Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

The invention relates generally to color correction in television systems and more particularly to corrections of hue distortions due to non-standard decoding matrices in color television receivers and monitors.

2. Description of the Prior Art

The color information in color television signals, as broadcast, is contained in I and Q signals, the Q signal being transmitted on the same carrier but in quadrature with the I signal. Demodulation at the receiver differs for various receiver types. The I and Q components may be demodulated directly, or as color difference components, R-Y, B-Y, and G-Y, i.e. color difference signals may be derived. When, at the receiver, the color difference signals are demodulated to correspond as closely as possible to the corresponding values at the transmitter, the demodulated signals are referred to as standard color difference signals or standard chroma signals herein.

However, in current receiver design practice, the chroma signals, whether I and Q or color difference signals, are not demodulated to yield the standard signals, but, instead, are demodulated such that the Q signal is effectively decreased relative to the I signal. This is done to maintain more accurately reproduced flesh tones in the picture on the television screen. For receivers in which a demodulator directly furnishes the color difference signals, the hue error reduction is accomplished by choice of demodulation angles and gain ratios for the color difference components which result in an effective Q signal decrease. Chroma signals which have been modified in this manner, *i.e.* to maintain more uniformity in flesh tones, are herein referred to as modified chroma signals. Virtually all television receivers presently on the market have varying degrees of flesh tone correction, *i.e.* operate with modified chroma signals.

The modification of the chroma signals described above has, however, an undesirable effect in that the modified B-Y signal is distorted from the standard value. This causes a bluish tinge which is particularly objectionable when viewed with picture components having a predominantly green hue, such as grass foliage.

US-A-3,783,186 discloses an automatic hue control in which green is enhanced by reducing the gain on both the R-Y and B-Y amplifiers when the G-Y signal exceeds the sum of the red and blue components of the chrominance signal.

SUMMARY OF THE INVENTION

It is an object of the present invention to retain the flesh tone modification accomplished by the nonstandard demodulation technique described above, while selectively correcting the simultaneously produced undesired hue modifications in a simpler and more efficient apparatus. For this purpose, the invention provides an apparatus as defined in the main claim. Advantageous embodiments are defined in the subclaims.

In one embodiment, the present invention provides an apparatus for correcting undesired hue distortion in a video receiver generating modified red, green, and blue chroma signals for improved flesh tone presentation. In a first step, a first signal is generated when comparison of the modified red, green and blue chroma signals to each other indicates that the modified green chroma signal exceeds the other two. In response to the first signal, a correction signal is added to the blue chroma signal.

In a preferred embodiment, the amplitude of the correction signal corresponds to the difference in potential between the modified green chroma signal and the larger of the modified red and modified blue chroma signals.

These and other aspects of the invention will be apparent from and elucidated with reference to the embodiments described hereinafter.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a plot of the output signals provided by a non-standard decoding matrix, illustrating thereon the gain ratios and demodulation angles for the three output signals.

Figure 2 is a block diagram of a preferred embodiment for green hue distortion correction.

Figure 3 is a circuit diagram of a preferred embodiment of the invention which is capable of performing the block functions of Figure 2.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

As mentioned above, the color information in a color television signal is transmitted as I and Q signals, the I and Q signals being based in turn on matrixed red, green, and blue primary signals. A luminance (Y) signal, which is a combination of the three chrominance signal (Y = .30 R + .59 G + .11B) is also transmitted. The standard color difference signals can be derived from the received I and Q signals as shown, for example, in the television Engineering Handbook, K. Blair Benson, McGraw Hill, Inc., 1986, page 21.50. Re-scaled, the blue color difference signal is attenuated by a factor of 2.03, while the red color difference signal is attenuated by a factor of 1.14. The re-scaled signals are indicated as V and U in Figure 1. For "standard" decoding without flesh tone correction, R-Y would lie along the V axis, with a gain of 1.14, B-Y along the U axis, with a gain of 2.03, while the green difference signal, divided by a factor of .703 would lie along an axis extending at 236 degrees to the zero or U axis.

The "R-Y", "B-Y", and "G-Y" signals illustrated in Figure 1 are the corresponding signals derived from a matrix which includes modification of these signals to achieve flesh tone correction. The I and -I axes are also indicated. It will be noted that the modified red color difference signal ("R-Y"), is pulled towards the +I axis, while the "B-Y" signal, although with decreased amplitude, is pulled toward the -I axis. This combination causes the desired correction of the flesh tones. However, in addition, the phase angle and amplitude changes of the blue color difference signal result in a decidedly bluish overcast to any pure green component. Since viewers are particularly sensitive to color errors in grass and foliage known to be green, this bluish tint or overcast is particularly objectionable.

