WHAT IS CLAIMED IS:

1. A computer component mounting assembly, comprising:

a base plate;

a carrier configured to receive a vibration sensitive computer component; and

a vibration isolation system including three isolators connecting the carrier to the base plate, the three isolators spaced at different angular positions around a central point, wherein the vibration isolation system is configured such that the vibration isolation system has a rotational natural frequency about the central point of less than 45 Hz.

2. The assembly of claim 1, wherein each isolator is less flexible along a first axis passing through the isolator and the central point than along a second axis through the isolator that is perpendicular to the first axis and parallel to the base plate.

3. The assembly of claim 2, wherein each isolator is more flexible along the second axis than along a third axis through the isolator that is perpendicular to the base plate.

4. The assembly of claim 3, wherein each isolator is more flexible along the first axis than along the third axis.

5. The assembly of claim 1, comprising four isolators connecting the carrier to the base plate.

6. The assembly of claim 5, wherein a first pair of the four isolators are positioned on a first side of a center of the carrier, and a second pair of the four isolators are positioned on an opposite second side of the center of the carrier.

7. The assembly of claim 1, wherein the isolators are positioned at equal radial distances from the central point.

8. The assembly of claim 7, wherein the isolators have the same stiffness.

9. The assembly of claim 1, wherein the isolators are at different radial distances from the central point, and the isolators have different stiffness.

10. The assembly of claim 1, wherein the vibration isolation system is configured such that the vibration isolation system has a vertical vibration natural frequency different than the rotational natural frequency and has a lateral vibration natural frequency different than the rotational natural frequency.

11. The assembly of claim 10, wherein the vibration isolation system is configured such that its lateral vibration natural frequency is greater than 20 Hz.

12. The assembly of claim 10, wherein the vibration isolation system is configured such that its vertical vibration natural frequency is greater than 20 Hz.

13. The assembly of claim 1, wherein the vibration isolation system is configured such that the vibration isolation system has a rotational natural frequency about the central point less than 30 Hz.

14. The assembly of claim 1, wherein the vibration isolation system is configured such that the vibration isolation system has a rotational natural frequency about the central point between 15 and 25 Hz.

15. The assembly of claim 1, wherein the at least one of the isolators comprises a flexure having an S-shaped cross-section in a plane perpendicular to a first axis passing through the at least one of the isolators and the central point.

16. The assembly of claim 15, wherein the flexure has a width along the first axis and a thickness that is less than the width.

17. The assembly of claim 15, wherein the flexure is a plastic material.

18. The assembly of claim 15, wherein the flexure is steel.

19. The assembly of claim 1, wherein at least one of the isolators comprises a first end pivotal attached to the carrier and a second end attached to the base plate.

20. The assembly of claim 19, wherein the carrier includes three tabs oriented in a plane perpendicular to the first axis, and the first end of each of the three isolators connects to an associated tab of the three tabs.

21. The assembly of claim 20, wherein each isolator fits to an associated tab with a slide and rotate connection.

22. The assembly of claim 21, wherein the carrier includes a bottom plate and two parallel side plates extending from opposite edges of the bottom plate, and wherein the three tabs extend at an angle from the side plates.

23. The assembly of claim 19, further comprising three pins extending perpendicular from the base plate, and wherein the second end of each of the three isolators connects to an associated pin of the three pins.

24. The assembly of claim 23, wherein each isolator snap fits to an associated pin.

25. The assembly of claim 1, wherein the vibration sensitive computer component comprises a hard disk drive.

26. The assembly of claim 25, wherein the carrier is configured to slidably receive the hard disk drive.

27. The assembly of claim 1, further comprising a printed circuit board secured to the base plate.

28. The assembly of claim 27, wherein the printed circuit board is oriented perpendicular to the base plate.

29. The assembly of claim 27, further comprising flexible power and data cabling connecting an end of the carrier to the printed circuit board.

30. The assembly of claim 1, wherein the vibration isolation system suspends the carrier above the base plate such that air can flow through a gap between the carrier and the base plate.

31. The assembly of claim 30, further comprising a thermal interface material to improve conduction of heat from the hard disk drive mounted in the carrier to the carrier.

32. The assembly of claim 30, wherein a plurality of fins project from the carrier into the gap.

33. The assembly of claim 1, wherein the central point comprises a geometric center of the carrier.

34. The assembly of claim 1, wherein the central point comprises a center of mass of the carrier and vibration sensitive computer component.

