

An Adjustable Mounting Bracket Assembly and a Flipping Bracket Assembly for Liquid Crystal Display (LCD) Monitors

Field of Invention

5 Embodiments of the present invention relate to an adjustable mounting bracket assembly, and more particularly, to an adjustable mounting bracket assembly for liquid crystal displays (LCD) monitor which is stable in position so that the display screen remains in a particular position and a selected orientation. The embodiments also allow LCD monitor attached onto a workstation to be stored away and made available as when it is needed by the user.

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Background of Invention

The advancement in display screens technology has led to the development of variety of LCD monitors. The wide variety of LCD monitors have replaced conventional monitors available in the market, for example, a computer display monitor or a big television set which occupies lot of table space due to the use of cathode ray tube (CRT) in producing pictures. The LCD monitor offers an opportunity to replace the bulkier and heavier conventional monitors while having same screen area but at a small fraction of depth and weight. Consequently, the LCD monitors may be placed on desks without consuming a large portion of the desk top space.

20 Subsequently, the lightweight and thin profile of the LCD monitor requires minimal support on a relatively small base, allows to be hung on a wall or to be supported by a support system which is connected to a mounting surface such as a wall, a post, or a top, bottom, or side surface of a desk or cabinet. The ability to adjust the orientation of the LCD monitor according to the user is a desirable feature.

In view of limited and confined space in a workstation, it would be useful for the LCD monitor to be stored away when not in use. This will provide more workspace for the user when the LCD monitor is not in use. The LCD monitor can be made available again once the need arises.

Therefore, there is a need for an adjustable mounting bracket assembly which will allow
5 adjustment of the position and orientation of the display monitors. Moreover, there is a need for an assembly which is in a stable position so that the display monitor remains in a particular position and selected orientation. There is the need for an assembly which can attach the display screen panel to the workstation and for the LCD monitor panel to be flipped open with a flip-up bracket assembly when needed.

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Summary of Invention

The present invention aims to provide an adjustable mounting bracket assembly, and more particularly, to an adjustable mounting bracket assembly for LCD monitor which is at a stable in position so that the monitor remains in a particular position and orientation selected. The
15 invention also provides an adjustable flip-up bracket assembly that attaches to the mounting plate of the display screen and workstation so that the mounting plate can be flipped open when needed using a flip-up assembly.

In one embodiment of the present invention, an adjustable mounting bracket assembly for LCD
20 monitor includes a multiple mounting brackets including a first bracket configured to be coupled to a fixed structure and a second bracket including a pair of elongated wings and an upper top surface.

In one embodiment of the present invention, the adjustable mounting bracket assembly for the
25 LCD monitor further includes a mounting plate that is configured to be operable when coupled

to the LCD monitor. The mounting plate includes a multiple mounting arms and a multiple holding arms.

5 In one embodiment of the present invention, the mounting plate being further configured to be coupled in an upright position to the upper top surface of the second bracket of the multiple brackets by sliding the second bracket of the multiple brackets through the multiple holding arms of the mounting plate.

10 In one embodiment of the present invention, the first bracket is configured to hold the mounting plate at a desired position.

15 In one embodiment of the present invention, the multiple mounting brackets further include a third bracket for hanging the assembly. The third bracket includes at least one hook protruding from a side thereof and a holder to facilitate the hanging of the assembly.

In one embodiment of the present invention, the at least one hook of the third bracket is an L-shaped hook.

20 In one embodiment of the present invention, the holder is an L-shaped holder.

In one embodiment of the present invention, the first bracket includes a multiple first apertures for coupling the first bracket to the fixed structure, and at least one slot including a first slot and a second slot configured to engage with the at least one hook of the third bracket for coupling the first bracket to the third bracket.

25 In one embodiment of the present invention, the first bracket includes a pair of first elongated ears extending rearwards and each ear of the pair of first elongated ears has a first hole

defined there through, and a second bracket including a pair of second elongated ears extending rearwards and each ear of the pair of second elongated ears has a second hole defined there through.

- 5 In one embodiment of the present invention, the assembly further includes a pivot catcher positioned in center of a passage tube sleeve by inserting the passage tube sleeve through at least two small hollow cylinders on either ends of the passage tube sleeve.

- 10 In one embodiment of the present invention, the mounting plate further includes a multiple second apertures and a multiple channels for coupling the mounting plate to the LCD monitor.

In one embodiment of the present invention, the multiple channels includes a multiple U-shaped channels.

- 15 In one embodiment of the present invention, a multiple fasteners are fastened through the multiple second apertures of the mounting plate to a multiple VESA mounting apertures located on a back surface of a rear side of the LCD monitor.

- 20 In one embodiment of the present invention, at least one first washer and at least one second washer are provided between a screw, between the first hole of the at least one ear of the pair of first elongated ears of the first bracket, between the second hole of the at least one ear of the pair of second elongated ears of the second bracket and between the secured nut.

- 25 In one embodiment of the present invention, the at least one first washer is a metal washer and the at least one second washer is a nylon washer.

In one embodiment of the present invention, a method of mounting an adjustable mounting bracket assembly of an LCD monitor to a fixed structure includes steps of inserting a screw through a second hole of at least one ear of a pair of second elongated ear of a second bracket and a first hole of at least one ear of a pair of first elongated ears of a first bracket, positioning a
5 pivot catcher in center of a passage tube sleeve by inserting the passage tube sleeve through at least two small hollow cylinders on either ends of the passage tube sleeve, inserting the screw through the passage tube sleeve via an opening of the passage tube sleeve and through the first hole of the at least one ear of the pair of first elongated ears of the first bracket and the second hole of the at least one ear of the pair of second elongated ears of the second bracket,
10 attaching a secured nut to the screw to form a coupling mechanism between the first bracket and the second bracket, sliding the second bracket coupled to the first bracket through a multiple holding arms of a mounting plate to form an adjustable mounting bracket assembly, the mounting plate operably coupled to the LCD monitor and securing the assembly to the fixed structure by inserting the multiple fasteners through a multiple first apertures of the first
15 bracket.

