

NEWS Letter

Volume 20, Issue #1 - January 2012

Official publication of The North East Weak Signal Group

<http://www.newsvhf.com/>

PLEASE NOTE

NEW MEETING DATE AND B.O.D. MEETING LOCATION

NEW MEETING DATE:

JANUARY 14TH., 2012

NEW B.O.D. MEETING LOCATION:

Hibachi Grille and Supreme Buffet

Brookside Plaza, 14 Hazard Ave.

Enfield CT

(Old Hometown Buffet location)

President's Corner: *Getting Organized*

It's getting to be that time of year again. The days are getting short and the temperatures outside are dropping; it is time to start thinking about switching focus from outside projects to inside projects. Here on the Connecticut coast Mother Nature has provided us with a few bonus days of reasonably warm weather, perfect for those of us with remaining tower work before the January contest. I have managed to top my new tower out at 100 feet and have the guy wires tensioned. The mast is at the top, as is a run of 1-5/8" Coax, but unfortunately that is all I have accomplished. The rotator is still on my workbench, and the antennas are still on the ground. On the plus side, I managed to get the ground rods driven before the ground froze, which is hard enough with the rocky dense clay soil that I have. Here is a tip: A rotary hammer with an improvised ground rod driving attachment works well, if you have ground rods to install, I recommend that you buy/borrow/rent/hire a rotary hammer.

While it would be nice to have my tower operational, I have switched my focus towards getting a wood stove installed in my workshop. This way, I can continue to work on my other projects once the cold weather really hits.

Another thing I have been working on is organizing and inventorying all of the various RF piece parts that I have been collecting over the past few years for various projects. I recently relocated to a new house, and that process sure did a good job of mixing up my stuff.

<CONT'D>

Current Officers

President: N2GZ, Greg Zenger

Secretary: W1GHZ, Paul Wade

NEWS Letter Editor: W1WSO, Tom Filecco

Vice President: N1JFU, Steve Meuse

Treasurer: WA1MBA, Tom Williams

MEMBERSHIP in the N.E.W.S Group is \$15 per year. Apply to Tom Williams, WA1MBA. Email [tomw\(at\)wa1mba.org](mailto:tomw(at)wa1mba.org) You may download an application from our web page:

<http://www.newsvhf.com/>

<CONT'D>

Previously I had sorted parts into cardboard boxes by band of operation, though this got messy with items that worked on multiple bands. I am now keeping most piece parts in Rubbermaid bins, and I have found a place in my house where I will build some shelves to store them. When I start a project, I move allocated parts to a dedicated box or portion of my workbench.

I have a tendency of buying more than I need of something when they become available, especially when the price is right. This gives me a personal surplus should I need to make a repair at a later date, or build a duplicate. There is also the benefit of saving design and engineering time by using parts that I have experience with. It also gives me items to trade.

My inventory system is nothing more than an excel workbook, with different datasheets for different types of components: relays, couplers, coax, amplifier modules, etc. Information recorded depends on the type of component, but basic identification that is kept is quantity on hand, price paid per unit, and where/who I acquired the part from. The other critical piece of information that is recorded is location. At some point I expect my inventory will evolve into a database, perhaps even something that I will publish online for local hams looking for a particular item to finish one of their projects. I figure if I post some of my wanted items, trades might just work themselves out.

It has been fun to dig through my own parts; it is like attending a mini hamfest where I get to go home with all sorts of goodies, and not give up any money in the process. I have also identified items that I purchased for a particular project that has evolved to the point of not needing the part, or that has been abandoned for one reason or another. These items will likely find their way to hamfests in the spring.

So that is what I have been up to. Hopefully I will have things organized soon so that I can reclaim some space and get back to building so that I can get back on the air. I hope everyone has a happy holiday break with their friends, families and neighbors. I look forward to seeing you in January!

