

(12) **United States Patent**
Dattani et al.

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(54) **INTRA 4x4 MODES 3, 7 AND 8
AVAILABILITY DETERMINATION INTRA
ESTIMATION AND COMPENSATION**

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U.S.C. 154(b) by 268 days.

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(51) **Int. Cl.**
H04N 7/12 (2006.01)

(52) **U.S. Cl.** **375/240.24**

(58) **Field of Classification Search** **375/240.01,**
375/240.08, 240.12, 240.24; H04N 7/12

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

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* cited by examiner

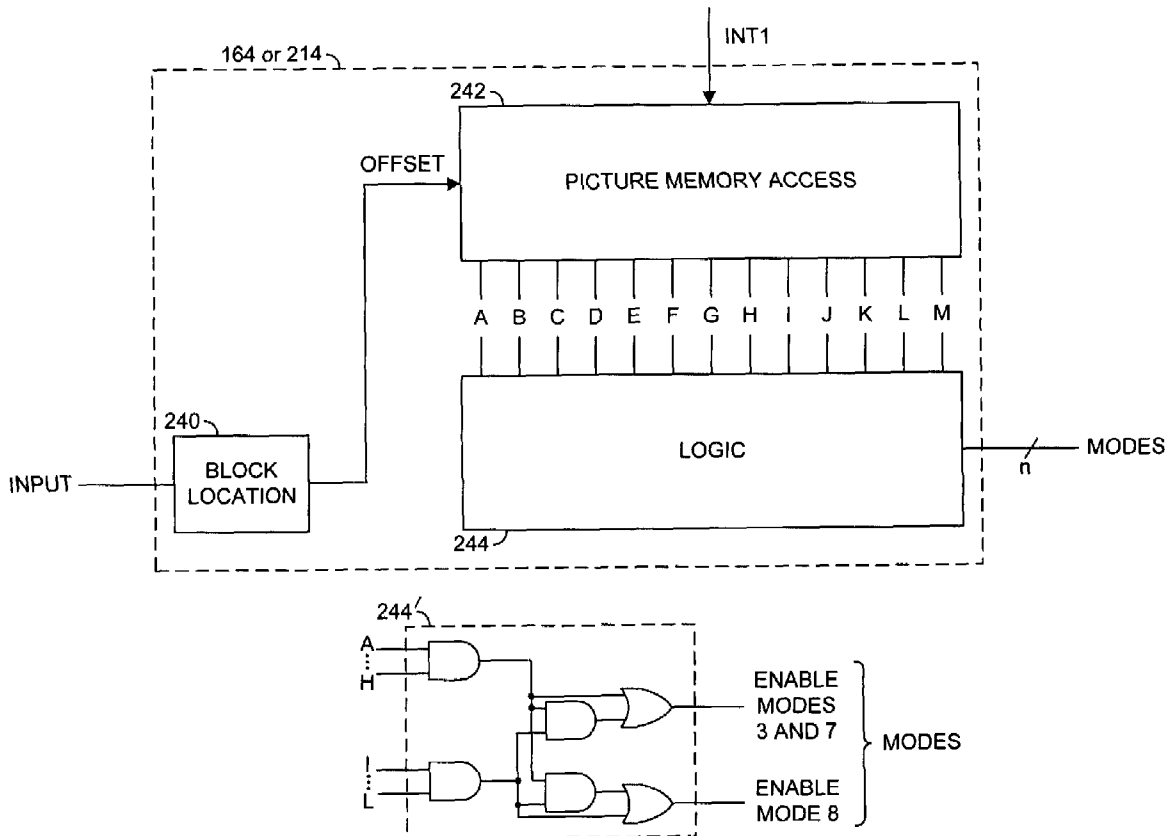
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(57) **ABSTRACT**

An apparatus including a first processing circuit and a second processing circuit. The first processing circuit may be configured to generate a plurality of reconstructed samples in response to one or more macroblocks of an input signal. The second processing circuit may be configured to determine availability of intra 4x4 prediction modes for each luma sub-block of a current macroblock in response to available reconstructed samples adjacent to the current macroblock.

