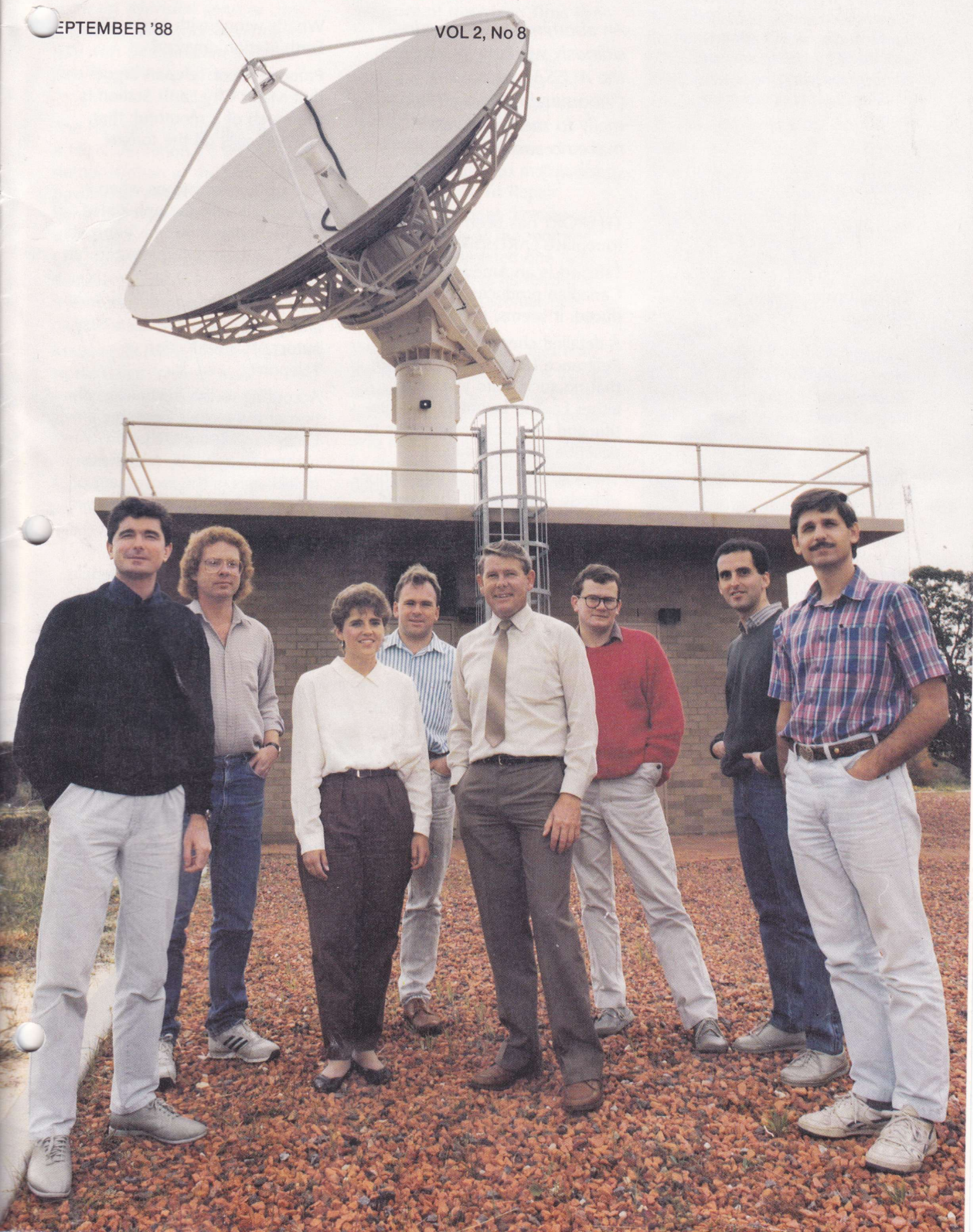


# UPLINK

SEPTEMBER '88

VOL 2, No 8





# To Teleport or not

UPLINK is the staff magazine of AUSSAT Pty Ltd, owners and operators of Australia's National Satellite System. It is published in the second week of each month with the deadline for copy and photographs being the fourth Wednesday of the preceeding month.

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*An abominable word is insidiously working its way into the AUSSAT vocabulary. ("Abominable" is used informally to mean "inferior". I make no such apology for "insidiously").*

TELEPORT has been introduced to replace EARTH STATION.

Teleport is an American or Canadian produced word introduced, it seems, only recently.

A detailed check with the State Reference Library (NSW) found that no such word existed in either English language or scientific and technical dictionaries to describe an earth station.

There is, however, an international body calling itself the World Teleport Association and the New York City Council has produced documents on a proposal for a Teleport for that city.

Eventually, common usage will dictate that Teleport appear in dictionaries.

But why should AUSSAT jump on the American/Canadian bandwagon without allowing proper debate or thought on an appropriate name for our earth stations?

What's wrong with Major City Earth Station anyway?

Proponents of Teleport argue that Major City Earth Station is too much of a mouthful; that Teleport rolls off the tongue more easily.

And on two occasions when I have dealt with the uninitiated of the media, the term "earth station" has been interpreted as "air station".

That would indicate a need for change. But why the seemingly autocratic introduction of Teleport?

According to the Australian edition of the Collins English Dictionary, 1986, teleport means: to move by telekinesis (telekinesis is the movement of a body by thought or willpower without the application of a physical force).

It is hard to imagine the people at the MCES sitting in a circle holding hands and with eyes closed willing the transmission of radio waves to the satellite!

So, let's have some discussion on the subject. I will be pleased to publish your comments in UPLINK.

## Uplink Assistant Editor



*Megan Horrocks has joined Corporate Relations & Public Affairs as Editorial Assistant.*

As the title implies, Megan will be involved with the writing and production of UPLINK as well as handling the many requests we have for work to be done on the Ventura Desktop Publishing System.

So if you have any stories, ideas or requests give her a call on ext. 993.



# Letters

Sir,

readers of UPLINK will be aware that AUSSAT has, over the past nine months, been sending its managers on a Management Development Program (a five plus three day residential course).

As one of the participants I wish to express, through the pages of UPLINK, my appreciation for the opportunity to attend the course.

Regrettably the effectiveness of the course can only be realised when all managers at all levels have participated, identified areas of management weakness

and are given the opportunity to exercise a full range of management skills.

AUSSAT will prosper through management excellence as the benefits will rapidly outweigh the time expended. Management training and refresher training must be a high priority for AUSSAT.

Peter Hitchiner

Sir,

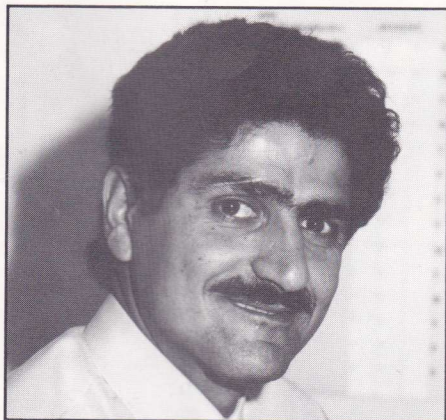
on behalf of the AUSSAT City to Surf runners and their enthusiastic supporters I would like to sincerely thank AUSSAT manage-

ment for their significant and much appreciated support for this year's run and barbecue.

Funds were provided for entry fees, T-shirts/singlets, prizes, food and drink as well as help with the organisation of the barbecue.

All who attended had a marvelous day, and, with the continued support of management, I am sure this will become a major event on the AUSSAT social calendar.

