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(54) COLOR MAPPING SYSTEM.

(57) A color mapping system which imparts colors to grey scale signals of industrial color TV's in order to change the color tone of image data. The system has a color tone conversion table (5) with a plurality of conversion tables and a latch (3) that stores a select signal for selecting the conversion table. A strobe signal line (4) permits a portion of an image data bus (2) to connect the image data bus (2) to the latch (3)

so that the latch (3) is informed of the fact that the selecting signal is transferred. The strobe signal sets a selecting signal for selecting the conversion table to the latch (3). Colors are imparted to grey scale signals according to a conversion table selected by the table selecting signal stored in the latch (3).

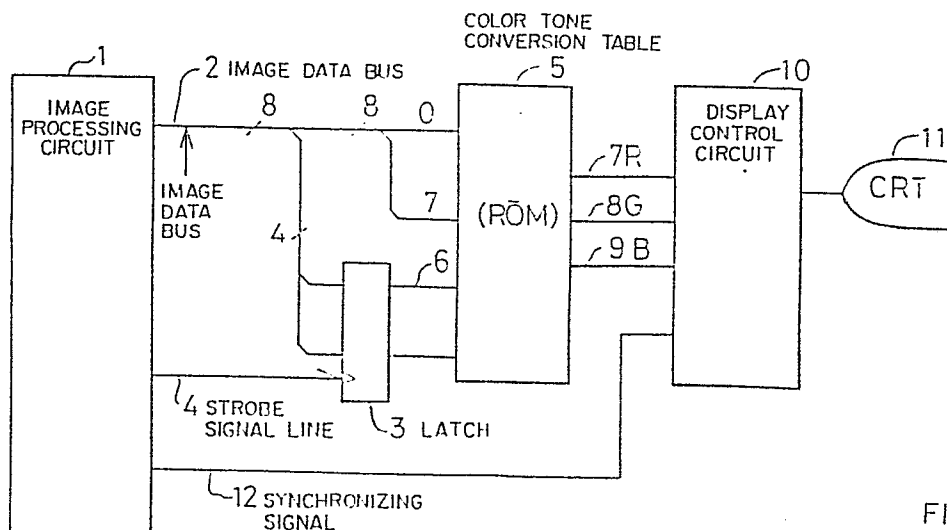


FIG. 1

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D E S C R I P T I O N
C O L O R M A P P I N G S Y S T E M

Technical Field

5 The present invention relates to a color mapping system for use in industrial color television or the like, and more particularly to a color mapping system which can easily select a conversion table for converting color tones.

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Background Art

15 In industrial color television or the like, an image taken by a television camera is stored as a digital gray scale (indicating density gradations) image. In order to allow human beings to recognize such a gray scale image more clearly, there has widely been employed a system in which the gray scale image is appropriately colored according to the density gradations. In such a system, a gray scale output signal from an image processing circuit is converted to a color signal based on a predetermined table. Heretofore, a control signal for selecting a color tone is separately produced for selecting a conversion table.

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25 The conventional system is however disadvantageous in that it requires special controlling

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hardware and results in complex control.

Disclosure of the Invention

It is an object of the present invention to
5 provide a color mapping system which will solve the above
problem and can easily select a conversion table for
converting color tones.

In order to solve the above problems, there is
provided according to the present invention a color mapping
10 system for varying the color tone of image data,
comprising:

a color tone conversion table having a plurality
of conversion tables;

a latch for storing a selection signal for a
15 conversion table;

an image data bus connected to said latch for
transferring said selection signal over a portion of said
image data bus; and

a strobe signal line for indicating that the
20 selection signal has been transferred to the latch.

The selection signal for the conversion table is
transferred using the image data bus, and simultaneously a
strobe signal is produced from an image processing device
and stored in the latch. Therefore, a conversion table can
25 easily be selected.

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Brief Description of the Drawings

FIG. 1 is a block diagram of a color mapping system according to an embodiment of the present invention; and

5 FIG. 2 is a diagram showing, by way of example, a conversion table in a color tone conversion table.

Best Mode for Carrying Out the Invention

 An embodiment of the present invention will
10 hereinafter be described in specific detail with reference to the drawings.

 FIG. 1 is a block diagram of an embodiment of the present invention. An image processing circuit 1 produces an image signal, a selection data recognizing signal, and a
15 synchronizing signal. The image processing circuit 1 stores a video signal from a television camera as a digital 8-bit gray scale signal. An image data bus 2 is of an 8-bit structure including 4 bits used also for transferring a signal for selecting a conversion table. A latch 3
20 stores a selection signal for a conversion table. A strobe signal line 4 transfers a strobe signal when a selection signal for a conversion table is transferred over the 4 bits of the image data bus 2. More specifically, when a conversion table selection signal is supplied to the image
25 data bus 2, a strobe signal is applied to the strobe signal

line 4 to store the conversion table selection signal in the latch 3. A color tone conversion table 5 converts an 8-bit signal from the image data bus 2 according to a corresponding table therein. In the embodiment, the color tone conversion table 5 has 16 conversion tables stored in a ROM. Image output lines 7, 8, 9 transfer a red image (R), a green image (G), and a blue image (B), respectively. A display control circuit 10 converts a chrominance signal or the like to a display signal. A display unit 11 comprises a color CRT. Denoted at 12 is a synchronizing signal.