Relative chrominance and luminance signals, as well as the unmodified and modified demodulated components, resulting from a pure green hue transmission are shown in the following table.

R	G	B	Y	R-Y	G-Y	B-Y	V	U	"R-Y"	"G-Y"	"B-Y"
0	1	0	0.59	-0.59	0.41	-0.59	-0.52	-0.29	-0.52	0.18	-0.22

where: V, U, "R-Y", "G-Y", and "B-Y" are defined in Figure 1.

It is obvious from this table, that the most significant error is in the "B-Y" signal which is not sufficiently negative. This relatively high value of the "B-Y" signal will cause a significant bluish tinge on the screen on what should be pure green color. This distortion of green may be corrected with the compensation network generally shown as 10 in Figure 2. The three modified output signals from a demodulator 11 are coupled to a comparator 13 wherefrom a switching signal is provided when the modified "G-Y" demodulated signal exceeds both the modified "R-Y" and "B-Y" signals. When this condition exists, the modified "B-Y" signal is subtracted from the modified "G-Y" signal in differencing network 17 and the resulting signal is coupled to an amplifier 19 which may have a gain less than unity. The amplified signal is then coupled to the inverting terminal of a second differencing circuit wherein it is subtracted from the modified blue signal coupled to the non-inverting terminal to provide the compensated signal. For a pure green transmitted signal, the output of the differencing circuit is 0.40, which if amplified with a gain factor of 0.75 provides a signal of 0.30 to the inverting terminal of the differencing circuit 21. Subtracting this value from the -0.22 level of the modified B-Y signal, gives a signal with the relative value of -.52. With this compensation, the relative levels at the B-Y, G-Y, and R-Y output terminals are respectively -0.52, 0.18, and -0.52 which are in substantially the same relative relationship as the unmodified and uncompensated signals for a pure green hue. When the modified "G-Y" signal is less than both the modified "B-Y" and "R-Y" signals, switch 15 is positioned to remove the compensating circuit and apply the modified blue signal directly to the output terminal.

Refer now to Figure 3, wherein a schematic diagram of a preferred embodiment of the invention is shown. It should be recognized that the positioned order of the demodulator terminals is arbitrary and that the order may be any of the six possible permutations available. The modified "B-Y", "G-Y", and "R-Y" signals at the output terminals of the demodulator 111 may be coupled respectively to low pass filters 23, 25, and 27. In addition, the modified "B-Y" signal is coupled to the anode of the diode 29 and the modified "R-Y" signal is coupled to the anode of a diode 31. The cathodes of these two diodes are joined to form a node 33 which is coupled to the base of a p-n-p transistor 35 and to a source, not shown, of bias voltage -V

via a resistor 37. The emitter of a transistor 35 is coupled to the modified "G-Y" output terminal of demodulator 11 via a resistor R_1, while the collector of transistor 35 is coupled to a current mirror 39. The arrangement of the diodes and the biasing voltage permits only one diode to conduct at a time, except when "B-Y" = "R-Y". Since the higher anode voltage of the diodes 29, 31 appears at the node 33 the diode having the higher anode voltage establishes a cathode voltage on the other diode that is greater than its anode voltage, thereby causing that diode to cut off. When the voltage at the node 33 is less than the voltage at the modified "G-Y" output terminal of demodulator 11, transistor 35 conducts and couples a current to the current mirror 39 that is equal to the potential difference between the voltage at the modified "G-Y" output terminal and the voltage at the node 33. This current is reversed by the current mirror 39 and causes a current to flow through the resistor R_L that decreases the potential at the "B-Y" terminal 41. This correction to the "B-Y" output terminal is provided whenever the voltage at the modified "G-Y" output terminal of the demodulator 11 exceeds both the voltage at the modified "B-Y" and that at the modified "R-Y" output terminal of demodulator 11.

