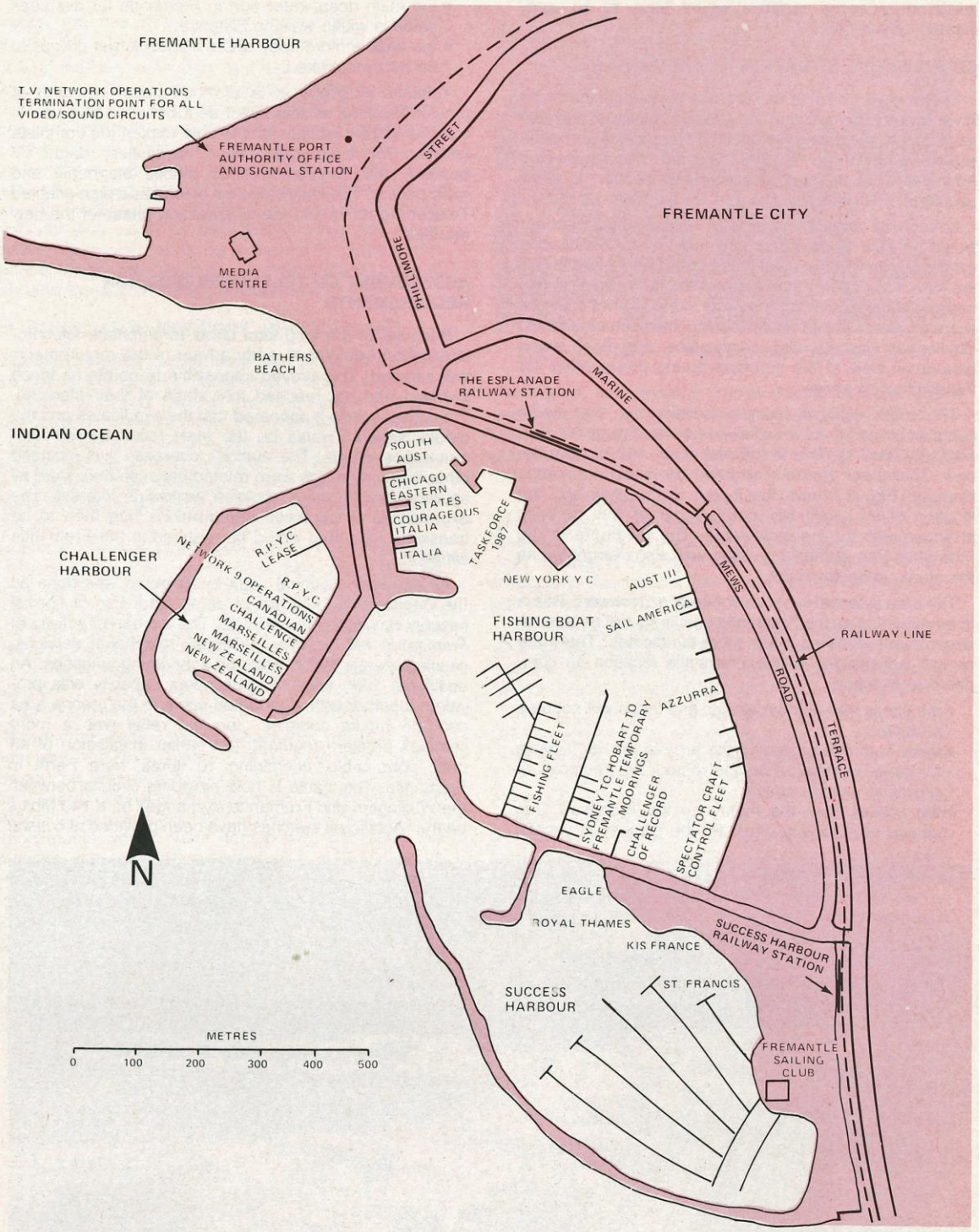


FIG. 3. General Layout at Fremantle, showing America's Cup Syndicate Sites.

telephone exchanges north of Fremantle to cater for the expected tourist influx.

The design and provision of facilities in the media complex was a special project and Reference 1 in this issue gives a description of this work.