Bruce Mayberry



## New marketing appointment

*Kamran Beiglari has been appointed as the new Corporate Marketing Manager following the resignation of Allan Harris.*

Kamran came to AUSSAT two years ago as Senior Engineering Specialist and is currently Nation-

al Account Manager, Federal Government.

In his new role Kamran aims to "always serve and keep the customers happy and build a strong Marketing Team", and is looking forward to putting these ideas into action.

## U.S. Navy selects HS 601

*A version of the body stabilized HS 601 satellite AUSSAT will use for its second generation system, has been selected by the US Navy to replace its ageing satellite communications system.*

The HS 601 is the first body stabilised satellite built by Hughes, and AUSSAT was the first customer. Within two months of Hughes winning the AUSSAT contract, the company announced the US Navy deal of one satellite with options for

nine additional spacecraft over an eight year period.

Worth up to \$US1 billion, they will replace the fleet satellite communications (FLTSATCOM) and the Leasat satellites which the US Navy currently uses for ships at sea and military fixed and mobile terminals.

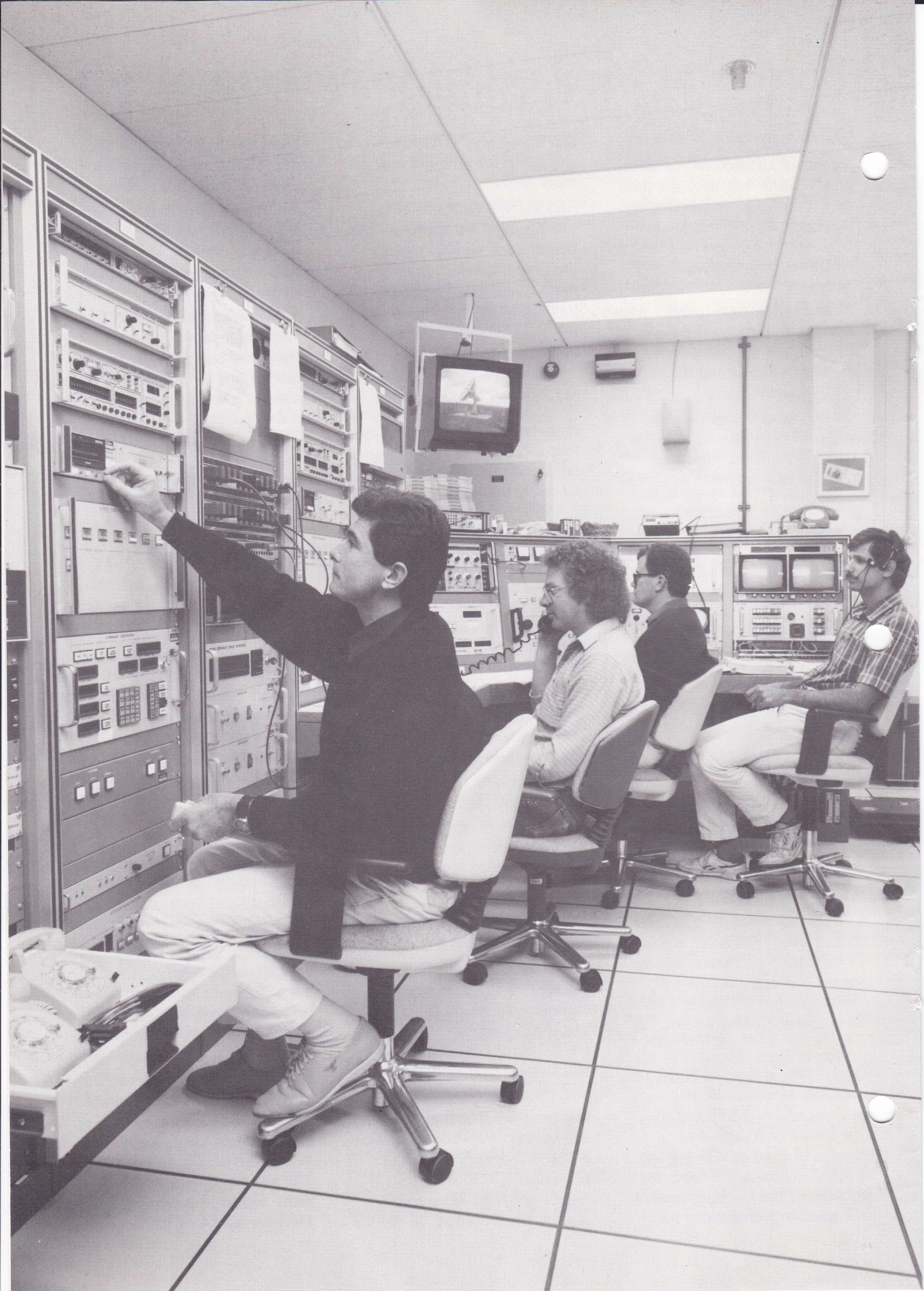
It is probable that the Australian sub-contractors working on the AUSSAT B project - worth approximately \$150 million to them - will reap further significant export orders for the US

Navy deal.

Mr Richard Barlow, Hughes' Australian spokesperson said, "If the sub contractors perform and are competitive and cost effective, they will get the work."

The six companies named as main sub contractor partners to Hughes for AUSSAT's program are Alcatel-STC, British Aerospace of Australia, NEC Australia, Hawker de Havilland, Philips Communications Systems and Microwave Technology Development Centre.







On September 9 AUSSAT successfully carried out its first commercial launch support contract through the Lockridge MCES in Perth. Sean Allan was there

## A tense time as satellite gets the wobbles

*It was cold and more than a little damp as John Natoli, Craig Badger and I left the comfort of the Parkroyal Hotel at 4am for the 20-minute drive to Lockridge.*

There was still three hours before the SBS satellite, owned by the US Satellite Transponder Leasing Company, lifted off from Kourou, French Guiana, on board an Ariane 3 rocket.

But there was work to be done; checks to be made before Lockridge would acquire the satellite at 7.38am and track it for the first 10 hours of its life.

However, we were somewhat cheered to see Ray Azzopardi looking as bleary-eyed as us. He had been nightwatchman at the MCES starting work at 4.30pm the previous afternoon. But there was no way he would be kept away from the launch.

The team for the launch support consisted of three Telesat people - Station Coordinator Hugo Kneave, Computer Operator Christine Charlebois and Ground Control Equipment Operator Stewart Good - and four AUS-

SAT staffers - AUSSAT Coordinator John Natoli, R.F. man Craig Badger, TTAC Operator Geoff Palmer and Mark Roberts, Assistant Ground Control Equipment Operator.

On arrival all went to their stations for a quick check of their equipment and then it was time for a coffee before a more thorough checking process was undertaken.

Still an hour to go. Time to browse through the morning newspapers while monitoring the chatter between SBS people at Kourou and those at the other tracking station at Allan Park, Canada and the Flight Control Centre at Clarksburgh in the US.

Everything goes according to schedule, although heavy black clouds rolling in from the west threaten rain and a resulting loss in signal from the satellite.

Ever the joker, Geoff Palmer says to Hugo, "Looks like we're going to get a really heavy shower just on acquisition."

Hugo doesn't laugh.

6:53am and the monitor crackles. "We go for launch. We are now on internal power."

7.00am: The words, "We have liftoff" bring a short silence to the control room at Lockridge, but at 7.15 things quieten down considerably and people speak only in whispers.

Lockridge Manager Brendon Lee offers Geoff a carton of beer if he can pick up the satellite before Mission Control at Clarksburgh tell us we should be sighting it. Brendon's a joker too.

At 7.38 there is subdued jubilation as the first signals are received from the satellite as it peeps over the western horizon. But something's wrong. The signal strength is fluctuating wildly, so much so that the antenna cannot lock onto the satellite for automatic tracking.

