

charger of the present invention is provided with a circuit for charging a plurality of battery cells simultaneously or separately.

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METHOD AND SYSTEM FOR DETECTING FULL CHARGE OF A RECHARGEABLE BATTERY IN A PORTABLE COMPUTER SYSTEM

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When the display rate of a plasma display reaches a display rate exceeding the rated maximum electric power of the plasma display, the display mode of the plasma display is switched from a high brightness display mode to a normal brightness display mode. An item for selecting whether or not a battery recharge operation is enabled is provided to a setup menu screen. A user arbitrarily selects a charge mode (a battery charge operation is enabled in the normal brightness display mode) or a non-charge mode (the battery charge operation is disabled in the high brightness display mode). When the charge mode is selected, an electric power value obtained by subtracting electric power necessary for recharging the battery from the rated maximum electric power of the plasma display is set as a reference value, and when the display rate requires electric power exceeding the reference value, the display mode is switched from the high brightness display mode to the normal brightness display mode.

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BATTERY RECHARGING APPARATUS

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Apparatus for recharging a battery includes a compartment for accommodating the battery in a manner such that its electrical terminals are in contact with a pair of electrodes. The electrodes are connectable to respective poles of a controllable source of electrical energy. A strain gauge is positioned so as to make

contact with a wall of the battery when the battery is in place in the compartment. The strain gauge includes a foil which carries a resistive element, each of the two extremities of the resistive element being connected to an electrical device via a separate contact wire, whereby the coefficient of thermal expansion of the strain gauge is substantially equal to that of the wall of the battery. The material of one of the contact wires, at its juncture with the resistive element, has a different Seebeck coefficient to the material of the other contact wire at its juncture with the respective element. The battery temperature can be monitored by measuring the DC voltage difference between the contact wires, whereas the mechanical deformation of the battery can be monitored by measuring the AC impedance of the resistive element, both of which measurements are independently conducted using the electrical device.

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METHOD AND APPARATUS FOR AUTOMATICALLY SWITCHING AND CHARGING MULTIPLE BATTERIES

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A battery selecting and charging system forms part of a portable electronic device, preferably a portable medical device. When the device is powered up, a selecting circuit selects one of two rechargeable batteries to power the device until it is depleted, and then automatically switches to the other battery. When the second battery is depleted, both batteries are selected to power the device. When the device is powered down, a battery charging circuit, having both a high and low charge section, provides a high charge to the battery having the greatest terminal voltage. Thereafter, the high charge is applied to the other battery, the low charge is applied to the first battery, and then the low charge is applied to the second battery. The battery charging circuit monitors the terminal voltage to prevent any damage to the batteries or the device.