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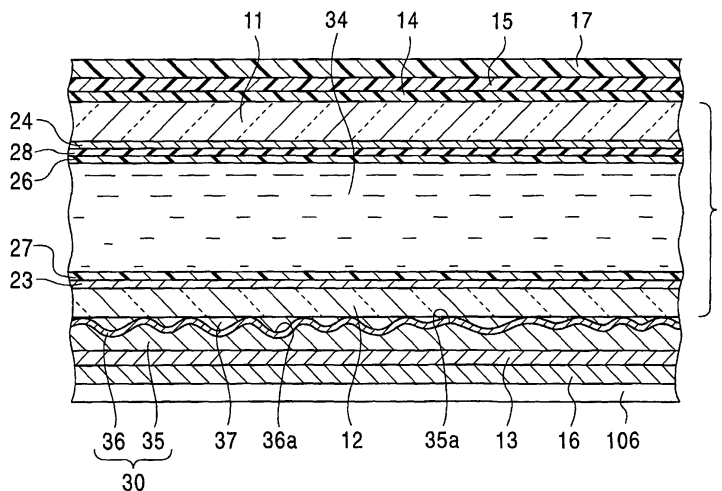
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(54) **Semitransparent reflective liquid-crystal display device**

(57) A liquid crystal display device is adopted, in which a liquid crystal cell provided with a pair of transparent substrates (11,12) facing each other with a liquid crystal layer (34) therebetween, first and second phase difference plates (14,15) and a first polarizing plate formed sequentially on the outer surface side of the transparent substrate, a reflector (30) attached on the outer surface side of the transparent substrate, and a third phase difference plate (13) and a second polarizing plate (16) formed sequentially on the outer surface side

of the transparent substrate, but on the side farther from the outer surface than is the reflector are included, wherein the reflector is configured by forming a metal reflection film on a base material with concave portions formed thereon while the metal reflection film includes a plurality of concave surfaces corresponding to the concave portions, the metal reflection film is attached to the liquid crystal cell in order to face the transparent substrate side, and the film thickness of the metal reflection film is within the range of 5 to 50nm.

FIG. 2





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EUROPEAN SEARCH REPORT

Application Number
EP 02 01 6025

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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A	EP 1 045 273 A (ALPS ELECTRIC CO LTD) 18 October 2000 (2000-10-18) * figures *	1	
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			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			G02F
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
THE HAGUE		11 August 2003	Gill, R
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 02 01 6025

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

专利名称(译)	半透明反射液晶显示装置		
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其他公开文献	EP1279994A2		
外部链接	Espacenet		

摘要(译)

一种液晶显示装置，其特征在于，具有液晶单元，该液晶单元具有隔着液晶层相对的一对透明基板，第一和第二相位差板，和依次形成在透明基板的外表面侧上的第一偏振板，附着在透明基板的外表面侧上的反射器（30），以及第三相位差板（13）和第二偏振板（16）包括顺序地形成在所述透明基板的外表面侧上，但是在比所述反射器更远离所述外表面的一侧上，其中所述反射器通过在其上形成有凹部的基材上形成金属反射膜而构成，金属反射膜包括与所述凹部对应的多个凹面，所述金属反射膜以面向所述透明基板侧的方式安装在所述液晶单元上，所述金属反射膜的膜厚在5到50nm。

FIG. 2

