



United States Patent [19]

[11] Patent Number: **5,841,431**

Simmers

[45] Date of Patent: **Nov. 24, 1998**

- [54] APPLICATION OF SPLIT- AND DUAL-SCREEN LCD PANEL DESIGN IN CELLULAR PHONES
- [75] Inventor: **Charles Russell Simmers**, Phoenix, Ariz.
- [73] Assignee: **Intel Corporation**, Santa Clara, Calif.
- [21] Appl. No.: **749,486**
- [22] Filed: **Nov. 15, 1996**
- [51] Int. Cl.⁶ **G09G 5/00**; G09G 3/36; G06F 1/00; G06F 1/16
- [52] U.S. Cl. **345/211**; 345/103; 364/705.05; 364/707; 364/708.1
- [58] Field of Search 345/211, 103, 345/104, 98, 100, 131, 156, 173; D14/137, 138; 364/705.05, 707, 708.1; 379/433, 428, 440; 395/750, 750.04; 455/556, 566, 574, 575, 89, 90

D. 374,227	10/1996	Williams	D14/138
D. 377,341	1/1997	Imai et al.	D14/138
4,816,816	3/1989	Usui .	
5,189,632	2/1993	Paajanen et al.	364/705
5,392,058	2/1995	Tagawa	345/104
5,410,329	4/1995	Tagawa et al.	345/104
5,534,892	7/1996	Tagawa	345/104
5,548,765	8/1996	Tsunoda et al.	395/750
5,663,745	9/1997	Ishikawa et al.	345/98

Primary Examiner—Steven J. Saras
 Assistant Examiner—David L. Lewis
 Attorney, Agent, or Firm—Blakely, Sokoloff, Taylor & Zafman

[57] ABSTRACT

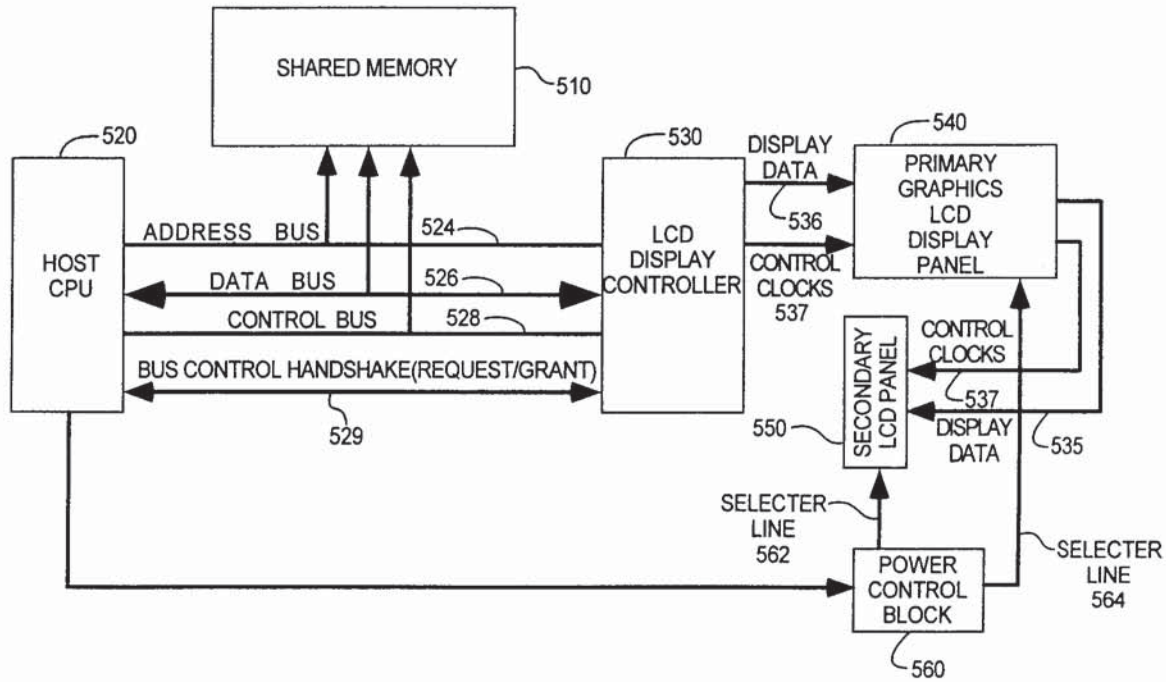
An apparatus for conserving power in information devices with dual functions. A single display panel is logically split into two sub-panels. Each sub-panel can be powered up or down separately as is required by the function of the device. The display panel has a plurality of improved segment drivers which are provided power signals enabling the set of segment drivers corresponding to a sub-panel to be separately powered. In systems with two separate display panels, each of the panels may be powered up or down by the use of similar improved segment drivers as necessary.

