

SATELLITE SCOREBOARD

As of AIR FORCE/SPACE DIGEST's mid-March cutoff date for entries in this year's "Satellite Scoreboard," there were more space shots on the record than anyone could possibly have forecast just a few years ago, and we have attempted to set down all significant material on every shot that has been publicly announced. Unfortunately, our list this year is in some ways less complete than last year's because security regulations have shut off almost all data on military space shots beyond simple announcements that launches have been made. Barring changes in classification policies, this shortcoming will continue to obtain—creating an irony whereby as more hardware enters space, the less complete becomes the compendium. Information on Soviet shots, of course, is always minimal. Against this background, we have set down below and on the pages that follow the highlights of all data presently available on US and Soviet space achievements. We are including, this year for the first time, entries on a number of suborbital and space-probe shots. Much of this information is based on NASA Historical Report No. 8, issued by the Office of Educational Programs and Services, Hq. NASA, Washington, D. C., published in January 1963, and for which quarterly supplements will be available. Another valuable source is the *STL Space Log*, published quarterly by the Office of Scientific and Engineering Relations, Space Technology Laboratories, Inc., Redondo Beach, Calif. In the AIR FORCE/SPACE DIGEST listing which follows, these abbreviations have been used for launch locations: AMR for Atlantic Missile Range (Cape Canaveral); VAFB for Vandenberg Air Force Base, Calif.; PA for Point Arguello, Calif. (Pacific Missile Range); WS for the NASA facility at Wallops Station, Wallops Island, Va.; and USSR for any launches made from the Soviet Union.

—THE EDITORS

DATE	PROGRAM	LAUNCHED BY	FROM	REMARKS
Oct. 4, 1957	Sputnik 1	USSR	USSR	First earth satellite; payload wt. 184 lb.; reentered Dec. 1, 1957.
Nov. 3, 1957	Sputnik 2	USSR	USSR	Payload wt. of 1,120 lb. incl. dog Laika; reentered Apr. 14, 1958.
Dec. 6, 1957	Vanguard	Navy	AMR	Failed to orbit.
Jan. 31, 1958	Explorer 1	Army	AMR	First US satellite; launched by Jupiter-C; discovered Van Allen radiation belt; still in orbit.
Feb. 5, 1958	Vanguard	Navy	AMR	Failed to orbit.
Mar. 5, 1958	Explorer 2	Army	AMR	Failed to orbit.
Mar. 17, 1958	Vanguard 1	Navy	AMR	Launched by Vanguard rocket; one transmitter still operating; estimated lifetime up to 1,000 years.
Mar. 26, 1958	Explorer 3	Army	AMR	Launched by Jupiter-C; reentered June 28, 1958.
Apr. 28, 1958	Vanguard	Navy	AMR	Failed to orbit.
May 15, 1958	Sputnik 3	USSR	USSR	Wt., incl. 2,925-lb. payload, estimated at 3½ tons; reentered Apr. 6, 1960.
May 27, 1958	Vanguard	Navy	AMR	Failed to orbit.
June 26, 1958	Vanguard	Navy	AMR	Failed to orbit.
July 26, 1958	Explorer 4	ARPA-Army	AMR	Launched by Jupiter-C; provided radiation and magnetic data; reentered Oct. 23, 1959.
Aug. 17, 1958	Pioneer	ARPA-USAF	AMR	Lunar probe; first-stage engine failure caused explosion after 77 seconds of flight.
Aug. 24, 1958	Explorer 5	ARPA-Army	AMR	Failed to orbit.
Sept. 26, 1958	Vanguard	Navy	AMR	Failed to orbit.
Oct. 11, 1958	Pioneer 1	NASA-USAF	AMR	Lunar probe; launched by Thor-Able; reached altitude of 70,700 mi.; reentered Oct. 12, 1958.
Oct. 23, 1958	Beacon 1	NASA	AMR	Inflatable sphere; failed to orbit.
Nov. 8, 1958	Pioneer 2	NASA-USAF	AMR	Lunar probe; launched by Thor-Able; reached altitude of 963 mi.; third stage failed.
Dec. 6, 1958	Pioneer 3	NASA-Army	AMR	Deep space probe; launched by Juno II; failed to reach escape velocity; reached altitude of 63,580 mi.; discovered second radiation belt; reentered Dec. 7, 1958.

DATE	PROGRAM	LAUNCHED BY	FROM	REMARKS
Dec. 18, 1958	Score	ARPA-USAF	AMR	Atlas ICBM placed in orbit; relayed President Eisenhower's voice from space; reentered Jan. 21, 1959.
Jan. 2, 1959	Lunik 1	USSR	USSR	Lunar probe; in 450-day solar orbit; long lifetime expected.
Feb. 17, 1959	Vanguard 2	NASA	AMR	Launched by Vanguard rocket; excessive wobble prevented use of cloud-cover data; 10-100 year lifetime expected.
Feb. 28, 1959	Discoverer 1	ARPA-USAF	VAFB	Launched by Thor-Agena A; reentered Mar. 5, 1959.
Mar. 3, 1959	Pioneer 4	NASA-Army	AMR	Lunar probe; launched by Juno II; in 398-day solar orbit; long lifetime expected.
Apr. 13, 1959	Discoverer 2	ARPA-USAF	VAFB	Launched by Thor-Agena A; capsule ejected but not recovered; reentered Apr. 26, 1959.
Apr. 13, 1959	Vanguard	NASA	AMR	Failed to orbit.
May 28, 1959	Jupiter	NASA-Army	AMR	Monkeys Able and Baker recovered from nose cone after 1,700-mi. suborbital flight.
