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B-PLUS

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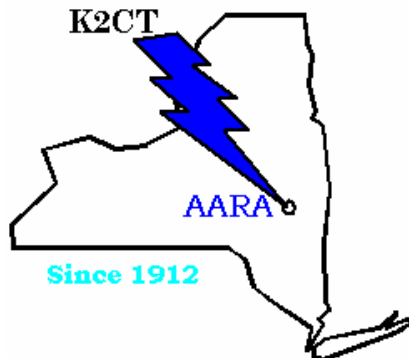
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Affiliated with the American Radio Relay
League
An ARRL Special Services Club

AARA

Meets at the
Colonie Community Center

1653 Central Ave. Colonie

Friday Feb. 8

Social Hour 6:55 PM
Meeting begins 7:47 PM

refreshments
soda, diet soda, coffee etc.

AARA Dues

Dues are \$15 with
B-PLUS available at the K2CT Web page in
.pdf format www.k2ct.net

OR \$20 for first class mailing of the
newsletter Checks should be made out to
AARA and sent to: Saul Abrams, K2XA,
307 Maple Rd., Slingerlands, NY 12159

FEB. Meeting

Radio frequency emissions from the Aurora: Noise or Data?

This month we are excited to have with us
Dr. Allan Weatherwax from Siena College
speaking to us about RF signals from the
Aurora. While we normally think of the Aurora
Borealis (Northern lights) or Australis
(Southern lights) as a light show, most have
never thought about the RF signals (0.05 – 50
Mhz) being emitted from this phenomenon.
The big question: Is it noise or data?
Dr. Weatherwax is internationally known for
his work in this field and travels regularly
see page 4

K2CT Repeater

**Talk-in repeater 145.19 (-) MHz
pl tone 103.5Hz**

or

444.30 (+) w/pl tone 100.0Hz

ATTENTION AARA CONTESTERS!

*** HF CONTEST ANNOUNCEMENT ***

The 2008 ARRL International DX Contest is coming! The CW weekend is February 16-17 and the Phone weekend is March 1-2. Get on, have some fun, and send us your scores for publication in B-Plus! Send us your call, entry category, mode, power level, number of QSOs, number of country multipliers, and claimed score.

Send all of the above (plain text only) to:
sue.walt@verizon.net

See you in the pileups!

73, Walt, WA1KKM and Sue, N2LBR

PRODUCT REVIEW

MF-4416 Super Battery Booster
--Bruce Goldstein, WA3AFS--

I purchased the Super Battery Booster specifically for my ICOM IC-2800, which I use in my shack powered off a trickle-charged marine battery. The ICOM radio does not work properly with the input voltage of 12 volts. The output signal is very distorted.

I bought the Super Battery Booster made by MFJ with the following expectations:

- The circuit design would be good and would accomplish the task at a very reasonable cost.
- I would possibly have to track down at least 1 cold solder joint
- Opening the case to change the selectable options would involve more than 4 screws (actually 4 self tapping screws and 2 machine screws)
- The manual may present some inaccuracies

A summary of the specifications:

- Choice of input and output connections (Anderson PowerPole™ or 5-way binding posts).
- Adjustable output voltage (between 12 and 13.8 volts)
- Selectable minimum input voltage (9, 10 (default), or 11 volts)
- Audio alert feature when input voltage drops below the preset level

- RF sampling port to provide no switching efficiency penalties during receive.

Ordering turned out to be a problem; once I decided to take the plunge; it took over 3 months for the backorder to be filled (units were not available anywhere). The unit arrived October 10th.

My expectations about an MFJ product were basically all met!

Once I built the connecting cable (Anderson PowerPole™), I proceeded to power up and use the unit. Signal reports were still lousy and the low input voltage alarm on the MFJ-4416 was sounding very quickly on transmit. I was forced to switch the ICOM back to my big AC power supply and perform some debugging. Finally, I ended up opening up the unit (to look first for any obvious cold solder joints – I did not find any), but I did find that the default input and output settings as specified in the manual were not as documented. I changed the jumpers (9 volt minimum input, 13.8 volts output) and placed the MFJ-4416 again between the battery power distribution box and the ICOM. Success. The radio now operated, as it should.

I used the ICOM sparingly for about 2 weeks with one QSO of about a half hour with the ICOM running at 50 watts. The received signal reports were all fine and no reports of distortion.



At about 3:15 AM on November 14th, I was woken up by the low voltage alarm on the MFJ-4416. The

ICOM radio had been turned off. Through my blurry eyes, I looked at the battery voltage and saw that it was the usual 12 volts! Giving up quickly, I unplugged the MFJ and went back to bed. In the morning, I tried a couple of times to make sure the input cord was seated correctly and also noticed that the output voltage was insufficient to even turn the power the ICOM radio. Further checking found the output power from the MFJ to non-existent. As I was taking the MFJ down to remove the power cords, I noticed that the unit now had a rattle! Off came all the screws and I immediately sensed that

some part had donated its smoke component to the atmosphere and further checking found a large piece of one of the driver FET (Q1) was floating around the case. Another of the FETs (Q3) was now very loose on its heat sink.

