TITLE: Mesoscale and Severe Storms (MASS) Data Management and Analysis System

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Significant Accomplishments - FY84:

DATA BASE MANAGEMENT: An interactive atmospheric data base management software package to convert four types of data (Sounding, Single Level, Grid, Image) into standard random access formats has been implemented and integrated with the MASS AVE80 Series general purpose plotting and graphics display data analysis software package.

ANALYSIS AND DISPLAY: An interactive analysis and display graphics software package (AVE80) to analyze large volumes of conventional and satellite derived meteorological data has been enhanced to provide imaging/color graphics display utilizing color video hardware integrated into the MASS computer system. Local and remote smart-terminal capability has been provided by installing APPLE III computer systems within individual scientist offices and integrated with the MASS system, thus providing color video display, graphics, and characters dispaly of the four data types.

Current Focus of Research Work:

Currently, the existing atmospheric software (AVE80 series) and data sets are being upgraded to enhance the capabilites by using the APPLE III computers integrated with the MASS HP-1000F, Perkin-Elmer 3252, and the McIDAS-HARRIS/6 computer systems.

Plans for FY85:

Software Modification--

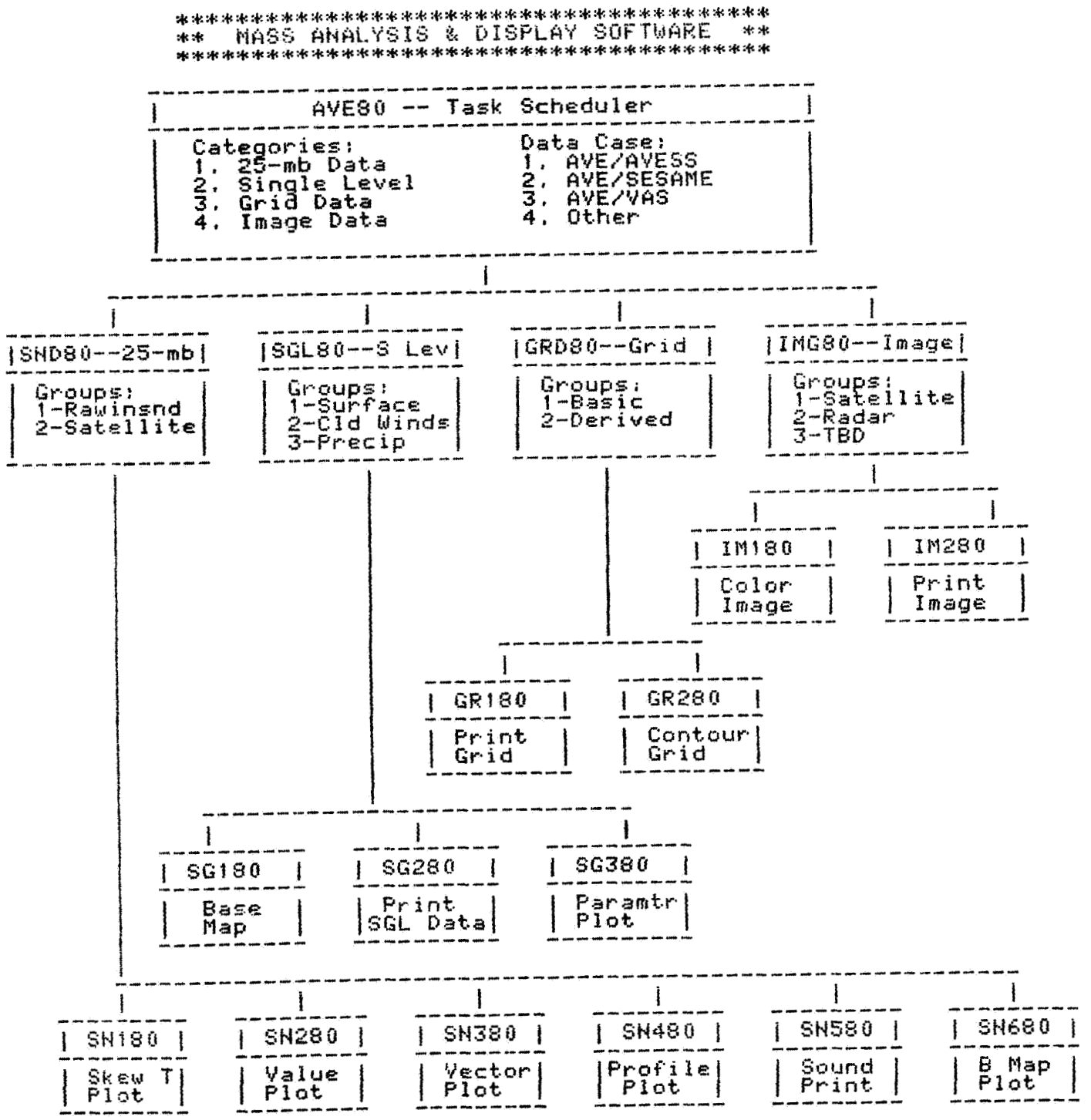
- Provide software capability to transfer four MASS data types from HP-1000 to the HARRIS/McIDAS and Perkin-Elmer 3252 computers.
- Provide video, graphics, and character display of MASS data using APPLE III terminals integrated with Perkin-Elmer and HARRIS/6 computers.
- Extend the data base management to analyze LLP lightning data, TVA and NCC rainfall data, MDR digital radar data, and VAS multispectral imagery.

