

# CSIRAC – Australia's first computer

CSIRAC is considered the fourth stored-program electronic computer in the world and is the only one preserved today. CSIRAC's name (pronounced 'sigh-rack') comes from Commonwealth Scientific and Industrial Research Automatic Computer. It began as an experimental computer in Sydney and ran its first program in November 1949.



In building this computer Trevor Pearcey (shown here in 1952) worked on the logic design and Maston Beard led the electrical engineering.  
Source – CSIRO



Programs were fed into CSIRAC on paper tape.  
Photographer: Benjamin Healey, Museums Victoria



The first programmers and Melbourne team: Trevor Pearcey, Ron Bowles, Kay Sullivan (Thorne), Jurij Semkiw, Geoff Hill and Frank Hirst, at the University of Melbourne in 1960.  
Source – University of Melbourne

## How was CSIRAC innovative?

At the time, the only other machines for complex calculations were mechanical calculators and electronic machines programmed to do one type of calculation. CSIRAC could do the work much faster and was also more flexible. It could be programmed to do different calculations.

## CSIRAC in Melbourne

After five years of development in Sydney, it was moved to the University of Melbourne. Students gained their first experience in programming and machine logic on CSIRAC. At university open days the general public were very enthusiastic to see CSIRAC playing early computer games and doing mortgage calculations.

## Awesome in its day

Its memory held about 2 KB of data and it performed 1000 operations per second. It used 2000 vacuum tubes and weighed 2 tonnes. CSIRAC provided an extraordinarily diverse service to science and industry on 700 projects including calculations for weather forecasting, forestry, financial loans, building design, and psychological research.

CSIRAC was also the first computer to play music with a public performance in 1951. It was programmed by Geoff Hill to play 'Colonel Bogey' and other popular songs.

## Foundations of modern computing

The era of first-generation computers, such as CSIRAC, saw the creation of ideas and systems that underpin today's computing – networking, operating systems, database systems, search technology, messaging, word processing, and even computer games.

	CSIRAC	iPhone 8
Weight	2,500,000 g	148 g
Storage/memory capacity	2,000 bytes	274,877,906,944 bytes
Processing speed	1000 Hz	2,390,000,000 Hz
Technology	2000 valves	4,300,000,000 transistors