Description

This invention relates to image signal compressors for use, for example, for compressing that part of the voltage level of an image signal which is in excess of a predetermined compression voltage level, where the image signal is derived from an image pick-up tube or solid-state image pick-up elements.

Such an image signal compressor is a kind of converter, through which the voltage level of a signal in excess of a predetermined level is reduced or compressed within a predetermined voltage range at signal transmission terminals.

In the compressor, a knee level is usually determined at which the voltage level of a signal begins to be compressed. Moreover, a limiter is additionally connected to the output terminal of the compressor for further ensuring limitation of the peak voltage level of the compressed signal.

In the case where the signal to be compressed varies in sawtooth waveform fashion for example, the signal is derived from the compressor as it is, without compression, while the signal voltage level is below the knee level, but is compressed by the compressor at a predetermined compression ratio when the signal voltage level is above the knee level. The voltage level of the compressed signal increases with time until the original signal voltage level reaches its peak value. Therefore, if the peak voltage value of the signal to be compressed is constant, the peak value of the compressed signal may be constant without being further limited or clipped by the limiter. However, if the peak value of the signal to be compressed varies to a still higher value, there exists the problem that the peak voltage value of the compressed signal may rise beyond the limiter level, so that the compressed signal may be clipped by the limiter without being compressed normally. This is because the knee level is fixedly predetermined in the compressor, and thereby the image signal having a high peak voltage value is compressed beyond a predetermined limiter level.

Such an image signal compressor is further described below with reference to Figures 1 and 2. Similar circuits are also disclosed in our UK patent specification GB-A-2 069 796 and in German patent specification DE-A-27 58 758 (US-A-4 200 843), the latter specification also proposing that clipping be avoided by having a compression ratio which depends on the input voltage.

According to the present invention there is provided an image signal compressor, which comprises:

a first resistor, a signal to be compressed being applied to one end thereof;

a diode connected to said first resistor, a compressed signal being derived from a junction point between said first resistor and said diode; and

a second resistor connected in series with said diode;

the signal being compressed at a compression ratio determined by said first and second resistors;

characterized by:

control means responsive to the signal to be compressed and connected between the other end of said first resistor and said second resistor for controlling a compression start potential at which said diode is allowed to be conductive in such a way as to decrease the compression start potential with increasing peak voltage level of the signal to be compressed or vice versa, when said diode is conductive.

According to the present invention there is also provided an image signal compressor, which comprises:

three first resistors, three chrominance signals to be compressed being respectively applied to one end of each;

three diodes respectively connected to said three first resistors, three compressed chrominance signals being derived from respective junction points between said first resistors and said diodes; and

three second resistors connected in series with said three diodes respectively;

the three chrominance signals being compressed with respective compression ratios determined by each of said three first resistors and each of said three second resistors;

characterized by:

control means responsive to each of the three chrominance signals to be compressed and connected between the other ends of said three first resistors and said three second resistors for controlling each compression start potential at which said three diodes are allowed to be conductive in such a way as to decrease the compression start potential with increasing highest peak voltage level of the three chrominance signals to be compressed or vice versa, when said three diodes are conductive.

The invention will now be described by way of example with reference to the accompanying drawings, throughout which like parts are referred to by like references, and in which:

Figure 1 is a circuit diagram of a previously proposed image signal compressor;

Figure 2 is a graphical representation for assistance in explaining the operation of the image signal compressor of Figure 1;

Figure 3 is a circuit diagram of an embodiment of the image signal compressor according to the present invention; and

Figure 4 is a graphical representation for assistance in explaining the operation of the embodi-

ment of Figure 3.

Figure 1 is a circuit diagram of an example of a previously proposed image signal compressor 1, generally called a "knee circuit". The compressor 1 comprises an image signal input terminal 2 and an image signal output terminal 3. The compressor 1 is made up of a first resistor 4, a diode 5, a second resistor 6, and a DC voltage source 7 for applying a referene compression start potential. The first resistor 4 is connected between the input and output terminals 2 and 3. The circuit path including the diode 5, the second resistor 6 and the DC voltage source 7, all connected in series, is connected between the output terminal 3 and ground. In addition, a limiter 8 is usually connected to the output terminal 3 of the compressor 1 in order to limit the voltage level of the compressed image signal derived from the compressor 1. The limiter 8 has an output terminal 9.

