

Back-up Power for a Handheld

Let's suppose, you have an important message to send and accordingly you reach for your handheld. Just as you start to transmit your battery dies. Further, let's consider a storm has taken out electricity and phone to your home. What do you do? Read on to find the answer!

AA Battery Case

One of the easiest methods of back-up power for your handheld is AA alkaline batteries. Most radio manufacturers sell a AA battery case for their handhelds. With the battery case, you simply add AA alkaline batteries, put the case on the radio, and you're back in business. Of course, this necessitates that you've hidden the batteries from the kids and you remember where you hid them. Below is a battery case which holds 6 AA alkaline batteries and replaces the standard battery pack on the handheld.



When you need to use your AA case, just remove the standard battery pack.



Next insert AA batteries into the case and replace the standard battery with the AA battery case.



Once the AA battery case is connected, you are ready to transmit.



Some AA battery cases only hold two or four batteries which may not provide enough voltage to achieve full power out of the radio. If you are in a situation that requires high power to make a contact, these smaller cases may not be the best solution for backup power.

Alkaline batteries have long shelf storage life. After one year of storage at room temperature, batteries will provide 93 to 96 percent of initial capacity. When stored for four years, service of about 85 percent is still attainable. Storage at high temperatures and high humidity will accelerate degradation of chemical cells in the batteries. At low temperature storage, the chemical activity is retarded and capacity is not greatly affected. Recommended storage conditions are 50°F to 77°F with no more than 65 percent relative humidity. You should write the date on your alkaline batteries and replace them at least every 5 years.

Cigarette Lighter Adapter Cable to a Cigarette Lighter Receptacle in a Car

Another alternative is a cigarette lighter adapter cable to power the radio from the cigarette lighter receptacle in a car. The adapter cable includes a cord with a cigarette lighter plug on one end, and on the other end, a dc plug to attach to the dc connector of the radio. Below is a cigarette lighter adapter cable. It is important to have a fuse between the radio and the power source. On the cable below, the fuse is mounted in the end of the cigarette lighter plug.



To use this cable attach the dc plug of the adapter cable into the dc power connector of the radio.



Plug the other end of the adapter into the cigarette lighter receptacle in the car.



External Batteries

You can always use an external battery to power the radio. Gel Cells and Absorbed Glass Mat (AGM) batteries are sealed lead acid rechargeable batteries that make good power sources for the radio. The 7 amp/hour sealed lead acid battery below is a good choice between portability and battery life for a handheld. This type of battery will weigh about 6 pounds. These batteries will discharge over time without use and will need to be periodically recharged. They will lose 50% of their charge in 6 to 12 months depending on storage temperature. If you would like keep your battery fully charged at all times, you can leave a float or smart charger connected to the battery. As a point of reference, the standard battery on most modern handhelds has a capacity between 1 and 2 amp/hours.



Cigarette Lighter Adapter Cable to an External Battery

If a car is not available, you can use the cigarette lighter adapter cable to connect to a battery equipped with a cigarette lighter receptacle. You can purchase a battery with the receptacles attached or you could purchase the battery and add the receptacle. The 8 amp/hour sealed lead acid battery shown here is a good size to power a hand held.

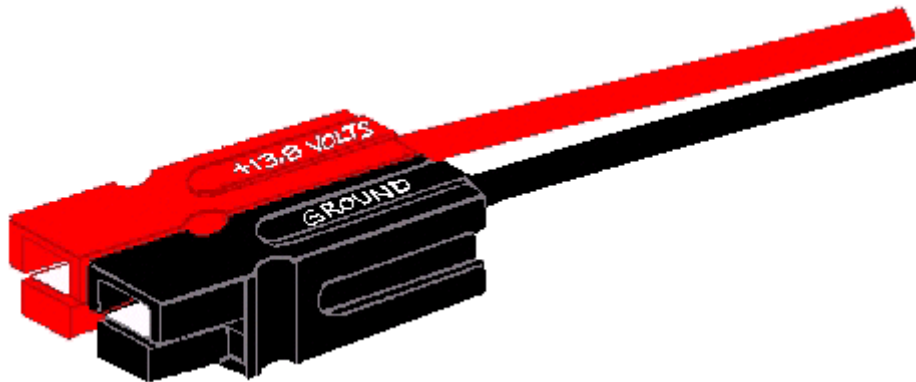


To use this cable first attach the dc plug of the adapter cable to the radio. Next connect the other end to the cigarette lighter receptacle on the battery.



Powerpole Adapter Cables to a Battery

Instead of using a cigarette lighter adapter to connect to the battery, you can construct cables which utilize a connector called a Powerpole connector. Powerpoles are quickly becoming the standard power connector of preference within emergency communications organizations around the country. Powerpoles are both polarized and genderless, so you never have to worry about male vs. female or positive vs. negative. Connections can be quickly made and remade in the dark without any hassles. Using Powerpole connectors will allow you to connect to other power sources such as power supplies with Powerpole connectors. Below is a drawing of the Powerpole connector.



Generally, two sets of adapter cables are made to connect between the handheld and the battery. One cable connects the handheld dc connector to a Powerpole connector. The other cable connects the battery terminals to another Powerpole connector.

To make the radio adapter cable you can purchase the dc power cable from your handheld's manufacturer which has a dc plug on one end and bare wires on the other end. In the picture below, a Powerpole connector is added to the bare end of the dc power cable from the radio manufacturer. It is important that fuses be in the adapter cable to protect your radio.



For the cable that attaches to the terminals on the battery, you will need to buy or make a cable that attaches to the battery terminals on one end and a Powerpole connector on the other end. In the example below, a short cable is used to connect to the battery terminals. On the other end of the short cable is a Powerpole connector.



To use this back-up power method, connect the appropriate adapter cables to the radio and to the battery. Then attach the Powerpole connectors on each adapter cable together as is shown below and you are ready to go.



Battery and Accessory Sources

Costco sells AA batteries in bulk under the Kirkland brand name at a very reasonable price. These batteries have been tested and provide performance equal to the higher priced AA battery brands. The Kirkland batteries also have an expiration date on each battery.

A source for variable sizes of AGM batteries, Powerpole connectors, Powerpole cables, and battery chargers like are shown below is through Powerwerx at <http://www.powerwerx.com>. Don't forget to purchase the proper charger for your battery.



The 8 amp hour AGM battery shown below with triple cigarette lighter receptacles attached, padded carrying case, and charger can be purchased through Cutting Edge Enterprises at <http://www.powerportstore.com>.