The operation of the circuit of Figure 3 may be illustrated by example with the pure green reception described above. In this situation, the -0.22 voltage at the modified "B-Y" output terminal, which is greater than -0.52 volts, establishes a -0.22 voltage at the base of transistor 35 which conducts to establish a voltage at one side of the resistor R_1 of -0.22 volts. Since the other side of the resistor R_1 is coupled to the modified "G-Y" terminal of the demodulator 11, whereat a 0.18 voltage exists, the voltage across the resistor R_1 is 0.4 volts. The current I_1 which is equal to $0.40/R_1$ is coupled to the collector of transistor 35 and therefrom to the current mirror 39, whereat it is reversed and caused to flow through the resistor R_L, in the direction indicated by the arrow 43, to establish an additional voltage drop across this resistor that is equal to $0.40\ R_L/R_1$. If the ratio R_L/R_1 is equal to 0.75, an additional voltage drop of 0.3 volts is realized across the resistor R_L. Since the voltage at the modified "B-Y" output terminal is equal to -0.22, the total voltage at the output terminal 41 is therefore -0.52. In this manner, the relative voltages of -0.52, 0.18, and -0.52 are respectively established at the "B-Y", "G-Y", and "R-Y" output terminals.

The compensation circuitry remains in operation while both the modified "B-Y" output voltage or the modified "R-Y" output voltage are less than the modified "G-Y" voltage. Consequently, a region of operation exists between a vector for which the modified "G-Y" and modified "B-Y" voltages are equal and a vector for which the modified "G-Y" and modified "R-Y" vectors are equal. This region may be determined by solving the equations

"R-Y" 1.12V - 0.20U = k
"G-Y" -0.25V - 0.17U = k

and

"B-Y" -0.20V + 1.12U = q
"G-Y" -0.25V - 0.17U = q

The solution of the first pair of equations provides an angle of 181.2 degrees for the B-Y boundary as indicated by the vector 45 in Figure 1 and an angle of 272.23 degrees for the R-Y boundary as indicated by the vector 47 in Figure 1.

It should be apparent that the function of the comparator 13 and switch 15 is performed by the combination of diode 29, diode 31, and transistor 35; the function of the first differencing circuit 17 is performed by resistor R_1 in cooperation with transistor 35; the function of the amplifier 19 is performed by the combination of resistors R_1 and R_L; and the function of the second differencing circuit 21 is performed by the combination of the current mirror 39 and the resistor R_L.

Claims

1. Apparatus for correcting chroma distortion generated in a decoding matrix (11) providing green, red and blue chroma signals modified to achieve flesh-tone corrections, the apparatus comprising:

   comparator means (13; 29-39) coupled to said decoding matrix (11) for providing a correction signal indicating whether said green chroma signal exceeds both said red and blue chroma signals;

   correction means (15-21; RL) coupled to said comparator means (13; 29-35) for additively correcting only said blue chroma signal in dependence on said correction signal.

via a resistor 37. The emitter of a transistor 35 is coupled to the modified "G-Y" output terminal of demodulator 11 via a resistor R_1, while the collector of transistor 35 is coupled to a current mirror 39. The arrangement of the diodes and the biasing voltage permits only one diode to conduct at a time, except when "B-Y" = "R-Y". Since the higher anode voltage of the diodes 29, 31 appears at the node 33 the diode having the higher anode voltage establishes a cathode voltage on the other diode that is greater than its anode voltage, thereby causing that diode to cut off. When the voltage at the node 33 is less than the voltage at the modified "G-Y" output terminal of demodulator 11, transistor 35 conducts and couples a current to the current mirror 39 that is equal to the potential difference between the voltage at the modified "G-Y" output terminal and the voltage at the node 33. This current is reversed by the current mirror 39 and causes a current to flow through the resistor R_L that decreases the potential at the "B-Y" terminal 41. This correction to the "B-Y" output terminal is provided whenever the voltage at the modified "G-Y" output terminal of the demodulator 11 exceeds both the voltage at the modified "B-Y" and that at the modified "R-Y" output terminal of demodulator 11.

