Blu-Ox Power Consumption.

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Assumptions:

1   The Blu-Ox will never be turned OFF – there will always be some LCD activity.

2   The A/D will sample 3 times a second with 3 conversions per sample.

3   The LCD will be updated every A/D sample.

4   The battery will be monitored once every hour with 5 ADC cycles per sample.

Power Consumption Calculation:

ST7LITE15

CPU (Estimated):				
Active Halt mode	200uA			
Run (Slow) mode	200uA			
Consumption:			200 uAh	(1)
LVD/AVD	245uA		245 uAh	(2)
RC Oscillator (Not used)			0 mAh	
PLL (Not used)			0 mAh	
12-bit Timer AT2	50uA		50 uAh	(3)
SPI (Not used)			0 mAh	

ADC	1.2mA	1.2 mAh	(4)
Flash Memory			
No Read/Write	100uA	100 uAh	(5)
Read	2.6mA		
	2.6mA x (256 / 32768)(Instructions)	20 uAh	(6)
Ports (Leakage)	1uA		
	1uA x 15(Pins)	15 uAh	(7)

CV9018A LCD

Supply	300uA		
	20uA x 8760	300 uAh	(8)
Battery Potential Divider	10uA	10 uAh	(9)
LTC3459 Regulator (1.2mA Load)	100uA	100 uAh	(10)
	Total (1 – 10):	1.2 mAh	

"AA" Battery capacities by manufacturer:

Varta 4106	2600 mAh
Duracell MN1500	2700 mAh
Energizer Ultra Alkaline	2850 mAh

Battery life:	((2 x 2600) / 1.2) / 24	181 days