

Acknowledgments

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PLATINUM IN TELSTAR SATELLITE

In July this year the experimental Telstar communications satellite, designed and constructed by the Bell Telephone Laboratories, was successfully launched at Cape Canaveral. Roughly spherical in shape, with a faceted surface, the satellite is 34½ inches in diameter and weighs about 170 pounds.

This satellite carries equipment not only for broadband microwave communications in space but also for obtaining and transmitting information on its own performance and on the nature of the space environment. Power for its electronic circuits is supplied by rechargeable nickel-cadmium cells which are charged by 3,600 solar cells mounted on 60 of the 72 facets of the satellite shell. Each solar cell is mounted on a ceramic base and is covered by a transparent wafer of synthetic sapphire held in place by a framework of platinum.

The materials for the solar cell assemblies have been selected because of their durability in the space environment and their similar properties of expansion and contraction with changes of temperature. It is expected that the bonded assemblies will remain intact for many years, thus enabling the satellite to carry out its programme of investigation.

