Claims

1. A portable electronic device stand with controllable cooling, the stand comprising:

a main body having a device-resting side;

a cooling arrangement disposed at the main body, the cooling arrangement having a cooling interface exposed through the device-resting side of the main body, wherein the cooling interface is capable of providing cooling to a portable electronic device when the portable electronic device is disposed at the device-resting side;

a controller connected to the cooling arrangement to control the cooling arrangement for providing the cooling via the cooling interface across a range of cooling levels; and

a communication interface connectable to the portable electronic device to communicatively interconnect the controller and the portable electronic device in a manner so as to communicate data between the controller and the portable electronic device, wherein the data is associated with the cooling provided via the cooling interface of the cooling arrangement.

2. The device according to claim 1, wherein the data comprises a cooling level information of the cooling provided via the cooling interface by the cooling arrangement, the cooling level information being communicated from the controller to the portable electronic device.

3. The device according to claim 1 or 2, wherein the data comprises a control signal to control the cooling arrangement to provide cooling via the cooling interface at a cooling level corresponding to the control signal, the cooling level being selected from the range of cooling levels, the control signal being communicated from the portable electronic device to the controller.

4. The device according to any one of claims 1 to 3, wherein the cooling arrangement comprises an airflow based cooling arrangement or a direct contact cooling arrangement.

5. The device according to claim 4, wherein the cooling arrangement is in a modular unit removably fitted into a cavity in the main body, wherein an electrical terminal is provided at the modular unit and a complementary electrical terminal is provided at the cavity of the main body such that the electrical terminal of the modular unit and the complementary

electrical terminal are in engagement when the modular unit is removably fitted into the cavity of the main body, wherein the modular unit is removably fitted into the cavity of the main body in a manner so as to be interchangeable between a modular unit having the airflow based cooling arrangement and a modular unit having the direct contact cooling arrangement.

6. The device according to any one of claims 1 to 5, wherein the main body comprises a base frame and a support frame having an opening, wherein the support frame is removably coupled to the base frame, wherein the support frame of the main body is at the device-resting side of the main body.

7. The device according to any one of claims 1 to 6, wherein the main body comprises a stopper at the device-resting side, wherein the stopper serves to support an edge of the portable electronic device when the portable electronic device is disposed at the device-resting side, wherein the stopper is movable relative to the cooling interface along the device-resting side of the main body and lockable at a range of pre-determined positions from the cooling interface, wherein a suitable position of the stopper is determined by the portable electronic device.

8. A system for controlling cooling provided by a portable electronic device stand to a portable electronic device disposed thereto, the system comprising

the portable electronic device stand comprising

a main body having a device-resting side;

a cooling arrangement disposed at the main body, the cooling arrangement having a cooling interface exposed through the device-resting side of the main body, wherein the cooling interface is capable of providing cooling to the portable electronic device disposed at the device-resting side;

a controller connected to the cooling arrangement to control the cooling arrangement for providing the cooling via the cooling interface across a range of cooling levels; and

a communication interface connected to the controller; and

the portable electronic device,

wherein the communication interface of the portable electronic device stand is connected to the portable electronic device to communicatively interconnect the controller of the portable electronic device stand and the portable electronic device in a manner so as to

communicate data between the controller and the portable electronic device, wherein the data is associated with the cooling provided via the cooling interface of the cooling arrangement.

9. The system according to claim 8, wherein the data comprises a cooling level information of the cooling provided via the cooling interface by the cooling arrangement, and/or the data comprises a control signal to control the cooling arrangement to provide cooling via the cooling interface at a cooling level corresponding to the control signal.

10. The system according to claim 9, wherein each cooling level of the range of cooling levels is assigned with a threshold load range, wherein the portable electronic device determines a current load of the portable electronic device and compares the current load of the portable electronic device against a corresponding threshold load range for the current cooling level.

11. The system according to claim 10, wherein when the current load is greater than a ceiling value of the corresponding threshold load range, the portable electronic device sends the control signal from the portable electronic device to the controller of the portable electronic device stand so as to control the cooling arrangement to adjust the cooling provided via the cooling interface to a higher cooling level, or wherein when the current load is less than a floor value of the corresponding threshold load range, the portable electronic device sends the control signal from the portable electronic device to the controller of the portable electronic device stand so as to control the cooling arrangement to adjust the cooling provided via the cooling interface to a lower cooling level.

