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GB A	**2145586**	**US**	**4368406**
GB	**1568415**	**US**	**3724931**
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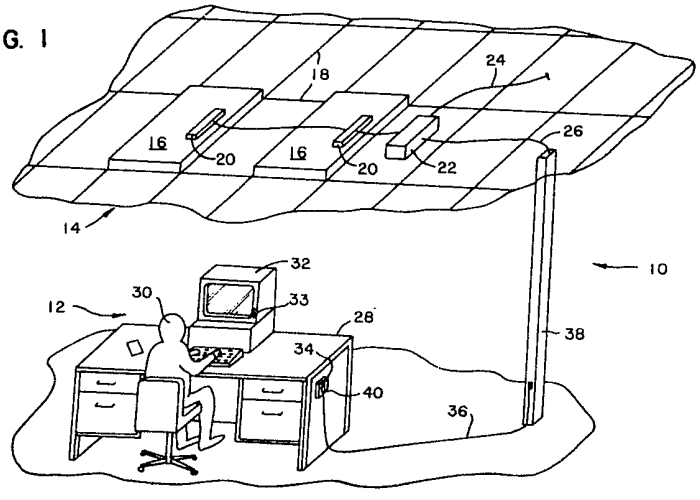
(58) Field of search
H2H
Selected US specifications from IPC sub-classes B60Q H05B

(54) Lighting control system

(57) The system enables adjustment both of the ambient light level surrounding a user location 12 and of the contrast between the ambient light level and the intensity of a localised light source, e.g. a VDU screen, at the user location. A first control 33 is provided at the user location for adjusting the intensity of the localised light source 32, and a second control 34 is provided at the user location and operatively associated with a power controller 22 for enabling the user selectively to vary the power supplied to ambient lights 16 independently of the first control 33. The ambient light source (16') may be built into a modular work station (12'), (Fig. 3). The control 34 may be operated by hand or foot or in response to detection of the motion, voice or eyelid movement of the user. Control 34 may be linked to the power control circuitry by power line carrier transmission, optical fibre, a telephone system or a wireless link, one or two photosensors may be used to control ambient light level or ambient/local contrast.

An interface 42 for use with a fluorescent light fitting has a plug (50), (Figs. 5, 7)) to engage a power supply socket, a socket (46) to receive a plug (48) connected to the fitting, and is connected to a remote user control 34. Power control circuitry may be in the control 34 or in the interface 42.

FIG. 1



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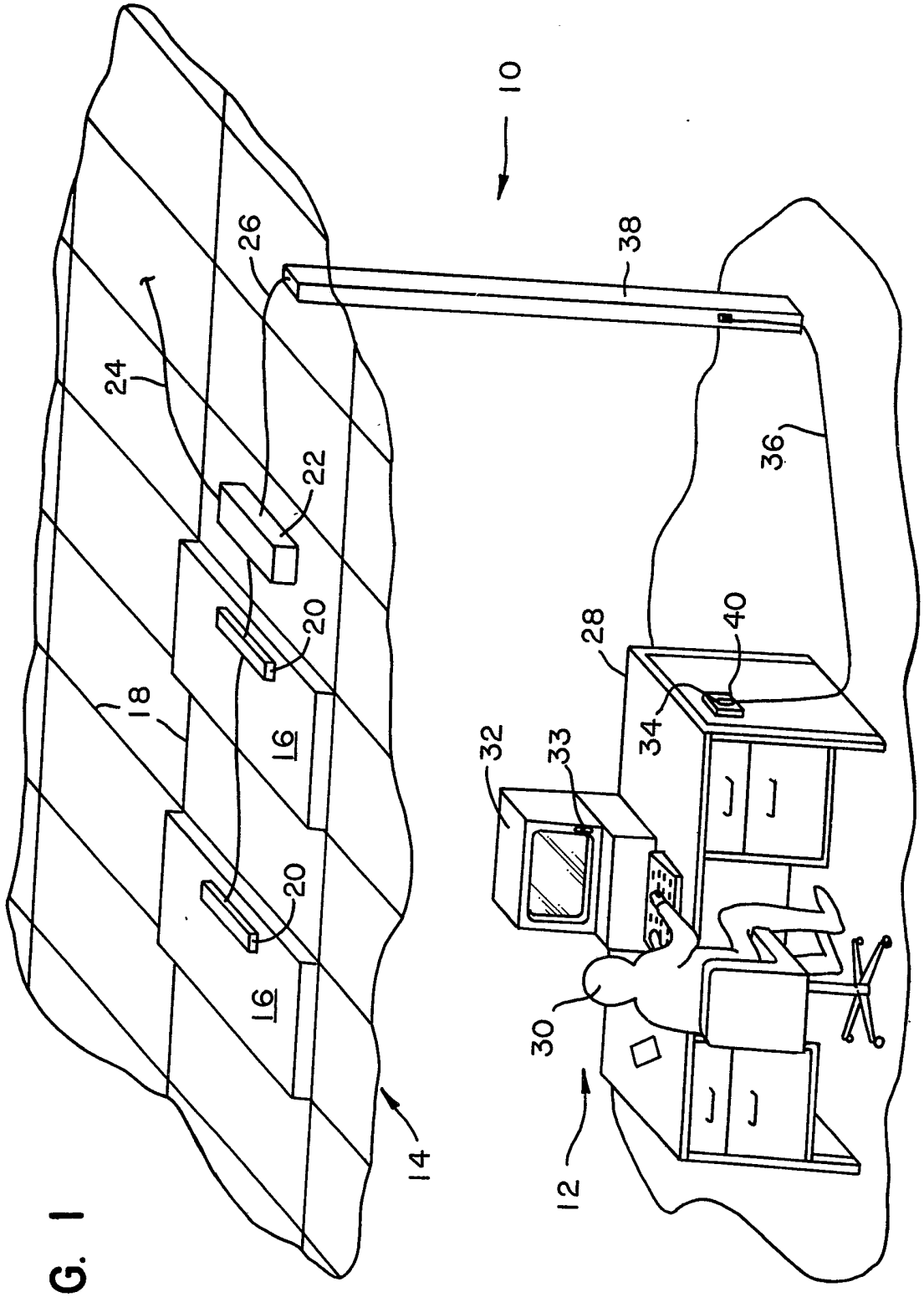