A rather tense couple of hours follows as attempt after attempt is made to find out what's wrong.

Says Hugo, "At first we thought the omni antenna had not gone to its proper position and then we thought there was something wrong with the antenna.

"But it appears the satellite separated from the rocket with a bit of a wobble to it thus causing the signal to fluctuate. We also phased up the antenna a bit and managed to get automatic tracking shortly before lunch.

"There were some very long silences at the other end of the line, I can tell you. But everything is working OK now. The critical period is over and we have done all the necessary health checks."

**Left: Mark Roberts, Stewart Good, Geoff Palmer and Hugo Kneave on acquisition of the SBS-V Satellite**

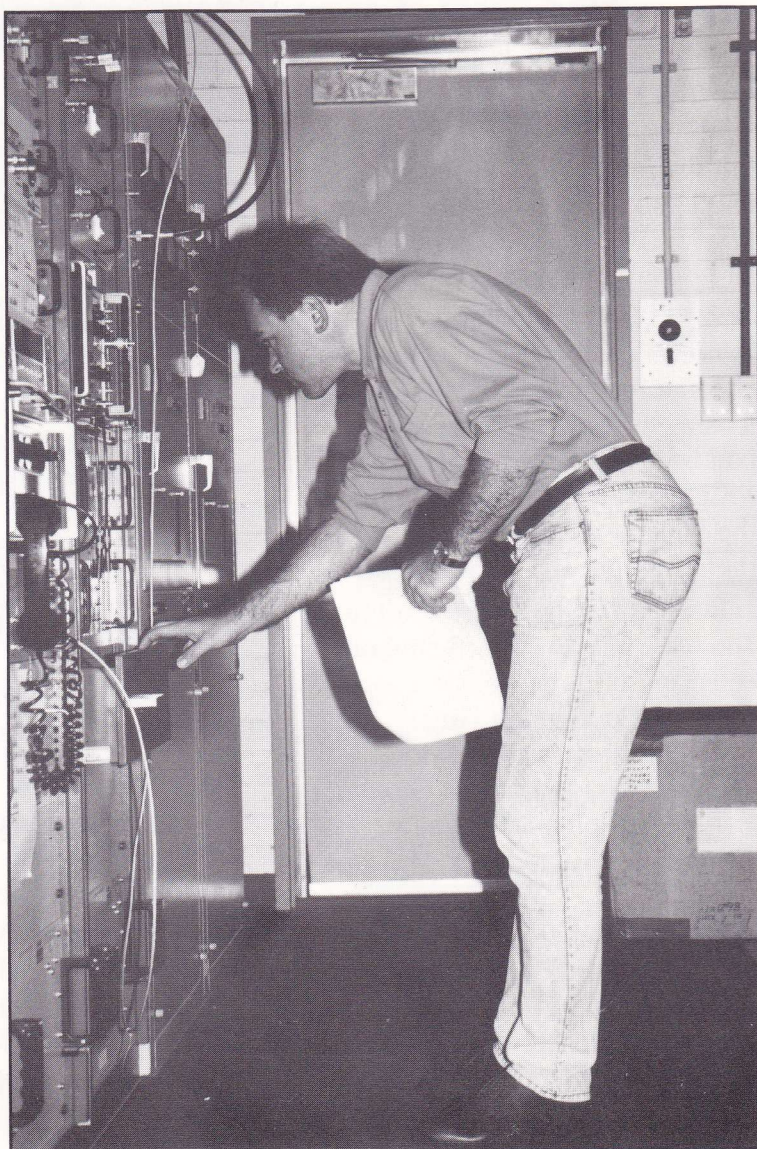




**Above: John Natoli and Christine Charlebois check for range while Craig Badger (right) keeps an eye on the R.F. gear.**

At the hotel the previous night John Natoli had said to me, "I hope it's not a nominal launch. They can be pretty boring." His wish came true.

AUSSAT has been contracted for another six launch supports between now and 1990. Belrose MCES will conduct the first four and Perth the remaining two. Satellite Operations Manager, Graham Brown says, "they are a nice little revenue raiser but more importantly they give our controllers plenty of practice."





# A success for STARNET video trials

*STARNET expanded its customer base last month with two successful trials of video transmission.*

With both the Data and Video transmissions up and running the Commonwealth Bank has decided to expand its STARNET network and link up 14 branches throughout Australia.

The Bank was AUSSAT's first trial customer, undertaking the pilot service in mid-1987 using three branches in Sydney and more recently one in Darwin.

Mr Len Spencer, Chief General Manager, Retail, The Commonwealth Bank said that after testing, "it proved to be thoroughly reliable."

The system gained a further boost when Terry Metherell, Minister for Education and Youth Affairs lauched the TAFE/AUSSAT satellite television trial.

Mr Metherell was enthusiastic about the opportunities the satellite offers "I am pleased to see that it is the NSW TAFE which is setting the pace and example in the education sector by being the first to see the potential benefits, in scale and economy, offered by satellite", he said.

TAFE, Australia's largest post-secondary educational institution will use the STARNET system to deliver training to some of its 460,000 students.

The trial project will link Lismore, Wagga, Gunnedah and Hornsby Colleges and some of the courses offered include Automotive Maintenance, Computing and Child Care.

Congratulations to Andrew Ng and his innovative team for a job well done.



Marketing's Gerry Murphy with Education Minister Terrey Metherell at the TAFE STARNET trial at Belrose.

## The New Zealand connection

*Satellite A3 came into its own last month when the first trans-Tasman video conference using the AUSSAT system was transmitted to the New Zealand Telecommunications Users Association conference.*

With live video from Belrose to the conference venue in Auckland, and two-way sound, Managing Director Graham Gosewinckel linked with Marketing Manager Graham Murray who presented a paper at the conference.

In a further development, AUSSAT is extending its New Zealand connection with the establishment of a \$2 million earth station in Auckland to provide gateway access for New Zealand customers.

A site has been selected and work will start shortly.

Meanwhile, we welcome aboard Mr Grant Dockery who has been appointed AUSSAT's representative agent in Auckland to service the New Zealand market.

Grant has extensive experience in the telecommunications and computer networking business in New Zealand.



# HDTV broadcast a first

Through AUSSAT, Australia had its first taste of high definition television (HDTV) during Japan Week at Expo in Brisbane early last month.

In fact, the three days of live broadcasts from Nara in Japan were the first international transmissions of HDTV and the first transportable earth station to transportable earth station transmission for AUSSAT.

The broadcasts involved three sets of satellite uplinks and downlinks. From the TES at Nara, the signals went to the Ibaraki earth station via Japan's domestic satellite

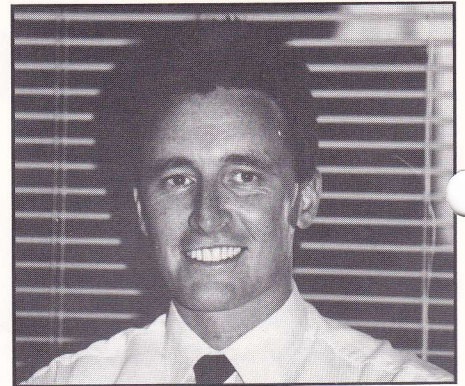
From Ibaraki they travelled via Intelsat to the OTC station at Oxford Falls where the TVW transportable sent them to the AUSSAT TES at Expo via satellite A3.

Two microwave hops carried the signals to the Japan Pavilion where the HDTV pictures were projected onto large screens.

A highlight of the broadcasts allowed the audience in the pavilion to see and talk to Australian students visiting Nara, an ancient city that once marked the eastern end of the famed Silk Road.