12. The system according to claim 10 or 11,

wherein the portable electronic device compares the current load of the portable electronic device against a previous load of the portable electronic device,

wherein, when the current load differs from the previous load, the portable electronic device proceeds to compare the current load of the portable electronic device against the corresponding threshold load range for the current cooling level.

13. The system according to claim 9, wherein the range of cooling levels is based on the system information of the portable electronic device, wherein each cooling level of the range of cooling levels is associated with a threshold temperature range of a processing unit of the

portable electronic device, wherein the portable electronic device determines a current temperature of the processing unit of the portable electronic device and compares the current temperature of the processing unit of the portable electronic device against a corresponding threshold temperature range for the current cooling level.

14. The system according to claim 13, wherein each cooling level of the range of cooling levels is further associated with a threshold power range of the processing unit of the portable electronic device, wherein the portable electronic device further determines a current power of the processing unit of the portable electronic device and compares the current power of the processing unit of the portable electronic device against a corresponding threshold power range for the current cooling level.

15. The system according to claim 13 or 14, wherein each cooling level of the range of cooling levels is further associated with a threshold fan speed range of a fan unit of the portable electronic device, wherein the portable electronic device further determines a current fan speed of the fan unit of the portable electronic device and compares the current fan speed of the fan unit of the portable electronic device against a corresponding threshold fan speed range for the current cooling level.

16. The system according to claim 13, wherein when the current temperature of the processing unit of the portable electronic device is greater than a ceiling value of the corresponding threshold temperature range, the portable electronic device sends the control signal from the portable electronic device to the controller of the portable electronic device stand so as to control the cooling arrangement to adjust the cooling provided via the cooling interface to a higher cooling level.

17. The system according to claim 14, wherein when the current temperature of the processing unit of the portable electronic device is greater than a ceiling value of the corresponding threshold temperature range and/or when the current power of the processing unit of the portable electronic device is greater than a ceiling value of the corresponding threshold power range, the portable electronic device sends the control signal from the portable electronic device to the controller of the portable electronic device stand so as to control the cooling arrangement to adjust the cooling provided via the cooling interface to a higher cooling level.

18. The system according to claim 15, wherein when the current temperature of the processing unit of the portable electronic device is greater than a ceiling value of the corresponding threshold temperature range and/or when the current power of the processing unit of the portable electronic device is greater than a ceiling value of the corresponding threshold power range and/or when the current fan speed of the fan unit of the portable electronic device is greater than a ceiling value of the corresponding fan speed range, the portable electronic device sends the control signal from the portable electronic device to the controller of the portable electronic device stand so as to control the cooling arrangement to adjust the cooling provided via the cooling interface to a higher cooling level.

19. The system according to any one of claims 13 to 18, wherein ranges of cooling levels for different portable electronic devices are stored in a memory of the portable electronic device.

20. A method of controlling cooling provided by a portable electronic device stand to a portable electronic device displaced thereto, wherein the portable electronic device stand comprises a main body having a device-resting side; a cooling arrangement disposed at the main body, the cooling arrangement having a cooling interface exposed through the device-resting side of the main body, wherein the cooling interface is capable of providing cooling to the portable electronic device when the portable electronic device is displaced at the device-resting side; a controller connected to the cooling arrangement to control the cooling arrangement for providing the cooling via the cooling interface across a range of cooling levels; and a communication interface connectable to the portable electronic device to communicatively interconnect the controller and the portable electronic device, the method comprising

communicating data, via the communication interface, between the controller of the portable electronic device stand and the portable electronic device,

wherein the data is associated with the cooling provided via the cooling interface of the cooling arrangement,

wherein the data comprises a cooling level information of the cooling provided via the cooling interface by the cooling arrangement, the cooling level information being communicated from the controller to the device,

wherein the data comprises a control signal to control the cooling arrangement to provide cooling via the cooling interface at a cooling level corresponding to the control

signal, the cooling level being selected from the range of cooling levels, the control signal being communicated from the portable electronic device to the controller.