Portable 12 VDC Power Outlets

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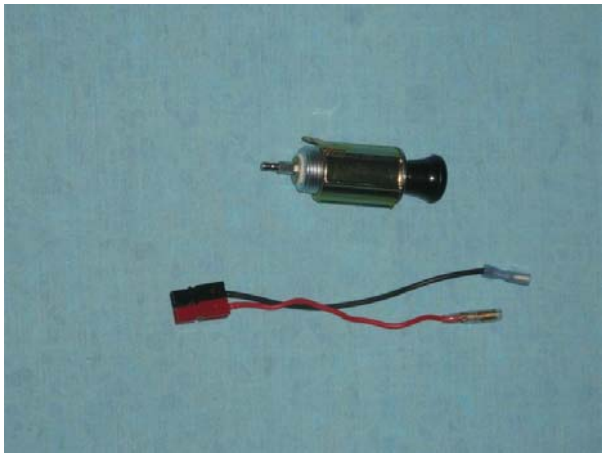
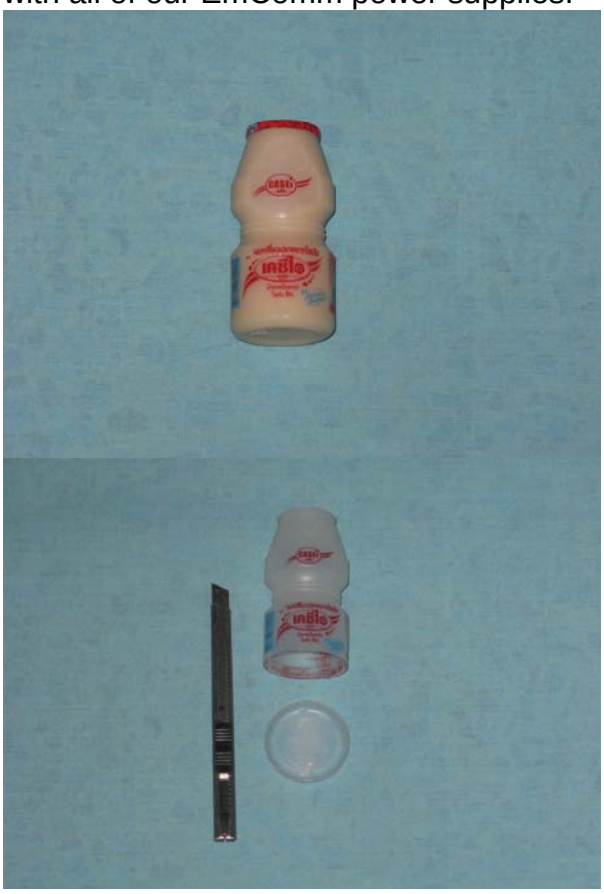
We needed 12 VDC power outlets to use various accessories in our EmComm systems. The only outlets we could find were automobile cigarette lighter replacement units. [**Note:** We disabled the lighter function to avoid accidental excessive power use and fire hazards. The lighter knob serves as a dust cover.]

To conform to the RTC-TH EmComm system, we first fitted the wires with Anderson Powerpole fittings. This enables the use of the accessory outlet with all of our EmComm power supplies.

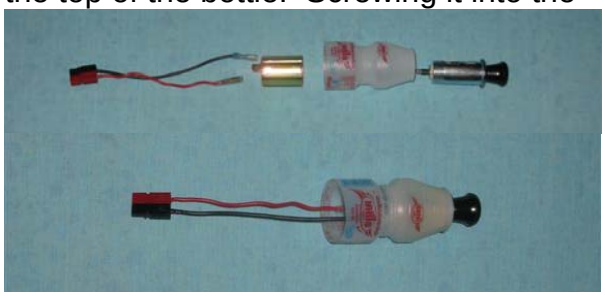




When it came to installing the power outlets we encountered a major problem:We didn't have a way to drill the 1 inch diameter opening. The largest hole we could drill is 7/8th inch in diameter. The prospect of filing to enlarge the hole was not an enticing opportunity. We had several installations planned.

The solution came in the form of another re-use opportunity: A small plastic bottle for a yogurt snack drink. The neck of the bottle was 1 inch in diameter.

Cutting the bottom off the bottle let us insert the locking sleeve into the bottle. The main socket unit is inserted through the top of the bottle. Screwing it into the



locking sleeve anchors the parts in position. Then wires are connected. The finished assembly is effectively shielded from accidental shorting. One of these units was

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installed on the radio rack at our Thawangpha QTH.

The 12 VDC accessory outlet enables us to run the Yeasu FH-912 (the Thai equivalent of the VX-170) using external power. This lets us conserve the HT's batteries for field remote operations. Similar power outlets in Sparky and Sam lets us operate the HT from those mobile / portable platforms drawing power from the main batteries of those vehicles. [**Note:** In the future, we hope to have solar PV

panels to recharge the radio batteries in Sparky and Sam.]

The 12 VDC accessory power outlet is energized from the MFJ 1116 12 VDC power distribution panel connected to a 12 VDC deep cycle battery. This is the main power supply for the station.

If necessary, the entire radio rack can be quickly moved. The only disconnects needed are the power cords, antenna and ground cables. The rack could be re-connected to a mirror set up planned at the Farm QTH in the field container office.

Another option is to remove the radios from the rack and install them in either Sparky or Sam. Both these platforms have power supplies with Anderson Powerpole fittings, as well as antennas and ground bus connections. The radios fit into different mountings due to space and other physical limitations in the vehicles.

Anderson Powerpoles on the 12 VDC outlets gives added flexibility to use them by directly plugging into an available fused port on any 12 VDC power distribution panel at both licensed RTC-TH stations or portable platform. These outlets can also be used on a variety of battery cables (also fitted with Anderson Powerpoles).

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To conserve internal radio battery power, we use an external power supply cord with the Yaesu FH-912 onboard Sparky. VHF radio equipment is located on the driver side. So the antenna cable routing and radio holder are located here. An additional 12 VDC power outlet was recently added near the radio holder. When the radio's power cord is plugged in, all cords / cables are well-organized and grouped neatly and out of the way. Power comes from the Rigrunner 4010S 12 VDC

power distribution panel located at the base of the center console. The panel is supplied by a separate radio battery. If necessary, Sparky's batteries can also be used for the radios.

A separate power cable set fitted with battery clamps, in-line fuses (on both positive and negative lines) and Anderson Powerpole connectors is available if we need to use batteries from other conventional vehicles. This can be used to deliver power to 12 VDC power distribution panels, 12 VDC power outlets, or to radios. This power cable set is long enough to reach from the bed of a pick up truck to the battery in the engine compartment.

The use of Anderson Powerpole fittings and additional 12 VDC accessory power sockets give the RTC-TH EmComm flexibility to rapidly move and set up equipment in a variety of configurations.

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