The operation of the circuit of Figure 3 may be illustrated by example with the pure green reception described above. In this situation, the -0.22 voltage at the modified "B-Y" output terminal, which is greater than -0.52 volts, establishes a -0.22 voltage at the base of transistor 35 which conducts to establish a voltage at one side of the resistor R_1 of -0.22 volts. Since the other side of the resistor R_1 is coupled to the modified "G-Y" terminal of the demodulator 11, whereat a 0.18 voltage exists, the voltage across the resistor R_1 is 0.4 volts. The current I_1 which is equal to $0.40/R_1$ is coupled to the collector of transistor 35 and therefrom to the current mirror 39, whereat it is reversed and caused to flow through the resistor R_L, in the direction indicated by the arrow 43, to establish an additional voltage drop across this resistor that is equal to $0.40\ R_L/R_1$. If the ratio R_L/R_1 is equal to 0.75, an additional voltage drop of 0.3 volts is realized across the resistor R_L. Since the voltage at the modified "B-Y" output terminal is equal to -0.22, the total voltage at the output terminal 41 is therefore -0.52. In this manner, the relative voltages of -0.52, 0.18, and -0.52 are respectively established at the "B-Y", "G-Y", and "R-Y" output terminals.

The compensation circuitry remains in operation while both the modified "B-Y" output voltage or the modified "R-Y" output voltage are less than the modified "G-Y" voltage. Consequently, a region of operation exists between a vector for which the modified "G-Y" and modified "B-Y" voltages are equal and a vector for which the modified "G-Y" and modified "R-Y" vectors are equal. This region may be determined by solving the equations

"R-Y" 1.12V - 0.20U = k
"G-Y" -0.25V - 0.17U = k

and

"B-Y" -0.20V + 1.12U = q
"G-Y" -0.25V - 0.17U = q

The solution of the first pair of equations provides an angle of 181.2 degrees for the B-Y boundary as indicated by the vector 45 in Figure 1 and an angle of 272.23 degrees for the R-Y boundary as indicated by the vector 47 in Figure 1.

It should be apparent that the function of the comparator 13 and switch 15 is performed by the combination of diode 29, diode 31, and transistor 35; the function of the first differencing circuit 17 is performed by resistor R_1 in cooperation with transistor 35; the function of the amplifier 19 is performed by the combination of resistors R_1 and R_L; and the function of the second differencing circuit 21 is performed by the combination of the current mirror 39 and the resistor R_L.

Claims

1. Apparatus for correcting chroma distortion generated in a decoding matrix (11) providing green, red and blue chroma signals modified to achieve flesh-tone corrections, the apparatus comprising:

comparator means (13; 29-39) coupled to said decoding matrix (11) for providing a correction signal indicating whether said green chroma signal exceeds both said red and blue chroma signals;

correction means (15-21; RL) coupled to said comparator means (13; 29-35) for additively correcting only said blue chroma signal in dependence on said correction signal.

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2. Apparatus as claimed in claim 1, wherein said correction means (15-21) comprise:

switching means (15) coupled to said decoding matrix (11) to receive a plurality of said chroma signals ("G-Y", "B-Y") and responsive to said correction signal for switching said plurality of chroma signals ("G-Y", "B-Y") between first and second switch positions;

first combining means (17) coupled to said switching means (15) for combining said plurality of chroma signals ("G-Y", "B-Y") in a predetermined manner to provide a combined signal when said switching means (15) is in said first position; and

second combining means (21) coupled to said first combining means (17) to receive said combined signal and coupled to said decoding matrix (11) to receive said blue chroma signal ("B-Y") for providing a hue corrected blue chroma signal at an output terminal when said switching means (15) is in said first position, said blue chroma signal ("B-Y") being directly coupled to said output terminal and said first (17) and second (21) combining means being decoupled from said decoding matrix (11) when said switching means (15) is in said second position.

3. Apparatus as claimed in claim 1, wherein said comparator means (29-39) comprise:

means (29-33) coupled to said decoding matrix (11) for selecting that one chroma signal of said red and blue chroma signals having greater potential;

means (35, R1, 39) coupled to receive said green chroma signal, and to said selecting means (29-33) to receive said selected chroma signal, for providing a current proportional to potential differences between said green chroma signal and said selected chroma signal when said third green signal exceeds said selected chroma signal; and

wherein said correction means comprise means (RL) coupled to said decoding matrix (11) and coupled to said current means (35, R1, 39) to receive said current for converting said current to a correction potential and adding said correction potential to said blue chroma signal.

4. Chroma correcting apparatus as claimed in Claim 3, wherein said selecting means (29-33) comprises first (29) and second (31) unidirectional current conducting means coupled respectively to receive said blue and red chroma signals for providing that signal of said blue and red chroma signals having greater potential to said current means (35, R1, 39).

