

THE SATELLITE

The improbable true story of Australia's first spacecraft

Media Resource





Dr Alice Gorman, Space Archaeologist, aka Dr Space Junk
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Cover page image from Owen Mace personal collection

WHAT

The Satellite is the true story of Australia's first satellite, built by university students in the late 1960s. *Australis-Oscar 5* remains the only amateur, foreign-built satellite to have been launched by NASA. Incredibly, AO 5 is still in orbit and is expected to remain there for 100,000 years.

DOCUMENTARY SHORT > Running time 15:00

HOW

Building on original research by renowned space archaeologist Dr Alice Gorman, journalist and film-maker Anne Johnson located and interviewed core members of the AO-5 group half a century after they first initiated their ground-breaking project. Using original and archival footage, audio and images sourced through personal collections, the National Film and Sound Archive and NASA Goddard space centre, the full story behind this historic achievement is told for the very first time.

WHERE

Media viewing copy: <http://vimeo.com/189936921> [australisoscar5]

EPK resources: thesatellite.live

- trailer
- interview clips
- hi-res images

FURTHER INFORMATION

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www.mcavaneymedia.com



Dept Screen + Media Production



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THE SATELLITE



Above: Producer / Director Anne Johnson and right: Sound / Camera assistant Paul Forza (left) with Camera operator / Director of Photography Tim Carlier

APPEARING IN THIS PRODUCTION

Members of the original *Australis-Oscar 5* team:

Peter Hammer, Richard Tonkin, Owen Mace with supporters

Pauline Tonkin and Delia Mace;

Former NASA engineer Jan King;

University of Melbourne Space Program consultant Troy McCann

CREW

Producer / Director: Anne Johnson BA (Journ) MCA (Screen)*

Camera / DOP: Tim Carlier BCA (Hons)

Sound / Camera Assistants: Sudjai Cook BCA (Hons), Paul Forza (BCA)

Editor: Bryce Kraehenbuehl (BCA)

ABOUT THE DIRECTOR

Producer / director Anne Johnson has worked as a journalist for more than 30 years in both electronic and print media in Australia and overseas. She is a member of the Australian Screen Writers' Guild and Screen Producers Australia.

SYNOPSIS

It's the 1960s and a group of students inspired by Russia's *Sputnik* decide to join the space race by building their own satellite.

With no budget and no idea how to go about it, they cobble together Australia's first spacecraft, using household nuts and bolt, carpenter's tape, glue and nail polish.

It was an era when anything seemed possible: sexual freedom, shipping off to fight in Vietnam, man walking on the moon...

What about hitching a free ride on a NASA rocket? High improbable!

The Satellite is the forgotten story of an unlikely alliance between Australian students and the US Government, catapulting into space how a tiny square box which will remain in orbit for 100,000 years.

DIRECTOR'S STATEMENT

Space archaeologist Dr Alice Gorman's election to the board of the Space Industry Council in 2015 was a newsworthy event which she used to highlight the problem of space junk. 'Do you have a favourite spinning around up there?' we asked her. 'Yes indeed,' she repounded. And proceeded to tell us the incredible tale of 21, 22-year-old students who were so obsessed with the idea of space they wanted to establish an industry that would allow them to indulge their passion. Step one, build a satellite. Step two, get it launched.

We hunted down the core members of the *Australis-Oscar 5* team and convinced them to share the detail of their incredible achievement and the myriad obstacles they were forced to overcome with the a lot of luck and the sheer exuberance of youth.

Unsurprisingly, those once-young scientists and engineers, had documented their entire journey. We located additional original footage through NASA's Goddard archive and the Australian National Film and Sound Archive. A ham radio operator had recorded the moment AO-5 went 'live'.

'What is it about space?' we asked the group. 'What *isn't* it about space,' they repounded. Indeed.