June 3, 1959	Discoverer 3	ARPA-USAF	VAFB	Failed to orbit.
June 22, 1959	Vanguard	NASA	AMR	Failed to orbit.
June 25, 1959	Discoverer 4	ARPA-USAF	VAFB	Failed to orbit.
July 16, 1959	Explorer	NASA	AMR	Failed to orbit.
Aug. 7, 1959	Explorer 6	NASA	AMR	Launched by Thor-Able; mapped Van Allen belt; relayed TV pictures of cloud cover; reentered before July 1961.
Aug. 13, 1959	Discoverer 5	ARPA-USAF	VAFB	Launched by Thor-Agena A; reentered Sept. 28, 1959; capsule ejected into separate orbit; reentered Feb. 11, 1961.
Aug. 14, 1959	Beacon 2	NASA	AMR	Failed to orbit.
Aug. 19, 1959	Discoverer 6	ARPA-USAF	VAFB	Launched by Thor-Agena A; capsule ejected but not recovered; reentered Oct. 20, 1959.
Aug. 21, 1959	Little Joe	NASA	WS	During preparation, malfunction caused Mercury escape rocket to fire; capsule lost in the ocean.
Sept. 9, 1959	Big Joe	NASA	AMR	Preliminary model of Mercury capsule sent 1,300 mi. downrange; recovered safely from the sea; Atlas booster.
Sept. 12, 1959	Lunik 2	USSR	USSR	Lunar probe; payload estimated at 858.4 lb.; hit moon Sept. 13, 1959, after 35-hr. flight.
Sept. 16, 1959	Jupiter	NASA	AMR	IRBM containing biological experiment destroyed by Range Safety shortly after launch.
Sept. 17, 1959	Transit 1A	Navy	AMR	Navigation satellite; failed to orbit.
Sept. 18, 1959	Vanguard 3	NASA	AMR	Launched by Vanguard rocket; surveyed magnetic field, radiation belt; 30-40 year lifetime expected.
Sept. 24, 1959	Pioneer	NASA-USAF	AMR	Atlas-Able vehicle, scheduled to launch lunar-orbit payload, exploded on launch pad while being static-tested.
Oct. 4, 1959	Lunik 3	USSR	USSR	Lunar probe; 614-lb. payload; photographed 70 percent of moon's far side; transmitted pictures to earth; satellite went into earth orbit; reentered Apr. 20, 1960.
Oct. 4, 1959	Little Joe 1	NASA	WS	First of series of 7 firings to test Mercury capsules in suborbital flights.
Oct. 13, 1959	Explorer 7	NASA	AMR	Launched by Juno II; provided data on radiation and magnetic storms; 20-30 year lifetime expected.
Oct. 28, 1959	Shotput 1	NASA	WS	Launched by augmented Sergeant; suborbital communications test; canister ejection successful; 100-ft. sphere inflation unsuccessful.
Nov. 4, 1959	Little Joe 2	NASA	WS	Suborbital test of Mercury capsule escape system.
Nov. 7, 1959	Discoverer 7	ARPA-USAF	VAFB	Launched by Thor-Agena A; malfunction prevented capsule ejection; reentered Nov. 26, 1959.
Nov. 20, 1959	Discoverer 8	USAF	VAFB	Launched by Thor-Agena A; capsule ejected but could not be located; reentered Mar. 8, 1960.
Nov. 26, 1959	Pioneer	NASA-USAF	AMR	Lunar probe; payload shroud fairing broke away after 45 sec.
Dec. 4, 1959	Little Joe 3	NASA	WS	Monkey Sam used in suborbital test of Mercury capsule escape system.
Jan. 16, 1960	Shotput 2	NASA	WS	Launched by augmented Sergeant; suborbital communications test; canister ejection successful; sphere inflation unsuccessful.
Jan. 21, 1960	Little Joe 4	NASA	WS	Monkey Miss Sam used in suborbital test of Mercury capsule escape system.
Feb. 4, 1960	Discoverer 9	USAF	VAFB	Failed to orbit.
Feb. 19, 1960	Discoverer 10	USAF	VAFB	Failed to orbit.
Feb. 26, 1960	Midas 1	USAF	AMR	Infrared missile alarm system; failed to orbit.
Feb. 27, 1960	Shotput 3	NASA	WS	Launched by augmented Sergeant; suborbital communications test; canister ejection successful; sphere inflation unsuccessful.
Mar. 11, 1960	Pioneer 5	NASA-USAF	AMR	Deep space probe; launched by Thor-Able; communicated data from 17.7 million mi., position signal from 22.5 million mi.; in 312-day solar orbit; long lifetime expected.
Mar. 23, 1960	Explorer	NASA	AMR	Failed to orbit.
Apr. 1, 1960	Shotput 4	NASA	WS	Launched by augmented Sergeant; voice message relayed in suborbital communications test.
Apr. 1, 1960	Tiros 1	NASA	AMR	Meteorological satellite; launched by Thor-Able; TV system relayed 22,000 pictures of cloud cover during 78-day useful lifetime; 50-100 year lifetime expected.
Apr. 13, 1960	Transit 1B	Navy	AMR	Navigation satellite; launched by Thor-Able Star; still in orbit.
Apr. 15, 1960	Discoverer 11	USAF	VAFB	Launched by Thor-Agena A; capsule ejected but not recovered; reentered Apr. 26, 1960.

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DATE	PROGRAM	LAUNCHED BY	FROM	REMARKS
Apr. 18, 1960	Scout	NASA	WS	Launch vehicle development test; second and fourth stages were dummies; third stage did not ignite.