In one embodiment of the present invention, at least one first washer and at least one second washer are provided between a screw, between the first hole of the at least one ear of the pair of first elongated ears of the first bracket, between the second hole of the at least one ear of
20 the pair of second elongated ears of the second bracket and between the secured nut.

In one embodiment of the present invention, the at least one first washer, and the at least one second washer have an opening corresponding to a cross section of the screw.

25 In one embodiment of the present invention, the at least one first washer is a metal washer and the at least one second washer is a nylon washer.

In one embodiment of the present invention, the multiple holding arms of the mounting plate rest on the pair of elongated wings of the second bracket of the multiple brackets.

In one embodiment of the present invention, a method of mounting an adjustable mounting
5 bracket assembly of an LCD monitor to a fixed structure includes steps of inserting a screw through a second hole of at least one ear of a pair of second elongated ear of a second bracket and a first hole of at least one ear of a pair of first elongated ears of a first bracket, positioning a pivot catcher in center of a passage tube sleeve by inserting the passage tube sleeve through at least two small hollow cylinders on either ends of the passage tube sleeve, inserting the
10 screw through the passage tube sleeve via an opening of the passage tube sleeve and through the first hole of the at least one ear of the pair of first elongated ears of the first bracket and the second hole of the at least one ear of the pair of second elongated ears of the second bracket, attaching a secured nut to the screw to form a coupling mechanism between the first bracket and the second bracket, sliding the second bracket coupled to the first bracket through a
15 multiple holding arms of a mounting plate operably coupled to the LCD monitor, coupling at least one hook protruding from a side of a third bracket with a multiple slots of the first bracket to form an adjustable mounting bracket assembly and hanging the assembly to the fixed structure by sliding a holder of the third bracket along axis of the fixed structure.

20 In one embodiment of the present invention, an adjustable flip-up bracket assembly for the liquid clear display (LCD) flip-up panel which includes a mounting bracket and a support panel configured to attach to both the fixed structure and flip-up panel.

In one embodiment of the present invention, an adjustable flip-up bracket assembly for the LCD
25 flip-up panel which includes a flip-up cable housing kit assembly, a mounting bracket and a support panel that is configured to attach to both the base of the fixed structure and the flip panel.

In one embodiment of the present invention, an adjustable flip-up right support panel which is configured to be coupled to the fixed structure and a flip-up right mount bracket which is configured to be coupled to the flip-up LCD panel and operable when coupled with the flip-up
5 right support panel.

In one embodiment of the present invention, an adjustable flip-up left support panel which is configured to be coupled to the fixed structure and an adjustable flip-up left mount bracket.

10 In one embodiment of the present invention, the left flip-up support panel includes a gas spring stopper, a ribbed round metal stub and another ribbed round metal stub ribbed to the support panel.

In one embodiment of the present invention, the left flip-up mount bracket includes a mount
15 bracket arm that is attached to the mount bracket that includes a rotated metal bracket.

In one embodiment of the present invention, the right flip-up support panel includes a round metal stub which is ribbed, a lock hold for attachment to the mounting bracket and a mounting locking device which is configured to be operable when coupled with the flip-up mount bracket.
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In one embodiment of the present invention, the right flip-up mount bracket that includes a lock hold for attachment to the support panel.

In one embodiment of the present invention, the right flip-up mount bracket is positioned onto
25 the mounting for locking device on the right flip-up support panel and a ribbed round metal stub on the right flip-up support bracket is fastened through the right flip-up mount bracket.

In one embodiment of the present invention, a ribbed round metal stub on the left flip-up support bracket is fastened through the left flip-up mount bracket.

5 In one embodiment of the present invention, a method of mounting the assembly of an adjustable right flip-up mount bracket and an adjustable right flip-up support panel onto a fixed structure includes the step of inserting screws through the holes on the right flip-up mount bracket and the right flip-up support panel.

10 In one embodiment of the present invention, the panel lip stopper includes a stopper and holes for insertion of screws for attachment onto the fixed surface.

15 In one embodiment of the present invention, a method of mounting the assembly of the adjustable left flip-up mount bracket and the adjustable left flip-up support panel onto a fixed structure includes the step of inserting screws through the holes on the left flip-up mount bracket and the left flip-up support panel. A mount bracket arm is attached to the assembly of an adjustable left flip-up mount bracket and an adjustable left flip-up support panel by inserting screws through the holes found on the mount bracket arm and the adjustable left flip-up mount bracket. A gas spring is attached onto the assembly by attaching it to the ribbed round metal stub on the left flip-up mount bracket and the round metal stub on the left flip-up support panel.

20 The panel lip stopper is fastened onto the fixed surface by inserting screws through the holes on the panel lip stopper.

In one embodiment of the present invention, the flip-up cable housing kit assembly includes a puller that comes with the square stainless steel projecting stud insert.

In one embodiment of the present invention, the flip-up cable housing kit assembly includes a square stainless steel projecting stud insert for the pulling of the cable and has a gap created for laying the cable and the extension spring for fitting.

- 5 In an embodiment of the present invention, the square stainless steel projecting stud insert includes a screw threaded hole in it and the gap is created for laying the cable and extension of spring for fitting.

- 10 In an embodiment of the present invention, the flip-up cable housing kit assembly includes an extension spring for compressing the puller to maintain the position of the puller once it is pulled to flip open the mounting plate.

- 15 In an embodiment of the present invention, a cable with one end attached to the square stainless steel projecting stud insert with an aluminium oval sleeve and the other with a metal eyelet that is fitted onto one of the mounting bracket arm.