FIG. 1

FIG. 4

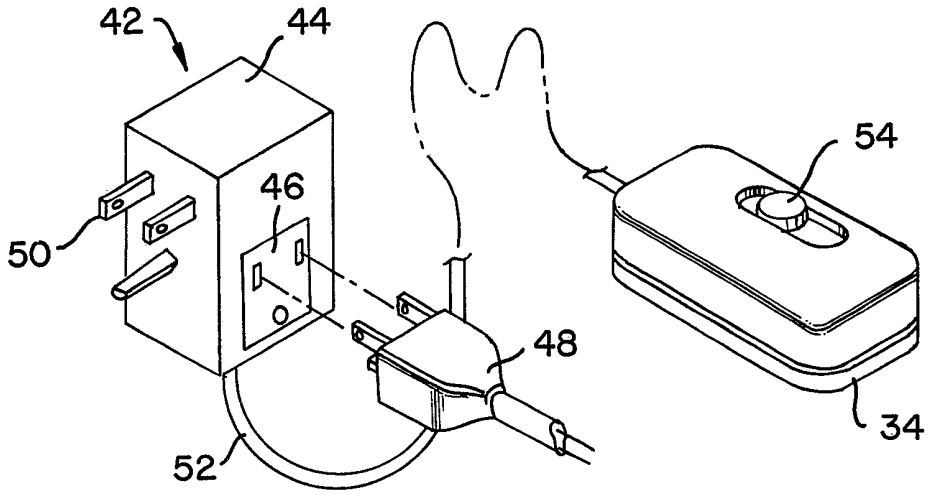
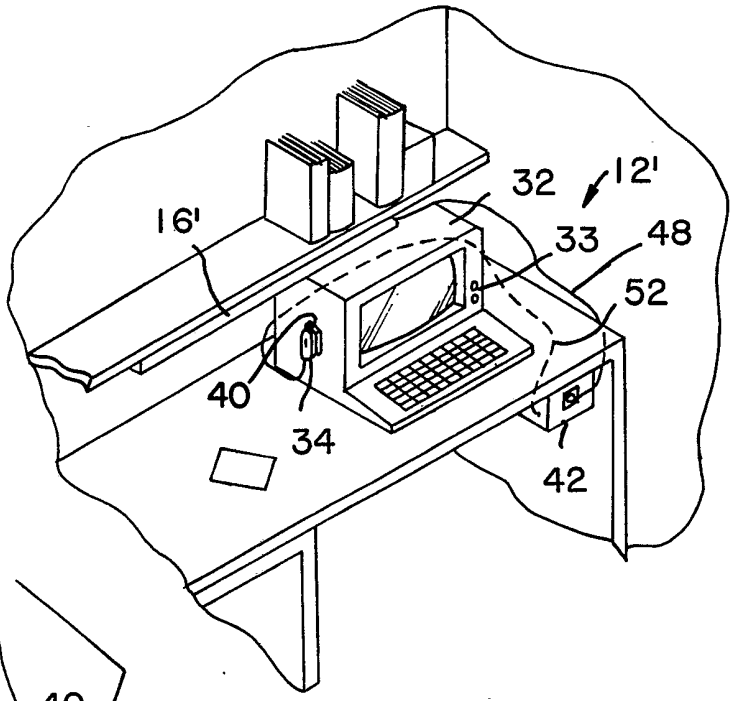


