

news briefs

LUNAR LANDING HAD ITS EARTHBOUND HEROES

In spite of the immaculate perfection of the moon landing by those now-near-saints, Armstrong and Aldrin, there was one crucial moment of Apollo 11 when mere mortals showed they can still put the computer to shame. It came in the last critical 4000 feet of descent to the lunar surface. Suddenly the commander of Eagle called out in the continuous babble of exchange between Houston and the spacecraft, "12 alarm. 1201."

At mission control, the television and control monitors following every action of the Eagle saw the flashing light that told them the navigation and guidance computer on board was overloaded. The navigation and guidance instruments were simply pumping information into the Raytheon on-board computer faster than it could process it.

As Dr. Christopher Kraft, director of flight control operations put it later, "it was bad news. If it continued, the computer would give up the ghost."

The post-flight explanation of the event was straightforward enough. But the dispassionate descriptions bely the gravity of the situation when the men on the ground had only seconds in which to advise the astronauts what it all meant and what action to take.

The heroes of the moment were Stephen Bales, a guidance officer at ground control, and fellow astronaut Charlie Duke, who sat in the Capsule-Communicators chair at Houston and acted as the intermediary between the man on the ground and the men in space. Charlie Duke's gentle manner and boyish good looks tend to hide the fact that he has poured oil on troubled waters before (on Apollo 10 he instantly recognized the troubles that caused Tom Stafford and Gene Cernan to gyrate wildly in their spacecraft as it swept low over the moon).

In this case Stephen Bales recognized that too much data was pouring into the small on-board processor. Information displayed on his monitor told him that, among other things, the rendezvous radar to be used for meeting up with the command module Columbia was switched on. As Eagle weaved its path to the surface of the

moon, the rendezvous radar was working overtime feeding navigation data about the position of Columbia into the guidance computer. It accounted for about 15% of data going into the processor. But at this point of descent it was redundant.



COMPUTER HARNESSSED TO NAME NAMES

The U. S. Trotting Association USTA in Columbus, Ohio, is using a 360/20 to list the names of all harness horses, both trotters and pacers, in the modern era to help ease the troublesome problem of name selection. Hundreds of thousands of colts are foaled each year and the chances of duplication are high, considering the many blood-line names that are repeated over and over in various parts of the country. The name "Hanover" is only one of dozens to which other names are attached to become "Bret Hanover" or "Dancer Hanover," or "Hanover Yourdoe." USTA hopes to be able to use the system to help owners select a name. Nothing was mentioned about selecting winners.

There are several considerations

The issue was whether the flashing alarms should call for the landing approach to be aborted. It was Bales who realized that the system would cope if the astronauts kept the loading on the computer to a minimum by a simple procedural change of not interrogating the processor about the status of the landing radar unit and letting ground monitor take over the task. The information would be directed to the crew from ground control. From that moment, Stephen Bales called out the landing radar information, which was repeated almost before the words were out of his mouth by Charlie Duke to Eagle. And down Eagle went,

involved in selecting a harness horse's name: There may be no more than three words in it nor can it be longer than 18 characters, including two spaces; there can be no similar sounding names (to protect against heart failure in photo finishes?); a name cannot be used again until five years after the death of the original horse or about 20 years after registration; names of famous dams and sires cannot be used unless the horse is a blood-line offspring.

The computer is programmed to check out all these requirements. When an owner wants to name his horse, he submits three choices and if none of them is suitable, the computer will rearrange them to determine if one of the combinations will unlock a name. It'll never come up with a Dan Patch.

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to its landing site.

And the next piece of conversation went:

Eagle (Armstrong): Houston. Tranquility Base, Eagle has landed.

Capcomm (Duke): Tranquility, we copy you on the ground. You've got a bunch of guys about to turn blue. We're breathing again. Thanks a lot.

S/3: COMMENTS, REACTIONS, CONJECTURES

Reaction on IBM System/3 — or might conjecture be the better word: The big computer user finds gross incompatibility between it and the System/360, from source code to punched card. IBM said the machine could be used as an off-line complement to a centralized on-line system and doesn't appear to consider conversion a problem — or perhaps there are solutions in the works. The big people also wonder about the latent communication possibilities of S/3.

But the sophisticate isn't the market for the machine. IBM is after 25,000 first-time users. Few disagree that the computer giant will find them, and more. And they don't expect the tab equipment user to balk at conversion from the 80-column card to the new 3-column, 96-character, 2½ by 3¼ inch card. No one expects IBM to deadend the first major change in punched cards since Dr. Hollerith geared up for the 1890 census.

The other manufacturers have said little yet about the card beyond criticizing IBM's irresponsibility in adding another incompatible medium for data recording. On the other hand, they encourage IBM's evangelism of computers. They welcome the new users and the use of IBM's money to bring them into the market. IBM won't lose money on the deal. The new user will be locked into the new and different System/3 and will have to buy everything at the company store for some time to come. The other

manufacturers may get a crack at him by the time he's ready for his third system.

Conjecture is that the new card format may be rewarding. Although IBM is saying nothing about providing sort routines for existing machines (reacting like someone trapped when asked about this), it isn't unreasonable to say that the 80-column card's days are numbered. However it's too early to start counting.

Independent card manufacturers haven't gotten specs on the card yet, but they predict a brilliant future for it. They wonder what this means for the recently approved government specifications for Hollerith punches. Probably nothing. Is it too early to suggest a standards committee for .00060 (sixty thousandths) round hole punches?

Comments on the card indicate that standard could become an adjective for it. IBM, looking for a familiar description, said it was about the size of a credit card. Others have remarked on its similarity to the punched tags used in retailing. An observer of retail computerization pooh-poohed both these assumptions with the fact that the credit card uses only a 10-digit code and Kimball tags only 24 digits. Then he noted that Addressograph-Multigraph has a card, read by NCR cash registers, that is five columns of a regular 80-column card. He conceded there was a possibility the System/3 card could be used in this manner "if it gets wide use." Oh ye of little faith!

NAS TO HOLD CONFERENCES ON FOREIGN ATTACHMENTS

The National Academy of Sciences will help define the issues related to the foreign attachment controversy, and will recommend solutions, but the FCC will decide what tariff changes are necessary.

This is one of the guidelines that will control an upcoming series of in-

formal conferences that seem likely to affect the quality and cost of telecommunications service for a long time to come.

The conferences are scheduled to begin "the third or fourth week of the month," according to the FCC's Common Carrier Bureau, which will manage them. They are the result of the commission's decision last December to accept Ma Bell's "foreign attachment" tariff.

This tariff, now in effect, allows customer-supplied terminals to be interconnected with the public telephone system if the linkage includes carrier-supplied connecting arrangement. Many users, particularly data processors, as well as independent equipment makers, want the tariff amended to permit use of independently made interface equipment. What's really involved, though, is the cost and quality of telecommunications service. For, if independents are allowed to supply interfaces, and the tariff regulations are broad enough to permit a wide variety of speeds and capabilities, there will be far greater competition among terminal suppliers than if the carriers are the sole interface suppliers, retain their present monopoly over the switched-system terminal market, and keep their present control over interface specifications. This, at least, is the prevailing position within the dp industry. Ma Bell insists it must retain control over the interface to protect the quality of telephone service.

The question of who is to supply network control signal equipment — the main interface component — will be one of the big arguments to be thrashed out at the conferences, according to the Common Carrier Bureau. The others include interface requirements, transmission quality and protection.

The network control signalling discussion, said a bureau spokesman, will include the question of how to certify independently made interfaces to e-