

## DESCRIPTION

ENVIRONMENT ADJUSTMENT SYSTEM AND ENVIRONMENT  
ADJUSTMENT METHOD, AND AIR CONDITIONER AND REMOTE  
CONTROLLER

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## Technical Field

【0001】 The present invention relates to techniques for adjusting environment, and can be applied to sleep control techniques, for example.

## 10 Background Art

【0002】 Human beings adjust their biological rhythms with light illuminance or the like. A biological rhythm is a life-related rhythm such as, for example, wakeup time and bedtime, and sleeping hours.

【0003】 In this day and age, there are many factors that disturb the biological rhythm. For example, the biological rhythm tends to be disturbed after the person stays up late. Therefore, techniques for changing the disturbed biological rhythm back to normal have conventionally been developed. For example, a patent document 1 discloses a technique for adjusting ambient temperature based on measured illuminance and ambient temperature. A patent document 2 discloses a technique for adjusting the biological  
20 rhythm by controlling light illuminance.

【0004】 The following documents disclose techniques pertinent to the present invention. A patent document 3 discloses a technique for controlling ambient temperature to obtain a favorable sleeping state. Patent documents 4 and 5 disclose remote control techniques for unified management of a plurality of devices.

25 【0005】 Patent document 1: Japanese Patent Application Laid-Open No. 8-193738

Patent document 2: Japanese Patent Application Laid-Open No. 2000-252084

Patent document 3: Japanese Patent No. 2987981

Patent document 4: Japanese Patent Application Laid-Open No. 2003-125465

Patent document 5: Japanese Patent Application Laid-Open No. 2003-018672

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## Disclosure of Invention

### Problems to be Solved by the Invention

【0006】 With the spread of television, many people watch TV installed in their bedrooms before going to bed. This results in delayed bedtime, causing their biological rhythms to  
10 be disturbed.

【0007】 When the technique disclosed in the patent document 2 is applied to such case, light from a television may hinder its effects.

【0008】 The prevent invention has been made in view of the circumstances, and has an object to obtain a favorable sleeping state while looking at an image projected on a  
15 display such as a television.

### Means for Solving the Problems

【0009】 In accordance with a first aspect of the present invention, there is provided an environment adjustment system comprising: a projection part for displaying or projecting  
20 an image with a variable color tone; a temperature adjustment part for adjusting ambient temperature; and a control part for controlling said projection part and said temperature adjustment part respectively, with variations in said color tone of said image and said adjustment to said ambient temperature associated with each other.

【0010】 In example embodiments of the environment adjustment system of the present  
25 invention, the projection part

(24) may change the color tone to one having a calming effect, and then the temperature adjustment part (13) may lower the ambient temperature.

5      【0011】 In example embodiments of the environment adjustment system of the present invention, the environment adjustment system may further include a sleep sensor for detecting the onset of sleep, wherein the control part (11) may control the temperature adjustment part (13) to lower the ambient temperature from the onset of sleep detected by the sleep sensor.

10     【0012】 In example embodiments of the environment adjustment system of the present invention, a color temperature set for the projection part (24) may decrease upon changing the color tone to the one having a calming effect.

      【0013】 In example embodiments of the environment adjustment system of the present invention, the luminance of the image may decrease upon changing the color tone to the one having a calming effect.

15     【0014】 In example embodiments of the environment adjustment system of the present invention, the environment adjustment system may further include a sound generation part (4) for generating sound, wherein the volume of the sound may decrease with the change in the color tone to the one having a calming effect.

20     【0015】 In example embodiments of the environment adjustment system of the present invention, the temperature adjustment part (13) may raise the ambient temperature, and then the projection part (24) may change the color tone to one having a stimulating effect.

      【0016】 In example embodiments of the environment adjustment system of the present

invention, the environment adjustment system may further include an arousal sensor for detecting the onset of arousal, wherein the control part (11) may control the projection part (24) to change the color tone of the image to one having a stimulating effect from the onset of arousal detected by the arousal sensor.

5     【0017】 In example embodiments of the environment adjustment system of the present invention, a color temperature set for the projection part (24) may increase upon changing the color tone to the one having a stimulating effect.

      【0018】 In example embodiments of the environment adjustment system of the present invention, the luminance of the image may increase upon changing the color tone to the  
10    one having a stimulating effect.

      【0019】 In example embodiments of the environment adjustment system of the present invention, the environment adjustment system may further include a sound generation part (4) for generating sound, wherein the volume of the sound may increase with the change in the color tone to the one having a stimulating effect.

15    【0020】 In example embodiments of the environment adjustment system of the present invention, the control part may include a temperature adjustment control part (11) for controlling an operation of the temperature adjustment part (13), and a projection control part (21) for controlling an operation of the projection part (24), and the environment adjustment system is provided with an air conditioner (1) including the temperature  
20    adjustment part and the temperature adjustment control part, and a display (2) including the projection part and the projection control part.

【0021】 In example embodiments of the environment adjustment system of the present invention, the control part may include a temperature adjustment control part (11) for controlling an operation of the temperature adjustment part (13), a projection control part (21) for controlling an operation of the projection part (24), and a sound control part (21) for controlling an operation of the sound generation part (4), and the environment adjustment system is provided with an air conditioner (1) including the temperature adjustment part and the temperature adjustment control part, and a display (2) including the projection part, the projection control part, and the sound control part.

【0022】 In example embodiments of the environment adjustment system of the present invention, the air conditioner (1) may further include a transmission part (12) for transmitting a first control instruction (S21), the display (2) may further include a first reception part (23) for receiving the first control instruction, the temperature adjustment control part (11) may cause the transmission part to transmit the first control instruction to the first reception part, and the projection control part (21) may cause the projection part to display or project the image with a change in the color tone based on the first control instruction received by the first reception part.

【0023】 In example embodiments of the environment adjustment system of the present invention, the environment adjustment system may further include a remote controller (3) for transmitting a second control instruction (S11), wherein the air conditioner (1) may further include a second reception part (14) for receiving the second control instruction, and the temperature adjustment control part (11) may cause the temperature adjustment part (13) to control the ambient temperature based on the second control instruction received by the second reception part, and may cause the transmission part

(12) to transmit the first control instruction (S21) to the first reception part (23) based on the second control instruction.

【0024】 In example embodiments of the environment adjustment system of the present invention, the environment adjustment system may further include a remote controller (3)  
5 for transmitting a first control instruction (S21), wherein the air conditioner (1) may further include a transmission part (12) for transmitting a second control instruction (S201), the display (2) may further include a first reception part (23) for receiving the first control instruction, the temperature adjustment control part (11) may cause the transmission part (12) to transmit the second control instruction to the remote controller,  
10 the remote controller may transmit the first control instruction to the first reception part based on the second control instruction, and the projection control part (21) may cause the projection part to display or project the image with a change in the color tone based on the first control instruction received by the first reception part.

【0025】 In example embodiments of the environment adjustment system of the present invention, the environment adjustment system may further include a remote controller (3)  
15 including: a transmission part (32) for transmitting a first control instruction (S21) instructing control of the projection part (24) and a second control instruction (S11) instructing control of the temperature adjustment part (13); and a transmission control part (31) for controlling the transmission part, wherein the display (2) may further include  
20 a first reception part (23) for receiving the first control instruction, the air conditioner (1) may further include a second reception part (14) for receiving the second control instruction, the transmission control part may cause the transmission part to transmit the first control instruction to the first reception part and the second control instruction to the second reception part, the projection control part (21)

may cause the projection part (24) to display or project the image with a change in the color tone based on the first control instruction received by the first reception part, and the temperature adjustment control part (11) may cause the temperature adjustment part (13) to control the ambient temperature based on the second control instruction received  
5 by the second reception part.

【0026】 In example embodiments of the environment adjustment system of the present invention, a third control instruction (S1) instructing control of the air conditioner (1) may be input to the transmission control part (31), and the transmission control part may cause the transmission part (32) to transmit the second control instruction (S11) based on the  
10 third control instruction to the second reception part (14), and may cause the transmission part to transmit the first control instruction (S21) based on the third control instruction to the first reception part (23).