Greg Zenger, N2GZ

Secretary's Report:

Minutes of NEWS meeting 19 November 2011

Board of Directors meeting at 1212

Lulu's Restaurant, Enfield, CT

- Agenda Items for NEWS Meeting.
- Conference update
- Next Eastern VHF/UHF Conference Meeting Dates
- Spring MAD
- ARRL bandplan input - 903 to 902 MHz

NEWS meeting 19 November 2011

Storrs Library, Enfield, CT

Called to order by Vice-President N1JFU at 1326

CONFERENCE SUMMARY by WZ1V

- Proceeds + auction + donations \$14139
- Expenses \$14130

TREASURERS REPORT by WA1MBA

- 81 paid members + 14 permanent
- 29 not renewed yet
- Balance \$3752
- Typical annual expenses \$1282
- Typical annual income \$1315
- Treasurer recommends maintaining minimum balance ~\$1500
- So excess ~\$1000 avail to spend
- Savings due to meeting at library and electronic NEWSletter

OLD BUSINESS

- Progress on NEWS website continuing

NEW BUSINESS

- Eastern VHF/UHF Conference
- Motion: WA1MBA - That the NEWS Group will sponsor and Operate the Eastern VHF/UHF Conference, and keeping the essential and founding principles of the Conference, and keeping a separate

financial account and separate roster of committee members for the Conference. UNANIMOUS.

- Next conference -

- Motion WA1MBA – Ask to work with Packrats (Mt. Airy VHF Radio Club) conference in 2012 by awarding a financial contribution, offering talks and papers, by encouraging our members to attend, and by offering at least one club member to serve on a committee as may be desired, and by offering tht the Eastern VHF/UHF Conference be named as part of that conference. APPROVED 18 for 2 against

-Conference committee volunteers WZ1V, N1JFU, K1RT, K1MAP, W1GHZ

- Suggested Meeting Dates

1/7

3/17

5/12

7/14 picnic tentative

9/29

11/17

Motion by K1MAP to adopt these dates

UNANIMOUS.

- Spring MAD (Microwave Activity Day) - Sunday May 6

Motion by K1MAP UNANIMOUS

- ARRL Microwave Bandplan Committee - K5UR Concerning 902 and 903 MHz as weak-signal segment

Poll of those present:

- 903 capable 17

- 902 capable 13

Motion by K1MAP members should make equipment capable of both 902 & 903 UNANIMOUS

- ANNOUNCEMENTS

WZ1V donating gin pole to club to share

KC1V will store the gin pole

- Meeting adjourned 1501

Paul, W1GHZ

Treasurer's Report:

At the last meeting we solicited ideas for company activities considering that we have a healthy treasury. I only received two messages, so if you have an idea please email it to me tomw at walmba dot org. The treasury remains in good shape, and renewals and well as new memberships keep coming in slowly. I have recently sent out a reminder to those who have not renewed.

With winter finally arriving I am getting so spend a bit more time building and repairing. I am hoping to put the final touches on a 10/24 GHz portable radio that Don W1FKF has assembled for me, and continue to work on the 78 GHz LNA project. Hope to see you all at the January meeting.

Tom WA1MBA

205 Morning Group

by Mike N1JEZ

Here's a reminder of the 144.205 Morning Group that meets daily on 2M SSB starting at 8AM Eastern. It is hosted by Stan, KA1ZE/3 who uses his remote station in FN01xt. He has a super signal up here in New England!

Stan takes check ins and then helps facilitate contacts among stations. The ON4KST=20 144/432 IARU R2 Chat page is also utilized.

<http://www.on4kst.info/chat/login.php>

Stan recently started reporting results via Twitter under the username '205MorningGroup'.

<http://www.twitter.com/205MorningGroup>

Join in the fun!



Microwave Update 2011
Haystack Observatory Tour
Photo by Bruce, WW1M

Subject: BOD Lunch site Change for Sat. Jan 14, 2012, 11:30am

Hope everyone had a nice New Year & Christmas & Holidays.

The NEWS Officers & Board of Directors Members has voted to change the site of the Board of Directors meeting and lunch that is held before each meeting. It is an open meeting and lunch. Everyone is welcome.

A new Chinese-American Buffet has opened at the site of the old "Hometown Buffet". There were no complaints at Lulu's but this is a mile closer, is a buffet, which we had a preference for in the past, and is easy-on, easy-off Interstate 91 Exit 47.

I went into this restaurant a few days ago. Everything is nice and clean and the selection is at least as good, and maybe greater than the Royal Buffet that we had been going to until last fall.