[56] References Cited

U.S. PATENT DOCUMENTS

D. 370,673 6/1996 Happo et al. D14/138

11 Claims, 6 Drawing Sheets



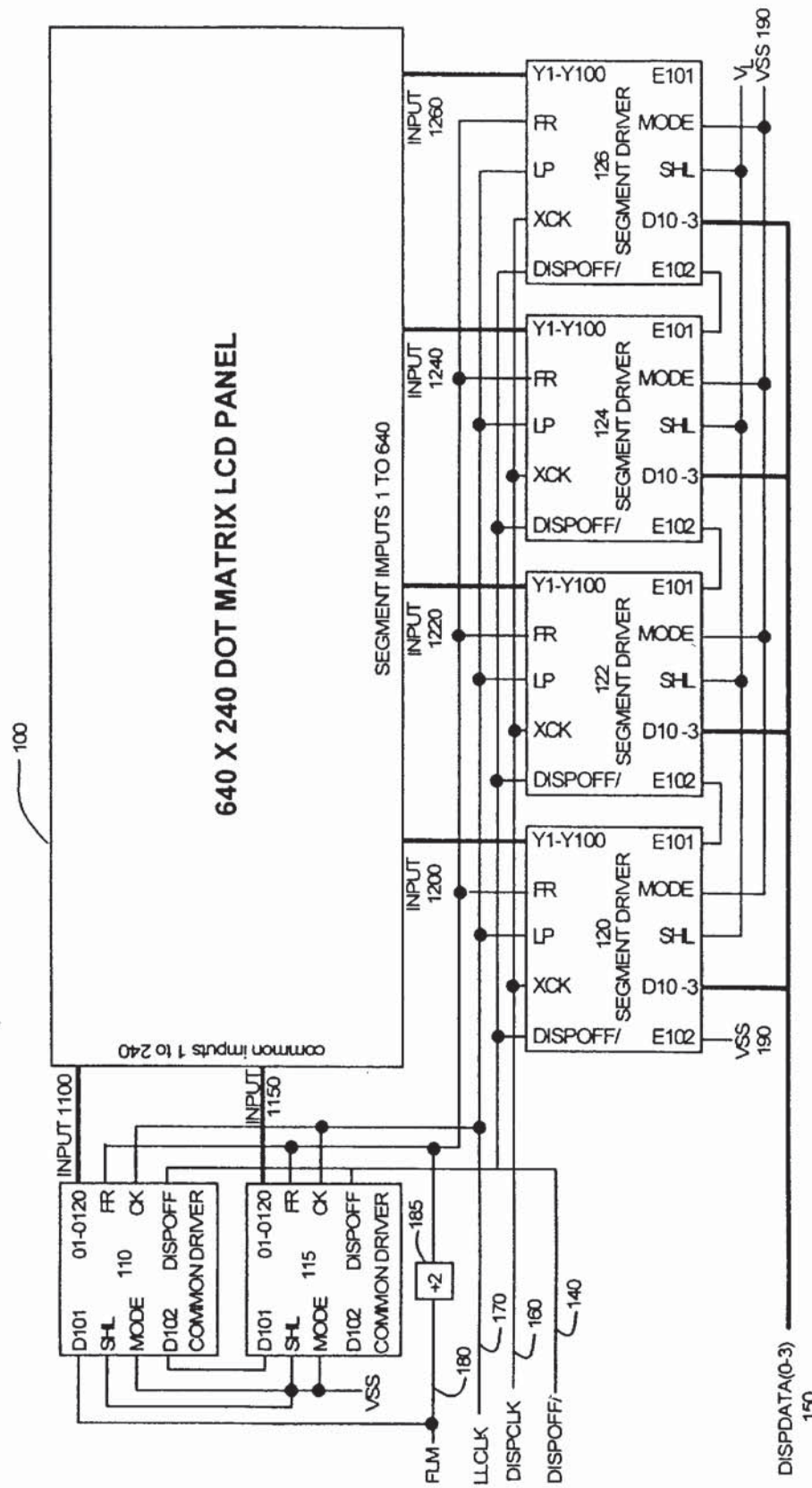


FIG. 1 (PRIOR ART)