- 20 In an embodiment of the present invention, the flip-up cable housing kit assembly includes a metal fitting bracket with two holes for screws to fit onto the plastic casing and two further holes for screws to attach the assembly onto the workstation surface from the base.

- In an embodiment of the present invention, the flip-up cable housing kit assembly includes a metal fitting bracket with an upper hole for a screw to thread the spring and a lower hole for the spring to go through the assembly.

- 25 In one embodiment of the present invention, a method of mounting the adjustable flip-up cable housing kit onto the display screen panel and onto the base of the fixed structure includes step of inserting the puller that comes with the square stainless steel into the plastic casing and

inserting a screw through the one end of the spring, the cable and the hole at the end of the square stainless steel, inserting screws through the two holes of the metal fitting bracket to attach it to the plastic casing, positioning the spring and cable through the aluminium hollow pipe, inserting a screw through the spring and hole at the vertical plate of the metal fitting bracket, attaching the flip-up cable housing kit assembly onto the base of the fixed structure, attaching the eyelet onto mount bracket arm with the means of inserting a screw through the hole on the mount bracket arm and a nut to secure the eyelet to the mount bracket arm.

While the invention is described herein by way of example using several embodiments and illustrative drawings, those skilled in the art will recognize that the invention is not limited to the embodiments of drawing or drawings described, and are not intended to represent the scale of the various components. Further, some components that may form a part of the invention may not be illustrated in certain figures, for ease of illustration, and such omissions do not limit the embodiments outlined in any way. It should be understood that the drawings and detailed description thereto are not intended to limit the invention to the particular form disclosed, but on the contrary, the invention is to cover all modification, equivalents and alternatives falling within the spirit and scope of the present invention as defined by the appended claims. The headings used herein are for organizational purposes only and are not meant to be used to limit the scope of the description or the claims. As used throughout this application, the word "may" is used in a permissive sense (i.e., meaning having the potential to), rather than the mandatory sense (i.e., meaning must). Similarly, the words "include," "including," and "includes" mean including, but not limited to. Further, the words "a" or "an" mean "at least one" and the word "plurality" means one or more, unless otherwise mentioned.

Brief Description of Drawings

So that the manner in which the above recited features of the present invention can be understood in detail, a more particular description of the invention, briefly summarized above,

may be had by reference to embodiments, some of which are illustrated in the appended drawings. It is to be noted, however, that the appended drawings illustrate only typical embodiments of this invention and are therefore not to be considered limiting of its scope, for the invention may admit to other equally effective embodiments.

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These and other features, benefits and advantages of the present invention will become apparent by reference to the following text figures, with like reference numbers referring to like structures across the views, wherein:

10 FIG. 1 illustrates a detailed perspective view of components of an adjustable mounting bracket assembly for LCD monitor, according to an embodiment of the present invention;

FIG. 2 illustrates a perspective view of an assembly of a first bracket coupled to a second bracket of the adjustable mounting bracket assembly for the LCD monitor, according to an
15 embodiment of the present invention;

FIG. 3 illustrates a perspective view of the adjustable mounting bracket assembly with a multiple fasteners for mounting the adjustable mounting bracket assembly to a fixed structure, according to an embodiment of the present invention;

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FIG. 4 illustrates a perspective view of the adjustable mounting bracket assembly mounted to the fixed structure with the multiple fasteners, according to an embodiment of the present invention;

25 FIG. 5 illustrates a side view of the adjustable mounting bracket assembly mounted to the fixed structure via the multiple fasteners, according to an embodiment of the present invention;

FIG. 6 illustrates a detailed perspective view of components of an adjustable mounting bracket assembly for LCD monitor, according to an alternate embodiment of the present invention;

FIG. 7 illustrates a perspective view of an assembly of the first bracket coupled to the second bracket and a third bracket of the adjustable mounting bracket assembly for the LCD monitor, according to an alternate embodiment of the present invention;

FIG. 8 illustrates a perspective view of the adjustable mounting bracket assembly for hanging the LCD monitor, according to an alternate embodiment of the present invention;

FIG. 9 illustrates a perspective view of the adjustable mounting bracket assembly hanged to the fixed structure via the third bracket of the adjustable mounting bracket assembly, according to an alternate embodiment of the present invention;

FIG. 10 illustrates a side view of the adjustable mounting bracket assembly hanged to the fixed structure via the third bracket of the adjustable mounting bracket assembly for the LCD monitor, according to an alternate embodiment of the present invention;

FIG. 11 illustrates a perspective view of the adjustable mounting bracket assembly with a multiple fasteners for mounting the adjustable mounting bracket assembly to a fixed structure, the assembly of the adjustable right and left flip-up bracket assembly to a fixed structure, the panel lip stopper and the adjustable flip-up cable housing kit to a fixed structure.

Detailed Description of the Preferred Embodiments

Referring now to FIG.1 illustrates a detailed perspective view of components of an adjustable mounting bracket assembly (100) for LCD monitor , FIG. 2 illustrates a perspective view of an assembly of a first bracket (10) coupled to a second bracket (30) of the adjustable mounting

bracket assembly for the LCD monitor, FIG. 3 illustrates a perspective view of the adjustable mounting bracket assembly (100) with a multiple fasteners (90) for mounting the adjustable mounting bracket assembly (100) to a fixed structure (205) and FIG. 4 illustrates a perspective view of the adjustable mounting bracket assembly (200) mounted to the fixed structure (205) with the multiple fasteners (90), according to an embodiment of the present invention.

As showed therein, the adjustable mounting bracket assembly (100) for the LCD monitor (305) (of Fig.5) includes a multiple mounting brackets and a mounting plate (50). The multiple mounting brackets includes the first bracket (10) configured to be coupled to the fixed structure (205) and the second bracket (30). The second bracket (30) includes a pair of elongated wings (32) and an upper top surface (34).