【0027】 In example embodiments of the environment adjustment system of the present invention, a third control instruction (S2) instructing control of the display (2) may be  
15 input to the transmission control part (31), and the transmission control part may cause the transmission part (32) to transmit the first control instruction (S21) based on the third control instruction to the first reception part (23), and may cause the transmission part to transmit the second control instruction (S11) based on the third control instruction to the second reception part (14).

20 【0028】 In accordance with a second aspect of the present invention, there is provided an environment adjustment method comprising: a projection step of changing a color tone of an image displayed or projected on a display (2) to one having a calming effect; and a temperature adjustment step of lowering ambient temperature after said projection step.

【0029】 In example embodiments of the environment adjustment method of the present invention, a color temperature of the color tone may be lowered upon changing the color tone to the one having a calming effect in the projection step.

5   【0030】 In example embodiments of the environment adjustment method of the present invention, a color temperature of the color tone may be lowered upon changing the color tone to the one having a calming effect in the projection step.

【0031】 In example embodiments of the environment adjustment method of the present invention, the luminance of the image may be decreased upon changing the color tone to the one having a calming effect in the projection step.

10   【0032】 In example embodiments of the environment adjustment method of the present invention, a sound generation part (4) may generate sound in parallel with the display or projection of the image on the display (2), and the volume of the sound may be decreased with the change in the color tone to the one having a calming effect in the projection step.

15   【0033】 In accordance with a third aspect of the present invention, there is provided an environment adjustment method comprising: a temperature adjustment step of raising ambient temperature; and a projection step of changing a color tone of an image displayed or projected on a display to one having a stimulating effect after said temperature adjustment step.

20   【0034】 In example embodiments of the environment adjustment method of the present invention, the color tone may be changed to the one having a stimulating effect from the onset of arousal in the projection step.

【0035】 In example embodiments of the environment adjustment method of the present invention, a color temperature of the color tone may be raised upon changing the color tone to the one having a stimulating effect in the projection step.

【0036】 In example embodiments of the environment adjustment method of the present invention, the luminance of the image may be increased upon changing the color tone to the one having a stimulating effect in the projection step.

【0037】 In example embodiments of the environment adjustment method of the present invention, a sound generation part (4) may generate sound in parallel with the display or projection of the image on the display (2), and the volume of the sound may be increased with the change in the color tone to the one having a stimulating effect in the projection step.

【0038】 In accordance with a fourth aspect of the present invention, there is provided an environment adjustment method for an environment adjustment system, said system comprising: an air conditioner for executing said temperature adjustment step included in the environment adjustment method according to the above; and a display for executing said projection step according to the above, said air conditioner including a transmission part for transmitting a first control instruction, and said display including a first reception part for receiving said first control instruction, said method comprising: a transmission step of causing said transmission part to transmit said first control instruction to said first reception part; and a step of executing said projection step based on said first control instruction after receiving said first control instruction by said first reception part.

【0039】 In example embodiments of the environment adjustment method of the present

invention, the environment adjustment method may further include a remote controller (3) for transmitting a second control instruction (S11), the air conditioner (1) further including a second reception part (14) for receiving the second control instruction, the method executing, before the transmission step, a step of causing the remote controller to transmit the second control instruction; and a step of executing the temperature adjustment step based on the second control instruction after receiving the second control instruction by the second reception part, and generating the first control instruction (S21) based on the second control instruction in the air conditioner (1).

【0040】 In accordance with a fifth aspect of the present invention, there is provided an environment adjustment method for an environment adjustment system, said system comprising: an air conditioner for executing said temperature adjustment step included in the environment adjustment method according to the above; a display for executing said projection step according to the above; and a remote controller for transmitting a first control instruction, said air conditioner including a transmission part, said transmission part transmitting a second control instruction, and said display including a first reception part, said first reception part receiving said first control instruction, said method comprising: a step of causing said transmission part to transmit said second control instruction to said remote controller; a step of causing said remote controller having received said second control instruction to transmit said first control instruction to said first reception part based on said second control instruction; and a step of executing said projection step based on said first control instruction after receiving said first control instruction by said first reception part.

【0041】

In accordance with a sixth aspect of the present invention, there is provided an environment adjustment method for an environment adjustment system, said system comprising: an air conditioner for executing said temperature adjustment step included in the environment adjustment method according to the above; a display for executing said projection step according to the above; and a remote controller, said display further including a first reception part, said first reception part receiving a first control instruction, said air conditioner further including a second reception part for receiving a second control instruction, and said remote controller including a transmission part for transmitting said first and second control instructions, said method comprising the steps of: (a) causing said transmission part to transmit said first control instruction to said first reception part and said second control instruction to said second reception part; (b) executing said projection step based on said first control instruction after receiving said first control instruction by said first reception part; and (c) executing said temperature adjustment step based on said second control instruction after receiving said second control instruction by said second reception part.

【0042】 In example embodiments of the environment adjustment method of the present invention, the method may execute, before the step (a), a step of inputting a third control instruction (S1) instructing execution of the temperature adjustment step to the remote controller (3), wherein in the step (a), the transmission part (32) may transmit the second control instruction (S11) based on the third control instruction to the second reception part (14), and the transmission part may transmit the first control instruction (S21) based on the third control instruction to the first reception part (23).

【0043】 In example embodiments of the environment adjustment method of the present invention, the method may execute, before the step (a), a step of inputting a third control

instruction (S2) instructing execution of the projection step to the remote controller (3), wherein in the step (a), the transmission part (32) may transmit the first control instruction (S21) based on the third control instruction to the

first reception part (23), and the transmission part may transmit the second control instruction (S11) based on the third control instruction to the second reception part (14).

【0044】 In accordance with a seventh aspect of the present invention, there is provided an air conditioner comprising: a transmission part for transmitting a first control instruction  
5 to a display for displaying or projecting an image with a variable color tone; a temperature adjustment part for adjusting ambient temperature; and a temperature adjustment control part for controlling said temperature adjustment part, said temperature adjustment control part causing said transmission part to transmit said first control instruction to said display, and said first control instruction causing said display to control  
10 said color tone of said image in association with said temperature adjustment control part causing said temperature adjustment part to adjust said ambient temperature.

【0045】 In accordance with an eighth aspect of the present invention, there is provided a remote controller comprising: a transmission part; and a transmission control part for controlling said transmission part, said transmission part for transmitting a first control  
15 instruction to a display for displaying or projecting an image with a variable color tone, and for transmitting a second control instruction to an air conditioner, said transmission control part causing said transmission part to transmit said first control instruction to said display and said second control instruction to said air conditioner, said first control instruction causing said display to control a color tone of said image, said second control  
20 instruction causing said air conditioner to adjust ambient temperature, and variations in said color tone of said image and said adjustment to said ambient temperature are associated with each other.

#### Effects of the Invention

【0046】 According to example embodiments of the environment adjustment system, the  
25 air

conditioner or the remote controller of the present invention, sleep/arousal control by temperature and sleep/arousal control by color tone may be associated with each other. Further, with a non-monochrome image being displayed, a person can sleep or wake up while enjoying information included in the image.

5     【0047】According to example embodiments of the environment adjustment system or the environment adjustment method of the present invention, the person looking at the image feels a color having a calming effect with the change of color tone of the image displayed or the like to one having a calming effect, and is encouraged to fall asleep. And with the subsequent decrease in ambient temperature, the body temperature decreases during sleep.  
10   Accordingly, the person is smoothly induced to sleep.

    【0048】According to example embodiments of the environment adjustment system or the environment adjustment method of the present invention, the ambient temperature decreases from the onset of sleep. Accordingly, the person does not feel uncomfortable.

    【0049】According to example embodiments of the environment adjustment system or the  
15   environment adjustment method of the present invention, a calming effect is provided with the color tone of a lowered color temperature. Accordingly, the person looking at the image displayed or the like with the color tone is encouraged to fall asleep.

    【0050】According to example embodiments of the environment adjustment system or the environment adjustment method of the present invention, the surroundings grow dark.  
20   Accordingly, the person looking at the image is encouraged to fall asleep.

    【0051】According to example embodiments of the environment adjustment system or the environment adjustment method of the present invention, the surroundings go quiet. Accordingly, the person listening to the sound is encouraged to fall asleep.