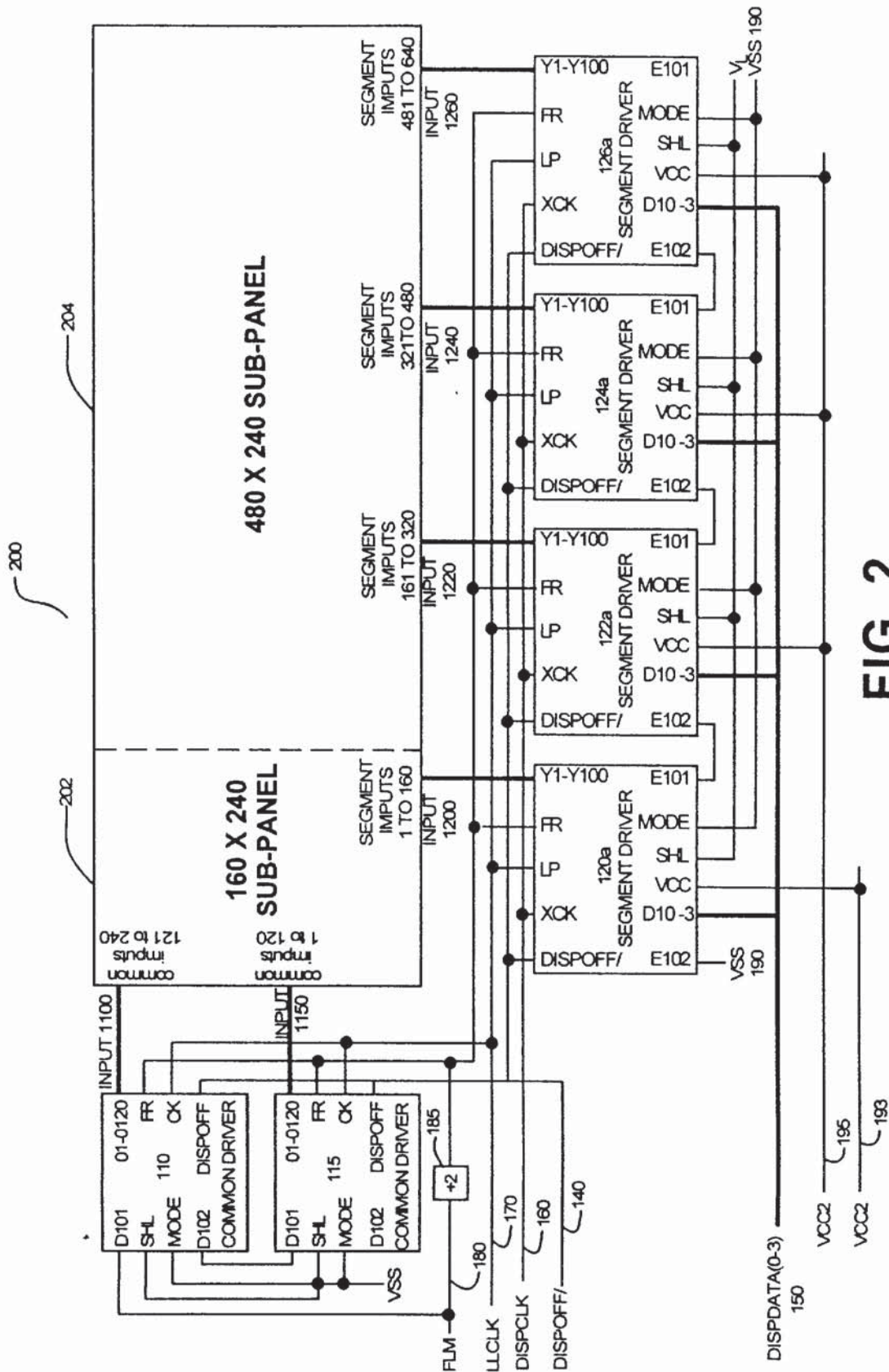


FIG. 2