22 Claims, 10 Drawing Sheets



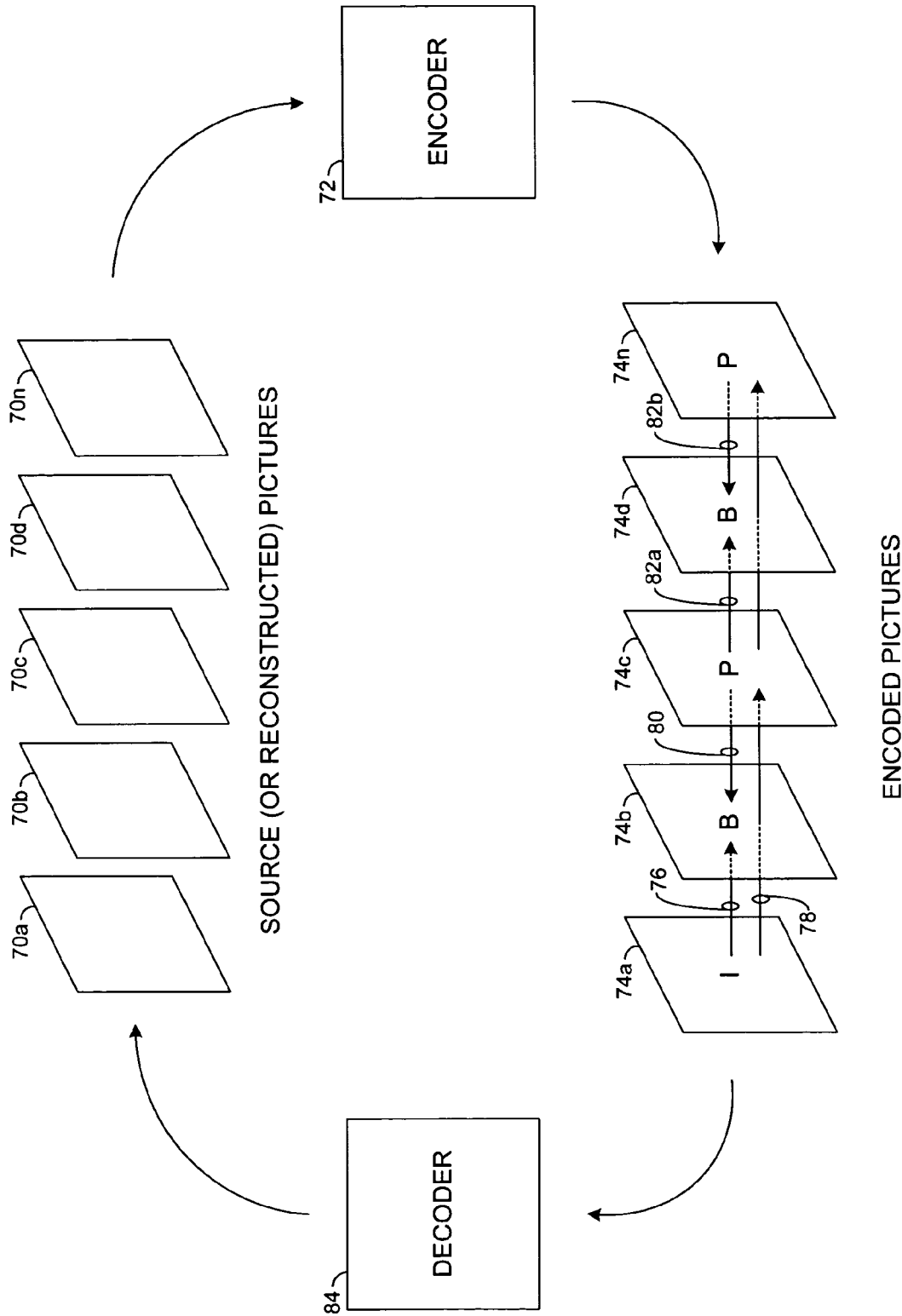