The Expo event was the culmination of 12 months of negotiations involving Marketing's Glenn McGrath and Operations' Brian Flynn, OTC, TVW and three separate Japanese organisations.

It was a lot of hard work," said Glenn (pictured), "but worth it because AUSSAT wants to be seen as a leader in HDTV transmission technology.



**Glenn McGrath**

"HDTV is inevitable in Australia. It's just a matter of when but we want to be there when it happens.

This Expo broadcast gave us a perfect opportunity to demonstrate our capabilities in the area."

So, what is high definition television?

HDTV offers a much sharper television picture with better resolution and colour.



*Prime Minister Bob Hawke officially opened the Australian Telescope at Culgoora in mid western New South Wales earlier this month.*

The \$50 million Bicentennial project undertaken by the Radio Physics Division of the CSIRO is

one of the world's largest and most powerful radio astronomical telescopes and will enable Australian scientists and astronomers to probe the farthest reaches of the universe.

The Australia Telescope comprises an array of six 22-metre parabolic antennas mounted on

6km of railway track. When linked with another 22-metre dish at Mopra, and the huge 64-metre dish at Parkes, a Massive radio antenna equivalent to 300kms in diameter is created.

AUSSAT's role in the project involves the transmission of critical time signals to each of the antennas to correlate when data was received at each of them.

At the opening day, one of our large Transportable Earth Stations provided television links for live coverage of the ceremony.

Colin Finucane, taking a break from the rigours of Expo, manned the transportable on what proved to be a very busy day with every television network using the service to continually feed news bulletins and programs.



## Cole's cars

Spacecraft Analyst Warren Cole feels the need for some humour in UPLINK and so sent in a list of what he assures me are "real statements made to insurance companies concerning car accidents".

I reproduce some of them with pleasure.

"Coming home, I drove into the wrong house and collided with a car I don't have."

"I thought my window was down but found it was up when I put my head through it."

"I told the police that I was uninjured but when I removed my hat I found I had a fractured skull."

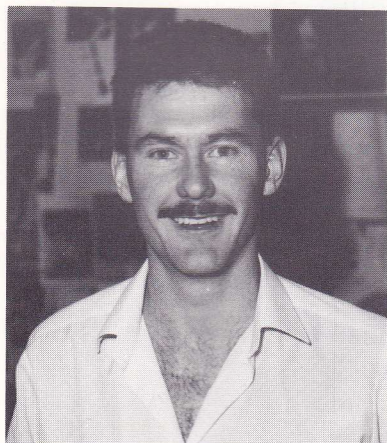
"The pedestrian had no idea which direction to run, so I ran over him."

"I saw a slow moving, sad faced old gentleman as he bounced off the hood of my car."

"The guy was all over the road. I had to swerve a number of times before I hit him."

"The indirect cause of this accident was a little guy in a small car with a big mouth."

The above statements just go to show that while brevity in writing is to be applauded, there are pitfalls for the unwary.



Warren Cole

## Mike wants a break after five weeks on the road



*Spotted in Adelaide, just before flying out to Melbourne on the last leg of a marathon tour, was Mike Boccanfuso (pictured above).*

"Another week and I should be back in Sydney," said Mike. "That will be five weeks I've been away and the novelty is starting to wear off a bit."

For the past four weeks Mike has been in Sale, Victoria, and Adelaide putting the finishing touches to part of 14-channel voice and data network for the National Safety Council of Australia.

These touches will link Adelaide Hospital with Townsville Hospital so that the Hyperbaric (decompression) Units at both centres can have direct two-way communications.

When the National Safety Council of Australia's network is completed, the NSCA headquarters in Sale will have two way communication with its centres in Townsville, Adelaide, Coolangatta, Wollongong, Melbourne and Williamstown.

"When we've got this up and running I'll be taking a couple of weeks off to lie on a beach somewhere," said Mike.

### MASTER OF ARTS IN COMMUNICATIONS TECHNOLOGY AND POLICY

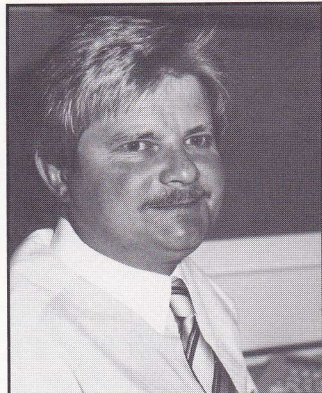
Applications are invited from graduates in any field for admission to the new MA program in Communications Technology and Policy, commencing in 1989. This part-time coursework program, over two years, considers the nature of current communications technology and policy, and extends knowledge and skills in dealing with issues in this field. Students will examine the information economy, ways of interpreting technology, communications technology, cultural studies, communications policy and regulation, consumers and audiences, and aspects of managing communication. For further information contact Dr Elizabeth More, Course Convener (805 8725), or Mrs Jennifer Newton, Secretary (805 8786). A detailed brochure and an application form may be obtained from Postgraduate Studies (805 7344). Applications close on November 4, 1988.



# People



Caroline Palmer  
Secretary



Stuart Pengilley  
Senior Engineering  
Specialist



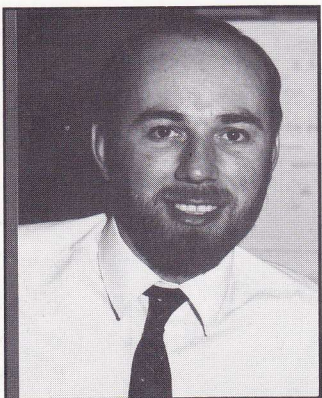
Anne Calbert  
Secretary



Gordon Robertson  
Budget and  
Administration Officer



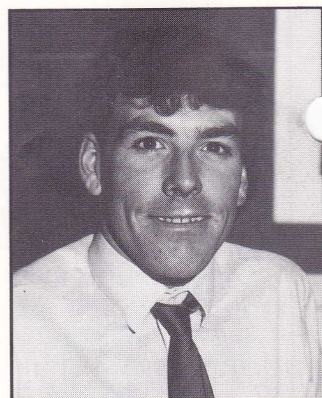
Alison Choy-Flanningan  
Legal/Commercial  
Assistant



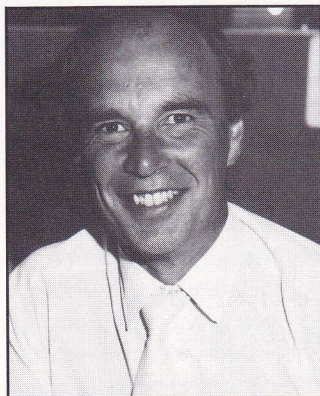
Tim Jansen  
Engineering Specialist



Marie Briggs  
Senior Analyst



Steve Skinner  
Senior Analyst



Ray Shenton  
Engineering Specialist



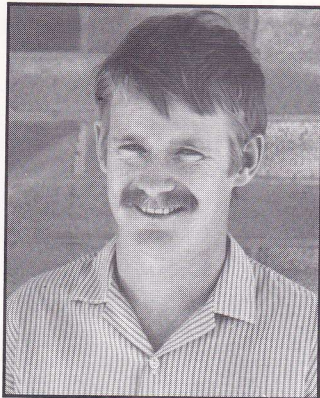
Les Widjaja  
Customer Engineer



# People



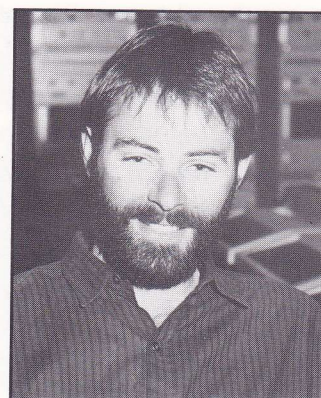
Peter Pokorny  
Assistant Network  
Controller



