

HAM RADIO ZOMBIE STORIES By KD5BJ

Stories found at Ham Radio Spooktacular! Spooky Ham Stories Explained

There are more than 2,000 active satellites orbiting Earth. At the end of their useful lives, many will simply burn up as they reenter the atmosphere. But some will continue circling as "zombie" satellites — neither alive nor quite dead., no longer under human control.

Tilley, an amateur radio operator living in British Columbia, Canada, has a passion for hunting zombie satellites down.

In 2018, he found a signal from a NASA probe called IMAGE that the space agency had lost track of in 2005. With Tilley's help, NASA was able to reestablish contact

Tilley also found the old Transit 5B-5, launched in 1965. 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.

Moreover, recently, during the COVID lockdown, Tilley got interested in a communications satellite he thought might still be alive — or at least among the living dead. LES-5, built by the Massachusetts Institute of Technology's Lincoln Laboratory, that was launched in 1967.

By scouring the Internet, he found a paper describing the radio frequency that LES-5, an experimental military UHF communications satellite, should be operating on — if it was still alive. So he decided to have a look. He built a special antenna and gathered needed equipment, such as pre-amps, filters, etc

March 24, he hit the ham radio equivalent of pay dirt and he has been making additional measurements ever since. Even though the satellite was supposed to shut down in 1972, it's still going. As long as the solar panels are in the sun, the satellite's radio continues to operate. Tilley thinks it may even be possible to send commands to the satellite.

The MIT lab that built LES-5 still does a lot of work on classified projects for the military. NPR contacted its news office to ask if someone could say more about LES-5 and whether it really could still receive commands. The answer was a resound “no comment!” The old functioning zombie satellite must pack still some military secrets. (1)

And here it is another story. Launched November 15, 1974 as the second AMSAT Phase 2 ham satellite, AO-7 may be the zombie of the Amateur Radio satellite world, having returned from the dead more than a decade ago and periodically re-emerging. Next year, it will be 40 years old, ancient in satellite years. After its batteries succumbed to old age, AO-7 went silent in 1981, only to spring back to life in 2002, or, some say, a year earlier.

AO-7's batteries shorted when they failed, but the short circuit subsequently opened, allowing the satellite to return to life. This means AO-7 only works when it's receiving direct sunlight and shuts down when in eclipse. Since the satellite became undead, terrestrial users have enjoyed numerous contacts via AO-7.

AO-7 has beacons on 29.502 MHz (used in conjunction with Mode A) and 145.972 MHz (used in conjunction with Mode B and Mode C — low power Mode B). The 435.100 MHz beacon has an intermittent problem, switching between 400 mW and 10 mW. Illumination causes variation in power levels that can distort CW signal. (2)

And talking about the dead that are so dead they cannot be revived even to the status of Zombie the 3.3 – 3.5-GHz amateur radio secondary spectrum allocation, that went into effect on November 9, 2020 by order of the FCC. This is what causes the 145.45 Taylor repeater to fail linking reliably to the Georgetown 146.64 repeater. A real loss for the ham radio and radio emergency community. (3).

Last but not list, check the crypto museum online. You can get acquainted with old equipment and spy sets by era, like Cold War, or World War II, or by equipment. Quite a treat for history buff. The link to the museum is below. (4)

These and other stories are taken by Ham Radio Spooktacular! Spooky Ham Stories Explained Second edition. You can find the links to the articles and the video on my training at LeeCARES.org.

This is KD5BJ, back to net Control

- (1) <https://www.npr.org/2020/04/24/843493304/long-lost-u-s-military-satellite-found-by-amateur-radio-operator>
- (2) <http://www.arrl.org/news/ao-7-zombie-satellite-again-enjoying-its-time-in-the-sun>
- (3) <http://www.arrl.org/news/fcc-orders-amateur-access-to-3-5-ghz-band-to-sunset>
- (4) Crypto Museum Spy Sets <https://cryptomuseum.com/spy/index.htm>
- (5) Ham Radio Spooktacular <https://www.youtube.com/watch?v=udB5n0xbJXU>