    【0052】According to example embodiments of the environment adjustment system or

the environment adjustment method of the present invention, the increase in ambient temperature causes the body temperature to increase during sleep, inducing the sleeping person to arousal. And the person looking at the image subsequently displayed or the like after arousal feels a color having a stimulating effect with the change of color tone to one having a stimulating effect, and feels less drowsy. Accordingly, the person is smoothly induced to arousal.

【0053】According to example embodiments of the environment adjustment system or the environment adjustment method of the present invention, the color tone of the image changes to the one having a stimulating effect from the onset of arousal. Accordingly, the person feels less uncomfortable resulting from accelerated arousal.

【0054】According to example embodiments of the environment adjustment system or the environment adjustment method of the present invention, a stimulating effect is provided with the color tone of a raised color temperature. Accordingly, the person looking at the image displayed or the like with the color tone feels less drowsy.

【0055】According to example embodiments of the environment adjustment system or the environment adjustment method of the present invention, the surroundings grow light. Accordingly, the person looking at the image feels less drowsy.

【0056】According to example embodiments of the environment adjustment system or the environment adjustment method of the present invention, the surroundings get loud. Accordingly, the person listening to the sound feel less drowsy.

【0057】According to example embodiments of the environment adjustment system of the present invention, the environment adjustment system may be made of an air conditioner and a display.

【0058】According to example embodiments of the environment adjustment system or the environment adjustment method of the present invention, each of

the air conditioner and the display is provided separately, and the air conditioner remotely controls the display based on the first control instruction. Accordingly, the control of the air conditioner and the control of the display may be associated with each other.

5     【0059】According to example embodiments of the environment adjustment system or the environment adjustment method of the present invention, only the input of the control instruction for the air conditioner to the remote controller allows the display to be automatically controlled.

10    【0060】According to example embodiments of the environment adjustment system or the environment adjustment method of the present invention, the air conditioner automatically controls the display via the remote controller.

      【0061】According to example embodiments of the environment adjustment system or the environment adjustment method of the present invention, the remote controller manages the air conditioner and the display in a unified manner. Accordingly, the control of the air conditioner and the control of the display may easily be associated with each other.

15    【0062】According to example embodiments of the environment adjustment system or the environment adjustment method of the present invention, only the input of the control instruction for the air conditioner to the remote controller allows the display to be automatically controlled.

20    【0063】According to example embodiments of the environment adjustment system or the environment adjustment method of the present invention, only the input of the control instruction for the display to the remote controller allows the air conditioner to be automatically controlled.

25    【0064】These and other objects, features, aspects and advantages of the example embodiments of the present invention will become more apparent from the following detailed description when taken in

conjunction with the accompanying drawings.

#### Brief Description of Drawings

5       【0065】 Figs. 1 through 3 are schematic block diagrams of an environment adjustment system described in a first preferred embodiment.

      Figs. 4 through 6 are schematic block diagrams of an environment adjustment system described in a second preferred embodiment.

      Figs. 7 and 8 are schematic block diagrams of an environment adjustment system described in a third preferred embodiment.

10       Fig. 9 is a schematic diagram of a usage pattern of the environment adjustment system.

#### Best Modes for Carrying Out the Invention

##### 【0066】 First Preferred Embodiment

15       Fig. 1 is a schematic block diagram of an environment adjustment system

according to this preferred embodiment. The system mainly includes an air conditioner 1 and a display 2.

5    **[0067]** The air conditioner 1 includes a temperature adjustment control part 11, a transmission part 12, and a temperature adjustment part 13. The temperature adjustment control part 11 controls the transmission part 12 and the temperature adjustment part 13 as set out below.

**[0068]** The transmission part 12 is caused to input a control instruction S20 to transmit a control instruction S21 to the display 2 based on the control instruction S20. The control instruction S21 causes the display 2 to control the color tone or the like of an image.

10    The image shall mean a still image or a moving image, and does not include a monochrome screen.

**[0069]** The temperature adjustment part 13 is caused to adjust ambient temperature. The temperature adjustment part 13 discharges temperature adjusted air 100 into the environment of a prescribed position, e.g. an environment in which the air conditioner 1 is  
15    installed, thereby adjusting the temperature of the environment, namely, ambient temperature.

**[0070]** The display 2 includes a projection control part 21, a reception part 23, and a projection part 24. In Fig. 1, the display 2 is connected to a sound generation part 4 and an image signal generation part 6. While being externally attached to the display 2, the  
20    sound generation part 4 and the image signal generation part 6 may be incorporated in the display 2.

**[0071]** The reception part 23 receives the control instruction S21 transmitted from the air conditioner 1, and inputs the same as a control instruction S22 to the projection control part 21.

25    **[0072]** The projection control part 21 controls the projection part 24, the sound

generation part 4, and the image signal generation part 6 as set out below.

5     **【0073】** The image signal generation part 6 is caused to output an image signal S3. The image signal generation part 6 is, for example, a tuner, a video recorder, a DVD (Digital Versatile Disk) recorder, a terminal or the like. The tuner selects and receives a channel  
10     desired by the projection control part 21. from VHF (Very High Frequency)- and UHF (Ultra High Frequency)-band television signals, and outputs the same as the image signal S3 to the projection control part 21. The video recorder or DVD recorder reads images from a video or a DVD, and outputs the same as the image signal S3 to the projection control part 21. The terminal captures images from a network, for example, and outputs  
15     the same as the image signal S3 to the projection control part 21.

**【0074】** The projection part 24 is caused to display an image on a screen of the display 2 or projects an image on a screen installed in a different position from the display 2 based on the image signal S3 obtained from the image signal generation part 6. The image signal S3 may be supplied to the projection part 24 directly from the image signal  
15     generation part 6 without going through the projection control part 21.

**【0075】** The image displayed or the like by the projection part 24 is subjected to color tone control based on the control instruction S22, namely, based on the control instruction S21. More specifically, the color tone is controlled to have a calming effect for bedtime, and a stimulating effect for wakeup time.

**【0076】** The sound generation part 4 is caused to generate sound in parallel with the display or projection of the image by the projection part 24. The sound generation part 4  
15     is a speaker, for example. More specifically, a sound signal generated by a sound signal generation part incorporated in the image signal generation part 6 may be supplied together with the image signal S3 to the projection control part 21, causing the sound

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generation part 4 to generate sound based on the sound signal. At this time, the sound  
generation part 4 :

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may be controlled by a sound control part provided separately from the projection control part 21.

5     **[0077]** The control of the temperature adjustment part 13 in the air conditioner 1 and the control of the display 2 based on the control instruction S21, namely, the control of the color tone of an image, are linked with each other. The environment adjustment system may therefore be understood as follows: namely, the environment adjustment system includes the projection part 24, the temperature adjustment part 13, and a control part. The projection part 24 displays or projects an image with a variable color tone. The temperature adjustment part 13 adjusts ambient temperature. The control part includes  
10   the temperature adjustment control part 11 and the projection control part 21 that control the temperature adjustment part 13 and the projection part 24, respectively, with variations in color tone of the image and ambient temperature adjustment associated with each other.

15   **[0078]** In this environment adjustment system, sleep/arousal control by temperature and sleep/arousal control by color tone may be associated with each other. Further, with a non-monochrome image being displayed, a person can sleep or wake up while enjoying information included in the image.

**[0079]** The control technique by the environment adjustment system will now be described for bedtime (sleep) and for wakeup time (arousal) independently.

20   **[0080]** For bedtime, the projection part 24 changes the color tone to one having a calming effect, and then the temperature adjustment part 13 lowers ambient temperature.

**[0081]** More specifically, the projection control part 21 first causes the projection part 24 to display or project an image with a color tone having a calming effect based on the control instruction S22, namely, based on the control instruction S21, in the display 2.

25   **[0082]** The color tone having a calming effect is obtained by changing the white color

temperature to not more than 6000 K. A person looking at the image displayed or the like with this color tone is encouraged to fall asleep.

5    【0083】 In addition, the luminance of the image may be decreased in parallel with obtaining the color tone having a calming effect. As the surroundings grow dark, the person looking at the image is further encouraged to fall asleep.

      【0084】 Further, the volume of sound generated by the sound generation part 4 may be decreased in parallel with obtaining the color tone having a calming effect. As the surroundings go quiet, the person listening to the sound is further encouraged to fall asleep.

