

AUSSAT

A composite image featuring a satellite with large solar panels in the foreground, set against a backdrop of the Earth from space. The satellite has a central body with various instruments and two large, rectangular solar panel arrays extending outwards. The Earth below shows green landmasses and blue oceans with white clouds. The text "20 Years 'Off the Planet'" is overlaid in red, and a white box containing a red bar and the word "AUSSAT" is at the bottom.

20 Years "Off the Planet"

AUSSAT



"Higher than the wildest dreams of its builders, 22 300 miles above the Earth, we may regain what was once lost, when the Lord said; Behold they are one people, and they all have one language, and this is only the beginning of what they will do..."

ARTHUR C. CLARKE, 1968



Australia's National Satellite
The Beginning

The staff whose signatures appear below provided the skills, dedication and determination to create this page in Austratla's telecommunications history.

W. G. Gosewinckel
General Manager

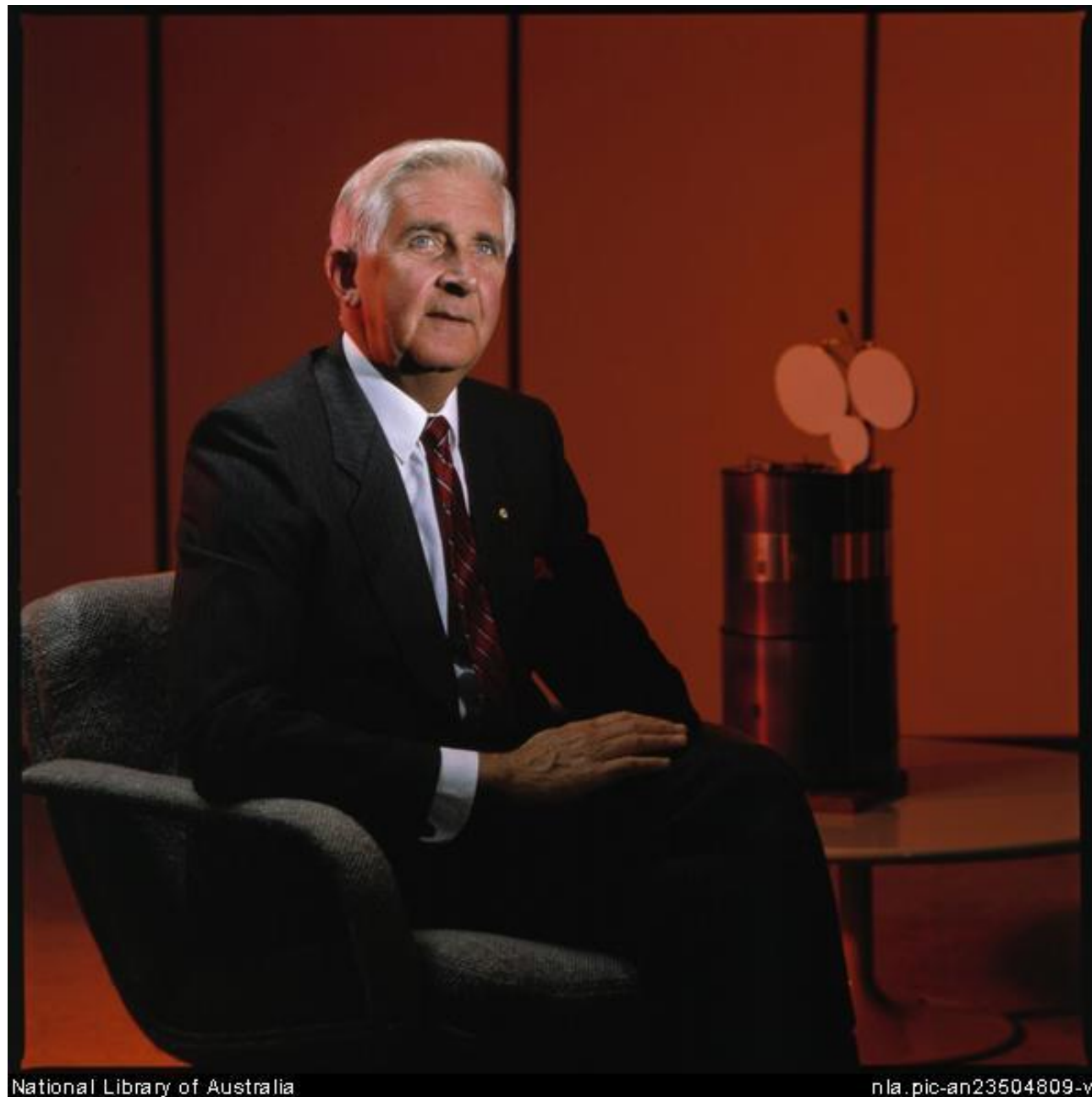
Allen
 Larry Bolter
 Gary McCamagge
 R. Gilman: *off*
 Don Kennedy
 A. Tallahan
 Colin Cloton
 Mark Harwood
 Tim Austin
 Helen Heinberg
 Wayne Newland?
 John Brass
 Jimi Skason
 Jack Wilkin
 C. Tim
 Ruth Russell
 Bob Vagg

Patherkanyang
 Geoffrey Erickson
 Gordon H. S. Pike
 P. Karul
 Susan Duff
 Mike Miller
 Fausto Ferreira
 Graham
 Ralph Thompson
 H. K. Rogers
 J. J. Jones
 Don. Pitt
 Roy F. Edmund
 Peter Allen



