

Title (en)  
MINIATURE OPTICAL ZOOM LENS

Title (de)  
MINIATURISIERTES OPTISCHES ZOOMOBJEKTIV

Title (fr)  
OBJECTIF ZOOM OPTIQUE MINIATURE

Publication  
**EP 2917783 A4 20160713 (EN)**

Application  
**EP 13852445 A 20131108**

Priority

- US 201261724221 P 20121108
- US 201361874333 P 20130905
- IB 2013002905 W 20131108

Abstract (en)  
[origin: WO2014072818A2] Miniature zoom lens systems and methods of manufacturing thereof are described. An exemplary system includes a first prism positioned to receive incident light from an entrance to the miniature lens system, at least a first varifocal lens positioned to receive the light that exits the prism, at least one base lens positioned to receive the light after passing through the first varifocal lens, a detector positioned to receive the light after passing through the base lens, and a first actuator configured to move the first varifocal lens in at least a direction perpendicular to propagation axis of the light passing through the first varifocal lens. The miniature lens system has a small z-height and can be implemented in mobile devices such as mobile phones.

IPC 8 full level  
**G02B 7/10** (2006.01); **G02B 15/04** (2006.01); **G02B 15/15** (2006.01); **G02B 26/00** (2006.01); **G02B 27/64** (2006.01); **G03B 3/10** (2006.01); **G03B 5/00** (2006.01); **G03B 17/17** (2006.01); **G06F 11/14** (2006.01); **G06F 17/30** (2006.01); **H04L 29/06** (2006.01)

CPC (source: EP US)  
**G02B 7/102** (2013.01 - EP US); **G02B 15/04** (2013.01 - EP US); **G02B 15/15** (2013.01 - EP US); **G02B 26/004** (2013.01 - EP US); **G02B 27/646** (2013.01 - EP US); **G03B 3/10** (2013.01 - EP US); **G03B 5/00** (2013.01 - EP US); **G03B 17/17** (2013.01 - EP US); **G06F 11/1451** (2013.01 - US); **G06F 16/137** (2018.12 - EP US); **G06F 16/951** (2018.12 - EP US); **H04L 63/145** (2013.01 - US); **G03B 2205/0046** (2013.01 - EP US); **G03B 2205/0069** (2013.01 - EP US)

Citation (search report)

- [Y] JP 2008197134 A 20080828 - NIKON CORP
- [Y] US 7068429 B1 20060627 - ORI TETSUYA [JP]
- See references of WO 2014072818A2

Designated contracting state (EPC)  
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DOCDB simple family (publication)  
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