OPTICAL VISUALIZING HELMET USING DLP

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ABSTRACT

OPTICAL VISUALIZING HELMETS are majorly planned to mitigate the navigational problems in roads to the motorcycle riders .In this paper we are presenting the technique of projecting the navigating map on the visor of an helmet of the rider with audio assistance. The prototype of this design is based on digital light projecting control through a mobile phone using Wi-Fi or Bluetooth module by a digital light projecting unit

KEYWORDS :- *Digital light processing, Wi-Fi, Projector, Cross Helmet, Visor*

1. INTRODUCTION

Optical visualizing helmets are majorly designed to mitigate navigational problems in roads for the riders who have problems in navigation during riding for every new rider on road who have navigational problem. During riding riders have small distractions on roads when they search for places on roads. Major problems are when the riders use their mobile phones which lead to accidents. Optical visualizing helmets are majorly designed to project the mobile phone screen on the visor of the rider using digital light projection.This helmets are different from conventional helmets which have normal visor, this helmets visor displays navigational maps and it is integrated with the user's mobile phone which helps to display the projecting screen.

2. DIGITAL LIGHT PROCESSING

Digital light processing is a unique technology of displaying pictures using DMD(digital micro mirror technology).Nowadays it is an unique method of displaying picture for multiple use. It is the concept of projecting light through the digital micro mirrors. It mainly contains a rotating disk of micro mirrors which changes the light source to digital light. The main source of light used is led light, which emits light and the light falls on the micro mirrors and the mirrors emits Red, Blue and Green lights and this light are then converged using lens r prism.

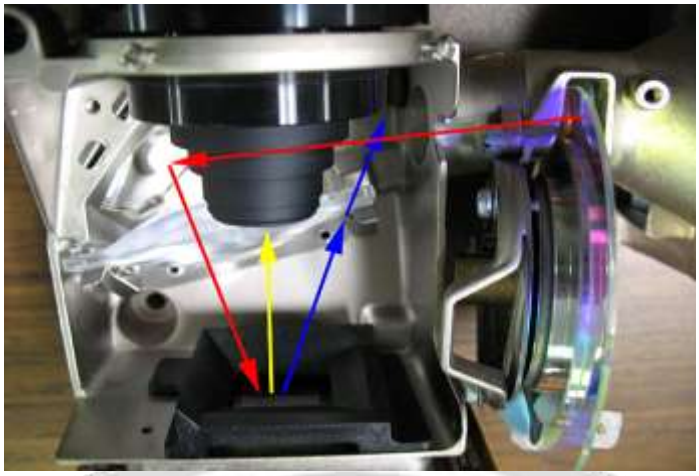

Fig-1: Digital image processing.

3.POWER SUPPLY

A normal sufficient ac battery can be used according to the power need.here a 1500MAH battery is used to complete the task of power necessary.

4. LENS

The light emitted from the LED source falls on DMD, and it is converged using dichroic filters, the illumination is converged through the prism which can be adjusted to fall on the screen. The lens can be adjusted to make the image clear from the focus.

Fig-2: Micro mirror lens

5. CROSS HELMETS

Cross helmets are the helmets which are installed with digital light projector. And the projector is connected to the user mobile phone through a Wi-Fi module. Which is the main source and also helps the projector to display the screen in the visor of the rider's helmet.

6. MERITS

- Long-lasting navigational support.
- Voice assistance.
- Reasonable price.

- Easy to control (assist with mobile phone).

7. CONCLUSION

This type of technolgy is next level of upgrade to the gadget world.This kind of gadgets are more atractive in this generation were every thing is handy for the user which also can save time of the user on roads.

8. REFERENCES

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