May 1982

**Portrait in
National
Library of
Australia,
Canberra.**



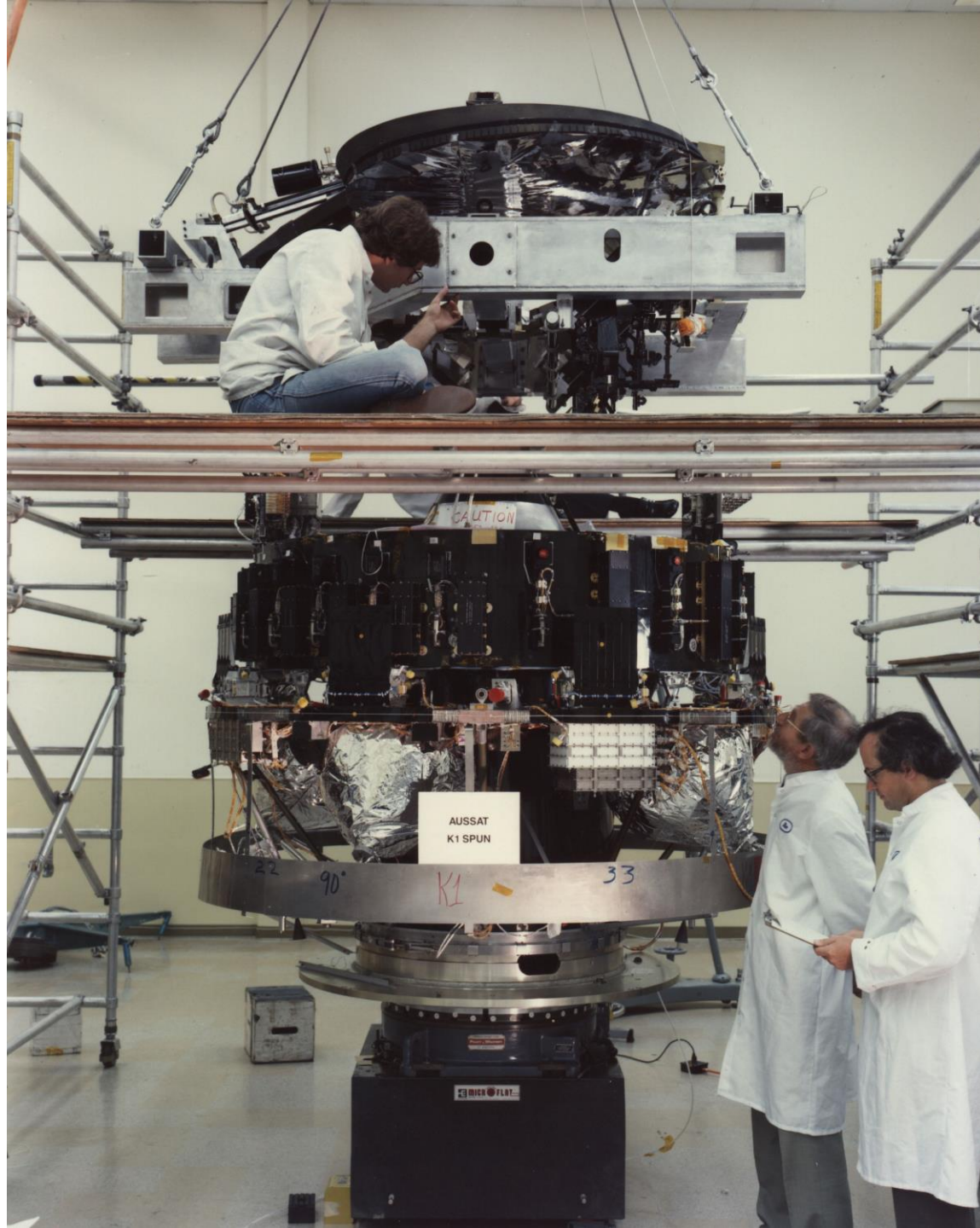
**AUSSAT A
SERIES
SATELLITES**

A1, A2 and A3

1982 - 1987

AUSSAT

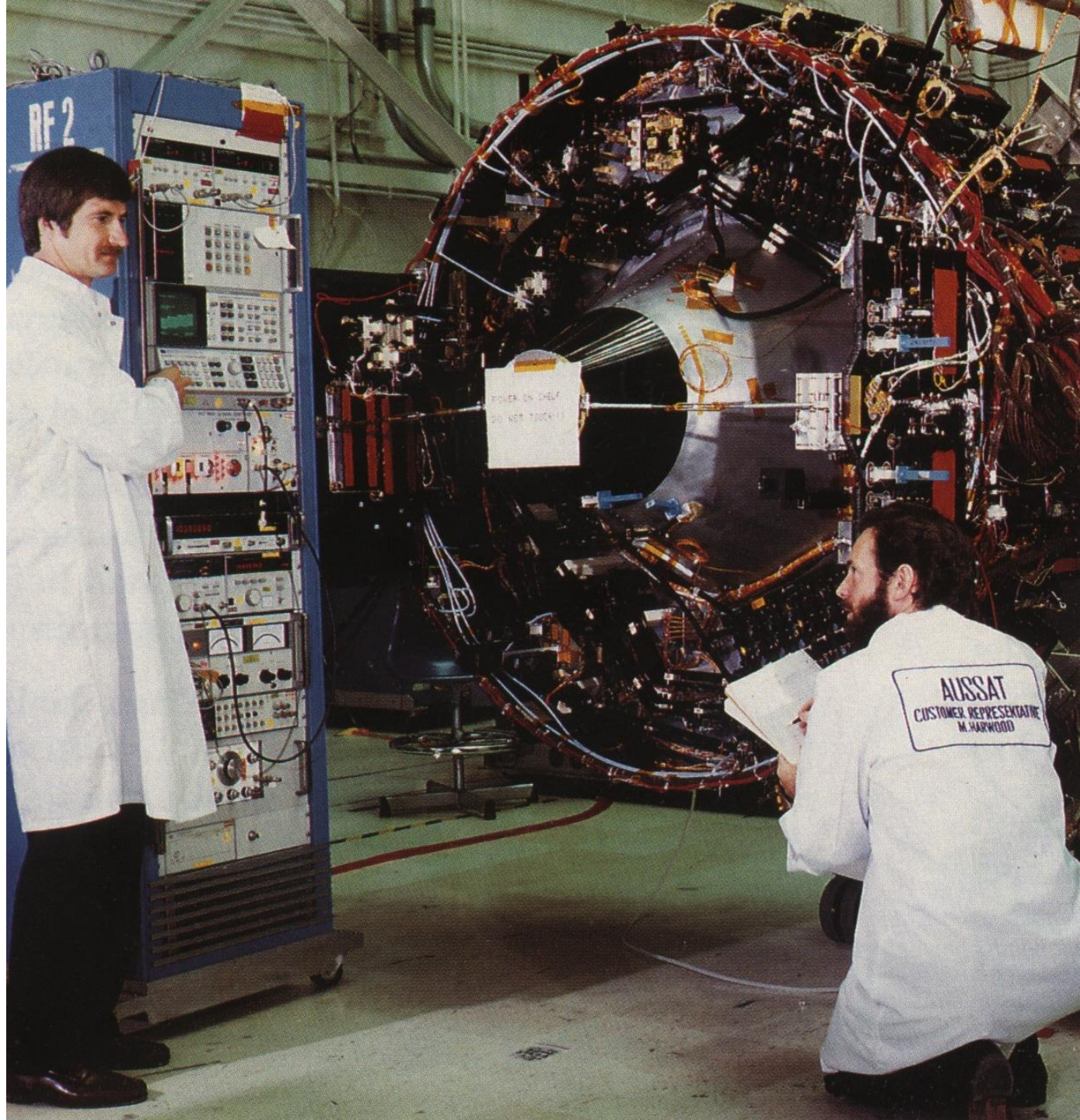






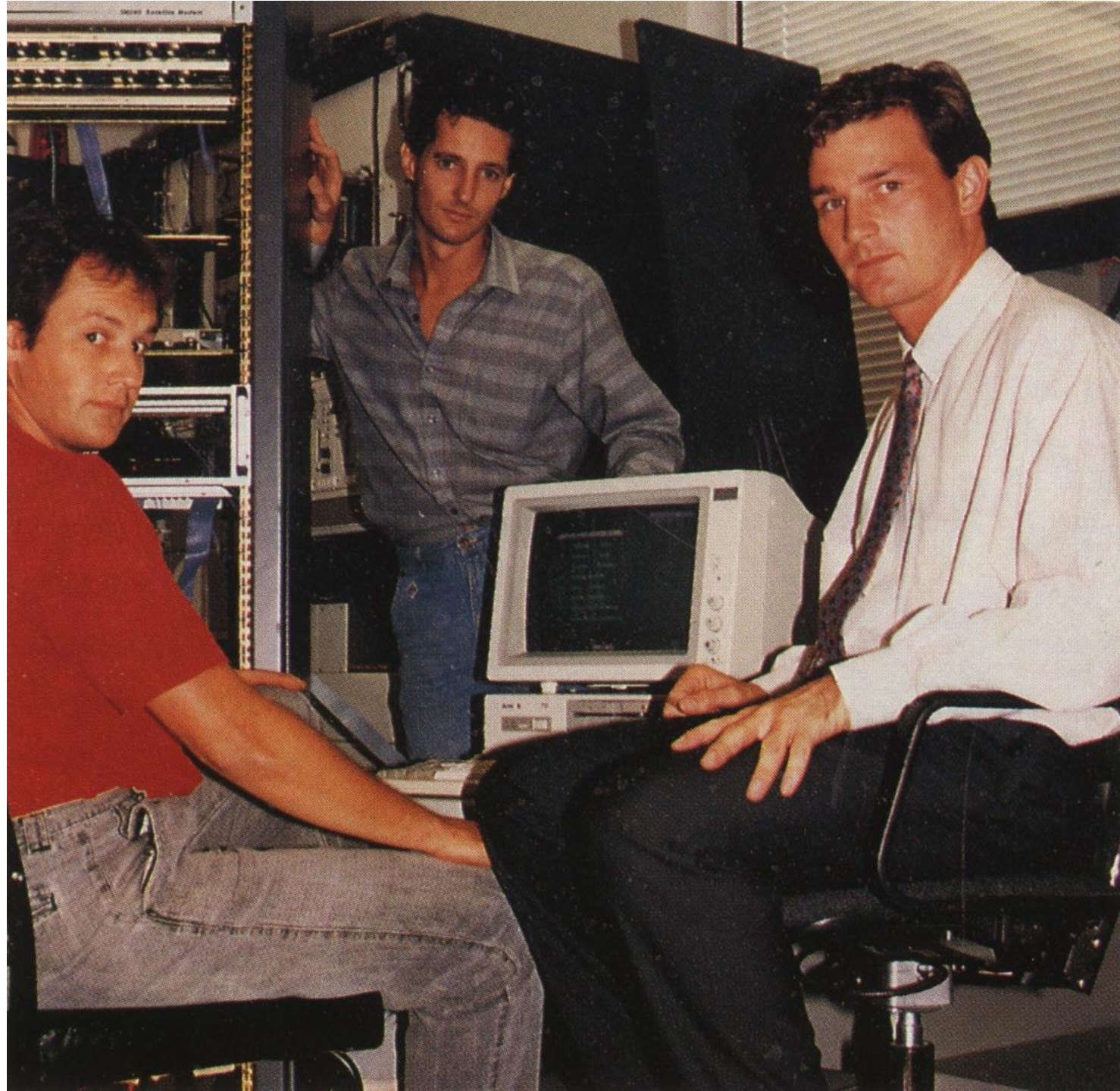
Belrose - 1983













RPO Staff Picnic. Palos Verdes California. May 1984



Torrance, California. May 1984



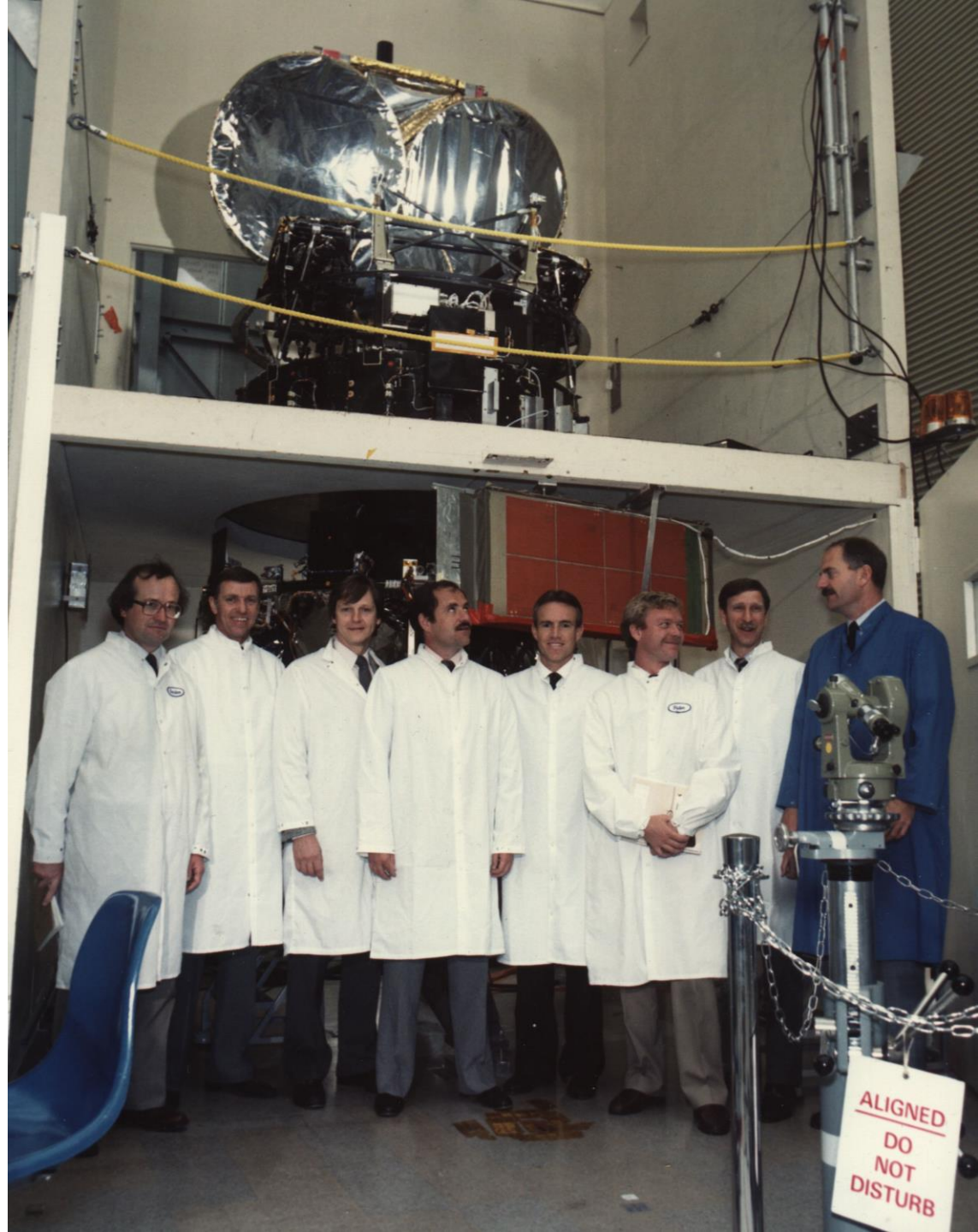
RPO Barbecue. Palos Verdes California. June 1984