The additional traffic load is expected to have a heavy interstate and international bias. We have planned to augment these routes by installing the 1987 normal circuit requirements by October 1986.

To meet the need for television coverage, six video links from Fremantle to Perth were planned using spare optic fibres. This figure was based on one link for each Australian network, with two for itinerant overseas

programmes. **Ref 2** shows how this early estimate has been augmented to meet later requirements.

Radio broadcast circuits were planned to be provided over 2 Mbit/s links from Fremantle to Perth. Again, the early requirements have had to be augmented as in **Ref 2.** This increased circuit loading has considerably exceeded the capacity of the Television and Radio Operating Centre which has consequently been re-arranged.

To coincide with the Cup, the Commonwealth Government brought forward the completion date of the new Perth International Airport building to October 1986. This required another optic fibre solution as the new building is remote from any telephone exchange. **Ref 3** gives more details.

Other increases have been made to the Mobile Telephone Service (500 customers), public telephones (coin and card), paging and telephony links to cruise ships which are expected to visit during the Cup period.

When the first syndicate arrived there was a necessity to set up a full-time Commercial Manager position to establish and maintain contact with all parties involved in the challenge. The occupant is Mr C. Herring, who has ensured that all Telecom groups coordinate their efforts to meet the needs as they arise **(Ref 4)**.

NUMBER OF SYNDICATES

As mentioned earlier there were initially 26 challenge syndicates. Our advice was that these would probably reduce to about 16. This has occurred and the withdrawals so far have brought the number down to 14 challenging syndicates. The Challenger of Record is the Costa Smeralda Yacht Club of Sardinia and they will be organising the elimination series to determine the best yacht to be the challenger. The large number of races required will need two or three race courses to be used simultaneously. These elimination series will provide plenty of match sailing experience for the challengers.

A similar story was experienced with the number of defenders which started off about 10 and has now been reduced to four. The Royal Perth Yacht Club will be conducting an elimination series to pick the best Australian boat to be defender. This series will be conducted at the same time as the challenger series. Whichever Australian boat is selected as the defender will be representing the Royal Perth Yacht Club and will seek to retain the Cup for that Club.

CONCLUSION

The 26th America's Cup Challenge is by far the largest in its 136 year history. It has grown to be a very prestigious event and the large entry will attract visitors from all around the world. The media coverage must be of a very high standard to satisfy the interests of people in many countries.

This article outlines Telecom Australia's preparations for communications for the America's Cup series. The advanced planning work has allowed ample infrastructure to meet the communications needs. The other papers in this edition of the Journal give more details of the facilities provided.

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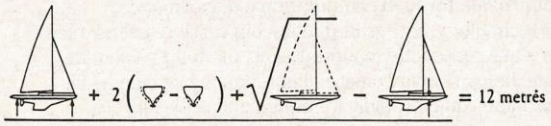
The 12 Metre Yacht

WHAT IS A 12-METRE?

It is a yacht which complies in every respect with the requirements regarding construction and equipment contained in the Deed of Gift and the Interpreting Resolutions applying to national origin of design and construction.

Bilges shall be kept as reasonably dry as possible while racing. No device shall be fitted or employed which would permit the tilting of the mast athwartship.

This class of racing sailboat is based on a mathematical formula which takes account of hull length, skin and chain girth, sail area and freeboard. When formula values are summed and divided by a mathematical constant the resultant rating (12 metres or 39.37 feet) should result.



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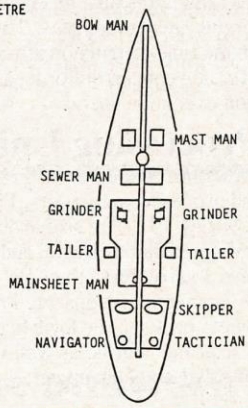
ON BOARD A 12-METRE



FIRST AUSTRALIAN DEFENCE THE AMERICA'S CUP 1986-87 WESTERN AUSTRALIA

RACE PROGRAMME

13 CHALLENGERS – 6 COUNTRIES

LOUIS VUITTON CUP

ROUND ROBINS

ROUND ROBIN 1 OCT 5-20
ROUND ROBIN 2 NOV 2-19
ROUND ROBIN 3 DEC 2-19
Each yacht will meet the others once.