FIG. 3



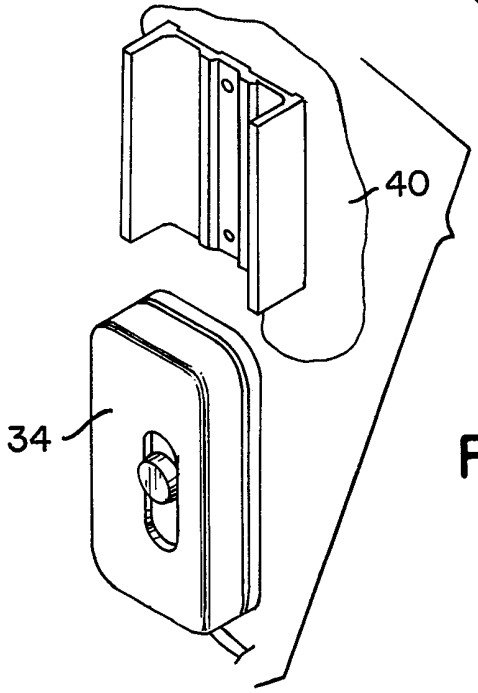


FIG. 2

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FIG. 5

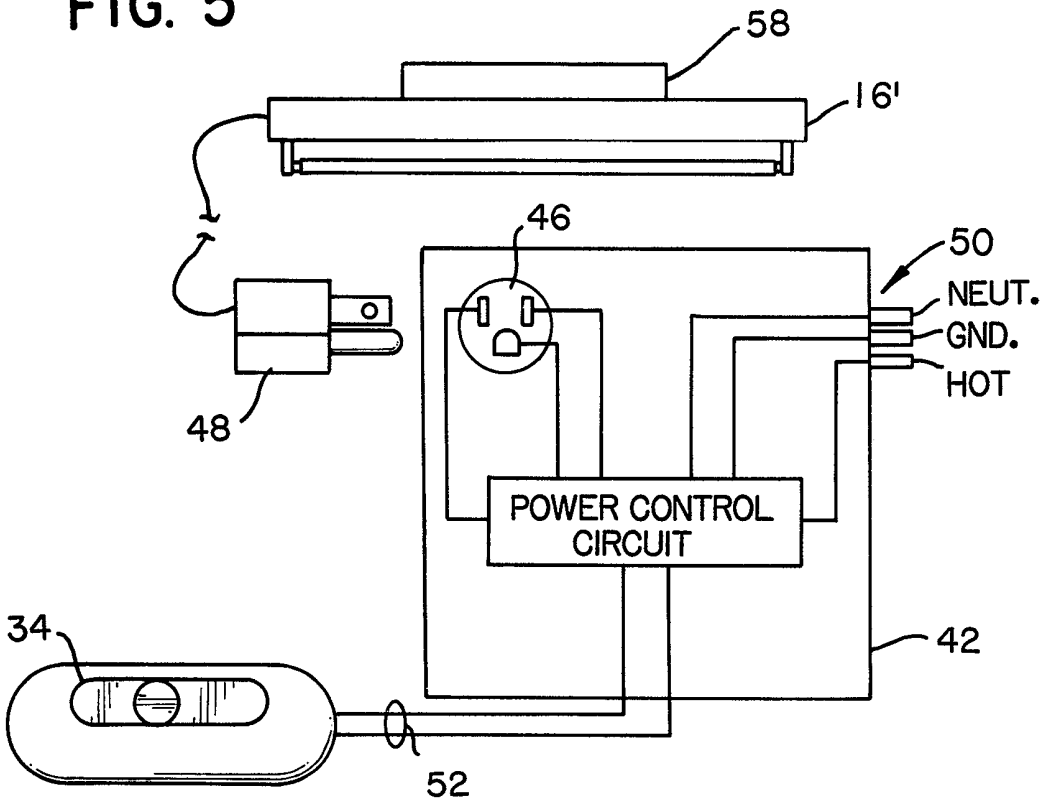
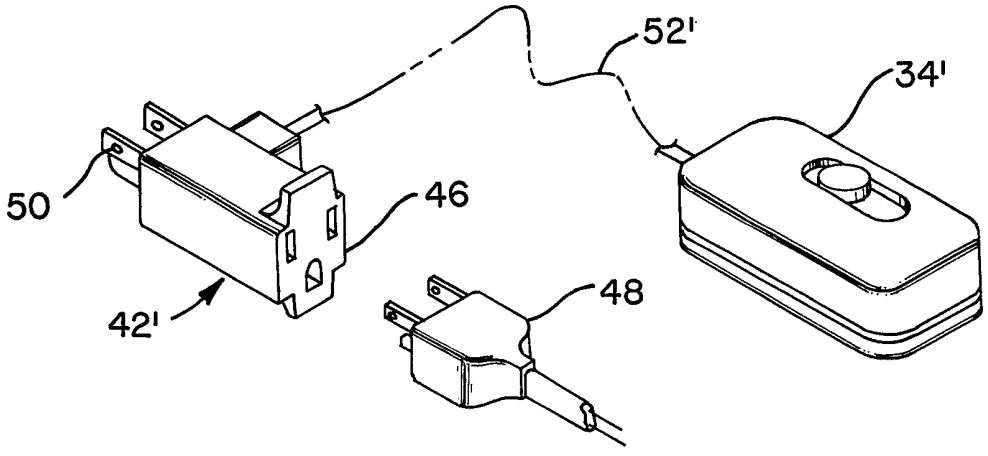