On Saturdays, Lunch is 11am to 3:30pm. The price is \$6.99 plus your drink and CT meals tax.

DIRECTIONS-----
Hibachi Grille and Supreme Buffet, Enfield CT, Brookside Plaza, 14 Hazard Ave., (Old Hometown Buffet location)
Exit 47, Rte 190, Stay right and take your first right, then first Left into the shopping center parking lot

Directions from Hibachi Buffet to Storrs Library-----
Take a left out of the parking lot on to CT Rt. 190. Get in the Right lane and take the "Springfield" (North) Entrance ramp. Then go up 2 exits, a little more than a mile, and take Exit 49, Longmeadow, North, US Rt. 5. Then north on Rt. 5 about 2-3 miles just past the Longmeadow Green (or Town Common) and at the very end of the Green, take a Right after the light into the Storrs Library, 693 Longmeadow St., Longmeadow, MA

Thank-You
Mark Casey, K1MAP

How to be a Bad Morse Operator

(With apologies to Simon Barnes, “the bad birdwatcher”)

John Worsnop G4BAO

A wise man once said to me

“Don’t worry about what people are thinking of you, because they rarely are”

How many times have you heard that very weak Morse Tropo signal on 23cm or the distant hiss of rain scatter Morse on 3cms and wished you could work it?

I know, you trot out the usual excuses in your head.

- Oh he’s going too fast....
- I used to be a Class B/I’m a new licensee and I never took the Morse test.
- I’ve not operated on Morse since I walked out of my local coastal station in 1972.
- My Morse is not good enough

Maybe you just too “frit” to have a go in case you get in a tangle with the dots and dashes and “make a fool of yourself”?

Wake up... no one really cares about how bad your Morse is.

You’ll miss out on some of the best Microwave DX if you take this attitude, just look at the Terrestrial DX World records.

1.3GHz	4143km	CW	
2.3GHz	3980km	CW	
3.4GHz	3980km	CW	
5.7GHz	3980km	CW	
10GHz	2079km	SSB	
24GHz	710km		CW
47GHz	343km		SSB
75/76GHz	175.3km	CW	
122GHz	114km		CW
134/136GHz	114.4km	CW	

.....Need I go on? 8 out of 10 are on Morse.

Unlike the HF bands you don’t need to be a “good” Morse operator to work Morse DX on Microwaves. There’s no “First Class Operator’s Morse” club for Microwavers, in fact I’m thinking of forming a “2nd Class Morse operator’s club!

So why not join me and become a bad Morse operator? Don’t sit back and “wish you could do Morse properly”.

Here are the four pillars of being a Bad Morse operator.

- Everyone else is as bad at Morse as you are.
- Never admit how bad at Morse you are.

- Bad Morse operators still work the DX on Microwaves

- On the radio, no one can see you blushing

And here are the rules of Bad Morse Operating

- If you hear someone calling CQ or posting on KST..... CALL THEM!

- If you don't call them, you won't work them.

- Call the station at your speed, 99% of people will slow down. If they don't, then they are likely to be a prat and you wouldn't want to work them anyway.

- If you miss something, ask them to repeat it.

- Learn to pick out callsigns, reports and locators. The rest of it's probably boring chatter anyway!

- Don't be afraid to sign off once you've got the above info, blame it on "Deep QSB" ("Heavy QRM" doesn't cut it on Microwaves, but it's great for HF!)

- All the Morse you need to know after you've learned the alphabet is ...

G1XYZ de G2ABC ga (gm/ge) tnx call UR 559(xxx for contests) in <your Locator>

?

RRR tnx QSO es 73

- If you're embarrassed by your poor Morse skills, ...LIE!..... and learn...

The "Bad Morse operator's code"

Here it is.

1. QRS = please slow down

2. QSB = I didn't read my report because my Morse skills are so bad

3. QRM = (see QSB)

4. PSE ALL AGN = (see QSB)

5. PSE TRY SSB (only if signal is strong enough)

6. TNX QSO es 73 = (see QSB, only to be used after 2, 3, 4 and 5 have failed)

The chances are the only person who'll know or care that you are a Bad Morse Operator is yourself, the other station has got a new square/country/ initial – that's all he cares about.

