



US005485293A

United States Patent [19]

[11] Patent Number: **5,485,293**

Robinder

[45] Date of Patent: **Jan. 16, 1996**

[54] **LIQUID CRYSTAL DISPLAY INCLUDING COLOR TRIADS WITH SPLIT PIXELS**

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[57] ABSTRACT

[73] Assignee: **Honeywell Inc.**, Minneapolis, Minn.

An active liquid crystal multi-colored display panel structure comprised of triangular triads of colored display pixels which are rotated 90°. The display comprises a plurality of colored pixel electrodes arranged in rows and columns to form a matrix, wherein a row control line is provided every 1.5 rows of electrodes, and wherein three column control lines are provided for each two columns of electrodes. Thus, a matrix of 720×720 pixel electrodes requires 480 row control lines and 1080 column signal lines. The active liquid crystal display structure can be directly driven by a video source such that 480 active lines of video signal can be mapped directly onto the 720 rows of pixel elements. A switching circuit is provided for controlling the arrangement of R, G and B pixel signals to the column source lines. The triads of pixel elements provided are rotated 90° to maintain high resolution while allowing a standard video signal to be directly mapped onto the display without additional electronics such as a ping-pong memory.

[21] Appl. No.: **130,599**

[22] Filed: **Sep. 29, 1993**

[51] Int. Cl.⁶ **G02F 1/1335; G02F 1/1343**

[52] U.S. Cl. **359/59; 359/68; 345/88; 345/92**

[58] Field of Search **359/59, 68; 345/88, 345/92**

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Primary Examiner—William L. Sikes

8 Claims, 4 Drawing Sheets

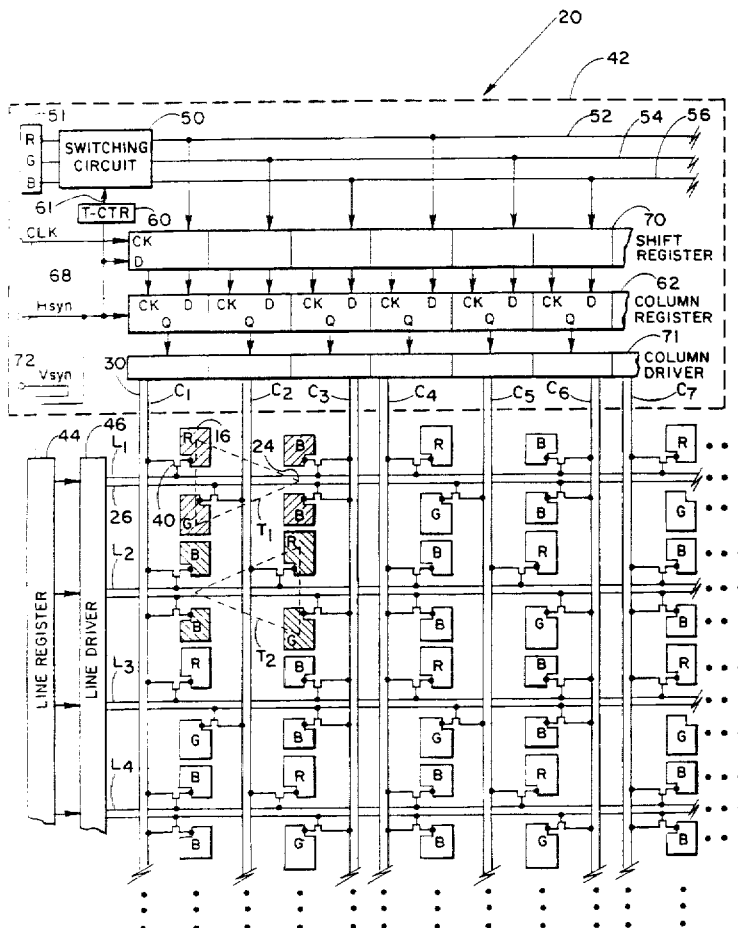


Fig.-1 (PRIOR ART)