In one embodiment of the present invention, the mounting plate (50) includes a multiple mounting arms (52) and a multiple holding arms (55). The mounting plate (50) is configured to be operably coupled to the LCD monitor (305) via the multiple mounting arms (52).

In one embodiment of the present invention, the mounting plate (50) further includes a multiple second apertures (60) and a multiple channels (65) for coupling the mounting plate (50) to the LCD monitor (305). The multiple second apertures (60) are disposed on each mounting arm of the multiple mounting arms (52) of the mounting plate (50). Each channel of the multiple channels (65) is formed on each upper mounting arm of the multiple mounting arms (52) of the mounting plate (50). In one embodiment of the present invention, the multiple channels (65) of the mounting plate (50) are configured to provide support to the LCD monitor (305) while mounting the mounting plate (50) to the LCD monitor (305) by means of fastening at least two fasteners (90) obliquely into two channels of the multiple channels (65) of the mounting plate (50).

In one embodiment of the present invention, the multiple channels (65) includes a multiple U-shaped channels.

In one embodiment of the present invention, the multiple fasteners (90) are fastened through
5 the multiple second apertures (60) of the mounting plate (50) to a multiple video electronics standard association (VESA) mounting apertures (not shown) located on a back surface of a rear side of the LCD monitor (305), as illustrated in FIG. 5.

In one embodiment of the present invention, the mounting plate (50) is further configured to be
10 coupled in an upright position to the upper top surface (34) of the second bracket 30 of the multiple brackets by sliding the second bracket (30) of the multiple brackets through the multiple holding arms (55) of the mounting plate (50). In this particular alignment of sliding, the second bracket (30) of the multiple brackets slides through the multiple holding arms (55) of the mounting plate (50), the multiple holding arms (55) of the mounting plate (50) rest upon the pair
15 of elongated wings (32) of the second bracket (30) and grasp it in position.

In one embodiment of the present invention, the first bracket (10) includes a multiple first apertures (70) for coupling the first bracket (10) to the fixed structure (205), as illustrated in
FIG. 5.

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In one embodiment of the present invention, the first bracket (10) further includes a pair of first elongated ears (67) extending rearwards and each ear of the pair of first elongated ears (67) has a first hole (69) defined there through. The second bracket (30) further includes a pair of second elongated ears (38) extending rearwards and each ear of the pair of second elongated
25 ears (38) has a second hole (39) defined there through.

In one embodiment of the present invention, at least one first washer (40) is provided between a screw (35) and the second hole (39) of the at least one ear of the pair of second elongated ears (38) of the second bracket (30).

- 5 In one embodiment of the present invention, at least one second washer (5) is provided between the at least one first washer (40) and the second hole (39) of the at least one ear of the pair of second elongated ears (38) of the second bracket (30).

- 10 In one embodiment of the present invention, the at least one first washer (40) is provided between the at least one second washer (5) and a secured nut (45).

- In one embodiment of the present invention, the first bracket (10) is configured to hold the mounting plate (50) at a desired position. Moreover, the pair of second elongated ears (38) of the second bracket (30) is configured to move the assembly (200) at the desired position by
15 turning the second bracket (30) in either upward or downward direction.

In one embodiment of the present invention, the at least one first washer (40) is a metal washer and the at least one second washer (5) is a nylon washer.

- 20 In one embodiment of the present invention, the fixed structure (205) may be a wall, a panel, a board, a partition and the like.

- In one embodiment of the present invention, the assembly (100) further includes a pivot catcher (5) to be positioned in center of a passage tube sleeve (15) by inserting the passage tube
25 sleeve (15) through at least two small hollow cylinders (20) on either ends of the passage tube sleeve (15). The pivot catcher (5) has an opening through which the passage tube sleeve (15) is introduced. Subsequently, the pivot catcher (5) is positioned in the center of the passage

tube sleeve (15) by placing the at least two small hollow cylinders (20) on either ends of the passage tube sleeve (15).

In one embodiment of the present invention, the pivot catcher (5) is configured to grip the mounting plate (50) coupled to the LCD monitor (305) in place. Furthermore, the pivot catcher (5) prevents the LCD monitor from losing balance when the LCD monitor is facing in downward direction.

In one embodiment of the present invention, a method of mounting the adjustable mounting bracket assembly (200) of the LCD monitor (305) to the fixed structure (205) includes the steps of inserting the screw (35) through the second hole (39) of the at least one ear of the pair of second elongated ear (38) of the second bracket (30) and the first hole (69) of the at least one ear of the pair of first elongated ears (67) of the first bracket (10). The pivot catcher (5) is positioned in center of the passage tube sleeve (15) by inserting the passage tube sleeve (15) through the at least two small hollow cylinders (20) on either ends of the passage tube sleeve (15). The screw (35) is inserted through the passage tube sleeve (15) via the opening of the passage tube sleeve (15) and through the first hole (69) of the at least one ear of the pair of first elongated ears (67) of the first bracket (10) and the second hole (39) of the at least one ear of the pair of second elongated ears (38) of the second bracket (30). The secured nut (45) is attached to the screw (35) to form a coupling mechanism between the first bracket (10) and the second bracket (30) as illustrated in FIG.2. The second bracket (30) coupled to the first bracket (10) is moved through the multiple holding arms (55) of the mounting plate (50) to form the adjustable mounting bracket assembly (200) of FIG.4. The mounting plate (50) is operably coupled to the LCD monitor (305) by fastening the multiple fasteners (90) through the multiple second apertures (60) of the mounting plate (50) to the multiple video electronics standard association (VESA) mounting apertures (not shown) located on the back surface of the rear side of the LCD monitor (305). The adjustable mounting bracket assembly (200) is secured to

the fixed structure (205) by inserting the multiple fasteners (90) through the multiple first apertures (70) of the first bracket (10).

