

sell Watkins says that on "hot news" items the four Australian networks sometimes use their own teams, depending on whether they get sufficient advance notice to get their own people to the event. Ordinarily, Mr. Watkins says, news is sent in 10- to 15-minute segments, unless it's a special, like Australian Day at Expo '67 in Montreal when a large audience in Australia viewed the ceremonies even though it was 2 a.m. there.

Mr. Watkins was one of the few broadcasters who was willing to venture a more optimistic prediction for the future: "Within a year or so there is a likelihood of a regular daily news feed from New York, especially if satellite costs come down and ground costs in Australia come down."

The European Broadcasting Union, a well-knit organization of some 30 countries, has been a heavy user of satellites. In the past year or so EBU has used space circuits to cover the Martin Luther King funeral, the Bobby Kennedy funeral, the political conventions and the elections, more recently the Irish debates at the United Nations and only last week the havoc wrought by hurricane Camille.

Because EBU is a cooperative venture, the cost of satellite circuits can be shared, thus making the charges more palatable to individual members.

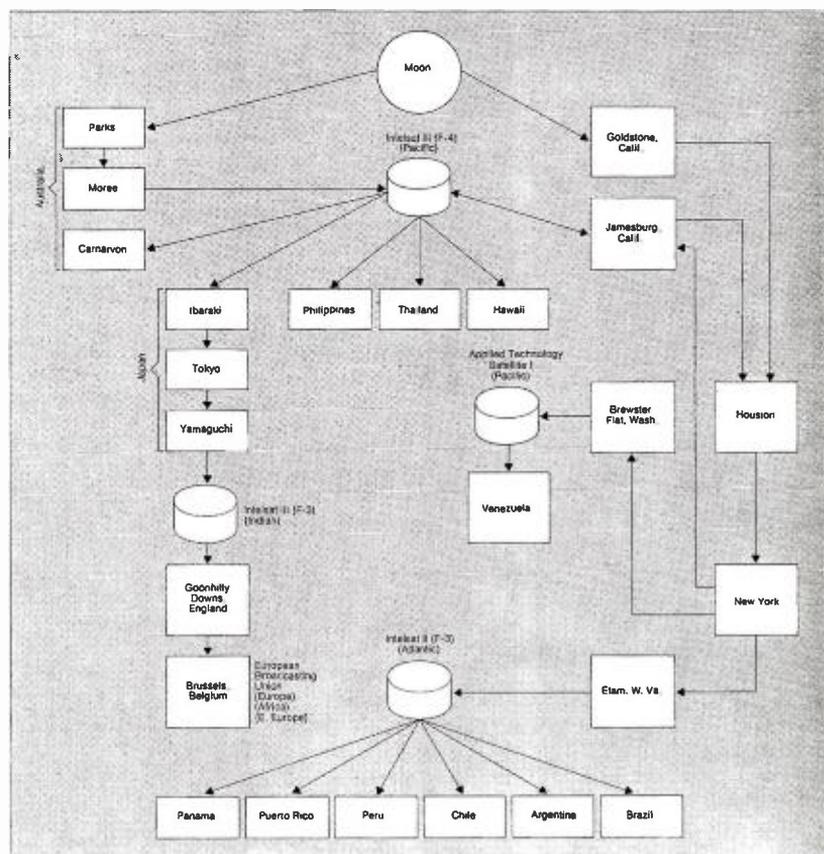
How satellite communications has worked to enforce cooperation is evident in the pooling arrangement that was set up last March by the Japanese networks, when they formed the Japan Satellite News Pool (JSNP). This is a system of rotating responsibility for U.S. pool coverage, with NET serving when ABC is the American pool manager, NHK when NBC is pooling and Tokyo Broadcasting System when CBS is on. Each of the three Japanese networks have developed a special relationship with their American counterparts.

These references to costs cannot be dismissed lightly. It is a heavy financial burden to order up satellite circuits, in some cases running over \$3,000 for the first 10 minutes, but relief may be in sight. The advent of multiple-access satellites could bring down costs once again, beyond the reduction put into effect last February by Comsat.

Comsat, however, is only one of three entities that figure in charges for satellite communications.

A U. S. satellite user must order the service through a U.S. common carrier, AT&T, ITT, RCA, Globecom, Western Union International. Each carrier takes weekly turns handling satellite orders, and, naturally, charges for delivering the program to a Comsat earth station as well as an override for satellite transmission.

Complicating the rate structure is the



## How moon signals went around earth

A straight line is not always the quickest way between two points. This was never more evident than last month during the Apollo 11 moon flight when the Atlantic Intelsat III satellite was out of service because of antenna trouble.

Shown above are the routes by which television coverage of the historic moon walk by Astronauts Armstrong and Aldrin was delivered to viewers throughout the world. The television pictures from the surface of the moon were first received at the National Aeronautics and Space Administration's Goldstone, Calif., earth station. Later, as the earth revolved, the scenes from the moon were received at the Parks observatory in Australia. The pictures received at Goldstone were sent by land lines to Houston; those at Parks were microwaved to the Moree earth station, also in Australia, and from there via the Pacific Intelsat III to the Communications Satellite Corp.'s Jamesburg, Calif.,

earth station where they were landlined to Houston. After clearance at Houston, the pictures were transmitted by land line to New York where they were turned over to the U. S. networks for domestic distribution.

The coverage destined for overseas was then sent to three of Comsat's earth stations: Jamesburg was used to retransmit the pictures to Australia and Japan, via the Pacific Intelsat III satellite; Etam, W. Va., for retransmission to Latin America via the Atlantic Intelsat II satellite, and Brewster Flat, Wash., for Venezuela, by way of NASA's Applied Technology Satellite I in the Pacific. Venezuela required special treatment because it used a portable earth station that needed the power that only ATS-1 could provide.

Because the Atlantic Intelsat III was out, the European Broadcasting Union, representing the European nations, was fed by way of the Indian Ocean Intelsat III from Japan; the signals were received at England's Goonhilly Downs and landlined to Brussels where EBU's control center is located.

fact that these charges in the U.S. are only for what is called the "up leg" to the satellite. The "down leg," the transmission from the satellite to the destination, is charged for at rates set by the

telecommunications administration of the receiving country.

For example, the total charge for a TV satellite circuit with audio from the U. S. to Australia (or vice versa) is