35. The assembly of claim 1, comprising:

a plurality of carriers, each carrier of the plurality of carriers configured to receive a hard disk drive; and

a plurality of sets of isolators, each set of isolators including three isolators connecting an associated carrier of the plurality of carriers to the base plate, the three isolators spaced at different angular positions around a center of the associated carrier, each isolator being less flexible along a first axis passing through the isolator and the center of the associated carrier than along a second axis through the isolator that is perpendicular to the first axis and parallel to the base plate.

36. A hard disk mounting assembly, comprising:

a base plate;

a carrier;

a hard disk drive inserted in the carrier, the hard disk drive having a maximum spindle speed; and

a vibration isolation system including three isolators connecting the carrier to the base plate, the three isolators spaced at different angular positions around a central point, wherein the vibration isolation system is configured such that the vibration isolation system has a rotational natural frequency about the central point equal to or less than one half of the maximum spindle speed of the hard disk drive.

37. A computer component mounting assembly, comprising:

a base plate;

a carrier configured to receive a vibration sensitive computer component; and

three springs connecting the carrier to the base plate, the three springs spaced at different angular positions around a central point, each spring having a first spring constant in a first axis passing through the connector and the central point and a second spring constant in the second axis that is perpendicular to the first axis and parallel to the base plate, the first spring constant being greater than the second spring constant.

38. A vibration isolation system, comprising:

a base plate; and

three isolators connected to the base plate to support a carrier that receives a vibration sensitive computer component, the three isolators spaced at different angular positions around a central point, wherein the isolators are configured to have a rotational natural frequency about the central point of less than 45 Hz.

39. A hard disk mounting assembly, comprising:

a base plate having a top surface and four pins projecting perpendicularly from the top surface;

a printed circuit board secured to the base plate;

a carrier configured to receive a hard disk drive, the carrier including four tabs;

flexible power and data cabling connecting an end of the carrier to the printed circuit board; and

a vibration isolation system including four isolators connecting the carrier to the base plate, the four isolators spaced at different angular positions around a central point, wherein each isolator of the four isolators comprises a flexure having an S-shaped cross-section in a plane perpendicular to a first axis passing through the isolator and the central point, wherein the flexure has a width along the first axis and a thickness that is less than the width, wherein a first end of each isolator fits to an associated tab of the four tabs with a slide and rotate connection, wherein a second end of each isolator snap fits to an associated pin of the four pins, wherein the vibration isolation system is configured such that the vibration isolation system has a rotational natural frequency about the central point less than 45 Hz, and wherein the vibration isolation system is configured such that its vertical vibration natural frequency is greater than 20 Hz.

WHAT IS CLAIMED IS:

1. A computer component mounting assembly, comprising:

a base plate;

a carrier configured to receive a vibration sensitive computer component; and

a vibration isolation system including three isolators connecting the carrier to the base plate, the three isolators spaced at different angular positions around a central point, wherein the central point comprises a center of mass of the carrier and the vibration sensitive computer component, and wherein the vibration isolation system is configured such that the vibration isolation system has a rotational natural frequency about the central point of less than 45 Hz.

2. The assembly of claim 1, wherein each isolator is less flexible along a first axis passing through the isolator and the central point than along a second axis through the isolator that is perpendicular to the first axis and parallel to the base plate.

3. The assembly of claim 2, wherein each isolator is more flexible along the second axis than along a third axis through the isolator that is perpendicular to the base plate.

4. The assembly of claim 3, wherein each isolator is more flexible along the first axis than along the third axis.

5. The assembly of claim 1, comprising four isolators connecting the carrier to the base plate.

6. The assembly of claim 5, wherein a first pair of the four isolators are positioned on a first side of a center of the carrier, and a second pair of the four isolators are positioned on an opposite second side of the center of the carrier.

7. The assembly of claim 1, wherein the isolators are positioned at equal radial distances from the central point.

8. The assembly of claim 7, wherein the isolators have the same stiffness.

9. The assembly of claim 1, wherein the isolators are at different radial distances from the central point, and the isolators have different stiffness.

10. The assembly of claim 1, wherein the vibration isolation system is configured such that the vibration isolation system has a vertical vibration natural frequency different than the rotational natural frequency and has a lateral vibration natural frequency different than the rotational natural frequency.

11. The assembly of claim 1, wherein the vibration isolation system is configured such that the vibration isolation system has a rotational natural frequency about the central point less than 30 Hz.

12. The assembly of claim 1, wherein the vibration isolation system is configured such that the vibration isolation system has a rotational natural frequency about the central point between 15 and 25 Hz.

