

# ***U1 Battery Buddy DC-to-GO w/ RIRunner 4005***



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Thank you for choosing the West Mountain Radio U1 Battery Buddy Box DC-to-GO w/ RIGrunner 4005! You will enjoy powering your equipment from a portable battery using Powerpole® connectors.

The Battery Buddy gives you convenient portable power. The case accepts U1 size AGM batteries, providing up to 36 amp hours at 12 volts. Five devices may be plugged into the integrated RIGrunner 4005 power strip. Each socket is fused for protection. Any blown fuse will be illuminated. The battery may be charged via the power strip.

## **Contents**

- Battery Box with strap
- RIGrunner 4005 (mounted directly to battery box)
- Power Supply Cable (2ft. #10 wire, 1/4" ring terminals to Powerpole®)
- 12 pair pack of 30A Powerpole® connectors and contacts
- DC-to-GO Operating Manual

## **Safety Information**

A battery stores a large quantity of energy. A short circuit will release this energy rapidly causing the wire to melt, and perhaps, catch on fire. Also, the battery could explode. The fuse located near the battery terminal in the RIGrunner may help prevent these types of catastrophes.

## **Batteries**

The use of only SAFETY batteries is recommended, such as gelled-electrolyte and absorbed-glass mat (AGM) types. These batteries are sealed and should not vent hydrogen under normal circumstances. These types may be mounted in any position, although vertical is preferred. They are also 100% maintenance free.

Use of other types of batteries for portable use in the Battery Buddy is NOT recommended. Automobile batteries and marine batteries may only be used if the installation is fixed; where the battery box will not be turned over and is located outdoors or in a well-ventilated area.

Battery Buddy will fit U1 size batteries.

An example of a U1 battery which will fit inside the Battery Buddy DC-to-GO box is the East Penn-Deka Dominator 8GU1HM.

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## **Connecting to the Battery**

The RED wire's ring terminal is connected to the battery POSITIVE lug and securely fastened down with the nut. The BLACK wire's ring terminal is connected to the battery NEGATIVE lug and securely fastened down with the nut. Ensure that RED is POSITIVE and BLACK is NEGATIVE.

Bring the wire out through the front of the battery box to the left of the RIGrunner. Plug into the farthest left connector marked "DCIN". Neatly fold the excess wire into the box. Make sure the top is oriented so that the large vent is facing the front. Snap the top into place.

U1 batteries often come with 6mm studs and mounting hardware.

## **Using the Strap**

The strap may be installed and used both to secure the battery box to the floor and to restrain the top cover. It also provides the safety precaution in the event the battery explodes, the plastic box with strap will likely prevent flying debris and acid.

Note that the strap is easily installed between the RIGrunner and the battery box.

## **RIGrunner 4005**

There are some considerations to think about. Please read these instructions carefully before setting up your RIGrunner.

## **Choosing a mounting location**

Pick a location that is close, or central to, most of your radios and accessories; especially those that draw large amounts of current. Locate your power source as close as possible to the RIGrunner. Remember that every wire has resistance, longer wires have more resistance. More than a 10' run of #10 wire is not quite adequate to supply the RIGrunner to full output without a significant voltage drop.

Install in a cool dry place with good ventilation. For example, do not put it on top of your amplifier or room heater, or cover it with something. It is recommended to not put it in the engine compartment of your car, or directly on the floor of a car; rain from open windows or snow covered boots may cause water damage.

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## Connecting your equipment

Recognizing that RIRunner comes standard with Powerpole®, updating your cables that supply or use 12 volts DC with Powerpole® will improve the convenience of quick connections and use of your equipment. Remember, Powerpole® are genderless and the same connector arrangement works for both supply and load. Powerpole® can be used to charge or power batteries, all using the same connectors.

Powerpole® can be installed by soldering or crimping. Be sure to make good connections. For detailed Powerpole® connector installation tips see RIRunner support pages at <http://www.westmountainradio.com/supportrr>.

**IMPORTANT!!** It is essential that assembly of the pairs is correct. Follow the amateur radio standard used by the RIRunner. **DO NOT PLUG IN** without verifying that **RED + PLUS** and **BLACK – MINUS** is correct.

The far left connector is labeled DCIN with a 25 amp fuse, and is normally used to connect to the battery; but, any output may be used as the input with an appropriate fuse. Plug in your equipment starting with the highest power connections to the left and the lower power drain units to the right, notice the supplied fuse ratings next to the connector chosen. Typically you should connect higher current devices like transceivers first and smaller accessories last.

Multiple amplifiers and/or transceivers may be connected to the RIRunner. The RIRunner itself is capable of handling 40A maximum current but with a U1 size battery you should plan on using significantly less current to maximize operating time. For this reason the supplied DCIN fuse is rated at 25A. Most QRP and HT radios draw less than 1 amp in receive but may require up to 3 amps in transmit. Therefore, the limiting factor is total current draw while transmitting. To determine how many radios may be used to transmit at one time, consult the radio manual for power consumption specifications. In the event that the total current goes over the 25 amp maximum, a fuse will blow. The RIRunner and any equipment plugged into the RIRunner should go unharmed.

## Using the proper fuses

The RIRunner comes supplied with a range of fuses installed. This assortment should be suitable for most stations, but can be changed easily. Every RIRunner output is safe up to 40 amps, but the total allowable is also 40 amps.

