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