LOUIS VUITTON CUP SEMI-FINALS

DEC 28-JAN 7, 87
The four top-scoring yachts will enter the semifinals.
The first yacht to win four races.

12

Louis Vuitton Cup

LOUYIS VUITTON CUP FINALS

JAN 13-23, 87
The winner of the Louis Vuitton Cup is the one who first wins four races. He is selected to fight against the best defender in the final match.

4 DEFENDERS – AUSTRALIA

DEFENDER'S CUP

SERIES

SERIES A OCT 18-29
SERIES B NOV 10-23
SERIES C DEC 06-21
Each yacht will meet the others twice.

SERIES D
JAN 10-16, 87

DEFENDER'S CUP FINALS

JAN 18-25, 87
The two top-scoring yachts enter the finals. The winner defends t4he America's Cup against the Louis Vuitton Cup's winner.

AMERICA'S CUP

CHALLENGER ⟷ DEFENDER
JAN 31-FEB 15, 1987
The first yacht to win four races.

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Communications Infrastructure and Commercial Aspects — America's Cup

C. N. HERRING

An event of the magnitude of the 1987 America's Cup Defence places great reliance on a wide range of quality communications services. Their operation and efficiency of connection will be closely appraised by many people and to, an extent, Australia will be judged on the outcome.

But much of the America's Cup story is about money and the returns on investment which other Country participants would anticipate through a successful association with an individual challenger or the event itself. Never before has Western Australia had such an opportunity to show itself to the world. The organisation arrangements for the event, facilities, tourist attractions and other activities all play a part in determining the long term benefits to both the State and Australia.

COUNTRY

The America's Cup is now a major international event. If it were on the world market for competitive bids in the same manner as the Commonwealth or Olympic Games, cities and nations would spend millions of dollars to try to attract it and hundreds of millions to service it. Beginning life as a leisurely yachting regatta 135 years ago, the Defence of the Cup has now become a contest between Nations generating intense interest in sport, travel and technology.

An event of this magnitude demands and places great reliance on a wide range of communications services. In this regard, Telecom, the National carrier and major provider and manager of telecommunications within Australia, has established an infrastructure to meet the resultant communications demand, a demand which will come not only from yachting syndicates but also from the many sponsors and organisers, the hospitality industry, entrepreneurs, visitors to Western Australia and the media.

INFRASTRUCTURE ESTABLISHMENT

In planning for the Cup events, Telecom actions have been guided by adoption of the following principles —

- Any decision to undertake major works was strongly influenced by their potential for post-Cup community use.
- The application of standard charges to the provision of telecommunications services for yachting syndicates, sponsor operations, the media, etc.
- The charges for provision and extension of underground cables to locations beyond those normally serviced by Telecom should be at commercial rates.
- Non-standard work undertaken on a discretionary basis at a customer's request should be charged at commercial rates.
- The opportunity should be taken to promote and advertise Telecom's role in support of this major event.

Towards the end of 1983 (and soon after Australia II's success at Newport) funds were requested by Telecom WA for inclusion in future years capital works programmes, especially for the Challenge and related Cup events. At the same time, a letter to the State Government offered Telecom's support and expertise in assisting with the staging of the 1987 Defence. Late 1984 saw the first major expenditure of funds as work to upgrade telephone exchanges was started and external plant crews commenced laying ducts and cables to service 12 metre syndicate operations in the Fremantle Fishing Boat Harbour, Challenger Harbour and the Fremantle Sailing Club. Attention was also directed to the needs of the media at this time and planning, in conjunction with the Fremantle Port Authority, to upgrade facilities along Victoria Quay (which alone will become home for some 10,000 people living in luxury liners) was undertaken.

At the beginning of 1985, Telecom devoted considerable attention to supporting both the City of Fremantle and business operations in their plans to upgrade facilities, accommodation and other developments in the Fremantle area. The City commenced an extensive programme of footpath replacement and construction, together with roadworks and drainage projects. Business groups became involved with housing redevelopments, hotel upgrading and other activities. In almost every case Telecom underground plant was affected. These early works, and others, were completed at Telecom expense to provide a significant part of the initial establishment of an America's Cup communications infrastructure.