May 9, 1960	Mercury	NASA	WS	First production model of Mercury capsule tested in "pad abort."
May 13, 1960	Echo	NASA	AMR	Inflatable 100-ft. sphere; failed to orbit.
May 15, 1960	Sputnik 4	USSR	USSR	Placed dummy spaceman in orbit in test of life-support system; recovery failed when 10,000-lb. vehicle went into lopsided orbit; reentered Sept. 5, 1962.
May 24, 1960	Midas 2	USAF	AMR	Launched by Atlas-Agena A; still in orbit.
May 31, 1960	Shotput 5	NASA	WS	Launched by augmented Sergeant; inflation successful despite excess spin in sub-orbital communications test.
June 22, 1960	{ Transit 2A Greb 1	Navy	AMR	Launched by Thor-Able Star; first launching of twin satellites; Greb is Naval Research Lab solar-radiation satellite; both still in orbit with 50 year lifetime expected.
June 29, 1960	Discoverer 12	USAF	VAFB	Failed to orbit.
July 1, 1960	Scout	NASA	WS	Ground tracking failure led to erroneous destruction by Range Safety in launch vehicle development test.
July 29, 1960	Mercury	NASA	AMR	First test firing of Atlas-Mercury combination; booster exploded after 64 seconds of flight.
Aug. 10, 1960	Discoverer 13	USAF	VAFB	Launched by Thor-Agena A; capsule successfully recovered from ocean, Aug. 11, 1960; satellite reentered Nov. 14, 1960.
Aug. 12, 1960	Echo 1	NASA	AMR	Launched by Thor-Delta; first passive communications satellite; 100-ft. inflated sphere used for voice transmission from Goldstone, Calif., to Holmdel, N. J.; still in orbit.
Aug. 18, 1960	Discoverer 14	USAF	VAFB	Launched by Thor-Agena A; capsule recovered in air, Aug. 19, 1960; satellite reentered Sept. 16, 1960.
Aug. 18, 1960	Courier 1A	ARPA-Army	AMR	Military communications satellite; failed to orbit.
Aug. 19, 1960	Sputnik 5	USSR	USSR	Test of capsule and recovery system for manned spaceflight; payload wt. of 10,120 lb. included dogs, rats, mice, flies, plants; capsule recovered on land Aug. 20, 1960, on 18th orbit; carrier rocket reentered Sept. 23, 1960.
Sept. 13, 1960	Discoverer 15	USAF	VAFB	Launched by Thor-Agena A; capsule ejected but not recovered; satellite reentered Oct. 18, 1960.
Sept. 25, 1960	Pioneer	NASA-USAF	AMR	Lunar probe; launched by Atlas-Able; second-stage failure prevented escape velocity; destroyed on reentry.
Oct. 4, 1960	Courier 1B	Army	AMR	Military communications satellite; launched by Thor-Able Star; still in orbit.
Oct. 4, 1960	Scout	NASA	WS	Successful development test of Scout launch vehicle; AF Special Weapons Center payload included.
Oct. 10, 1960	Mars probe	USSR	USSR	Failed.
Oct. 11, 1960	Samos 1	USAF	PA	Surveillance satellite; failed to orbit.
Oct. 14, 1960	Mars probe	USSR	USSR	Failed.
Oct. 26, 1960	Discoverer 16	USAF	VAFB	Failed to orbit.
Nov. 3, 1960	Explorer 8	NASA	AMR	Launched by Juno II; provided ion, electron, micrometeoroid measurements; 10 year lifetime expected.
Nov. 8, 1960	Little Joe 5	NASA	WS	Escape rocket fired prematurely in test of Mercury escape-system qualification.
Nov. 12, 1960	Discoverer 17	USAF	VAFB	Launched by Thor-Agena B; capsule recovered in air, Nov. 14, 1960; satellite reentered Dec. 29, 1960.
Nov. 21, 1960	Mercury	NASA	AMR	First firing of Mercury-Redstone combination; booster engine cut off one inch off pad; capsule escape rocket fired normally; both capsule and booster reused Dec. 19, 1960.
Nov. 23, 1960	Tiros 2	NASA	AMR	Meteorological satellite; launched by Thor-Delta; combined infrared measurements with photography; 50-100 year lifetime expected.
Nov. 30, 1960	{ Transit 3A Greb 2	Navy	AMR	Destroyed by Range Safety.
Dec. 1, 1960	Sputnik 6	USSR	USSR	Test of equipment for manned spaceflight; payload included 2 dogs and other animal and plant life; capsule destroyed on reentry, Dec. 2, 1960.
Dec. 4, 1960	Explorer	NASA	WS	Combined test of Scout vehicle and Beacon inflatable sphere; failed to orbit.
Dec. 7, 1960	Discoverer 18	USAF	VAFB	Launched by Thor-Agena B; capsule recovered in air Dec. 10, 1960, after 48 orbits; satellite reentered Apr. 2, 1961.
Dec. 15, 1960	Pioneer	NASA-USAF	AMR	Lunar probe; Atlas-Able vehicle exploded at 40,000 ft. after 70 seconds of flight.
Dec. 19, 1960	Mercury	NASA	AMR	Mercury capsule launched in suborbital flight by Redstone in repeat of Nov. 21, 1960 attempt; capsule recovered 235 mi. downrange.
Dec. 20, 1960	Discoverer 19	USAF	VAFB	Launched by Thor-Agena B; no recovery attempt; satellite collected infrared data in support of Midas; reentered Jan. 23, 1961.
