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November 27, 2015 &  
December 31, 2015

[www.westmountainradio.com/holiday15](http://www.westmountainradio.com/holiday15)

## Digital Mode News

### FreeDV

New version of FreeDV with "700" Robust mode added to decode at lower SNR (close to SSB) with lower speech quality. Squelch range now -5.0 to +15dB. Added option to enable/disable Checksum (error free) text encoding.

Homepage:

<https://freedv.org/tiki-index.php>

### UZ7HO EasyTerm

New version of UZ7HO EasyTerm (0.36b) adds a built-in Packet PBBS (mailbox). Used with Sound Modem now you can have a very high performance, easy to use HF personal mailbox.

Download:

<http://uz7.ho.ua/easyterm36b.zip>

Homepage:

<http://uz7.ho.ua/packetradio.htm>



## Digital Mode News

### FSQCal

A “directed messaging” digital mode from ZL2AFP and ZL1BPU. Implemented in IFSK at various speeds, FSQCal can take advantage of other stations to relay & store messages, request signal reports and even send small images.

<http://www.qsl.net/zl1bpu/MFSK/CALLweb.htm>

### FLdigi

FLdigi v3.23.03 updated to include FSQCal, IKFP and image transfer modes to Thor.

<http://www.w1hkj.com/download.html>

### SIM31

A new version of SIM31 (v6864) released. New features include HRD and Omnirig support.

[http://www.sim.on2vhf.be/sim\\_psk.rar](http://www.sim.on2vhf.be/sim_psk.rar)

### MultiPSK

A new version of MultiPSK (4.29.1) has been released. Includes a new “message mode” in all ARQ modes, display of GMDSS coast station positions and a new “align” macro.

<http://f6cte.free.fr/>

### ARDOP

The ARDOP team continues testing and releases ARDOP\_Chat 0.4.1

[https://groups.yahoo.com/neo/groups/ardop\\_users/info](https://groups.yahoo.com/neo/groups/ardop_users/info)

### MISC

30m Band Utilization Chart updated to include ARDOP, SIM31 and FSKCal activity.

[http://homepage.ntlworld.com/wadei/30m\\_band\\_utilization.htm](http://homepage.ntlworld.com/wadei/30m_band_utilization.htm)



**2016 ARRL National Convention  
at Orlando HamCation®**

**February 12, 13, 14 -- 2016**

# Maker Faires - Around the World “The Greatest Show (&Tell) on Earth”



Maker Faire is worldwide family-friendly festival of invention, creativity and resourcefulness. Part science fair, part county fair, and part something entirely new, Maker Faire is an all-ages gathering of tech enthusiasts, crafters, educators, tinkerers, hobbyists, engineers, science clubs, authors, artists, students, and commercial exhibitors.



This is grassroots innovation that we can foster in every community. It's being called the Maker Movement, and MAKE Magazine and Maker Faire are very proud of having been (and continuing to be) a nurturing ground for this growing community of creative and curious people.



The 10th annual Maker Faire held in San Francisco, California during May this year, attracted more than 145,000 people, 1,200 makers along with being sponsored by 95 different companies. The two-day show featured Tobias Weinberger, also known as The Traveling Spectacular, who excited the audience and ignited their imaginations and put to life to ideas! The 6th annual Maker Faire New York was held in September 2015, attracting more than 90,000 people, 900 makers along with being sponsored by over 65 different companies. The biggest attractions at Maker Faire New York this year were the giant sized mouse trap, a mechanical horse and a fire breathing dragon!



Photographs and some information courtesy of Maker Media, Inc. can be found at [www.makermedia.com](http://www.makermedia.com).



## Maker Faires - Around the World “The Greatest Show (&Tell) on Earth”

West Mountain Radio attended the Milwaukee Maker Faire 2015. Attracting an audience of over 45,000 people and included a total of 175 makers showing anything from how electricity works to advanced technology equipment and even being able to create and build your own projects. An entire section of the Faire was devoted to children's learning activities, as well as adult DIY projects.



West Mountain Radio put on display our Computerized Battery Analyzer (CBAIV) with a solar panel. The emphasis was to show the immediate amount of energy a solar panel absorbs in direct sunlight compared to a cloudy day. Keeping with the theme, West Mountain Radio also prominently displayed a new educational package to learn about batteries and general energy. The Energy Science Lab Kit is designed for teachers needing labs to teach about basic electrical properties and general physics principals about energy using an everyday item like a AA battery.