In one embodiment of the present invention, the at least one first washer (40) and the at least
5 one second washer (5) have an opening corresponding to a cross section of the screw (35).

In one embodiment of the present invention, the multiple holding arms (55) of the mounting plate (50) rests on the pair of elongated wings (32) of the second bracket (30) of the multiple brackets.

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Referring now to FIG. 5 illustrates a side view of the adjustable mounting bracket assembly (300) mounted to the fixed structure (205) via the multiple fasteners (90), according to an embodiment of the present invention. The pair of second elongated ears (38) of the second bracket (30) is configured to move the assembly (300) at the desired position by turning the
15 second bracket (30) in either upward or downward direction. Furthermore, the LCD monitor (305) may be adjusted in an upward position or in downward position by turning the second bracket (30) of the assembly (300).

Referring now to FIG. 6 illustrates a detailed perspective view of components of an adjustable
20 mounting bracket assembly (400) for LCD monitor, FIG. 7 illustrates a perspective view of an assembly of the first bracket (10) coupled to the second bracket (30) and a third bracket (475) of the adjustable mounting bracket assembly (400) for the LCD monitor, FIG. 8 illustrates a perspective view of the adjustable mounting bracket assembly (400) for hanging the LCD monitor (605) and FIG. 9 illustrates a perspective view of the adjustable mounting bracket
25 assembly (500) hanged to the fixed structure (505) via the third bracket (475) of the adjustable mounting bracket assembly (500), according to an alternate embodiment of the present invention.

As showed therein, the adjustable mounting bracket assembly (400) for LCD monitor (605) (of Fig.10) includes the multiple mounting brackets and the mounting plate (50). The multiple mounting brackets further includes the third bracket (475) for hanging the adjustable mounting bracket assembly (500) in addition to the first bracket (10) and the second bracket (30). The
5 third bracket (475) includes at least one hook (485) protruding from a side thereof and a holder (480) to facilitate the hanging of the assembly (500).

In an alternate embodiment of the present invention, the first bracket (10) includes the multiple first apertures (70) for coupling the first bracket (10) to the fixed structure (505) and at least one
10 slot (72). The at least one slot (72) includes a first slot and a second slot configured to engage with the at least one hook (85) of the third bracket (75) for coupling the first bracket (10) to the third bracket (75).

In an alternate embodiment of the present invention, the at least one hook (85) of the third
15 bracket (75) is an L-shaped hook.

In an alternate embodiment of the present invention, the holder (80) is an L-shaped holder.

In an alternate embodiment of the present invention, a method of mounting the adjustable
20 mounting bracket assembly (500) of the LCD monitor (605) to the fixed structure (505), includes steps of inserting the screw (35) through the second hole (39) of the at least one ear of the pair of second elongated ear (38) of the second bracket (30) and the first hole (69) of at least one ear of the pair of first elongated ears (67) of the first bracket (10) as illustrated in FIG.6. The pivot catcher (5) is to be positioned in center of the passage tube sleeve (15) by
25 inserting the passage tube sleeve (15) through the at least two small hollow cylinders (20) on either ends of the passage tube sleeve (15). The screw (35) is inserted through the passage tube sleeve (15) via the opening of the passage tube sleeve (15) and through the first hole (69)

of the at least one ear of the pair of first elongated ears (67) of the first bracket (10) and the second hole (39) of the at least one ear of the pair of second elongated ears (38) of the second bracket (30). The secured nut (45) is attached to the screw (35) to form the coupling mechanism between the first bracket (10) and the second bracket (30). The second bracket
 5 (30) coupled to the first bracket (10) is moved through the multiple holding arms (55) of the mounting plate (50) operably coupled to the LCD monitor (605). The at least one hook (85) protruding from the side of the third bracket 75 is coupled with the at least one slot (72) of the first bracket 10 to form the adjustable mounting bracket assembly (500). The adjustable mounting bracket assembly (500) is hanged to the fixed structure (505) by sliding the holder
 10 (80) of the third bracket (75) along axis of the fixed structure (505), as illustrated in FIG. 9.

In one embodiment of the present invention, the fixed structure (505) may be a log of wood, a wooden board panel, a stainless steel panel or the like.

15 Referring now to FIG. 10 illustrates a side view of the adjustable mounting bracket assembly (600) hanged to the fixed structure (505) via the third bracket (475) of the adjustable mounting bracket assembly (400) for the LCD monitor (605), according to alternate embodiment of the present invention.

20 The pair of second elongated ears (38) of the second bracket (30) is configured to move the assembly (500) at the desired position by turning the second bracket (30) in either upward or downward direction. Furthermore, the LCD monitor (505) may be adjusted in an upward position or in downward position by turning the second bracket (30) of the assembly (500).

25 Referring to FIG. 11 which illustrates a perspective view of the adjustable mounting bracket assembly with a multiple fasteners for mounting the adjustable mounting bracket assembly to a fixed structure, the assembly of the adjustable flip-up bracket assembly to a fixed structure and

the adjustable flip-up cable housing kit to a fixed structure, according to the embodiments of the present invention.

5 In one embodiment of the present invention, an adjustable right flip-up support panel which is configured to be coupled to the fixed structure and a right flip-up mount bracket which is configured to be coupled to the flip-up LCD panel and operable when coupled with the right flip-up support panel.

10 In one embodiment of the present invention, an adjustable left flip-up support panel which is configured to be coupled to the fixed structure and an adjustable flip-up mount bracket. The left flip-up support panel includes a gas spring stopper (102), a ribbed round metal stub (101) and another ribbed round metal stub (103) to the support panel. The left flip-up mount bracket includes a mount bracket arm (107) that is attached to the mount bracket that includes a rotated metal bracket (109).