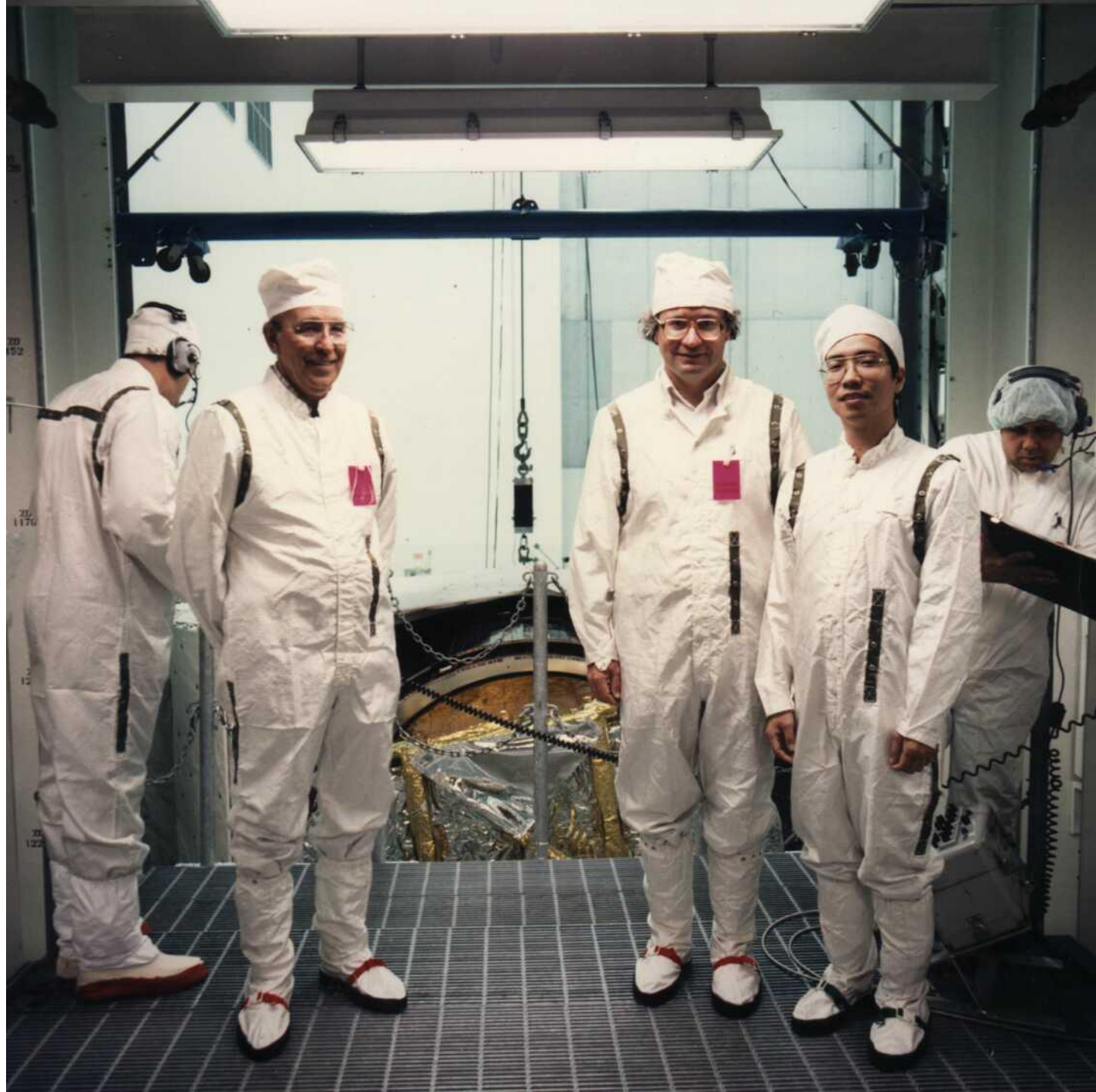
AUSSAT A2 WITH STS 51I FLIGHT CREW

- Joe Engle
- Mike Lounge
- Bill Fisher
- Dick Covey
- “Ox” van Hoften

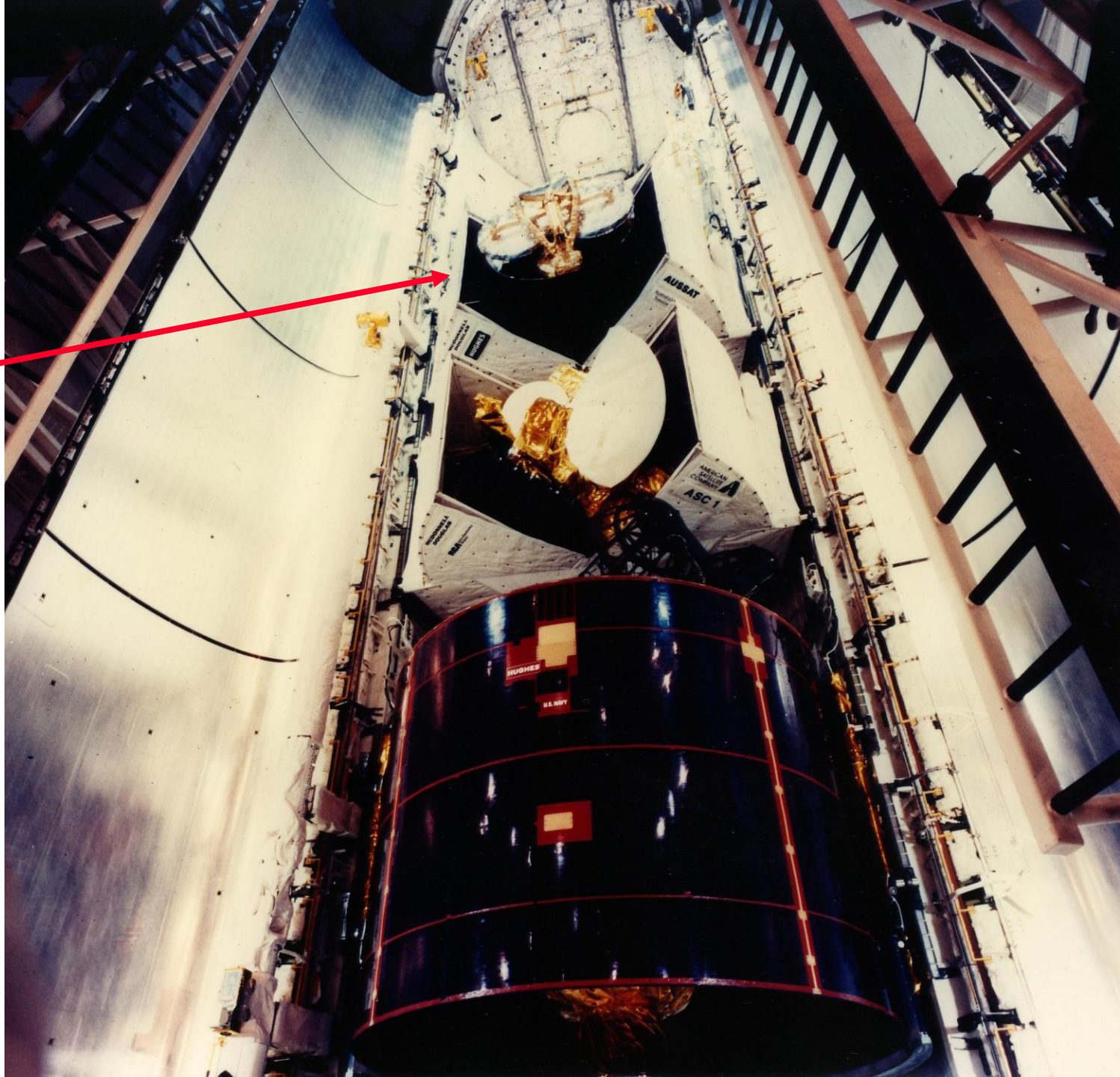




Aussat A1
August 27 1985
10:58 UTC

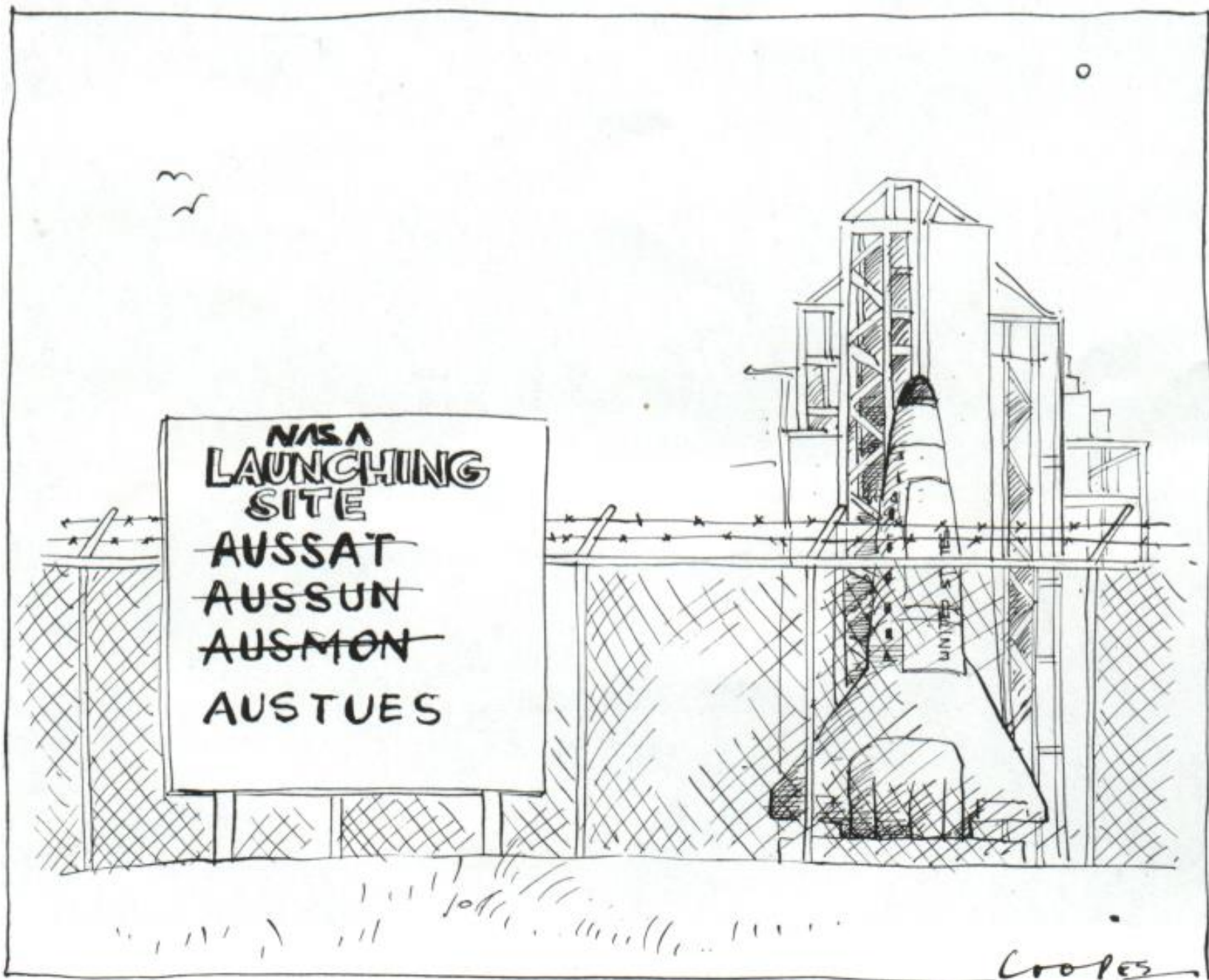


AUSSAT
A1
– In Cargo
Bay of
“Discovery”
August 1985



“Discovery” On Pad 39A, Kennedy Space Center, Florida. August 6, 1985







0

Days to
Launch

STS 51-I CARGO

AUSSAT
PTY. LTD.

AUSSAT-1

AMERICAN
SATELLITE
COMPANY

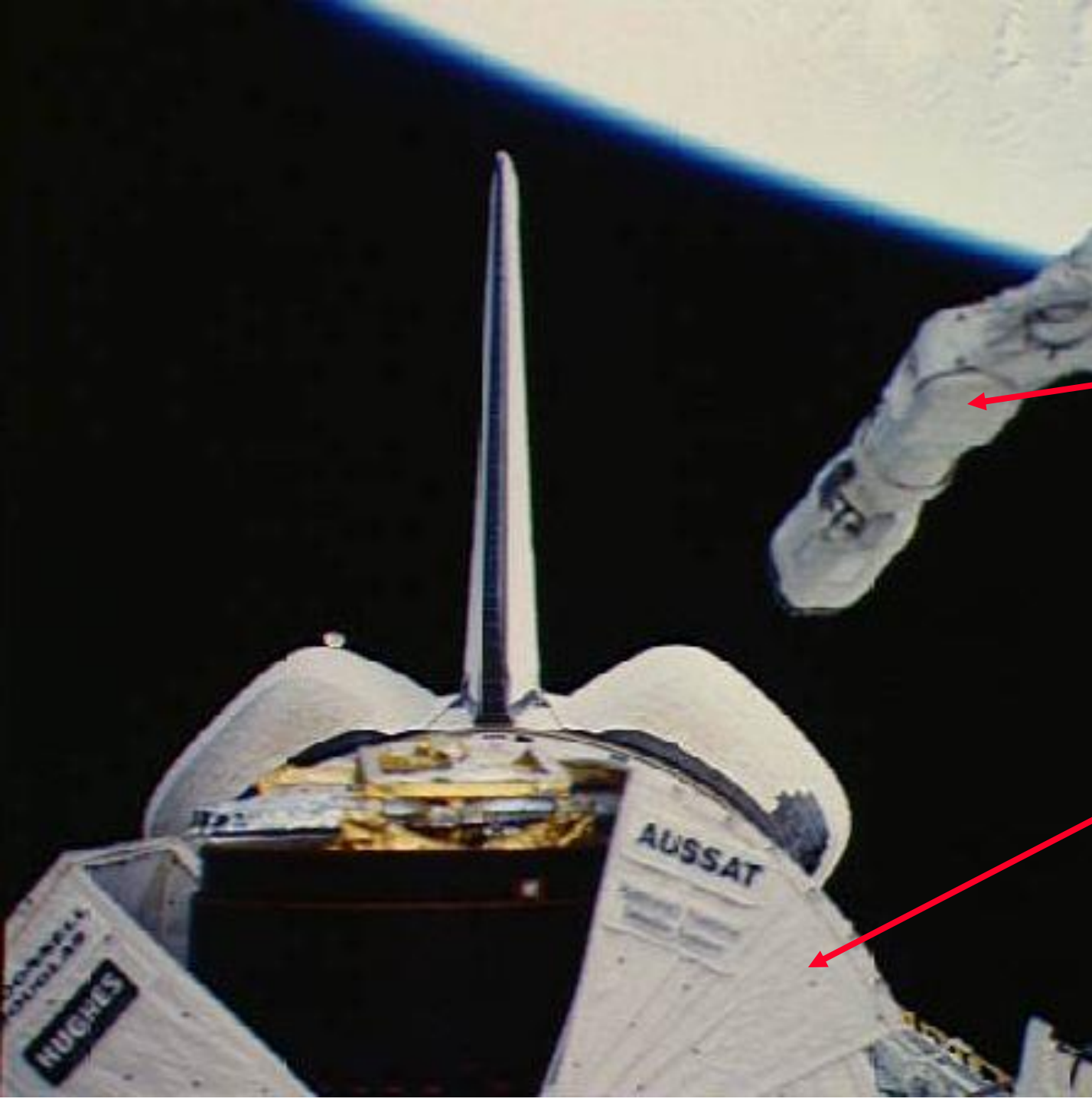
ASC-1

HUGHES
COMMUNICATION

SYNCOM IV-4

070

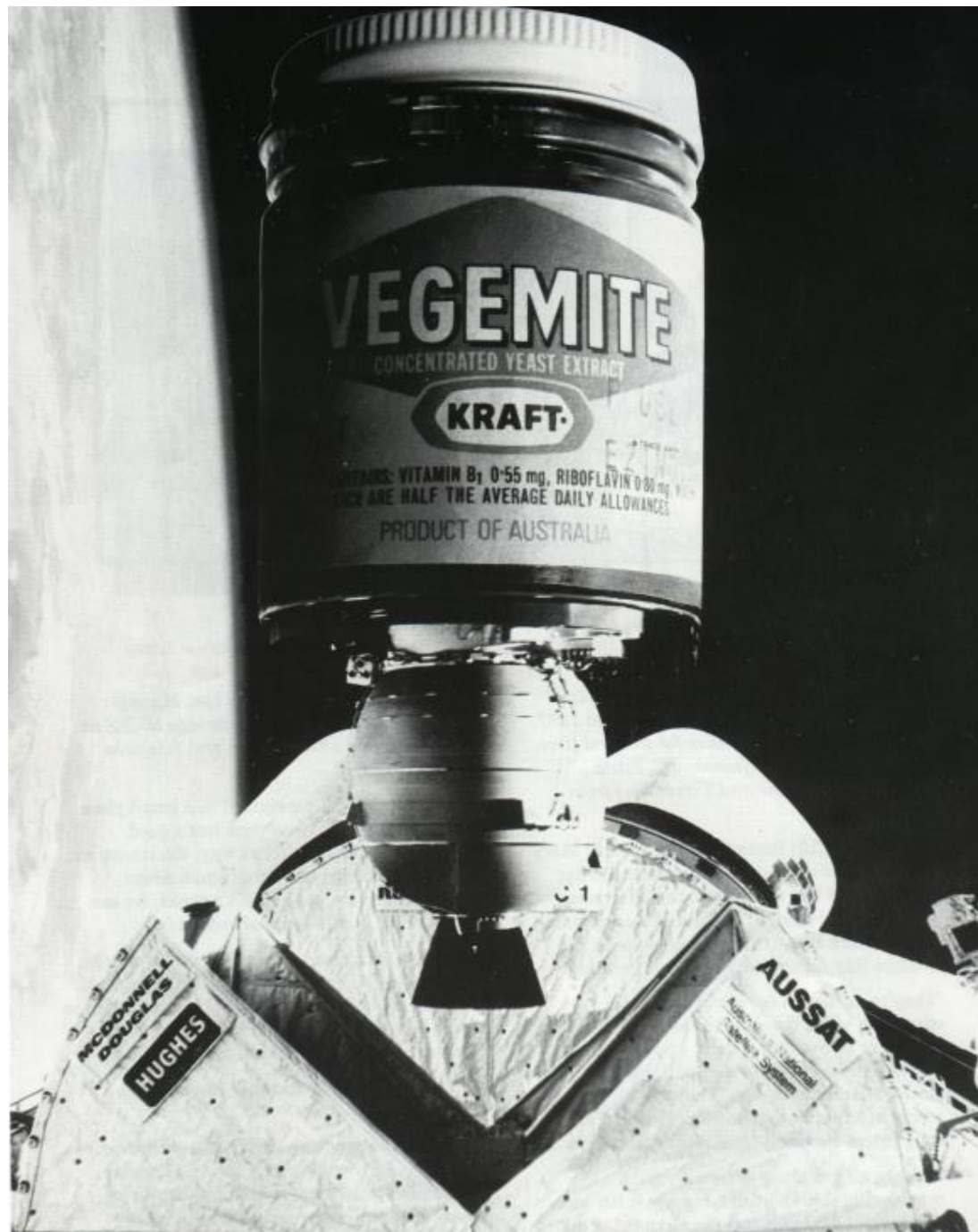




Arm

**Jammed
Sunshield**





HYPNOSIS
to
STOP
SMOKING
AND FOR
OTHER PROBLEMS
16 years

Leslie S. Bullock
Member Australian
Hypnotherapy Association
977 5149

The Manky Daily

NEWSPAPER OF THE YEAR *
CLASSIFIEDS ONLY 977 9999
CIRCULATION 76 854

DIGGERS



Children's matinee
"THE NEVER
ENDING
STORY"
TODAY 2pm
Inquiries
938 1444
for the information
of members and guests

Vol. 80. No. 18 972 • THURSDAY, AUGUST 29, 1985 • (02)977 3333 • PRICE 20c*

GOING ... GOING ... GO ... AND THE CORKS GO POP



Mr Gosewinckel's own countdown.

Graham Gosewinckel knew that Tuesday night's third launch attempt of Australia's first communications satellite would go ahead — he had too many good omens to believe otherwise.

Mr Gosewinckel, Aussat's general manager, said his two daughters celebrated their birthdays on launch day — "and I feel that's it. I am a believer in the stars."

Watched from the \$27 million earth station at Belrose, the launch from Florida's Cape Canaveral of the US shuttle Discovery, which carried the satellite Aussat-1, marked the end of eight years' work by Aussat staff.

After two aborted launch attempts on the weekend, the third blast-off was threatened by bad weather.

Then the anxious mood at Belrose on Tuesday turned to relief and jubilation when NASA announced at 8.52pm Sydney time, that the weather was clearing. Discovery lifted off at 8.58 — to the popping of a champagne bottle by Mr Gosewinckel.