FIG. 6



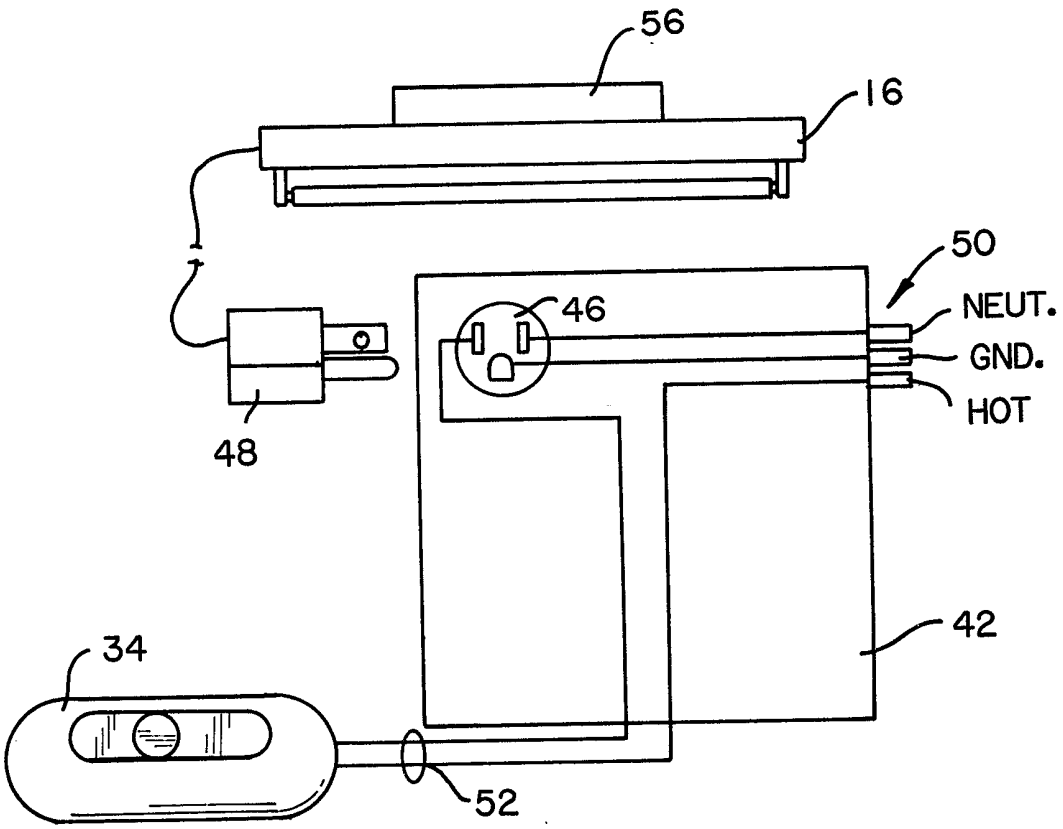


FIG. 7

SPECIFICATION

Lighting Control System

Background of the Invention

This invention relates to lighting control systems, and in particular to lighting control systems which permit adjustment of the ambient light level at a workstation and/or the contrast between the ambient light level and the localized light level to provide maximum worker comfort.

In the last several years, with the proliferation of personal computers and computer terminals in the office environment, there has been an increased awareness that the proper lighting of video display units (VDUs) is critical to their operator's comfort and productivity.

Often, VDUs are installed in an existing space in which the lighting system was not designed to provide suitable lighting levels for tasks to be performed at VDUs. Additionally, the relative levels between the ambient light and the VDU brightness (localized light) must be properly maintained.

The absolute level of ambient lighting is critical. It can be too bright or too dark even if the contrast is correct. For example, if the overhead lighting is too bright, the result will be excessive glare on the screen, which will make it difficult to read. Moreover, an excessive amount of overhead lighting may result in too much contrast between a relatively dark VDU screen and the surroundings or workpapers. A user's eyes scan back and forth between the screen and the surroundings or workpapers when the user is at the VDU workstation. If the contrast is too great, eye strain and headaches can result. The opposite condition may also occur, i.e., the ambient lighting level may be too low and the VDU screen too bright, which will also cause excessive eye strain due to too much contrast.

In addition, each individual requires a variation in the set of conditions as far as light level and contrast is concerned throughout the course of each work day and over longer periods of time. Each user's optimum set of conditions depends on many factors, including the age of the user, the length of time spent at the VDU, the surrounding colors, time of day, season and the particular task being worked on.

A number of approaches to solving these problems have been tried. Special fixtures have been developed to provide ambient lighting for the VDU while significantly reducing glare on the screen. These fixtures solve the glare problem, but do not allow the individual to selectably adjust the ambient light level to his specific needs.

VDU screens have been produced with a control which allows the operator to adjust the intensity of the display on the screen (localized light). This helps in some cases, but does not allow the adjustment of the absolute ambient lighting level which is also critical in providing suitable lighting.

Special VDU screen overlays have been offered which reduce glare, but do it at the expense of having a relatively dark VDU screen.

All of these approaches have proved unsatisfactory in use.

Similar problems of incorrect lighting level, or unbalanced contrast levels within a user's visual field, occur with tasks other than VDU use. Examples of such tasks include localized reading, television viewing, desk work and manufacturing assembly. The system of the present invention can be used in any of these situations with equally beneficial results.

Summary of the Invention

The present invention is a lighting control system for adjusting both the ambient light level surrounding a user location and the contrast between the ambient light level and the intensity of a localized light source at the user location. The power supplied to the ambient lights illuminating the user location is controlled to adjust their light output independent of the localized light source. The invention comprises first user adjustable control means at the user location for adjusting the intensity of the localized light source, power controller means connected to the ambient lights illuminating the user location for varying the power supplied to the lights, and second user-adjustable control means at the user location operatively associated with the power controller means for enabling the user to selectively vary the power supplied to the lights independently of the first user-adjustable means.

Description of the Drawings

For the purpose of illustrating the invention, there is shown in the drawings forms which are presently preferred; it being understood, however, that this invention is not limited to the precise arrangements and instrumentalities shown.

Figure 1 is a simplified representation of the lighting control system in accordance with the present invention.

Figure 2 is a detail view of the user-adjustable control and its associated mounting clip.

Figure 3 shows an alternate embodiment of the invention for use with modular workstations.

Figure 4 shows one form of power controller for the invention.

Figure 5 shows the schematic diagram for the power controller of Figure 4.

Figure 6 shows an alternate form of power controller for the invention.

Figure 7 shows the schematic diagram for the power controller of Figure 6.

Description of the Preferred Embodiments

Referring now to the drawings, wherein like numerals indicate like elements, there is shown in Figure 1 a schematic representation of the lighting control system in accordance with the present invention. A workstation 12 is located in an environment illuminated by overhead lighting 14. Although only a single workstation 12 is illustrated, it is understood that the system of the present invention is applicable to any number of workstations. It is also understood that, although the invention is described in terms of overhead

lighting, the invention is applicable to the control of lighting systems in which ambient lighting is provided by light fixtures incorporated into a modular workstation, for example. The invention is applicable to all types of ambient lighting systems and should not be thought of as limited to any particular ambient lighting system.

The overhead lighting 14 comprises one or more individual light fixtures 16 which may be supported in known manner from a suspended ceiling grid 18. Alternatively, light fixtures 16 may be directly mounted on a ceiling, suspended directly from a ceiling, or supported by means of standards or other supports without departing from the present invention. Light fixtures 16 may, but need not be, fluorescent fixtures. Although for purposes of this specification fluorescent fixtures are described, it is understood that any other type of light fixture may be used without departing from the present invention.

Each fluorescent fixture 16 has associated with it a ballast 20. Ballast 20 can be any fluorescent lamp ballast.

