

Title: HIGH RESOLUTION TELESCOPE AND SPECTROGRAPH (HRTS)

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Short Description: The major objectives of HRTS are (1) the investigation of the energy balance and mass balance of the temperature minimum, chromosphere, transition zone, and corona in quiet regions on the Sun as well as in plages, flares, and sun-spots; (2) the investigation of the velocity field of the lower corona to study the origin of the solar wind; (3) the investigation of preflare and flare phenomena. The HRTS instrument consists of a telescope, an ultraviolet spectrograph, and ultraviolet spectroheliograph, and an H-alpha slit display system, all housed in a thermal control canister mounted on an instrument pointing system.

Instrument Characteristics:

Mass:	330 kg
Volume:	2.5 cubic meters
Power:	240 watts at 28 Vdc
Data Rate:	Digital: 3.2 kbps; Film: 1000 frames; H-alpha TV: 4.2 MHz
Pointing:	Direction: Sun; Accuracy: 60 arcsec; Stability: 1 arcsec

General Comments: Early versions of this instrument have flown successfully on rockets. Improved versions are planned to fly on Spacelab 2 and Sunlab. On STO, images from the H-alpha camera should be monitored by the crew and by scientists on the ground.

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