

ABSTRACT

DESIGN OF ATTITUDE MONITORING ROCKET AT INDONESIAN PAYLOAD ROCKET COMPETITION 2011

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The rocket is one of the aerospace things that has a strategic significance. These rockets can be used to carry out the mission of peace and defense, such as a satellite launcher rockets, weather research rocket, guided missile, ballistic missile, surface-to-surface, surface-to-air and air to the air. In other words, the rocket could also serve as tools to keep and enhance the dignity of the nation's sovereignty, whether on land, sea and in the air to outer space. Therefore, countries that control the independence of rocketry technology properly, will be respected by other countries around the world.

At the end of this task is more discussion about the Attitude Monitoring the dynamic sensing of rockets, sending commands remotely or telecommand and data transmission over the rocket attitude by 3 axis accelerometer sensor which is in a rocket payload. Wherein movement of the pitch and roll can be displayed via a personal computer located in the ground segment. Telecommand ON and OFF, which means the rocket payload accelerometer capable of sending data in accordance with the format of data that refers to the rule book Komurindo 2011 and a payload capable of stopping transmission of data packets if given telecommand OFF. Starts sending data from telecommand ON of the Ground Segment which is then received by the microcontroller module via the radio modem module YS-1020UB subsequent accelerometer data retrieval process. Accelerometer data is then sent by the microcontroller to the Ground segment through YS-1020UB radio module at 433 MHz modulation. Receiver section consists of YS-1020UB radio modem that serves to receive the frequency sent by the YS-1020UB radio modem on the sender, then the signal is forwarded to the MAX232 converter that translates data into TTL level to RS-232 level the computer, and then processed on the device software used.

This tool can work if the microcontroller received orders from the Ground Segment. The circuit radio modem transmitter and receiver can work on modulation of 433 MHz and within a maximum of 800 meters in the absence of a barrier.

Keywords: accelerometer, telecommand, rocket