

SPACE

Dial for Satellite Count

► OPERATED by the Smithsonian Astrophysical Observatory in Boston, a Dial-A-Satellite service consisting mainly of two automatic phone-answering machines, one in Boston and one in Washington, D.C., offers a recorded report on the day's astronomical events, including the passage of bright satellites.

In Boston, the number is 617-491-1497, and in Washington it is 202-737-8855.

As of Jan. 12 there were 972 man-made objects orbiting the earth, said the Observatory in its tape recording.

The Dial-A-Satellite script writer is James Cornell of the Observatory staff. Every weekday morning he records a new message, which is taped for the Boston number, then sent by teletype to Washington and recorded for use there. The new recording can be dialed in Boston at about 9:30 in the morning and in Washington at about midday.

The 972 objects circling the earth are not all operating satellites. Only about 50 are satellites providing scientists with useful data. A large portion of them are space rubbish, such as burned out rocket stages that have broken up in space. For example, 206 of the objects are bits and pieces of the

Transit 4A and Injun-SR-3 satellites launched in 1961. Another 122 are the remains of three Russian satellites, Cosmos 61, 62 and 63, launched March 15, 1965.

Besides producing the Boston and Washington recordings, Mr. Cornell provides weekly information to the Hayden Planetarium in New York City, which then creates its own message. That number is 212-TR 3-0404.

Dial-A-Satellite was started on March 18, 1964, when there were only 431 man-made objects in orbit. On Dec. 11 of that year, the total passed 500.

The number of people calling has also grown considerably. When Comet Ikeya-Seki was visible, calls skyrocketed to 700 a day in Boston and almost 2,000 a day in Washington.

The Smithsonian is not the only group keeping records of objects in the sky, however. The National Aeronautics and Space Administration does its own counting at Goddard Space Flight Center in Greenbelt, Md., and the U.S. Air Force's NORAD, or North American Air Defense Command, has a system called Spacetrack to keep it informed.

• Science News Letter, 89:52 January 22, 1966

SPACE

Stabilize Men in Space

► IF ASTRONAUT Charles Basset should start thrashing his arms and legs while floating outside Gemini 9 a few months from now, his "panic-proof" back-pack will still hold him rock-steady in space.

Basset is scheduled to spend a full orbit, about 90 minutes, on the longest spacewalk yet, wearing a 160-pound pack the size of a console TV set, called an Astronaut Maneuvering Unit (AMU). The AMU will provide not only attitude control, but propulsion, oxygen, temperature control, electric power, two-way communications and telemetry equipment.

Any changes in Basset's position in space will have to be made deliberately by him, using controls positioned under his hands on two arms extending around from the AMU.

Beneath his left hand will be a round knob that controls vertical and horizontal movement. The astronaut will simply move the knob up or down, or from side to side, and the back-pack will move him in the same direction.

The one possible source of danger, however, could also come from this control, since in addition to its other tasks it permits the astronaut to turn off his automatic stability system. He might do this in order to test the effects of various motions in free space, such as using tools. However, if something went wrong while the system was off, and the astronaut went into a spin, for example, a simple click of the knob would

activate the automatic stabilizer, bringing the uncontrolled motion to a halt.

An emergency warning system is built into the AMU to inform both the astronaut wearing it and his colleague back in the spacecraft if anything goes wrong. Colored, blinking lights and a shrill hum will alert both astronauts to any malfunctions.

The seemingly heavy AMU at 160 pounds is actually a masterpiece of lightweight construction. The oxygen supply system, for example, including all the various valves, regulators, tanks and the gas itself, weighs 26 pounds.

The AMU is being constructed by LTV Aerospace Corporation of Dallas, Texas.

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PUBLIC SAFETY

'Hawk-Plane' Helps Keep Airport Free of Birds

► TEST FLIGHTS of a Government "hawk-plane" designed to scare troublesome birds away from Air New Zealand's headquarters at Mangere International Airport, Auckland, have proved successful. The radio-controlled model has been "test-flown" against sea gulls with most satisfactory results.

Mangere Airport will probably be open to overseas traffic soon.

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Questions

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ASTRONOMY—What is the name of Jupiter's largest moon and what is its diameter? p. 58.

CONSERVATION—What method is being used near the southern coast of Long Island, N.Y., to help keep the salty seas from seeping through coastal land? p. 50.

INVENTION—What is the mechanism involved in the newly patented method for breathing underwater? p. 54.

MEDICINE—A person who has had his tonsils removed is about how many times as likely to get multiple sclerosis as the person who has not? p. 51.

PSYCHOLOGY—What may inhibit birth control efforts in some areas? p. 55.

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