Light fixtures 16 can be connected to an interface box 22, which can be used to house power control circuitry for controlling the power supplied to light fixtures 16. The power controller circuitry may be any type of circuitry for controlling the power to light fixtures 16. Interface box 22 in turn is connected to a remote power distribution panel by means of wiring 24. Interface box 22 is also connected to a user-adjustable control means, described in greater detail below, via control wiring 26. Interface box 22 serves to make the installation of the invention easier in some situations. However, interface box 22 can be omitted and the power control circuitry can be housed elsewhere without departing from the invention. For example, the power controller circuitry can be located in ballast 20 or elsewhere in a lighting fixture. Alternatively, it can be located in the user control means (described in greater detail below), at the main electrical distribution panel or at any point in series between the electrical distribution panel and the lighting fixtures being controlled.

A typical workstation 12 includes a desk 28 at which a user 30 may sit to operate and interact with VDU 32. The VDU may comprise a cathode-ray tube, liquid crystal display, electroluminescent display, light emitting diode display or any other display technology, and has its own user-adjustable display controls 33.

A user-adjustable control means 34 for ambient lighting system 14 is provided at workstation 12. The user-adjustable control means 34 may include a linear potentiometer, and an on/off switch. The user-adjustable control can be hand or foot operated by the user, or it can be arranged to detect the motion, voice or eyelid movement of the user. The user-adjustable control means 34 can be mounted on desk or work surface 28, on the floor adjacent the user's foot, or any other location in close proximity to the user.

The user-adjustable control means 34 can be linked to the power controller circuitry in interface box 22 by hard wiring via wiring 36. Wiring 36 may be run through a post 38 for protection and aesthetics. Alternatively, the user-adjustable control means can be linked to the power controller circuitry by power line carrier transmission through the VDU or computer, through the office telephone system, or by optical fiber. Additionally, the link can be wireless, e.g., infra-red, visible light, radio frequency, sonic or ultrasonic.

For ease of installation, the user-adjustable control means 34 can be provided with a double-sided adhesive strip on its rear surface so that it can be attached in any location without the need for tools or mounting hardware. The user-adjustable control means 34 can also be releasably retained in position by means of a spring clip 40, preferably of molded plastic, or like device so that the user-adjustable control means may be easily removed and/or relocated if necessary. The spring clip may also be fastened to a mounting surface by mechanical fasteners, such as screws, by adhesive or by magnetic means. A suitable design for spring clip 40 is shown in Figure 2. However, any suitable design may be employed, as the precise configuration of spring clip 40 is not crucial to this invention.

An alternate embodiment of the invention is illustrated in Figure 3. A modular workstation 12' has a built-in light fixture 16' which may, but need not, be a fluorescent fixture. Fixture 16' supplies the ambient lighting for workstation 12'. The localized light source is illustrated by VDU 32, but it is understood that any localized light source is within the scope of the invention. The intensity of the VDU display may be controlled by the user-adjustable display controls 33.

Light fixture 16' is connected to interface box 42, described in greater detail below, which in cooperation with user-adjustable control means 34 enables the user to control the intensity of the light from fixture 16'. Interface box 42 is connected to the user-adjustable control means 34, shown in Figure 3 as being mounted on the side of VDU 32 in spring clip 40.

To further simplify installation, the connections between the various parts of the system may be made by means of plug-in connectors in any of the embodiments described. Any suitable conventional plug-in connectors may be used. Where plug-in connectors are used, wiring time is greatly reduced, thereby reducing installation costs.

The present invention can be enhanced by providing photosensor feedback in the system so that the light level around the VDU is kept constant at the desired value as the light levels in surrounding areas change. This has particular utility where multiple VDUs are in use in the same room with each VDU user desiring and setting a different light level. Alternatively, at least two photosensors can be used which measure foot-candles on the VDU screen and incident foot-candles on the desk surface, respectively. The photosensors may be housed together in a single package. In addition, the photosensors may be located in the user-adjustable control means 34. The user would set the desired

contrast level on the user control and the system would then adjust the light output from the ambient fixtures to give the correct desired contrast as measured by the two photosensors. It should be noted that, in order to obtain simultaneously the correct contrast between VDU brightness and ambient light level and the correct ambient light level, the brightness of the VDU must be controlled independently of the ambient light level.

As indicated above, the invention further includes a novel plug-in dimming system for fluorescent lamps. One embodiment of this aspect of the invention is illustrated in Figure 4.

Referring to Figure 4, interface box 42 comprises a housing 44 to contain wiring and power control circuitry, described below. A socket 46 is provided into which a plug 48 of light fixture 16' may be inserted. A plug 50 is provided in housing 44 so that interface box 42 may be plugged directly into a standard electrical outlet. User-adjustable control means 34 is linked to interface box 42 by wiring 52. Wiring 52 may be provided with plug-in connections on each end to simplify installation, or may be "hard-wired" to control 34 and interface box 42.

As already noted, different power controller circuitry may be used to control ambient lighting. For example, power controller circuitry can be used and contained within interface box 42 to enable the invention to be used with fluorescent fixtures having standard ballasts 58. See Figure 5. Any suitable control circuitry may be employed.

Some of the advantages of this structure are that the installation is extremely simple with no rewiring of the fixture being required, and that the wiring 52 to user adjustable control means 34 can be low voltage, low current wiring.

A further embodiment of the plug-in dimming system for fluorescent lamps is illustrated in Figure 6. Referring to Figure 6, interface box 42' is simply a molded housing which contains wiring. A socket 46 is provided into which a plug 48 of light fixture 16' may be inserted. A plug 50 is provided in interface box 42' so that interface box 42' may be plugged directly into a standard electrical outlet. User adjustable control means 34' is linked to interface box 42' by wiring 52'.

