A flat-panel display with fixtures in its side walls to enable support by lateral mounting members is disclosed. The advantage of this approach, in which the fixtures are essentially rotated around to the sides of the flat-panel display, is the reduction in the portion of the portable computer's top cover that is not the active display. In practice, this results in an increase in the size of the display that may be housed in the same-sized top cover. In order to accommodate the lateral mounting of the flat-panel display, metal brackets are used. These brackets extend from the base unit hinges and cradle the display. This adds torsional rigidity, but also removes the requirement that the back must be structural. Further reductions in the inactive portions of the top cover may be achieved by extending the ends of the display's fluorescent back-light beyond or through the metal rim that surrounds the display.
FLAT-PANEL DISPLAY MOUNTING SYSTEM FOR PORTABLE COMPUTER

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application is a divisional of application Ser. No. 08/822,438, filed Mar. 21, 1997, pending.

BACKGROUND OF THE INVENTION

[0002] Portable computers almost universally have a top cover that pivots to open or close over a base unit. The top cover typically houses a flat-panel display, and the base unit has a keyboard and, many times, some form of pointing device.

[0003] In most cases, the flat-panel display is supported in the top cover by securing it to a plastic back or rear portion of the top cover. Usually, the flat-panel display has four or more holes around its periphery; bolts extend orthogonally to the face of the display, through the holes, to engage bosses, which are integral with the back. The plastic back is typically structural in nature, being manufactured from a rigid plastic. When connected together, the flat-panel display and the plastic back provide necessary rigidity to the top cover.

[0004] The selection of the flat-panel display in portable computers is generally driven by two competing concerns. On one hand, with the availability of ever-larger flat-panel displays, there is a desire to incorporate those displays into newer portable computer designs. Running contrary to this, however, is the desire to limit the overall dimensions of the computers to enhance their portability. For example, it is common to design portable computers with outside dimensions limited to approximately 8x11". These dimensions are characteristic of notebook-sized computers.

[0005] Various innovations have come about to increase the active or viewing area of the flat-panel display as a proportion of the total surface area of the top cover to obtain larger displays without increasing the computer's overall dimensions. For example, it is known to fold the driving and other peripheral circuitry around to the back of the flat-panel display. This results in a display panel whose surface area is almost entirely active except for the width of the metal rim that holds the display together and the bolt holes that are used to attach the flat-panel display to the plastic back.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0012] In the accompanying drawings, reference characters refer to the same parts throughout the different views. The drawings are not necessarily to scale; emphasis has instead been placed upon illustrating the principles of the invention. Of the drawings:

[0013] FIG. 1 is a perspective view of a portable computer according to the present invention;

[0014] FIG. 2 is an exploded view of the top cover of the portable computer according to the invention;

[0015] FIG. 3 is a cross-sectional view of the inventive top cover, and

[0016] FIG. 4 is a partial perspective view of a corner of an inventive flat-panel display.

DETAILED DESCRIPTION OF THE INVENTION

[0017] FIG. 1 illustrates a personal computer 10 constructed according to the principles of the present invention. Generally, the computer 10 has a top cover 100 that is connected by hinges 112, or otherwise pivotally attached, to a base unit 12. The top cover 100 houses a flat-panel display 114 and a second, much smaller, status display 116, which typically provides information concerning remaining battery life, disk drive operation, and other house-keeping functions. The base unit 12 has keyboard 14 and a pointing device 16, a touch pad in the illustrated embodiment. A power switch 18 and disk drive door 20 are located on the side of the base unit 12.

[0018] The overall dimensions of the particular embodiment illustrated when closed are about 8.5 inches wide by 12
inches long, which dimensions also apply to the top cover 100 and base unit 12 separately. The total closed height is over two inches, with the height of the top cover 100 being approximately 0.5 inches.

[0019] The unique characteristics of the present invention are evident in the ratio between the total surface area of the top cover 100 and the surface area of the active or viewable area of the display 114. The active area of the display illustrated is 14.1 inches, diagonally. Consequently, it consumes over 90% of the top cover’s total area.

[0020] FIG. 2 illustrates the mounting technique for the display 114 in the top cover 100. Structurally, the top cover 100 comprises a back 118. This component is almost universally constructed from plastic and forms the top outer shell of the portable computer 10 when the top cover 100 is closed. The back 118 is rectangular in shape and forms essentially a tub around the other elements of the top cover. The proximal wall 120 of the back is not present, however, to accommodate the hinge connection to the base unit.

[0021] In many prior art designs, the back 118 of the top cover 100 provided significant structural support to the top cover. This fact was evident by the existence of spines or ridges, which are integral with the back, that added rigidity. It is also common to bolt the display to the back by placing bosses in the back during molding. In the present embodiment, only the side walls of the back 118 contribute to the back’s bending rigidity, and the back overall has little torsional rigidity.

[0022] Rigidity, especially torsional, is added to the top cover by right and left metal brackets 122, 124 that are located in the back. The proximal portion of each bracket 122, 124 connects to respective right and left hinge elements 126, 128 that are adapted to cooperate with corresponding hinge elements in the base unit 12. The brackets 122, 124 are each aligned against respective side walls 130, 132 of the back 118. The cross-section of each bracket is essentially “L”-shaped, the shorter legs 134, 136 extending orthogonally away from the planar inner surface of the back 118 and abutting the back’s side walls 130, 132. Two holes 138, 140 in each bracket are sized to accommodate bolts 148, 150, two millimeters in diameter, and the holes align with corresponding holes 142, 144 through the side walls 130, 132 of the back 118. Preferably, the outer surfaces of the back’s side walls 130, 132 have slight depressions 146 to recess heads of the bolts 148, 150.

