# EXHIBIT

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#### (12) United States Patent

Lindholm et al.

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### (54) BLENDING SYSTEM AND METHOD IN AN INTEGRATED COMPUTER GRAPHICS PIPELINE

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(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 369 days.

This patent is subject to a terminal dis-

claimer.

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#### Related U.S. Application Data

- (60) Continuation of application No. 09/775,129, filed on Jan. 31, 2001, now Pat. No. 6,734,874, which is a division of application No. 09/456,102, filed on Dec. 6, 1999, now Pat. No. 6,353,439.
- (51) Int. Cl.

  G06F 13/14 (2006.01)

  G06T 1/20 (2006.01)

  G06T 15/20 (2006.01)

  G09G 5/02 (2006.01)

See application file for complete search history.

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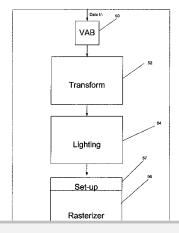
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#### (57) ABSTRACT

A system and method are provided for a hardware implementation of a blending technique during graphics processing in a graphics pipeline. During processing in the pipeline, a plurality of matrices and a plurality of weight values are received. Also received is vertex data to be processed. A sum of a plurality of products may then be calculated by the multiplication of the vertex data, one of the matrices, and at least one of the weights.

#### 30 Claims, 44 Drawing Sheets





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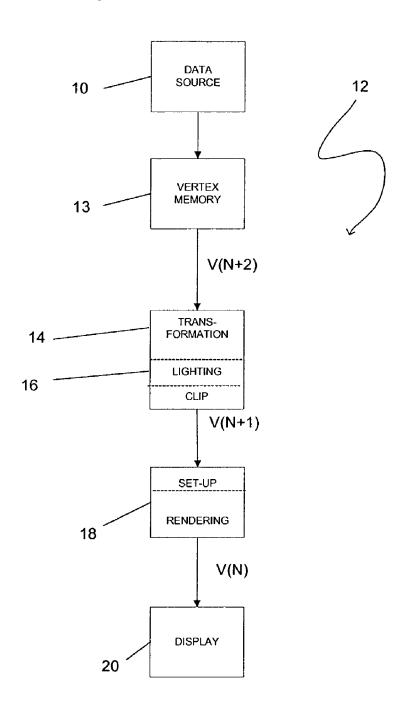


FIG. 1 (PRIOR ART)

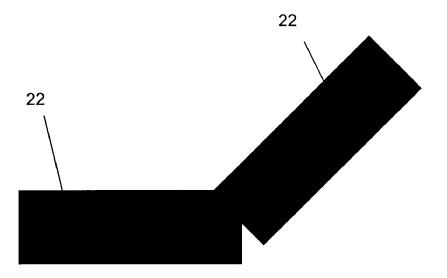


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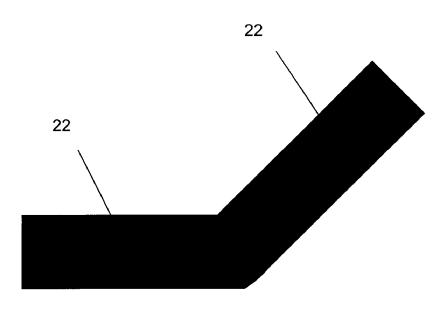
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**Before** 



After

FIG. 1A

### (PRIOR ART)



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