

There is a single satellite launched by the US Navy in 1964 that is still in orbit, still transmitting, and still being used by amateur radio operators around the world — and nobody at the Navy has been in charge of it for decades

On December 28, 1964, a Thor-Able-Star rocket lifted off from Vandenberg Air Force Base in California and put a small US Navy satellite into a low polar orbit.

By [Space Daily Editorial Team](#) · [Editorial process](#)

Published May 20, 2026



On December 28, 1964, a Thor-Able-Star rocket lifted off from Vandenberg Air Force Base in California and put a small US Navy satellite into a low polar orbit.

The satellite was called Transit 5B-5. It weighed about 70 kilograms. It was part of the first satellite-based navigation system in human history — the predecessor to GPS, designed to help American submarines fix their position anywhere in the world. It was given a working lifetime of a few years. Maybe five, if everything went well.

That was sixty-one years ago.

Transit 5B-5 is still up there. It's still in orbit. It's still transmitting. And somewhere right now, an amateur radio operator with a backyard antenna is listening to a signal that was first beamed down from space when Lyndon B. Johnson was president.

Nobody at the US Navy has been in charge of this satellite for nearly thirty years. The program that launched it was officially retired in 1996, when GPS took over the job. The Navy walked away. The satellite did not stop working.

How it's still alive

The reason Transit 5B-5 has lasted this long is genuinely remarkable.

Most early satellites ran on chemical batteries or basic solar panels that degraded quickly. Transit 5B-5 carried something different: a SNAP-3 radioisotope thermoelectric generator — a small nuclear power source that converts the heat from decaying plutonium-238 into electricity.

Plutonium-238 has a half-life of about 88 years. That means a SNAP-3 RTG launched in 1964 should still be producing somewhere around 65% of its original power output today. The satellite isn't using sunlight. It isn't using a battery. It's using a small lump of slowly decaying radioactive material that simply continues to give off heat, year after year.

The radio transmitter on board doesn't need much power. Just enough to keep broadcasting a signal at around 136.65 MHz — a low-frequency telemetry beacon that, against all reasonable expectation, has never stopped.

There are no moving parts left to wear out. No fuel to run dry. No on-board computer to crash. The whole satellite is essentially a power source connected to a transmitter, drifting along in an orbit that itself doesn't require maintenance. It just works. It has worked for sixty-one years.

What it actually sounds like

If you tune the right radio receiver to the right frequency at the right time, you can hear it pass overhead.

Amateur radio operators describe the signal as a faint, rhythmic warble — telemetry data encoded as audio tones. With the right software, those tones can be decoded into actual numbers: information about the satellite's onboard systems, its temperature, the state of its hardware. Sixty-year-old engineering, still phoning home.

The amateur SDR (software-defined radio) community treats these old satellites as a kind of living museum. Receiving Transit 5B-5's signal requires no special permission, no military access, no expensive equipment — just a basic SDR dongle costing about thirty dollars, an antenna, and patience.

The Navy is no longer involved in any of this. The institutional memory of how Transit worked has been preserved largely by hobbyists.

The man who tracks the zombie satellites

A Canadian amateur radio operator named Scott Tilley has become something of a folk legend in this niche.

In 2018, he discovered IMAGE, a NASA satellite that had been declared lost in 2005 — picking up its signal from his backyard in British Columbia. In 2020, during pandemic lockdown, he tracked down LES-5, a US military satellite launched in 1967 that everyone had assumed was dead.

Tilley calls these “zombie satellites” — spacecraft that were supposed to be silent decades ago but are still, somehow, broadcasting. When NPR asked him in 2020 which was the oldest he’d ever heard, he didn’t hesitate. “The oldest one I’ve seen is Transit 5B-5,” he said. “A nuclear-powered U.S. Navy navigation satellite that still circles the Earth in a polar orbit, long forgotten by all but a few amateurs interested in hearing it sing as it passes overhead.”

He said *sing*, not broadcast. The satellite produces a specific pulsing tone that, to those who know how to listen for it, is unmistakable.

What this story is actually about

There’s something quietly beautiful about a piece of Cold War hardware that’s outlived its mission, its program, and its handlers — and continues to do exactly what it was built to do, with no one giving it instructions, for sixty-one years.

The engineers who designed Transit 5B-5 in the early 1960s could not possibly have imagined that ordinary people would, in 2026, be listening to it from their backyards with a thirty-dollar device. They couldn’t have imagined the device. They couldn’t have imagined the people.

This is, in a way, the opposite of how we usually think about technology. We expect our devices to fail before they’re obsolete. We replace phones every two years. The cycle of planned obsolescence has trained us to think of hardware as something that wears out predictably.

Transit 5B-5 was built by people who were not thinking that way. They were thinking: *the cost of putting this thing in space is enormous; build it to last*. They overengineered it. They gave it a power source that would outlive its operators. They built it for ten years and got sixty.

Somewhere overhead, right now, a small metal object the size of a microwave oven is moving at 17,500 miles per hour, listening to a heater fed by slowly decaying plutonium, and broadcasting

a signal that nobody officially needs but that several people, in several countries, are still patiently catching.

The Navy walked away from it nearly thirty years ago.

It hasn't noticed.