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In one embodiment of the present invention, the right flip-up support panel includes a round metal stub (106) which is ribbed, a lock hold (105) for attachment to the mounting bracket and a mounting locking device (104) which is configured to be operable when coupled with the flip-up mount bracket. The right flip-up mount bracket that includes a lock hold (105) for attachment
20 to the support panel.

In one embodiment of the present invention, the right flip-up mount bracket is positioned onto the mounting for locking device (104) on the right flip-up support panel and a ribbed round metal stub (106) on the right flip-up support bracket is fastened through the right flip-up mount
25 bracket.

In one embodiment of the present invention, a ribbed round metal stub (103) on the left flip-up support bracket is fastened through the left flip-up mount bracket.

5 In one embodiment of the present invention, a method of mounting the assembly of an adjustable right flip-up mount bracket and an adjustable right flip-up support panel onto a fixed structure includes the step of inserting screws (128) through the holes on the right flip-up mount bracket and the right flip-up support panel.

10 In one embodiment of the present invention, a method of mounting the assembly of the adjustable left flip-up mount bracket and the adjustable left flip-up support panel onto a fixed structure includes the step of inserting screws (128) through the holes on the left flip-up mount bracket and the left flip-up support panel. A mount bracket arm is attached to the assembly of an adjustable left flip-up mount bracket and an adjustable left flip-up support panel by inserting screws (128) through the holes found on the mount bracket arm and the adjustable left flip-up
15 mount bracket. A gas spring (108) is attached onto the assembly by attaching it to the ribbed round metal stub on the left flip-up mount bracket (109) and the round metal stub on the left flip-up support panel (102).

20 In one embodiment of the present invention, a panel lip stopper (110) which includes a stopper on it and holes for inserting screws through the holes when fastening onto the fixed surface.

Referring again to FIG.11 which illustrates a detailed perspective view of the components of the flip-up cable housing kit assembly and a perspective view of an assembly of the flip-up cable housing kit assembly for the attachment onto the base of a fixed structure and the adjustable
25 flip-up bracket assembly, according to the embodiment of the present invention.

As showed therein, the flip-up cable housing kit assembly includes a square stainless steel projecting stud insert (121) for the pulling of the cable (123) and has a gap created for laying the cable (123) and the extension spring (122) for fitting. The square stainless steel projecting stud insert (121) includes a screw (128) threaded hole in it and the gap is created for laying the
5 cable (123) and extension spring (122) for fitting.

In an embodiment of the present invention, the flip-up cable housing kit assembly includes an extension spring (122) for compressing the puller (120) to maintain the position of the puller (120) once it is pulled to flip open the LCD monitor flip panel.

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In an embodiment of the present invention, the flip-up cable housing kit assembly includes a cable (123) with one end attached to the square stainless steel projecting stud insert (121) with an aluminium oval sleeve and the other with a metal eyelet (127) that is fitted onto one of the mount bracket arm (107).

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In an embodiment of the present invention, the flip-up cable housing kit assembly includes a metal fitting bracket (125) with two holes for screws (128) to fit onto the plastic casing (124) and two further holes for screws (128) to attach the assembly onto the fixed structure from the base.

20 In an embodiment of the present invention, the flip-up cable housing kit assembly includes a metal fitting bracket (125) with an upper hole for a screw (128) to thread the spring (122) and a lower hole for the spring (122) to go through the assembly.

A method of mounting an adjustable flip-up cable housing kit assembly to the surface of the
25 base of a fixed structure, said method comprising steps of inserting the puller (120) that comes with the square stainless steel (121) into the plastic casing (124), inserting a screw (128) through the one end of the spring (122), the cable (123) and the hole at the end of the square

stainless steel (121), inserting screws (128) through the two holes of the metal fitting bracket (125) to attach it to the plastic casing (124), positioning the spring (122) and cable through the aluminium hollow pipe (126), inserting a screw (128) through the spring (122) and hole at the vertical plate of the metal fitting bracket (125), attaching the flip-up cable housing kit assembly
5 onto the base of the fixed structure, attaching the eyelet (127) onto the mount bracket arm with the means of inserting a screw (128) through the hole on the mount bracket arm and a nut to secure the eyelet (127) to the mount bracket arm.

Therefore, as can be seen, embodiments of the present invention provide a support for LCD
10 monitor. Subsequently, the adjustable mounting bracket assembly attached to the LCD monitor may be turned about both a horizontal axis. Moreover, the adjustable mounting bracket assembly provides a support for the LCD monitor which may be securely positioned in a desired direction once the adjustment turning has been stopped. Besides that, the embodiments of the present invention provide the means of support for the LCD flip panel. The
15 adjustable flip panel brackets allow the flip panel to be opened with a mechanism in the flip-up cable housing kit assembly.

It should be appreciated that, while the adjustable mounting bracket assembly, adjustable LCD flip panel brackets, support panel and flip-up cable housing kit assembly described herein in
20 accordance with the present invention is shown as being used for mounting or supporting an LCD monitor. The adjustable mounting bracket assembly in accordance with the present invention may be adapted for use with other devices such as thin computers, a flat panel display monitor, cellular telephones, cameras, camcorders, copy holders, picture frames and the like. The adjustable LCD flip panel brackets, support panel and flip-up cable housing kit
25 assembly in accordance with the present invention may be adapted for use with other workstation besides a computer workstation.

In the foregoing specification, specific embodiments of the present invention have been described, together with details of the structure and function of the invention, the disclosure is illustrative only, and changes may be made in detail, especially in matters of shape, size, and arrangement of parts within the principles of the invention to the full extent indicated by the
5 broad general meaning of the terms in which the appended claims are expressed. However, one of ordinary skill in the art will appreciate that various modifications and changes can be made without departing from the spirit and scope of the present invention as set forth in the various embodiments discussed above and the claims that follow.