Ian Partis  
Analyst



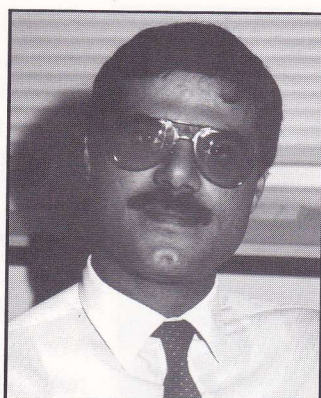
Chris Barton  
Secretary



Michael Nicholls  
Satellite Controller



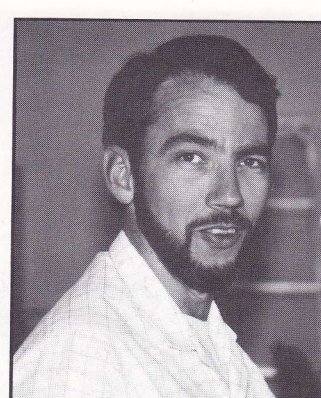
Melissa Grill  
Clerk



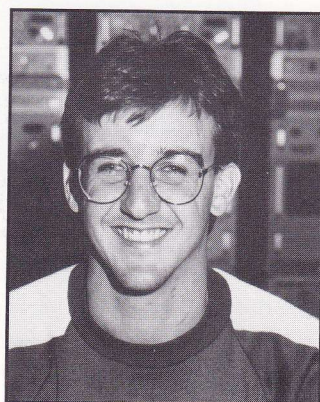
Rafik Razzouk  
Customer Engineer



Deidre Taylor  
Administrative Assistant



John Sherman  
Communications Officer



Tony Berneaur  
Satellite Controller



# Running on empty

*There we were, AUSSAT's finest, honed to athletic perfection; the culmination of six months' ogling at Aerobic City; muscles sagging in the wintry sunshine; linament burning where it should never even have been applied.*

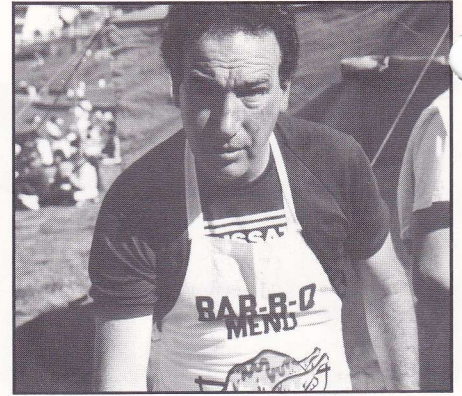
Ten o'clock and the 1988 City to Surf is underway. Four minutes later and we still haven't moved - time for one more fag!

On through the Kings Cross tunnel whooping like idiots and there's Moneghetti. I'll just tuck in behind him for seven k's or so.

Who put this hill in the way? All is not going to plan and no buses to hop on either. These organisers sure think of everything! Been out for 40 minutes. Just think, the winners are on their second can.

Ah, Military Road. Not too far to go now, but it's a bit like a roller coaster. Can almost smell the sea. Better still, can almost smell the beer - the cook must have cracked a tinny.

Thirteen kilometres - only one to go. A bit of a gallop and it will all be over. Round the corner; there's the beer tent but had better finish first.



**Frank with murder in his eyes**

One thing about this run - it's like a toothache; great when its over. There's the wife and kids at the beer tent, but how did all those other runners get here? I'm sure they never passed me so they must have cheated!

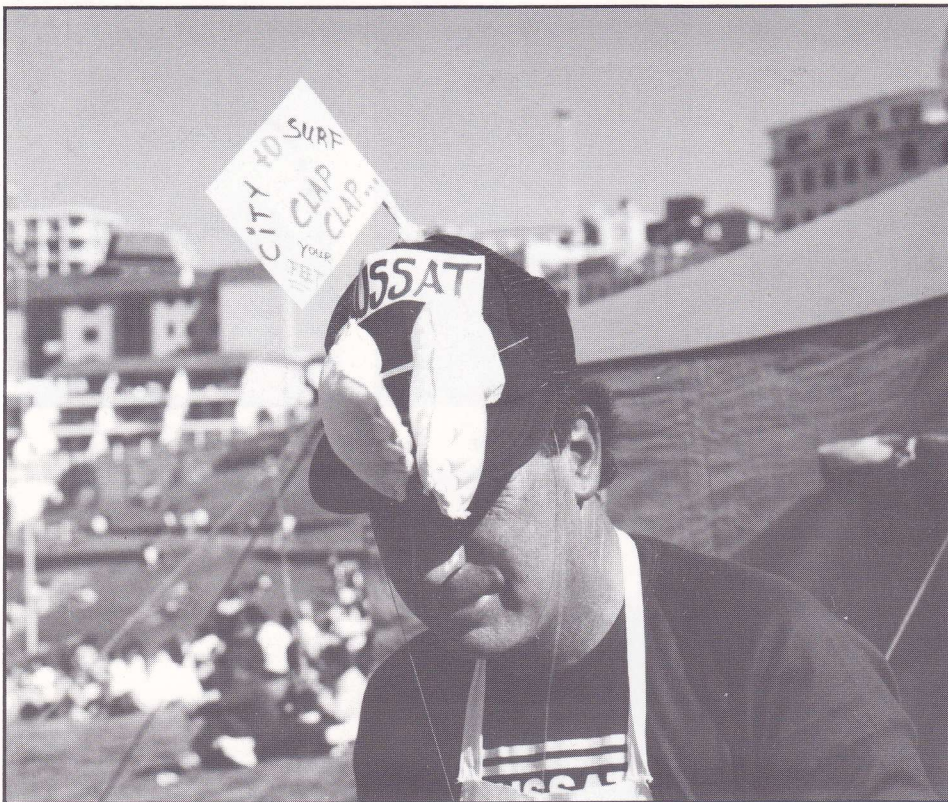
The rest of the day passed in a convivial blur and, as the day wore on, we became more and more like fisherman - our times got faster and faster.

On a more serious note, many thanks to those who put in a lot of effort to make the day a great one. Roger Donnelley did all the organising for the runners; Bruce Mayberry and Rob Parcell put together the barbie (by the way, did you know that AUSSAT has a new product line? Hamburgers sell better than TV uplinks); and Frank Mullins was on Bondi Beach setting things up before most of us were out of bed.

Many thanks also to those who spent most the day cooking while the rest of us imbibed in the amber fluid.

And let's not forget our major sponsor - AUSSAT - for providing T-shirts, fees and some cash for the day

**Bob Lampard**



**Representing AUSSAT with pride**

No sign now of any of the other AUSSAT runners, so I must be in line for that prize. Wonder if Sid Benning made it from Canberra? If his beeper goes off now he May get back in the stipulated hour. Oh well!

Over the line - there's Leighton with his camera. Smile, but he didn't even see me.

Who are all these people? You mean I didn't win? Oh well, there's always next year.



*Marketing's Marcus Batten was first past the post in the good time of 56min 45secs. His prize is a \$30 voucher at the Kevin Junee Run For Your Life Store.*

Bruce Mayberry and Chris Gorman win the \$20 and \$10 vouchers at the store for coming second and third, while the 21st fastest runner, Hugh Saalmans, wins 10 sessions at Aerobic City.

Andrew Kirk won the Kevin Junee \$40 voucher in the draw from all runners. Below is the full list of AUSSAT runners and their placings.