13. The assembly of claim 1, wherein the at least one of the isolators comprises a flexure having an S-shaped cross-section in a plane perpendicular to a first axis passing through the at least one of the isolators and the central point.

14. The assembly of claim 13, wherein the flexure has a width along the first axis and a thickness that is less than the width.

15. The assembly of claim 1, wherein at least one of the isolators comprises a first end pivotal attached to the carrier and a second end attached to the base plate.

16. The assembly of claim 15, wherein the carrier includes three tabs oriented in a plane perpendicular to the first axis, and the first end of each of the three isolators connects to an associated tab of the three tabs.

17. The assembly of claim 16, wherein each isolator fits to an associated tab with a slide and rotate connection.

18. The assembly of claim 17, wherein the carrier includes a bottom plate and two

parallel side plates extending from opposite edges of the bottom plate, and wherein the three tabs extend at an angle from the side plates.

19. The assembly of claim 15, further comprising three pins extending perpendicular from the base plate, and wherein the second end of each of the three isolators connects to an associated pin of the three pins.

20. The assembly of claim 19, wherein each isolator snap fits to an associated pin.

21. The assembly of claim 1, wherein the vibration sensitive computer component comprises a hard disk drive.

22. The assembly of claim 21, wherein the carrier is configured to slidably receive the hard disk drive.

23. The assembly of claim 1, wherein the vibration isolation system suspends the carrier above the base plate such that air can flow through a gap between the carrier and the base plate.

24. The assembly of claim 1, wherein the central point comprises a geometric center of the carrier.

25. The assembly of claim 1, comprising:

a plurality of carriers, each carrier of the plurality of carriers configured to receive a hard disk drive; and

a plurality of sets of isolators, each set of isolators including three isolators connecting an associated carrier of the plurality of carriers to the base plate, the three isolators spaced at different angular positions around a center of the associated carrier, each isolator being less flexible along a first axis passing through the isolator and the center of the associated carrier than along a second axis through the isolator that is perpendicular to the first axis and parallel to the base plate.

26. A hard disk mounting assembly, comprising:

a base plate;

a carrier;

a hard disk drive inserted in the carrier, the hard disk drive having a maximum spindle speed; and

a vibration isolation system including three isolators connecting the carrier to the base plate, the three isolators spaced at different angular positions around a central point, wherein the central point comprises a center of mass of the carrier and the vibration sensitive computer component, and wherein the vibration isolation system is configured such that the vibration isolation system has a rotational natural frequency about the central point equal to or less than one half of the maximum spindle speed of the hard disk drive.

27. A computer component mounting assembly, comprising:

a base plate;

a carrier configured to receive a vibration sensitive computer component; and

three springs connecting the carrier to the base plate, the three springs spaced at different angular positions around a central point, wherein the central point comprises a center of mass of the carrier and the vibration sensitive computer component, and wherein each spring having a first spring constant in a first axis passing through the connector and the central point and a second spring constant in the second axis that is perpendicular to the first axis and parallel to the base plate, the first spring constant being greater than the second spring constant.

28. A vibration isolation system, comprising:

a base plate; and

three isolators connected to the base plate to support a carrier that receives a vibration sensitive computer component, the three isolators spaced at different angular positions around a central point, wherein the central point comprises a center of mass of the carrier and the vibration sensitive computer component, and wherein the isolators are configured to have a rotational natural frequency about the central point of less than 45 Hz.

29. A hard disk mounting assembly, comprising:

a base plate having a top surface and four pins projecting perpendicularly from the top surface;

a printed circuit board secured to the base plate;

a carrier configured to receive a hard disk drive, the carrier including four tabs;

flexible power and data cabling connecting an end of the carrier to the printed circuit board; and

a vibration isolation system including four isolators connecting the carrier to the base plate, the four isolators spaced at different angular positions around a central point, wherein the central point comprises a center of mass of the carrier and the vibration sensitive computer component, wherein each isolator of the four isolators comprises a flexure having an S-shaped cross-section in a plane perpendicular to a first axis passing through the isolator and the central point, wherein the flexure has a width along the first axis and a thickness that is less than the width, wherein a first end of each isolator fits to an associated tab of the four tabs with a slide and rotate connection, wherein a second end of each isolator snap fits to an associated pin of the four pins, wherein the vibration isolation system is configured such that the vibration isolation system has a rotational natural frequency about the central point less than 45 Hz, and wherein the vibration isolation system is configured such that its vertical vibration natural frequency is greater than 20 Hz.