CALCULATING BATTERY AMPERE-HOUR (Ah) REQUIREMENT

(Just a little math. Not to worry.)
(Or, use the online spreadsheet at: AMPERE-HOUR CALCULATOR)

[] **For each piece of equipment**, check the specifications for:

[1] Standby current (**A**mps), the current drawn when no signal is received and radio is squelched.

[2] Receiving current (**A**mps), the current drawn when receiving a signal.

[3] Transmitting current (**A**mps), the current drawn while transmitting.

[] **Estimate the percentage of time for each state.** Some typical percentages:

[1] Mobile/hand-held radios.

90% standby 5% receive 5% transmit (must add up to 100%)

[2] Base station/net control radios.

70% standby 20% receive 10% transmit (must add up to 100%)

[3] AC power inverters.

100% operating

[] **Calculate** the ampere-hour (**Ah**) requirement for one hour.

[1] **For *each* radio**, calculate:

(standby **A** x % time) + (receive **A** x % time) + (transmit **A** x % time) = $\mathbf{A}_{\text{one hour}}$

Where **A** is in amperes.

[2] **For inverters**, determine the current ($\mathbf{A}_{\mathbf{AC}}$) for your AC powered equipment. Check specifications for inverter efficiency (or approximate at 90%). Then,

($\mathbf{A}_{\mathbf{AC}}$ x **efficiency%** x **100**) = $\mathbf{A}_{\text{one hour}}$

[3] **Add** up all the calculated $\mathbf{A}_{\text{one hour}}$ values to get the **Total A** for one hour.

[] **Calculate the total** Ampere-hour (Ah) requirement.

(**Total** $\mathbf{A}_{\text{one hour}}$) x (total operating hours) = **total Ah needed**