ANNE JOHNSON, November 2016

THE SATELLITE: AN IMPROBABLE TRUE STORY

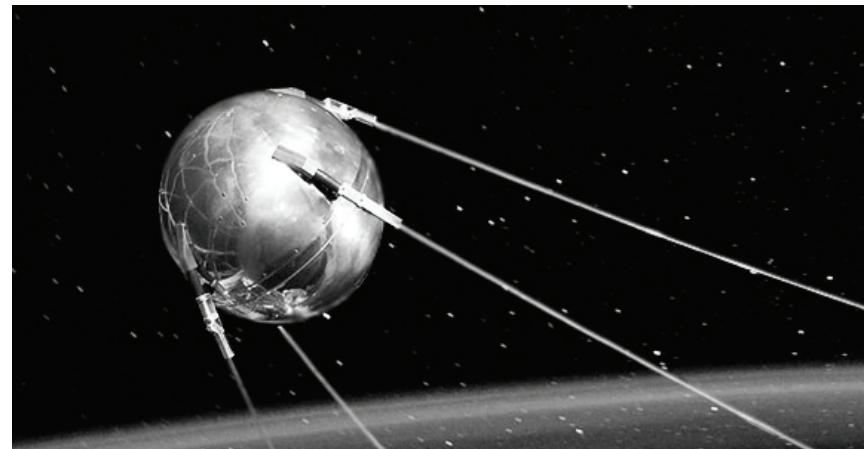
The housemaster said, if you look up in the sky over there, you'll see *Sputnik*. It'll look like a faint star but it'll be moving across the sky quite quickly. And I looked up, and there it was. And from that moment, I was hooked. RICHARD TONKIN

It started with *Sputnik*

It's a clear, cold October night and groups of school children gather to witness the flight of the very first satellite, Russia's *Sputnik*, a faint star moving slowly north to south across eastern Australia.

Space-flight becomes an obsession for Richard ('they thought I was weird'), Owen ('an absolute nerd') and other boys who would eventually meet through Melbourne University's Astronautical Society.

There were other people like me. It was a revelation. I wasn't the only geek! There were other geeks! And this was wonderful. RICHARD TONKIN



Above: *Sputnik* image from Movietone News archival footage licensed through ITN source.



Left: Richard Tonkin, '20-year-old geek'

We'd been tracking weather satellites and providing the country's first pictures and some idiot – it may well have been me – said well, let's build our own satellite. And we did. OWEN MACE

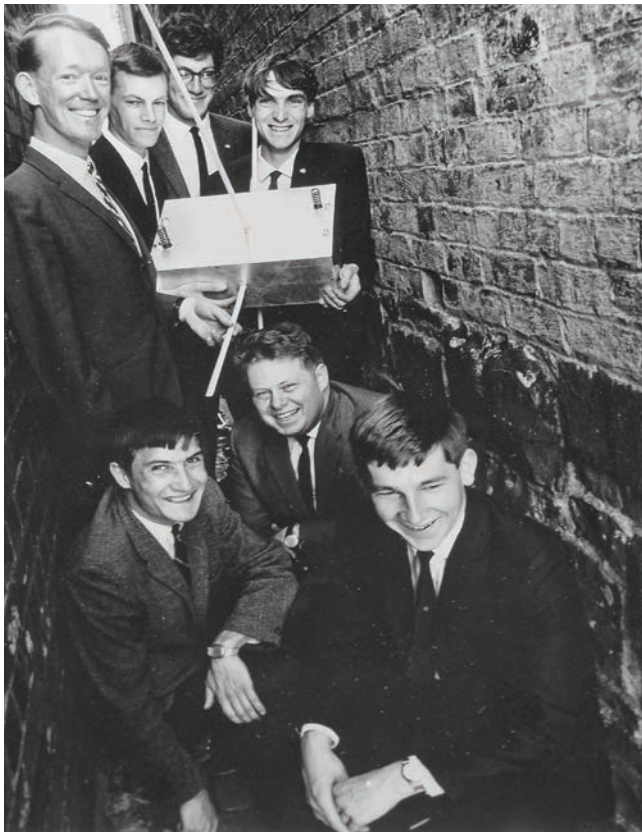


Image from the personal collection of Owen Mace

Nothing's impossible

With no budget, and no idea how to build a satellite, the group pools its individual talents. They invent communications systems, elementary computer components - all cobbled together with household nuts and bolts, and painted with nail varnish. The stabilising aerals are lengths of carpenter's rulers. Two bedsprings are ordered to satisfy the 'release' mechanism from the carrier rocket. Vibration testing is on the back of a ute on a gravel road. The satellite survives a hot oven and the deep freeze. A rifle is used to read calibrations from a distance.