But early problems were encountered when the satellite's sunshield doors snagged open two hours after launch. It was feared



A tense moment during a long wait.

that if the astronauts attempted to reopen the doors they may have caught on Aussat-1 antennae or damage the sunshield door motors.

The satellite was due to be launched on the 17th orbit of Discovery, but an attempt was made on the fifth orbit, and was successful.

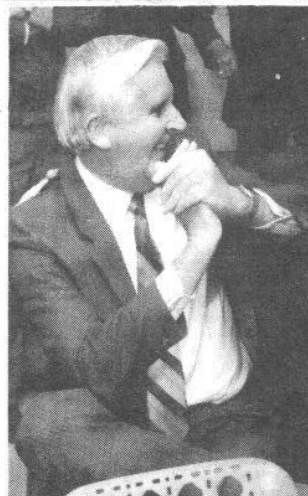
The Belrose station now has control to fire the rocket motor which will send the satellite into its position 36 000km above the earth.

Once in that orbit Aussat-1 will be gradually moved and allowed to drift to its final orbit slot east of Australia. At the same time, ground command from Belrose will erect the three-reflector antenna system, and deploy the satellite's solar panel.

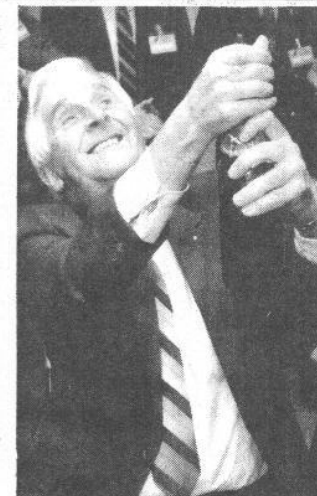
According to Mr Gosewinckel, the problems of communication isolation and distance, "which plagued Australia since its first days", are over.

For those living in remote rural areas, full television and radio services will become available by mid-October, firstly from the ABC followed by commercial services.

"Aussat is going to fix communication



"We have lift-off at Canaveral ..."



Shooting for the stars.

Aussat third time lucky

problems in one swoop," Mr Gosewinckel said. "If any project is ever going to bring Australia together, this is it."

The delays did not cost Aussat any money.

"The only extra cost involved was keeping the champagne chilled for another 48-hours," Mr Gosewinckel said.

Aussat is due to launch another two satellites in November and next July.

A guest of Aussat at each of the launch attempts was Commonwealth Bank assistant general manager and Belrose resident, Neville Cleary. The bank financed the Aussat project with a \$455 million loan.

STORY: GREG GLASSON
PHOTOS: JOHN VAN LOENDERSLOOT

GRACE BROS
WARRINGAH MALL



'EARLY BIRD'
BARGAINS

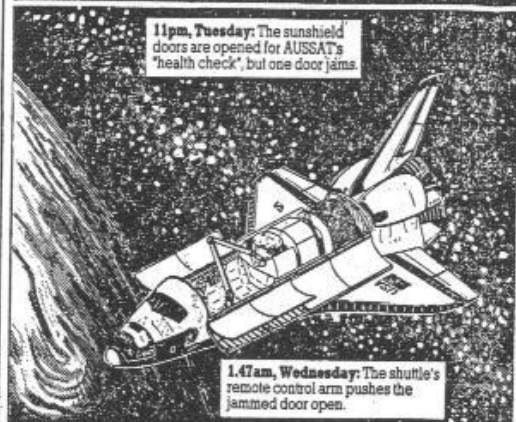
Post Launch Celebrations. August 27 1985

Holiday Inn, Nassau Bay, Houston

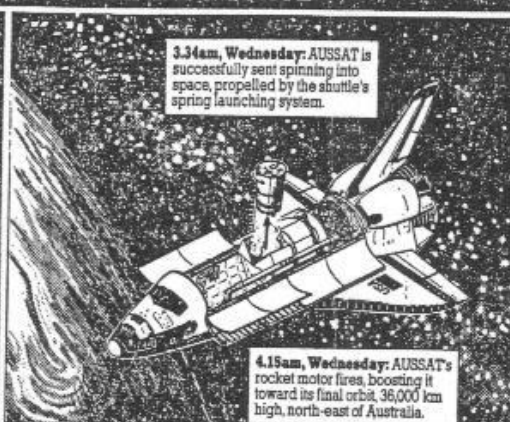


Nail-biting night awaiting the birth of Aussat

BUNGLED, THEN SAVED: AUSSAT'S ROUGH RIDE INTO SPACE



11pm, Tuesday: The sunshield doors are opened for AUSSAT's "health check", but one door jams.



3.34am, Wednesday: AUSSAT is successfully sent spinning into space, propelled by the shuttle's spring launching system.

4.15am, Wednesday: AUSSAT's rocket motor fires, boosting it toward its final orbit, 36,000 km high, north-east of Australia.

By RICHARD MACEY

For those who waited at the Aussat Control Centre at Belrose, in Sydney's northern suburbs, it was a very long night.

It began on Tuesday evening with jubilant celebrations over the successful launching of the satellite that was being carried in the cargo bay of the space shuttle Discovery.

But by 11 pm there was a crisis in space. The sun shield, a protective covering in the cargo bay that goes over the satellite to guard it from the extreme heat and cold of space, had jammed open. It was damaged and the fate of Aussat was hanging in the balance.

The astronauts aboard Discovery began an emergency plan to salvage the satellite. It worked and by the time the sun was rising over Sydney, Australia's first communication's spacecraft had been deployed and was flying in its correct orbit.

The launch of Discovery, originally set for Saturday, was delayed because of bad weather over Cape Canaveral. The second attempt, the next day, was cancelled because of a computer failure.

As the countdown clock ticked towards the third launch attempt, set for 8.55 pm on Tuesday, it seemed that bad weather again would stop the flight.

But the go-ahead for lift-off was given and at 8.58 pm — just three minutes late — Discovery roared into the sky. Before it was even in orbit the general manager of Aussat, Mr Graham Gosewinckel, had popped open a bottle of champagne and Aussat officials began leaving Belrose to join a victory party at their head office in Sydney.

Then at 11 pm the trouble struck when it was least expected. The astronauts were supposed to run a "health check" on the condition of Aussat before they shut the two sunshield doors to protect it from the heat ... but they forgot.

"You see what he's done ... he's closed the sunshield before the health check ... we're going to have to open it again," said a dismayed woman engineer at Mission Control in Houston.

But when the astronauts tried to reopen the doors something went wrong. The doors jerked and the left-hand door jammed open, some 30 degrees short of its proper position.

Exactly what had happened is still not certain and the question may not be resolved until Discovery lands. One theory is that the television camera at the end of the shuttle's remote control arm may

have bumped the sun shield. Another theory is that the shield may have been damaged during lift-off.

As the astronauts looked through the Discovery's rear windows they were horrified to see that the stuck door appeared to be bent with a tubular part apparently wrapped over an aerial, called the omni antennae, fixed to the top of Aussat.

The spacemen advised against suggestions that they might attempt to use their controls to open or close the shield. They feared any movement could damage the Australian satellite.

With the door jammed only partly open Aussat could not get out of the shuttle. Unable to shut the doors, there was no satisfactory way to protect the satellite from the heat and cold of space.

About midnight Mr Gosewinckel returned to Belrose after abandoning the launch celebrations in the city. "There is clearly a malfunction," he said. "Maybe we can get an astronaut out to have a look at what can be done."

Just after 1 am the astronauts began working on a plan to use the shuttle's remote control arm to force open the stuck shield. Television pictures that were being

beamed live to Belrose from an American news program showed the arm bashing against the troublesome door.

At 1.47 am an astronaut announced that the arm had knocked the door open: "We have lifted it off the Aussat ... it looks like it is going to stay open."

Now there was another emergency, and for the first time Mr Gosewinckel was talking in terms that clearly reflected the seriousness of the situation.

With the doors bashed open — and probably jammed open — there was no longer any sunshield to protect the satellite. Engineers tried to start Aussat's systems in the hope of using its own equipment for temperature control.

But it was clear that the only way Aussat could control its own temperature satisfactorily would be if it was released from the shuttle. Planning began to put Aussat overboard on the fifth orbit at 3.30 am rather than wait to the planned release point on the 17th orbit, still about 18 hours away.

At 3.34 am, somewhere over South America, Aussat was deployed. As television pictures came into the Belrose station a relieved Mr Gosewinckel admitted:



Aussat leaves the cargo bay of the space shuttle Discovery after a stuck door had been forced open.

"I didn't think that was going to happen."

At 4.15 am the satellite's rocket motor, called a payload assist module, fired for 66.2 seconds, boosting Aussat from a circular orbit of 300 kilometres to one looping from 300 kilometres to 36,000 kilometres.

But the satellite was out of range of tracking stations, so no-one was certain if the motor had worked. As the morning wore on a report from the North American Air Defence Command came in indicating that one of their radars had detected two objects — probably the satellite and its now separated rocket — exactly where Aussat should have been.

By 5.30 am a tracking station in Canada picked up a faint signal from Aussat. A strong signal should have been received at Belrose at 5.37 am but the electronic message could not be found.

"I can't understand why they

haven't got it," Mr Gosewinckel whispered under his breath.

The problem was that the satellite was still far too low on the horizon for the 14-metre tracking antenna at Belrose to lock on to the signal. As the 6 am radio pipe sounded the Aussat signal began streaming in loud and clear.

Aussat was working and exactly where it should have been. With Belrose in control the crisis appeared to be over and Mr Gosewinckel began telling arriving journalists just how close the faulty sunshield had come to destroying the satellite, insured for \$60 million.

The next big step will be tomorrow evening when Aussat will fire another motor to place it in its final parking orbit, a stationary spot 36,000 kilometres up. That will be followed by several weeks of checks before the satellite is scheduled to go into service on October 1.



Blooming

ABC faces blackout over threat of stand-downs

By GRAHAM WILLIAMS

hear the application on Monday

satellite. If the bank carry on



AUSSAT

AUSTRALIA

33c



AUSSAT

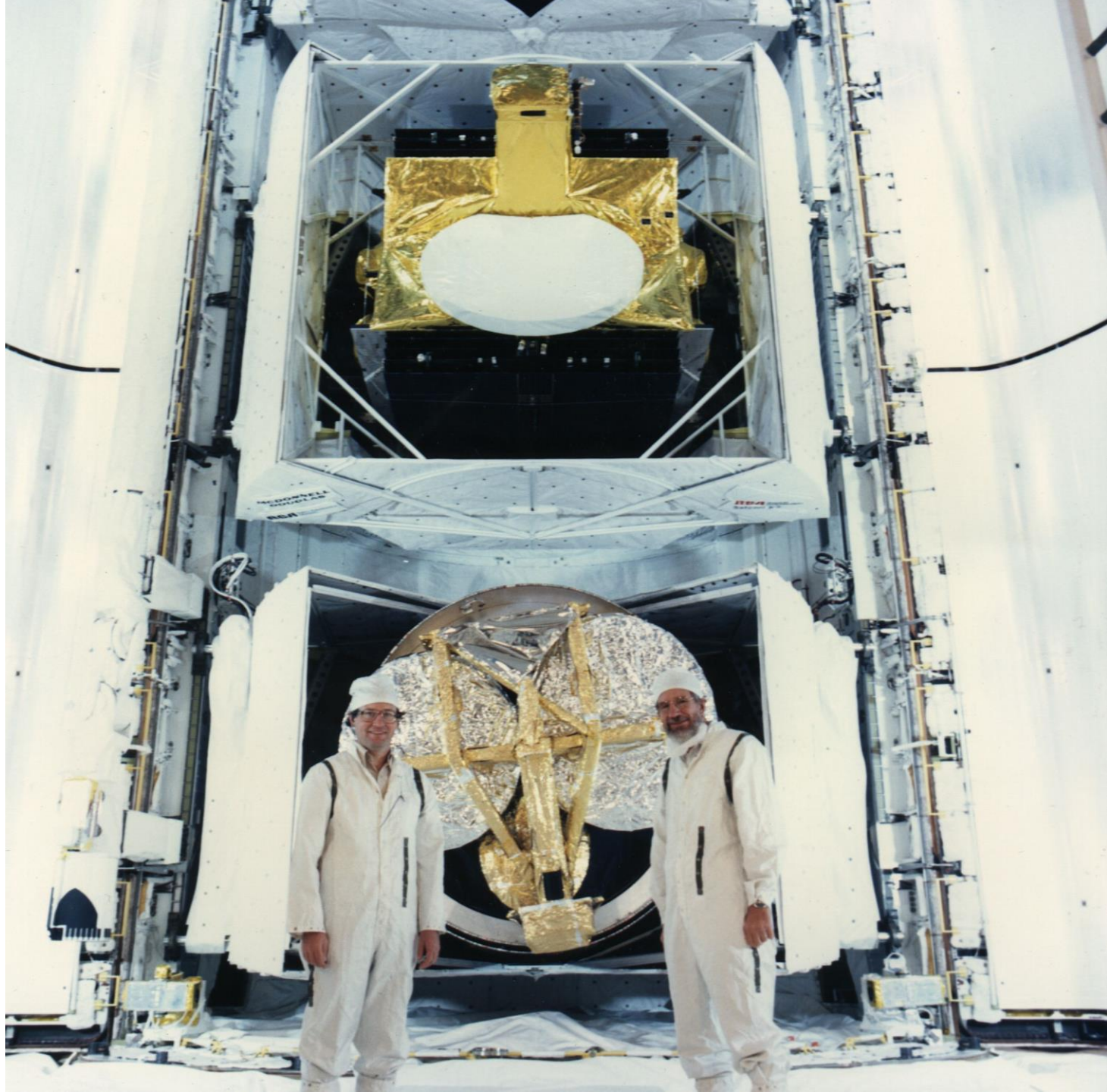
80c

AUSTRALIA

Aussat A2

November 27 1985

00:29 UTC



Boarding VIP Bus For Aussat A2 Launch. Florida 26 November 1985.