FIG. 1

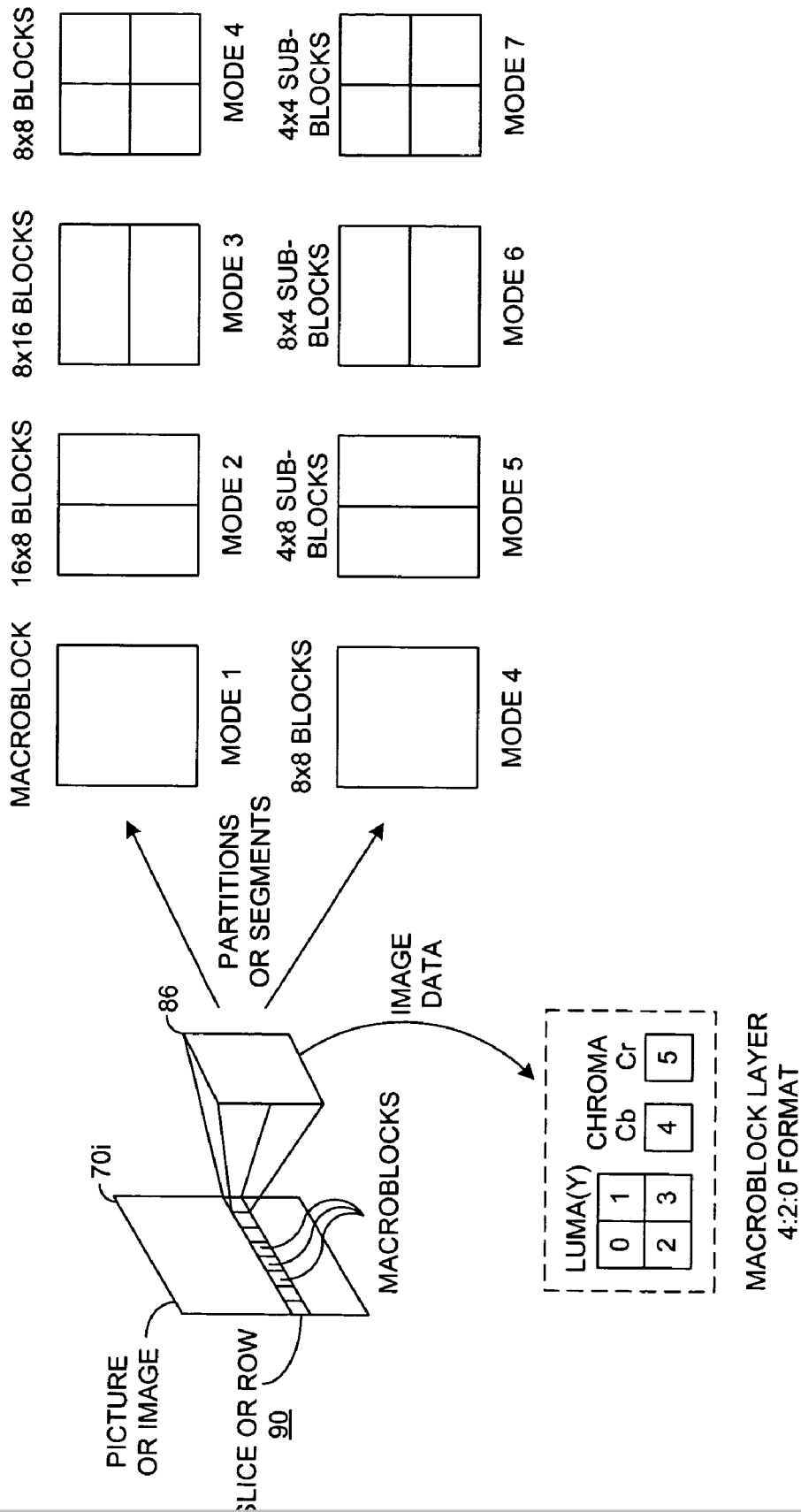


FIG. 2