What do Bad Morse Operators do better than non-Morse operators?

They have Morse QSOs!AND..... their Morse actually improves!

Dih di dih dah, dih dah dit dit

John G4BAO

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<http://www.microwavers.org/>

<http://www.g4bao.com/>

NEWS 2012 Calendar

January 14, 1PM - 4PM - N.E.W.S. Group Meeting – **NOTE NEW DATE.**

January 21-23, 1900Z-0359Z - ARRL January VHF SweepStakes

March 17, 1PM - 4PM - N.E.W.S. Group Meeting

April 9, 1900-2300 Local - 144 MHz Spring Sprint

April 17, 1900-2300 Local - 222 MHz Spring Sprint

April 20, 2110Z - Lyrids meteor shower

April 20-21 - Southeastern VHF Society Conference

April 25, 1900-2300 Local - 432 MHz Spring Sprint

May 4-5 - New England Amateur Radio Festival - Deerfield, NH

May 5, 0600-1300 Local - Microwave Spring Sprint

May 12, 1PM - 4PM - N.E.W.S. Group Meeting

May 12-13, 2300-0300Z - 50 MHz Spring Sprint

May 18-20 - Dayton Hamfest

June 9-11, 1800Z-0300Z - ARRL June VHF QSO Party

June 30 - Rochester NY RARA Hamfest

July 14 (or 7?), 11AM - 4PM - N.E.W.S. Group Picnic

July 21-22, 1800Z - 2100Z - CQ Worldwide VHF Contest

August 4-5, 1800Z - 1800Z - ARRL UHF Contest

August 11, 0300Z - Perseids meteor shower

August 20-21, 6AM - 11:59:59PM - ARRL 10-GHz & up Cumulative Contest

September 8-10, 1800Z-0300Z - ARRL September VHF QSO Party

September 15-16, 6AM - 11:59:59PM - ARRL 10-GHz & up Cumulative Contest

September 17, 1900-2300 Local - 144 MHz Fall Sprint

September 25, 1900-2300 Local - 222 MHz Fall Sprint

September 29, 1PM - 4PM - N.E.W.S. Group Meeting

October ? - Mt. Airy (PackRats) Hamarama

October 3, 1900-2300 Local - 432 MHz Fall Sprint

October 12-13 - Mt. Airy (PackRats) / Eastern VHF Conference

October 12-13 - New England Amateur Radio Festival - Deerfield, NH

October 20, 0600-1200 Local - Microwave Fall Sprint

October ?-? - Microwave Update hosted by 50MHZ & UP Group

October 27, 2300-0300 UTC - 50 MHz Fall Sprint

November 17, 1PM - 4PM - N.E.W.S. Group Meeting

Microwave Update 2011 Haystack Observatory Tour

Photos compliments of Bruce WW1M

Our Three Speakers



Dr. Alan Rogers

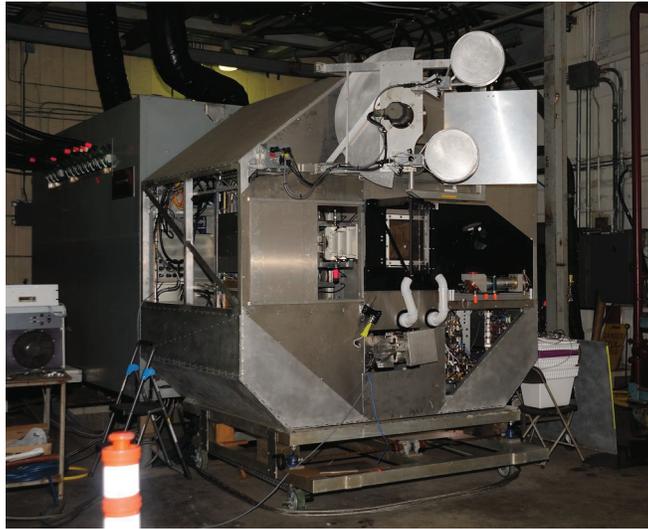


Dr. Shep Doeleman



Dr. Tom Clark, K3IO

This is the X-Band radar, which is mounted at the center of the dish when in use.