5. Chroma correcting apparatus as claimed in Claim 3, wherein said current means (35, R1, 39) comprises:

a transistor (35) having a base coupled to said selecting means (29-33), an emitter, and a collector;

a resistor (R1) having one terminal coupled to receive said green chroma signal, and another terminal to said emitter; and

a current mirror (39) having an input terminal coupled to said collector and an output terminal.

Patentansprüche

1. Apparat zur Korrektur der Chiominanzverzerrung, die in einer Dekodiermatrix (11) auftritt, in der zwecks Hauttonkorrektur Chrominanzsignale für grün, rot und blau modifiziert werden, und der folgendes emthält:

Komparatormittel (13; 29-39), mit genannter Dekodiermatrix (11) verbunden, die ein Korrektursignal erzeugen, um anzuzeigen, ob das Chrominanzsignal für grün die genannten Chrominanzsignale für rot und blau überschreitet;

Korrekturmittel (15-21; RL), mit genannten Komparatormitteln (13; 29-35) verbunden, für die additive Korrektur des genannten Chrominanzsignals für blau in Abhängigkeit vom genannten Korrektursignal.

2. Apparat nach Anspruch 1, wobei die genannten Korrekturmittel (15-21) folgendes enthalten:

Schaltmittel (15), mit genannter Dekodiermatrix (11) verbunden, um eine Vielzahl der genannten Chrominanzsignale ("G-Y", "B-Y") zu empfangen und auf das genannte Korrektursignal ansprechend, um die genannte Vielzahl von Chrominanzsignalen ("G-Y", "B-Y") zwischen der ersten und zweiten Schaltposition umzuschalten;

erste Kombinierungsmittel (17), mit den genannten Schaltmitteln (15) verbunden, zur Kombination einer Vielzahl von Chrominanzsignalen ("G-Y", "B-Y") in vorbestimmter Weise, um ein kombiniertes Signal zu erzeugen, wenn sich die genannten Schaltmittel (15) in genannter erster Position befinden; und

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zweite Kombinierungsmittel (21), mit den genannten ersten Kombinationsmitteln (17) verbunden, um genanntes kombiniertes Signal zu empfangen, und mit der genannten Dekodiermatrix (11) verbunden, um genanntes Chrominanzsignal für blau ("B-Y") zu empfangen, zur Erzeugung eines farbtonkorrigierten Chrominanzsignals für blau an einer Ausgangsklemme, wenn sich die genannten Schaltmittel (15) in der genannten ersten Position befinden, wobei das genannte Chrominanzsignal für blau ("B-Y") direkt mit der genannten Ausgangsklemme verbunden ist, und die ersten (17) und zweiten (21) Kombinierungsmittel von der genannten Dekodiermatrix (11) getrennt wird, wenn sich das genannte Schaltmittel (15) in der zweiten Position befindet.

3. Apparat nach Anspruch 1, wobei die genannten Komparatormittel (29-39) folgendes enthalten:

Mittel (29-33), verbunden mit genannter Dekodiermatrix (11) zur Auswahl des einen Chrominanzsignals von den genannten Chrominanzsignalen für rot und blau, das ein größeres Potential aufweist;

Mittel (35, R1, 39), verbunden zum Empfang des genannten Chiominanzsignals für grün, und verbunden mit genanntem Auswahlmittel (29-33) zum Empfang des genannten ausgewählten Chrominanzsignals zur Erzeugung eines Stroms, der proportional zu den Potentialdifferenzen zwischen dem genannten Chrominanzsignal für grün und dem genannten ausgewählten Chrominanzsignal ist, wenn das genannte dritte Grünsignal größer ist als das genannte ausgewählte Chrominanzsignal; und

wobei das genannte Korrekturmittel aus Mitteln (RL) besteht, die mit genannter Dekodiermatrix (11) und mit den genannten Strommitteln (35, R1, 39) verbunden sind, um den genannten Strom zwecks Umkehrung in ein Korrekturpotential zu empfangen und das genannte Korrekturpotential zu genanntem Chrominanzsignal für blau zu addieren.

4. Chrominanzkorrekturapparat nach Anspruch 3, wobei die genannten Auswahlmittel (29-33) die ersten (29) und zweiten (31) unidirektionalen Stromführungsmittel enthalten, und verbunden sind, um die genannten Chrominanzsignale für blau bzw. rot zu empfangen, um den genannten Strommitteln (35, R1, 39) das Signal der genannten Chrominanzsignale für blau und rot zu liefern, das das größere Potential aufweist.

