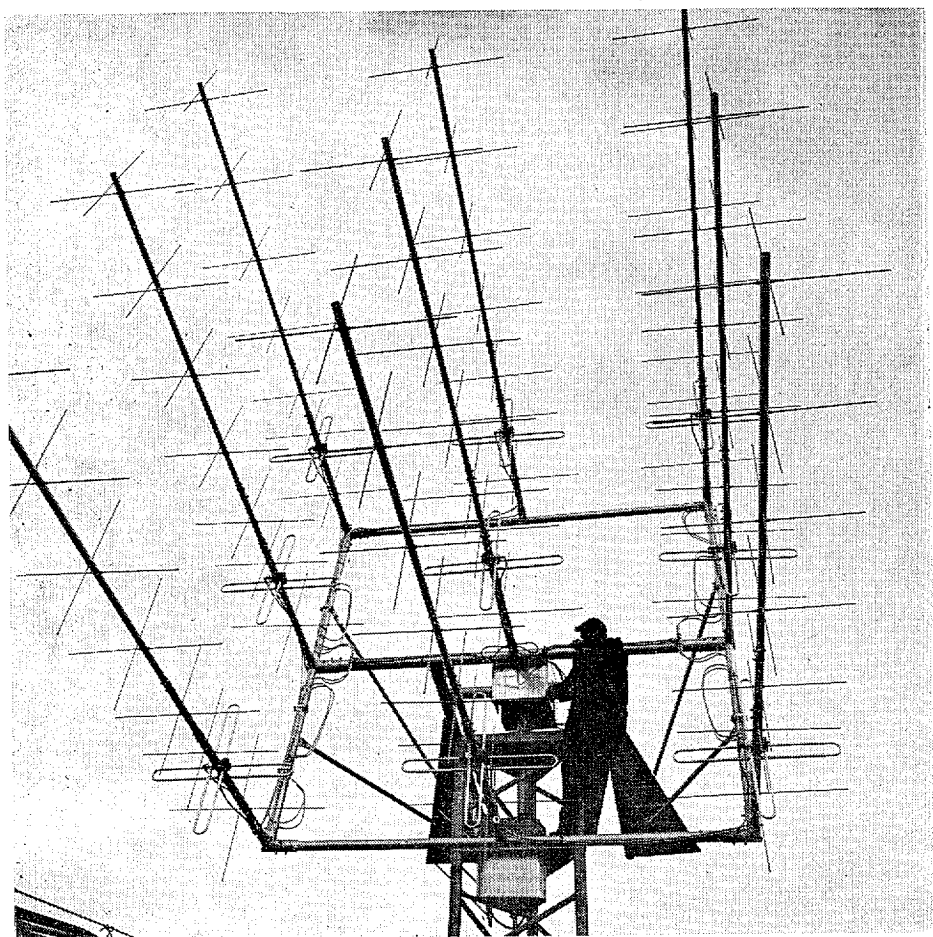


instrumentation by converting sunlight into electrical energy to charge the satellite's batteries.

A fabrication technique, originated in Canada, gives the spacecraft a unique feature — a 150-foot radio-sounding antenna — believed to be the longest in any space vehicle so far built. There is another sounding antenna 75 feet long. Both are made of thin, heat-treated steel and were stored on drums within the satellite at the time of launching, much like a carpenter's tape rule. The antennae were extended from their storage drums by a special motor after the satellite was placed in orbit.

Experiments

The primary "Alouette" experiment employs "topside" sounder instrumentation to probe the ionosphere below the orbiting spacecraft to the F2 maximum (240-320 miles). The sounder is attempting to measure the way the number of free



Tracking antennae like this are located at Ottawa (Ontario), Prince Albert (Saskatchewan), Resolute (Northwest Territories), and St. John's (Newfoundland). The Newfoundland tracking-station is operated by NASA.