The operation of the compressor 1 of Figure 1 will now be described with reference to Figure 2, in which the voltage level of an image signal in excess of a predetermined level (100 percent) is compressed. In Figure 2, the abscissa represents the time elapsed, and the ordinate represents the intensity (percent) of light incident upon a monochrome image pick-up tube. The intensity (percent) corresponds to the voltage level of an image signal to be compressed, because the voltage level of the image signal transduced by an image pick-up tube is roughly proportional to the intensity of light incident upon the image pick-up tube.

The assumption is made that the intensity (percent) of light incident upon an image pick-up tube varies according to the time elapsed in sawtooth waveform fashion. The image signal transduced by the image pick-up tube is supplied as a luminance signal to the input terminal 2 of the compressor 1. In Figure 2, the thick solid line 11 indicates the case where the luminance signal varies in sawtooth waveform fashion within a range from 0 to 300 percent, and the dot-dot-dashed line 12 indicates the case where the luminance signal varies in sawtooth waveform fashion within a range from 0 to 600 percent, by way of example. The first horizontal line (100 percent) drawn parallel to the abscissa indicates the knee level at which the image signal (that is, the luminance signal) begins to be compressed in voltage level by the compressor 1, and the second horizontal line (110 percent) drawn parallel to the first line indicates the limiter level at which the image signal is limited in voltage level (the voltage level is clipped) by the limiter 8.

When the luminance signal changes within the range below the knee level of 100 percent, the positive luminance signal introduced into the compressor 1 is supplied through the first resistor 4 as it is without being subjected to voltage level compression, because the diode 5 is in a non-conductive state. However, once the luminance signal exceeds in voltage level the knee level (compression start level) of 100 percent, since the diode 3 is allowed to be conductive and therefore the voltage of the image signal is divided into two by the first and second resistors 4 and 6, the luminance signal supplied from the output terminal 3 is compressed as depicted by the numeral 11a or 12a in Figure 2.

The compression ratio CR is given by:

$$CR = R_6/(R_4 + R_6)$$

where R_4 is the resistance of the first resistor 4; R_6 is the resistance of the second resistor 6; and the on-state resistance of the diode 5 and the internal resistance of the DC voltage source 7 are both neglected.

In Figure 2, the knee level is set to a luminance signal voltage level corresponding to the incident light intensity rate of 100 percent. However, the knee level is freely adjustable by changing the DC source voltage under consideration of the on-voltage of the diode 5. Here, the DC source voltage is called a reference compression-start voltage level or potential.

In the case where the incident light intensity which generates the luminance signal varies in sawtooth waveform fashion within the range from 0 to 300 percent as depicted by the solid line 11 in Figure 2, the signal level in excess of the knee level of 100 percent is compressed within the range from 100 to 110 percent of the incident light intensity without being subject to the limitation of the limiter 8, as depicted by the solid line 11a in Figure 2.

On the other hand, under these conditions, in the case where the incident light intensity varies in sawtooth waveform fashion within the range from 0 to 600 percent as depicted by the dot-dot-dashed line 12 in Figure 2, the signal level in excess of the knee level of 100 percent is compressed within the range from 100 to 112.5 percent in the incident light intensity parallel to the compression line 11a as depicted by the dot-dot-dashed line 12a in Figure 2. Here, it should be noted that since the incident light intensity exceeds the limiter level of 110 percent, the luminance signal is limited or clipped by 2.5 percent through the limiter 8, indicated by the dot-dot-dashed line 12a in Figure 2.

Therefore, in this prior art image signal compressor, there exists a problem in that when the intensity of light incident upon the image tube is excessively great, the image signal (luminance signal) is clipped, causing the clipped image signal to change an image from grey to white when regenerated on a cathode ray tube.

In this connection, if the limiter level is in-

creased to more than 110 percent in incident light intensity, although it is possible to prevent the image signal from being clipped by the limiter 8, it is impossible effectively to increase the compression ratio of the compressor 1 within a narrow range.