[0023] The flat-panel display 114 (not shown) comprises a large active area 152 that is defined by the transparent top window of the display 114. The top window is clamped to the panel’s plastic back (not shown in this figure) by a metal rim 154 that extends around the display’s circumference, defining the display’s bottom (180), left (181), top (182), and right (183) side walls. Holes 156, 158, formed in the metal rim 154, align with the holes in the brackets and back when the display is installed. The four bolts 148, 150 extend through the back 118, brackets 122, 124 to engage bosses held in the display 114 behind the metal rim 154.

[0024] A plastic bezel 160 snap fits over the display onto the back. The bezel’s rim extends inward hiding the display’s metal rim.

[0025] FIG. 3 is cross-sectional view further illustrating the back cover’s construction. As discussed previously, each of the four bolts 148, 150 extends through the back 118 and corresponding vertical legs 134, 136 of the brackets 122, 124. The bolts 148, 150 further extend through the metal rim 154 of the display to engage corresponding threaded bosses 162 held in the plastic back 164 of the display. Also shown is the snap-fit arrangement of the plastic bezel 160 to the back 118.

[0026] FIG. 4 is a detailed view of one of the lower outer corners of the flat-panel display 114 illustrating another innovation of the invention that enables a more compact display. Usually, the length of the fluorescent back-light plus the thickness of the display’s metal rim dictate the overall width of the display. The light emitting portion of the fluorescent light must be as wide as the active area of the display, but the electrodes on the end of the light are wider than the small peripheral inactive portion of the display.

[0027] According to the present invention, circular cutouts 166 are formed in the metal rim 154 to allow the ends of the fluorescent back-light 168 to extend slightly beyond the outer surface of the rim 154. As a result, the overall width of the display is no wider than the critical length of the fluorescent back-light 168. In effect, twice the thickness of the metal rim, since cut-outs 166 are provided for both ends of the light 168, is removed from the overall width of the display without any loss in active area. Defined another way, the inactive portions on both sides of the display are each decreased by the thickness of the metal rim 154 by enabling the ends of the back-light 168 to extend beyond the rim.

[0028] In other embodiments of the invention, the bolts 148, 150 may be replaced with pins that extend through the back 118 and brackets 122, 124 to engage non-threaded holes in the side walls 180-183 of the display 114, possibly using an interference fit. Alternatively, these pins could be integral with the metal brackets 122, 124. In this later case, it may be desirable to have the display 114 to snap fit with the pins, to facilitate the manufacturing process.

[0029] In still another embodiment, pins extend outward from the display 114, possibly integral with the metal rim 154 to engage the brackets 122, 124 with an arrangement. This configuration has an advantage, because there is no need to accommodate holes in the display, which could affect the display’s electrical design.

[0030] In still other embodiments, mounting could be accomplished off of the top and bottom side walls 180, 182 of the display 114. In this case, lateral mounting members that cooperate with these side walls would be used to replace the mounting fixtures on the right and left side walls 181, 183, or in addition to those fixtures.

[0031] While this invention has been particularly shown and described with references to preferred embodiments thereof, it will be understood by those skilled in the art that various changes in form and details may be made therein without departing from the spirit and scope of the invention as defined by the appended claims.

What is claimed is:

1. A method for mounting a flat-panel display in a folding top cover of a portable computer, the method comprising:
   providing fixtures in the side walls of the display; and
   laterally inserting mounting members to engage the fixtures.
2. The method described in claim 1, further comprising inserting the members through a side wall of the top cover.

3. The method described in claim 1, further comprising providing bolt-type mounting members.

4. The method described in claim 1, further providing metal brackets through which the lateral mounting members extend.

5. A method for mounting a flat-panel display in a cover for a computer comprising:
   - providing a laterally extending hole in a side wall of the display; and
   - laterally inserting a mounting member to engage at least a portion of the hole.

6. The method described in claim 5, further comprising inserting a mounting member through a side wall of the top cover.

7. The method described in claim 5, further comprising providing a bolt-type mounting member.

8. A method for mounting a display in a cover for a computer comprising:
   - providing at least one laterally extending hole in a side wall of the display; and
   - laterally inserting a mounting member to engage a portion of the laterally extending hole.

9. The method described in claim 8, further comprising inserting the members through a side wall of the top cover.

10. The method described in claim 8, further comprising providing a threaded type mounting member.

11. The method described in claim 8, further comprising providing a pin type mounting member.

12. The method described in claim 8, further comprising providing a mounting member having an interference fit with the laterally extending hole in the display.

13. A method for mounting a display in a cover of a computer comprising:
   - providing a display having at least one laterally extending pin from a sidewall thereof; and
   - fitting the at least one laterally extending pin into a portion of a bracket.

14. The method described in claim 13, wherein the bracket is attached to a portion of the cover.

15. The method described in claim 13, wherein the display includes a rim having at least one laterally extending pin extending therefrom.

16. A method of mounting a flat-panel display for a computer comprising:
   - providing a cover for housing at least a portion of a flat-panel display for the computer;
   - providing a bracket member having at least one first hole formed laterally through a portion thereof and at least one second hole formed therethrough; and
   - mounting the flat-panel display to a portion of the bracket, the flat-panel display including a back having at least one hole formed laterally therein, the flat-panel display secured to at least a portion of the bracket member using at least one mounting member extending through the at least one first hole formed laterally through a portion of the bracket member and engaging at least a portion of the at least one hole of the flat-panel display for mounting the flat-panel display to the bracket member.

17. The method of claim 16, wherein the bracket member comprises a member having a first portion extending in a first direction and a second portion extending orthogonally in a second direction therefrom.

18. The method of claim 17, wherein the at least one first hole is formed in the first portion of the bracket member and the at least one second hole is formed in the second portion of the bracket member.

19. The method of claim 16, wherein the flat-panel display includes a display panel and a back.

20. The method of claim 19, wherein the flat-panel display further includes a rim extending around the display panel and the back.