SERVICE PROVISION

As overseas yachting syndicates arrived in Fremantle with their plans for headquarters and dockside facilities, commercial negotiations were quickly completed to ensure almost immediate provision of telephone, telex and data services. In many cases, cable extensions into transportable accommodation were required and special facilities such as locks and private metering equipment fitted to telephones to control usage.

Having upgraded telecommunications including all internal cabling at the Royal Perth Yacht Club (RPYC) in Perth, attention was then directed to the needs of the newly established RPYC annexe located in the midst of activities in Challenger Harbour.

This venue, being the Race Central Headquarters, requested a flexible communications plan to cater for not only the yacht racing, but also for activities in up to 22 hospitality areas and to service 3 associated jetties with 60 telephone points.

In conjunction with the Club management and architects, cabling was extended from the clubhouse annexe to locations within the area of lease to service the 'Wimbledon style' marquee accommodation for corporate bodies, and to the three jetties for provision of a range of immediate communications options to boats on both a temporary and semi-permanent basis. Other locations

serviced included the jury, and measurers and harbour masters transportables, these being positioned some distance from the clubhouse building to ensure a degree of visual separation.

The annexe communications required the inclusion of a small business system, telex, facsimile, data lines, sound circuits for the host radio broadcaster, links to the Media Centre PABX Challenger of Record Operations and the 17 competing yachting syndicates. Seiko timing signals and printouts of progress, and IBM history/results information is also available at the annexe.

Estimates have indicated that, over the five month period October-February, the Cup would be expected to attract to Perth an additional 119,000 WA Country visitors (over and above the normal 512,000 for the period), an additional 304,000 interstate visitors (2.2 times the normal 133,000) and an additional 70,000 international visitors (over and above the normal 76,000 international visitors for the period).

In total, the number of people expected to visit Perth during the America's Cup 5 month period is 1,216,000 of which some 12% will be visitors from overseas **(ref. 1)**.

Plans to cater for this 'visitor market' included:—

- Special arrangements through real estate and travel agents to ensure the provision of a telephone service on the day of arrival, dedicated to visitors renting private accommodation.
- The installation of additional pay phones at locations attractive to tourists, including the provision of more services to cater for an anticipated significant increase in the South Australia to Western Australia Eyre Highway vehicular traffic.
- A field trial of a magnetic strip debit and credit 'Card Phone' timed to coincide with the Cup racing period in WA as part of a National technical/market evaluation of this product.
- An increase in the number of interstate circuits for STD/ISD connections and the retention by OTC of additional international satellite circuits, provisioned for Christmas traffic, until after the final Challenge match in February.

TELEVISION OPERATIONS

Elsewhere in this journal, attention has been directed to the facilities and operation of the Media Centre which largely caters for the press (including photographers) and radio broadcasters **(ref 2)**. In this regard, most requests for service accompanied accreditation documents or were negotiated in conjunction with media centre management.

For television operations, commercial negotiations were conducted separately from other media activities and with a number of distinct groups namely —

- A consortium comprising representatives of four Australian networks whose role is to provide a host signal initially of limited duration increasing progressively to full time coverage of the final, best of seven, 1987 Defence races.
- The International Management Group (a division of the McCormack organisation) appointed by the RPYC to market the Cup.
- Australian networks who, as individuals, established their own operations and entered into arrangements with overseas networks.
- Overseas networks during their investigations and negotiations with production companies and Australian networks in their quest for local support for their operations.
- The Overseas Telecommunication Commission in the establishment of the Perth International Terminal at Gnangara.

These negotiations carried with them an element of commercial risk as, due to the need to forward order video equipment and special cable, and complete external plant work at an early stage for telephone services, decisions on television circuit requirements were often anticipated in advance.

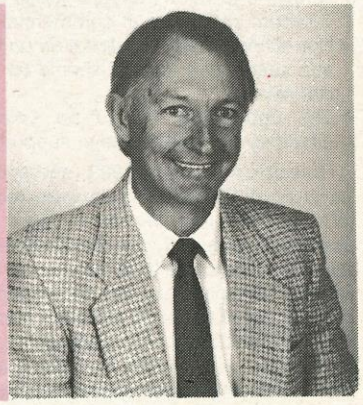
Nevertheless through the utilisation of spare optic fibre cable capacity between Fremantle and Perth and the efficient use of existing underground ducts coupled with the interstate loan and reuse after the Cup of video radio links and terminating equipment, Telecom was able to effectively satisfy the majority of network requests. (Ref 3).