It was all very agricultural. PETER HAMMER

People we talked to scoffed and said this is ridiculous. Nobody in Australia has built a satellite. We were 21 or 22 or something. Of course we could do it. Why not? RICHARD TONKIN

THE SATELLITE: AN IMPROBABLE TRUE STORY



Image courtesy National Film and Screen Archive



Image courtesy Australian War Memorial

The Era

The 1960s was the why-not era. The restrictions of the fifties were loosed and boundaries ignored. Free love, anti-war protests, radical hair and clothing, experimental music and drugs. Melbourne students were at the forefront.

Obsessed by the satellite project, our group failed to notice much until Owen Mace was conscripted to fight in Vietnam.

Knowing he was allergic to beer, his friends ensured he'd fail the medical.

They were just starting to learn about women when I hooked up first with Richard and then Owen. But I could not compete with the satellite. She was their mistress and you just had to give in after a while. DELIA MACE

Road trip

The satellite is finished in 1967 and a handful of the group travel accompany it to San Francisco on tickets provided by former Prime Minister, Sir Robert Menzies.

They're treated like celebrities, a red convertible to hang out with the hippies at Haight Ashbury; a private jet to visit NASA's secret installations...



Images: Paul Dunn



THE SATELLITE: AN IMPROBABLE TRUE STORY

We organised tracking stations around the world to follow our satellite. We did all those administrative things in preparation for a launch which we thought would happen before the end of 1967. It didn't. RICHARD TONKIN