21. The method of claim 16, wherein the flat-panel display includes a display panel, a back and a rim extending around the display panel and the back.

22. The method of claim 16 wherein the cover includes a sidewall.

23. The method of claim 22, wherein the bracket member comprises a member having a first portion extending in a first direction for extending in the direction of the side wall of the cover being spaced therefrom and a second portion extending orthogonally in a second direction therefrom.

24. The method of claim 23, wherein the bracket member further includes the at least one first hole located in the first portion and the at least one second hole located in the second portion.

25. The method of claim 24, further comprising mounting the flat-panel display in the cover using another mounting member.

26. The method of claim 25, wherein the another mounting member extends through the hole in the cover and into at least a portion of the at least one second hole in the bracket member for mounting the flat-panel display in the cover.

27. The method of claim 23, further comprising installing a bezel having a portion covering a portion of the flat panel display.

28. The method of claim 27, wherein the bezel further includes a portion for abutting a portion of a sidewall of the cover.

29. The method of claim 28, wherein the bezel further includes a portion for extending into the cover.

30. The mounting system of claim 16, further comprising installing a bezel having a portion covering a portion of the flat panel display.

31. The method system of claim 30, wherein the bezel further includes a portion for abutting a portion of a sidewall of the cover.

32. The mounting system of claim 16, wherein the bezel further includes a portion for extending into the cover to be located between the side wall thereof and the first portion of the bracket member.

33. A method of mounting a flat-panel display in a cover for a computer comprising:
   - providing a bracket member having at least one first hole formed laterally through a portion thereof and at least one second hole formed therethrough;
   - providing a flat-panel display including a back having at least one hole formed laterally therein, and
mounting the flat-panel display to at least a portion of the bracket member using at least one mounting member extending through the at least one first hole formed laterally through a portion of the bracket member and engaging at least a portion of the at least one hole of the flat-panel display for mounting the flat-panel display to the bracket member.

34. The method of claim 33, wherein the bracket member comprises a member having a first portion extending in a first direction and a second portion extending orthogonally in a second direction therefrom.

35. The method of claim 34, wherein the at least one first hole is formed in the first portion of the bracket member and the at least one second hole is formed in the second portion of the bracket member.

36. The method of claim 33, wherein the flat-panel display includes a display panel and a back.

37. The method of claim 36, wherein the flat-panel display further includes a rim extending around the display panel and the back.

38. The method of claim 33, wherein the flat-panel display includes a display panel, a back and a rim extending around the display panel and the back.

39. The method of claim 33 wherein the cover includes a sidewall.

40. The method of claim 39, wherein the bracket member comprises a member having a first portion extending in a first direction for extending in the direction of the side wall of the cover being spaced therefrom and a second portion extending orthogonally in a second direction therefrom.

41. The method of claim 40, wherein the bracket member further includes the at least one first hole located in the first portion and the at least one second hole located in the second portion.

42. The method of claim 41, further comprising mounting the flat-panel display in the cover using another mounting member.

43. The method of claim 42, wherein the another mounting member extends through the hole in the cover and into at least a portion of the at least one second hole in the bracket member for mounting the flat-panel display in the cover.

44. The method of claim 33, further comprising installing a bezel having a portion covering a portion of the flat panel display.

45. The method of claim 44, wherein the bezel further includes a portion for abutting a portion of a sidewall of the cover.

46. The method of claim 45, wherein the bezel further includes a portion for extending into the cover.

47. A method of mounting a flat-panel display for a computer, comprising:

   providing a bracket member for mounting the flat-panel display in a cover, the bracket member having at least one first hole formed laterally through a portion thereof and at least one second hole formed there through;

   providing a flat-panel display including a back having at least one hole formed laterally therein; and

   mounting the flat-panel display to at least a portion of the bracket member using at least one mounting member extending through the at least one first hole formed laterally through a portion of the bracket member and engaging at least a portion of the at least one hole of the flat-panel display for mounting the flat-panel display to the bracket member.

48. The method of claim 47, further comprising:

   mounting the flat-panel display in the cover.

49. The method of claim 47, wherein the bracket member comprises a member having a first portion extending in a first direction and a second portion extending orthogonally in a second direction therefrom.

50. The method of claim 49, wherein the at least one first hole is formed in the first portion of the bracket member and the at least one second hole is formed in the second portion of the bracket member.

51. The method of claim 47, wherein the flat-panel display includes a display panel and a back.

52. The method of claim 51, wherein the flat-panel display further includes a rim extending around the display panel and the back.

53. The method of claim 47, wherein the flat-panel display includes a display panel, a back and a rim extending around the display panel and the back.

54. The method of claim 47, wherein the cover includes a sidewall.

55. The method of claim 54, wherein the bracket member comprises a member having a first portion extending in a first direction for extending in the direction of the side wall of the cover being spaced therefrom and a second portion extending orthogonally in a second direction therefrom.

56. The method of claim 55, wherein the bracket member further includes the at least one first hole located in the first portion and the at least one second hole located in the second portion.

57. The method of claim 48, further comprising providing another mounting member for mounting the flat-panel display in the cover.

58. The method of claim 57, further comprising inserting the another mounting member extending through a hole in the cover and extending into at least a portion of the at least one second hole in the bracket member for mounting the flat-panel display in the cover.

59. The method of claim 47, further comprising a bezel having a portion covering a portion of the flat panel display.

60. The method of claim 59, wherein the bezel further includes a portion for abutting a portion of a sidewall of a cover.

61. The method of claim 60, wherein the bezel further includes a portion for extending into a cover.

62. The method of claim 61, wherein the bezel further includes a portion for extending into a cover to be located between a side wall thereof and the first portion of the bracket member.