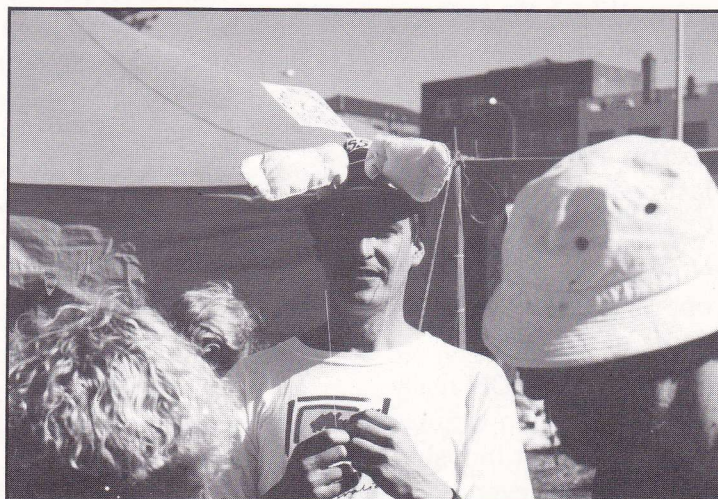
Marcus Batten	56:45
Bruce Mayberry	59:32
Chris Gorman	64:05
Roger Donnelley	66:54
Alan Harris	69:27
Bob Lampard	69:51
Warren Cole	70:34
Colin Reddel	72:08
Neil Robinson	74:49
Mike Buchanan	76:47
Rob Parcell	77:38
Sid Benning	79:40
Glen McGrath	83:14
DonCocks	85:52
Dean Foley	86:02
Andrew Payne	89:52
Bill de Araujo	91:26
Theo Tsepapas	91:37
KamranBeiglari	95:43
Andrew Kirk	112:37
Hugh Saalmans	112:40



**Bob Lampard, Bruce Mayberry & Chris Gorman enjoying a well deserved rest.**



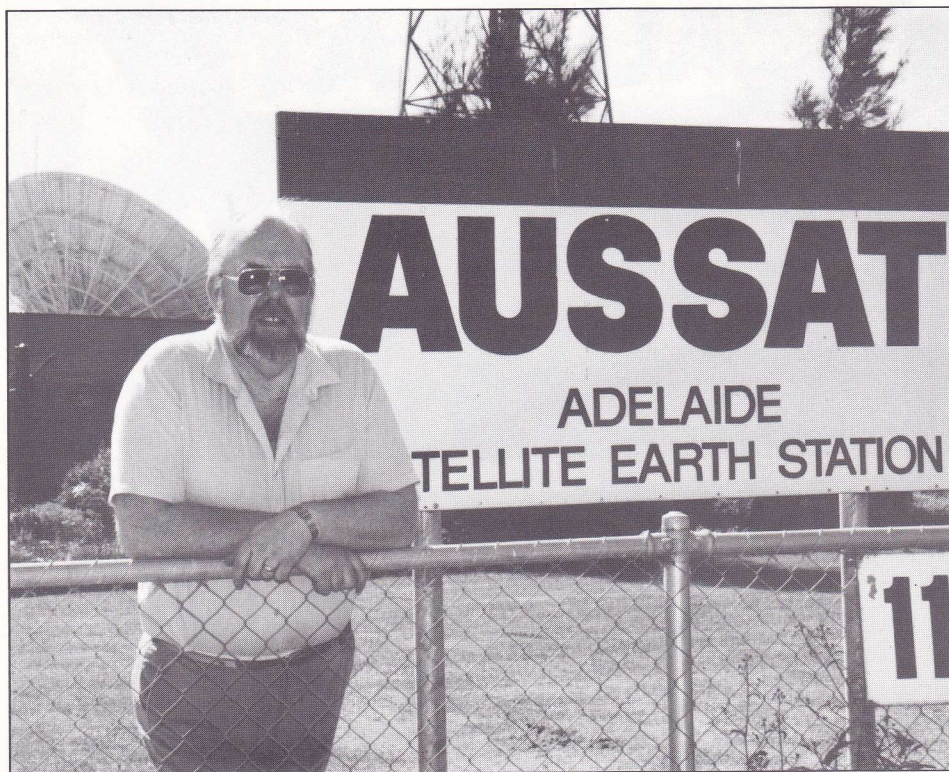
**Just one of our spectators, Lyn Scott from Finance**



**That hat certainly got around**



# Bert's keeping Adelaide above water



*Just in case you have never met the congenial looking chap (pictured left) allow me to introduce him.*

His name is Bert Holgate and, as can be seen, he is our man in Adelaide. Bert, married with two daughters and a self-confessed Humber car nut ("they're a real car") joined AUSSAT a couple of years ago and apart from a small stint at Belrose, has been running the Adelaide MCES since.

"It's great working by myself. I'm responsible for keeping this place running and it suits me fine," says Bert.

Bert likens his job in Adelaide to his 10-year career as a communications technician on board submarines in Britain's Royal Navy.

"Submarines had only one communications tech on board, so the responsibility was all mine. I made the decisions and fixed things which went wrong," he said.

And, being a one man band means the work at the earth station is varied - from organising the gardening and pest control to putting in emergency bypass switches on the diesel generator control panel and customer liaison.

It's a busy life. Said Bert, "There's enough work here to keep myself and another busy for at least three month's.

"But, good help is hard to get these days."

## Whither Telecom?

*It is presumed that the consumer's insatiable appetite for telecommunications will include a diet of electronic mail, banking and shopping etc, videotelephone, videotext, database access, television etc etc.*

This will, of course, be aided and abetted by the latest additions to the telecommunications lexicon and acronyms - such as fast packet switching, B-ISDN, OSI ad infinitum.

Now we are told that we need optical fibres to the very front doors of our homes!

Is it true that ISDN really means Innovations Subscribers Don't Need? or Industry Sees Dollars Now? even Big-I Sees Dollars Now?

Was Orwell a mere 10 years adrift? Will these optic fibre systems bring with them Big Brother and a video screen and camera in every room of the house? Is the new telecommunications lexicon an early manifestation of newspeak?

Fear not! AUSSAT-B is at hand.

No need for those optic fibres leading up your garden path. All the telecommunications you need, and more, will reach every corner via satellites using high power transponders and L-band (but you may need to wait for AUSSAT-C for a Dick Tracy watch).

Leave ISDN for the business community that needs it. The ordinary telephone line and satellite reception is all the consumer need.

**Peter Hitchiner**



# Computer users scream for help



The sort of attention-grabbing headline above is usually reserved for the afternoon tabloids. However, you can be sure that there are a lot of users who sometimes don't quite know what to do with the beasts on their desks.

In InfoSystems Information Technology area, we still have the HOTLINE to provide a first-level answer to your queries. If the person who answers the phone can't help you with your problem, he/she will find someone who can.

And don't despair if your call goes onto an answering machine - you will be attended to. (Your call is even logged on a database.)

Remember, even if you think your problem is not worth screaming about ring the HOTLINE on ext 900 and, in deference to a local used car salesman, let US put it RIGHT for Y-Y-O-O-O-O-U!

## The future's here

For the past couple of months, Treasury staff have been accessing the Sydney Futures Exchange to get time-critical information via the VAX function FVTL. Through a link with the outside world, FVTL provides a way to manage AUSSATs interest rate exposure.

Changes in the rates are reflected on screen the moment they actually happen thus enabling Treasury to better manage AUSSATs promissory notes and 90-day bank bills.

Unlike most other functions, FVTL provides a modem link to Telecom's computer information network, Viatel. Our VAX acts as an intermediate communications device and we are charged a fixed rate for connection time.

Other AUSSAT Viatel users include Marketing, Engineering and P&A.