Reference is now made to an embodiment of image signal compressor according to the present invention with reference to Figures 3 and 4. A feature of the embodiment is appropriate control of the knee level according to the magnitude of the signal to be compressed, so that the compressed signal can be derived from the compressor without being clipped through the limiter, irrespective of the peak voltage value of the signal to be compressed. In more detail, the knee level is controlled so as to be decreased with increasing peak voltage level of the image signal to be compressed or vice versa.

Figure 3 is a circuit diagram of an embodiment of the image signal compressor applied to a single electron gun or a three electron gun colour image pick-up tube or solid-state colour image pick-up elements. In the image signal compressor 10, there are provided three (red, green and blue) image signal input terminals 2R, 2G and 2B and three (red, green and blue) image signal output terminals 3R, 3G and 3B. The compressor 10 is made up of three first resistors 4R, 4G and 4B, three diodes 5R, 5G and 5B, three second resistors 6R, 6G and 6B, and a controller 16. The three first resistors 4R, 4G and 4B are connected respectively between the three input terminals 2R, 2G and 2B and the three output terminals 3R, 3G and 3B. Three circuit paths respectively including the three diodes 5R, 5G and 5B and the three second resistors 6R, 6G and 6B in series are connected between the output terminals 3R, 3G and 3B respectively and an output of the controller 16. In addition, three limiters 8R, 8G and 8B are respectively connected to each of the compressor output terminals 3R, 3G and 3B in order to limit the voltage level of the image signal derived from the compressor 10. The reference numerals 9R, 9G and 9B denote respective output terminals of the limiters 8R, 8G and 8B.

The controller 16 comprises a non-adder mixer 13, a peak rectifier 14 and an DC amplifier 15. The non-adder mixer 13 receives three chrominance (red, green and blue) signals through the three input terminals 2R, 2G and 2B, and selects the chrominance signal having the highest peak voltage level from the three chrominance signals. The selected highest peak chrominance signal is then rectified through the peak rectifier 14 to obtain a DC signal the level of which is roughly proportional to the peak value of the selected highest level chrominance signal. The rectified DC signal is amplified by the DC amplifier 15 of operational amplifier type at an appropriate amplification ratio. Further, the DC amplifier 15 functions in such a way that the positive potential at the output stage of the DC amplifier 15 decreases as the rectified peak voltage value of the chrominance signal increases. This positive potential is applied to the point P, that is, each cathode of the three diodes 5R, 5G and 5B, as a variable compression start potential. Therefore, the higher the peak voltage level of one of the chrominance signals, the lower the knee level (compression start voltage level).

The operation of the image signal compressor 10 of Figure 3 will now be described with reference to Figure 4. In the same manner as in Figure 2, the thick solid line 11 corresponds to a chrominance signal of sawtooth waveform obtained by transducing light, the intensity of which varies between 0 to 300 percent, and the dot-dot-dashed line 12 corresponds to a chrominance signal of sawtooth waveform obtained by transducing light, the intensity of which varies between 0 to 600 percent. Further, the first horizontal line (100 percent) indicates a highest knee level, and the second horizontal line (110 percent) indicates the limiter level.

When the chrominance signal changes within the range below the highest knee level of 100 percent, since the positive reference potential at point P is sufficiently high, the three diodes 5R, 5G and 5B are not conductive. Therefore, the chrominance signals are all supplied through the compressor 10 as they are without being subject to voltage level compression. However, if any one of the three chrominance (red, green, blue) signals increases in voltage level, the highest peak voltage level is selected by the non-adder mixer 13, rectified by the peak rectifier 14 and amplified by the DC amplifier 15. The potential at the point P is decreased, allowing the three diodes 5R, 5G and 5B to become conductive. As a result, the three chrominance signals are compressed as depicted by the numeral 11a in Figure 4. The compression ratio is roughly $R_6/(R_4 + R_6)$ if the resistance in the DC amplifier 15 is neglected (where R_4 designates the resistance of the first resistor 4R, 4G or 4B, and R_6 designates the resistance of the second resistor 6R, 6G or 6B).

In the case where the incident light intensity, which generates the chrominance signal, varies in sawtooth fashion within the range from 0 to 300 percent as depicted by the solid line 11 in Figure 4, the signal level in excess of the knee level of 100 percent is compressed within the compression range of 100 to 110 percent in the incident light intensity without limitation through the limiter 8 as depicted by the solid line 11a in Figure 4.