Left: image courtesy NASA
Above: Still frame courtesy Screen Australia

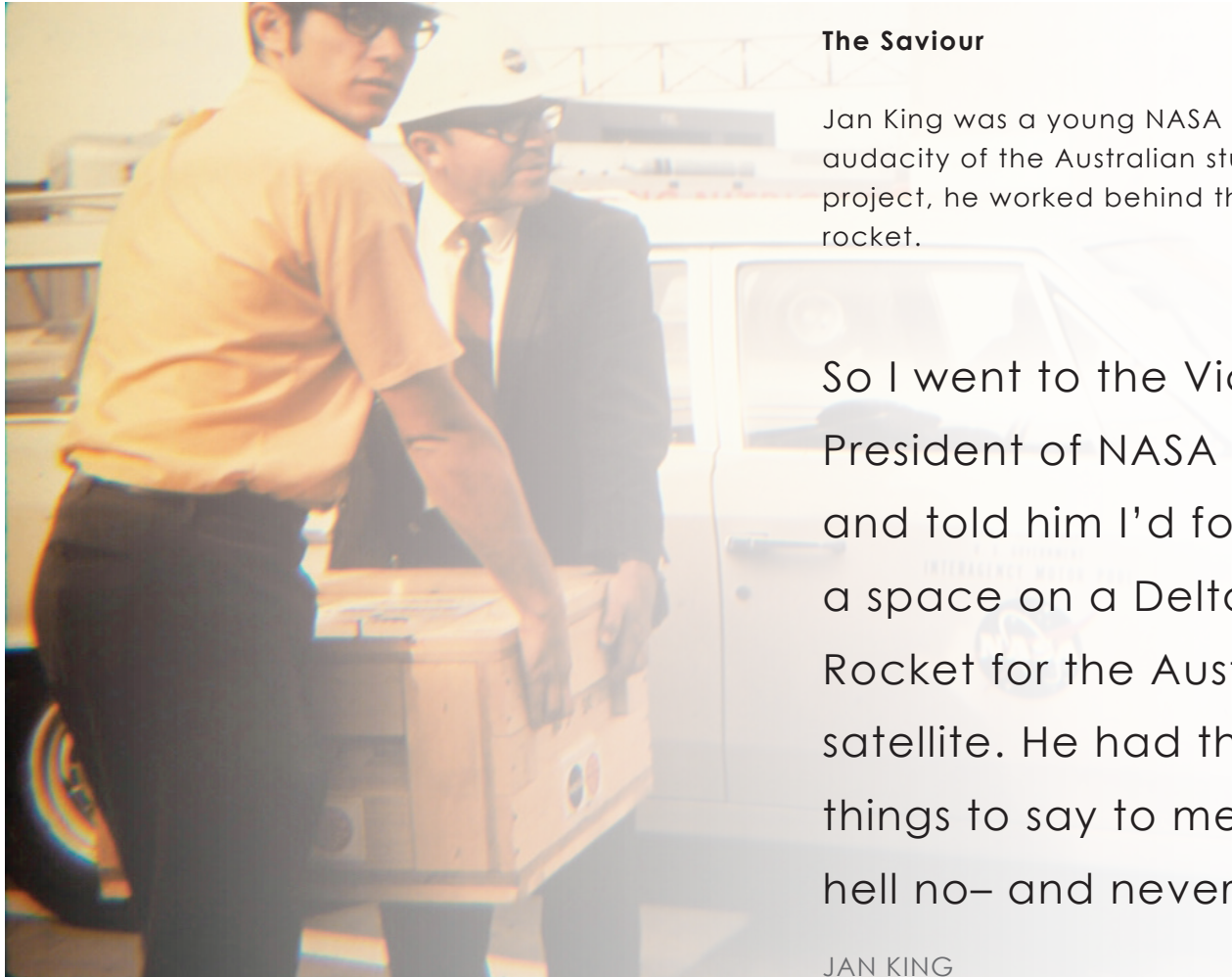
Conspiracy

On their return to Australia, a mysterious phone call – a woman from South Australia's Weapons Research Establishment. Could they tell her when the satellite was due to be launched?

Within months, the Australian Government has secured a rocket and launched WRESAT, their own satellite, using American technology.

Meanwhile, the newly-dubbed *Australis-Oscar 5* is gathering dust in a garage. And NASA is otherwise occupied putting a man on the moon.

There's no doubt they launched WRESAT because they didn't want to be upstaged by a group of uni students! PETER HAMMER



The Saviour

Jan King was a young NASA engineer. Just 21, he fell in love with the audacity of the Australian student enterprise. Sideline by the lunar project, he worked behind the scenes to secure a launch on a NASA rocket.

So I went to the Vice President of NASA and told him I'd found a space on a Delta Rocket for the Australian satellite. He had three things to say to me: 'No, hell no- and never'.

JAN KING



Images: Paul Dunn

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I had this idea that after all this time - is it going to work? What happens if it doesn't work? What damn fools we'll seem to be.

OWEN MACE

D-Day

In a world first (and last), NASA agrees it would be a good public relations exercise to provide free passage to the Australian student satellite. Listening through a phone line donated by the Australian Government and with hundreds of amateur radio operators around the world preparing to track the satellite, the creators of *Australis-Oscar 5* wait in anticipation for the signal: 'bip... bip...bip..' - the equivalent of 'hi' in Morse code.

It came up over the horizon and we knew it had to be just about overhead. We were waiting and waiting. And suddenly, 'bip...bip...bip' it was there. We could hear it. It was working. After all this time. Years of pent up emotion. We had done it. RICHARD TONKIN



About as wild a time as was ever had in the Physics building at Melbourne University,
23 January, 1970

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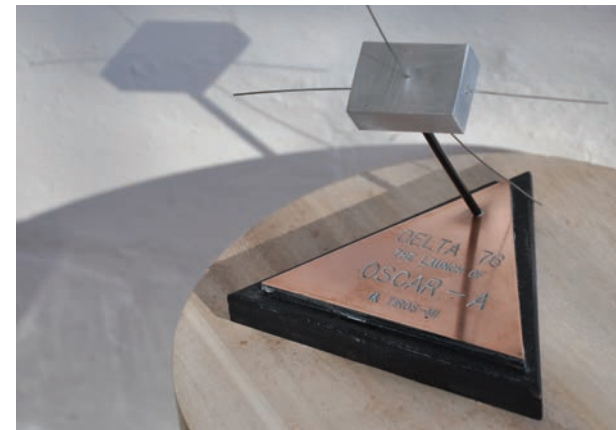
The time of our lives:

Top: Owen Mace

Centre: Richard Tonkin

Bottom left: Peter Hammer

And below: Jan King



What is it about space?

Oh, what *isn't* it about space...

THE SATELLITE

The improbable true story of Australia's first spacecraft

Available online at thesatellite.live

PAL DVD

Classification: Exempt