## Menu building blocks

*A menu-building utility designed for the end user is now available on the VAX.*

BULL and CHAR (now SVCR) are two examples of what can be produced and full instructions are available. Text that ultimately appears on screen is contained in a number of files which can be edited and which are controlled by a background program.

Potential applications are as varied as the imagination of those who wish to use the product.

Contact Gary Young, ext 970, for more information.

## Personal computer user group

*InfoSystems will soon be starting a PC User Group so that ideas on a whole range of relevant information can be interchanged.*

It should prove productive from both a company and personal point of view as it should become obvious fairly quickly that, as a user, you won't have to reinvent the wheel.

The first meeting of the group will be an informal get together over a few drinks and will be held on 23 September. Call Rob Downing on ext 869 for further information.

**Remember!  
the  
Hot Line  
extension is  
900**



# Hobart MCES joins rest of AUSSAT

*Hobart MCES (yes, we really do have one) has at last joined the rest of AUSSAT.*

The last colony to accept convicts is the last of the MCESSs to carry traffic other than ABC services.

The Australian Association of Stock Exchanges has signed a contract with us for a voice broadcast network which links all their exchanges in Australia - including the one in Hobart (yes, it really does have one).

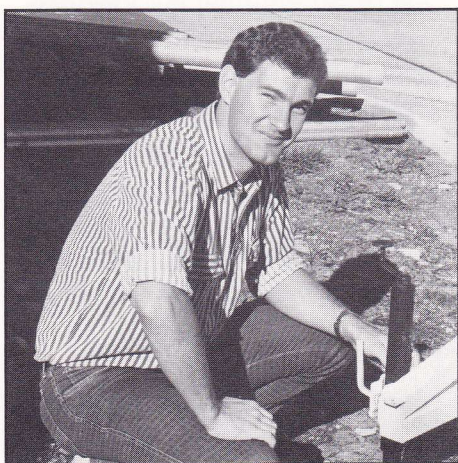
Says our intrepid Hobart man Wayne McKee (pictured):

"This is a bit over the top. How will I ever be able to get a park outside the Exchange if ever I go down there?"

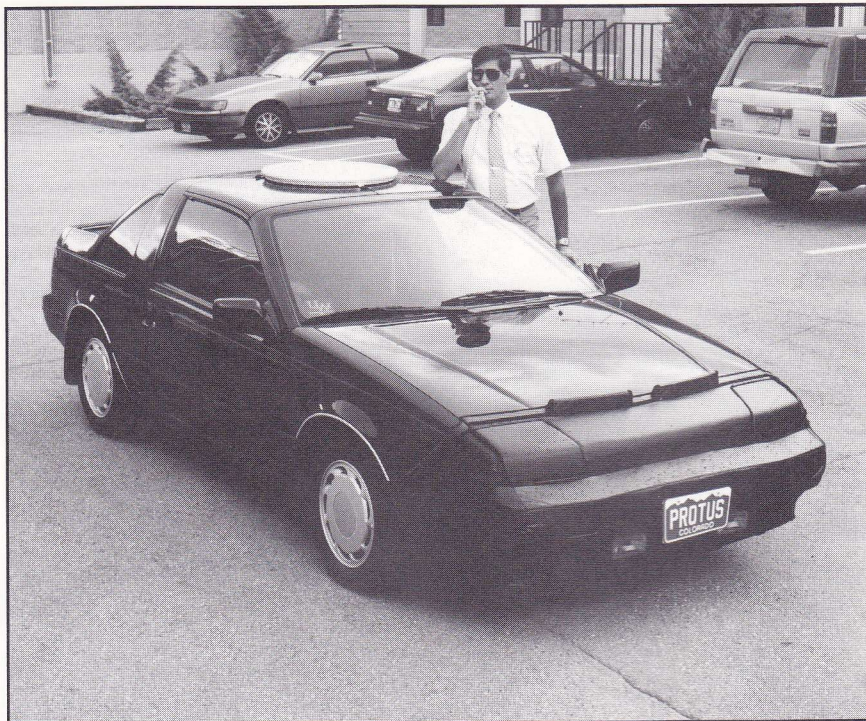
AUSSAT's Broadcast Announcement System allows any one exchange to talk to all the others.

"It's the first application of what satellite broadcasting is all about - point to multi-point communication," said Bob Lampard, who, along with Dean Basset, configured the system.

The service is due on air later this year.



Wayne McKee



A prototype mobile antenna developed in the U.S.

## Uni joins Mobilesat

*Mobilesat has contracted the University of New South Wales to develop a high-gain, steerable antenna for the mobile terminal.*

"It's a fairly difficult project," said Mobilesat's Kim Dinh, "as the antenna has to be affordable yet have a high enough performance to meet the stringent requirements for the continuous voice/data mobile terminal.

"However, we should have a prototype built around the middle of next year for field testing using our Mobile van and the ETS-V satellite."

The specifications for the antenna state that it will be a maximum of 10cm high and less than a metre in diameter. It must have a minimum gain of 12dBi at the edge of coverage, elevation coverage angles of 30 to 70 degrees and an initial signal acquisition time of less than 10 seconds

The antenna must also be capable of tracking for up to one minute during shadowed intervals and a probability of less than 1 in 10 to the -3 of it locking on to a non-AUSSAT satellite which has an orbital spacing difference of 20 degrees.

So that it can perform in Australia's extremes of climate, the antenna must be able to operate in a temperature range of -15 to +85 degrees Celsius, in rain of up to 100mm an hour and in up to 95% relative humidity at 40 degrees Celsius

A minimum life-span of seven years and once-a-year servicing are also specified. The antenna must also be capable of handling transmit powers of up to 50 watts. The transmit and receive bandwidths are set at 1646.5 to 1660.5 MHz and 1545.0 to 1559.0 MHz.



# L-Band experiments begin this month

*Two years of negotiations and planning will come to fruition this month when Mobilesat begin conducting L-Band experiments using the Japanese ETS-V satellite.*

It all started at a conference in Canada in July 1986 when I met a member of the Japanese ETS-V team from the Communications Research Laboratory (CRL), Dr Shingo Ohmori who presented a paper in the ETS-V program.

The ETS-V payload was designed specially for experiments in mobile satellite communications in the L-Band.

The satellite has two coverage beams - one for the North Pacific and the other for the South West Pacific, which conveniently covers the whole of Australia.

Recognising that ETS-V would be a unique opportunity for AUSSAT to set up a test bed for the planned Mobile Satellite Service, I suggested to Ohmori that CRL and AUSSAT collaborate on experiments with ETS-V in Australia.

Formal negotiations began in March last year and 18 months later we reached an agreement suitable to both companies.

A hub station has been erected at AUSSAT House with a 4.6m antenna installed on the roof. For the mobile section, a van is now being fitted out for use as a mobile laboratory and as a test vehicle for the mobile terminals.

Experiments with ETS-V begin on September 26 when a team from Texas University arrives in



**Two views of the new 4.6m L-Band antenna recently erected on AUSSAT House.**



Sydney with their specially fitted van to conduct mobile propagation measurements for Australian conditions.

We will then test a variety of equipment which may be used in the mobile terminals.

These include antennas, voice codecs and modems, the most critical components in the terminal.

Also underway are negotiations with some overseas companies to bring into Australia for evaluation a number of mobile satellite terminal prototypes for both voice and data.

The results of the testing will be used as input to the final MOBILESAT system specification planned for release next July.

The ETS-V project team consists of myself as supervisor, Senior Analyst Russell Tunny, Analyst Ross di Bartolo and visiting researcher Ryutaro Suzuki from CRL.

**Kim Dinh**



# Customers want to be kept informed

As mentioned in last month's UPLINK, Ray Reynolds and Colin Reddel were impressed with the emphasis telecommunications carriers in the U.S., Canada and the U.K placed on customer service.