However, in the case where the incident light intensity varies in sawtooth waveform fashion within the range from 0 to 600 percent as depicted by the

dot-dot-dashed line 12 as shown in Figure 4, the signal level in excess of the knee level of 97 percent, for instance, is compressed. This is because the peak voltage value of the chrominance signal (600 percent) is higher than that of the signal (300 percent), and therefore the rectified signal in the controller 16 allows the compression start potential at point P to decrease to a lower knee level (for example, 97 percent). Therefore, the chrominance signal is compressed prior to the highest knee level of 100 percent. Once compressed, the chrominance signal is compressed along the line L at the same compression ratio ($R_6/(R_4 + R_6)$) in parallel with the compression line 11a.

Here, in order effectively to compress the signal without limitation, it is preferable to lower the knee level so that the compression line 12a overlaps with the compression line 11a. In order to overlap the compession line one another, the knee level (compression start level) is determined in such a way that: (1) the highest knee level (100 percent in Figure 4) is first determined to compress the chrominance signal; (2) the limitation level (110 percent) is determined; (3) the compression ratio is determined so that the compression line L lies between the highest knee level and the limitation line; (4) the other knee level (97 percent) is determined at the point where the chrominance signal voltage level 12 intersects the compression line L.

However, without being limited to the straight compression line L as depicted in Figure 4, it is also possible to determine the knee level along a curved line or quadratic curve having a negative coefficient (convex upwardly).

The embodiment has been explained of the case where the image signal compressor is applied to a colour image pick-up tube. However, it is also possible to apply embodiments of image signal compressor according to the present invention to a monochrome image pick-up tube or monochrome solid-state image pick-up elements.

As described above, because a controller is incorporated in the compressor so as to decrease the knee level with increasing peak voltage value of chrominance signals to be compressed, it is possible effectively to compress the image signal, irrespective of the magnitude of the chrominance signals, without being subject to limitation of the limiter provided at the next stage of the compressor, thus preventing the image (chrominance) signal from being regenerated in white on a cathode ray tube.

Claims

1. An image signal compressor (10), which comprises:
a first resistor (4), a signal to be compressed being applied to one end thereof;
a diode (5) connected to said first resistor (4), a compressed signal being derived from a junction point between said first resistor (4) and said diode (5); and
a second resistor (6) connected in series with said diode (5);
the signal being compressed at a compression ratio determined by said first and second resistors (4,6);
characterized by:
control means (16) responsive to the signal to be compressed and connected between the other end of said first resistor (4) and said second resistor (6) for controlling a compression start potential at which said diode (5) is allowed to be conductive in such a way as to decrease the compression start potential with increasing peak voltage level of the signal to be compressed or vice versa, when said diode (5) is conductive.

2. An image signal compressor (10) according to claim 1 wherein said control means (16) comprises:
a peak rectifier (14) responsive to the signal to be compressed for rectifying a peak of the signal; and
a DC amplifier (15) connected between said peak rectifier (14) and said second resistor (6) for decreasing the compression start potential with increasing rectified peak voltage level of the signal.

3. An image signal compressor (10), which comprises:
three first resistors (4R, 4G, 4B), three chrominance signals to be compressed being respectively applied to one end of each;
three diodes (5R, 5G, 5B) respectively connected to said three first resistors (4R, 4G, 4B), three compressed chrominance signals being derived from respective junction points between said first resistors (4R, 4G, 4B) and said diodes (5R, 5G, 5B); and
three second resistors (6R, 6G, 6B) connected in series with said three diodes (5R, 5G, 5B) respectively;
the three chrominance signals being compressed with respective compression ratios determined by each of said three first resistors (4R, 4G, 4B) and each of said three second resistors (6R, 6G, 6B);
characterized by:
control means (16) responsive to each of the three chrominance signals to be compressed and connected between the other ends of said three first resistors (4R, 4G, 4B) and said three

dot-dot-dashed line 12 as shown in Figure 4, the signal level in excess of the knee level of 97 percent, for instance, is compressed. This is because the peak voltage value of the chrominance signal (600 percent) is higher than that of the signal (300 percent), and therefore the rectified signal in the controller 16 allows the compression start potential at point P to decrease to a lower knee level (for example, 97 percent). Therefore, the chrominance signal is compressed prior to the highest knee level of 100 percent. Once compressed, the chrominance signal is compressed along the line L at the same compression ratio ($R_6/(R_4 + R_6)$) in parallel with the compression line 11a.

