The design of the ground checking system for CE-1 payload Microwave Detector

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CE-1 will be the first satellite taking microwave remote sensing device "Microwave Detector" and exploring to the lunar surface in the world. We must check the Microwave Detector's function and performance to make sure that it can run regularly on the orbit. Thus it is an important task to design a ground checking system for the Microwave Detector.

As the service platform for Microwave Detector the ground checking system takes task of data receiving and storing, command control, time unification of the satellite, etc. According to various task of Microwave Detector and the requirement for function and performance, the ground checking system provides preferable hardware and software solution. For the hardware, the ground checking system adopts the master-slave system based on the 1553B, designs the universal interface to computer. For the software, it uses VC++ program application procedure to carry out the simulating for the control, data collection, message broadcasting and data injection that all the satellite does to Microwave Detector. We can proof that the ground checking system can carry out anticipative function and it is reliable and steady by moving and examining it. It supplies good foundation for the Microwave Detector's regularly running.