10   【0085】 After the above control, the temperature adjustment control part 11 causes the temperature adjustment part 13 to lower ambient temperature in the air conditioner 1. In this case, it is preferable for the ambient temperature to be lowered from the onset of sleep, so as not to make the person uncomfortable with the feeling of being chilly or the like. The onset of sleep is detected by a sleep sensor, for example.

15   【0086】 With such control technique, the person looking at the image feels a color having a calming effect with the change of color tone of the image displayed or the like to one having a calming effect, and is encouraged to fall asleep. And with the subsequent decrease in ambient temperature, the body temperature decreases during sleep. Accordingly, the person is smoothly induced to sleep.

20   【0087】 As for wakeup time, the temperature adjustment part 13 raises ambient temperature, and then the projection part 24 changes the color tone to one having a stimulating effect.

      【0088】 More specifically, the temperature adjustment control part 11 first causes the temperature adjustment part 13 to raise ambient temperature in the air conditioner 1.

25   【0089】 Then, the projection control part 21 causes the projection part 24 to display or

project an image with a color tone having a stimulating effect based on the control instruction S22, namely, based on the control instruction S21, in the display 2. It is preferable for the color tone to have a stimulating effect from the onset of arousal, so as not to make the person uncomfortable with accelerated arousal or the like. The onset of arousal is detected by an arousal sensor, for example.

【0090】 The color tone having a stimulating effect is obtained by changing the white color temperature to not less than 10000 K. A person looking at the image displayed or the like with this color tone feels less drowsy.

【0091】 In addition, the luminance of the image may be increased in parallel with obtaining the color tone having a stimulating effect. Accordingly, as the surroundings grow light, the person looking at the image feels less drowsy.

【0092】 Further, the volume of sound generated by the sound generation part 4 may be increased in parallel with obtaining the color tone having a stimulating effect. As the surroundings get loud, the person listening to the sound feels less drowsy.

【0093】 With such control technique, the increase in ambient temperature causes the body temperature to increase during sleep, inducing the sleeping person to arousal. And the person looking at the image subsequently displayed or the like after arousal feels a color having a stimulating effect with the change of color tone to one having a stimulating effect, and feels less drowsy. Accordingly, the person is smoothly induced to arousal.

【0094】 Fig. 2 is a schematic block diagram of the environment adjustment system including a remote controller 3 that communicates with the air conditioner 1. In an aspect shown in Fig. 2, the air conditioner 1 may control ambient temperature based on an externally input control instruction S11. The same elements as those of Fig. 1 have the same reference numerals in Fig. 2.

【0095】 The remote controller 3 includes a transmission control part 31 and a

transmission part 32. A control instruction S1 for the air conditioner 1 is input to the remote controller 3. The control instruction S1 includes instructions about ambient temperature to be adjusted by the temperature adjustment part 13, and about starting time of the control.

5     **[0096]** The transmission control part 31 controls the transmission part 32. More specifically, a control instruction S10 is supplied to the transmission part 32 based on the control instruction S1, and the transmission part 32 is caused to transmit the control instruction S11 to the air conditioner 1 based on the control instruction S10. The control instruction S11 causes the air conditioner 1 to control ambient temperature based on the  
10    control instruction S1.

**[0097]** The air conditioner 1 further includes a reception part 14. The reception part 14 receives the control instruction S11 transmitted from the remote controller 3, and inputs the same as a control instruction S12 to the temperature adjustment control part 11.

**[0098]** The temperature adjustment control part 11 causes the temperature adjustment  
15    part 13 to control ambient temperature based on the control instruction S12, namely, based on the control instruction S11. Further, the control instruction S20 that causes the transmission part 12 to transmit the control instruction S21 is generated based on the control instruction S12, namely, based on the control instruction S11. By inputting the control instruction S20, the transmission part 12 is caused to transmit the control  
20    instruction S21 to the display 2. The control instruction S21 causes the display 2 to control the color tone or the like of an image, as described above.

**[0099]** The display 2 receives the control instruction S21 by the reception part 23 and, as described above, controls the color tone of an image, and further the luminance of the image and the volume of sound.

25    **[0100]** Again in this case, the control of the display 2 based on the control instruction

S21 and the control of the temperature adjustment part 13 in the air conditioner 1 are linked with each other as described above.

5   【0101】 With such control technique, only the input of the control instruction S1 for the air conditioner 1 to the remote controller 3 allows the display 2 to be automatically controlled.

    【0102】 Fig. 3 is a schematic block diagram of another example of the environment adjustment system. In an aspect shown in Fig. 3, the air conditioner 1 may cause the display 2 to control the color tone of an image via the remote controller 3. The same elements as those of Fig. 1 have the same reference numerals in Fig. 3.

10   【0103】 In the air conditioner 1, the temperature adjustment control part 11 causes the transmission part 12 to transmit a control instruction S201 to the remote controller 3. The control instruction S201 causes the display 2 to control the color tone of an image via the remote controller 3.

15   【0104】 The remote controller 3 includes the transmission control part 31, the transmission part 32, and a reception part 33.

    【0105】 The reception part 33 receives the control instruction S201 transmitted from the air conditioner 1, and inputs the same as a control instruction S202 to the transmission control part 31.

20   【0106】 The transmission control part 31 supplies a control instruction S203 to the transmission part 32 based on the control instruction S202, causing the transmission part 32 to transmit the control instruction S21 to the display 2.

    【0107】 The display 2 receives the control instruction S21 by the reception part 23 and, as described above, controls the color tone of an image, and further the luminance of the image and the volume of sound.

25   【0108】 Again in this case, the control of the display 2 based on the control instruction

S21 and the control of the temperature adjustment part 13 in the air conditioner 1 are linked with each other as described above.

【0109】 With such control technique, the air conditioner 1 is capable of automatically controlling the display 2 via the remote controller 3.

5   【0110】 In any of the control techniques described above, the temperature adjustment control part 11 may cause the transmission part 12 or the remote controller 3 to transmit the control instruction S21 to the display 2 immediately before causing the display 2 to control the color tone or the like of an image. Alternatively, the temperature adjustment control part 11 may cause the transmission part 12 or the remote controller 3 to transmit  
10   the control instruction S21 to the display 2 in advance by including an instruction instructing the display 2 to start control at predetermined time in the control instruction S21.

#### 【0111】 Second Preferred Embodiment

15       Fig. 4 is a schematic block diagram of an environment adjustment system according to a second preferred embodiment. The system mainly includes the display 2 and the air conditioner 1.

      【0112】 The display 2 includes the projection control part 21, the projection part 24, and a transmission part 25. In Fig. 4, the display 2 is connected to the sound generation part  
20   4 and the image signal generation part 6. While being externally attached to the display 2, the sound generation part 4 and the image signal generation part 6 may be incorporated in the display 2.

      【0113】 The projection control part 21 controls the projection part 24, the transmission part 25, the sound generation part 4, and the image signal generation part 6 as set out  
25   below.

【0114】 The control instruction S10 is input to the transmission part 25, that is caused to transmit the control instruction S11 to the air conditioner 1 based on the control instruction S10. The control instruction S11 causes the air conditioner 1 to control ambient temperature.

5   【0115】 The projection part 24, the sound generation part 4, and the image signal generation part 6 are controlled in a similar way to the first preferred embodiment, so the description is omitted. Note that the image displayed or the like by the projection part 24 is subjected to color tone control by the projection control part 21. More specifically, the color tone is controlled to have a calming effect for bedtime, and a stimulating effect  
10   for wakeup time.

【0116】 The air conditioner 1 includes the temperature adjustment control part 11, the temperature adjustment part 13, and the reception part 14.

【0117】 The reception part 14 receives the control instruction S11 transmitted from the display 2, and inputs the same as the control instruction S12 to the temperature  
15   adjustment control part 11.

【0118】 The temperature adjustment control part 11 controls the temperature adjustment part 13 as set out below. Namely, the temperature adjustment part 13 is caused to adjust ambient temperature based on the control instruction S12, namely, based on the control instruction S11. The temperature adjustment part 13 discharges temperature adjusted air  
20   100 into the environment of a predetermined position, e.g. an environment in which the air conditioner 1 is installed, thereby adjusting the temperature of the environment, namely, ambient temperature.