Here, in order effectively to compress the signal without limitation, it is preferable to lower the knee level so that the compression line 12a overlaps with the compression line 11a. In order to overlap the compession line one another, the knee level (compression start level) is determined in such a way that: (1) the highest knee level (100 percent in Figure 4) is first determined to compress the chrominance signal; (2) the limitation level (110 percent) is determined; (3) the compression ratio is determined so that the compression line L lies between the highest knee level and the limitation line; (4) the other knee level (97 percent) is determined at the point where the chrominance signal voltage level 12 intersects the compression line L.

However, without being limited to the straight compression line L as depicted in Figure 4, it is also possible to determine the knee level along a curved line or quadratic curve having a negative coefficient (convex upwardly).

The embodiment has been explained of the case where the image signal compressor is applied to a colour image pick-up tube. However, it is also possible to apply embodiments of image signal compressor according to the present invention to a monochrome image pick-up tube or monochrome solid-state image pick-up elements.

As described above, because a controller is incorporated in the compressor so as to decrease the knee level with increasing peak voltage value of chrominance signals to be compressed, it is possible effectively to compress the image signal, irrespective of the magnitude of the chrominance signals, without being subject to limitation of the limiter provided at the next stage of the compressor, thus preventing the image (chrominance) signal from being regenerated in white on a cathode ray tube.

Claims

1. An image signal compressor (10), which comprises:
a first resistor (4), a signal to be compressed being applied to one end thereof;
a diode (5) connected to said first resistor (4), a compressed signal being derived from a junction point between said first resistor (4) and said diode (5); and
a second resistor (6) connected in series with said diode (5);
the signal being compressed at a compression ratio determined by said first and second resistors (4,6);
characterized by:
control means (16) responsive to the signal to be compressed and connected between the other end of said first resistor (4) and said second resistor (6) for controlling a compression start potential at which said diode (5) is allowed to be conductive in such a way as to decrease the compression start potential with increasing peak voltage level of the signal to be compressed or vice versa, when said diode (5) is conductive.

2. An image signal compressor (10) according to claim 1 wherein said control means (16) comprises:
a peak rectifier (14) responsive to the signal to be compressed for rectifying a peak of the signal; and
a DC amplifier (15) connected between said peak rectifier (14) and said second resistor (6) for decreasing the compression start potential with increasing rectified peak voltage level of the signal.

3. An image signal compressor (10), which comprises:
three first resistors (4R, 4G, 4B), three chrominance signals to be compressed being respectively applied to one end of each;
three diodes (5R, 5G, 5B) respectively connected to said three first resistors (4R, 4G, 4B), three compressed chrominance signals being derived from respective junction points between said first resistors (4R, 4G, 4B) and said diodes (5R, 5G, 5B); and
three second resistors (6R, 6G, 6B) connected in series with said three diodes (5R, 5G, 5B) respectively;
the three chrominance signals being compressed with respective compression ratios determined by each of said three first resistors (4R, 4G, 4B) and each of said three second resistors (6R, 6G, 6B);
characterized by:
control means (16) responsive to each of the three chrominance signals to be compressed and connected between the other ends of said three first resistors (4R, 4G, 4B) and said three

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second resistors (6R, 6G, 6B) for controlling each compression start potential at which said three diodes (5R, 5G, 5B) are allowed to be conductive in such a way as to decrease the compression start potential with increasing highest peak voltage level of the three chrominance signals to be compressed or vice versa, when said three diodes (5R, 5G, 5B) are conductive.

4. An image signal compressor (10) according to claim 3 wherein said control means (16) comprises:
a non-adder mixer (13) responsive to the three chrominance signals for selecting the one of the chrominance signals having a highest peak voltage level;
a peak rectifier (14) responsive to the selected highest peak voltage level chrominance signal for rectifying the chrominance signal; and
a DC amplifier (15) connected between said peak rectifier (14) and said three second resistors (6R, 6G, 6B) for decreasing the three compression start potentials with increasing selected, rectified peak voltage level of the chrominance signal.

