Remote Control Hovercraft

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Abstract- *In this study, mainly focus on analysis and procedure about designing and making of the working model of Hovercraft.*

Different criteria vital in designing procedure of the model hovercraft are theoretically calculated here. Subsequently, proper material is elected and working Hovercraft was prepared. Main problem is to create enough pressure of air cushion and that leads to decrease in accuracy and poor operation of model. Main intention of our project is to produce an amphibious vehicle that can also be operated over less perfect surfaces.

Keywords- Working model, hovercraft, Design, remote control, function , components .

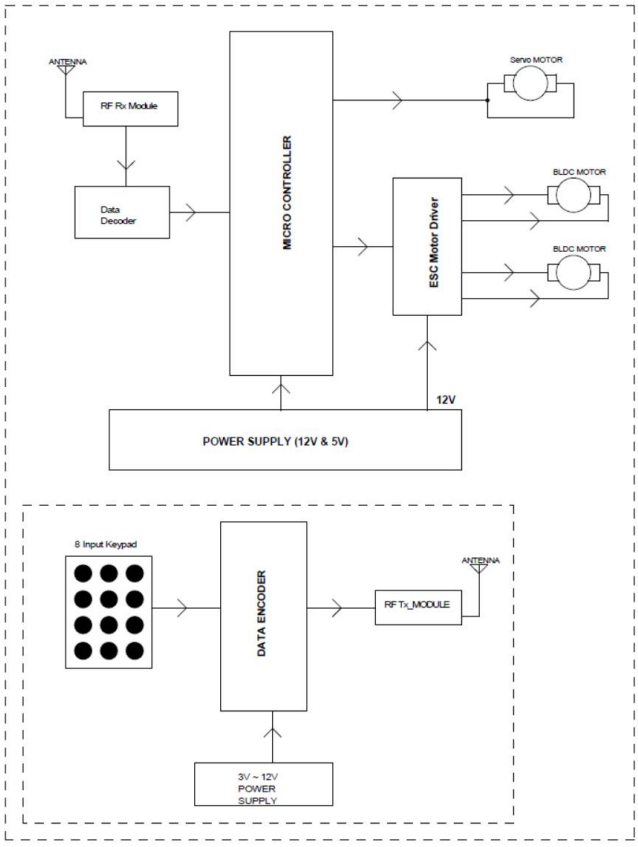
I. INTRODUCTION

A hovercraft, also known as an air-cushion vehicle or ACV, is a craft capable of travelling over land, water, mud or ice and other surfaces. Hovercraft is hybrid vessels operated by a pilot as an aircraft rather than a captain as a marine vessel.
Hovercraft use blowers to produce a large volume of air below the hull that is slightly above atmospheric pressure.

The pressure difference between the higher pressure air below the hull and lower pressure ambient air above it produces lift, which causes the hull to float above the running surface. For stability reasons, the air is typically blown through slots or holes around the outside of a disk- or oval-shaped platform, giving most hovercraft a characteristic rounded-rectangle shape. Typically this cushion is contained within a flexible "skirt", which allows the vehicle to travel over small obstructions without damage

Air propellers, water propellers,or water jets was usually provide forward propulsion whereas air-cushion vehicles may be able to attain higher speeds than the ships or most land vehicles of same size. Owing to lower frictional resistances and exploit a comparatively fewer power than helicopters of the similar weight.

II. BLOCKDIAGRAM



Transmitter section

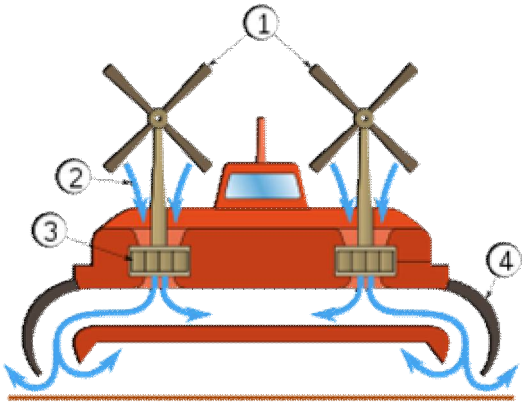
- Remote- the main controller data encoder IC HT12E is connected with 8 buttons.
- External power supply- power supply are connected 3-12v battery.
- Data encoder-HT12E OUTPUT RF transmitter module, it takes data from the encoder and transmit through air.

RECEIVER SECTION

1.The receiver section antenna receives output from the remote antenna.
2.The data which is received is transmitted at the receiver module and from there it is transmitted to decoder

3.Decoder scans the coding, whatever buttonrs are pressed in the remote that addresses is transmitted to the PIC 16F887 is the controller are used in the hovercraft
4.reads the data from the encoder section and then it commands the operation.

III. METHODOLOGY



1. Propellers
2. Air
3. Fan
4. Flexible skir

Hovercraft can be powered by one or more engines. Usually have one engine with the drive split through a gearbox. On vehicles with several engines, one usually drives the fan (or impeller), which is responsible for lifting the vehicle by forcing high pressure air under the craft. The air inflates the "skirt" under the vehicle, causing it to rise above the surface. Additional engines provide thrust in order to propel the craft. Some hovercraft use ducting to allow one engine to perform both tasks by directing some of the air to the skirt, the rest of the air passing out of the back to push the craft forward .

IV. CONCLUSION

The principles of the hovercraft have been demonstrated using suitable material and power sources.This has been an experience to understand the concept of entrepreneurship, infrastructure of companies and the manufacturing process with respect toour project .

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