10 Accordingly, the specification and figures are to be regarded in an illustrative rather than a restrictive sense, and all such modifications are intended to be included within the scope of present invention. The benefits, advantages, solutions to problems, and any element(s) that may cause any benefit, advantage, or solution to occur or become more pronounced are not to be construed as a critical, required, or essential features or elements as described herein.

CLAIMS

1. An adjustable mounting bracket assembly for LCD monitor, said assembly including:

a) a plurality of mounting brackets comprising a first bracket configured to be coupled to a fixed structure, and a second bracket including a pair of elongated wings and an upper top surface; and

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b) a mounting plate configured to be operably coupled to said LCD monitor, said mounting plate comprising a plurality of mounting arms and a plurality of holding arms, said mounting plate being further configured to be coupled in an upright position to said upper top surface of said second bracket of said plurality of brackets by sliding said second bracket of said plurality of brackets through said plurality of holding arms of said mounting plate;

10

c) wherein said first bracket is configured to hold said mounting plate at a desired position.

2. The assembly of claim 1, wherein said plurality of mounting brackets further includes a third bracket for hanging said assembly, said third bracket including at least one hook protruding from a side thereof, and a holder to facilitate said hanging of said assembly.

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3. The assembly of claim 2, wherein said at least one hook of said third bracket is an L-shaped hook.

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4. The assembly of claim 2, wherein said holder is an L-shaped holder.

5. The assembly of claim 2, wherein said first bracket includes a plurality of first apertures for coupling said first bracket to said fixed structure, and at least one slot including a first slot and a second slot configured to engage with said at least one hook of said third bracket for coupling said first bracket to said third bracket.

25

6. The assembly of claim 1, wherein said first bracket includes a pair of first elongated ears extending rearwards and each ear of said pair of first elongated ears has a first hole defined therethrough, and a second bracket including a pair of second elongated ears extending rearwards and each ear of said pair of second elongated ears has a second hole defined there through.

7. The assembly of claim 1, wherein said assembly further includes a pivot catcher positioned in center of a passage tube sleeve by inserting said passage tube sleeve through at least two small hollow cylinders on either ends of said passage tube sleeve.

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8. The assembly of claim 1, wherein said mounting plate further includes a plurality of second apertures and a plurality of channels for coupling said mounting plate to said LCD monitor.

15 9. The assembly of claim 8, wherein said plurality of channels includes a plurality of U-shaped channels.

10. The assembly of claim 8, wherein a plurality of fasteners are fastened through said plurality of second apertures of said mounting plate to a plurality of VESA mounting apertures located on a back surface of a rear side of said LCD monitor.

20

11. The assembly of claim 1, wherein at least one first washer and at least one second washer are provided between a screw, between said first hole of said at least one ear of said pair of first elongated ears of said first bracket, between said second hole of said at least one ear of said pair of second elongated ears of said second bracket and between said secured nut.

25

12. The assembly of claim 11, wherein said at least one first washer is a metal washer and said at least one second washer is a nylon washer.

13. An adjustable flip-up mounting bracket assembly for the liquid clear display (LCD) monitor panel, said assembly including:

5 a) a plurality of mounting brackets including a first bracket configured to be operably coupled to the liquid clear display (LCD) monitor panel and a second bracket including a support panel that is configured to be coupled in a vertical position to the base of the workstation;

10 b) a plurality of mounting brackets including a first bracket configured to be operably coupled to the liquid clear display (LCD) monitor flip panel, a second bracket including a support panel that is configured to be coupled in a vertical position to the base of the workstation and a flip-up cable housing kit assembly which is being further configured to be coupled in a vertical position to the base of the workstation;

15 c) wherein the first bracket is configured to hold the liquid clear display (LCD) monitor flip panel and the second bracket is configured to allow the first bracket to be mounted for locking;

d) wherein the first bracket is configured to hold the liquid clear display (LCD) monitor panel, the second bracket is configured to allow the first bracket to be mounted for locking and the flip-up cable housing kit assembly being attached to the second bracket;

20 and

e) panel lip stopper which is attached onto the fixed surface.

14. The assembly of claim 13, wherein the left assembly of the adjustable left flip-up mount bracket and the adjustable left flip-up support panel includes:

25 a) wherein the left flip-up support panel includes a gas spring stopper, a ribbed round metal stub and another ribbed round metal stub ribbed to the support panel; and

- b) wherein the left flip-up mount bracket includes a mount bracket arm that is attached to the mount bracket that includes a rotated metal bracket.

15. The assembly of claim 13, wherein the right assembly of the adjustable left flip-up
5 mount bracket and the adjustable left flip-up support panel includes:

- a) wherein the right flip-up support panel includes a round metal stub which is ribbed, a lock hold for attachment to the mounting bracket and a mounting locking device which is configured to be operable when coupled with the flip-up mount bracket;
- b) wherein the right flip-up mount bracket that includes a lock hold for attachment to the
10 support panel; and
- c) wherein the right flip-up mount bracket that includes a lock hold for attachment to the support panel.

16. The assembly of claim 13, wherein the flip-up cable housing kit assembly includes:

- a) a puller that comes with the square stainless steel projecting stud insert,
- b) a square stainless steel projecting stud insert for the pulling of the cable and has a gap created for laying the cable and the extension spring for fitting,
- c) square stainless steel projecting stud insert includes a screw threaded hole in it and the gap is created for laying the cable and extension of spring for fitting,
- d) an extension spring for compressing the puller to maintain the position of the puller
20 once it is pulled to flip open the mounting plate,
- e) a cable with one end attached to the square stainless steel projecting stud insert with an aluminium oval sleeve and the other with a metal eyelet that is fitted onto one of the mounting bracket arm,
- f) a metal fitting bracket with two holes for screws to fit onto the plastic casing and two
25 further holes for screws to attach the assembly onto the workstation surface from the base; and

- g) a metal fitting bracket with an upper hole for a screw to thread the spring and a lower hole for the spring to go through the assembly.