Hardware Modification--

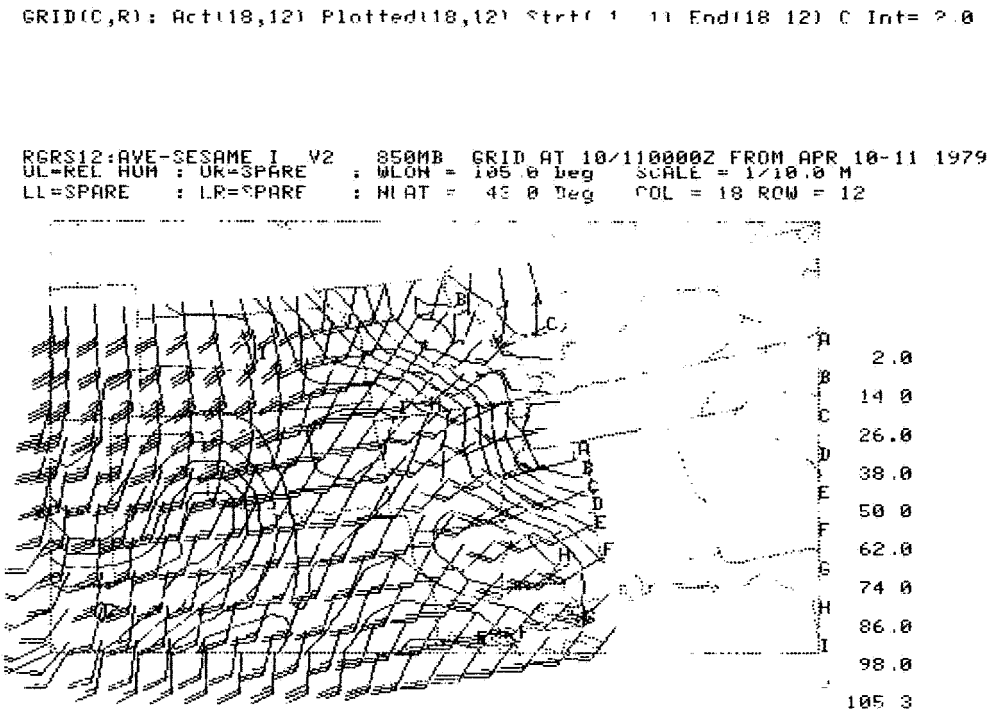
- Additional APPLE III computer systems will be installed to expand the current remote terminal capability.
- An HP 400 mega-byte disc drive will be installed to allow for expanded capabilites for processing large volumes of satellite and radar data.