63. A method for use with a mounting system for a flat-panel display for a computer comprising:

   providing a bracket member for mounting the flat-panel display in a cover, the bracket member having at least one first hole formed laterally through a portion thereof and at least one second hole formed therethrough;

   providing a flat-panel display including a back having at least one hole formed laterally therein; and

   providing a flat-panel display including a back, a display panel, and a rim extending around the back, display panel, and the rim, the back having at least one hole formed laterally therein.
mounting the flat-panel display to at least a portion of the bracket member using at least one mounting member extending through the at least one first hole formed laterally through a portion of the bracket member and engaging at least a portion of the at least one hole of the flat-panel display for mounting the flat-panel display to the bracket member.

64. The method of claim 63, wherein the bracket member comprises a member having a first portion extending in a first direction and a second portion extending orthogonally in a second direction therefrom.

65. The method of claim 64, wherein the at least one first hole is formed in the first portion of the bracket member and the at least one second hole is formed in the second portion of the bracket member.

66. The method of claim 63, wherein a cover includes a sidewall.

67. The method of claim 66, wherein the bracket member comprises a member having a first portion extending in a first direction for extending in the direction of the side wall of the cover being spaced therefrom and a second portion extending orthogonally in a second direction therefrom.

68. The method of claim 67, wherein the bracket member further includes the at least one first hole located in the first portion and the at least one second hole located in the second portion.

69. The method of claim 68, further comprising providing another mounting member for mounting the flat-panel display in the cover.

70. The method of claim 69, wherein the another mounting member mounts the flat-panel display in a cover having a portion thereof extending through a hole in the cover and extending into at least a portion of the at least one second hole in the bracket member for mounting the flat-panel display in the cover.

71. The method of claim 63, wherein a bezel may be used to cover a portion of the flat panel display.

72. The method of claim 71, wherein the bezel further includes a portion for abutting a portion of a sidewall of a cover.

73. The method of claim 72, wherein the bezel further includes a portion for extending into a cover.

74. The method of claim 73, wherein the bezel further includes a portion for extending into a cover to be located between a side wall thereof and the first portion of the bracket member.

75. A method for mounting an assembly for a flat-panel display for a computer in a cover, comprising:

- providing a bracket member for mounting the flat-panel display in a cover, the bracket member having at least one first hole formed laterally through a portion thereof and at least one second hole formed therefrom; and

- providing a flat-panel display including a back having at least one hole formed laterally therein; and

- mounting the flat-panel display to at least a portion of the bracket member using at least one mounting member extending through the at least one first hole formed laterally through a portion of the bracket member and engaging at least a portion of the at least one hole of the flat-panel display for mounting the flat-panel display to the bracket member.

76. The method of claim 75, wherein the bracket member comprises a member having a first portion extending in a first direction and a second portion extending orthogonally in a second direction therefrom.

77. The method of claim 76, wherein the at least one first hole is formed in the first portion of the bracket member and the at least one second hole is formed in the second portion of the bracket member.

78. The method of claim 77, wherein a cover includes a sidewall.

79. The method of claim 48, wherein the bracket member comprises a member having a first portion extending in a first direction for extending in the direction of the side wall of the cover being spaced therefrom and a second portion extending orthogonally in a second direction therefrom.

80. The method of claim 79, wherein the bracket member further includes the at least one first hole located in the first portion and the at least one second hole located in the second portion.

81. The method of claim 80, further comprising providing another mounting member for mounting the flat-panel display in the cover.

82. The method of claim 81, wherein the another mounting member mounts the flat-panel display in a cover having a portion thereof extending through a hole in the cover and extending into at least a portion of the at least one second hole in the bracket member.

83. The method of claim 82, wherein a bezel may be used to cover a portion of the flat panel display.

84. The method of claim 83, wherein the bezel further includes a portion for abutting a portion of a sidewall of a cover.

85. The method of claim 84, wherein the bezel further includes a portion for extending into a cover.

86. The method of claim 85, wherein the bezel further includes a portion for extending into a cover to be located between a side wall thereof and the first portion of the bracket member.

87. The method of claim 85, wherein the flat-panel display includes a display panel and a back.

88. The method of claim 87, wherein the flat-panel display further includes a rim extending around the display panel and the back.

89. The method of claim 88, wherein the flat-panel display includes a display panel, a back and a rim extending around the display panel and the back.

90. A method for mounting an assembly for a flat-panel display for a computer in a cover, the method comprising:

- providing a flat-panel display including a back having at least one hole formed laterally therein and a display panel, and

- mounting the flat-panel display to at least a portion of a bracket member by using at least one mounting member extending through a first hole formed laterally through a portion of the bracket member and engaging at least a portion of the at least one hole of the flat-panel display for mounting the flat-panel display to the bracket member for mounting the assembly in a cover for a computer.

91. The method of claim 90, wherein the bracket member comprises a member having a first portion extending in a first direction and a second portion extending orthogonally in a second direction therefrom.
92. The method of claim 91, wherein the at least one first hole is formed in the first portion of the bracket member and the at least one second hole is formed in the second portion of the bracket member.

93. The method of claim 92, wherein a cover includes a sidewall.

94. The method of claim 93, wherein the bracket member comprises a member having a first portion extending in a first direction for extending in the direction of the side wall of the cover being spaced therefrom and a second portion extending orthogonally in a second direction therefrom.

95. The method of claim 94, wherein the bracket member further includes the at least one first hole located in the first portion and the at least one second hole located in the second portion.

96. The method of claim 95, further comprising providing another mounting member for mounting the flat-panel display in a cover.

97. The method of claim 96, wherein the another mounting member mounts the flat-panel display in a cover having a portion thereof extending through a hole in the cover and extending into at least a portion of the at least one second hole in the bracket member for mounting the flat-panel display in the cover.

98. The method of claim 60, wherein a bezel may be used to cover a portion of the flat panel display.

99. The method of claim 98, wherein the bezel further includes a portion for abutting a portion of a sidewall of a cover.