To ensure full availablity of bearers in allowing for conditions of yacht racing which could see events delayed, postponed or require increased coverage through moments of vivid interest, local video links were arranged under a special 19 week full time lease agreement. This arrangement also allowed individual network operation staff to carry out line patching at Fremantle, much of which will be carried out 'after hours,' as required.

OTHER ACTIVITIES

The defence of the Cup will attract to Perth the biggest collection ever of the world's leaders in commerce and industry to assemble in Australia. Most sponsors of yachting syndicates are sending high-powered teams to Western Australia for at least part of the Cup period.

COLIN HERRING is Manager — America's Cup (Commercial) Telecom Western Australia. He joined the then P.M.G.'s Department in 1952 and has previously been involved with Sub Professional Training and the Common User Data Network (C.U.D.N.) project. More recently he has held various positions in the Operations Department organisation. Since commencing on the America's Cup project in December 1984 Colin has been closely involved with the Western Australian State Government, Royal Perth Yacht Club and other organisations providing communications consultancy and support initially for the staging of the World 12 Metre Championships in February 1986 and presently for the first Australian defence of the America's Cup to be sailed off Fremantle early in 1987.



Debit/Credit card telephones which will be trialled in Western Australia during the period of the America's Cup are expected to be populr amongst visitors and tourists.

In addition to requiring personal accommodation, many businesses are seeking locations to display and market their respective products and services and to promote these through media liaison. Since early 1985 there has been a constant demand for Telecom to provide communications advice and service to these groups.

The large numbers of business and professional conventions being held during the Cup period have added to Telecom's workload. Two concurrent events that will highlight Western Australia's economic importance will be the Perth America's Cup International (PACI) Exposition to be held in Fremantle in November 1986 and PacRim '86, an international symposium of finance, trade and investment interests centred on the Pacific Rim region to be held in Perth November 17 to 19. Each of these events demands international communications of world standard.

Additionally, the America's Cup Festival of Sport, September 19 to February 20, which includes a world boxing contest at the new $280M Burswood Island Casino, a $1,000,000 horse race and other entrepreneurial activities have required forward planning to ensure provision of adequate communications facilities.

The mini-America's Cup, usually conducted at Cowes on the Isle of Wight during the Admirals Cup, and sailed in scaled down 5-metre replicas of 12-metre yachts will, in 1987, be sailed off Bathers Beach, Fremantle between January 27 to 29. The Beach will be an ideal amphitheatre for the mini-Cup because it has vantage spots along the South Harbour and Challenger Harbour. It will also be popular for spectators wishing to view the departure and return of the 12-metre boats on both race and lay days.

Anchorages and moorings between Rockingham, 20 nautical miles south of the America's Cup course and Hillarys marina at Ocean Reef, just north of the race area will 'park' an armada of spectator vessels ranging from 10-metre sportsfishing launches to 70 metre floating palaces, all visiting to see the competition. For the larger vessels private charter companies are providing victualling, fuelling, sewage disposal and commuter transport services with computers being used to co-ordinate the many needs.

Overhead a 59 metre helium-filled airship will be employed as a television camera platform and for airborne advertising. Other airspace will cater for up to 40 helicopters hovering over the courses with fixed wing aircraft operating above.