Power control circuitry is contained within user adjustable control means 34'. Thus, the internal circuitry of interface box 42 is very simple, and comprises direct connection between the ground and neutral terminals respectively of socket 46 and plug 50 and the series connection of user-adjustable control 34' between the hot terminals of socket 46 and plug 50. See Figure 7.

The advantages of this structure are that once the correct ballast has been installed in the fixture, the installation is simple, with the existing plug and wiring to the fixture being utilized, and the power control circuitry is not complicated. However, it should be noted that in this embodiment wiring 52' has to be able to carry load current.

It will be appreciated from the foregoing description that the invention comprises a novel lighting control system for adjusting the contrast with the surroundings and the ambient light level at a workstation. The invention provides a number of advantages, including reducing glare on VDU screens, thus improving the readability of the information displayed on the screen; providing each VDU user with unique control over his own lighting environment; allowing the user to adjust ambient lighting in addition to contrast (i.e., the invention provides the user with two degrees of freedom, control over ambient lighting and control over VDU brightness); adjusting the lighting to compensate for changes in the surroundings (e.g., spreading out white papers on an adjacent desk surface); and improving user comfort and consequently enhancing user performance.

A further aspect of the invention is a novel plug in fluorescent dimming system which allows the existing wiring from a standard electrical plug to the fluorescent lighting fixture to be utilized.

CLAIMS

1. A lighting control system for adjusting both the ambient light level surrounding a user location and the contrast between the ambient light level and the intensity of a localized light source at the user location by controlling the power supplied to the ambient lights illuminating the user location independently of the localized light source comprising:

first user-adjustable control means at the user location for adjusting the intensity of the localized light source,

power controller means connected to the ambient lights illuminating the user location for varying the power supplied to the lights, and

second user-adjustable control means at the user location operatively associated with the power controller means for enabling the user to selectably vary the power supplied to the ambient lights independently of the first user-adjustable means.

2. The system according to Claim 1, wherein the ambient lights comprise fluorescent lights having standard ballasts.

3. The system according to Claim 2, wherein the power controller is adapted to control fluorescent lights having standard ballasts.

4. The system according to Claim 1, wherein the ambient lights comprise fluorescent lights having high-frequency solid-state dimming ballasts.

5. The system according to Claim 1, wherein the second user-adjustable control means comprises a linear potentiometer.

6. The system according to Claim 1, wherein the second user-adjustable control means and the power controller means are linked by wire.

7. The system according to Claim 1, further comprising a wireless link between the second user-adjustable control means and the power controller means.

8. The system according to Claim 1, further comprising photosensor means operatively associated with the power controller means for maintaining a preselected light level.

9. The system according to Claim 8, wherein the photosensor means comprises at least one photosensor for sensing the light intensity of the

localized light source and at least one photosensor for sensing the light intensity of the ambient lights.

10. The system according to Claim 8, wherein the photosensor means is located in the second user-adjustable control means.

11. The system according to Claim 9, wherein the photosensors are located in the second user-adjustable control means.

12. The system according to Claim 1, wherein the second user-adjustable control means is releasably retained at the user location by clip means.

13. The system according to Claim 12, wherein the clip means is attached to a mounting surface at the user location by an adhesive.

14. The system according to Claim 1, further comprising the connections among the power controller means, the lights illuminating the user location, and the second user-adjustable control means being plug-in connections.

15. A lighting control system for adjusting both the ambient light level surrounding a user workstation and the contrast between the ambient light level and the intensity of a localized light source at the workstation by controlling the power supplied to remote lights illuminating the workstation independently of the localized light source, comprising:

first user-adjustable control means at the workstation in close proximity to the user for adjusting the intensity of the localized light source,

power controller means connected to the remote lights for varying light output of the lights by varying the power supplied to the lights, and

second user-adjustable control means operatively associated with the power controller means for enabling the user to selectively vary the power supplied to the remote lights, the second user-adjustable control means being adapted for mounting on the workstation in close proximity to the user whereby the user can vary the power supplied to the remote lights while remaining at the workstation.

16. The system according to Claim 15, wherein the lights comprise fluorescent lights having standard ballasts.

17. The system according to Claim 16, wherein the power controller is adapted to control fluorescent lights having standard ballasts.

18. The system according to Claim 15, wherein the lights comprise fluorescent lights having high-frequency solid-state dimming ballasts.

19. The system according to Claim 15, wherein the second user-adjustable control means comprises a linear potentiometer.

20. The system according to Claim 15, wherein the second user-adjustable control means and the power controller means are linked by wire.

21. The system according to Claim 15, further comprising a wireless link between the second user-adjustable control means and the power controller means.

22. The system according to Claim 15, further comprising photosensor means operatively associated with the power controller means for maintaining a preselected light level.

23. The system according to Claim 22, wherein the photosensor means comprises at least one photosensor for sensing the light intensity of the localized light source and at least one photosensor for sensing the light intensity of the remote lights illuminating the workstation.

24. The system according to Claim 22, wherein the photosensor means is located in the second user-adjustable control means.

25. The system according to Claim 23, wherein the photosensors are located in the second user-adjustable control means.

26. The system according to Claim 15, wherein the second user-adjustable control means is releasably retained at the user location by clip means.

27. The system according to Claim 26, wherein the clip means is attached to a mounting surface at the user location by an adhesive.

28. The system according to Claim 15, further comprising the connections among the power controller means, the lights illuminating the user location, and the second user-adjustable control means being plug-in connections.

