



Silentswitcher power consumption + monitor circuits = 3500mW worst case  
 Battery packs are 10.4Ah  
 Voltage range: 8.4V (100%) to 7.45(20%)  
 Average voltage = 7.93V  
 Avg Current consumption for 3500mW = 3500 / 7.93 = 441.3mA  
 We cut off at 20% charge, assume 10.4Ah is for 100% to 0%!  
 10.4 x 0.8 = 8.32Ah actual.  
 8320 / 441.3 = 18.85 hour's operation. 8.32 hours to recharge.

LCDuino - 100mA constant draw  
 Peaks - 2A for relay switching

Standby - 2100mA (when charging)  
 Powered on - 1439mA + 2000mA relay peaks.  
 4A supply recommended.

Current-limit to 1.28A

Silentswitcher efficiency  
 85% worst-case.

AMB Preamp:

±24 (Instage ±5V (16V) x 50mA = 800mW  
 JLM Audio VU driver +6.5V x 8.4mA = 55mW  
 Total 855mW output to devices.  
 For 85% eff:  
 Power consumption = 855 x (1.18) = 1009mW  
 Current for battery at 7.45Vmin = 1009 / 7.45 = 135.4mA  
 Current for wallwart at 5V = 1009 / 5 = 201.8mA

LR Phono:

±12V (24V) x 50mA = 1200mW  
 Possibly add an On-LED from the other 3.3V supply?  
 Total 1200mW output to devices.  
 For 85% eff:  
 Power consumption = 1200 x (1.18) = 1416mW  
 Current for battery at 7.45Vmin = 1416 / 7.45 = 190mA  
 Current for wallwart at 5V = 1416 / 5 = 283.2mA

DAC

TP Opus  
 Analogue: +5V x 11.6mA  
 Digital: +5V x 20.3mA  
 JLAudio I2SoverUSB  
 Digital: +5V x 100mA  
 DIR9001 SPDIF to I2S  
 Digital: +5V x 15mA  
 TP OTTO switcher (guessing as not specced)  
 Digital: +5V x 15mA  
 Total on +8V rail = 11.6mA  
 Total on +5V rail = 150.3mA  
 Power to devices = (8 x 11.6) + (5 x 150.3) = 92.8 + 751.5 = 844.3mW  
 For 85% off:  
 Power consumption = 844.3 x 1.18 = 996.3mW  
 Current for battery at 7.45Vmin = 996.3 / 7.45 = 133.8mA  
 Current for wallwart at 5V = 996.3 / 5 = 199.3mA