100. The method of claim 99, wherein the bezel further includes a portion for extending into a cover.

101. The method of claim 99, wherein the bezel further includes a portion to be located between a side wall thereof and the first portion of the bracket member.

102. The method of claim 90, wherein the flat-panel display further includes a rim extending around the display panel and the back.

103. A method for mounting an assembly of a mounting system for a flat-panel display in a cover of a computer, the method comprising:

- providing a cover including a back and a side wall extending around at least a portion of the back, the side wall having at least one hole extending therethrough, the top cover configured for housing a flat-panel display of a computer therein;
- providing a bracket member having a first hole and a second hole;
- providing a flat-panel display including a back having at least one hole formed laterally therein; and
- mounting the flat-panel display in the top cover using mounting members engaging at least a portion of the first hole in the bracket member and at least a portion of the hole of the flat-panel display and engaging the hole in the cover.

104. A method for mounting a mounting system for a flat-panel display in a cover of a computer, the method comprising:

- providing a cover including a back and a side wall extending around at least a portion of the back, the side wall having at least one hole extending therethrough, the top cover configured for housing a flat-panel display of a computer therein;
- providing a flat-panel display including a back having at least one hole formed laterally therein; and
- mounting the flat-panel display in the top cover using a mounting member engaging at least a portion of the hole of the flat-panel display and engaging the hole in the cover.

105. A method for mounting a mounting system for a flat-panel display in a cover of a portable computer, the method comprising:

- providing a flat-panel display having a plurality of edges including at least a hole formed laterally therein configured for mounting the flat-panel display in a cover of a portable computer, the cover having a back and a side wall extending therearound having at least a hole therethrough; and
- installing a lateral mounting member to extend laterally from the at least one hole in the side wall of the top cover for engaging at least a portion of the hole in plurality of edges the flat-panel display.

106. The method of claim 105, wherein the flat-panel display having another hole formed laterally therein and another mounting member extending thereinto.

107. The method of claim 105, wherein the lateral mounting member comprises a bolt that engages a boss in the flat-panel display.

108. The method of claim 105, wherein the cover comprises a plastic back, pivotal couplings connecting the cover to a base unit, and at least one metal bracket that extends from the pivotal couplings, the lateral mounting member engaging the metal bracket and the plastic back.

109. The method of claim 105, wherein the lateral mounting member comprises a bolt that passes through the bracket and the plastic back to engage a boss in the flat-panel display.

110. The method of claim 105, wherein the plastic back does not substantially contribute to the rigidity of the top cover.

111. The method of claim 75, wherein

- the flat-panel display comprises a display panel, a display rim extending around a perimeter of the display, and a display back; and
- the lateral mounting member comprises a bolt that engages a boss in the display back of the flat-panel display, behind the rim.

112. A method for mounting a mounting system for a flat-panel display in a folding top cover of a portable computer, the mounting system comprising:

- installing lateral mounting members to extend from the top cover to engage side walls of the flat-panel display, wherein the top cover comprises a plastic back, pivotal couplings connecting the top cover to a base unit, and at least one metal bracket that extends from the pivotal couplings, the lateral mounting members engaging the metal bracket and the plastic back.

113. A method for mounting a mounting system for a flat-panel display in a folding top cover of a portable computer, the mounting system comprising:
installing lateral mounting members to extend from the
top cover to engage side walls of the flat-panel display,
wherein the top cover comprises a plastic back, pivotal
couplings connecting the top cover to a base unit, and
at least one metal bracket that extends from the pivotal
couplings, the lateral mounting members engaging the
metal bracket and the plastic back, and, wherein the
lateral mounting members comprise bolts that pass
through the bracket and the plastic back to engage
bosses in the flat-panel display.

114. A method for mounting a mounting system for a
flat-panel display in a folding top cover of a portable
computer, the mounting system comprising:

installing lateral mounting members to extend from the
top cover to engage side walls of the flat-panel display,
wherein the top cover comprises a plastic back, pivotal
couplings connecting the top cover to a base unit, and
at least one metal bracket that extends from the pivotal
couplings, the lateral mounting members engaging the
metal bracket and the plastic back, wherein the plastic
back does not substantially contribute to the rigidity of
the top cover.

115. A method for mounting a mounting system for a
display in a cover for the base of a computer, the mounting
system comprising:

providing a cover including a back and a side wall
extending around at least a portion of the back, the side
wall having at least one hole extending laterally ther-
through, the cover configured for closing over the base
of a computer;

providing a flat-panel display including at least one hole
formed laterally therein; and

mounting the display in the cover using mounting mem-
bers engaging at least a portion of the at least one hole
of the side wall of the cover and engaging at least a
portion of the at least one hole of the display.

116. The method described in claim 115, further compris-
ing:

providing a bezel configured for covering a portion of the
display panel.

117. A method of mounting a mounting system for a
display in a top cover for the base of a computer, the
mounting system comprising:

providing a display having an active area and having a
plurality of side walls, the display including a plurality
of holes formed laterally in the plurality of side walls,
the display configured for mounting in a top cover to
cover a base of a computer, and

inserting lateral mounting members to extend laterally
between the top cover and the display, the lateral
mounting members engaging the plurality of holes
formed laterally in at the plurality of side walls of the
display.

118. The method in claim 117, wherein the lateral mount-
ing members extend through at least two holes in one of a
side wall and the plurality of side walls of the cover.

119. The method in claim 117, wherein the lateral mount-
ing members comprise bolts that engage bosses in the
display.

120. The method in claim 117, wherein the top cover comprises:

a back having a side wall extending around a portion of
the back, pivotal couplings connecting the cover to a
base unit, and at least one bracket having a portion that
extends from the pivotal couplings; and

the lateral mounting members engage portions of the at
least one bracket and the back.

