Electrical Budget Worksheet (Kali O Kalani Hawkfram 28)

1   Calculate your DC Loads:

Lighting		Amps	Hours	AH/Day	
	Running Lights			0.0	
	Masthead Tricolor Light	0.3	9	2.3	
	Anchor Light			0.0	
	Strobe Light			0.0	
	Spreader Lights			0.0	
	Cabin Light (small)	0.3	5	1.5	
	Cabing Light (big incandescent)			0.0	
	Cabing Light (flourescent)			0.0	
	Instrument Lights	0.1	9	0.9	
	Handheld Spot Light			0.0	
	Other			0.0	
	Lighting AH			**4.7**	

Galley		Amps	Hours	AH/Day	
	Refrigeration			0.0	
	Prop Solenoid			0.0	
	Other			0.0	
	Galley AH			**0.0**	

Electronics		Amps	Hours	AH/Day	
	Autopilot	1.0	12	12.0	
	VHF (receive)	0.5	24	12.0	
	VHF (transmit)			0.0	
	SSB (receive)	1.5	4	6.0	
	SSB (transmit)	20.0	0.5	10.0	
	SSB Digital controller			0.0	
	GPS	0.4	4	1.6	
	Instruments	0.0	24	0.0	
	Weather fax receiver			0.0	
	Radar (standby)	2.5	9	22.5	
	Radar (transmit)			0.0	
	AIS			0.0	
	Energy Monitors			0.0	
	Stereo			0.0	
	Computer (screen off)			0.0	
	Computer (screen on)	1.0	6	6.0	
	Computer (serial adapter)			0.0	
	Battery Charger			0.0	
	Electronics AH			**70.1**	

Plumbing		Amps	Hours	AH/Day	
	Fresh Water Pump			0.0	Calculate using average water consumption.
	Bilge Pump(s)			0.0	This should be zero unless the boat leaks.
	Other			0.0	
	Plumbing AH			**0.0**	

Inverter		Watts	Hrs/day	AH/Day	
					All values assume inverter efficiency = 85%.
	Microwave			0.0	Power factor may mess up this estimate.
	Chargers (nicad)			0.0	
	Other			0.0	
	Inverter AH			**0.0**	

	Gross Energy Consumption AH/Day			**74.8**	

2   Alternative Energy Sources

	Device	Amps	Hrs/day	AH/day	
	Solar, avg	9.0	7	63.0	Assumes one large panel.
	Wind, avg			0.0	Assumes AIR Marine wind turbine in good location.
	Water, avg.			0.0	
	Contribution of AES AH/Day			**63.0**	

3	Net Energy Consumption, AH/Day	**11.8**	
4	Desired Hours Between Charging	**24**	
5	Range of Battery Use	**0.35**	For example, from 50-85% state of charge.
6	Recommended Battery Capacity	**34**	
7	Alternator Output, Amps	**35**	Target would be 25% flooded, 40% gel, of capacity.
8	Charge Efficiency Factor	**0.95**	Gels = 95%, flooded cells = 85%
9	Minimum Minutes to Charge	**21**	Assumes alternator runs at full output.