FIG. 2 shows, by way of example, a conversion table in the color tone conversion table 5. The horizontal axis of FIG. 2 represents a gray scale (indicating density gradations) in numerical values ranging from 1 to 256. The greater the numerical values, the lighter the gradations. The vertical axis indicates on and off conditions of a corresponding chrominance signal. The signal is on when it is of "1", and off when it is of "0".

In the illustrated conversion table, when the gray scale signal ranges from 1 to 51, only the blue image (B) is on. When the gray scale signal ranges from 52 to 91, the blue image (B) and the green image (G) are on, and the display unit 11 displays bluish green color. When the gray scale signal ranges from 92 to 165, only the blue

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image (B) is on. When the gray scale signal ranges from 166 to 205, the green image (G) and the red image (R) are on. When the gray scale signal ranges from 206 to 256, only the red image (R) is on.

5 The color tone conversion table contains the 16 conversion tables for determining which color the gray scale signal is to be converted to. One of the 16 conversion tables is selected by a signal from the latch 3.

 As described above, the conversion table
10 selection signal is transferred using the image data bus 2 and stored in the latch 3. Therefore, conversion to the color tone can easily be effected by a simple arrangement.

 In the above embodiment, the image data bus is of 8 bits, and the conversion table selection signal is of 4
15 bits. However, they are not limited to these bits, but may be of desired bits dependent on the application.

 With the present invention, as described above, the conversion table selection signal is transferred using a portion of the image data bus, and stored in the latch in
20 response to the strobe signal. Accordingly, the color tone can easily be varied without the need for any special control line.

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CLAIMS

1. A color mapping system for varying the color tone of image data, comprising:

5 a color tone conversion table having a plurality of conversion tables;

a latch for storing a selection signal for a conversion table;

10 an image data bus connected to said latch for transferring said selection signal over a portion of said image data bus; and

a strobe signal line for indicating that the selection signal has been transferred to the latch.

2. A color mapping system according to claim 1, wherein said conversion tables are written in a ROM.

15 3. A color mapping system according to claim 1, wherein each of said conversion tables produces chrominance signals of red, blue, and green.

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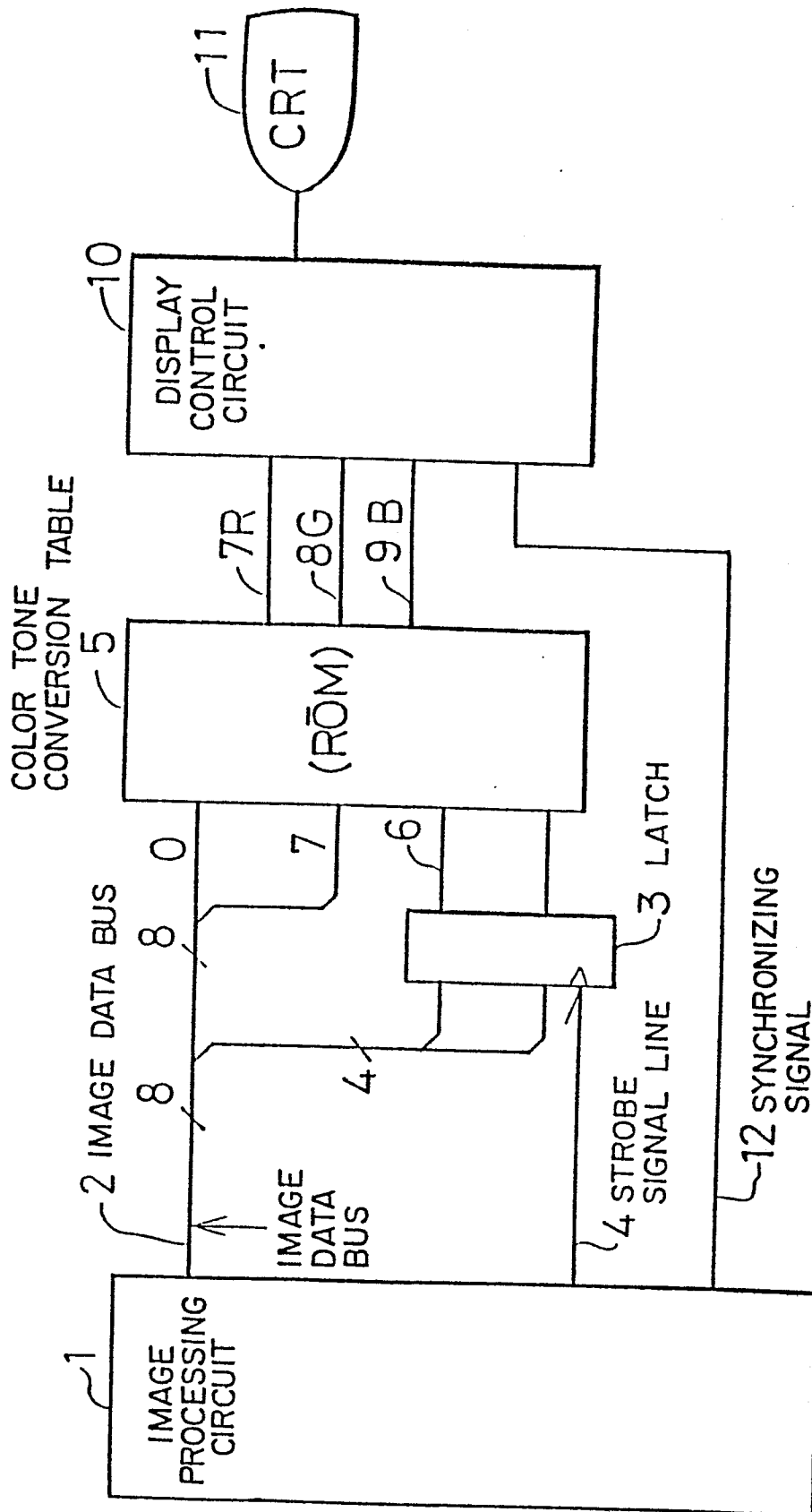