121. The method in claim 117, wherein the lateral mount-
ing members comprise thread fasteners configured for pass-
ning through the at least one bracket and the back to engage
bosses in the display.

122. The method in claim 117, wherein the lateral mount-
ing members comprise pins configured for passing through
the at least one bracket and the back to engage bosses in the
display.

123. The method in claim 117, wherein the side wall of
the back substantially contributes to the rigidity of the top
cover.

124. The method in claim 117, wherein the display comprises:

a display panel;
a display rim extending around a perimeter of the display;
a display back.

125. The method in claim 124, wherein the lateral mount-
ing members comprise threaded fasteners configured to
engage bosses in the back of the display.

126. The method in claim 124, wherein the lateral mount-
ing members comprise pins configured to engage bosses in
the display back of the display, behind the rim.

127. The method in claim 124, wherein the lateral mount-
ing members comprise pins configured to engage the display
and the side wall of the top cover.

128. The method in claim 127, further comprising:

a bezel configured for covering a portion of the display
panel.

129. A method for mounting a mounting system for a
display in a cover for a base unit of a computer comprising:

providing a display panel including an active area, a back,
a plurality of side walls forming the circumference of the
display panel, and a hole extending laterally into a
side wall of the display panel;

providing a cover including a back and a side wall
extending around a portion of the back, the side wall
having a hole extending laterally therethrough, the
cover for closing over a base unit of a computer; and

engaging a lateral mounting member with at least a
portion of the hole in the side wall of the cover and
engaging at least a portion of the hole of the display
panel.

130. The method of claim 129, wherein the lateral mount-
ing member comprises a screw.

131. The method of claim 129, wherein a plurality of
edges of display panel are located within the side wall
extending around a portion of the cover.

132. The method of claim 129, wherein the display panel
further comprises:

a rim extending around the circumference of the display
panel, the rim having a hole therethrough.

133. The method of claim 129, wherein the lateral mount-
ing member comprises a member configured for engaging at
least a portion of the hole in the side wall of the cover,
configured for extending through the hole in the rim, and configured for engaging at least a portion of the hole of the display panel.

134. The method of claim 129, wherein the lateral mounting member comprises a threaded fastener.

135. The method of claim 129, wherein the lateral mounting member comprises a pin.

136. The method of claim 129, further comprising:

providing a bezel configured for covering a portion of the display panel.

137. A method for mounting a mounting system for a display in a cover for a base unit of a computer comprising:

providing a display panel including an active area, a back, a plurality of side walls forming the circumference of the display panel, and a plurality of holes extending laterally into the plurality of side walls of the display panel;

providing a cover including a back and a side wall extending around a portion of the back, the side wall having a plurality of holes extending laterally there-through, the cover covering a base unit of a computer; and

engaging a plurality of lateral mounting members with at least a portion of the holes in the side walls of the cover and engaging at least a portion of the holes of the display panel.

138. The method of claim 137, wherein the plurality of lateral mounting members comprises threaded fasteners.

139. The method of claim 137, wherein the plurality of holes in a plurality of edges of display panel are located within a back of the display panel.

140. The method of claim 137, wherein the display panel further comprises:

a rim extending around the circumference of the display panel, the rim having a plurality of holes there-through.

141. The method of claim 137, wherein the plurality of lateral mounting members include each member configured for engaging at least a portion of a hole of the plurality of holes in the side wall of the cover, configured for extending through a hole of the plurality of holes of the rim, and configured for engaging at least a portion of a hole of the plurality of holes of the display panel.

142. The method of claim 137, wherein the lateral mounting members comprises threaded fasteners.

143. The method of claim 137, wherein the lateral mounting members comprise members engaging a non-threaded hole in the display panel.

144. The method of claim 137, wherein the cover includes pivotal couplings configured to connect the cover to a base unit of a computer, at least one other lateral mounting member, and at least one bracket configured to have a portion extending from a pivotal coupling, the at least one other lateral mounting member engaging at least a portion of the at least one bracket.

145. The method of claim 137, wherein the cover includes at least one bracket including at least one pin configured to engage at least a portion of a hole of the plurality of holes extending laterally into a plurality of edges of the display panel.

146. The method of claim 137, further comprising:

a bezel configured for covering a portion of the display panel.

117. A method for mounting a mounting system for a display in a cover for a base unit of a computer comprising:

providing a display panel including an active area, a back, a plurality of side walls forming the circumference of the display panel, and a plurality of holes extending laterally into at least two opposed edges of the a plurality of side walls of the display panel; providing a cover including a back having a side wall extending around a portion of the back, the side wall having a plurality of holes extending laterally there-through, pivotal couplings configured to connect the cover to a base unit of a computer for closing thereover, a plurality of brackets, each bracket having a hole extending laterally through a portion thereof, each bracket configured to have a portion to connect with a portion of the pivotal couplings; and

engaging a plurality of lateral mounting members with at least a portion of a hole of the plurality of holes in the side walls of the cover, engaging at least a portion of a hole of the plurality of holes of the display panel, and extending through the one hole in each bracket of the plurality of brackets.

148. The method of claim 147, wherein the lateral mounting members comprise threaded fasteners.

149. The method of claim 147, wherein the display panel further comprises:

a rim extending around the circumference of the display panel, the rim having a plurality of holes there-through.

150. The method of claim 147, wherein the plurality of lateral mounting members includes each member configured for engaging a non-threaded hole in the display panel.

151. The method of claim 147, wherein the cover includes a bracket having at least one pin configured to engage at least a portion of a hole of the plurality of holes extending laterally into a plurality of edges of the display panel.

152. The method of claim 147, wherein the side wall of the cover includes a side wall configured to extend around a plurality of sides of the back.