17. The assembly of claim 13, wherein the panel lip stopper includes:

- 5 a) a stopper which is attached onto the panel lip stopper; and
- b) three holes for screws to attche the panel lip stopper onto a fixed surface.

18. A method of mounting an adjustable mounting bracket assembly of a LCD monitor to a fixed structure, said method including steps of:

- 10 a) inserting a screw through a second hole of at least one ear of a pair of second elongated ear of a second bracket and a first hole of at least one ear of a pair of first elongated ears of a first bracket;
- b) positioning a pivot catcher in center of a passage tube sleeve by inserting said passage tube sleeve through at least two small hollow cylinders on either ends of said passage tube sleeve;
- 15 c) inserting said screw through said passage tube sleeve via an opening of said passage tube sleeve and through said first hole of said at least one ear of said pair of first elongated ears of said first bracket and said second hole of said at least one ear of said pair of second elongated ears of said second bracket;
- 20 d) attaching a secured nut to said screw to form a coupling mechanism between said first bracket and said second bracket;
- e) sliding said second bracket coupled to said first bracket through a plurality of holding arms of a mounting plate to form an adjustable mounting bracket assembly, said mounting plate operably coupled to said LCD monitor; and
- 25 f) securing said assembly to said fixed structure by inserting said plurality of fasteners through a plurality of first apertures of said first bracket.

19. The method of claim 18, wherein at least one first washer and at least one second washer are provided between a screw, between said first hole of said at least one ear of said pair of first elongated ears of said first bracket, between said second hole of said at least one ear of said pair of second elongated ears of said second bracket and between said secured
5 nut.

20. The method of claim 18, wherein said at least one first washer, and said at least one second washer have an opening corresponding to a cross section of said screw.

10 21. The method of claim 18, wherein said at least one first washer is a metal washer and said at least one second washer is a nylon washer.

22. The method of claim 18, wherein said plurality of holding arms of said mounting plate rests on said pair of elongated wings of said second bracket of said plurality of brackets.

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23. A method of mounting an adjustable mounting bracket assembly of a LCD monitor to a fixed structure, said method comprising steps of:

a) inserting a screw through a second hole of at least one ear of a pair of second elongated ear of a second bracket and a first hole of at least one ear of a pair of first
20 elongated ears of a first bracket;

b) positioning a pivot catcher in center of a passage tube sleeve by inserting said passage tube sleeve through at least two small hollow cylinders on either ends of said passage tube sleeve;

25

c) inserting said screw through said passage tube sleeve via an opening of said passage tube sleeve and through said first hole of said at least one ear of said pair of first elongated ears of said first bracket and said second hole of said at least one ear of said pair of second elongated ears of said second bracket;

- d) attaching a secured nut to said screw to form a coupling mechanism between said first bracket and said second bracket;
- e) sliding said second bracket coupled to said first bracket through a plurality of holding arms of a mounting plate operably coupled to said LCD monitor;
- 5 f) coupling at least one hook protruding from a side of a third bracket with a plurality of slots of said first bracket to form an adjustable mounting bracket assembly; and
- g) hanging said assembly to said fixed structure by sliding a holder of said third bracket along axis of said fixed structure.

10 24. The method of claim 23, wherein at least one first washer and at least one second washer are provided between a screw, between said first hole of said at least one ear of said pair of first elongated ears of said first bracket, between said second hole of said at least one ear of said pair of second elongated ears of said second bracket and between said secured nut.

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25. The method of claim 24, wherein said at least one first washer is a metal washer and said at least one second washer is a nylon washer.

26. A method of mounting the right mounting bracket assembly to a LCD monitor flip panel,
20 said method comprising steps of:

- a) positioning the right flip-up mount bracket is positioned onto the mounting for locking device on the right flip-up support panel
- b) a ribbed round metal stub on the right flip-up support bracket is fastened through the right flip-up mount bracket; and
- 25 c) inserting screws through the holes on the right flip-up mount bracket and the right flip-up support panel to attach onto the fixed surface.

27. A method of mounting the left mounting bracket assembly to a LCD monitor flip panel, said method comprising steps of:

- a) fastening a ribbed round metal stub on the left flip-up support bracket through the left flip-up mount bracket
- 5 b) inserting screws through the holes on the left flip-up mount bracket and the left flip-up support panel
- c) mount bracket arm is attached to the assembly of an adjustable left flip-up mount bracket and an adjustable left flip-up support panel by inserting screws through the holes found on the mount bracket arm and the adjustable left flip-up mount bracket;
- 10 and
- d) attaching the gas spring onto the assembly by attaching it to the ribbed round metal stub on the left flip-up mount bracket and the round metal stub on the left flip-up support panel.

15 28. A method of mounting an adjustable flip-up cable housing kit assembly to the surface of the base of a fixed structure, said method comprising steps of:

- a) inserting the puller that comes with the square stainless steel into the plastic casing
- b) inserting a screw through the one end of the spring, the cable and the hole at the end of the square stainless steel
- 20 c) inserting screws through the two holes of the metal fitting bracket to attach it to the plastic casing
- d) positioning the spring and cable through the aluminium hollow pipe
- e) inserting a screw through the spring and hole at the vertical plate of the metal fitting bracket
- 25 f) attaching the flip-up cable housing kit assembly onto the base of the fixed structure
- g) attaching the eyelet onto the mount bracket arm with the means of inserting a screw through the hole on the mount bracket arm; and

h) a nut to secure the eyelet to the mount bracket arm.

29. A method of mounting the panel lip stopper to the surface of the fixed structure, said method comprising steps of inserting screws through the holes on the panel lip stopper and
5 attaching it to the fixed surface.