【0119】 The control of the color tone of an image in the display 2, and the control of the air conditioner 1 based on the control instruction S11, namely, the control of ambient  
25   temperature, are linked with each other. The control technique by the environment

adjustment system will now be described for bedtime and for wakeup time independently.

【0120】 For bedtime, the projection control part 21 first causes the projection part 24 to display or project an image with a color tone having a calming effect in the display 2.

【0121】 The color tone having a calming effect is obtained by changing the white color temperature to not more than 6000 K. With this color tone, a person looking at the image displayed or the like with this color tone is encouraged to fall asleep.

【0122】 In addition, the luminance of the image may be decreased in parallel with obtaining the color tone having a calming effect. Accordingly, as the surroundings grow dark, the person looking at the image is further encouraged to fall asleep.

【0123】 Further, the volume of sound generated by the sound generation part 4 may be decreased in parallel with obtaining the color tone having a calming effect. Accordingly, as the surroundings go quiet, the person listening to the sound is further encouraged to fall asleep.

【0124】 After the above control, the temperature adjustment control part 11 causes the temperature adjustment part 13 to lower ambient temperature based on the control instruction S12, namely, based on the control instruction S11, in the air conditioner 1. In this case, it is preferable for the ambient temperature to be lowered from the onset of sleep, so as not to make the person uncomfortable with the feeling of being chilly. The onset of sleep is detected by a sleep sensor, for example.

【0125】 With such control technique, the person looking at the image feels a color having a calming effect with the change of color tone of the image displayed or the like to one having a calming effect, and is encouraged to fall asleep. And with the subsequent decrease in ambient temperature, the body temperature decreases during sleep. Accordingly, the person is smoothly induced to sleep.

【0126】 As for wakeup time, the temperature adjustment control part 11 first causes the

temperature adjustment part 13 to raise ambient temperature based on the control instruction S12, namely, based on the control instruction S11, in the air conditioner 1.

5     【0127】 Then, the projection control part 21 causes the projection part 24 to display or project an image with a color tone having a stimulating effect in the display 2. In this case, it is preferable for the color tone to have a stimulating effect from the onset of arousal, so as not to make the person uncomfortable with accelerated arousal or the like. The onset of arousal is detected by an arousal sensor, for example.

10    【0128】 The color tone having a stimulating effect is obtained by changing the color temperature to not less than 10000 K. Accordingly, a person looking at the image displayed or the like with this color tone feels less drowsy.

    【0129】 In addition, the luminance of the image may be increased in parallel with obtaining the color tone having a stimulating effect. Accordingly, as the surroundings grow light, the person looking at the image feels less drowsy.

15    【0130】 Further, the volume of sound generated by the sound generation part 4 may be increased in parallel with obtaining the color tone having a stimulating effect. Accordingly, as the surroundings get loud, the person listening to the sound feels less drowsy.

20    【0131】 With such control technique, the increase in ambient temperature causes the body temperature to increase during sleep, inducing the sleeping person to arousal. And the person looking at the image subsequently displayed or the like after arousal feels a color having a stimulating effect with the change of color tone to one having a stimulating effect, and feels less drowsy. Accordingly, the person is smoothly induced to arousal.

25    【0132】 Fig. 5 is a schematic block diagram of the environment adjustment system including the remote controller 3 that communicates with the display 2. In an aspect shown in Fig. 5, the display 2 may control the color tone or the like of an image based on

the externally input control instruction S21. The same elements as those of Fig. 4 have the same reference numerals in Fig. 5.

5   【0133】 The remote controller 3 includes the transmission control part 31 and the transmission part 32. A control instruction S2 for the display 2 is input to the remote controller 3. The control instruction S2 includes instructions about the color tone of an image, and about starting time of the control.

10   【0134】 The transmission control part 31 controls the transmission part 32. More specifically, the control instruction S20 is supplied to the transmission part 32 based on the control instruction S2, and the transmission part 32 is caused to transmit the control instruction S21 to the display 2 based on the control instruction S20. The control instruction S21 causes the display 2 to control the color tone or the like of an image based on the control instruction S2.

15   【0135】 The display 2 further includes the reception part 23. The reception part 23 receives the control instruction S21 transmitted from the remote controller 3, and inputs the same as a control instruction S22 to projection control part 21.

20   【0136】 The projection control part 21 controls the color tone or the like of an image based on the control instruction S22, namely, based on the control instruction S21. Further, the control instruction S10 is generated based on the control instruction S22, namely, based on the control instruction S21, for causing the transmission part 25 to transmit the control instruction S11. By inputting the control instruction S10, the transmission part 25 is caused to transmit the control instruction S11 to the air conditioner 1. The control instruction S11 causes the air conditioner 1 to control ambient temperature, as described above.

25   【0137】 The air conditioner 1 receives the control instruction S11 by the reception part 14 and, as described above, controls ambient temperature.

【0138】 Again in this case, the control of the air conditioner 1 based on the control instruction S11 and the control of the color tone of an image in the display 2 are linked with each other as described above.

【0139】 With such control technique, only the input of the control instruction S2 for the display 2 to the remote controller 3 allows the air conditioner 1 to be automatically controlled.

【0140】 Fig. 6 is a schematic block diagram of another example of the environment adjustment system. In an aspect shown in Fig. 6, the display 2 may cause the air conditioner 1 to control ambient temperature via the remote controller 3. The same elements as those of Fig. 5 have the same reference numerals in Fig. 6.

【0141】 In the display 2, the projection control part 21 causes the transmission part 25 to transmit a control instruction S101 to the remote controller 3. The control instruction S101 causes the air conditioner 1 to control ambient temperature via the remote controller 3.

【0142】 The remote controller 3 includes the transmission control part 31, the transmission part 32, and the reception part 33.

【0143】 The reception part 33 receives the control instruction S101 transmitted from the display 2, and inputs the same as a control instruction S102 to the transmission control part 31.

【0144】 The transmission control part 31 supplies a control instruction S103 to the transmission part 32 based on the control instruction S102, causing the transmission part 32 to transmit the control instruction S11 to the air conditioner 1.

【0145】 The air conditioner 1 receives the control instruction S11 by the reception part 14 and, as described above, controls ambient temperature.

【0146】 Again in this case, the control of the air conditioner 1 based on the control

instruction S11 and the control of the color tone of an image in the display 2 are linked with each other as described above.

【0147】 With such control technique, the display 2 is capable of automatically controlling the air conditioner 1 via the remote controller 3.

5   【0148】 In any of the control techniques described above, the projection control part 21 may cause the transmission part 25 or the remote controller 3 to transmit the control instruction S11 immediately before causing the air conditioner 1 to perform the predetermined control. Alternatively, in advance, the transmission part 25 or the remote controller 3 may be caused to transmit the control instruction S11 which includes an  
10 instruction instructing the air conditioner 1 to start control at predetermined time in the control instruction S11, to the air conditioner 1.

#### 【0149】 Third Preferred Embodiment

Fig. 7 is a schematic block diagram of an environment adjustment system according to a third preferred embodiment. The system mainly includes the remote controller 3, the air conditioner 1, and the display 2.

【0150】 The structure of the air conditioner 1 is the same as the air conditioner 1 shown in Fig. 4 that was described in the second preferred embodiment, and the structure of the display 2 is the same as the display 2 shown in Fig. 1 that was described in the first  
20 preferred embodiment, so the descriptions are omitted. The same elements as those of Figs. 1 and 4 have the same reference numerals in Fig. 7.

【0151】 The remote controller 3 includes the transmission control part 31 and the  
10 transmission part 32. The control instruction S1 for the air conditioner 1 and the control instruction S2 for the display 2 are                      input to the remote controller 3. The control instruction S1 includes instructions about ambient temperature to be adjusted by

the temperature adjustment part 13. The control instruction S2 includes instructions about the color tone of an image, for example.

20    【0152】 The transmission control part 31 controls the transmission part 32. More specifically, the control instruction S10 is supplied to the transmission part 32 based on the control instruction S1, causing the transmission part 32 to transmit the control instruction S11 to the air conditioner 1 based on the control instruction S10. Based on the inputted control instruction S2, the transmission part 32 is supplied with the control instruction S20, based on which the transmission part 32 is caused to transmit the control instruction S21 to the display 2. The control instruction S11 causes the air conditioner 1 to control ambient temperature based on the control instruction S1. The control instruction S21 causes the display 2 to control the color tone  
25    or the like of an image based on the control instruction S2.