29. A lighting control system for adjusting both the ambient light level surrounding a user location and the contrast between the ambient light level and the intensity of a localized light source at the user location by controlling the power supplied to the ambient lights illuminating the user location independently of the localized light source, comprising

first user-adjustable control means at the user location in close proximity to the user for adjusting the intensity of the localized light source,

power controller means for varying the power supplied to the ambient lights,

second user-adjustable control means operatively associated with the power controller means for enabling the user to selectably vary the power supplied to the ambient lights, the second user-adjustable control means being adapted for mounting on the workstation in close proximity to the user whereby the user can vary the power supplied to the ambient lights while remaining at the workstation, and

photosensor means operatively associated with the power controller means for maintaining a preselected contrast level, said photosensor means comprising at least one photosensor for sensing the light intensity of the localized light source and at least one photosensor for sensing the ambient light intensity, the photosensors being located in the second user-adjustable control means.

30. The system according to Claim 29, wherein the second user-adjustable control means and the power controller means comprises a linear potentiometer linked to the power controller means by wire.

31. The system according to Claim 29, further comprising a wireless link between the second user-adjustable control means and the power controller means.

32. A lighting system comprising

a fluorescent lighting fixture having a power cord terminating in a plug and having a two input

conductor ballast,

a power controller comprising a receptacle for receiving a plug connected to the power cord of said lighting fixture, a plug for connecting the power controller to a source of electrical power, and power control circuitry connected between said receptacle and the power controller plug, and

a user-adjustable control means operatively coupled to the power control circuitry for enabling a user to selectively vary the power supplied to said lighting fixture.

33. The system according to Claim 32, wherein the power controller comprises a housing, one wall of said housing supporting said receptacle and a second wall of said housing supporting said power controller plug for enabling the power controller to be plugged directly into said source of electrical power.

34. The system according to Claim 32, wherein the user-adjustable control means is operatively coupled to the power control circuitry by means of a two-conductor wire.

35. The system according to Claim 34, wherein said two-conductor wire includes plug means at both ends thereof for releasably connecting said wire to mating receptacle means on said power controller and said user-adjustable control means.

36. The system according to Claim 32, wherein the user-adjustable control means comprises a linear potentiometer.

37. The system according to Claim 32, further comprising photosensor means operatively associated with the power controller means for maintaining a preselected light level.

38. The system according to Claim 37, wherein the photosensor means comprises at least one photosensor for sensing the light intensity on a VDU screen and at least one photosensor for sensing the light intensity on a work surface.

39. The system according to Claim 37, wherein the photosensor means is located in the user-adjustable control means.

40. The system according to Claim 38, wherein the photosensors are located in the user-adjustable control means.

41. The system according to Claim 32, wherein the user-adjustable control means is releasably retained at a user location by clip means.

42. The system according to Claim 41, wherein the clip means is attached to a mounting surface at the user location by an adhesive.

43. A lighting system comprising

a fluorescent lighting fixture having a power cord terminating in a three-terminal plug and having a two input conductor ballast,

an interface adapter comprising

(i) a housing,

(ii) a standard receptacle on one wall of said housing for receiving a plug connected to the power cord of said lighting fixture, and

(iii) a standard wall plug on a second wall of said housing for connecting the interface adapter to a source of electrical power,

the ground terminal of said receptacle being connected to the ground terminal of said interface adapter plug and the neutral terminal of said receptacle being connected to the neutral terminal of said interface adapter plug,

the hot terminal of said receptacle being connected to one terminal of a user-adjustable means for enabling a user to selectively vary the power supplied to said lighting fixture, a second terminal of said user-adjustable control means being connected to the hot side of said interface adapter plug,

said user-adjustable control means including power control means.

44. The system according to Claim 43, wherein the user-adjustable control means comprises a linear potentiometer.

45. The system according to Claim 43, further comprising photosensor means operatively associated with the power control means for maintaining a preselected light level.

46. The system according to Claim 45, wherein the photosensor means comprises at least one photosensor for sensing the light intensity on a VDU and at least one photosensor for sensing the light intensity on a work surface.

47. The system according to Claim 45, wherein the photosensor means is located in the user-adjustable control means.

48. The system according to Claim 46, wherein the photosensors are located in the user-adjustable control means.

49. The system according to Claim 43, wherein the user-adjustable control means is releasably retained at the user location by clip means.

50. The system according to Claim 49, wherein the clip means is attached to a mounting surface at the user location by an adhesive.

51. A lighting system comprising

a fluorescent lighting fixture having a power cord terminating in a plug and having a standard non-dimming ballast,

a power controller comprising a receptacle for receiving a plug connected to the power end of said lighting fixture plug, a plug for connecting the power controller to a source of electrical power, and power control circuitry connected between said receptacle and the power controller plug, and

a user-adjustable control means operatively coupled to the power control circuitry for enabling a user to selectively vary the power supplied to said lighting fixture.

52. The system according to Claim 51, wherein the power controller comprises a housing, one wall of said housing supporting said receptacle and a second wall of said housing supporting said power controller plug for enabling the power controller to be plugged directly into said source of electrical power.

53. The system according to Claim 51, wherein the user-adjustable control means is operatively coupled to the power control circuitry by means of a two-conductor wire.

54. The system according to Claim 53, wherein said two-conductor wire includes plug means at both ends thereof for releasably connecting said wire to mating receptacle means on said power

controller and said user-adjustable control means.

55. The system according to Claim 51, wherein the user-adjustable control means comprises a linear potentiometer.

56. The system according to Claim 51, further comprising photosensor means operatively associated with the power controller means for maintaining a preselected light level.

57. The system according to Claim 56, wherein the photosensor means comprises at least one photosensor for sensing the light intensity on a VDU and at least one photosensor for sensing the light intensity on a work surface.

58. The system according to Claim 56, wherein the photosensor means is located in the user-adjustable control means.

59. The system according to Claim 57, wherein the photosensors are located in the user-adjustable control means.

60. The system according to Claim 51, wherein the user-adjustable control means is releasably retained at the user location by clip means.