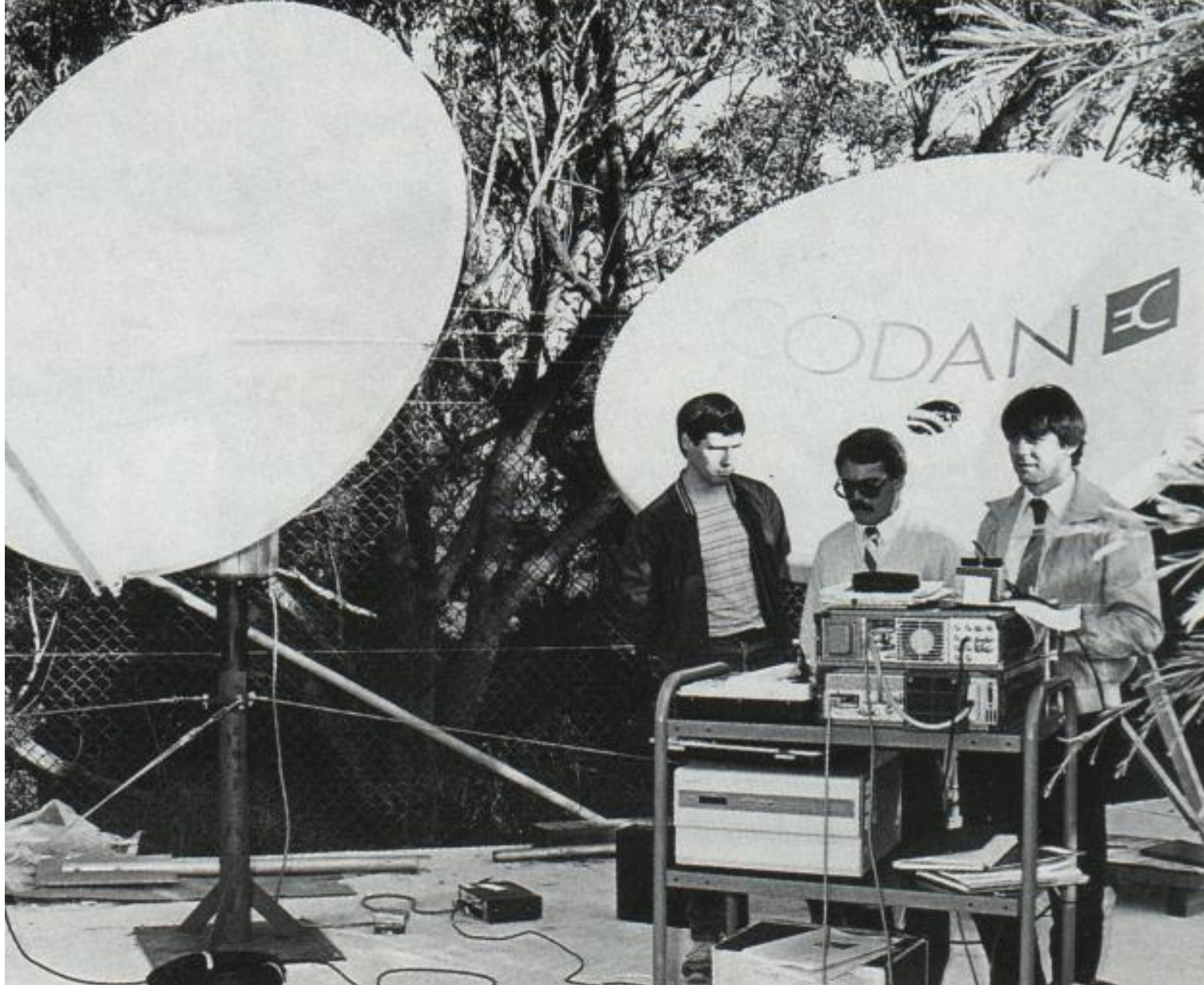
Customer Support Room, Houston. 26 November 1985