5. Chrominanzkorrekturapparat nach Anspruch 3, wobei die genannten Strommittel (35, R1, 39) folgendes enthalten:

einen Transistor (35), dessen Basis mit dem genannten Auswahlmittel (29-33), einem Emitter und einem Kollektor verbunden ist;

einen Widerstand (R1), der mit einer Klemme das Chrominanzsignal für grün empfängt und mit einer anderen Klemme mit dem genannten Emitter verbunden ist; und

eine Stromspiegelschaltung (39) mit einer Eingangsklemme, die mit dem genannten Kollektor verbunden ist, und einer Ausgangsklemme.

Revendications

1. Appareil pour la correction de la distorsion de chrominance générée dans une matrice de décodage (11) fournissant des signaux de chrominance vert, rouge et bleu modifiés en vue d'obtenir des corrections des teintes chair, l'appareil comprenant :

des moyens comparateurs (13; 29-39) couplés à la matrice de décodage (11) pour fournir un signal de correction indiquant si le signal de chrominance vert dépasse à la fois les signaux de chrominance rouge et bleu;

des moyens de correction (15-21; R_L) couplés aux moyens comparateurs (13; 29-35) pour ne corriger que le signal de chrominance bleu de manière additive en fonction du signal de correction.

2. Appareil selon la revendication 1, dans lequel les moyens de correction (15-21) comprennent :

des moyens de commutation (15) couplés à la matrice de décodage (11) pour recevoir une pluralité des signaux de chrominance ("G-Y", "B-Y") et réagissant au signal de correction pour commuter la pluralité de signaux de chrominance ("G-Y", "B-Y") entre les première et deuxième positions de commutation;

des premiers moyens de combinaison (17) couplés au commutateur (15) pour combiner les différents signaux de chrominance ("G-Y", "B-Y") d'une manière prédéterminée afin de fournir un signal combiné lorsque les moyens de commutation (15) se trouvent dans la première position, et

des deuxièmes moyens de combinaison (21) couplés aux premiers moyens de combinaison (17) pour recevoir le signal combiné, et couplés à la matrice de décodage (11) pour recevoir le signal de

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chrominance bleu ("B-Y") afin de fournir un signal de chrominance bleu à teinte corrigée à une borne de sortie lorsque les moyens de commutation (15) se trouvent dans la première position, le signal de chrominance bleu ("B-Y") étant directement appliqué à la borne de sortie et les premiers (17) et deuxièmes (21) moyens de combinaison étant découplés de la matrice de décodage (11) lorsque les moyens de commutation (15) se trouvent dans la deuxième position.

3. Appareil selon la revendication 1, dans lequel les moyens comparateurs (29-39) comprennent :

des moyens (29-33) couplés à la matrice de décodage (11) pour sélectionner le signal de chrominance qui, outre les signaux de chrominance rouge et bleu, présente un potentiel supérieur;

des moyens (35, R_1, 39) couplés pour recevoir le signal de chrominance vert et aux moyens de sélection (29-33) pour recevoir le signal de chrominance sélectionné, et destiné à fournir un courant proportionnel aux différences de potentiel entre le signal de chrominance vert et le signal de chrominance sélectionné lorsque le troisième signal vert dépasse le signal de chrominance sélectionné, et

dans lequel les moyens de correction comprennent des moyens (R_L) couplés à la matrice de décodage (11) et aux moyens de courant (35, R_1, 39) pour recevoir ledit courant afin de convertir ce courant en un potentiel de correction et d'ajouter le potentiel de correction au signal de chrominance bleu.

4. Appareil de correction de chrominance selon la revendication 3, dans lequel les moyens de sélection (29-33) comprennent des premiers (29) et deuxièmes (31) moyens conducteurs de courant unidirectionnel couplés respectivement pour recevoir les signaux de chrominance bleu et rouge afin d'amener celui des signaux de chrominance bleu et rouge qui présente le potentiel supérieur aux moyens de courant (35, R_1, 39).

5. Appareil de correction de chrominance selon la revendication 3, dans lequel les moyens de courant (35, R_1, 39) comprennent :

un transistor (35) comportant une base couplée aux moyens de sélection (29-33), un émetteur et un collecteur;

une résistance (R_1) comportant une première borne couplée pour recevoir le signal de chrominance vert et une autre borne couplée à l'émetteur, et

un miroir de courant (39) comportant une borne d'entrée couplée au collecteur et une borne de sortie.

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