FIG. 1

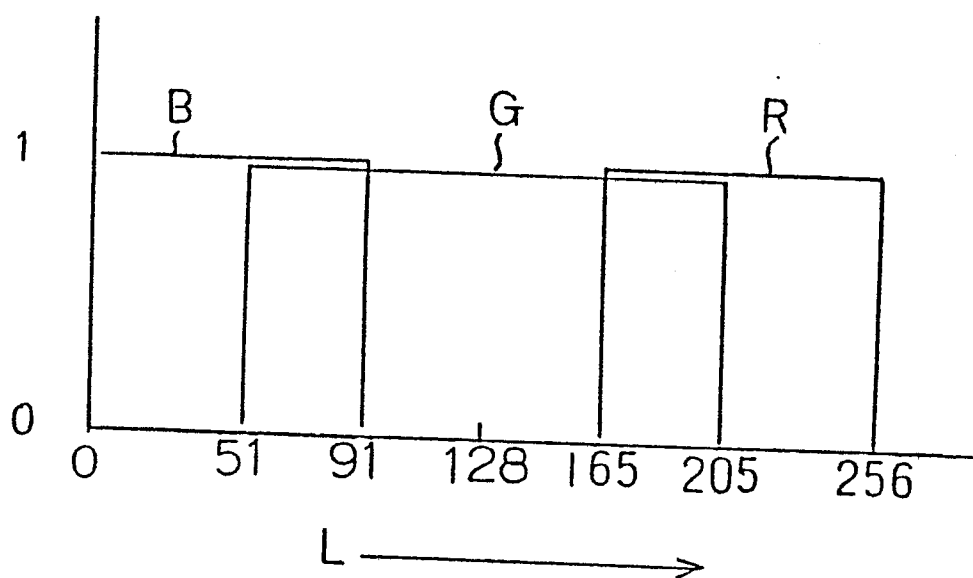


FIG. 2

INTERNATIONAL SEARCH REPORT

International Application No PCT/JP87/00751

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) ³		
According to International Patent Classification (IPC) or to both National Classification and IPC		
Int.Cl. ⁴	G09G1/28	
II. FIELDS SEARCHED		
Minimum Documentation Searched ⁴		
Classification System	Classification Symbols	
IPC	G09G1/28	
Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched ⁵		
Jitsuyo Shinan Koho	1926 - 1987	
Kokai Jitsuyo Shinan Koho	1971 - 1987	
III. DOCUMENTS CONSIDERED TO BE RELEVANT ¹⁴		
Category ⁶	Citation of Document, ¹⁶ with indication, where appropriate, of the relevant passages ¹⁷	Relevant to Claim No. ¹⁸
A	JP, A, 61-107293 (Toshiba Corp.) 26 May 1986 (26. 05. 86) (Family: none)	1-3
A	JP, A, 54-37779 (Koden Electronics Co., Ltd.) 20 March 1979 (20. 03. 79) (Family: none)	1-3
¹⁵ Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
IV. CERTIFICATION		
Date of the Actual Completion of the International Search ¹	Date of Mailing of this International Search Report ²	
December 10, 1987 (10.12.87)	January 11, 1987 (11.01.88)	
International Searching Authority ¹	Signature of Authorized Officer ²⁰	
Japanese Patent Office		