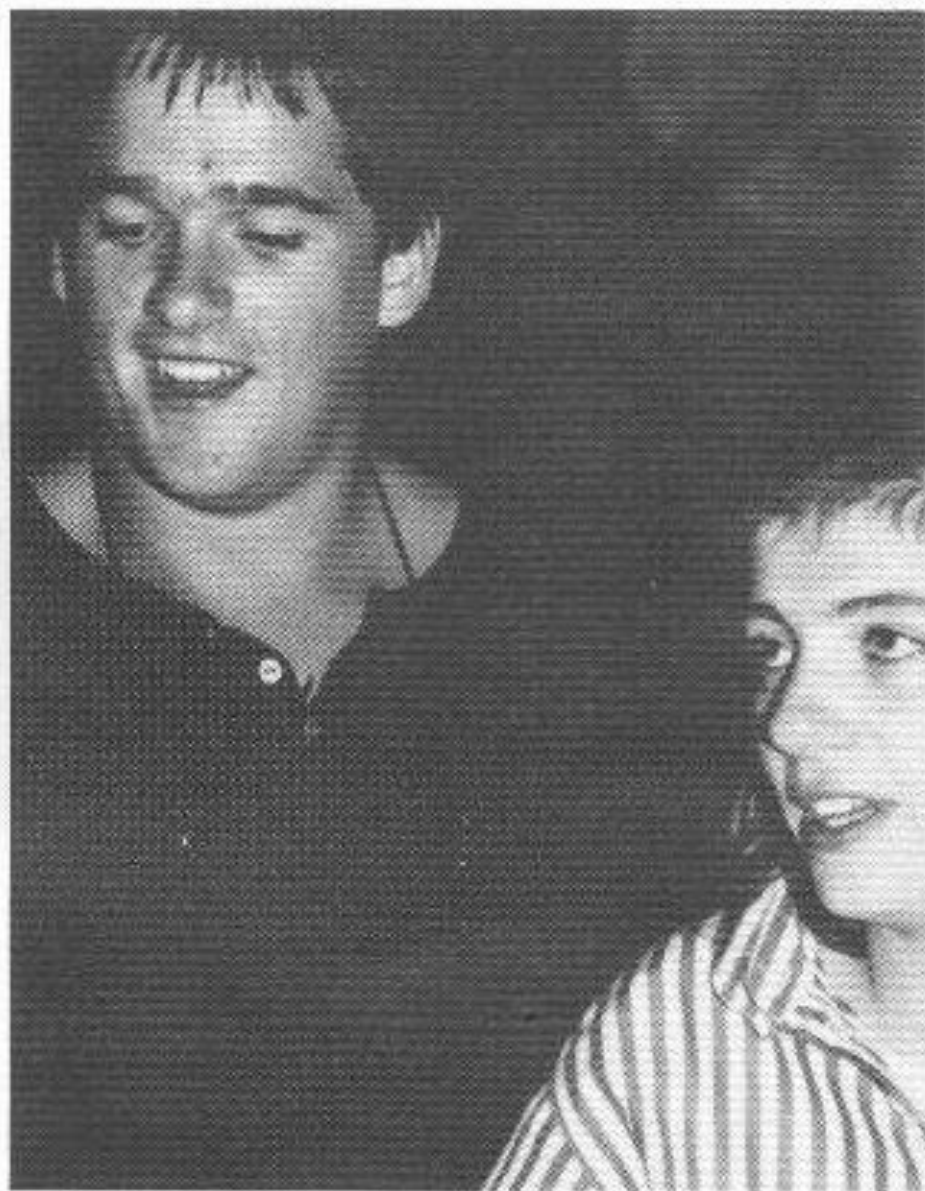










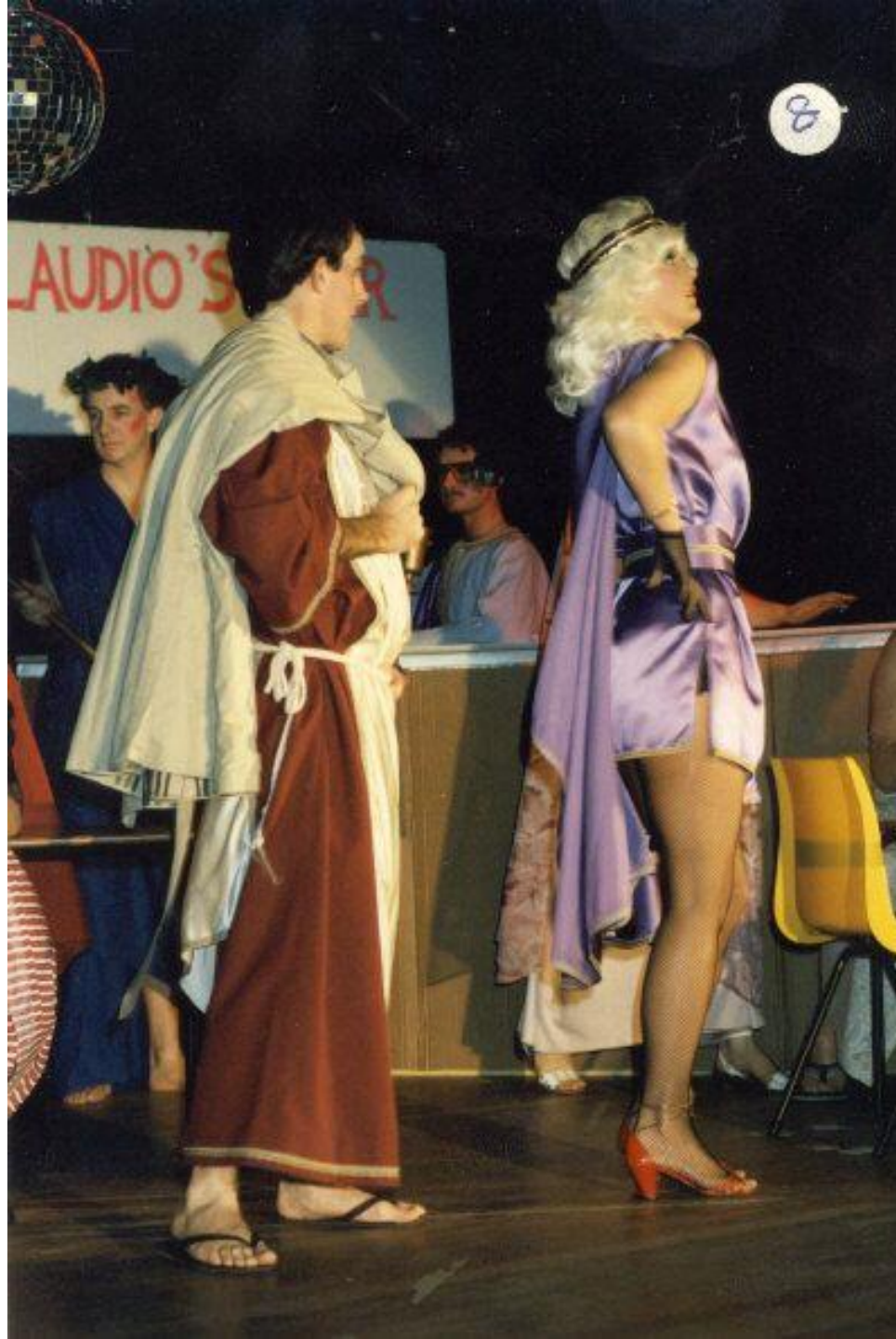


**Steve Byrnes and Sally
Rosenberg**

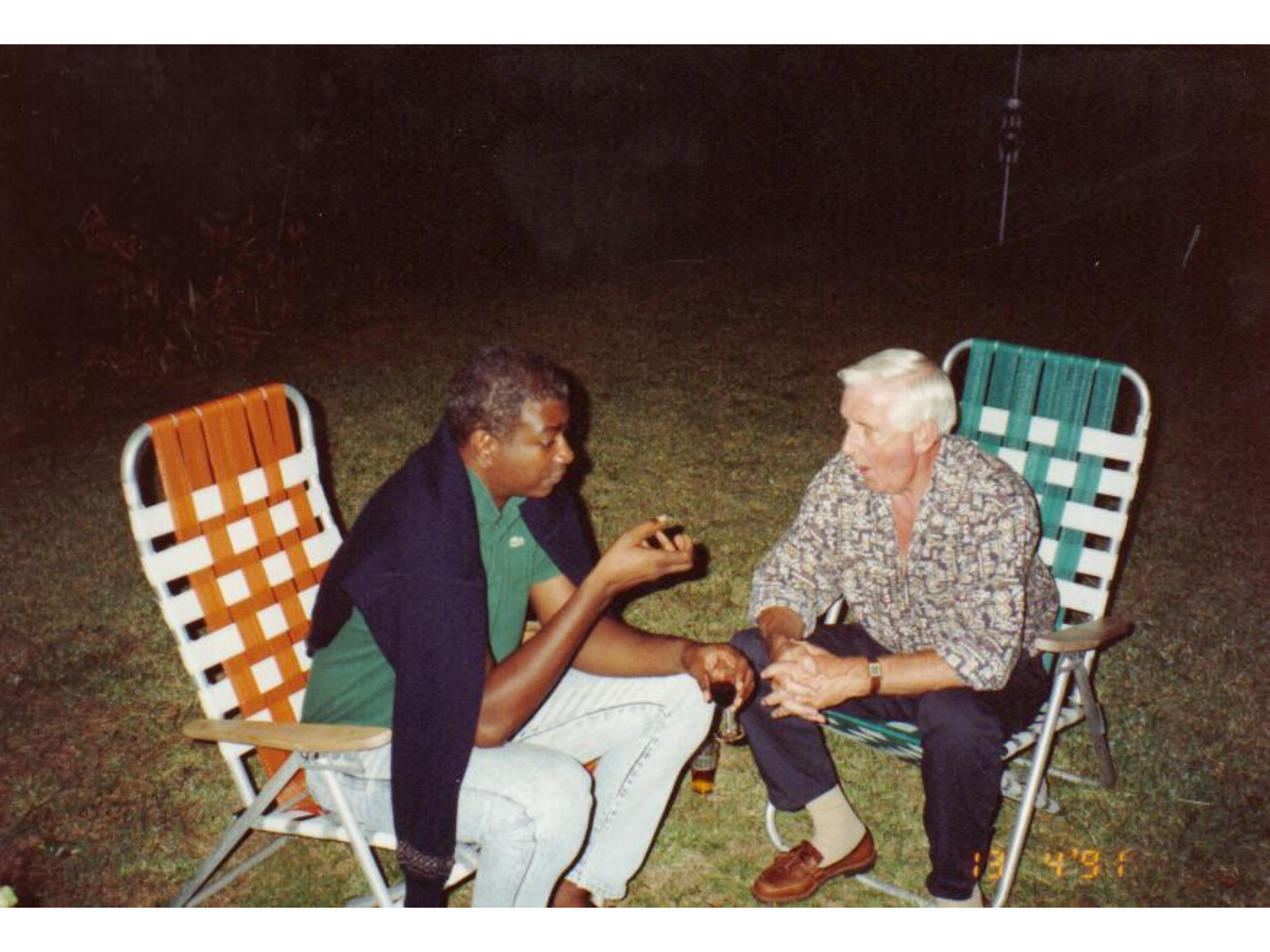






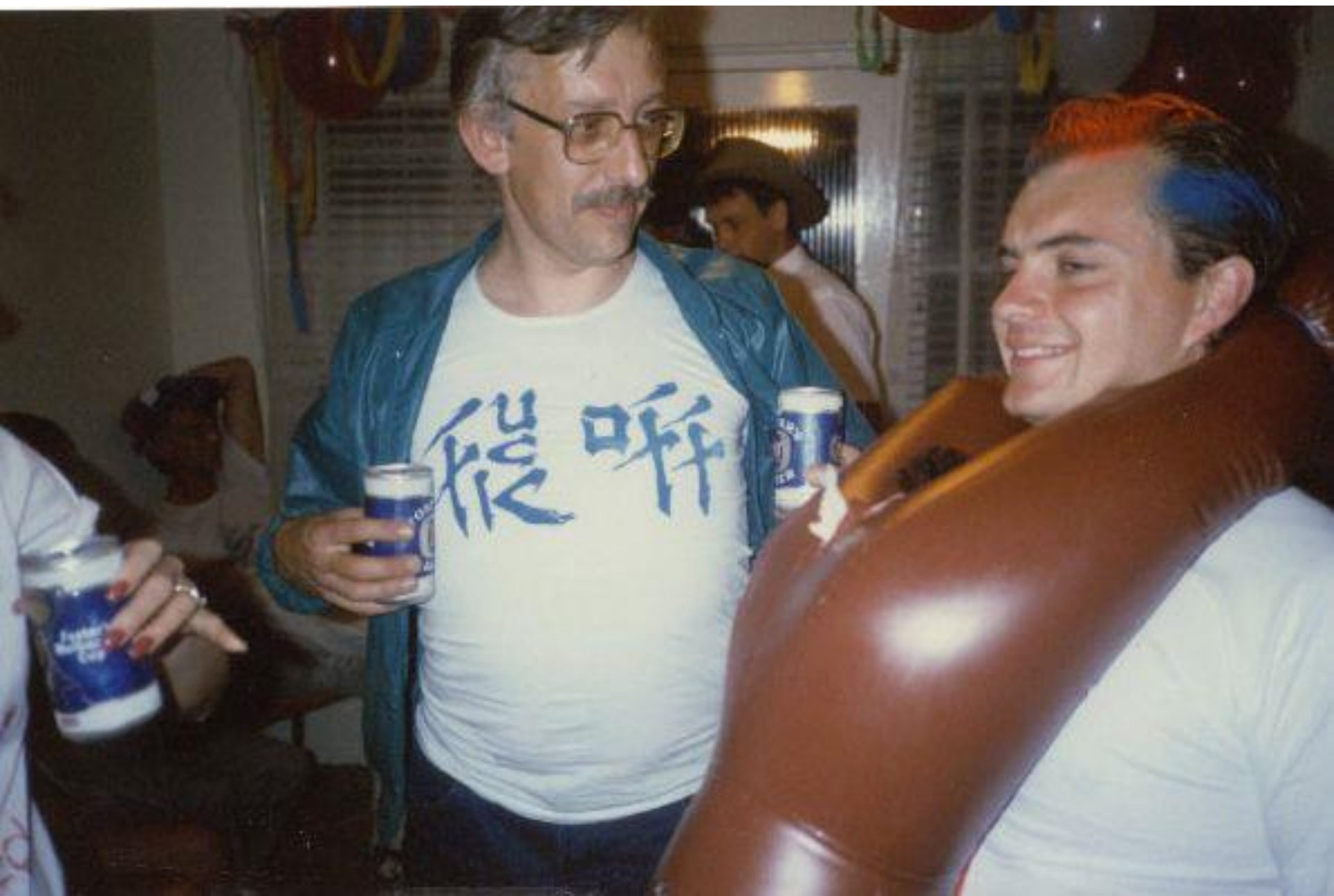






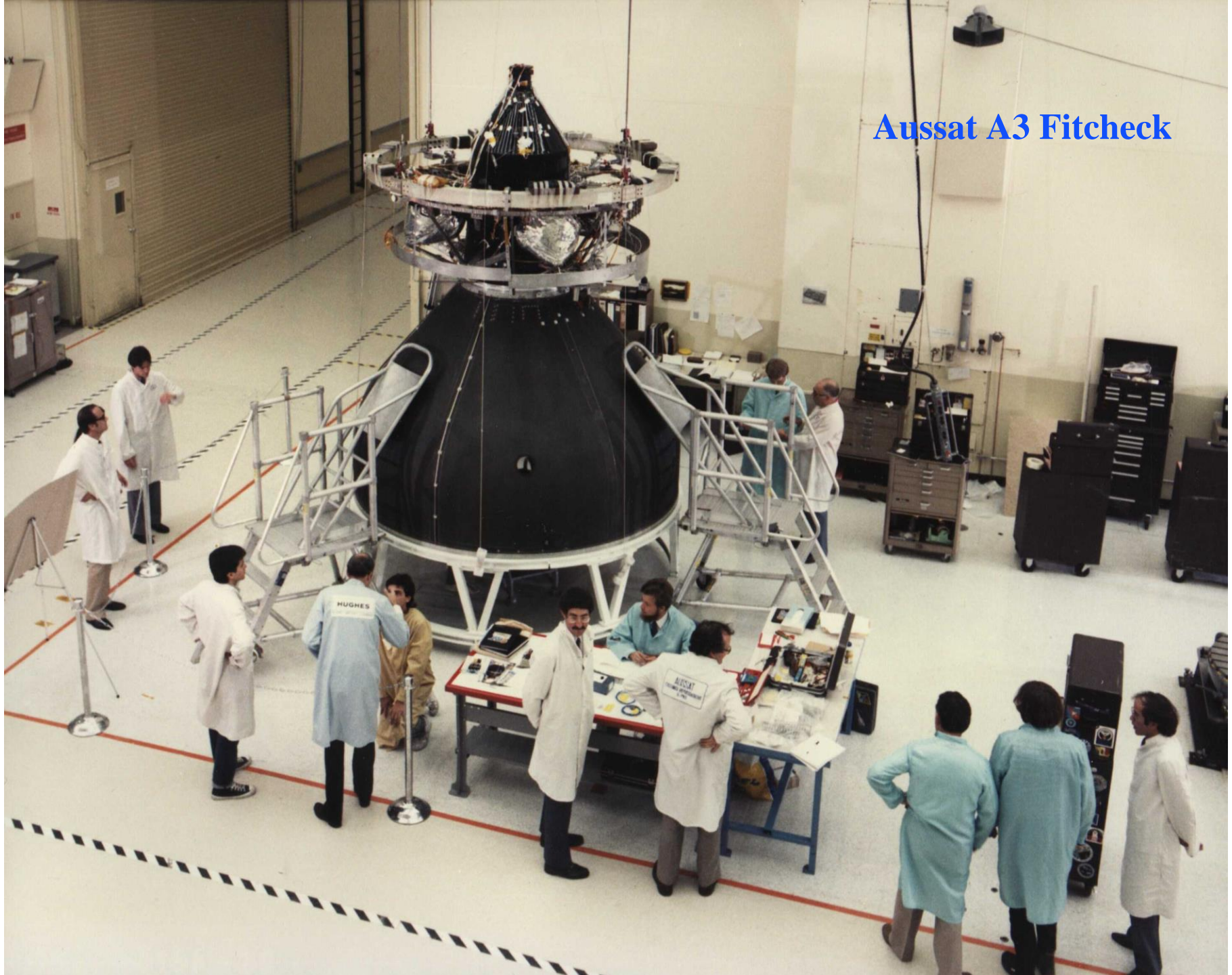


**From left : June and Lance McDonald,
"Francoise" and Elizabeth Mullins**





Aussat A3 Fitcheck



Aussat A3

French Guiana – September 1987

Where The #\$\$%&*?! IS French Guiana ?



Devil's Island









AUSSAT A3

Ariane V19
September
16, 1987
00:45 UTC





Cape York Spaceport Project

1986 - 1989









The battle for the AUSSAT Ashes





Photo by Skystunts

**AUSSAT B
SERIES
SATELLITES**

B1, B2 and B3

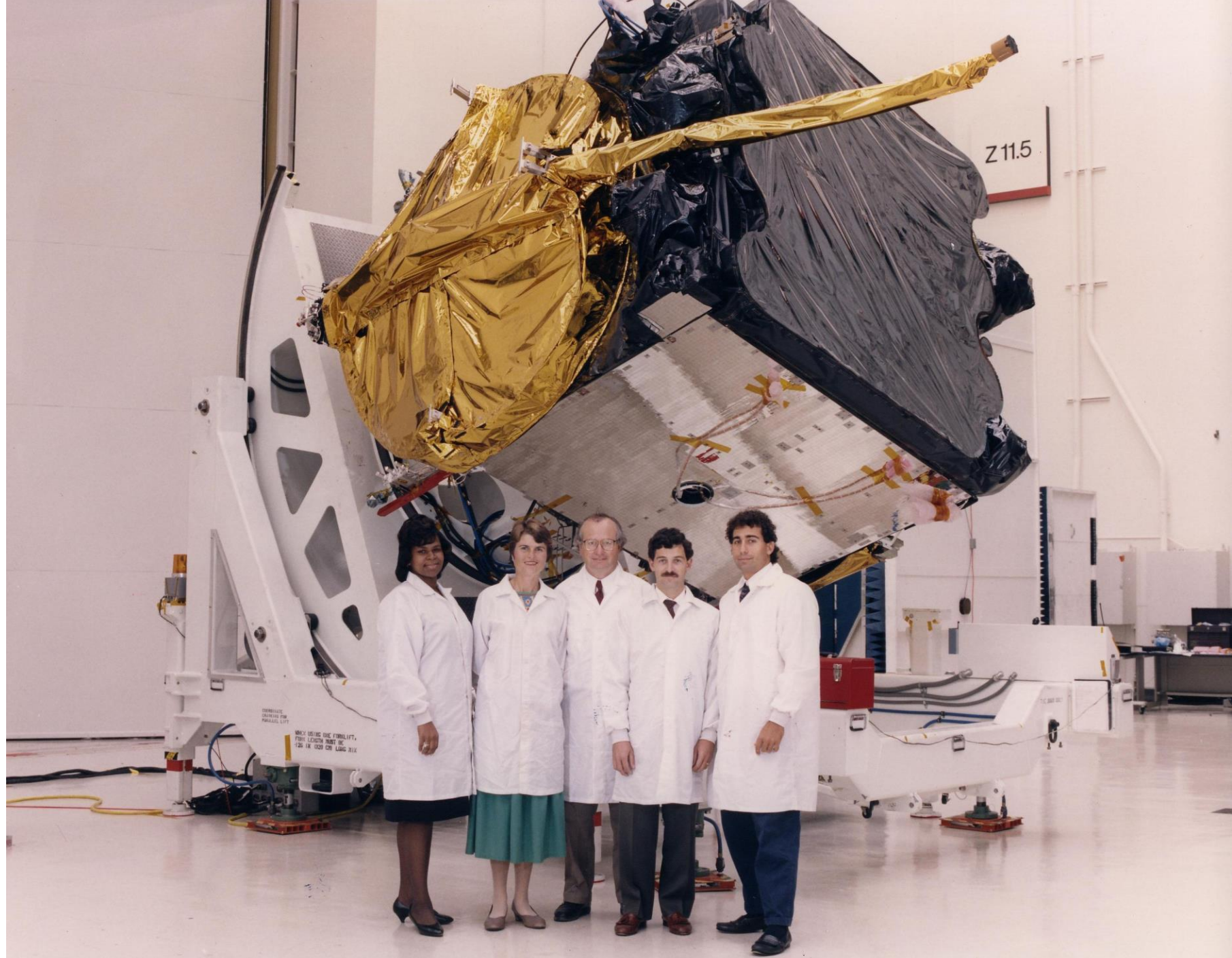
1988 - 1994


AUSSAT









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The AUSSAT **mobilesat™** service will offer Australian business a flexible solution to the problems of communicating both voice and data to distant and isolated sites anywhere in Australia. If you require high quality, reliable communications on the move, then take advantage of the many benefits offered through **mobilesat™**.





