

Endeavour To Complete Assembly Of Initial U.S. Power System For International Space Station

The November 30 mission of Space Shuttle Endeavour will enable the crew of Expedition One to throw the switch on the US portion of the electric power system. The P6 integrated truss structure includes a collection of power system electronics and the large solar arrays that will collect, store, distribute and control the solar energy that will power the early scientific research to be conducted on the station.

Major components being launched on STS-97 include:

- The Integrated Equipment Assembly (IEA) is a collection of power system electronics, interconnections, and cooling system packaged together on a structure that serves both as a launch carrier and as a key element of the space station primary truss. The IEA receives, conditions, stores, distributes, and controls electric power for the space station and its users.
- The Solar Arrays are the largest ever space arrays to convert solar energy into electric power. Tightly compacted during launch into two 20-inch high boxes, each is deployed on-orbit to a 115-ft. long array, for a total wing-span of about 240-ft.
- The Early External Active Thermal Control System (EEATCS) is a temporary cooling system to provide heat rejection capability for the US Lab during station assembly to enable early research.

The Space Station Electric Power System (EPS) is the largest space power system ever developed. When complete the EPS will be the most massive power system to be constructed on-orbit. Including a vast array of hardware developed in the U.S., Russia, Europe and Japan - and more than eight miles of wiring - the highly redundant system will generate 110 kilowatts of power to the orbiting outpost, the equivalent of supplying electricity for 75 homes on Earth. Operating with a primary distribution system of 160-volts and a secondary 120-volt system, the EPS is the first space power system to operate at such a high voltage compared to the typical 28-volts on the Space Shuttle and most satellites. The system is also unique because it must be continuously operational while it is being assembled.

The electric power system for the International Space Station is developed by The Boeing Company at Canoga Park, Calif.

###

For further information:

Dan Beck

(818)586-4572