Jan. 31, 1961	Samos 2	USAF	PA	Surveillance satellite; launched by Atlas-Agena A; still in orbit.
Jan. 31, 1961	Mercury	NASA	AMR	Mercury-Redstone suborbital test; chimpanzee Ham recovered from sea after 16-minute flight 414 mi. downrange, 120 mi. farther than programmed.
Feb. 4, 1961	Sputnik 7	USSR	USSR	No recovery attempted for 7.1-ton vehicle; reentered Feb. 26, 1961.
Feb. 12, 1961	{ Sputnik 8 Venus probe	USSR	USSR	First satellite to launch another vehicle from orbit; "Automatic Interplanetary Station" launched from Sputnik Feb. 12, 1961, toward vicinity of Venus; probe still in 300-day solar orbit; Sputnik reentered Feb. 25, 1961.

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DATE	PROGRAM	LAUNCHED BY	FROM	REMARKS
Feb. 16, 1961	Explorer 9	NASA	WS	Launched by Scout; first satellite launched by solid rocket and first successful orbit from Wallops Station; optical tracking of 12-ft. inflatable sphere provided atmospheric-density data.
Feb. 17, 1961	Discoverer 20	USAF	VAFB	Launched by Thor-Agena B; malfunction prevented release of capsule; reentered July 28, 1962.
Feb. 18, 1961	Discoverer 21	USAF	VAFB	Launched by Thor-Agena B; no recovery attempt; Agena engine successfully restarted in space; reentered Apr. 20, 1962.
Feb. 21, 1961	Mercury	NASA	AMR	Atlas-boosted Mercury capsule fired 1,425 mi., brought back at steep angle to test maximum heating in suborbital test.
Feb. 21, 1961	Transit 3B Lofti 1	Navy	AMR	Launched by Thor-Able Star; achieved highly elliptical orbit; Lofti (Low Frequency Trans-Ionospheric) vehicle failed to separate as planned; both reentered Mar. 30, 1961.
Feb. 24, 1961	Explorer	NASA	AMR	Second-stage malfunction of Juno II; failed to orbit.
Mar. 9, 1961	Sputnik 9	USSR	USSR	Five-ton spacecraft; recovered on land Mar. 9, 1961; contained dog Blackie.
Mar. 18, 1961	Little Joe 5A	NASA	WS	Premature escape-rocket firing in suborbital Mercury capsule test.
Mar. 24, 1961	Mercury	NASA	AMR	Mercury-Redstone booster development test.
Mar. 25, 1961	Sputnik 10	USSR	USSR	Five-ton spacecraft; recovered on land Mar. 25, 1961; contained dog Little Star.
Mar. 25, 1961	Explorer 10	NASA	AMR	Launched by Thor-Delta; magnetometer probe; highly eccentric orbit with 145,000-mi. apogee; still in orbit but position uncertain.
Mar. 30, 1961	Discoverer 22	USAF	VAFB	Failed to orbit.
Apr. 8, 1961	Discoverer 23	USAF	VAFB	Launched by Thor-Agena B; capsule ejected into separate orbit; capsule reentered May 23, 1962; satellite reentered Apr. 16, 1962.
Apr. 12, 1961	Vostok 1	USSR	USSR	First successful manned orbital flight; Maj. Yuri A. Gagarin recovered on land Apr. 12, 1961, after single orbit, 108-minute flight.
Apr. 25, 1961	Mercury	NASA	AMR	First-stage failure of Atlas booster in unmanned orbital attempt caused destruct by Range Safety after 40 seconds, at 16,400 ft.; capsule ejected and recovered from ocean.
Apr. 27, 1961	Explorer 11	NASA	AMR	Launched by Juno II; gamma ray experiment; still in orbit.
Apr. 28, 1961	Little Joe 5B	NASA	WS	One booster engine fired late in repeat of Mercury escape-system test.
May 5, 1961	Mercury	NASA	AMR	Launched by Mercury-Redstone; first successful US manned suborbital flight; USN Cmdr. Alan B. Shepard, Jr., recovered from capsule Freedom 7 302 mi. downrange after 15-minute flight.
May 24, 1961	Explorer	NASA	AMR	Juno II second-stage failure; failed to orbit.
June 8, 1961	Discoverer 24	USAF	VAFB	Failed to orbit.
June 16, 1961	Discoverer 25	USAF	VAFB	Launched by Thor-Agena B; capsule recovered from ocean, June 18, 1961; satellite reentered July 12, 1961.
June 29, 1961	Transit 4A Greb 3 Injun 1	Navy	AMR	Launched by Thor-Able Star; Transit navigation satellite still in orbit, still transmitting; Greb solar-radiation satellite and Injun cosmic-ray satellite failed to separate; both still in orbit.
June 30, 1961	Explorer	NASA	WS	Third-stage failure of Scout vehicle; failed to orbit.
July 7, 1961	Discoverer 26	USAF	VAFB	Launched by Thor-Agena B; capsule recovered in air, July 9, 1961; satellite reentered Dec. 5, 1961.
July 12, 1961	Tiros 3	NASA	AMR	Meteorological satellite, launched by Thor-Delta; transmitted useful photos of earth's cloud cover; still in orbit.
July 12, 1961	Midas 3	USAF	PA	Launched by Atlas-Agena B; missile-alarm system; still in orbit.
July 21, 1961	Mercury	NASA	AMR	Launched by Mercury-Redstone; successful manned suborbital flight; USAF Capt. Virgil I. Grissom recovered from capsule Liberty Bell 7 303 mi. downrange after 16-minute flight; capsule lost at sea.