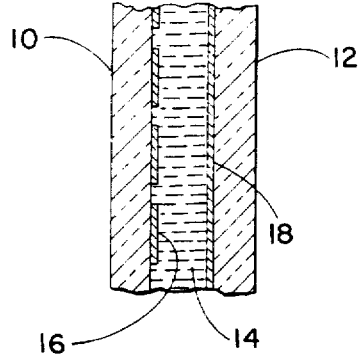


Fig.-2

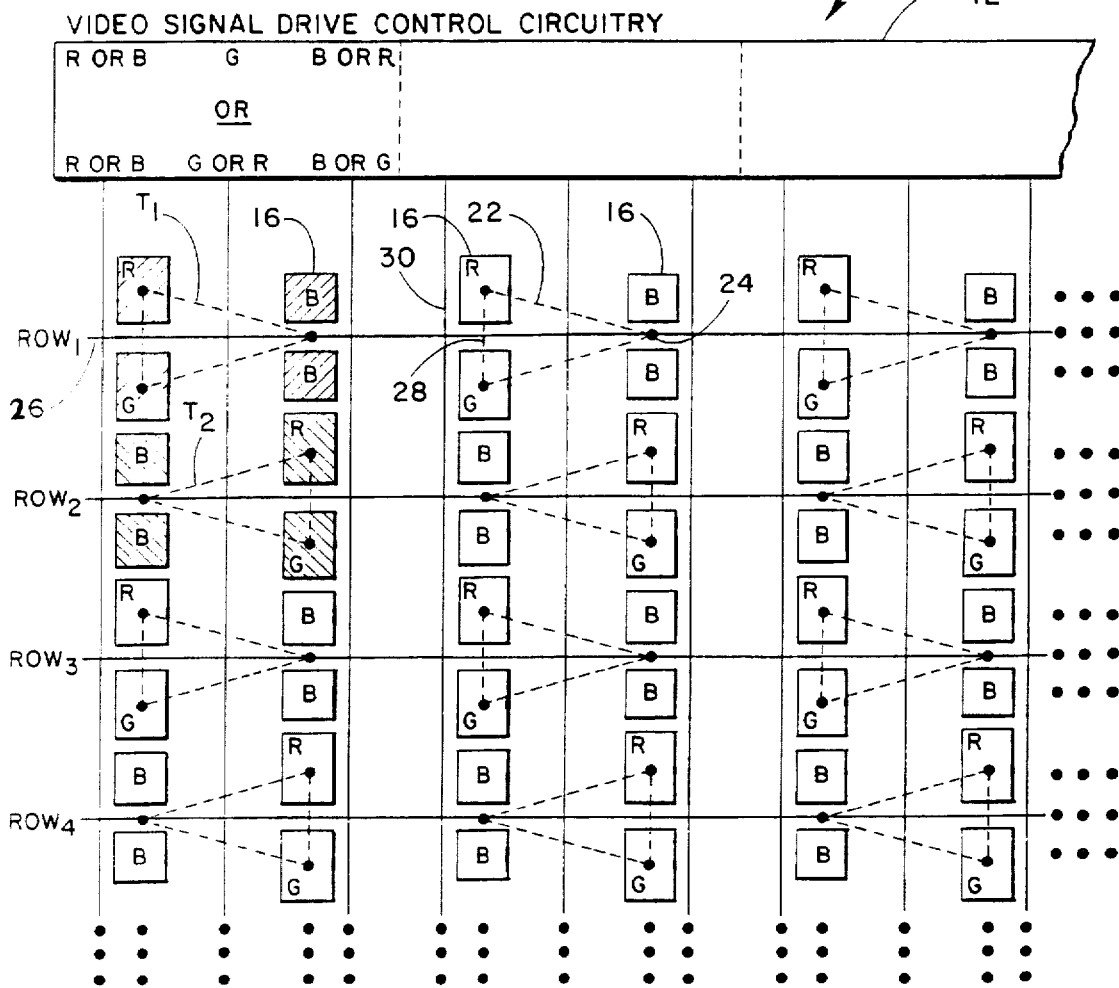


