

# **TRACKING AND DATA RELAY SATELLITE SYSTEM (TDRSS)**

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**Summary** Coincident with the advent of the Space Shuttle era in the late 1970's will also come a new era in space communications. The NASA Tracking and Data Relay Satellite System (TDRSS), consisting of satellites in synchronous orbit relaying data between mission spacecraft in low altitude earth orbit and the various mission control centers, will change the character of tracking and data acquisition operations from the short duration, intermittent contacts characteristics of the world wide network of ground stations of the Space Tracking and Data Network (STDN), to nearly full time contact. This capability will expedite interaction between ground based scientists and their spaceborne instruments, reduce dependence upon data tape recorders, and in general improve the reliability and versatility of space communications. This paper will discuss the requirements for TDRSS service and the characteristics of the system and subsystems that NASA studies have shown best meet those requirements.