153. The method of claim 147, further comprising:

providing a bezel configured for covering a portion of the display panel.

154. The method of claim 153, wherein the bezel includes a portion extending between the plurality of brackets.

155. A method for mounting a mounting system for a display in a cover for a base unit of a computer comprising:

providing a display panel including an active area, a back, a plurality of side walls forming the circumference of the display panel, and a plurality of holes extending laterally into at least two opposed edges of the a plurality of side walls of the display panel; providing a cover including a back having a side wall extending around a portion of the back, couplings configured to connect the cover to a base unit of a computer for closing thereover, a plurality of brackets, each bracket having a hole extending laterally through a portion thereof, each bracket configured to have a portion to connect with a portion of the couplings; and
engaging a plurality of lateral mounting members with at least portions of the plurality of holes of the display panel and extending through the one hole in each bracket of the plurality of brackets.

156. The method of claim 155, wherein the lateral mounting members comprise threaded fasteners.

157. The method of claim 155, wherein the display panel further comprises:

- a rim extending around the circumference of the display panel, the rim having a plurality of holes therethrough.

158. The method of claim 155, wherein the plurality of lateral mounting members includes each member configured for engaging a non-threaded hole in the display panel.

159. The method of claim 155, wherein the cover includes a bracket having at least one pin configured to engage at least a portion of a hole of the plurality of holes extending laterally into a plurality of edges of the display panel.

160. The method of claim 155, wherein the side wall of the cover includes a side wall configured to extend around a plurality of sides of the back.

161. The method of claim 155, further comprising:

- providing a bezel configured for covering a portion of the display panel.

162. The method of claim 161, wherein the bezel includes a portion extending between the plurality of brackets.

163. A method for mounting an assembly for mounting a flat-panel display for a computer, the assembly comprising:

- providing a bracket member for mounting the flat-panel display in a cover, the bracket member having at least one first hole extending through a portion thereof and at least one second hole formed therethrough;

- providing a flat-panel display including a back having at least one mounting member extending laterally therefrom; and

- mounting the flat-panel display to at least a portion of the bracket member using at least one mounting member to extend through the at least one first hole formed laterally through a portion of the bracket member for mounting the flat-panel display to the bracket member.

164. The method of claim 163, wherein the bracket member comprises a member having a first portion extending in a first direction and a second portion extending orthogonally in a second direction therethrough.

165. The method of claim 164, wherein the at least one first hole is formed in the first portion of the bracket member and the at least one second hole is formed in the second portion of the bracket member.

166. The method of claim 165, wherein a cover includes a sidewall.

167. The method of claim 166, wherein the bracket member comprises a member having a first portion extending in a first direction for extending in the direction of the side wall of the cover being spaced therefrom and a second portion extending orthogonally in a second direction therefrom.

168. The method of claim 167, wherein the bracket member further includes the at least one first hole located in the first portion and the at least one second hole located in the second portion.

169. The method of claim 168, further comprising providing another mounting member for mounting the flat-panel display in the cover.

170. The method of claim 169, wherein the other mounting member extends through a hole in the cover and extending into at least a portion of the at least one second hole in the bracket member for mounting the flat-panel display in the cover.

171. The method of claim 170, wherein a bezel may be used to cover a portion of the flat panel display.

172. The method of claim 171, wherein the bezel further includes a portion for abutting a portion of a sidewall of a cover.

173. The method of claim 172, wherein the bezel further includes a portion for extending into a cover.

174. The method of claim 173, wherein the bezel further includes a portion for extending into a cover to be located between a side wall thereof and the first portion of the bracket member.

175. The method of claim 173, wherein the flat-panel display includes a display panel and a back.

176. The method of claim 175, wherein the flat-panel display further includes a rim extending around the display panel and the back.

177. The method of claim 173, wherein the flat-panel display includes a display panel, a back and a rim extending around the display panel and the back.

178. A method of mounting a mounting system for a display comprising:

- providing a display panel including an active area, a back, a plurality of side walls forming the circumference of the display panel, and a plurality of holes extending laterally into at least two opposed edges of the a plurality of side walls of the display panel;

- providing a cover including a back having a side wall extending around a portion of the back, couplings configured to connect the cover to a base unit of a computer for closing thereover, a plurality of brackets, each bracket having a hole extending laterally through a portion thereof, each bracket configured to have a portion to connect with a portion of the couplings; and

- engaging a plurality of lateral mounting members with the display panel, each lateral mounting member configured for engaging at least a portion of a hole of the plurality of holes of the display panel using an interference fit therewith and extending through the one hole in each bracket of the plurality of brackets.

179. The method of claim 178, wherein the lateral mounting members comprise pins.

180. The method of claim 178, wherein the display panel further comprises:

- a rim extending around the circumference of the display panel, the rim having a plurality of holes therethrough.

181. The method of claim 178, wherein the plurality of lateral mounting members includes each member configured for engaging a non-threaded hole in the display panel.

182. The method of claim 178, wherein the cover includes a bracket having at least one pin configured to engage at least a portion of a hole of the plurality of holes extending laterally into a plurality of edges of the display panel.

183. The method of claim 178, wherein the side wall of the cover includes a side wall configured to extend around a plurality of sides of the back.
184. The method of claim 178, further comprising: a bezel configured for covering a portion of the display panel.

185. The method of claim 184, wherein the bezel includes a portion extending between the plurality of brackets.

186. A method of mounting a flat-panel display for a computer, comprising:

providing a support member for mounting the flat-panel display in a cover, the support member having at least one first hole formed laterally through a portion thereof and at least one second hole formed therethrough;

providing a flat-panel display including a back having at least one hole formed laterally therein; and

mounting the flat-panel display to at least a portion of the support member using at least one mounting member extending through the at least one first hole formed laterally through a portion of the support member and engaging at least a portion of the at least one hole of the flat-panel display for mounting the flat-panel display to the support member.