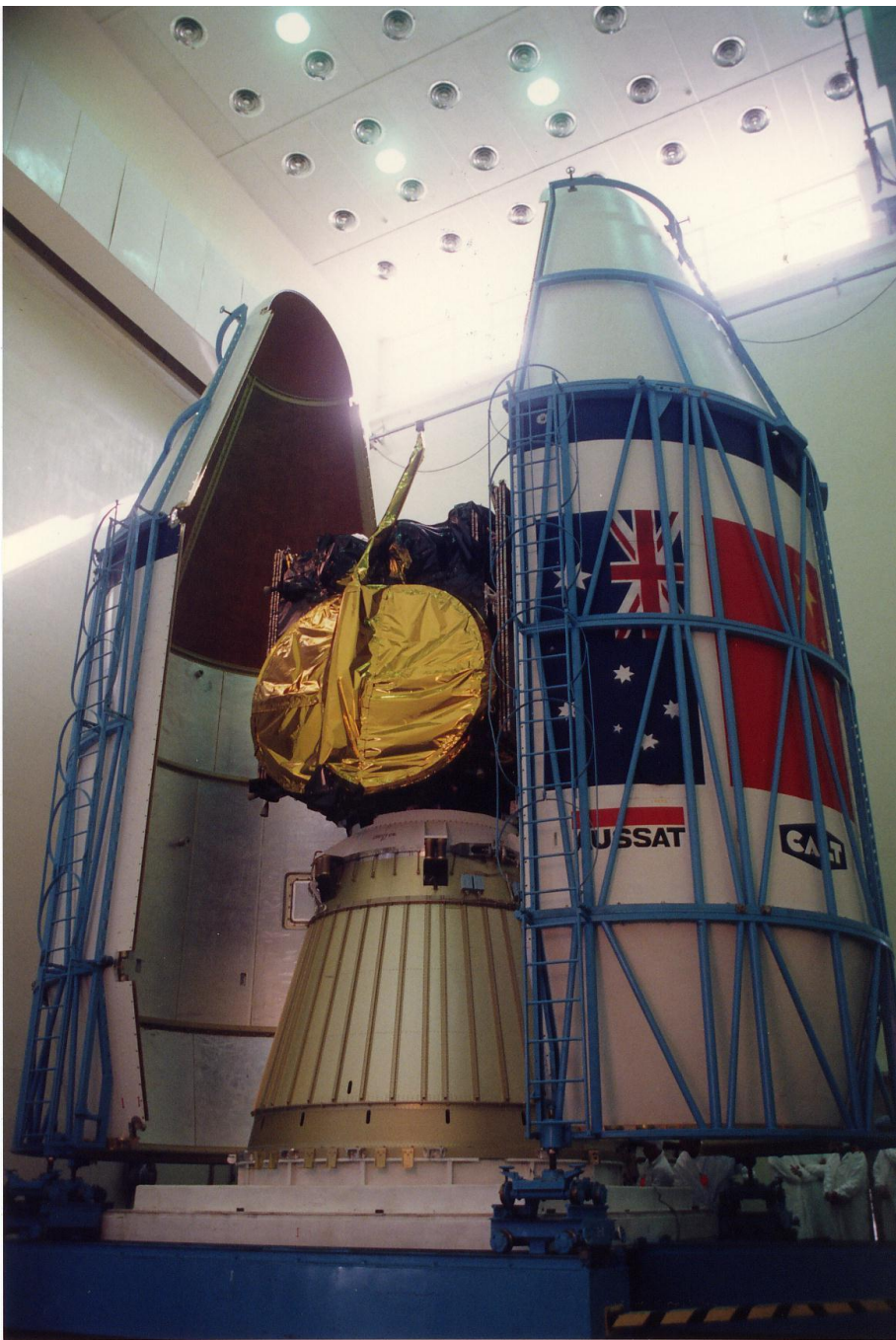
Xichang Launch Site Sechuan, China



Tien An Men Square. June 4, 1989









THE WINNER

August 11
March 22, 1991





Aussat B1
August 13 1992
23:00 UTC



中國日報

1992年8月15日 星期六
社址：北京朝阳区惠新东街15号
电话总机：4224488 电挂：2492
国内统一刊号：CN 11-0091
国际出版物号：ISSN 0253-9543
邮政编码：100029 邮发代号：1-3

CHINA DAILY

Vol. 12 No. 3464

Saturday, August 15, 1992

Price: 30 fen; 35 fen (airmail)

2nd shot's the charm for Australian satellite

by our staff reporter
Zhang Ping

China launched a US-made Australian telecommunications satellite yesterday morning with a Long March 2-E carrier rocket.

This second attempt to put the satellite into orbit "was a complete success," declared a leading official in the control room of the Xichang Space Centre — minutes after the rocket was seen blasting off the launching pad on the TV screen.

The launch took place as scheduled at 7:00 am yesterday at the Xichang centre in Sichuan Province, Southwest China, as dozens of Chinese, American and Australian experts and officials watched it tensely from a monitoring screen in the control room, six kilometres from the launching pad.

The nationally-televised scene was

also watched with anxiety at home by millions of Chinese residents, apparently concerned with the failure of the previous launch five months ago.

Yesterday's launch was the second attempt to send the Australian Optus B1 satellite into orbit. The first abortive attempt was on March 22 this year, when a fault in the booster rocket's ignition system caused an emergency shutdown of the rocket engine.

Eleven minutes after yesterday's lift-off, the 7.6-ton satellite was successfully separated from the rocket to begin its 10-day journey to a geostationary orbit 36,000 kilometres above earth.

The successful launch marked the fulfilment of a satellite launching contract signed in 1988 between the Chinese Great Wall Industrial Corporation, the US Hughes Aircraft

Corporation and the Australian Optus Communications. Representatives of the three sides signed the document in the control room of the Xichang Space Centre.

The US and Australian representatives hailed the successful launching as "a major contribution by China to the international commercial launching service," while the Chinese officials said that the success was the result of friendly professional co-operation among the three sides.

A second Australian satellite, Optus B2, also made by Hughes Corp, is scheduled to be launched by China in December, also from Xichang.

Chinese Premier Li Peng, who watched the launching from the Beijing Satellite Monitoring Centre, issued congratulations on the successful mission, which was also

China's second commercial launch for a foreign client.

China gained international recognition in commercial satellite launching after the country's successful orbiting of the Hong Kong-based Asiasat's communication satellite in April 1990.

An official of the Great Wall Industrial Corporation said after the successful launch yesterday that it had shown that China had acted strictly according to the three agreements reached between China and the United States concerning the safeguarding of satellite technology, the costs and the insurance.

The Long March 2-E expendable rocket was designed and assembled by the Beijing-based Chinese Academy of Launch Vehicle Technology.

With four boosters, the 50-metre long rocket has a lift-off capacity of 460 tons and a thrust of more than 600 tons.

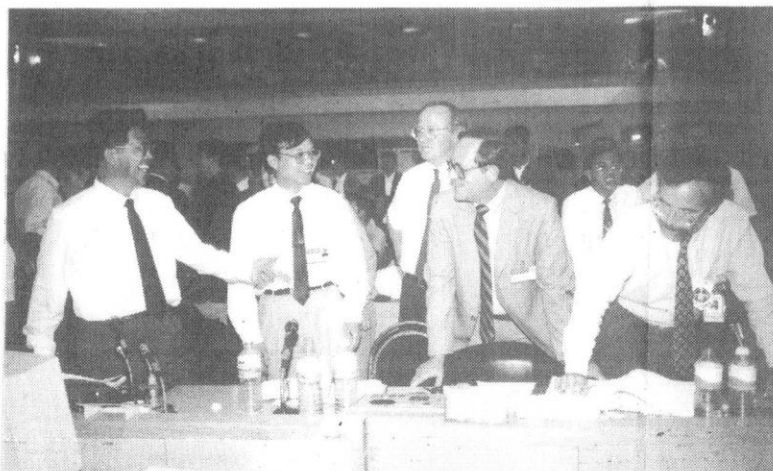
B1 running okay above

CANBERRA (Xinhua) — Latest tracking of the Australian B1 satellite, launched by China yesterday morning, has shown that the satellite is performing well, spokesman for the Australian satellite giant Optus, Leighton Farrell, said.

Tracking at two o'clock yesterday afternoon (Australian time) confirmed that the B1 sustained no damage during launch and is performing according to plan, said Farrell.

China's Long March 2-E rocket lifted off without any hitches and safely delivered the spacecraft into the low earth orbit, Farrell said.

The satellite separated from the rocket 11 minutes after lift-off and the perigee motor fired in line with previous schedule at 11 o'clock yesterday morning, sending it into transfer orbit, the spokesman said.



A foreign agent tells Chinese partners of his cheer after the Australian Optus B1 Satellite was sent into orbit as planned.



Going up, up and away. The Long March 2-E carrier rocket immediately after ignition at the Xichang Space Centre. photos by Jia Guorong