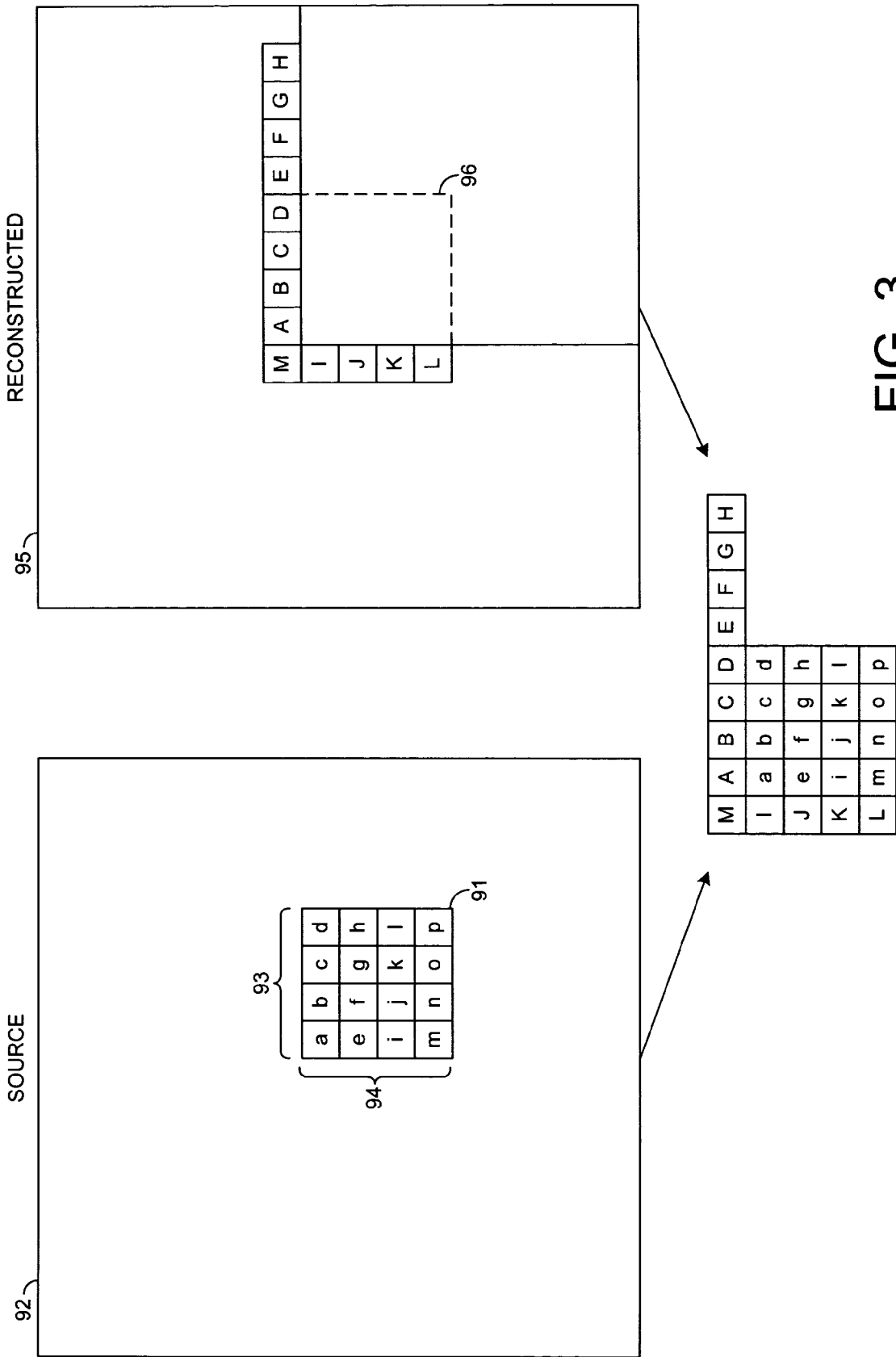


FIG. 3

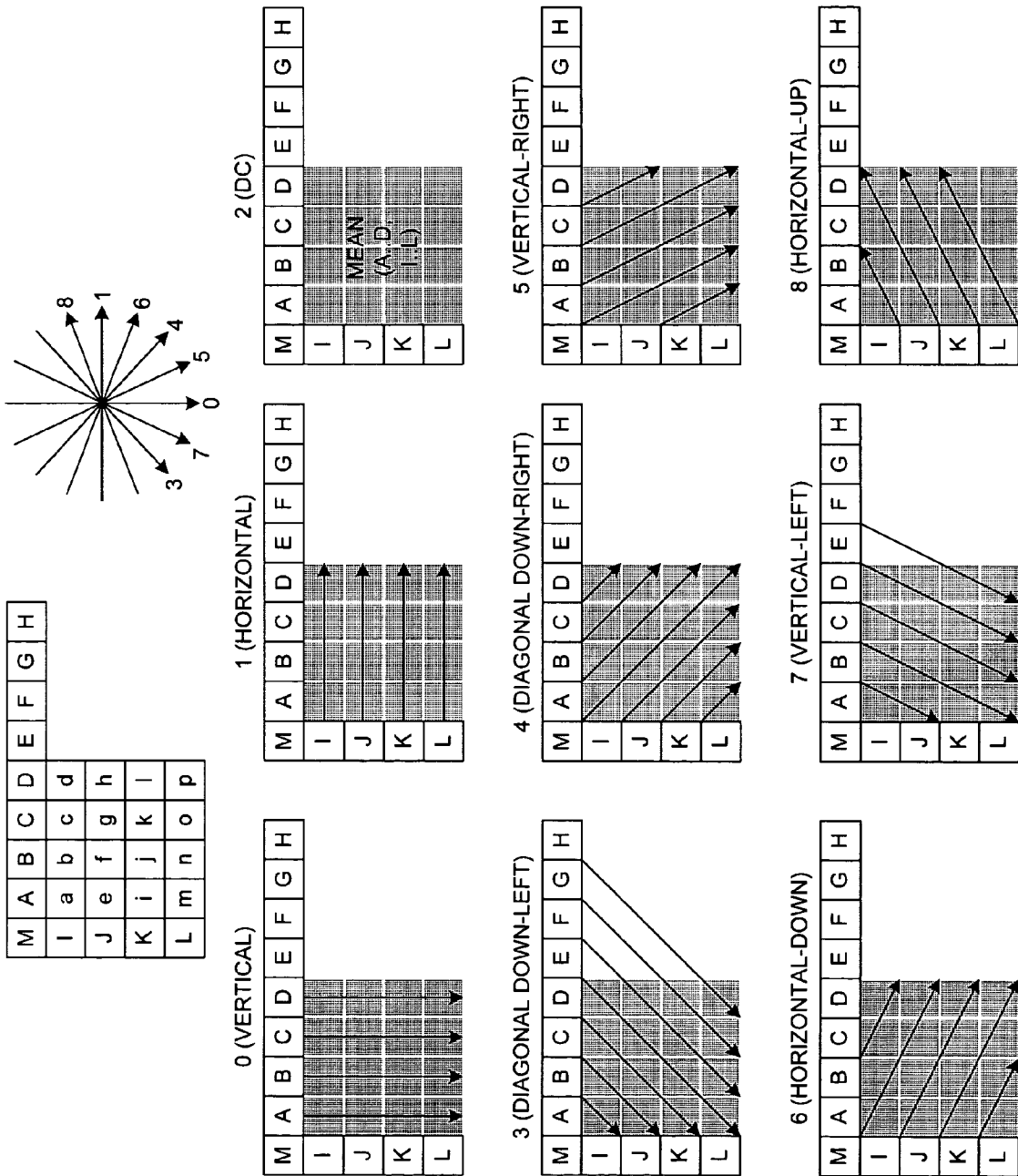


FIG. 4

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