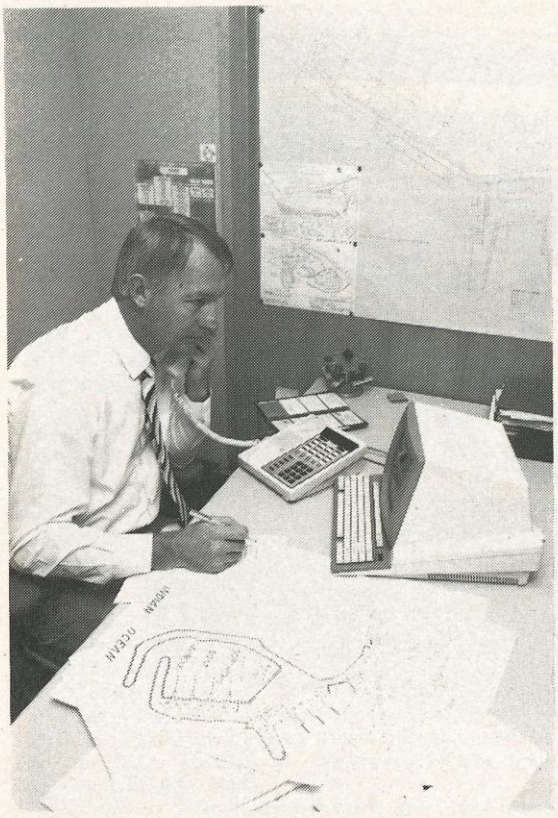
THE BOTTOM LINE

It will cost the Royal Perth Yacht Club (through its trust company ADAC — Australia's Defence America's Cup 1987 Pty Ltd) some $4M to stage the first Australian defence of the Cup.

The majority of this money will be provided by major sponsors and companies who have signed agreements to use sponsors' and licencees' symbols, along with the sale of television and radio broadcast rights and 'Official Supporters Hospitality Packages.'

The Federal Government gave a direct grant of $30M and the capital cost to the WA State Government for preparations is expected to be about $54M.

Much of the Government expenditure, however, can be classified as payment for improvements in the social infrastructure of the region with a useful life well beyond



Colin Herring, Telecom's Manager, America's Cup is shown at work handling the commercial aspects of the event.

the Cup period. Only a little can be identified as America's Cup specific.

Similarly, Telecom Australia with an overall Cup budget of some $8.3M has constructed World class communications services which will provide long term benefits to the community.

By the standards of other 'hallmark events' the level of public sector commitment to stage the Cup Defence is relatively modest. Compared to Olympic and Commonwealth Games and to Expositions, which require very significant commitment of Government resources for an infrastructure which is arguably not well utilized after the event, the cost of $7M to construct the major Cup venue (Challenger Harbour) is minimal.

The previously mentioned 'America's Cup — Economic Impact' study report says the defence could inject at least $600M into the Western Australian economy and up to $1.117 billion. The spending could create some 14,400 jobs over 12 months, half of these resulting from visitor spending.

Finally, even if the America's Cup is not retained, the 1987 Series will have a substantial positive impact on the economy through promotional and trade opportunities flowing from the staging of the event.

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Information Transfer News

Navigation Accuracy for the America's Cup

The Royal Perth Yacht Club are taking no risks with the placing of the navigational marks for the America's Cup races. They have appointed a Perth firm, Seatronics Pty. Ltd., as official suppliers of navigational equipment, and all mark laying will be done with the aid of a Syledis navigational system.

The difference between Syledis and other navigation systems is that the others tend to work on a range to range mode, whereas Syledis works on hyperbolic mode as well. To put that into simpler terms, with a range to range navigation system, the unit on the boat sends out a signal to a series of fixed beacons and times how long they take to come back, then by a simple triangulation works out the position. The Syledis has what is called a passive receiver on the vessel that just receives signals from other beacons and that is done by a synchronised set of signals that come from a master beacon. By calculating the time dfference in a hyperbolic fashion, the unit can work out precisely where it is in relation to those beacons either on a grid or geographically. Because Syledis uses a passive receiver, it has unlimited user capability, whereas most others can only handle about four users at once.

Syledis, a French made system, is used all over the world. There are chains of beacons in the Middle East, all around the coast of Britain and in Australia. Since putting up the chain off Fremantle for the America's Cup, it has been found that other people besides the yachtsmen have a use for it. The Marine and Harbours Department have a definite need for very precise positioning, if for example they are called out in the middle of the night to rescue someone, it is very comforting for them to know exactly where they are to within a metre or so.

The navigators on the yachts will not only be able to tell exactly where they are, in latitude and longitude, there will be a graphic display on the screen that will give the yacht's position relative to the next mark, the distances up to thirty marks and the yacht's speed. The system has been tried and tested over the past months, both by the Royal Perth Yacht Club and the yachts that are here training. The system was also used in the World Championships in February, 1986.