Fig.-3

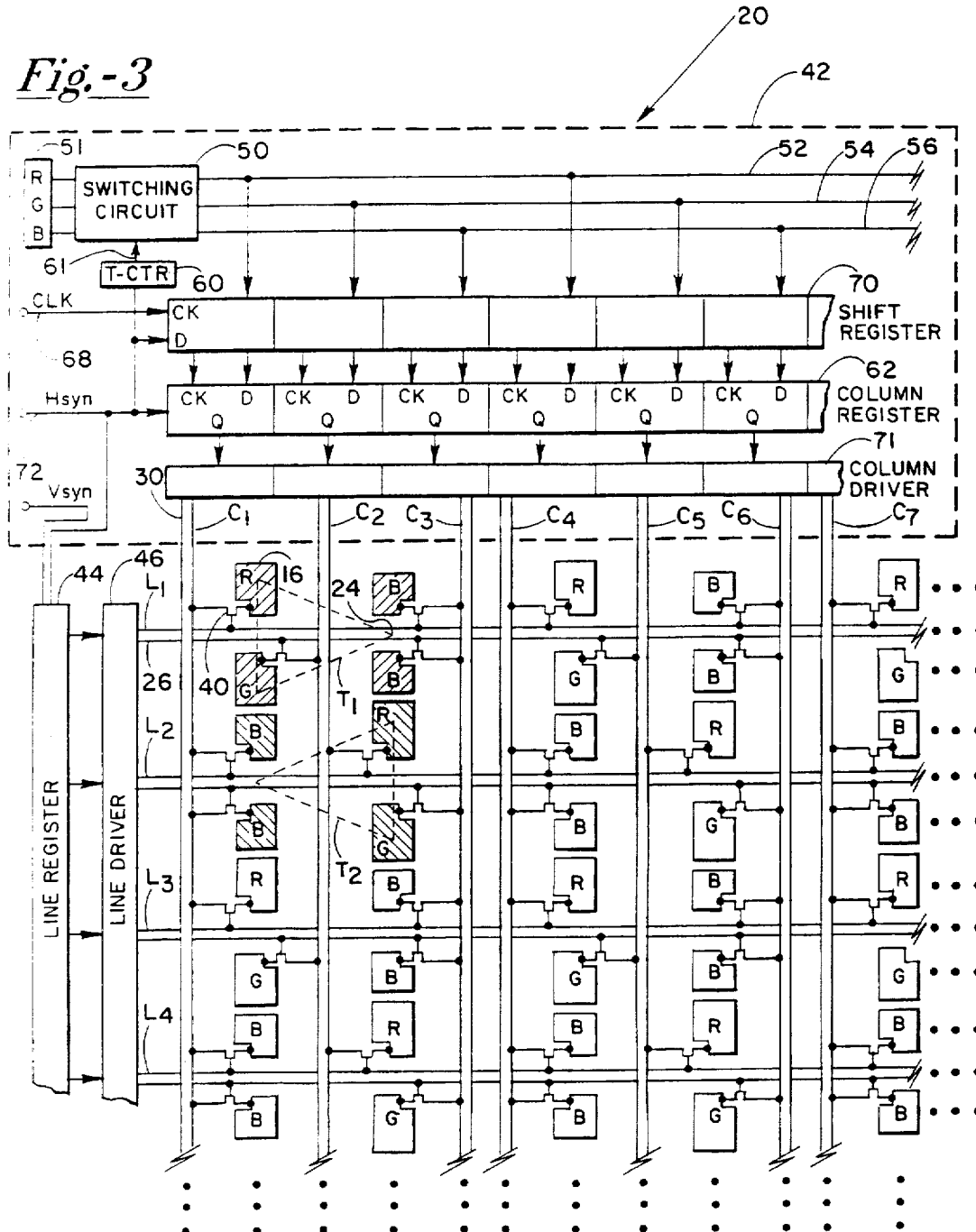
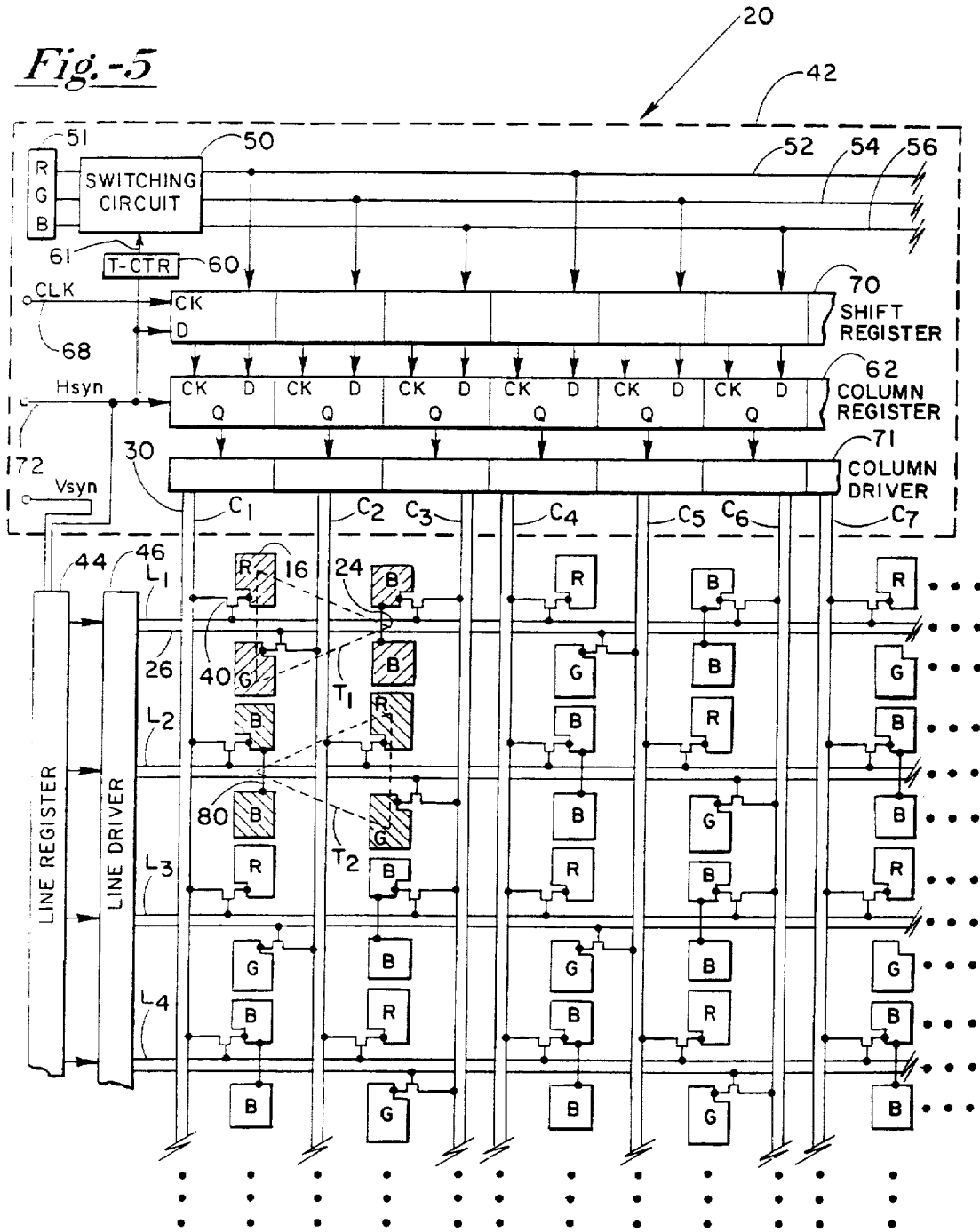


Fig. -5



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