Locking Target on Missile System

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Abstract.
The ability to create a locking target on missile system is very limited. For this reason, researchers tried to examine the title Locking Target On Missile System. As a researcher, his goals and hopes from this simple one can become a prototype, the endurance test, then it can be used as mass production. Where the stages of the research method locking target on missile system are through image processing. Here the researchers used Visual Studio 2010 software to create a software application. By processing the image BMP from the camera. In signal processing, there are many ways and languages that can be used, from the results of the author's experience, first with the C++ language the, for that the author uses the C# language. As for the validation of the signal and the format results obtained are quite slow, then the C# language, the results are quite fast, from all that info sent, the signal reception simulation test is performed with the same application software. Overall research on locking target on missile system which is a real-time control signal application software is then sent via radio.

1. Introduction
1.1 Background
The background of this research is in order to achieve the development of locking target1,2 on missile systems. The long-term goal of this research activity is to design and develop locking targets on missile systems, with the hope of being able to develop their own locking targets on missile systems. The need for locking targets on missile systems is one of the obligations in the development of science and technology, while for developed countries is a daily requirement for the industry, but it does not hurt us to start from now, even though in the world today, for the industry segment locking target on missile systems already very advanced, it's hard for us to compete in this field. This research topic includes high technology in the fields of informatics, electronics, and other supporting technologies which are not included in this study such as chemistry for rocket motors, mechanics for manufacturing processes and its aerodynamic calculations. Actually, for now, it is independent in locking the target on the missile system, becoming very urgent and including promising industrial products.

1.2 Formulation
In the case of special objectives researchers limit themselves only the Locking Target On Missile System relating to information technology, electronics, including the procurement of actuators in the form of geared dc servomotor and control casing.

1.3 Identification
The object of the target locking missile system consists of:
1. Software application
2. The remote system uses a pair of radio transmitters
3. Booster.

1.4 Research Purposes And Objectives
The findings targeted in this study are software application control signals sent via radio with the title Locking Target On Missile System.

1.5 Use Of Research
The purpose of locking target on missile system research through image processing\cite{3,4} is expected to be useful to make a fundamental contribution to the field of control system science in supporting the development of science and technology. Locking target on missile system is a weapon control system with a high degree of accuracy because it is equipped with a target locking as guidance. Locking the target on missile system which is also called in other words the fin control is an important part of the missile system, with this fin control we can direct the missile that is sliding to the target to be destroyed. Developing your own locking target on missile system is much more possible to do, because the data needed is only the philosophy of the system, we don't need to know the data processing and wiring system of the existing system, just read the brochure about other missile system products, watch how to use it, then translate it into our language and imagination, then pour it into our desired concept, the components needed are adapted to existing components and can be purchased on the free market, so that our design is not constrained by limited supply of components and sources of references and information. The benefit of the final result of this activity is to increase the capability of locking target on missile system design technology. But in this study we limit ourselves to examine the Locking Target On Missile System, henceforth in the field of developing Servo Control For Missile System is another title, continued this research, so that when combined into a missile control system known as fin control. The scope of this research develops its own locking target on the missile system, including 1. camera, 2. BMP, 3. convert BMP color to gray bmp\cite{5,6,7,8}, 4. Image processing, 5. send out data in the form signal of radio \cite{9,10,11}. Expect from the results of this research to accelerate the achievement of long-term plans for mastering control system technology in the Locking Target On Missile System. Activity description: The description of activities in this explanation is assisted by Fig. 1 up to Fig. 3, where locking targets on missile systems is an important part of missile systems.

![Figure 1. Image calculation.](image1)

![Figure 2. Control missile.](image2)
In the case of Locking Target On Missle System has the following limitations: Fast-moving objects of order 2 mach = 600 m / s. The controlled also moved quickly to order 2 mach = 600 m / s. For that to be controlled and the object can overlap, of course, the track must have a certain heading angle, if the angle of 0° certainly will not be able to overlap because the speed is controlled and the target object is the same. In connection with the above restrictions, the Locking Target On Missile System must also be faster than the target, in this case only image processing is used by people as sensor devices for making high-speed control signals.

2. Research Methods
The research method used is the design and manufacture of prototypes, prototype testing, prototype test data retrieval and analysis of test results. The test results are said to be successful if the sent signal can be received according to the format \[ \text{sent} \] sent, for that as a testbench the same application software is used as the recipient pair, and be checked in the result, Fig 4 as an illustration of this research method. For this reason, the researchers try to make a research method in the form of signal processing flowcharts as follows:

![Figure 4. Research scope.](image-url)
3. Results And Discussion

3.1 Results

Figure 5. Signal processing flowchart.

Figure 6. Dashboard control.
Table 1. Measurement chart.

| No. | Tx    | Rx    | According to | Not according to X |
|-----|-------|-------|--------------|--------------------|
| 1   | 0x12  | 0x12  | √            |                    |
| 2   | 0x18  | 0x18  | √            |                    |
| 3   | 0x20  | 0x20  | √            |                    |
| 4   | 0x22  | 0x22  | √            |                    |
| 5   | 0x24  | 0x24  | √            |                    |
| 6   | 0x26  | 0x26  | √            |                    |
| 7   | 0x28  | 0x28  | √            |                    |

3.2 Discussion
The result of locking the target on missile system sent is received in the recipient's locking target on missile system the same value as expected. This research can be concluded successfully according to the design plan.

4. Conclusions and Suggestions
4.1 Conclusions
From the results of the test: The reliability of the dashboard is turned on 7x24 hours successfully without problems, Intermittent data transmission within 7x24 hours was successful without problems, The intermittent button functions within 7x24 hours succeed without problems, The run button to the intermittent exit button within 7x24 hours was successful without problems, From these results it can be concluded that the research was successful,

4.2 Suggestions
The results of the locking target on missile system research are ready to be integrated with the servo control for missile system research which is another title, continued this research.

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