

## 비구면 프리즘 렌즈를 이용한 소형 경량의 EGD용 광학계 설계 및 제작

김태하, 박광범, 김미정, 박영수\*, 김휘운\*, 문현찬  
전자부품연구원, \*방주광학

### Aspherical prism lens design and manufacture of a small size and light wight EGD

Tae-ha Kim, Kwang-bum Park, Mi-jung Kim, Young-su Park\*, Hwi-woon Kim\*, Hyun-chan Moon  
KETI, \*Bang Joo Opt. Co.

**Abstract** : Eye Glass Display (EGD) with microdisplay to realize the virtual display can make the large screen, so virtual image has been developed by using microdisplay panel. This paper shows study of apherical prism lens design and manufacture of a small size and light weigh EGD with 0.59" OLED panel. Code V is used and it designed an aspherical prism lens about eye relief 25mm and 42 degree of filed of view (FOV). With the application this aspheric prism lens to OLED type's microdisplay, virtual image showed 60 inch at 2m. It had less than 2% of distortion value and modulation transfer function in axial had 30% of resolution with 32 lp/mm spatial frequency. We made an injection molding bases to lens designed.

**Key Words** : EGD, Eye Glass Display, virtual image, prism lens