Claims

What is claimed is:

1. An inherently safe electronic reader apparatus for safe use by individuals located in hyperbaric pressure operating environments comprising:
   (a) bi-fold rubberized easy grip housing case,
   (b) inherently safe integrated clamshell hinge design containing alkaline batteries, dual speakers, magnetic self centering closure clasps,
   (c) dual full size liquid particle display,
   (d) rugged and water resistant housing,
   (e) solar recharging cells together with a trickle charge circuit,
   (f) tablet enclosure energy absorbing bumpers to provide impact and shock protection together with an enclosure dust shield,
   (g) helium relief valve,
   (h) high ambient pressure inherently safe liquid particle displays each also having capacitance / resistive touch screens for user input,
   (i) soft key auto hide,
   (j) onboard Wi-Fi with static IP address settable,
   (k) mono or stereo audio out/in,
   (l) protected and restricted high capacity micro SD slot,
   (m) 512-MB LPDDR RAM minimum,
   (n) mini USB port for direct power management,
   (o) power management system with cover sleep, hibernate, and shutdown,
   (p) USB recharge.

2. The apparatus of claim 1, wherein the device is used by individuals operating in hypobaric, rather than hyperbaric, conditions.
3. The apparatus of claim 1, wherein the device may be operated as a single tablet display unit, with one of the bi-fold tablet leaves removed.
4. The apparatus of claim 1, wherein the device also has Bluetooth communications capability.
5. An inherently safe electronic reader method for safe use by individuals located in hyperbaric pressure operating environments comprising:

(a) having a bi-fold rubberized easy grip housing case,

(b) having inherently safe integrated clamshell hinge design containing alkaline batteries, dual speakers, magnetic self centering closure clasps,

(c) having dual full size liquid particle display,

(d) having rugged and water resistant housing,

(e) having solar recharging cells together with a trickle charge circuit,

(f) having tablet enclosure energy absorbing bumpers to provide impact and shock protection together with an enclosure dust shield,

(g) having a helium relief valve,

(h) having high ambient pressure inherently safe liquid particle displays each also having capacitance / resistive touch screens for user input,

(i) having soft key auto hide,

(j) having onboard Wi-Fi with static IP address settable,

(k) having mono or stereo audio out/in,

(l) having protected and restricted high capacity micro SD slot,

(m) having 512-MB LPDDR RAM minimum,

(n) having mini USB port for direct power management,

(o) having power management system with cover sleep, hibernate, and shutdown,

(p) having USB recharge.

6. The method of claim 5, further operating in hypobaric, rather than hyperbaric, conditions.
7. The method of claim 5, further using only a single tablet display unit, with one of the bi-fold tablet leaves removed.
8. The method of claim 5, further using Bluetooth communications capability.
9. An inherently safe electronic reader system for safe use by individuals located in hyperbaric pressure operating environments comprising:

(a) having a bi-fold rubberized easy grip housing case,

(b) having inherently safe integrated clamshell hinge design containing alkaline batteries, dual speakers, magnetic self centering closure clasps,

(c) having dual full size liquid particle display,

(d) having rugged and water resistant housing,

(e) having solar recharging cells together with a trickle charge circuit,

(f) having tablet enclosure energy absorbing bumpers to provide impact and shock protection together with an enclosure dust shield,

(g) having a helium relief valve,

(h) having high ambient pressure inherently safe liquid particle displays each also having capacitance / resistive touch screens for user input,

(i) having soft key auto hide,

(j) having onboard Wi-Fi with static IP address settable,

(k) having mono or stereo audio out/in,

(l) having protected and restricted high capacity micro SD slot,

(m) having 512-MB LPDDR RAM minimum,

(n) having mini USB port for direct power management,

(o) having power management system with cover sleep, hibernate, and shutdown,

(p) having USB recharge.

10. The system of claim 9, wherein the system is used by individuals operating in hypobaric, rather than hyperbaric, conditions.

11. The system of claim 9, wherein the system has only a single tablet display unit, with one of the bi-fold tablet leaves removed.

12. The system of claim 9, wherein the system also has Bluetooth communications capability.

13. The apparatus of claim 1, wherein the apparatus also has an inherently safe Automatic High Oxygen atmosphere safety shutdown by using a Carbon Dioxide sensor and related circuits integrally installed within tablet enclosure, together with circuit programming algorithms to discern Oxygen concentrations from the

carbon dioxide concentration within mixture of total hyperbaric/hypobaric atmosphere gases.

14. The apparatus of claim 1, wherein the apparatus also has an inherently safe automatic short circuit detection and shutdown, together with automatic restart upon correction. The short circuit detection system will sense for and detect any short circuits within the tablets internal circuitry, as well as short circuits deriving from the devices power supply.

15. The method of claim 5, the method further using an inherently safe Automatic High Oxygen atmosphere safety shutdown by using a Carbon Dioxide sensor and related circuits integrally installed within tablet enclosure, together with circuit programming algorithms to discern Oxygen concentrations from the carbon dioxide concentration within mixture of total hyperbaric/hypobaric atmosphere gases.

16. The method of claim 5, the method further using an inherently safe automatic short circuit detection and shutdown, together with automatic restart upon correction. The short circuit detection system will sense for and detect any short circuits within the tablets internal circuitry, as well as short circuits deriving from the devices power supply.