Revendications

1. Compresseur de signal d'image (10) comprenant :
une première résistance (4), un signal devant être compressé étant appliqué à une extrémité de cette résistance ;
une diode (5) qui est connectée à ladite première résistance (4), un signal compressé étant dérivé depuis un point de jonction situé entre ladite première résistance (4) et ladite diode (5) ; et
une seconde résistance (6) qui est connectée en série avec ladite diode (5) ;
le signal étant compressé selon un rapport de compression qui est déterminé par lesdites première et seconde résistances (4, 6) ;
caractérisé par :
un moyen de commande (16) qui est sensible au signal devant être compressé et qui est connecté entre l'autre extrémité de ladite première résistance (4) et ladite seconde résistance (6) pour commander un potentiel de début de compression auquel ladite diode (5) est autorisée à devenir conductrice de manière à diminuer le potentiel de début de compression avec l'augmentation du niveau de tension de pic du signal devant être compressé ou vice-versa lorsque ladite diode (5) est conductrice.

2. Compresseur de signal d'image (10) selon la revendication 1, dans lequel ledit moyen de commande (16) comprend :
un redresseur de pic (14) qui est sensible au signal devant être compressé pour redresser un pic du signal ; et
un amplificateur continu (15) qui est connecté entre ledit redresseur de pic (14) et ladite seconde résistance (6) pour diminuer le potentiel de début de compression avec l'augmentation du niveau de la tension de pic redressée du signal.

3. Compresseur de signal d'image (10) comprenant :
trois premières résistances (4R, 4G, 4B), trois signaux de chrominance devant être compressés étant respectivement appliqués à une extrémité de chacune de ces résistances ;
trois diodes (5R, 5G, 5B) qui sont respectivement connectées auxdites trois premières résistances (4R, 4G, 4B), trois signaux de chrominance compressés étant dérivés depuis des points de jonction respectifs situés entre lesdites trois premières résistances (4R, 4G, 4B) et lesdites trois diodes (5R, 5G, 5B) ;
trois secondes résistances (6R, 6G, 6B) qui sont connectées en série avec lesdites trois diodes respectives (5R, 5G, 5B) ;
les trois signaux de chrominance étant compressés avec des rapports de compression respectifs déterminés par chacune des trois premières résistances (4R, 4G, 4B) et par chacune des trois secondes résistances (6R, 6G, 6B) ;
caractérisé par :
un moyen de commande (16) qui est sensible à chacun des trois signaux de chrominance devant être compressés et qui est connecté entre les autres extrémités desdites trois premières résistances (4R, 4G, 4B) et lesdites trois secondes résistances (6R, 6G, 6B) pour commander chacun des potentiels de début de compression pour lesquels lesdites trois diodes (5R, 5G, 5B) deviennent conductrices de manière à diminuer le potentiel de début de compression avec l'augmentation du niveau de tension de pic le plus élevé des trois signaux de chrominance devant être compressés ou vice-versa lorsque lesdites trois diodes (5R, 5G, 5B) sont conductrices.

4. Compresseur de signal d'image (10) selon la revendication 3, dans lequel ledit moyen de commande (16) comprend :
un mélangeur non additionneur (13) qui est sensible aux trois signaux de chrominance pour sélectionner celui des signaux de chromi-

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nance qui présente un niveau de tension de pic le plus élevé ;

un redresseur de pic (14) qui est sensible au signal de chrominance de niveau de tension de pic le plus élevé pour redresser le signal de chrominance ; et

un amplificateur continu (15) qui est connecté entre ledit redresseur de pic (14) et lesdites trois secondes résistances (6R, 6G, 6B) pour diminuer les trois potentiels de début de compression avec l'augmentation du niveau de tension de pic redressée sélectionné du signal de chrominance.