A fuse **MUST** be in each position in use. **ANY ATTEMPT TO BYPASS OR SHORT ACROSS THE FUSES IS DANGEROUS AND VOIDS THE RIGRUNNER WARRANTY.** Since the maximum available automotive fuse is 40 amps, the RIGrunner will be protected as long as any value ATC/ATO fuse is installed. Choose the correct fuse for your equipment. Standard ATC/ATO automotive blade fuses are used. These fuses are available in 10 values ranging from 1 amp to 40 amps.

The DC input should have a fuse that is appropriate for the power supply or battery rating. If using a low power or QRP equipment, consider using a lower value fuse than the 25 amp value supplied. Ideally all of the outlets should have a fuse that is the next higher value above the maximum current draw of the unit on that fuse. If using a power cord with a fuse, match that value or go one or two values higher. Sizing each fuse for each unit is desirable, but not absolutely necessary. Having a higher value than the minimum will offer less protection for that unit, too low a value and the fuse will blow out prematurely.

Note that each fuse position has a LED blown fuse indicator that will conveniently light up if an output fuse is blown. There must be power to the RIGrunner and a load on the circuit that has the blown fuse for the blown fuse LED to light.

## **Powerpole® Wiring Guide**

<b>Powerpole® Series Contact</b>	<b>Recommended Wire Gauge</b>
<b>15 A</b>	<b>20-16 AWG</b>
<b>30A</b>	<b>20-12 AWG</b>
<b>45A</b>	<b>14-10 AWG</b>

***Additional Resources for Anderson Powerpole®  
go to: [www.andersonpower.com](http://www.andersonpower.com)***

***Details and a video demonstration for using  
PWRcrimp Tool with Powerpole®, go to:  
[www.westmountainradio.com/crimptool](http://www.westmountainradio.com/crimptool)***

## RIGrunner Accessories

	<u>Order Sku#</u>
<b>Fuse Assortment Low Value (8pcs)</b> 3- 1A, 3- 5A & 2- 10A	<b>#58537-1085</b>
<b>Fuse Assortment High Value (8pcs)</b> 2 ea. of 15A, 20A, 30A, 40A	<b>#58537-1086</b>
Buss 10A ATC Circuit Breaker	#58537-1087
Buss 15A ATC Circuit Breaker	#58537-1088
Buss 20A ATC Circuit Breaker	#58537-1089
Buss 25A ATC Circuit Breaker	#58537-1090
Buss 30A ATC Circuit Breaker	#58537-1091
<b>Powerpole® Extension Cable, 3 ft.</b> #12 Red/Black Wire w/ Powerpole® ends	<b>#58531-1082</b>
<b>Powerpole® Extension Cable, 6 ft.</b> #12 Red/Black Wire w/ Powerpole® ends	<b>#58531-1083</b>
<b>Powerpole® Extension Cable, 10 ft.</b> #12 Red/Black Wire w/ Powerpole® ends	<b>#58531-1084</b>
<b>15A. Powerpole® Connector-12 Pair</b>	<b>#58257-1093</b>
<b>30A. Powerpole® Connector-12 Pair</b>	<b>#58257-1095</b>
<b>45A. Powerpole® Connector-12 Pair</b>	<b>#58257-1099</b>
<b>Powerpole® Retention Clips - 12 Pack</b> #58257-1092	
<b>PowerLock - RIGrunner Retainer Kit</b>	<b>#58512-1060</b>
<b>PWRcrimp Crimp Tool</b>	<b>#58568-1049</b>

*To purchase or view other accessories available,  
call or go online at:*

**[www.westmountainradio.com/shop](http://www.westmountainradio.com/shop)**

**ADDITIONAL RESOURCES**

Go to our support page for more assistance:  
**<http://www.westmountainradio.com/supportrr>**

Go to our OpTips page for connection tips:  
**<http://www.westmountainradio.com/optips>**

[www.westmountainradio.com](http://www.westmountainradio.com)

## **Battery Buddy DC-to-GO w/ RIGrunner 4005 Warranty**

The RIGrunner is warranted against failure due to defects in workmanship or materials for one year after the date of purchase from West Mountain Radio or an authorized dealer. If purchased from an authorized dealer it must be returned with a copy of the original sales receipt or proof of purchase.

Warranty does not cover damage caused by abuse, accident, misuse, improper or abnormal usage, failure to follow instructions, improper installation, alteration, lightning, or other incidence of excessive voltage or current. If failure occurs within this period, return the RIGrunner or accessory to West Mountain Radio at your shipping expense with a full explanation and necessary proof of purchase. The device or accessory will be repaired or replaced, at our option, without charge, and returned to you at our shipping expense. Repaired or replaced items are warranted for the remainder of the original warranty period. You will be charged for repair or replacement of the RIGrunner or accessory made after the expiration of the warranty period.

West Mountain Radio shall have no liability or responsibility to customer or any other person or entity with respect to any liability, loss, or damage caused directly or indirectly by use or performance of the products or arising out of any breach of this warranty, including, but not limited to, any damages resulting from inconvenience, loss of time, data, property, revenue, or profit, or any indirect, special incidental, or consequential damages, even if West Mountain Radio has been advised of such damages.

Except as provided herein, West Mountain Radio makes no express warranties and any implied warranties, including fitness for a particular purpose, are limited in duration to the stated duration provided herein.

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