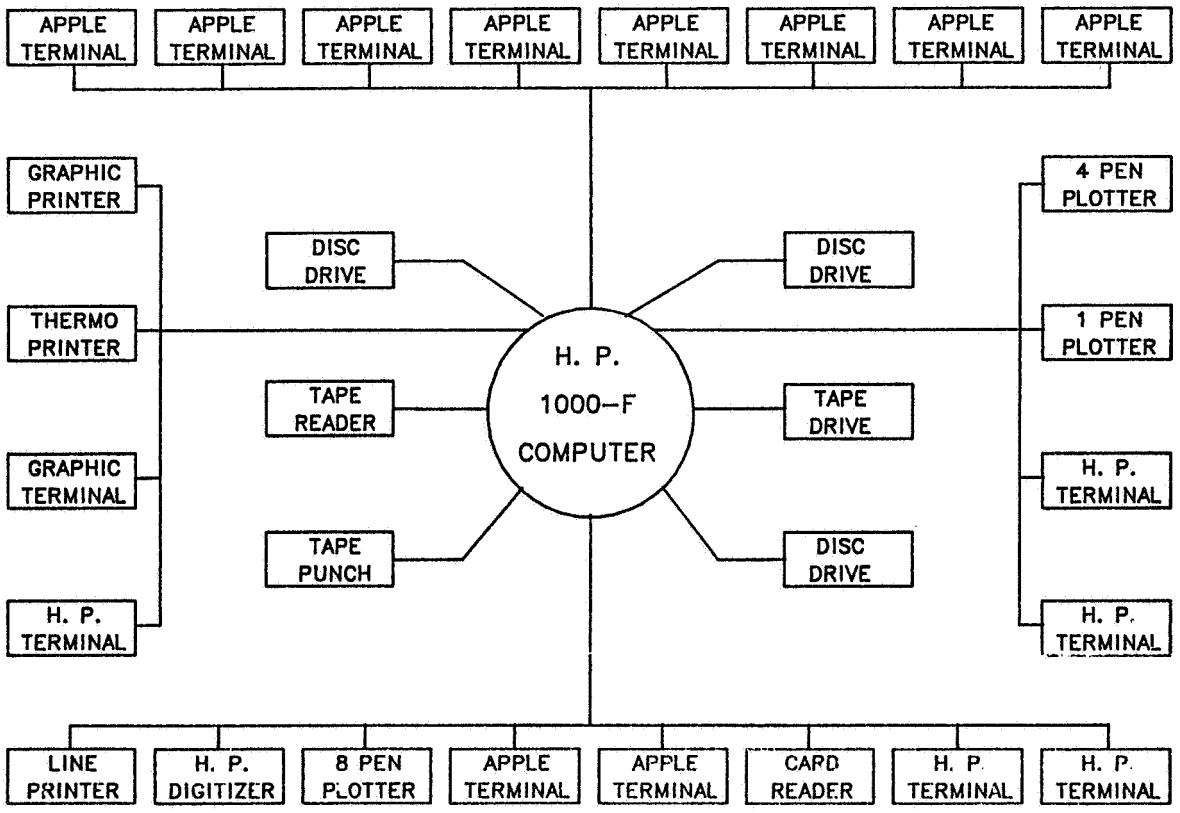
Recommendations for New Research:

To continue modifying the atmoshperic software and data sets to provide for enhanced capabilities via the integration of the MASS HP-1000, Perkin-Elmer, and HARRIS/McIDAS computer systems. In addition, to upgrade MASS HP-1000 Operating System from RTE-IVB to RTE-VI and Graphics 1000 software package to Graphics II, which would improve the overall research environment.



Detailed Flowchart of MASS AVE80 Software





H. P. 1000 F ·COMPUTER BLOCK DIAGRAM