Patentansprüche

1. Bildsignal-Komprimierungsvorrichtung (10) mit
einem ersten Widerstand (4), der an einem Ende mit einem zu komprimierenden Signal beaufschlagbar ist,
einer mit dem ersten Widerstand (4) verbundenen Diode (5), wobei von einem Verbindungspunkt zwischen dem ersten Widerstand (4) und der Diode (5) ein komprimiertes Signal ableitbar ist, und
einem in Reihe mit der Diode (5) geschalteten zweiten Widerstand (6),
wobei das Signal mit einem vom ersten und zweiten Widerstand (4, 6) bestimmten Komprimierungsverhältnis komprimiert ist,
gekennzeichnet durch
eine auf das zu komprimierende Signal ansprechende und zwischen ein anderes Ende des ersten Widerstandes (4) und dem zweiten Widerstand (6) geschaltete Steuereinrichtung (16) zum Steuern eines Komprimierungs-Startpotentials, bei welchem es der Diode (5) erlaubt ist, derart leitend zu sein, daß das Komprimierungs-Startpotential mit zunehmendem Spitzenspannungspegel des zu komprimierenden Signals abnimmt, oder umgekehrt, wenn die Diode (5) leitend ist.

2. Bildsignal-Komprimierungsvorrichtung (10) nach Anspruch 1, wobei die Steuereinrichtung (16) einen auf das zu komprimierende Signal ansprechenden Spitzengleichrichter (14) zum Gleichrichten einer Spitze des Signals, und
einen zwischen den Spitzengleichrichter (14) und den zweiten Widerstand (6) geschalteten Gleichstromverstärker (15) zum Vermindern des Komprimierungs-Startpotentials bei zunehmendem gleichgerichteten Spitzenspannungspegel des Signals aufweist.

3. Bildsignal-Komprimierungsvorrichtung (10), mit drei ersten Widerständen (4R, 4G, 4B), an die an jeweils einem Ende drei zu komprimierende Chrominanzsignale anlegbar sind, mit drei mit jeweils einem der drei ersten Widerstände (4R, 4G, 4B) verbundenen Dioden (5R, 5G, 5B), wobei aus den jeweiligen Verbindungspunkten zwischen den ersten Widerständen (4R, 4G, 4B) und den Dioden (5R, 5G, 5B) drei komprimierte Chrominanzsignale ableitbar sind, und mit drei in Reihe mit den drei Dioden (5R, 5G, 5B) geschalteten zweiten Widerständen (6R, 6G, 6B), wobei die drei Chrominanzsignale mit jeweiligen Komprimierungsverhältnissen komprimiert werden, die durch jeden der drei ersten Widerstände (4R, 4G, 4B) und jeden der drei zweiten Widerstände (6R, 6G, 6B) bestimmt sind,
gekennzeichnet durch
eine auf jedes der drei zu komprimierenden Chrominanzsignale ansprechende und zwischen die anderen Ende der drei ersten Widerstände (4R, 4G, 4B) und die drei zweiten Widerstände (6R, 6G, 6B) geschaltete Steuereinrichtung (16) zum Steuern jedes Komprimierungs-Startpotentials, bei welchem es den drei Dioden (5R, 5G, 5B) erlaubt ist, derart leitend zu sein, daß das Komprimierungs-Startpotential mit einem zunehmenden höchsten Spitzenspannungspegel der drei zu komprimierenden Chrominanzsignale abnimmt, oder umgekehrt, wenn die drei Dioden (5R, 5G, 5B) leitend sind.

4. Bildsignal-Komprimierungsvorrichtung (10) nach Anspruch 3, wobei die Steuereinrichtung (16)
einen auf die drei Chrominanzsignale ansprechenden Nichtaddierermischer (13) zum Auswählen eines der Chrominanzsignale mit einem höchsten Spitzenspannungspegel,
einen auf das ausgewählte Chrominanzsignal mit dem höchsten Spitzenspannungspegel ansprechenden Spitzengleichrichter (14) zum Gleichrichten des Chrominanzsignals, und
einen zwischen den Spitzengleichrichter (14) und die drei zweiten Widerstände (6R, 6G, 6B) geschalteten Gleichrichterverstärker (15) zum Vermindern der drei Komprimierungs-Startpotentiale mit zunehmendem ausgewählten, gleichgerichteten Spitzenspannungspegel des Chrominanzsignals aufweist.

* C L M S *