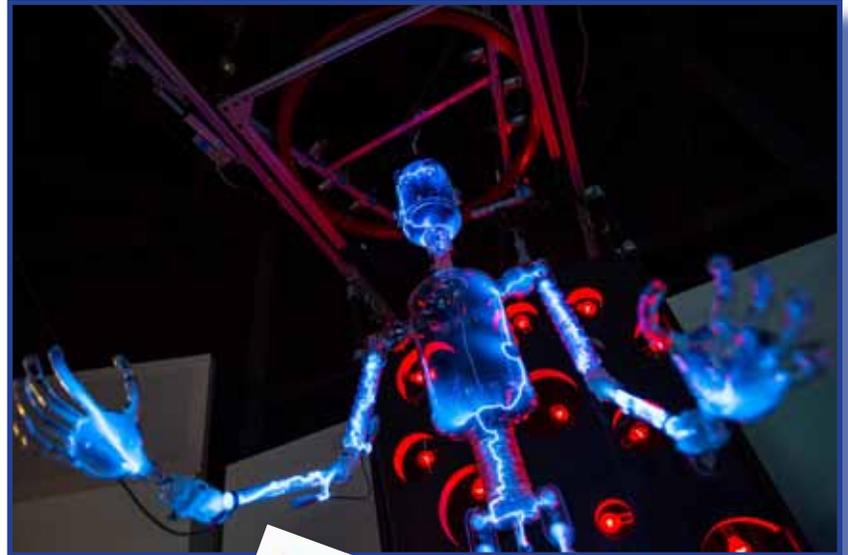
CCS, the parent company to West Mountain Radio, shared the booth to demonstrate and show the power of microcontrollers in everyday life. Kids, and adults too, enjoyed moving a robotic arm controlled with an iPad, as well as a stoplight that you could manually change from red, green or yellow with a cellphone or tablet, both using Bluetooth with an 8-bit PIC microcontroller.



# Maker Faires - Around the World "The Greatest Show (&Tell) on Earth"

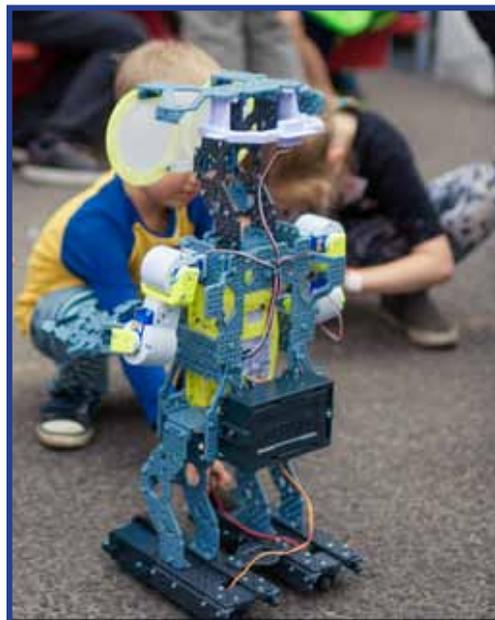


Other exciting events at Milwaukee's Faire included contests for the most imaginative and creative "thingamabob" made from "junk", to an entire exhibit hall for robots. The robots were definitely working, as C3PO meandered down the aisles quite a few times. Children were creating rockets made from styrofoam, cardboard and duct tape -- and were shot into the rafters using a bicycle pump. Other Makers combined technology of circuits boards into art jewelry, wood carving and how to live in an eco-friendly home.



There are three levels of Maker Faires that are held, including Mini Faires, Featured Faires and Flagship Faires.

Look for a Maker Faire near you!  
Visit: [www.makerfaire.com](http://www.makerfaire.com)  
for information and show dates.





## Flying High with West Mountain Radio's CBA IV

For years, conventional model airplanes used nitro-methane fueled two-cycle engines. Although capable of high power output in small size packages, these "gas" models could be finicky to operate, annoyingly loud, and sprayed a trail of messy oil residue in their wake.

Remote Control (R/C) model aviation entered a new era with the availability of modest cost, high capacity lithium polymer (Li-Po) batteries. Lithium technology offered ease of use, high energy density, long life, and clean operation. Over the years, model airplane electric motors have continued to grow in capacity, requiring ever more powerful battery packs. Hobbyists participating at the "high end" of the sport continually seek maximum performance, and ever larger model sizes - which typically cost from a few hundred to many thousands of dollars. Although gas powered models are still popular, electric powered model airplanes now represent an important and growing segment of the total model airplane market.

Battery packs to power these models are available in a wide variety of sizes. Common pack voltages range from 11.1 to 18.5 volts. Capacities of 2000 to 5000mAh provide for 7 to 10 minute flight times. Even more impressive, when needed, packs are capable of short term discharge rates in excess of 100 Amperes!