15    【0153】 In the air conditioner 1, the reception part 14 receives the control instruction S11, and inputs the same as the control instruction S12 to the temperature adjustment control part 11. The temperature adjustment control part 11 causes the temperature adjustment part 13 to control ambient temperature based on the control instruction S12, namely, based on the control instruction S11. The temperature adjustment part 13 discharges temperature adjusted air 100 into the environment of a prescribed position, e.g. an environment in which the air conditioner 1 is installed, thereby adjusting the temperature  
20    of the environment, namely, ambient temperature.

25    【0154】 In the display 2, the reception part 23 receives the control instruction S21, and inputs the same as the control instruction S22 to the projection control part 21. The projection control part 21 then controls the color tone of an image based on the control instruction S22, namely, based on the control instruction S21. More specifically, the color tone is controlled to have a calming effect for bedtime, and a stimulating effect for

wakeup time.

【0155】 The control of the air conditioner 1 based on the control instruction S11 and the control of the display 2 based on the control instruction S21 are linked with each other.

【0156】 In the environment adjustment system described above, the remote controller 3 is  
5 capable of managing the air conditioner 1 and the display 2 in a unified manner. Accordingly, the control of the air conditioner 1 and the control of the display 2 may easily be associated with each other.

【0157】 The control technique by the environment adjustment system will now be described for bedtime and for wakeup time independently.

10 【0158】 For bedtime, the projection control part 21 first causes the projection part 24 to display or project an image with a color tone having a calming effect based on the control instruction S22, namely, based on the control instruction S21, in the display 2.

【0159】 The color tone having a calming effect is obtained by changing the white color temperature to not more than 6000 K. With this color tone, a person looking at the  
15 image displayed or the like with the color tone is encouraged to fall asleep.

【0160】 In addition, the luminance of the image may be decreased in parallel with obtaining the color tone having a calming effect. Accordingly, as the surroundings grow dark, the person looking at the image is further encouraged to fall asleep.

【0161】 Further, the volume of sound generated by the sound generation part 4 may be  
20 decreased in parallel with obtaining the color tone having a calming effect. Accordingly, as the surroundings go quiet, the person listening to the sound is further encouraged to fall asleep.

【0162】 After the above control, the temperature adjustment control part 11 causes the temperature adjustment part 13 to lower ambient temperature based on the control  
25 instruction S12, namely, based on the control instruction S11, in the air conditioner 1. In

this case, it is preferable for the ambient temperature to be lowered from the onset of sleep, so as not to make the person uncomfortable with the feeling of being chilly. The onset of sleep is detected by a sleep sensor, for example.

5     【0163】 With such control technique, the person looking at the image feels a color having a calming effect with the change of color tone of the image displayed or the like to one having a calming effect, and is encouraged to fall asleep. And with the subsequent decrease in ambient temperature, the body temperature decreases during sleep. Accordingly, the person is smoothly induced to sleep.

10    【0164】 As for wakeup time, the temperature adjustment control part 11 first causes the temperature adjustment part 13 to raise ambient temperature based on the control instruction S12, namely, based on the control instruction S11, in the air conditioner 1.

15    【0165】 Then, the projection control part 21 causes the projection part 24 to display or project an image with a color tone having a stimulating effect based on the control instruction S12, namely, based on the control instruction S11, in the display 2. In this case, it is preferable for the color tone to have a stimulating effect from the onset of arousal, so as not to make the person uncomfortable with accelerated arousal or the like. The onset of arousal is detected by an arousal sensor, for example.

20    【0166】 The color tone having a stimulating effect is obtained by changing the color temperature to not less than 10000 K. Accordingly, a person looking at the image displayed or the like with this color tone feels less drowsy.

   【0167】 In addition, the luminance of the image may be increased in parallel with obtaining the color tone having a stimulating effect. Accordingly, as the surroundings grow light, the person looking at the image feels less drowsy.

25    【0168】 Further, the volume of sound generated by the sound generation part 4 may be increased in parallel with obtaining the color tone having a stimulating effect.

Accordingly, as the surroundings get loud, the person listening to the sound feels less drowsy.

5     【0169】 With such control technique, the increase in ambient temperature causes the body temperature to increase during sleep, inducing the sleeping person to arousal. And the person looking at the image subsequently displayed or the like after arousal feels a color having a stimulating effect with the change of color tone to one having a stimulating effect, and feels less drowsy. Accordingly, the person is smoothly induced to arousal.

10    【0170】 Fig. 8 is a schematic block diagram of another example of the environment adjustment system. The same elements as those of Fig. 7 have the same reference numerals in Fig. 8.

      【0171】 One of the control instructions S1 and S2 is input to the remote controller 3.

      【0172】 Upon input of the control instruction S1, the transmission control part 31 supplies the control instruction S10 to the transmission part 32, causing the transmission part 32 to transmit the control instruction S11 based on the control instruction S1 to the  
15    air conditioner 1. Also supplied is the control instruction S20 to the transmission part 32, causing the transmission part 32 to transmit the control instruction S21 based on the control instruction S1 to the display 2.

      【0173】 With such control technique, only the input of the control instruction S1 for the air conditioner 1 to the remote controller 3 allows the display 2 to be automatically  
20    controlled.

      【0174】 Meanwhile, upon input of the control instruction S2, the transmission control part 31 supplies the control instruction S20 to the transmission part 32, causing the transmission part 32 to transmit the control instruction S21 based on the control instruction S2 to the display 2. Also supplied is the control instruction S10 to the  
25    transmission part 32, causing the transmission part 32 to transmit the control instruction

S11 based on the control instruction S2 to the air conditioner 1.

【0175】 With such control technique, only the input of the control instruction S2 for the display 2 to the remote controller 3 allows the air conditioner 1 to be automatically controlled.

【0176】 In any of the control techniques described above, the transmission control part 31 may cause the transmission part 32 to transmit the control instructions S11 and S21 to the air conditioner 1 and the display 2, respectively, immediately before causing the air conditioner 1 and the display 2 to perform their respective controls. Alternatively, in advance, the transmission part 32 may be caused to transmit the control instructions S11 and S21 which include instructions instructing the air conditioner 1 and the display 2 to start their respective controls at their prescribed predetermined times in the control instructions S11 and S21, to the air conditioner 1 and the display 2, respectively.

【0177】 Fig. 9 illustrates a usage pattern of the environment adjustment system. In Fig. 9, the sound generation part 4 is incorporated in a pillow, and the remote controller 3 is illustrated as mobile.

【0178】 In any of the embodiments described above, the air conditioner 1 incorporating the display 2 may be adopted as the environment adjustment system.

【0179】 Further, in any of the embodiments described above, a moving image adopted as the image displayed or the like by the display 2 attracts attention. Therefore, the calming effect or stimulating effect by the color tone of the image may be given more efficiently than a still image.

【0180】 Moreover, in any of the embodiments described above, the turning-on/off of the power to the display 2, particularly to the projection part 24 and the image signal generation part 6, may be controlled by the projection control part 21 or the control instruction S21. For example, the power to the projection part 24 is turned off at the

onset of sleep, or turned on at the onset of arousal.

[0181] While the invention has been shown and described in detail, the foregoing description is in all aspects illustrative and not restrictive. It is therefore understood that numerous modifications and variations can be devised without departing from the scope

5 of the invention.

## CLAIMS

1. An environment adjustment system comprising:

a projection part for displaying or projecting an image with a variable color

5 tone;

a temperature adjustment part for adjusting ambient temperature; and

a control part for controlling said projection part and said temperature adjustment part respectively, with variations in said color tone of said image and said adjustment to said ambient temperature associated with each other.

10

2. The environment adjustment system according to claim 1, wherein

said projection part changes said color tone to one having a calming effect, and then said temperature adjustment part lowers said ambient temperature.

15

3. The environment adjustment system according to claim 2, further comprising

a sleep sensor for detecting the onset of sleep, wherein

said control part controls said temperature adjustment part to lower said ambient temperature from said onset of sleep detected by said sleep sensor.

20

4. The environment adjustment system according to claim 3, wherein

a color temperature set by said projection part decreases upon changing said color tone to the one having a calming effect.