July 21, 1961	Discoverer 27	USAF	VAFB	Failed to orbit.
Aug. 3, 1961	Discoverer 28	USAF	VAFB	Failed to orbit.
Aug. 6, 1961	Vostok 2	USSR	USSR	First successful manned multi-orbital flight; Maj. Gherman S. Titov recovered on land Aug. 7, 1961, after 17-orbit flight lasting 25 hours, 18 minutes.
Aug. 16, 1961	Explorer 12	NASA	AMR	Launched by Thor-Delta; provided data on solar winds, magnetic fields, high-energy particles; still in orbit but position uncertain.
Aug. 23, 1961	Ranger 1	NASA	AMR	Lunar probe; launched by Atlas-Agena B; remained in parking orbit when Agena failed to restart; reentered Aug. 30, 1961.
Aug. 25, 1961	Explorer 13	NASA	WS	Launched by Scout; designed to investigate micrometeoroids; reentered Aug. 28, 1961.
Aug. 30, 1961	Discoverer 29	USAF	VAFB	Launched by Thor-Agena B; capsule recovered from ocean, Sept. 4, 1961; satellite reentered Sept. 10, 1961.
Sept. 9, 1961	Samos 3	USAF	PA	Failed to orbit.
Sept. 12, 1961	Discoverer 30	USAF	VAFB	Launched by Thor-Agena B; capsule recovered in air, Sept. 14, 1961; satellite reentered Dec. 11, 1961.
Sept. 13, 1961	Mercury	NASA	AMR	Launched by Mercury-Atlas; achieved one orbit, reentry, and recovery from ocean of capsule containing crewman simulator.
Sept. 17, 1961	Discoverer 31	USAF	VAFB	Launched by Thor-Agena B; malfunction prevented capsule ejection; reentered Oct. 26, 1961.
Oct. 13, 1961	Discoverer 32	USAF	VAFB	Launched by Thor-Agena B; capsule containing radiation experiments recovered in air, Oct. 14, 1961; satellite reentered Nov. 13, 1961.

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DATE	PROGRAM	LAUNCHED BY	FROM	REMARKS
Oct. 19, 1961	Scout probe	NASA	WS	Scientific geoprobe; launched by Scout; reached 4,261 mi.; electron density measurement.
Oct. 21, 1961	Midas 4	USAF	PA	Launched by Atlas-Agena B; carried and ejected package of Project Westford copper-wire dipoles which failed to scatter; Midas still in orbit.
Oct. 23, 1961	Discoverer 33	USAF	VAFB	Failed to orbit.
Oct. 27, 1961	Saturn	NASA	AMR	Successful launch of first stage only in development test.
Nov. 1, 1961	Mercury	NASA	AMR	Launched by Scout; attempt to orbit satellite to test Mercury tracking network; destroyed by Range Safety after 30 seconds of flight.
Nov. 5, 1961	Discoverer 34	USAF	VAFB	Launched by Thor-Agena B; malfunction prevented capsule ejection; satellite reentered Dec. 7, 1962.
Nov. 15, 1961	Discoverer 35	USAF	VAFB	Launched by Thor-Agena B; capsule recovered in air, Nov. 16, 1961; satellite reentered Dec. 3, 1961.
Nov. 15, 1961	Transit 4B Traac 1	Navy	AMR	Launched by Thor-Able Star; Transit navigation satellite still in orbit; Traac (for Transit Research and Attitude Control) still in orbit.
Nov. 18, 1961	Ranger 2	NASA	AMR	Lunar probe; launched by Atlas-Agena B; remained in parking orbit when Agena failed to restart; reentered Nov. 18, 1961.
Nov. 22, 1961	Atlas-Agena B	USAF	PA	"Successfully launched"; no other data released.
Nov. 29, 1961	Mercury	NASA	AMR	Launched by Mercury-Atlas; achieved two orbits, reentry, and recovery from ocean of capsule containing chimpanzee Enos.
Dec. 12, 1961	Discoverer 36 Oscar 1	USAF	VAFB	Launched by Thor-Agena B; capsule containing nuclear-explosion detection device and biopack to study radiation recovered from ocean, Dec. 16, 1961; satellite reentered Mar. 8, 1962; Oscar small radio satellite to broadcast to ham operators reentered Jan. 31, 1962.
Dec. 22, 1961	Atlas-Agena B	USAF	PA	"Successfully launched"; no other data released; believed to have reentered Aug. 14, 1962.
Jan. 13, 1962	Discoverer 37	USAF	VAFB	Failed to orbit.
Jan. 15, 1962	Echo	NASA	AMR	Suborbital communications test; launched by Thor; canister opened but 135-ft. sphere ruptured.
Jan. 24, 1962	Composite 1 Greb 4 Lofti 2 Injun 2 Surcal 1 Secor	Navy	AMR	Five-satellite package; launched by Thor-Able Star; second-stage malfunction at 50-mi. altitude; failed to orbit.
Jan. 26, 1962	Ranger 3	NASA	AMR	Lunar probe; launched by Atlas-Agena B into parking orbit; restarted Agena boosted Ranger vehicle but too great velocity caused spacecraft to miss moon by 22,862 mi. despite midcourse correction; now in 406.4-day solar orbit.
Feb. 8, 1962	Tiros 4	NASA	AMR	Launched by Thor-Delta; meteorological satellite; transmitted excellent cloud-formation pictures; still in orbit; still transmitting.
Feb. 20, 1962	Mercury	NASA	AMR	First US manned orbital flight; launched by Mercury-Atlas; USMC Lt. Col. John H. Glenn, Jr., recovered from capsule Friendship 7 after 3 orbits in 4-hour 56-minute flight.
