

ABSTRACT

Navigation System Design of Rocket Rocket Payload Competition in Indonesia
(KOMURINDO) Year 2011

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The design of data collection and delivery of cargo rocket in Rocket Payload Competition Indonesia (KOMURINDO) 2011 is the payload on the rocket that serves as a navigation system. The main purpose of making this payload is to help find direction toward the rocket.

The design of data collection and delivery of the cargo rocket in Rocket Payload Competition Indonesia (KOMURINDO) 2011 consists of two main parts, namely the hardware and software. Hardware part consists of the sender and receiver. Section consists of sending CMPS03 compass module that serves as a compass data collection, a series of minimum system used for data processing ATmega hex compass so that the data transmission in accordance with a predetermined rule. Data transmission of command started taking pictures of the Ground Segment which is then received by the microcontroller module via the module YS-1020UB Radio Modem then perform the data retrieval process compass. Compass data is then sent by the microcontroller module to the ground segment via radio modem 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 RS-232 level to the computer, and then processed on the device software used. So that the modules can work, you need a power supply. Transmitter section uses a battery and the receiver using the power supply PLN. Once the data compass work then the data then the image data sent to the Ground Segment in accordance with the provisions of Rule Rocket Payload Competition Indonesia 2011.

This tool can work if the microcontroller received orders from the Ground Segment. The series of radio modem transmitter and receiver can work on modulation of 433 MHz and within a maximum of 800 meters at the working voltage of 5 VDC to the outdoors.

Key words: Compass CMPS03, pictures, rockets