Inside the pedestal that supports the 120' dish. The "pipe" going through the center is the W Band (92-100 GHz) waveguide from the transmitter located in another part of the building.



A portion of the Correlator, where data from all the worldwide VLBI antennas is processed.



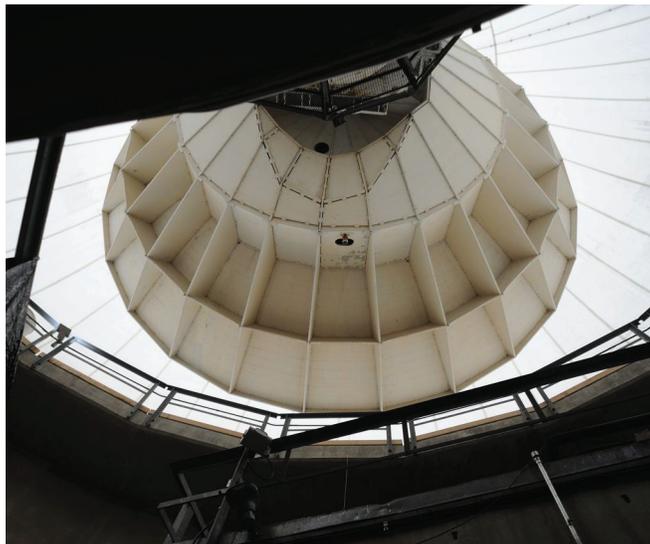
The primary control for the Haystack antenna.



The primary control for the Westford 60' antenna.



The 60' Westford antenna.



Printed-Circuit Board for the FT-817 Panadapter

Paul Wade W1GHZ ©2011
w1ghz@arrl.net

At Microwave Update 2011, Mike Seguin, N1JEZ, presented “A Panadapter for the FT-817.” I had seen it in action during the 2011 *10 Ghz and Up Contest* and wanted to add one to my FT-817. Mike’s implementation had a couple of breadboards attached with hot-melt glue – real ham construction – with an external coaxial filter. I wanted to integrate it into a printed circuit with a less expensive PC-mounted filter. All credit for this should go to Mike and Don, W1FKF, who worked together on the development – I just made it pretty and more reproducible.

The circuit is unchanged from Mike’s implementation, with everything integrated on the PC board. Here is the schematic:

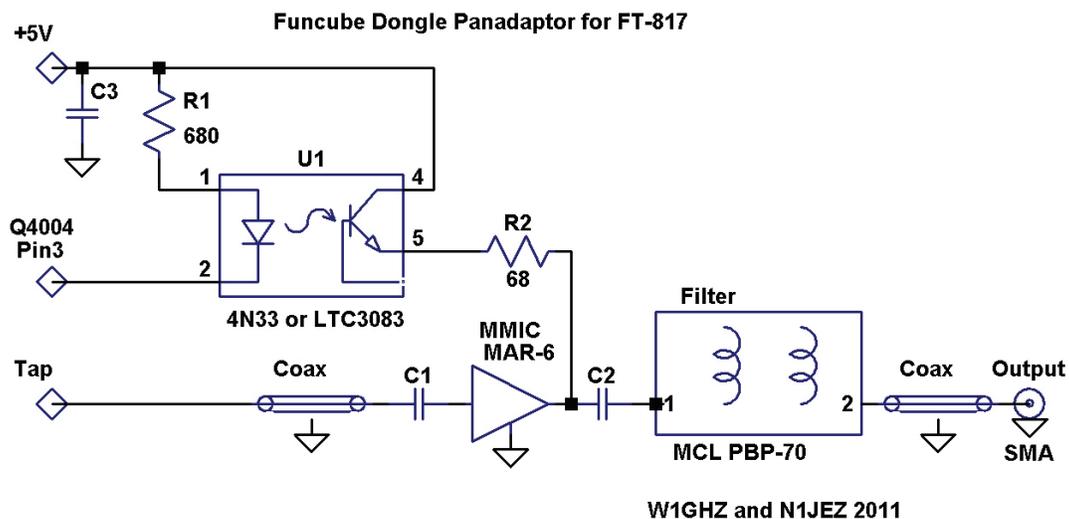


Figure 1 – Schematic of Funcube Dongle Panadapter board

Integration

Putting the board together should be pretty straightforward, but integrating it into the FT-817 is a bit more work. Start by taking the covers off the FT-817, then comparing with the pictures below to get oriented. Figure 4 shows the completed installation, with the board tucked in behind the front panel, using the space intended for the optional filter. The output coax goes to an SMA connector on the back panel – I used a cordless drill to gently drill through the back panel. Don't forget to put a piece of tape on the inside of the panel before drilling to catch the chips before they get inside the radio.

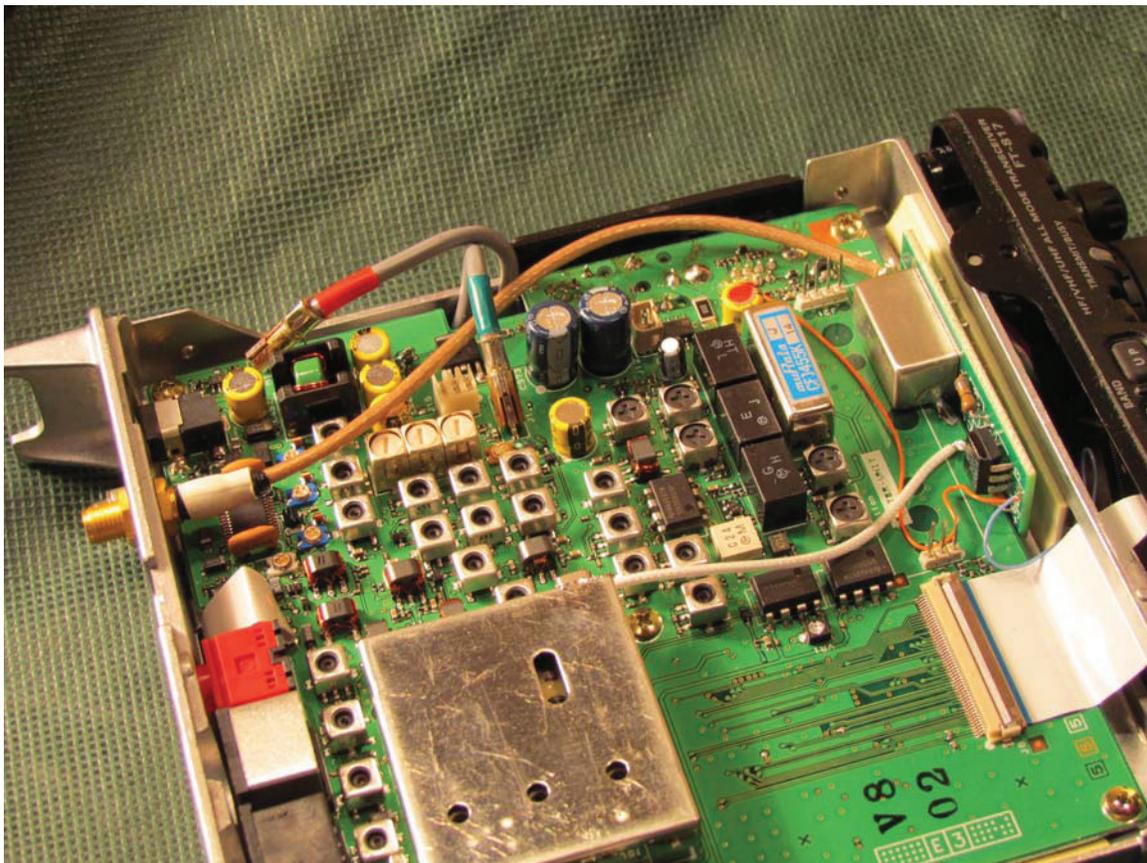


Figure 4 – Panadapter board installed in FT-817

Figure 5 is a closeup of the board installation. I put some double-sided foam tape between the bottom of the board and the metal wall of the radio. The filter is soldered down to the FT-817 main board at both ends – I scraped off the green solder mask to make the connection.