25

5. The environment adjustment system according to claim 4, wherein

the luminance of said image decreases upon changing said color tone to the one having a calming effect.

6. The environment adjustment system according to claim 3, wherein  
5 the luminance of said image decreases upon changing said color tone to the one having a calming effect.

7. The environment adjustment system according to claim 2, wherein  
a color temperature set by said projection part decreases upon changing said  
10 color tone to the one having a calming effect.

8. The environment adjustment system according to claim 7, wherein  
the luminance of said image decreases upon changing said color tone to the one  
having a calming effect.

15 9. The environment adjustment system according to claim 2, wherein  
the luminance of said image decreases upon changing said color tone to the one having a calming effect.

20 10. The environment adjustment system according to any one of claims 2 through 9, further comprising  
a sound generation part for generating sound, wherein  
the volume of said sound decreases with the change in said color tone to the one having a calming effect.

11. The environment adjustment system according to claim 10, wherein  
said control part includes

a temperature adjustment control part for controlling an operation of said  
temperature adjustment part, and

5 a projection control part for controlling an operation of said projection part,  
said environment adjustment system being provided with:

an air conditioner including said temperature adjustment part and said  
temperature adjustment control part; and

a display including said projection part and said projection control part.

10

12. The environment adjustment system according to claim 10, wherein  
said control part includes

a temperature adjustment control part for controlling an operation of said  
temperature adjustment part,

15 a projection control part for controlling an operation of said projection part, and  
a sound control part for controlling an operation of said sound generation part,  
said environment adjustment system being provided with:

an air conditioner including said temperature adjustment part and said  
temperature adjustment control part; and

20 a display including said projection part, said projection control part, and said  
sound control part.

13. The environment adjustment system according to any one of claims 3 through 9, wherein

said control part includes

a temperature adjustment control part for controlling an operation of said

5 temperature adjustment part, and

a projection control part for controlling an operation of said projection part,

said environment adjustment system being provided with:

an air conditioner including said temperature adjustment part and said temperature adjustment control part; and

10 a display including said projection part and said projection control part.

14. The environment adjustment system according to claim 2, wherein

said control part includes

a temperature adjustment control part for controlling an operation of said

15 temperature adjustment part, and

a projection control part for controlling an operation of said projection part,

said environment adjustment system being provided with:

an air conditioner including said temperature adjustment part and said temperature adjustment control part; and

20 a display including said projection part and said projection control part.

15. The environment adjustment system according to claim 2, further comprising

a sound generation part for generating sound, said sound generation part decreasing the volume of said sound with the change in said color tone to the one having a calming effect, wherein

said control part includes

5 a temperature adjustment control part for controlling an operation of said temperature adjustment part,

a projection control part for controlling an operation of said projection part, and

a sound control part for controlling an operation of said sound generation part,

said environment adjustment system being provided with:

10 an air conditioner including said temperature adjustment part and said temperature adjustment control part; and

a display including said projection part, said projection control part, and said sound control part.

15 16. The environment adjustment system according to claim 1, wherein

said temperature adjustment part raises said ambient temperature, and then said projection part changes said color tone to one having a stimulating effect.

17. The environment adjustment system according to claim 16, further  
20 comprising

an arousal sensor for detecting the onset of arousal, wherein

said control part controls said projection part to change said color tone of said image to one having a stimulating effect from said onset of arousal detected by

said arousal sensor.

18. The environment adjustment system according to claim 17, wherein  
a color temperature set for said projection part increases upon changing said  
5 color tone to the one having a stimulating effect.

19. The environment adjustment system according to claim 18, wherein  
the luminance of said image increases upon changing said color tone to the one  
having a stimulating effect.  
10

20. The environment adjustment system according to claim 17, wherein  
the luminance of said image increases upon changing said color tone to the one  
having a stimulating effect.

15 21. The environment adjustment system according to claim 16, wherein  
a color temperature set for said projection part increases upon changing said  
color tone to the one having a stimulating effect.

22. The environment adjustment system according to claim 21, wherein  
20 the luminance of said image increases upon changing said color tone to the one  
having a stimulating effect.

23. The environment adjustment system according to claim 16, wherein  
the luminance of said image increases upon changing said color tone to the one  
25 having a stimulating effect.

24. The environment adjustment system according to any one of claims 16 through 23, further comprising

a sound generation part for generating sound, wherein

the volume of said sound increases with the change in said color tone to the one

5 having a stimulating effect.

25. The environment adjustment system according to claim 24, wherein

said control part includes

a temperature adjustment control part for controlling an operation of said

10 temperature adjustment part, and

a projection control part for controlling an operation of said projection part,

said environment adjustment system being provided with:

an air conditioner including said temperature adjustment part and said

temperature adjustment control part; and

15 a display including said projection part and said projection control part.

26. The environment adjustment system according to claim 24, wherein

said control part includes

a temperature adjustment control part for controlling an operation of said

20 temperature adjustment part,

a projection control part for controlling an operation of said projection part, and

a sound control part for controlling an operation of said sound generation

part,

said environment adjustment system being provided with:

an air conditioner including said temperature adjustment part and said temperature adjustment control part; and

5 a display including said projection part, said projection control part, and said sound control part.

27. The environment adjustment system according to any one of claims 17 through 23, wherein

10 said control part includes

a temperature adjustment control part for controlling an operation of said temperature adjustment part, and

a projection control part for controlling an operation of said projection part,

said environment adjustment system being provided with:

15 an air conditioner including said temperature adjustment part and said temperature adjustment control part; and

a display including said projection part and said projection control part.

28. The environment adjustment system according to claim 16, wherein

20 said control part includes

a temperature adjustment control part for controlling an operation of said temperature adjustment part, and

a projection control part for controlling an operation of said projection part,

said environment adjustment system being provided with:

an air conditioner including said temperature adjustment part and said temperature adjustment control part; and

a display including said projection part and said projection control part.

5

29. The environment adjustment system according to claim 16, further comprising

a sound generation part for generating sound, said sound generation part increasing the volume of said sound with the change in said color tone to the one having a stimulating effect, wherein

10

said control part includes

a temperature adjustment control part for controlling an operation of said temperature adjustment part,

a projection control part for controlling an operation of said projection part, and

15

a sound control part for controlling an operation of said sound generation part,

said environment adjustment system being provided with:

an air conditioner including said temperature adjustment part and said temperature adjustment control part; and

a display including said projection part, said projection control part, and said

20

sound control part.

30. The environment adjustment system according to any one of claims 14, 15, 28 and 29, wherein

said air conditioner further includes a transmission part for transmitting a first control instruction,

said display further includes a first reception part for receiving said first control instruction,

5        said temperature adjustment control part causes said transmission part to transmit said first control instruction to said first reception part, and

said projection control part causes said projection part to display or project said image with a change in said color tone based on said first control instruction received by said first reception part.

10

31. The environment adjustment system according to claim 30, further comprising

a remote controller for transmitting a second control instruction, wherein

15        said air conditioner further includes a second reception part for receiving said second control instruction, and

said temperature adjustment control part causes said temperature adjustment part to control said ambient temperature based on said second control instruction received by said second reception part, and causes said transmission part to transmit said first control instruction to said first reception part based on said second control instruction.

20

32. The environment adjustment system according to any one of claims 14, 15, 28 and 29, further comprising

a remote controller for transmitting a first control instruction, wherein

said air conditioner further includes a transmission part, said transmission part transmitting a second control instruction,

said display further includes a first reception part for receiving said first control instruction,

5           said temperature adjustment control part causes said transmission part to transmit said second control instruction to said remote controller,

said remote controller transmits said first control instruction to said first reception part based on said second control instruction, and

10           said projection control part causes said projection part to display or project said image with a change in said color tone based on said first control instruction received by said first reception part.

33. The environment adjustment system according to any one of claims 14, 15, 28 and 29, further comprising

15           a remote controller, said remote controller including:

a transmission part for transmitting a first control instruction instructing control of said projection part and a second control instruction instructing control of said temperature adjustment part and

a transmission control part for controlling said transmission part, wherein

20           said display further includes a first reception part for receiving said first control instruction,

said air conditioner further includes a second reception part for receiving said second control instruction,

25           said transmission control part causes said transmission part to transmit said first control instruction to said first reception part and said second control instruction to said

second reception part,

said projection control part causes said projection part to display or project said image with a change in said color tone based on said first control instruction received by said first reception part, and

5        said temperature adjustment control part causes said temperature adjustment part to control said ambient temperature based on said second control instruction received by said second reception part.

