Modern aircraft-laboratories are equipped by various equipment for measurement of a wide spectrum of physical and navigating parameters. The equipment, installed on the aircraft, is designed by different developers can have various program interfaces and its structure can vary depending on the scientific goals. One of problems which should be solved by the scientific personnel is synchronization of data received from different measuring complexes. Data storage in uniform onboard archive during aircraft experiment allows to solve this problem. During development of onboard data storage system it is necessary to consider a number of requirements: preservation of the diverse information with a binding to uniform time, an opportunity of connection of various measuring systems, preservations of the big dataflow, reliability of a data storage, etc. Results of designing of aircraft data storage system and ground data storage system are presented.

The decision based on a database control system “Interbase” is presented, the model of data and the basic functions operating these data are considered.