Feb. 21, 1962	Thor-Agena B	USAF	VAFB	"Successfully launched"; no other data released; believed to have reentered Mar. 4, 1962.
Feb. 27, 1962	Discoverer 38	USAF	VAFB	Launched by Thor-Agena B; capsule recovered in air, Mar. 3, 1962; satellite reentered Mar. 21, 1962.
Mar. 1, 1962	Scout	NASA	WS	Reentry test; launched by Scout; reentry speed lower than planned 28,000 ft/sec.
Mar. 7, 1962	OSO 1	NASA	AMR	Orbiting Solar Observatory launched by Thor-Delta; 458-lb. laboratory transmitted data on solar flares; still in orbit; still transmitting.
Mar. 7, 1962	Atlas-Agena B	USAF	PA	"Successfully launched"; no other data released; believed still in orbit.
Mar. 16, 1962	Cosmos 1	USSR	USSR	Designed to study radiation belt, cosmic rays, solar emissions, and distribution and formation of cloud systems; reentered May 25, 1962.
Mar. 29, 1962	Scout probe	NASA	WS	Scientific geoprobe; launched by Scout; reached 3,910 mi.
Apr. 6, 1962	Cosmos 2	USSR	USSR	Designed to investigate ionosphere, cosmic rays, meteoritic dust particles, magnetic field, cloud formation and distribution, and solar radiation; still in orbit.
Apr. 9, 1962	Atlas-Agena B	USAF	PA	"Launched"; no other data released; believed still in orbit.
Apr. 17, 1962	Thor-Agena B	USAF	VAFB	"Launched"; no other data released; believed to have reentered May 28, 1962.
Apr. 23, 1962	Ranger 4	NASA	AMR	Lunar probe; launched by Atlas-Agena B; timer failure caused loss of control over spacecraft; no midcourse correction, no TV, no lunar-capsule separation; vehicle crashed onto moon Apr. 26, 1962, after 64-hour flight.
Apr. 24, 1962	Cosmos 3	USSR	USSR	Designed to investigate ionosphere, cosmic rays, meteoritic dust particles, magnetic field, cloud formation and distribution, and solar radiation; reentered Oct. 17, 1962.
Apr. 25, 1962	Saturn	NASA	AMR	Successful test of first stage only with dummy upper stages.
Apr. 26, 1962	Cosmos 4	USSR	USSR	Designed to investigate earth's radiation belts, study meteoritic particles, weather phenomena, and factors affecting communications; recovered "at predetermined point" in USSR, Apr. 29, 1962.
Apr. 26, 1962	Ariel 1	NASA-UK	AMR	First international satellite; launched by Thor-Delta; contained 6 British experiments; designed to investigate ionosphere; still in orbit; still transmitting.
Apr. 26, 1962	Atlas-Agena B	USAF	PA	"Launched"; no other data released; believed to have reentered Apr. 28, 1962.

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DATE	PROGRAM	LAUNCHED BY	FROM	REMARKS
Apr. 26, 1962	Blue Scout	USAF	PA	"Launched"; no other data released.
Apr. 28, 1962	Thor-Agena B	USAF	VAFB	"Launched"; no other data released; believed to have reentered May 26, 1962.
May 8, 1962	Centaur	NASA	AMR	Launch vehicle development test; Centaur exploded before separation.
May 10, 1962	Anna 1A	Navy	AMR	Failed to orbit; Anna is acronym for Army, Navy, NASA, and Air Force; program designed to provide a triangulation point in space for precise determination of distances and positions on earth.
May 15, 1962	Thor-Agena B	USAF	VAFB	"Launched"; no other data released; believed still in orbit.
May 23, 1962	Blue Scout	USAF	PA	"Launched"; no other data released.
May 24, 1962	Mercury	NASA	AMR	Launched by Mercury-Atlas; USN Lt. Cmdr. M. Scott Carpenter recovered from capsule Aurora 7 after 3 orbits in 4-hour 56-minute flight.
May 28, 1962	Cosmos 5	USSR	USSR	Designed to continue Cosmos program; still in orbit.
May 29, 1962	Thor-Agena B	USAF	VAFB	"Launched"; no other data released; believed to have reentered June 11, 1962.
May 31, 1962	Blue Scout	USAF	PA	Probe; no other data released.
June 1, 1962	Thor-Agena B Oscar 2	USAF	VAFB	"Launched"; no other data released; Agena believed to have reentered June 28, 1962; Oscar small radio satellite to broadcast to ham operators reentered June 21, 1962.
June 17, 1962	Atlas-Agena B	USAF	PA	"Launched"; no other data released; believed to have reentered June 18, 1962.
June 18, 1962	Thor-Agena B	USAF	VAFB	"Launched"; no other data released; believed still in orbit.
June 19, 1962	Tiros 5	NASA	AMR	Launched by Thor-Delta; meteorological satellite; orbit more elliptical than planned; cameras transmitted excellent weather photos; still in orbit; still transmitting.
June 22, 1962	Thor-Agena B	USAF	VAFB	"Launched"; no other data released; believed to have reentered July 7, 1962.
June 27, 1962	Thor-Agena D	USAF	VAFB	"Launched"; no other data released; first of "D" series of Agena; believed to have reentered Sept. 14, 1962.
June 30, 1962	Cosmos 6	USSR	USSR	Continuation of Cosmos program; reentered Aug. 8, 1962.
