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THE CONTROL POINT LIBRARY BUILDING SYSTEM

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The Control Point Library Building System (CPLBS) is an interactive, menu-driven system which permits a user to accurately identify features in image data by simultaneously viewing a map and a vidicon display of the image data through a Zoom Transfer Scope, extract and store features in disk-resident libraries, and perform utility functions necessary to maintain and update the generated libraries. It was developed to permit the generation of control point libraries needed by the Master Data Processor (MDP) to perform highly accurate geometric corrections to Landsat MSS and RBV earth image data. Both CPLBS and MDP were developed by IBM under contract to NASA Goddard Space Flight Center and delivered in January 1979.

The CPLBS includes newly developed techniques for accurately locating control points which will perform consistently well in correlation uses, and for storing, updating, and refining sets of control points. It incorporates these techniques in a production system hosted on the MDP hardware, which includes a high-speed arithmetic processor, high-density asynchronous tape drives, and a large (1900 mbyte) on-line disk storage capacity. A Ramtek 9300 Display System and an IBM 3270 Display Station provide image and menu display capability.

This paper describes the host computer and special image viewing equipment, as well as the processing, accuracy, and throughput of the CPLBS, and the structure of the generated libraries.

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