In this follow up article, Colin writes on exciting examples seen in some of the companies visited and on how customer service is a job for everyone in AUSSAT.

MCI, GTE Spacenet, Hughes Network Systems and British Telecom are each at different stages of providing customers with the ability to see into their part of the network and to control some of the factors which can be changed.

In the corporate communication newsletter MCI World (May/June 1988), Product Development Manager Michael Lowe talks about "integrated network management providing customers with a single user interface for performing a full array of network management applications".

These applications consist of four modules:

1. Operations service provides network alarms to alert customers immediately to interruptions or service degradations. It also has a provision for diagnostic testing.
2. Trouble Service allows customers to open and track service dockets.
3. Configuration Service lets customers respond to service interruptions or changed traffic requirements by reconfiguring their network as best suits their needs.
4. Planning Service provides analytical tools for assessing the long term performance of the network and plan for network growth.

MCI is planning to provide customers with on-line access to integrated service ordering and billing systems.

It is interesting to note that the designers of the Telecom Australia Network Management Centre, recently commissioned in Melbourne, are now looking at providing private network customers with more visibility of their network.

What does this mean for AUSSAT?

Firstly, it suggests customers want detailed, accurate and up-to-date information about their communication lines. Secondly it suggests that customers want to have some control in deciding what happens to their network.

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*"The need to give high quality service to our customers applies as much to network management as it does to all AUSSAT services from the initial design stage through to the operational stage."*

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Thirdly, if AUSSAT is serious about providing high quality customer service, we need to do whatever we can to meet their needs.

All this will, of course, require effort and resources.

Up until now only two examples of such customer service have evolved in AUSSAT - namely the ABC Satellite Network Control System and the Lend Lease Inter-

iors Video Conference Meeting Room.

Numerous other potential opportunities exist but according to MCI, a piecemeal approach (which they also originally followed) is not the best way to develop when compared to a fully integrated, single access service.

At a recent Sydney seminar on Reliability and Test Management, Mr Dev Raheja, Chairman of the American Society of Quality Control, described how American organisations develop products by gradual improvement of range and quality. Mr Raheja insists that all the methods and skills are available to design and develop products of top quality first time round - a far more cost-effective approach and more likely to win a market share.

The need to give high quality service to our customers applies as much to network management as it does to all AUSSAT services, from the initial design stage through to the operational stage.

Standards Australia (formerly the Standards Association of Australia) is participating in a national drive for quality, including customer service quality.

An article in the July edition of the Australian Standards Journal tells of several organisations whose attention to quality had a double-barrelled effect. Not only were there the expected benefits of better productivity and increased sales, but staff turnover was reduced while staff moral increased.

A timely message for AUSSAT.

Colin Reddel



# Itinerant services still on the rise

*Itinerant television services continued to raise good revenue in July with 549 itinerant services totalling 470 transponder hours.*

The highlight of the month was a High Definition TV (HDTV) demonstration at the Japanese pavilion at World Expo in Brisbane. We combined resources with Japan's NHK Television and OTC to bring a spectacular demonstration of future television delights (see story page 8).

Meanwhile, six customer networks failed to meet their availability target during July, giving an overall availability figure of 99.67% - down on last months figure of 99.93%.

Another area where AUSSAT is tracking its performance is reliability formulated as a

measure of the Mean Time Between Failures (MTBF).

Each customer network is analysed for the number of equipment failures it has incurred during the month. Reliability is then assessed using a formula relating to availability and Mean Time To Repair (MTTR) to arrive at days between failures. At the moment, AUSSAT has targeted one fault every 182 days as its reliability figure for each customer network.

We are assessing this figure at the moment to see if it is achievable considering, among other factors, equipment performance. Two new customers were added to our ever-expanding network during the month.

The Department Of Transport

and Communication (DOTAC) took delivery of a TMES. This TMES will be used by DOTAC for evaluation of planned permanent sites, occasional air shows and emergency applications.

The Bureau of Mineral Resources (BMR) has contracted AUSSAT to provide a 9.6Kb/s data service between Canberra and Tennant Creek for seismic activity monitoring. The Tennant Creek end uses a 2.1 metre earth station.

Another item of interest was that all of the STARNET services were transferred to A2/T1 which will enable STARNET customers to access video transmissions. This provides a value added service to them if required for such things as new product releases, training and addresses by important personnel.

**Ray Reynolds**



A touch of nostalgia: Russell Tunney provided this photograph of Belrose taken in August 1985, just prior to the launch of our first satellite.



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## NEW BOOKS

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AUSTRALIA: OECD ECONOMIC SURVEYS 1987/88 (Paris, OECD, 1888) (Ref) 330.994 OEC

AUSTRALIAN ANNUAL NEW MEDIA DIRECTORY 1988 (Syd, Paul Budde, 1988) (Ref) 384.0994 AUS

COMMONWEALTH GOVERNMENT DIRECTORY 1988 (Canb, AGPS, 1988) (Ref) 351.20994 COM

DIRECTORY OF AUSTRALIAN ASSOCIATES 5TH ED. (Melb, Information Australia, 1988) (Ref) 068.94 DIR

ELECTRICAL PERFORMANCE STANDARDS MONOCHROME TELEVISION STUDIO FACILITIES: EIA 170 (US, EIA, 1957) Standards

INTERNATIONAL STANDARD (ISO) 4930: data communication 15 pin DTE/DCE interface connector and pin assignments 1st Ed. (Switzerland, ISO, 1980) Standards

KOMPASS AUSTRALIA 1988 18th Ed. 2 Volumes (Melb Peter Isaacson, 1988) (Ref) 388.020994 KOM

LASER SAFETY (Syd, Telecom Australia, 198?) Standards

NEW SOUTH WALES YEAR-BOOK No.71, 1988 (Syd, Australian Bureau of Statistics, 1988) (Ref) 319.44 NEW

PROBLEM SOLVING BY EDUCATION RESEARCH (NY, Education Research, 1987) 658.002 EDW

PROSPECTS FOR THE NON-RESIDENTIAL CONSTRUCTION INDUSTRY: report of the Construction forecasting Committee June 1988 (Canb, AGPS, 1988) 384.540994 AUS

REVIEW OF NATIONAL BROADCASTING POLICY, DISCUSSION PAPERS: SPECIAL BROADCASTING SERVICE (SBS) by the Department of Transport and Communications (Canb, AGPS, 1988) 384.540994 SBS

SATELLITE PROVIDERS (US, Phillips Pub, 1987) (Ref) 621.380422 SAT

This report describes the system and services of existing, planned and proposes US domestic satellite operators.

### TELECOM AUSTRALIA

a. Specification 1302, issue 1: electrical safety requirements for permitted attachments. (Syd, Telecom, 1980) Standards

b. TPH 0528, issue 1: Inter Exchange Transmission Plan - loss and level standards and application rules (Syd, Telecom, 1983) Standards

c. TPH 0876: intercept audit facility (Syd, Telecom, 1985) Standards

d. TPH 2001, issue 1. Australian ISDN Technical reference (Melb, Telecom, 1988) Standards

Yearbook Australia 1988, no.71 (Canb, Australian Bureau of Statistics 1988) (Ref) 319.4 YEA

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## ANNUAL REPORTS

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NEC CORPORATION 1988

OTC 1988

TOKAI AUSTRALIA FINANCE CORPORATION 1988

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## NEW JOURNALS

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IEEE Technical Activities Guide (TAG)

### AUSSAT SOCIAL CLUB

*Remember the days when Redskins cost 1c?. Fags were only \$1.00? When a Kingswood cost \$6000 - NEW!!!?*

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