

**The New York Times**

**Technology | Patents**

# Aldrin Permanent Space Station

By SABRA CHARTRAND

Published: February 15, 1993

EDWIN E. (BUZZ) ALDRIN JR., who walked on the moon as an astronaut in 1969, last week received a patent for a permanent space station he designed alone in his home office. Mr. Aldrin, who went to the moon with Neil Armstrong on the Apollo 11 mission, wants his space station to be the core of a "complete family of spacecraft that support it."

The United States has issued more than five million patents since 1790, but space stations joined the ranks only in 1964. About two dozen such patents have been issued, most for stations that must be launched in pieces and assembled in space or that are small enough to be carried aloft inside the space shuttle.

Mr. Aldrin's design, though large enough for a crew of 8 to 10 astronauts, can be launched in one piece and then unfolded in space. But he said it would rely on "a larger launch vehicle like the Saturn 5 rocket," which the United States no longer uses. He hopes for eventual cooperation with the Russian space program, which still has a powerful rocket capable of putting a heavy payload into space.

## A Tube Shape

Mr. Aldrin's space station is shaped like a tube with cylindrical cross-sections that house pressurized modules of living quarters and laboratories; the modular construction means it can be expanded in size. The interconnected modules are surrounded by struts and trusswork in a "cube octahedron," having eight sides, to protect them from things like collisions with docking spacecraft.

The design also calls for fixed solar panels.

"It's a lot tighter, and there's less movement" than in space stations with solar panels that rotate, he said. He contends that rotating panels cause too much vibration. "Whenever panels move, it disturbs

the micro-gravity, and that interferes with scientific experiments and activity."

His plan is quite different from the linear architecture of the space station Freedom, which the National Aeronautics and Space Administration plans to start launching, in pieces, in 1996. Freedom also uses rotating solar panels and is configured so that shuttles can dock with it directly.

Mr. Aldrin's space station has 14 berthing zones for small transfer spacecraft that would travel between it and larger craft like a shuttle. Mr. Aldrin also envisions other smaller, unmanned stations devoted to zero-gravity experiments deployed around his space station. He acknowledges that manufacture of his space station is probably a long way off, but he says he may market his design as a toy. He received patent 5,184,789.