July 10, 1962	Telstar 1	NASA-AT&T	AMR	First active communications satellite; world's first commercial satellite; built by AT&T's Bell Telephone Laboratories; launched by Thor-Delta; used successfully in communications tests, including transmission of transatlantic TV; still in orbit; still active.
July 18, 1962	Atlas-Agena B	USAF	PA	"Launched"; no other data released; believed to have reentered July 25, 1962.
July 18, 1962	Echo	NASA	AMR	Launched by Thor; suborbital communications test; inflation of Echo sphere successful though surface not as smooth as planned.
July 20, 1962	Thor-Agena B	USAF	VAFB	"Launched"; no other data released; believed to have reentered Aug. 14, 1962.
July 22, 1962	Mariner 1	NASA	AMR	Venus probe; launched by Atlas-Agena B; booster deviated from course; destroyed by Range Safety.
July 24, 1962	Blue Scout	USAF	PA	"Launched"; no other data released.
July 27, 1962	Thor-Agena B	USAF	VAFB	"Launched"; no other data released; believed to have reentered Aug. 24, 1962.
July 28, 1962	Cosmos 7	USSR	USSR	Designed to investigate charged particles in the ionosphere, corpuscular streams and low-energy particles, earth's magnetic field and radiation belts, cloud formations, and cosmic rays; reentered Aug. 1, 1962.
Aug. 1, 1962	Thor-Agena D	USAF	VAFB	"Launched"; no other data released; believed to have reentered Aug. 26, 1962.
Aug. 5, 1962	Atlas-Agena B	USAF	PA	"Launched"; no other data released; believed to have reentered Aug. 6, 1962.
Aug. 11, 1962	Vostok 3	USSR	USSR	Launched from near Karsakpay, in Kazakhstan (Baikonor launch complex); completed 64 orbits; joined on 17th orbit by Vostok 4 (see below), as little as 4 mi. away; after 94 hours 27 minutes spacecraft reentered and Maj. Andrian G. Nikolayev ejected from capsule at low altitude and parachuted; 1,633,000-mi. flight; Cosmonaut floated free in capsule 3½ hours during flight; recovered Aug. 15, 1962.
Aug. 12, 1962	Vostok 4	USSR	USSR	Companion vehicle to Vostok 3 (see above); completed 48 orbits; conducted near- rendezvous with Vostok 3; after 70 hours 22 minutes spacecraft reentered and Lt. Col. Pavel Popovich ejected from capsule at low altitude and parachuted; 1,247,000-mi. flight; Cosmonaut floated free 3 hours; recovered Aug. 15, 1962.
Aug. 18, 1962	Cosmos 8	USSR	USSR	Designed to continue the Cosmos program; still in orbit.
Aug. 23, 1962	Blue Scout	USAF	PA	"Launched"; no other data released; believed still in orbit.
Aug. 25, 1962	Venus probe	USSR	USSR	Reentered Aug. 28, 1962; launch from orbit believed to have failed.
Aug. 27, 1962	Mariner 2	NASA	AMR	Venus probe; launched by Atlas-Agena B; first satellite to scan another planet; passed 21,100 mi. from Venus on Dec. 14, 1962; set space communications record of 54,700,000 mi.; now in 348-day solar orbit.
Aug. 28, 1962	Thor-Agena D	USAF	VAFB	"Launched"; no other data released; believed to have reentered Sept. 10, 1962.
Aug. 31, 1962	Scout	NASA	WS	Reentry test; launched by Scout; tardy third-stage ignition resulted in less than 28,000 ft/sec desired speed.
Sept. 1, 1962	Thor-Agena B	USAF	VAFB	"Launched"; no other data released; believed still in orbit.
Sept. 1, 1962	Venus probe	USSR	USSR	Launch from orbit apparently failed.
Sept. 12, 1962	"Mystery"	—	—	The British magazine <i>Flight</i> claimed that a "mystery satellite" was launched Sept. 12, 1962, that it orbited at 113-mi. altitude, and reentered 12 days later. Neither the US nor the USSR would admit ownership.
Sept. 17, 1962	Thor-Agena B	USAF	VAFB	"Launched"; no other data released; believed to have reentered Nov. 16, 1962.
Sept. 18, 1962	Tiros 6	NASA	AMR	Launched by Thor-Delta; meteorological satellite; transmitted cloud-cover photographs; still in orbit; still transmitting.
Sept. 27, 1962	Cosmos 9	USSR	USSR	Designed to continue the Cosmos program; status indefinite.

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SATELLITE SCOREBOARD

CONTINUED

DATE	PROGRAM	LAUNCHED BY	FROM	REMARKS
Sept. 28, 1962	Alouette 1	NASA-Canada	VAFB	Launched by Thor-Agena B; Canadian-designed and -built satellite; first NASA launch from Pacific Missile Range; designed to study ionosphere's free electron distribution, measure galactic noise, and observe cosmic rays; still in orbit; still transmitting.
Sept. 29, 1962	Thor-Agena D	USAF	VAFB	"Launched"; no other data released; believed to have reentered Oct. 14, 1962.
Oct. 2, 1962	Explorer 14	NASA	AMR	Launched by Thor-Delta; achieved highly eccentric orbit; energetic particles satellite; still in orbit; still transmitting.
Oct. 3, 1962	Mercury	NASA	AMR	Launched by Mercury-Atlas; USN Cmdr. Walter M. Schirra, Jr., recovered from capsule Sigma 7 after 6 orbits in 9-hour 13-minute flight; first Mercury Astronaut recovery in the Pacific.
Oct. 9, 1962	Thor-Agena B	USAF	VAFB	"Launched"; no other data released; believed to have reentered Nov. 16, 1962.
