

# The Repeater Rag



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NEWSLETTER OF

## THE DENVER RADIO LEAGUE

**A CLUB DEVOTED TO  
QUALITY AMATEUR RADIO**

Published in the metro Denver area, Colorado

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**REPEATER LOCATIONS:**

146.88Ø ..... Lockheed Martin Company

146.64Ø ..... Centennial Mountain

449.6ØØ ..... Lockheed Martin Company

145.Ø5Ø ..... Digi - Lockheed Martin Company

**Repeater Identifier: WAØKBT**

*The Denver Radio League is open to all licensed amateur radio operators. Repeater usage is limited to properly licensed hams.*

**Membership dues and renewals**

***~ Please make checks payable to  
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**For information, contact Al at:**

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**REMINDER:**

**DRL MEMBERSHIP MEETING**

**FEBRUARY 12, 2004**

**7:30 p.m.**

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**REMEMBER TO  
WISH YOUR  
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**A**

*Happy Valentine's Day*



**SATURDAY,**

**FEBRUARY 14TH**



## FME Connectors

By George Stoll – WAØKBT

As frequencies used for mobile communications continue to move higher in the spectrum, so does the need for newer, smaller (and cheaper) connectors. The type N connectors that we are familiar with work well for frequencies into the gigahertz range. However, they are physically large, time consuming to assemble and cost relatively high when compared to other types of coax connectors. Along comes the FME connector.

On the market for several years now, these miniature connectors are now common place on mobile installations of cellular and PCS antennas. If you don't have a need for these in your amateur work yet, you may for your mobile cellular or PCS antenna.

They must be assembled with a crimp tool, the same inexpensive tool used for RG-58 and similar sizes.

They are not available at Radio Shack yet – but they will be soon. The first photo is of an FME female on the end of an RG-58 style cable. The second photo is of some adapters I have from my tool box. The top two are FME female to TNC female and the bottom two are FME female to mini-UHF female. They are available on the Internet at numerous supply houses. Two mail order wireless equipment suppliers that I have used without problems are

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

and

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

By the way, these are also good sources for cellular and PCS antennas.

WAØKBT

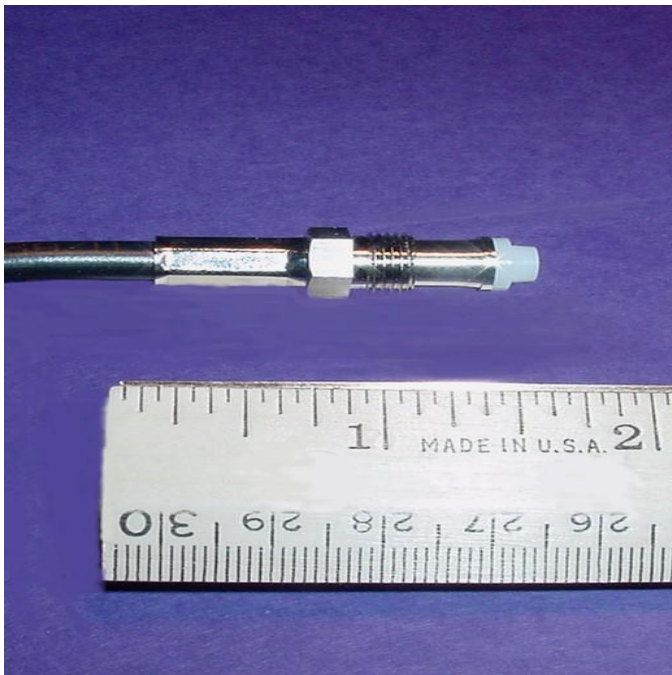


Photo 1- FME Female Connector



Photo 2 – FME adapters

## A Battery Pack Suggestion

By Daniel Krohn, ABØZY

Nearly every ham at one time or another has a battery pack go belly up and quit working. Rather than buy a new pack, many of us would rather rebuild the old one. Most of the time Ni-Cds are used, but a seldom used option is Li-Ion cells. Li-Ions have greater power density than Ni-Cds and even Ni-MHs, which means that it is possible to rebuild a pack to a higher capacity than it was originally. The only downside is that it takes a special charger to safely charge them. I use a Maha MH-C777 Plus.

Li-Ion batteries are no doubt expensive new, but can be purchased quite inexpensively in the form of surplus cell phone battery packs from surplus dealers such as Goldmine Electronics ([www.goldmine-elec.com](http://www.goldmine-elec.com)) with only minor disassembly required. A vise or screwdriver works well.

The first step is to open up the old pack and take the cells out. Since I have never found a satisfactory way to take Yaesu battery packs apart, my choice of methods involves a razor saw from a hobby shop or whatever leaves the thinnest kerf. On the other hand, by the time you give up on the pack, it will probably have been opened and the cells zapped several times so you will probably be familiar with the procedure. A word of warning: even though the pack is flat dead, one of the cells will still have enough charge to produce quite a spark when the saw hits it and though we don't care too much about the cells, it can't be good for the saw.

Once the old cells are out, the new ones are soldered together and gently mashed into place. If you completely trust the new cells, at this point you can put the case back together and epoxy it shut. But it happens that I don't trust them and it is probably wise to make contacts on the outside of the pack in order to test and charge the cells individually. While you have the epoxy out, it is also a good idea to cover the charging contact from your radio with a piece of paper and epoxy. (This applies to radios like the FT-50 that charge the packs through the radio. If the pack is charged some other way, disregard this warning and just make sure you don't plug it into the regular Ni-Cd charger.)

My first attempt, however, resulted in more of an adapter than a pack. It utilized the remains of a video camera, its two battery packs, and its charger. But instead of putting new cells directly into my pack, I put the battery compartment from the camera in. The video camera packs mounted into my old pack and then they both mounted to the radio.

An interesting problem arose during a recent rebuild of an FT-50 pack as a result of trying to cram in three cells to get a 10.8 volt pack. The cells would not fit in and I had to heat and bend the case so that they would. After the case was bent, the seams were much wider than normal and I had to use a paste epoxy and a paper form to keep it in place.

Daniel Krohn

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