OPTUS B2

XICHANG
December
10 1992



Optus B2

December 21 1992

11:21 UTC

OPTUS B2 XICHANG January 7, 1993



Optus B3

August 27 1994

23:10 UTC



HBC



OPTUS C1

1997 – 2003

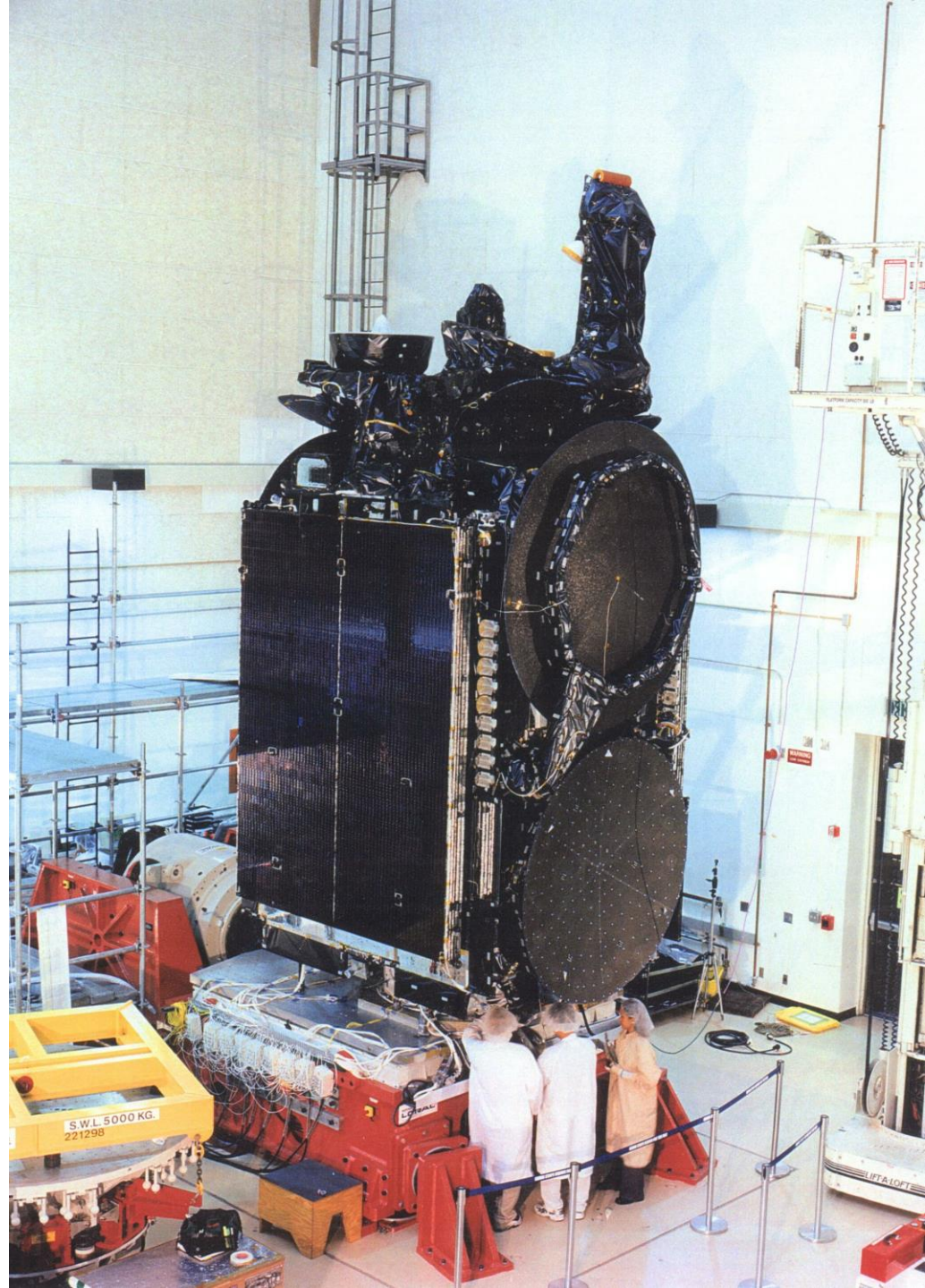
Launched
June 11 2003
22:38 UTC

'yes'
OPTUS



Vibration Testing

Palo Alto
California



Moffett Field – Sunnyvale, California

January 9, 2003

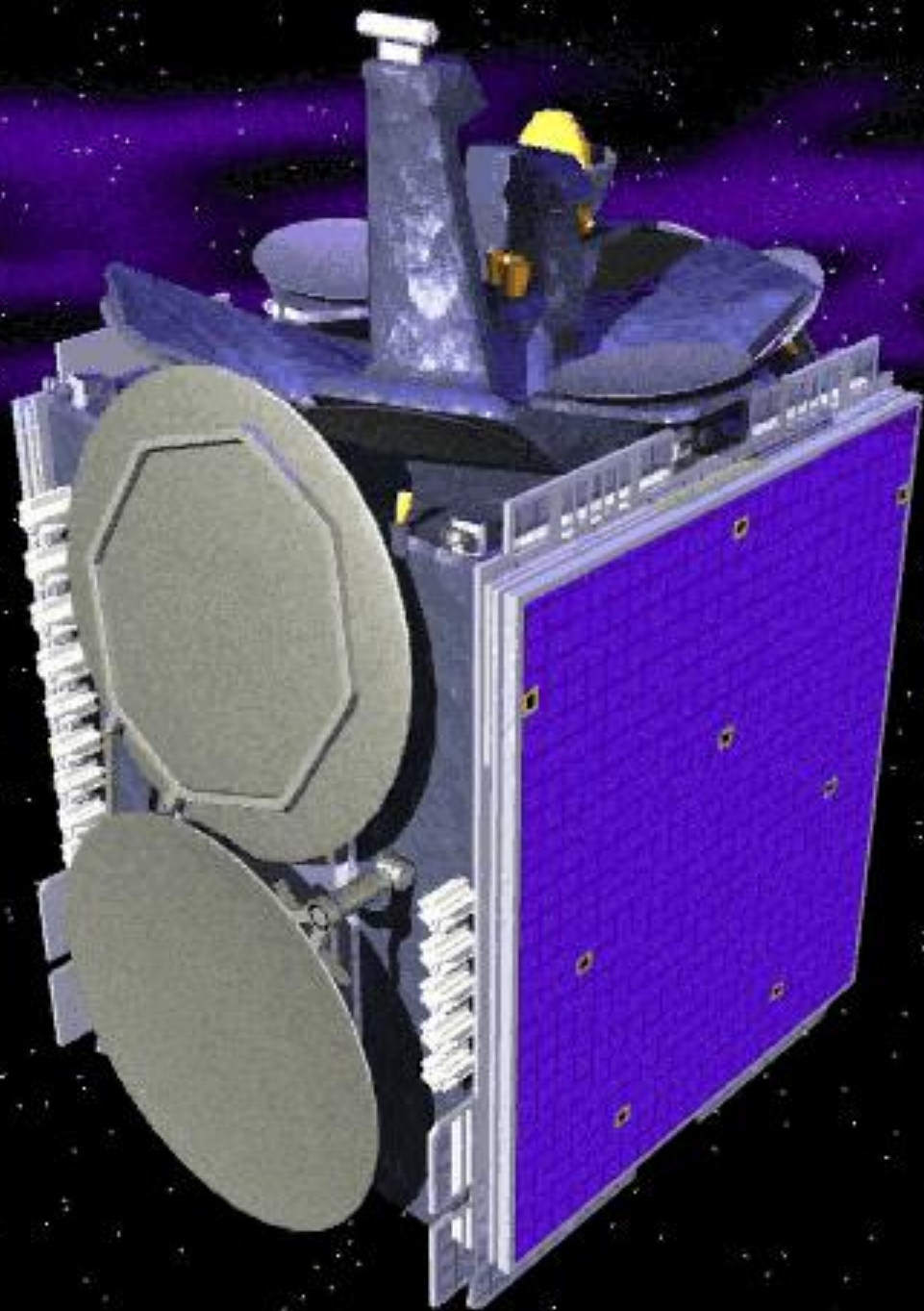


CENTRE SPATIAL GUYANAIS

Port spatial de l'Europe
Europe's Spaceport







OPTUS D SERIES SATELLITE PROGRAM

THE NEXT STEP

156°E

160°E

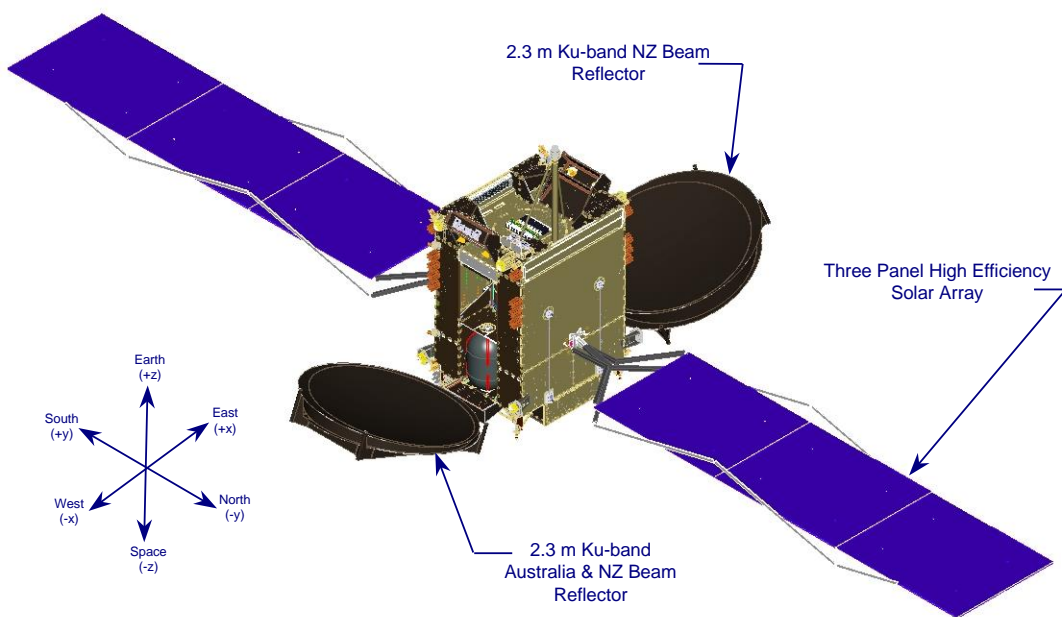


'yes'
OPTUS
Satellite



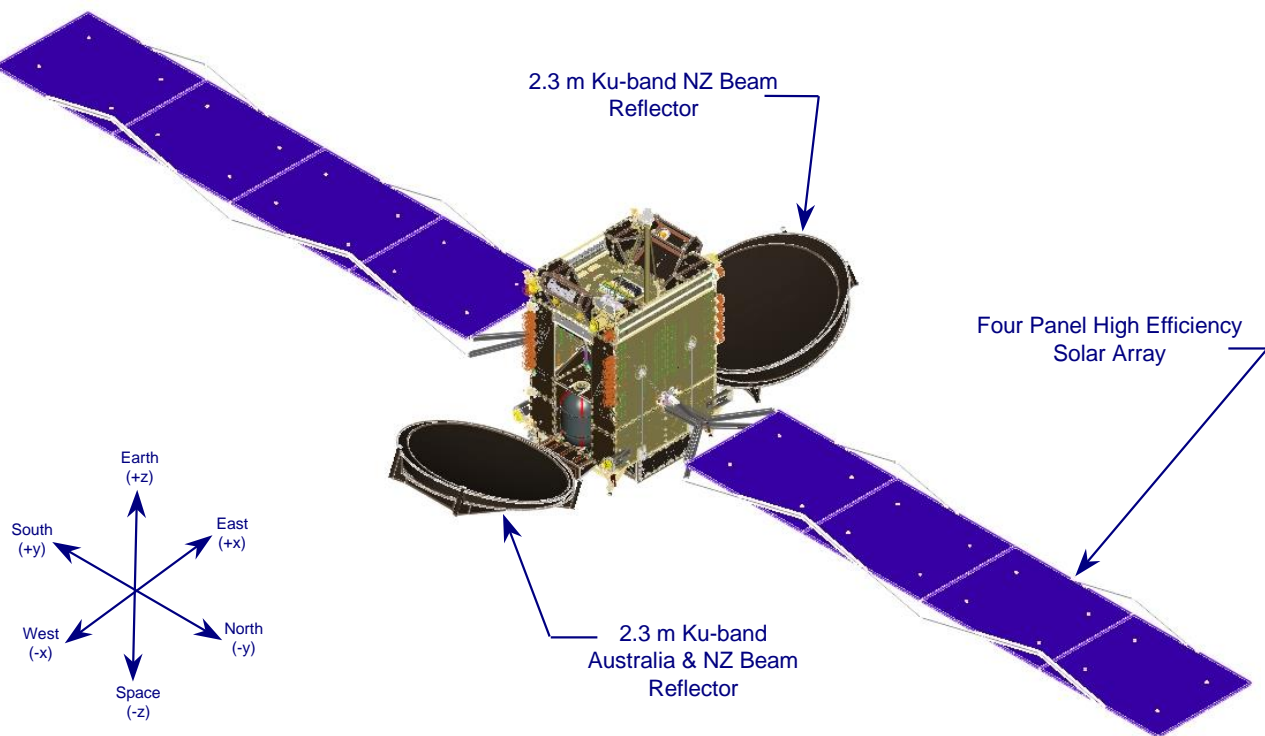
OPTUS D1 & D2
Two New STARs Over Australia





← **Optus D1**

Optus D2 →





Dulles Virginia Headquarters

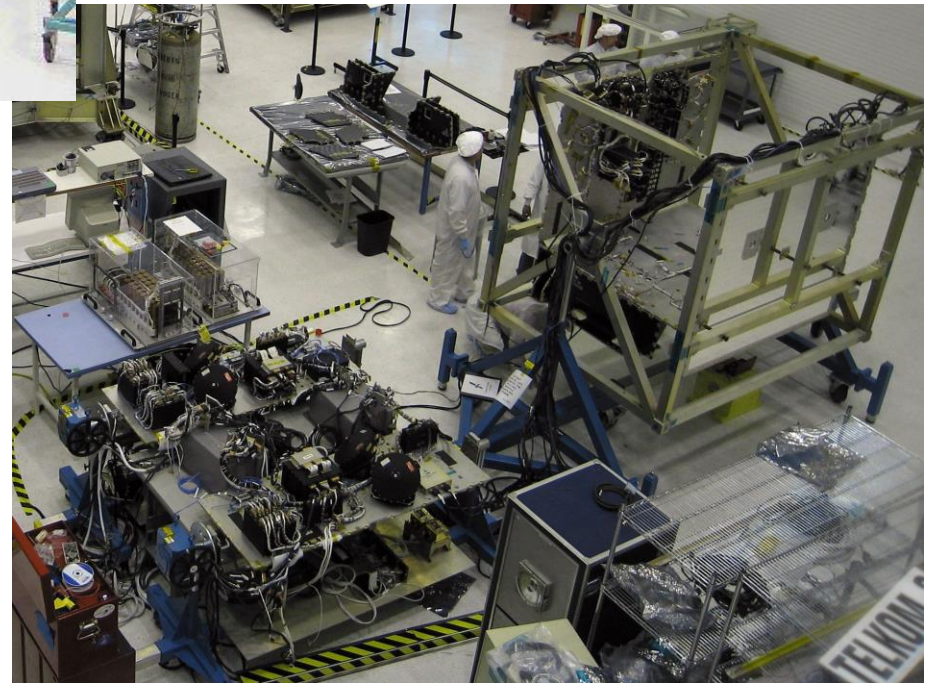


Optus D1 - August 2005

Payload



Bus



Optus Satellite Fleet

Today !!!

AUSSAT / OPTUS SATELLITES ON ORBIT



A1, A2 & A3

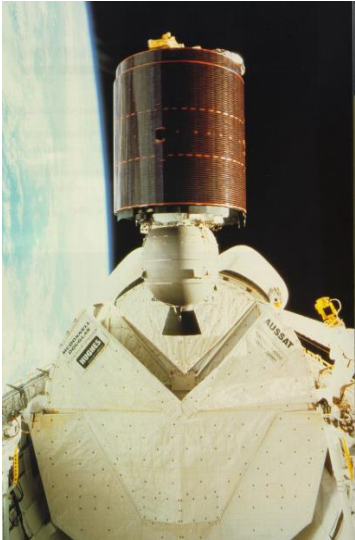


B1 & B3

C1



AUSSAT / OPTUS SATELLITE LAUNCHES

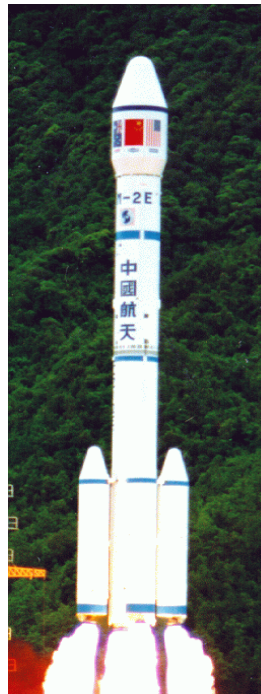


**STS 51I & STS 61B
A1 & A2**



**ARIANE 3 V19
A3**

**LONG MARCH 2E
B1, B2 & B3**



**ARIANE 5G V161
C1**



AUSSAT / OPTUS SATELLITE FLEET

| <u>Satellite</u> | <u>Launch Date</u> | <u>Type</u> | <u>Current End Of Life</u> |
|------------------|-----------------------|---------------|------------------------------|
| A1 | August 1985 | BS376 | Retired (August 1993) |
| A2 | November 1985 | BS376 | Retired (June 2001) |
| A3 | September 1987 | BS376 | 2006 |
| B1 | August 1992 | BS601 | 2006 |
| B2 | December 1992 | BS601 | Destroyed at launch |
| B3 | August 1994 | BS601 | 2008 |
| C1 | June 2003 | FS1300 | 2020 |

SATELLITE OPERATIONS

- **4 Optus Owned Satellites**
 - A3, B1, B3 & C1
- **2 Satellites Fully Managed By Optus**
 - PAS-4, HGS-3 (aka Anatolia-1 /PakSat-1)
- **3 Satellites With TT&C By Optus**
 - PAS-10, GE-1A, Leasat-5

Optus Satellite People

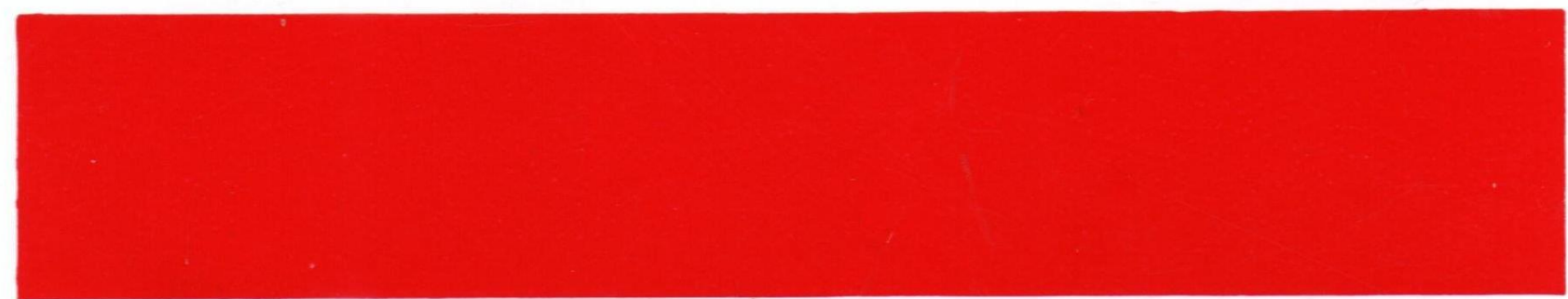
Today !!!



“I believe that there are moments in history when challenges occur of such compelling nature that to miss them is to miss the whole meaning of an epoch. Space is one such challenge.”

James A. Michener





AUSSAT