61. The system according to Claim 60, wherein the clip means is attached to a mounting surface at the user location by an adhesive.

62. A light dimmer adapted to control the light output of a fluorescent lighting fixture, comprising

a power controller comprising a receptacle for receiving a plug connected to the power cord of said lighting, a plug for connecting the power controller to a source of electrical power, and power control circuitry connected between said receptacle and said power controller plug, and

a user-adjustable control means operatively coupled to the power control circuitry for enabling a user to selectively vary a power supply to said lighting fixture,

said lighting fixture including a ballast having not more than two input conductors.

63. The light dimmer according to Claim 62, wherein the power controller comprises a housing, one wall of said housing supporting said receptacle and a second wall of said housing supporting said power controller plug for enabling the power controller to be plugged directly into said source of electrical power.

64. The light dimmer according to Claim 62, wherein the user-adjustable control means is operatively coupled to the power control circuitry by means of a two-conductor wire.

65. The light dimmer according to Claim 64, wherein said two-conductor wire includes plug means at both ends thereof for releasably connecting said wire to mating receptacle means on said power controller and said user adjustable control means.

66. The light dimmer according to Claim 62, wherein the user-adjustable control means comprises a linear potentiometer.

67. The light dimmer according to Claim 62, further comprising photosensor means operatively associated with the power controller means for maintaning a preselected light level.

68. The light dimmer according to Claim 67, wherein the photosensor means comprises at least one photosensor for sensing the light intensity on a VDU screen and at least one photosensor for sensing the light intensity on a work surface.

69. The light dimmer according to Claim 67, wherein the photosensor means is located in the user-adjustable control means.

70. The light dimmer according to Claim 68, wherein the photosensors are located in the user-adjustable control means.

71. The light dimmer according to Claim 62, wherein the user-adjustable control means is releasably retained at a user location by clip means.

72. The light dimmer according to Claim 71, wherein the clip means is attached to a mounting surface at the user location by an adhesive.

73. A light dimmer adapted to control the light output of a fluorescent lighting fixture, comprising

an interface adapter having a housing, a standard receptacle on one wall of said housing for receiving a plug connected to the power cord of said lighting fixture, and a standard wall plug on a second wall of said housing for connecting the interface adapter to a source of electrical power,

the ground terminal of said receptacle being connected to the ground terminal of said interface adapter plug and the neutral terminal of said receptacle being connected to the neutral terminal of said interface adapter plug,

the hot terminal of said receptacle being connected to one terminal of a user-adjustable means for enabling a user to selectively vary the power supply to said lighting fixture, a second terminal of said user-adjustable control means being connected to the hot side of said interface adapter plug,

said user-adjustable control means including power control means,

said lighting fixture having a ballast with not more than two input conductors.

74. The light dimmer according to Claim 73, wherein the user-adjustable control means comprises a linear potentiometer.

75. The light dimmer according to Claim 73, further comprising photosensor means operatively associated with the power control means for maintaining a preselected light level.

76. The light dimmer according to Claim 75, wherein the photosensor means comprises at least one photosensor for sensing the light intenxity on a VDU screen and at least one photosensor for sensing the light intensity on a work surface.

77. The light dimmer according to Claim 75, wherein the photosensor means is located at the user-adjustable control means.

78. The light dimmer according to Claim 76, wherein the photosensors are located in the user-adjustable control means.

79. The light dimmer according to Claim 73, wherein the user-adjustable control means is releasably retained at the user location by clip means.

80. The light dimmer according to Claim 79, wherein the clip means is attached to a mounting surface at the user location by an adhesive.

81. A light dimmer adapted to control the light

output of a fluorescent lighting fixture, comprising

a power controller comprising a receptacle for receiving a plug connected to the power cord of said lighting fixture, a plug for connecting the power controller to a source of electrical power, and power control circuitry connected between said receptacle and the power controller plug, and

a user-adjustable control means operatively coupled to the power control circuitry for enabling a user to selectively vary the power supplied to said lighting fixture,

said lighting fixture having a standard non-dimming ballast.

82. The light dimmer according to Claim 81, wherein the power controller comprising a housing, one wall of said housing supporting said receptacle and a second wall of said housing supporting said power control plug for enabling the power controller to be plugged directly into said source of electrical power.

83. The light dimmer according to Claim 81, wherein the user-adjustable control means is operatively coupled to the power control circuitry by means of a two-conductor wire.

84. The light dimmer according to Claim 83, wherein said two-conductor wire includes plug means at both ends thereof for releasably connecting said wire to mating receptacle means on said power controller and said user-adjustable means.

85. The light dimmer according to Claim 81, wherein the user-adjustable control means comprises a linear potentiometer.

86. The light dimmer according to Claim 81, further comprising photosensor means operatively associated with the power controller means for maintaining a preselected light level.

87. The system according to Claim 86, wherein the photosensor means comprises at least one photosensor for sensing the light intensity on a VDU screen and at least one photosensor for sensing the light intensity on a work surface.

88. The light dimmer according to Claim 86, wherein the photosensor means is located in the user-adjustable control means.

89. The system according to Claim 87, wherein the photosensors are located in the user-adjustable control means.

90. The light dimmer according to Claim 81, wherein the user-adjustable control means is releasably retained at the user location by clip means.

91. The light dimmer according to Claim 90, wherein the clip means is attached to a mounting surface at the user location by an adhesive.

92. Each and every feature, singly or in combination, of the lighting control system as hereinbefore described and/or as shown in the accompanying drawings.

93. Each and every feature, singly or in combination, of the light dimmer as hereinbefore described and/or as shown in the accompanying drawings.

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