1st successful US orbit satellite launches, January 31, 1958

Suzanne Deffree - January 31, 2019

Explorer 1, the first American satellite to successfully launch into orbit, did so from Cape Canaveral Missile Annex on January 31, 1958.

It was the third successful orbiting satellite launch, following the Soviet Union's Sputnik 1 and Sputnik 2, both of which launched in 1957, giving the Soviet Union an edge in the Cold War Space Race.

Explorer 1 was not the United States’ first attempt at an orbiting satellite. The US Navy attempted to put the first US satellite into orbit with the launch of the Vanguard TV3 in December 1957. The Vanguard launch ended in explosion and caused embarrassment for the infant space program.

Explorer 1 was designed and built by the Jet Propulsion Laboratory. It launched on the first Juno 1 rocket, the design for which came about when the Army Ballistic Missile Agency redesigned a Jupiter-C rocket to accommodate a satellite payload.

The payload consisted of the Iowa Cosmic Ray Instrument without a tape data recorder, which was not modified in time for launch. The real-time data received on the ground was, therefore, sparse and somewhat puzzling, showing normal counting rates or no counts at all.

Even with its data issues, Explorer 1 was the first spacecraft to detect the Van Allen radiation belt, returning data to the ground by two antennas until its batteries were exhausted after almost four months. The satellite remained in orbit until 1970 and was followed by more than 90 scientific spacecraft in the Explorer series.

An identically constructed flight backup of Explorer 1 is on display in the Smithsonian Institution's National Air and Space Museum in Washington, DC.

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