

display unit 10 may rest at a laptop tilt angle relative to the base unit 12. In the laptop configuration, portions of the cover unit 52 may be used as a stand to support the display unit 10. For example, in the illustrated embodiment, the cover unit top section 57 may be attached to the top rear surface 58 of the display unit 10 and lies flat (parallel against the top rear surface 58 of the display unit 10). The cover unit middle section 60 and the rear portion 66 of the cover unit bottom section 62 may be utilized as the stand. The angle between the cover unit middle section 60 and the top rear surface 58 of the display unit 10 may be between about 110 and about 170 degrees for example.

[0061] The cover unit bottom section 62 may be divided into a front portion 64 and a rear portion 66. Both the front portion 64 and the rear portion 66 may be parallel to the surface on which the portable computer is placed. The front portion 64 may protrude slightly beyond the edge of the display unit 10 when the portable computer is in either the closed or tablet configuration. The base unit 12 may rest upon the front portion 64 of the cover unit bottom section. In the laptop configuration, the bottom surface of the display unit 10 may abut the rear edge of the base unit 54 at the boundary between the front portion 64 and rear portion 66 of the cover unit bottom section 62. As a result, the rear edge of the base unit 12 may act as a stop for the display unit 10 so that the weight of the display unit 10 forces the display unit 10 into contact with the rear edge of the base unit 12.

[0062] The rear portion 66 of the cover unit bottom section 62 may be connected to the cover unit middle section 60 at an angle. In embodiments of the invention of the type shown in FIGS. 7-9, the angle of the rear cover unit bottom section 66 and the cover unit middle section 60 may be between 30 and 60 degrees. The angle between the cover unit middle section 60 and the cover unit bottom section 66 may depend upon the desired laptop tilt angle.

[0063] In the tablet mode, as illustrated in FIG. 9, the display unit 10 may lie parallel to the base unit 12 so as to cover the keyboard 18 or other primary input device(s). The display screen 16 in the display unit 10 may be viewable and usable by a user as a touchscreen. The user may write on the display 16 with an electronic stylus 70. The covering of the keyboard 18 or other primary input device(s) by the display unit 10 may prevent errant input as well as damage to the keyboard 18 or other primary input device(s).

[0064] In the tablet mode, the cover unit top section 57 and cover unit middle section 60 may fold onto each other and may be tucked away underneath a portion of the display unit 10 and above the rear portion 66 of the cover unit bottom section 62. The rear surface of the cover unit top section 57 may contact the rear surface of the cover unit middle section 60. The front surface of the cover unit middle surface 60 may fold onto the top surface of the rear portion 66 of the cover unit bottom section. The folded portions of the cover unit 52 may be approximately the same height as the base unit 12 and together with the base unit 12 may provide a substantially flat surface on which the display unit 10 rests on.

[0065] The cover unit 52 may be made of a flexible material, such as leather or plastic. The cover unit 52 may also have seams or grooves at the interfaces or boundaries between sections. In alternative embodiments, the sections of the cover unit 52 may be joined using hinges. A latching

assembly 60, an embodiment of which is shown in FIGS. 6(a)-6(e) may also be included in embodiments of the invention of the type shown in FIGS. 7-9 to maintain the portable computer in a closed configuration, a tablet configuration, or both.

[0066] Embodiments of Type Shown in FIGS. 10-14

[0067] According to other embodiments of the invention (illustrated in FIGS. 10-12), the display unit 10 and the base unit 12 may be coupled by a hinging assembly 13 that allows the display unit 10 to rotate about two perpendicular axes of rotation with respect to the base unit. The display unit 10 may include a display screen 14, a display frame 16, and a rear surface 17 of the display unit 10. The base unit 12 may include a pointing device 20, a keyboard 18, a bottom surface 15, and a top surface 55. The display unit 10, the base unit 12, or both may include a central processing unit (not shown) and/or a memory (not shown).

[0068] In the illustrated embodiment, the portable computer may be moved from the closed configuration to the laptop configuration by rotating the A hinge 30 about an axis of rotation that is parallel to the top surface 55 of the base unit 12 (referred to hereinafter as the "horizontal axis") until the display unit 10 reaches the laptop tilting angle (approximately 90° in the illustrated embodiment) with respect to the base unit 12. From the laptop configuration, the portable computer may be changed into the tablet configuration by first rotating the B hinge 32 approximately 180° about an axis of rotation that is perpendicular to the top surface 55 of the base unit 12 (referred to hereinafter as the "vertical axis"). The display unit 10 may then be brought back to a zero angle relative to the base unit 12 by rotating the first hinge in the reverse direction. In the resulting tablet configuration, the rear surface 17 of the display unit 10 may be placed over the top surface 55 of the base unit 12, including the keyboard 18, pointing device 20 or other primary input device(s).

[0069] In embodiments of the invention, the laptop tilting angle may be greater or less than the angle at which the display unit 10 is placed relative to the base unit 12 to begin swiveling of the display unit. For example, in embodiments of the invention, the A hinge 30 may have a range of rotation with an upper limit of about 180 degrees (i.e., so that the display unit 10 may lay flat on the surface supporting the base unit 12). However, the user may place the display unit 10 at a tilt angle of only about 90 degrees before swiveling the display unit 10 relative to the display unit by rotating the B hinge 32. In such embodiments, it should be understood that the term "laptop configuration" is meant to cover both the configuration in which the display unit 10 is at an angle of about 90 degrees relative to the base unit 12, as well as configurations in which the display unit 10 is at other tilting angles with respect to the base unit 12.

[0070] FIG. 13(e) illustrates the hinging assembly 13. As discussed above, the A hinge 30 may be rotated to allow the display unit 10 to be tilted relative the base unit 12 to place the portable computer in the laptop configuration, and the B hinge 32 may be swiveled and the A hinge 30 rotated to allow the portable computer to be placed in the tablet configuration. The hinging assembly 13 may include a B hinge 30 oriented to rotate a shaft 98 about the vertical axis. The shaft 98 may be coupled to a support plate 97. Consequently, the support plate may also rotate about the vertical