Oct. 17, 1962	Cosmos 10	USSR	USSR	Designed to continue the Cosmos program; status indefinite.
Oct. 18, 1962	Ranger 5	NASA	AMR	Launched by Atlas-Agena B; lunar probe; injected from parking orbit into lunar trajectory; payload, including midcourse guidance, did not function because spacecraft failed to get power from solar cells; passed within 450 mi. of the moon; now in 370-day solar orbit.
Oct. 20, 1962	Cosmos 11	USSR	USSR	Designed to continue the Cosmos program; status indefinite.
Oct. 20-26, 1962	Mars probe (?)	USSR	USSR	Believed to have been Soviet Mars probe that failed to leave parking orbit.
Oct. 26, 1962	(Thor-Agena D TRS 1 (?))	USAF	VAFB	"Launched"; no other data released; believed still in orbit; may include as payload TRS 1 (Tetrahedral Research Satellite), which a Nov. 13, 1962, announcement said had been launched from Vandenberg AFB aboard a USAF R&D satellite "sometime in the last 60 days"; satellite believed still in orbit; TRS, at 1½ pounds the smallest and lightest satellite yet orbited, was developed by Space Technology Laboratories as an independent research project to provide data on changes in the earth's radiation belt as a result of the high-altitude nuclear test detonation over Johnston Island, July 9, 1962.
Oct. 27, 1962	Explorer 15	NASA	AMR	Launched by Thor-Delta; designed to study artificial radiation belt around the earth; achieved high spin rate, making it difficult to analyze data from 2 of 7 experiments; still in orbit.
Oct. 31, 1962	Anna 1B	Navy	AMR	Launched by Thor-Able Star; geodetic satellite to provide triangulation point in space; flash tube system indicated successful operation in conjunction with stellar camera ground stations; still in orbit; still transmitting.
Nov. 1, 1962	Mars 1	USSR	USSR	Mars probe; 1,965-lb. "Automatic Interplanetary Station"; injected from parking orbit to Mars flyby trajectory; programed to reach vicinity of Mars about June 1, 1963, when Mars is about 150,000,000 mi. from earth.
Nov. 5, 1962	Thor-Agena B	USAF	VAFB	"Launched"; no other data released; believed to have reentered Dec. 3, 1962.
Nov. 11, 1962	Atlas-Agena B	USAF	PA	"Launched"; no other data released; believed to have reentered Nov. 12, 1962.
Nov. 16, 1962	Saturn	NASA	AMR	First stage only in launch vehicle development test; Project Highwater used dummy upper stages.
Nov. 21, 1962	Blue Scout	USAF	PA	Probe; no other data released.
Nov. 24, 1962	Thor-Agena B	USAF	VAFB	"Launched"; no other data released; believed to have reentered Dec. 8, 1962.
Dec. 4, 1962	Thor-Agena	USAF	VAFB	"Launched"; no other data released; believed to have reentered Dec. 8, 1962.
Dec. 12, 1962	(Thor-Agena Injun 3)	USAF	VAFB	"Launched"; no other data released; 3 or 4 otherwise specified piggyback satellites may also have been included; all objects believed still in orbit.
Dec. 13, 1962	Relay 1	NASA-RCA	AMR	Launched by Thor-Delta; first launch with updated Delta; RCA-built communications satellite; power supply voltage originally too low for communications experiments; voltage built up and early in Jan. 1963 transatlantic TV transmission began; still in orbit; still transmitting.
Dec. 14, 1962	Thor-Agena	USAF	VAFB	"Launched"; no other data released; believed to have reentered Jan. 8, 1963.
Dec. 16, 1962	Explorer 16	NASA	WS	Launched by Scout; micrometeoroid satellite; still in orbit; still transmitting.
Dec. 17, 1962	Atlas-Agena	USAF	PA	Failed to orbit.
Dec. 18, 1962	Blue Scout	USAF	PA	"Launched"; no other data released; believed to have been suborbital flight, containing first US ion engine; malfunction reportedly caused destruction shortly after launch.
Dec. 19, 1962	Transit 5A	Navy	PA	Launched by Scout; navigational satellite; still in orbit; still transmitting.
Dec. 22, 1962	Cosmos 12	USSR	USSR	Believed to be continuation of Cosmos program; believed still in orbit; still transmitting.
Jan. 7, 1963	Thor-Agena	USAF	VAFB	"Launched"; no other data released.
Jan. 16, 1963	Thor-Agena	USAF	VAFB	"Launched"; no other data released.
Feb. 1, 1963	Blue Scout	USAF	PA	"Launched"; no other data released; believed to have been a probe.
Feb. 14, 1963	Syncom 1	NASA	AMR	Launched by Thor-Delta; communications satellite; programed to reach 22,300-mi. altitude so its orbit would coincide with earth's rotation, keeping it stationary over the equatorial Atlantic; radio contact lost shortly after reaching final orbit; satellite believed tumbling and drifting out of position; by Mar. 15, 1963, attempts to communicate with Syncom were unsuccessful.
Feb. 19, 1963	Blue Scout	USAF	VAFB	"Launched"; no other data released.
Feb. 28, 1963	Thor	USAF	VAFB	Failed to orbit; destroyed by Range Safety when booster veered off course; according to USAF, the missile used "an improved Thor booster combination of liquid and solid propellants," for what was believed the first time; thrust believed increased from 170,000 lb. to about 330,000; reportedly carrying a "secret" satellite.
Mar. 13, 1963	Blue Scout	USAF	VAFB	"Launched"; no other data released.