Obviously, the cost of a model airplane and its internal electronics, combined with several hundred foot altitudes and impressively high speeds, leaves little tolerance for substandard battery packs.



Enter West Mountain Radio's Computerized Battery Analyzer (CBA IV).

As background, the CBA has long been used by R/C car hobbyists, who historically used conventional NiCad and NiMH based battery packs. However, testing high capacity Lithium Polymer packs required considerable time using the CBA's 100 watt discharge capacity.

Recently, Greg Gimlick - noted columnist and expert on electric model aviation wrote several columns in leading industry magazines using West Mountain Radio's CBA IV and companion 500 Watt Amplifier. He noted that while not for all hobbyists, the 500 Watt Amplifier allowed expanded testing at real world current levels not otherwise available. Evaluating a battery pack at a 20 amp discharge level may reveal serious operational weakness that is not apparent when testing at lower currents.

## Flying High with West Mountain Radio's CBA IV



If you are interested in reading more about LiPo battery pack testing with the CBA and 500 watt amplifier, check out the following articles (Model Airplane News may be accessed on-line):

Model Aviation Magazine (AMA)

Aug 15, 2015 issue

Product Spotlight Column – pages 16 & 17.

(Must have subscriber account to access AMA archives.)

[http://www.modelaviationdigital.com/modelaviation/august\\_2015?pg=1#pg1](http://www.modelaviationdigital.com/modelaviation/august_2015?pg=1#pg1)

Model Airplane News

Sept 2015 p76-79 "Mount 'em Up!"

Ultimate Electrics Column, by Greg Gimlick

See page 79 article: Product Highlight -

"Computerized Battery Analyzer".

Includes photo of CBA, Amplifier, Cables, Crimper, and CBA Graph.

[http://www.modelairplanenews-digital.com/man/september\\_2015?pg=78#pg78](http://www.modelairplanenews-digital.com/man/september_2015?pg=78#pg78)

Model Airplane News

Nov 2015 p62-65 "LiPo - Charging Basics"

Ultimate Electrics Column, by John Kauk

See page 65 article: "Next Level Battery Management"

Includes photo of computer, CBA, Amplifier, battery, and multi-overlay test graph.

[http://www.modelairplanenews-digital.com/man/november\\_2015?pg=64#pg64](http://www.modelairplanenews-digital.com/man/november_2015?pg=64#pg64)

In summary, model aviation hobbyists can now evaluate high performance battery packs to:

- Compare performance of similar capacity batteries from different manufacturers.
- Confirm a battery's actual performance versus published specifications.
- Measure base line performance of a new battery, then re-check capacity as it ages.
- Evaluate varying load conditions on actual battery capacity.
- Determine effect of various ambient temperatures on actual battery capacity.

For complete details on West Mountain Radio's Computerized Battery Analyzer product family, see:

<http://www.westmountainradio.com/cba.php>

**Interested in microcontrollers?**

**Click here for more info:**

[www.westmountainradio.com/pic\\_resources](http://www.westmountainradio.com/pic_resources)

**Want to Learn C programming for microcontrollers?**

**Click here for details of a NEW book that includes a**

**FREE compiler:**

[www.ccsinfo.com/e3book](http://www.ccsinfo.com/e3book)



## Product Spotlight

# **RIGrunner 4010S+**

Sholto Fisher  
K7TMG



The new West Mountain Radio RIGrunner 4010S+ brings advanced features, safety, and reliability to your shack or mobile station. Building upon the ideas introduced with the original 4010S we've added a host of new features which gives you total control over your power distribution.

### Key Features:

- Traditional mode turns on outlets when master device is turned on.  
Typical usage: Use this mode to turn on all your shack accessories when you turn on your main radio.
- Vehicle detect mode turns on outlets while the engine is running.  
Typical usage: Use this mode to power up all of your mobile equipment when the vehicle is started.
- USB Programming port gives access to extended features including; Programmable trip points for optional HVD/LVD, monitor/set current sense for master device, restart trip points for alternator/battery voltage and a programmable delay for auto-off in vehicle mode.
- Low power (battery save) mode.
- Optional audible monitoring of low voltage and high voltage conditions.
- LED status monitoring of important conditions.
- Ten Anderson Powerpole fused outlets, nine switched and one master.



# Upcoming Events

## Visit Our Booth

**W.A.R.A.C Swapfest  
Waukesha, WI  
January 9, 2016**



**70th Annual Hamcation  
Orlando, FL  
February 12-14, 2016**



**Dayton Hamvention  
Dayton, OH  
May 20-22, 2015**

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**If you would like to submit an article for  
consideration in future newsletters please contact  
[marketing@westmountainradio.com](mailto:marketing@westmountainradio.com).**

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