17. The system of claim 1, wherein the system also has an inherently safe Automatic High Oxygen atmosphere safety shutdown by using a Carbon Dioxide sensor and related circuits integrally installed within tablet enclosure, together with circuit programming algorithms to discern Oxygen concentrations from the carbon dioxide concentration within mixture of total hyperbaric/hypobaric atmosphere

gases.

18. The system of claim 1, wherein the system also has an inherently safe automatic short circuit detection and shutdown, together with automatic restart upon correction. The short circuit detection system will sense for and detect any short circuits within the tablets internal circuitry, as well as short circuits deriving from the devices power supply.

CLAIMS

1. An inherently safe tablet based electronic reader apparatus for safe use by individuals working and living in extreme hyperbaric and hypobaric conditions for extended periods of time, said apparatus comprising:

a complete set of components that are inherently safe in the extreme operating pressures/vacuum and gaseous conditions for human personnel working for extended periods in said extreme conditions, wherein said complete set of inherently safe components are

(a) dual bi-fold leaf tablet with rubberized easy grip housing case,

(b) inherently safe integrated clamshell hinge design containing alkaline batteries, dual speakers, magnetic self centering closure clasps,

(c) rugged and water resistant housing,

(d) solar recharging cells together with a trickle charge circuit,

(e) tablet enclosure energy absorbing bumpers to provide impact and shock protection together with an enclosure dust shield,

(f) helium relief valve,

(g) high ambient pressure inherently safe liquid particle displays each also having capacitance/resistive touch screens for user input,

(h) soft key auto hide,

(i) onboard Wi-Fi with static IP address settable,

(j) mono or stereo audio out/in,

(k) protected and restricted high capacity memory slot,

(l) MB LPDDR RAM minimum,

(m) mini USB port for direct power management,

(n) power management system with cover sleep, hibernate, and shutdown,

(o) USB recharge.

2. The apparatus of claim 1, wherein the device is used by individuals operating in extreme hypobaric, rather than extreme hyperbaric, conditions.

3. The apparatus of claim 1, wherein the apparatus may be operated as a single tablet display unit, with one of the bi-fold tablet leaves removed.

4. The apparatus of claim 1, wherein the device also has wireless communications capability.

5. An inherently safe tablet based electronic reader method for safe use by individuals working and living in extreme hyperbaric and hypobaric conditions for extended periods of time, said method comprising:

a complete set of components that are inherently safe in the extreme operating pressures/vacuum and gaseous conditions for human personnel working for extended periods in said extreme conditions, wherein said complete set of inherently safe components are

(a) having a dual bi-fold leaf tablet with rubberized easy grip housing case,

(b) having inherently safe integrated clamshell hinge design containing alkaline batteries, dual speakers, magnetic self centering closure clasps,

(c) having rugged and water resistant housing,

(d) having solar recharging cells together with a trickle charge circuit,

(e) having tablet enclosure energy absorbing bumpers to provide impact and shock protection together with an enclosure dust shield,

(f) having a helium relief valve,

(g) having high ambient pressure inherently safe liquid particle displays each also having capacitance/resistive touch screens for user input,

(h) having soft key auto hide,

(i) having onboard Wi-Fi with static IP address settable,

(j) having mono or stereo audio out/in,

(k) having protected and restricted high capacity memory slot,

(l) having 512-MB LPDDR RAM minimum,

(m) having mini USB port for direct power management,

(n) having power management system with cover sleep, hibernate, and shutdown,

(o) having USB recharge.

6. The method of claim 5, wherein the method is used by individuals operating in extreme hypobaric, rather than extreme hyperbaric, conditions.

7. The method of claim 5, wherein the method has only a single tablet display unit, with one of the bi-fold tablet leaves removed.

8. The method of claim 5, wherein the method also has wireless communications capability.

9. An inherently safe tablet based electronic reader system for safe use by individuals working and living in extreme hyperbaric and hypobaric conditions for extended periods of time, said system comprising:

a complete set of components that are inherently safe in the extreme operating pressures/vacuum and gaseous conditions for human personnel working for extended periods in said extreme conditions, wherein said complete set of inherently safe components are

(a) having a dual bi-fold leaf tablet with rubberized easy grip housing case,

(b) having inherently safe integrated clamshell hinge design containing alkaline batteries, dual speakers, magnetic self centering closure clasps,

(c) having rugged and water resistant housing,

(d) having solar recharging cells together with a trickle charge circuit,

(e) having tablet enclosure energy absorbing bumpers to provide impact and shock protection together with an enclosure dust shield,

(f) having a helium relief valve,

(g) having high ambient pressure inherently safe liquid particle displays each also having capacitance/resistive touch screens for user input,

(h) having soft key auto hide,

(i) having onboard Wi-Fi with static IP address settable,

(j) having mono or stereo audio out/in,

(k) having protected and restricted high capacity memory slot,

(l) having 512-MB LPDDR RAM minimum,

(m) having mini USB port for direct power management,

(n) having power management system with cover sleep, hibernate, and shutdown,

(o) having USB recharge.

10. The system of claim 9, wherein the system is used by individuals operating in extreme hypobaric, rather than extreme hyperbaric, conditions.

11. The system of claim 9, wherein the system has only a single tablet display unit, with one of the bi-fold tablet leaves removed.

12. The system of claim 9, wherein the system also has wireless communications capability.