187. The method of claim 186, further comprising:

mounting the flat-panel display in the cover.

188. The method of claim 186, wherein the support member comprises a member having a first portion extending in a first direction and a second portion extending orthogonally in a second direction therefrom.

189. The method of claim 188, wherein the at least one first hole is formed in the first portion of the support member and the at least one second hole is formed in the second portion of the support member.

190. The method of claim 186, wherein the flat-panel display includes a display panel and a back.

191. The method of claim 190, wherein the flat-panel display further includes a rim extending around the display panel and the back.

192. The method of claim 186, wherein the flat-panel display includes a display panel, a back and a rim extending around the display panel and the back.

193. The method of claim 186, wherein the cover includes a sidewall.

194. The method of claim 193, wherein the support member comprises a member having a first portion extending in a first direction for extending in the direction of the side wall of the cover being spaced therefrom and a second portion extending orthogonally in a second direction therefrom.

195. The method of claim 194, wherein the support member further includes the at least one first hole located in the first portion and the at least one second hole located in the second portion.

196. The method of claim 187, further comprising providing another mounting member for mounting the flat-panel display in the cover.

197. The method of claim 196, further comprising inserting the another mounting member extending through a hole in the cover and extending into at least a portion of the at least one second hole in the support member for mounting the flat-panel display in the cover.

198. The method of claim 186, further comprising a bezel having a portion covering a portion of the flat panel display.

199. The method of claim 198, wherein the bezel further includes a portion for abutting a portion of a sidewall of a cover.

200. The method of claim 199, wherein the bezel further includes a portion for extending into a cover.

201. The method of claim 200, wherein the bezel further includes a portion for extending into a cover to be located between a side wall thereof and the first portion of the support member.

202. A method of mounting a flat-panel display comprising:

providing a back member for mounting the flat-panel display in a portion of the back member, the back member having at least one first hole formed laterally through a portion thereof and at least one second hole formed therethrough; and

mounting the flat-panel display to at least a portion of the back member using at least one mounting member extending through the at least one first hole formed laterally through a portion of the support member and engaging at least a portion of the at least one hole of the flat-panel display for mounting the flat-panel display to the back for covering a portion of the flat-panel display.

203. A method of mounting a mounting system for a display comprising:

providing a display panel including an active area, a back, a plurality of side walls forming the circumference of the display panel, and at least one hole extending laterally into at least an edge of a side wall of the display panel;

providing a back including a side wall extending around a portion of the back;

providing a support having a hole extending laterally through a portion thereof; and

engaging a lateral mounting member with the display panel, the lateral mounting member configured for engaging at least a portion of a hole of the display panel and extending through the one hole in each bracket of the plurality of brackets.

204. The method of claim 203, wherein the lateral mounting member comprises a pin.

205. The method of claim 203, wherein the lateral mounting member includes a member configured for engaging a non-threaded hole in the display panel.

206. The method of claim 203, wherein the back includes a support having at least one pin configured to engage at least a portion of a hole of a hole extending laterally into a plurality of edges of the display panel.

207. The method of claim 203, wherein the side wall of the back includes a side wall configured to extend around a plurality of sides of a back of a display panel.

208. The method of claim 203, further comprising:

a bezel configured for covering a portion of the display panel.

209. A method of mounting a flat-panel display, comprising:

providing a support member for mounting the flat-panel display in a back member for covering a portion of the flat-panel display, the support member having at least
one first hole formed laterally through a portion thereof and at least one second hole formed therethrough; providing a flat-panel display including a back having at least one hole formed laterally therein; and mounting the flat-panel display to at least a portion of the support member using at least one mounting member extending through the at least one first hole formed laterally through a portion of the support member and engaging at least a portion of the at least one hole of the flat-panel display for mounting the flat-panel display to the support member.

210. The method of claim 209, further comprising:

mounting the flat-panel display in the back member.

211. The method of claim 209, wherein the support member comprises a member having a first portion extending in a first direction and a second portion extending orthogonally in a second direction therefrom.

212. The method of claim 211, wherein the at least one first hole is formed in the first portion of the support member and the at least one second hole is formed in the second portion of the support member.

213. The method of claim 209, wherein the back of the flat-panel display further includes a rim.

214. The method of claim 209, wherein the flat-panel display further includes a display panel and a rim extending around the display panel and the back member.

215. The method of claim 210, wherein the support member comprises a member having a first portion extending in a first direction for extending in the direction of the side wall of the cover being spaced therefrom and a second portion extending orthogonally in a second direction therefrom.

216. The method of claim 215, wherein the support member further includes the at least one first hole located in the first portion and the at least one second hole located in the second portion.

217. The method of claim 210, further comprising providing another mounting member for mounting the flat-panel display in the back.

218. The method of claim 217, further comprising inserting the another mounting member extending through a hole in the back and extending into at least a portion of the at least one second hole in the support member for mounting the flat-panel display in the cover.

219. The method of claim 209, further comprising a bezel having a portion covering a portion of the flat panel display.

220. The method of claim 219, wherein the bezel further includes a portion for abutting a portion of a sidewall of a back member.

221. The method of claim 220, wherein the bezel further includes a portion for extending into a back member.

222. The method of claim 221, wherein the bezel further includes a portion for extending into a back member to be located between a side wall thereof and the first portion of the support member.

223. A method of mounting a flat-panel display, comprising:

providing a back member for mounting the flat-panel display in a back covering a portion of the flat-panel display, the back member having at least one first hole formed laterally through a portion thereof and at least one second hole formed therethrough; and

mounting the flat-panel display to at least a portion of the back member using at least one mounting member extending through the at least one first hole formed laterally through a portion of the back member and engaging at least a portion of the at least one hole of the flat-panel display for mounting the flat-panel display to the back member.

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