34. The environment adjustment system according to claim 33, wherein  
10        a third control instruction instructing control of said air conditioner is input to said transmission control part, and

said transmission control part causes said transmission part to transmit said second control instruction based on said third control instruction to said second reception part, and causes said transmission part to transmit said first control instruction based on  
15        said third control instruction to said first reception part.

35. The environment adjustment system according to claim 33, wherein  
a third control instruction instructing control of said display is input to said transmission control part, and

20        said transmission control part causes said transmission part to transmit said first control instruction based on said third control instruction to said first reception part, and causes said transmission part to transmit said second control instruction based on said third control instruction to said second reception part.

25        36. An environment adjustment method comprising:

a projection step of changing a color tone of an image displayed or projected on a display to one having a calming effect; and

a temperature adjustment step of lowering ambient temperature after said projection step.

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37. The environment adjustment method according to claim 36, wherein said ambient temperature is lowered from the onset of sleep in said temperature adjustment step.

10

38. The environment adjustment method according to claim 37, wherein a color temperature of said color tone is lowered upon changing said color tone to the one having a calming effect in said projection step.

15

39. The environment adjustment method according to claim 38, wherein the luminance of said image is decreased upon changing said color tone to the one having a calming effect in said projection step.

20

40. The environment adjustment method according to claim 37, wherein the luminance of said image is decreased upon changing said color tone to the one having a calming effect in said projection step.

41. The environment adjustment method according to claim 36, wherein a color temperature of said color tone is lowered upon changing said color tone to the one having a calming effect in said projection step.

42. The environment adjustment method according to claim 41, wherein the luminance of said image is decreased upon changing said color tone to the one having a calming effect in said projection step.

5           43. The environment adjustment method according to claim 36, wherein the luminance of said image is decreased upon changing said color tone to the one having a calming effect in said projection step.

          44. The environment adjustment method according to any one of claims 36  
10 through 43, wherein

          a sound generation part generates sound in parallel with the display or projection of said image on said display, and

          the volume of said sound is decreased with the change in said color tone to the one having a calming effect in said projection step.

15

          45. An environment adjustment method comprising:

          a temperature adjustment step of raising ambient temperature; and

          a projection step of changing a color tone of an image displayed or projected on a display to one having a stimulating effect after said temperature adjustment step.

20

          46. The environment adjustment method according to claim 45, wherein said color tone is changed to the one having a stimulating effect from the onset of arousal in said projection step.

25

          47. The environment adjustment method according to claim 46, wherein

a color temperature of said color tone is raised upon changing said color tone to the one having a stimulating effect in said projection step.

48. The environment adjustment method according to claim 47, wherein  
5 the luminance of said image is increased upon changing said color tone to the one having a stimulating effect in said projection step.

49. The environment adjustment method according to claim 46, wherein  
the luminance of said image is increased upon changing said color tone to the  
10 one having a stimulating effect in said projection step.

50. The environment adjustment method according to claim 45, wherein  
a color temperature of said color tone is raised upon changing said color tone to the one having a stimulating effect in said projection step.

15 51. The environment adjustment method according to claim 50, wherein  
the luminance of said image is increased upon changing said color tone to the one having a stimulating effect in said projection step.

20 52. The environment adjustment method according to claim 45, wherein  
the luminance of said image is increased upon changing said color tone to the one having a stimulating effect in said projection step.

53. The environment adjustment method according to any one of claims 45  
25 through 52, wherein

a sound generation part generates sound in parallel with the display or projection of said image on said display, and

the volume of said sound is increased with the change in said color tone to the one having a stimulating effect in said projection step.

5

54. An environment adjustment method for an environment adjustment system, said system comprising:

an air conditioner for executing said temperature adjustment step included in the environment adjustment method according to any one of claims 36 through 43 and  
10 claims 45 through 52; and

a display for executing said projection step according to any one of said claims, said air conditioner including a transmission part for transmitting a first control instruction, and

said display including a first reception part for receiving said first control  
15 instruction,

said method comprising:

a transmission step of causing said transmission part to transmit said first control instruction to said first reception part; and

a step of executing said projection step based on said first control instruction  
20 after receiving said first control instruction by said first reception part.

55. The environment adjustment method according to claim 54 for said environment adjustment system, said system further comprising

a remote controller for transmitting a second control instruction,

said air conditioner further including a second reception part for receiving said second control instruction,

said method executing, before said transmission step,:

5 a step of causing said remote controller to transmit said second control instruction; and

a step of executing said temperature adjustment step based on said second control instruction after receiving said second control instruction by said second reception part, and generating said first control instruction based on said second control instruction in said air conditioner.

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56. An environment adjustment method for an environment adjustment system, said system comprising:

an air conditioner for executing said temperature adjustment step included in the environment adjustment method according to any one of claims 36 through 43 and  
15 claims 45 through 52;

a display for executing said projection step according to any one of said claims;  
and

a remote controller for transmitting a first control instruction,

said air conditioner including a transmission part, said transmission part  
20 transmitting a second control instruction, and

said display including a first reception part, said first reception part receiving said first control instruction,

said method comprising:

a step of causing said transmission part to transmit said second control  
25 instruction to said remote controller;

a step of causing said remote controller having received said second control instruction to transmit said first control instruction to said first reception part based on said second control instruction; and

a step of executing said projection step based on said first control instruction  
5 after receiving said first control instruction by said first reception part.

57. An environment adjustment method for an environment adjustment system, said system comprising:

an air conditioner for executing said temperature adjustment step included in  
10 the environment adjustment method according to any one of claims 36 through 43 and claims 45 through 52;

a display for executing said projection step according to any one of said claims;  
and

a remote controller,

15 said display further including a first reception part, said first reception part receiving a first control instruction,

said air conditioner further including a second reception part for receiving a second control instruction, and

said remote controller including a transmission part for transmitting said first  
20 and second control instructions,

said method comprising the steps of:

(a) causing said transmission part to transmit said first control instruction to said first reception part and said second control instruction to said second reception part;

(b) executing said projection step based on said first control instruction after

receiving said first control instruction by said first reception part; and

(c) executing said temperature adjustment step based on said second control instruction after receiving said second control instruction by said second reception part.

5           58. The environment adjustment method according to claim 57, executing, before said step (a),

          a step of inputting a third control instruction instructing execution of said temperature adjustment step to said remote controller,

          wherein in said step (a),

10           said transmission part is caused to transmit said second control instruction based on said third control instruction to said second reception part, and

          said transmission part is caused to transmit said first control instruction based on said third control instruction to said first reception part.

          59. The environment adjustment method according to claim 57, executing, 15 before said step (a),

          a step of inputting a third control instruction instructing execution of said projection step to said remote controller,

          wherein in said step (a),

          said transmission part is caused to transmit said first control instruction based 20 on said third control instruction to said first reception part, and

          said transmission part is caused to transmit said second control instruction based on said third control instruction to said second reception part.

          60. An air conditioner comprising:

          a transmission part for transmitting a first control instruction to a display for 25 displaying or projecting an image with a variable color tone;

a temperature adjustment part for adjusting ambient temperature; and

a temperature adjustment control part for controlling said temperature adjustment part,

said temperature adjustment control part causing said transmission part to  
5 transmit said first control instruction to said display, and

said first control instruction causing said display to control said color tone of said image in association with said temperature adjustment control part causing said temperature adjustment part to adjust said ambient temperature.

10 61. A remote controller comprising:

a transmission part; and

a transmission control part for controlling said transmission part,

said transmission part for transmitting a first control instruction to a display for displaying or projecting an image with a variable color tone, and for transmitting a second  
15 control instruction to an air conditioner,

said transmission control part causing said transmission part to transmit said first control instruction to said display and said second control instruction to said air conditioner,

said first control instruction causing said display to control a color tone of said  
20 image,

said second control instruction causing said air conditioner to adjust ambient temperature, and

variations in said color tone of said image and said adjustment to said ambient temperature are associated with each other.