I packaged the MFJ-4416 and mailed it to MFJ along with the required \$7.00 for shipping and handling. Wonder how long it will take for the repair/replacement. Called MFJ the day that the package arrived and they said to call back in about a week and then they would give me a time estimate. They also acknowledged that they were having problems with the MFJ-4416.

After a week, I did call MFJ again and the technician said it had arrived and was on the shelf and he would call me back within a week with an estimate for the amount of time the repair would take. He never did call back.

Additional comments:

The schematic in the manual was totally unreadable. At least

- At least one can download manuals from the MFJ website and the PDF file is better.
- The manual does not identify which screws are required to open the case to get to the internal jumpers and settings. There are 8 screws on the case and only 6 are necessary to be removed to open the case!

CONTINUED.....

On December 17th I received a replacement 4416 from MFJ. No further explanation as to what went wrong with the original unit other than the words “replaced unit” on the accompanying service sheet.

A quick check (as quick as it takes to remove the 6 screws) of the replacement super battery booster showed that the internal settings were the defaults as documented in the instruction manual. Changed to allow the unit to work as far down as 9 volts input instead of the 10 volt default.

Once hooked up to my ICOM IC-2800, I measured the input voltage as 11.76 volts (on transmit) and the output voltage was 13.64 volts (on transmit).

This time I activated the “boost on RF sense” option and noted that the unit runs a lot cooler. Activating this option involves a coax “T” connector and setting the single switch on the front of the case. The only warning is that I will have to be VERY careful to make sure that the radio is hooked up to an antenna (I share my dual band antenna with the packet radio). There is a warning next to the SO-239 connector on the MFJ-4416 case that a radio is NOT to transmit directly into the MFJ-4416.

After 3 weeks of testing, I have found that the MFJ-4416 is working properly and I am happy with the unit

Operating Events

February

- 2-16 ARRL School Club Roundup
- 9 - 10 CQ WW RTTY WPX
- New Hampshire QSO Party
- Louisiana QSO Party
- Northern New York QSO Party www.nnyara.org
- British Columbia QSO Challenge
- 10 North American Sprint, CW
- 16 - 17 ARRL International DX Contest (CW)

March

- 1 - 2 ARRL International DX Contest (Phone)

www.k2ct.net

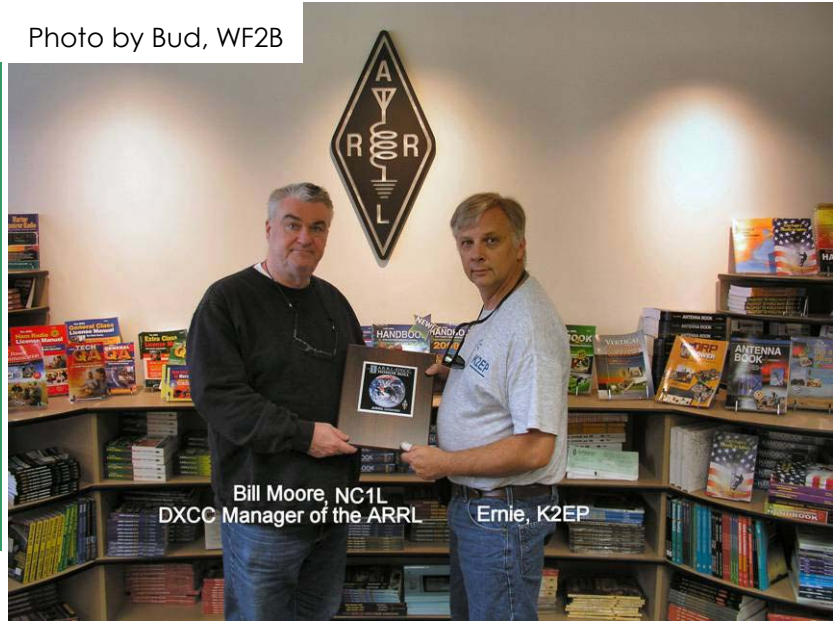
WE are looking for pictures of your Ham Shack Send pictures to Peter, N2KAD
Please try the site and let me know what you think. If you have any feedback please let me know.

73, Peter Hines, N2KAD, webmaster
hines@nycap.rr.com with any suggestions.

edited by Mike Bergman, WD2AJS, 45 Swartson Ct., Albany, NY 12209 489-3110. **Articles** and B-PLUS **Swap Shop items** accepted and solicited via mail, phone, or e-mail to wd2ajs@nycap.rr.com

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Photo by Bud, WF2B



Bill Moore, NC1L
DXCC Manager of the ARRL Ernie, K2EP

Photos by Bud, WF2B



FROM page 1: to the Arctic and Antarctic regions to study effects of solar radiation on satellite communications, including the GPS network as well as terrestrial installations like our power grid. Although not a ham operator, he will amaze you with his depth of knowledge about the sunspot cycles, communications, antennas and electronics including his remote telemetry to unmanned, self powered data collection stations in the Antarctic that he can only visit once per year. Please plan on attending this very interesting talk!

-At The February Meeting-