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Macintosh Portable: Used in Space Shuttle (11/93)

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TOPIC ---

I would like more information about the Macintosh Portable used in the space shuttle by the NASA some years ago.

DISCUSSION --

We believe you are referring to shuttle launch STS-43. The primary mission of STS-43 was to deploy a fourth TDRS satellite (Tracking and Data Relay Satellite). The shuttle was launched at 11:02 AM EST on Friday August 2, 1991, and landed at about 8:30 AM EST on Sunday August 11, 1991.

The shuttle carried a Macintosh Portable (nonbacklite) system on board. It was used for four primary purposes:

1) Testing four cursor control devices:
   a) the Portable's built-in trackball
   b) a modified aircraft control stick fitted with a thumb ball at top
   c) a 2-inch trackball
   d) an optical mouse

Some bushings were placed under the trackball for experiment 1a to take up the small amount of slack. Experiments 1b-d were performed with third party products.

2) Connecting to AppleLink and sending mail and disk files. The very first electronic mail message from space was sent by the crew of the space shuttle mission on Friday, August 9, 1991. You may be interested in that message:

"Hello Earth ! Greetings from the STS-43 Crew. This is the first AppleLink from space. Having a __GREAT__ time, wish you were here,... send cry, and CS! Have a nice day...... Haste la vista, baby,... we'll be back!"

editor's note:
   cry = cryogenics (meaning, send more fuel for life support--air, etc.)
   CS = Reaction Control System (meaning, send more fuel for
   maneuvering/control) In other words, they wanted to stay up there!

To connect to AppleLink the modem was modified by NASA to work with
their synchronous DCE equipment. AppleLink modifications were made to deal
with, among other things, routing and packet delays.

3) Recording LB NP (lower body negative pressure) medical results along
   with other mission notes and provided procedures for doing medical
   experiments.

4) Shuttle flight path tracking using an application called (Shuttle
   Portable Computer). It presents a real-time display of the shuttle's
   orbital position against a world map along with day and night cycles,
   tracking stations, and emergency reentry information.

In addition, the Macintosh acted as an alarm clock (in tandem with the
WristMac™) alerting the crew when it is time to do certain experiments,
and so on.

Modifications were also made by NASA to the battery system (we believe a
circuit breaker was added to meet the safety requirements and regulations
for personal gear transported into space). Since this date, Apple portable
computers are continued to be used in other NASA space missions; we have no
details on those missions. MacWEEK published an article in late 1991 on
mission STS-43 you may wish to pursue. In general, the Portable was
basically a stock Macintosh with very few modifications.

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