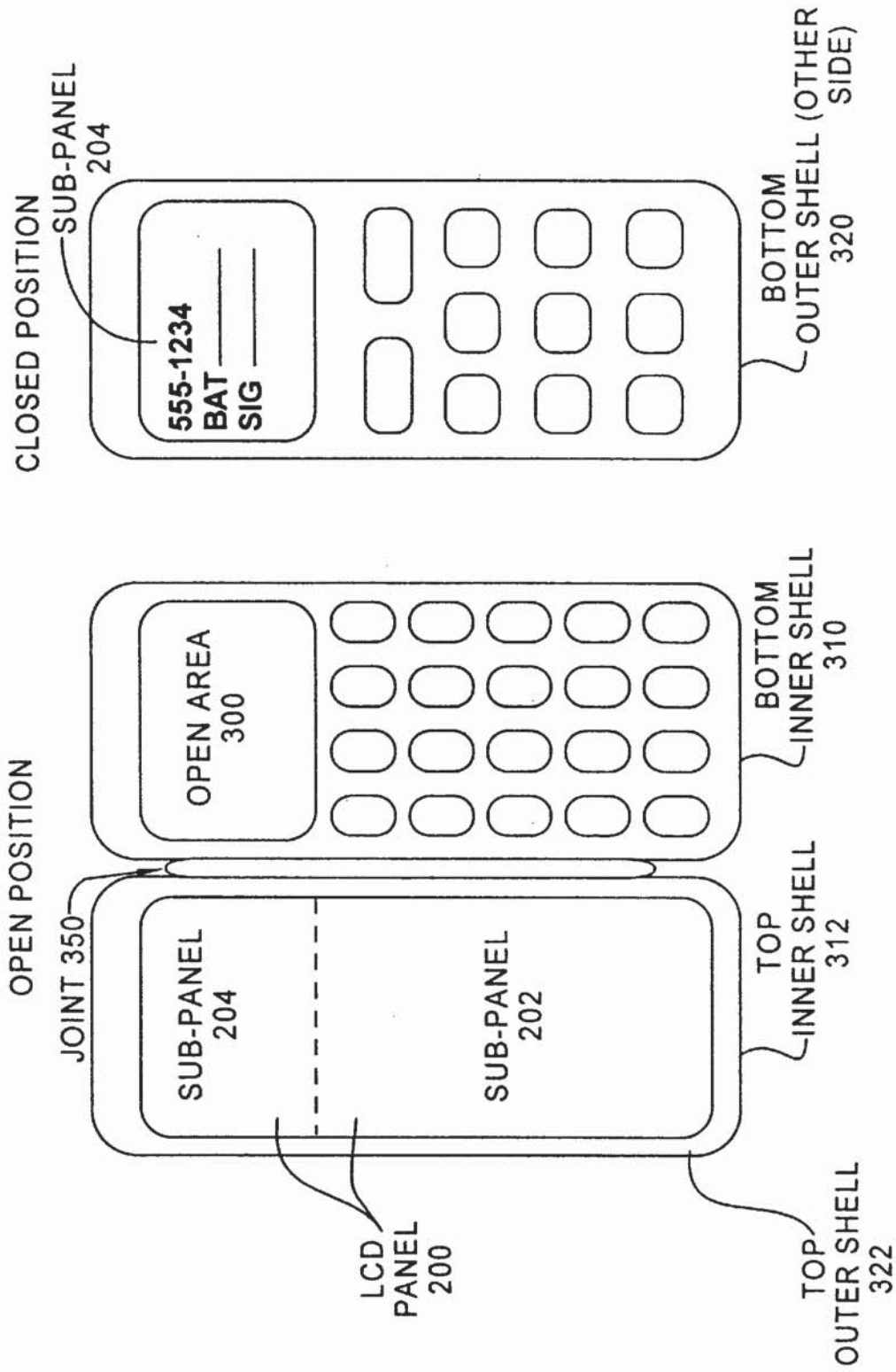


FIG. 3

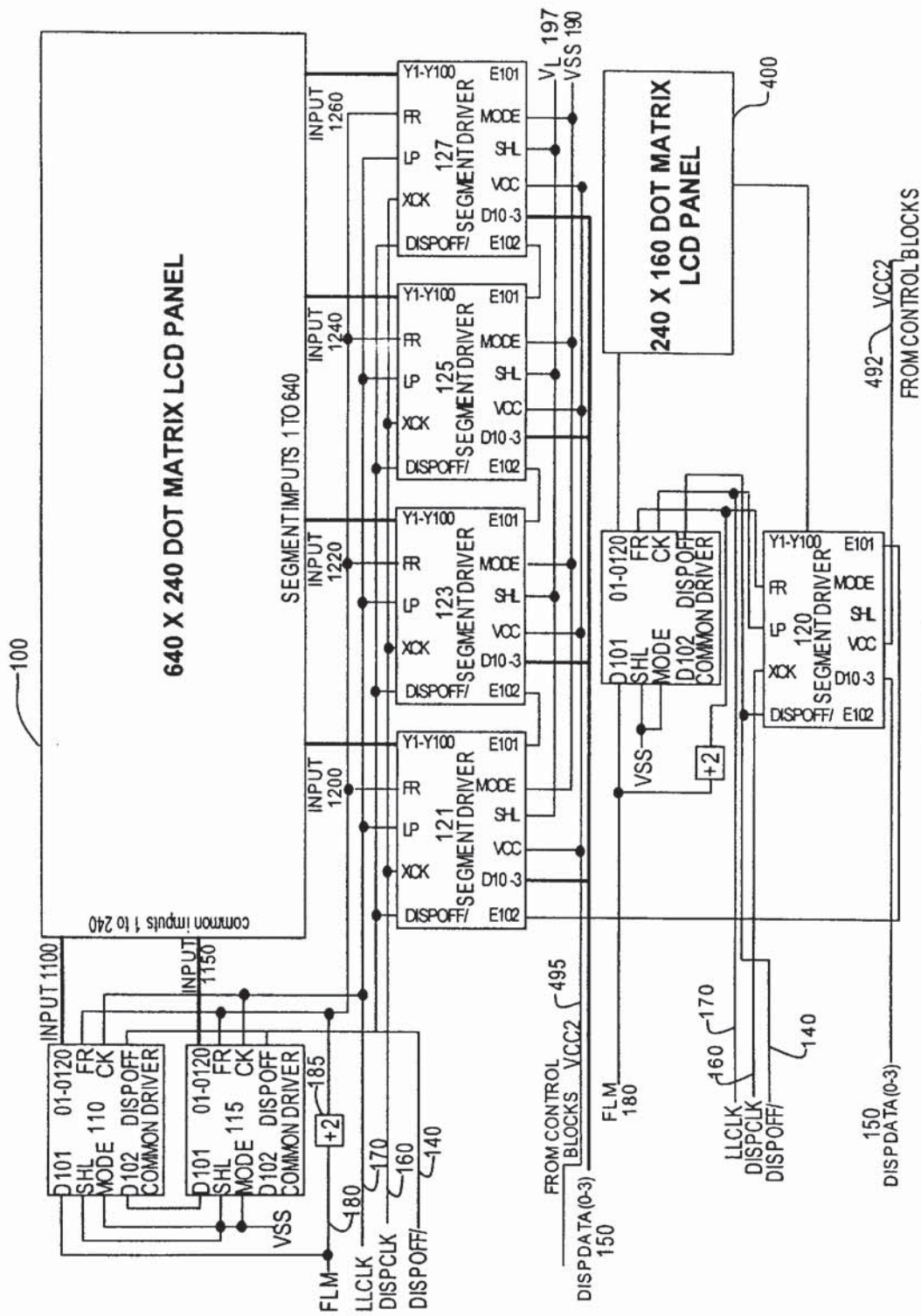


FIG. 4

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