IBA Pack Identification Function

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IBA battery ID (identification) is a process where a pack detects its location when inserted into the system and assigns itself an SMBUS address. This is accomplished by measuring the value of a unique position resistor. Figure 1 indicates the ID resistors connected to each battery. Once measured, the battery can determine its I^2C address by table look-up. Table 1 indicates the present definition of addresses to resistor values for eight locations.

When first inserted, the ID resistor can be used to generate an interrupt to initiate an ID measurement. Once an address has been assigned, the battery would master the SMBUS and send an attention to the BATTERY MANAGER that a battery of address XX has been installed. The BATTERY MANAGER would then return as SMBUS master and begin making requests to that battery.

Conclusion

The description above indicates the simplicity of the IBA method of battery ID. This enables each battery to have a unique address and to reside on the same bus. No selector required! This means lower cost and simpler operation.

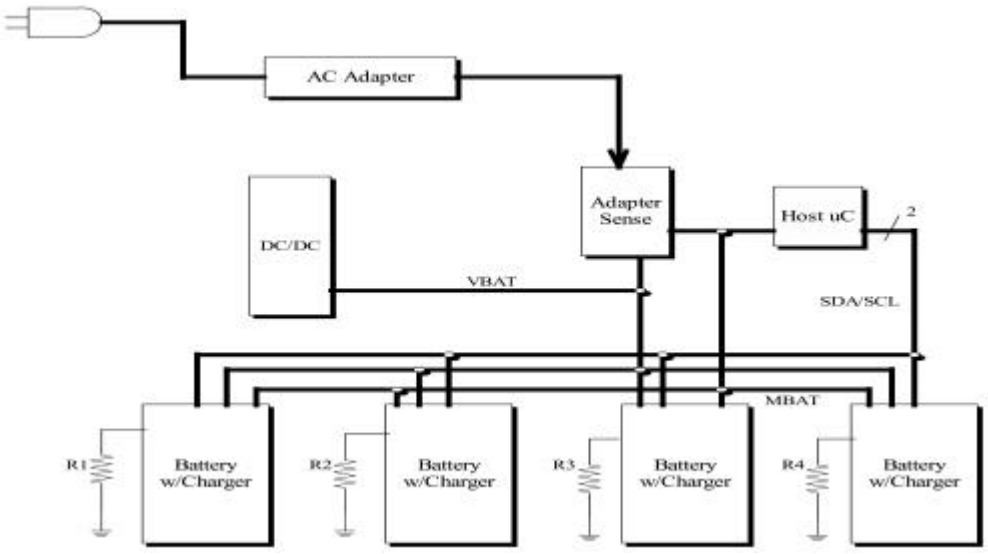

Figure 1: IBA

Table 1: I^2C Address Location Resistor Ranges

Slot #	Prefix	Postfix	Read	Write	Lower Value	Upper Value
Invalid					**0**	350
0	0011	000x	31	30	485	536
1	0011	001x	33	32	950	1050
2	0011	010x	35	34	1900	2100
3	0011	011x	37	36	2850	3150
4	0011	100x	39	38	3705	4095
5	0011	101x	3B	3A	4845	5355
6	0011	110x	3D	3C	6460	7140
7	0011	111x	3F	3E	8645	9555
Invalid					11000	Infinite