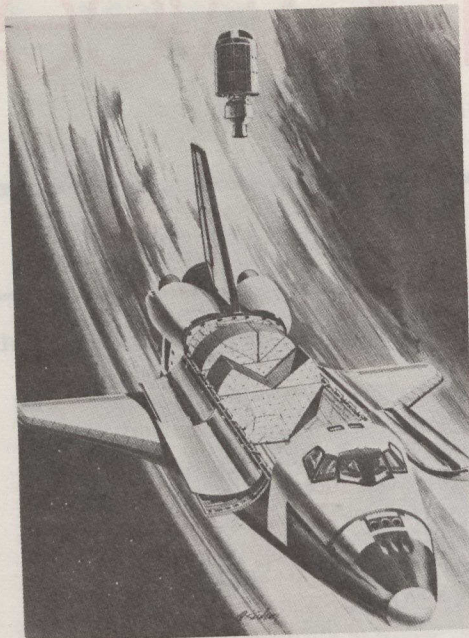


position perpendicular to the earth, with the cargo compartment doors facing opposite to the shuttle's direction of travel. The satellite had been secured in a cradle-like structure in the orbiter cargo bay.

Anik appeared as a shiny purple can against the blackness of space as it emerged from its corner of the shuttle's cargo hold. Two sun shields, looking like the hoods on a baby carriage, had been pulled back to clear the way for the satellite and its launching platform, called a Payload Assist Module (PAM).

Joseph Allen activated a remote-controlled sequence to start a table below the satellite spinning at about 50 revolutions a minute. This gave it stability and even assured heating by the sun. When *Columbia* reached a pre-selected point over the Pacific Ocean, explosive bolts



were fired so a spring-release could propel *Anik* into space.

The shuttle then drifted away from *Anik* for 45 minutes to prevent damage to *Columbia* while a rocket engine in the PAM underneath the satellite was fired up. An 86-second burn by the solid-fuel rocket boosted *Anik* from the shuttle's orbit into an orbit 35 800 kilometres above the earth. A series of rocket burns over the next few days steered *Anik C-3* into a permanent station over the equator at 117.5 degrees, west longitude.

From the time of release, the satellite became the responsibility of Telesat's Satellite Control Centre in Ottawa. *Anik C's* antenna coverage will include virtually all of populated Canada, with four contiguous spot beams serving the western, western-central, eastern-central and eastern regions of the country. Telesat's customers will be able to choose regional, half, or whole-country coverage, depending on their needs.

Sixth satellite

Anik C-3 is Canada's sixth commercial communications satellite. It follows three *Anik A* series spacecraft launched between November 1972 and May 1975, one *Anik B* launched on December 15, 1978 and the *Anik D-1* launched on August 26, 1982. The letter "C" indicates Telesat's third generation of spacecraft and the number 3 means it is the third of its type to be completed. *Aniks C-2* and *C-1* are in storage awaiting scheduled launches in April 1983 and 1984.

The three *Anik C* communications satellites are cylindrically-shaped, spin-

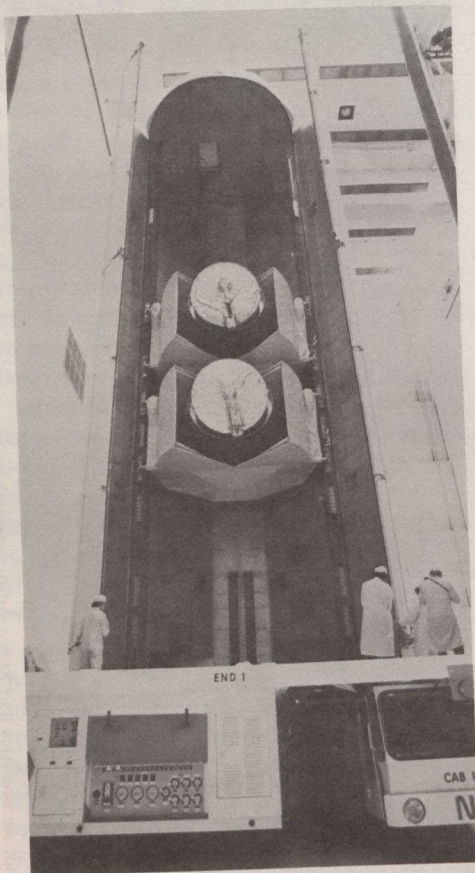
stabilized spacecraft that will operate exclusively in the "high frequency" (14 and 12 GHz) satellite radio bands, with 16 transponders (communications repeaters) each. These 16 satellite channels will each be capable of carrying two full colour television signals, together with their associated audio and cue and control circuits, for a total television signal capacity of 32 programs per satellite.

Each of the *Anik C* satellites has more than twice the communications capacity of any of Telesat's *Anik A* 6/4 GHz satellites. Each *Anik C* will be capable of simultaneously relaying 32 colour television programs or 21 504 one-way telephone circuits and will be primarily used for Pay-TV transmissions and long-distance telecommunications. They weigh twice as much (some 1 160 kilograms in transfer orbit) and will soak up more than three times the power from the sun, through solar cells capable of producing more than 1 100 watts of dc electrical power to run the satellite.

Designed to last ten years each, the three *Anik C* satellites are expected to have mission lives of eight to nine years. They measure more than 6.4 metres tall with concentric solar skirts and antennas fully deployed.

Smaller earth stations

The combination of higher transmit power (from 15-watt output tubes) with use of



Arranged in flight position, Telesat Canada's powerful 14612 GHz *Anik C-3* satellite rides beneath Satellite Business System's SBS-3 ready for launch on board the shuttle *Columbia*. They were placed in the environmentally-controlled canister for transportation to the launch pad for final pre-flight installation. Once deployed from *Columbia* in low earth orbit, they were shot out to geostationary orbits 35 800 kilometres high by their own solid-fuelled rocket engines.

Telesat Canada

Telesat Canada milestones

- September 1, 1969
Telesat Canada incorporated
- November 9, 1972
Anik A-1 launched
- January 11, 1973
first channels in commercial service
- April 20, 1973
Anik A-2 launched
- May 7, 1975
Anik A-3 launched
- December 15, 1978
Anik B launched
- July 15, 1982
Anik A-1 retired from commercial service
- August 26, 1982
Anik D-1 launched
- November 12, 1982
Anik C-3 launched.