The orange wire goes to pin 6 of the RJ-45 mike connector to provide +5 Volts, and the blue wire goes to the Front Panel board of the FT-817, connecting to pin 3 of IC Q4004, as shown in Mike's paper. I used wire-wrap wire, #30 AWG, which just fits in the tiny hole in the Front Panel board.

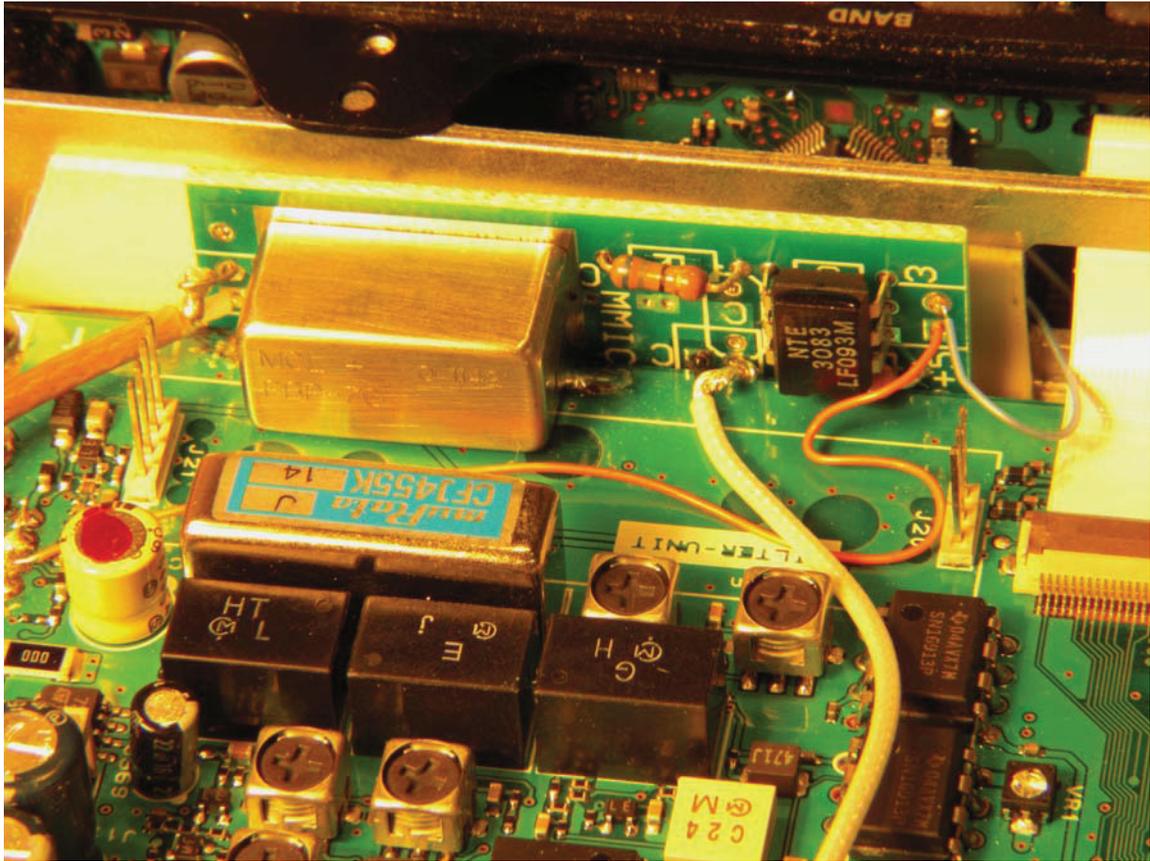


Figure 5 – Panadapter board installed in FT-817 (no CW filter)

While you have the Front Panel board accessible, it only takes a minute to open up the FT-817 to transmit over the full range. See instructions by LA8OKA at www.mods.dk. Of course, we would only use this for transverter operation.

Figure 6 shows the IF tap point before the filter. The shield of the coax connects to the adjacent shield can, and the center conductor to the filter. Mike soldered directly to the filter pin, but I found that the center conductor of the small coax would fit into the tiny hole in the PC board connecting to the filter, as shown in the photo.

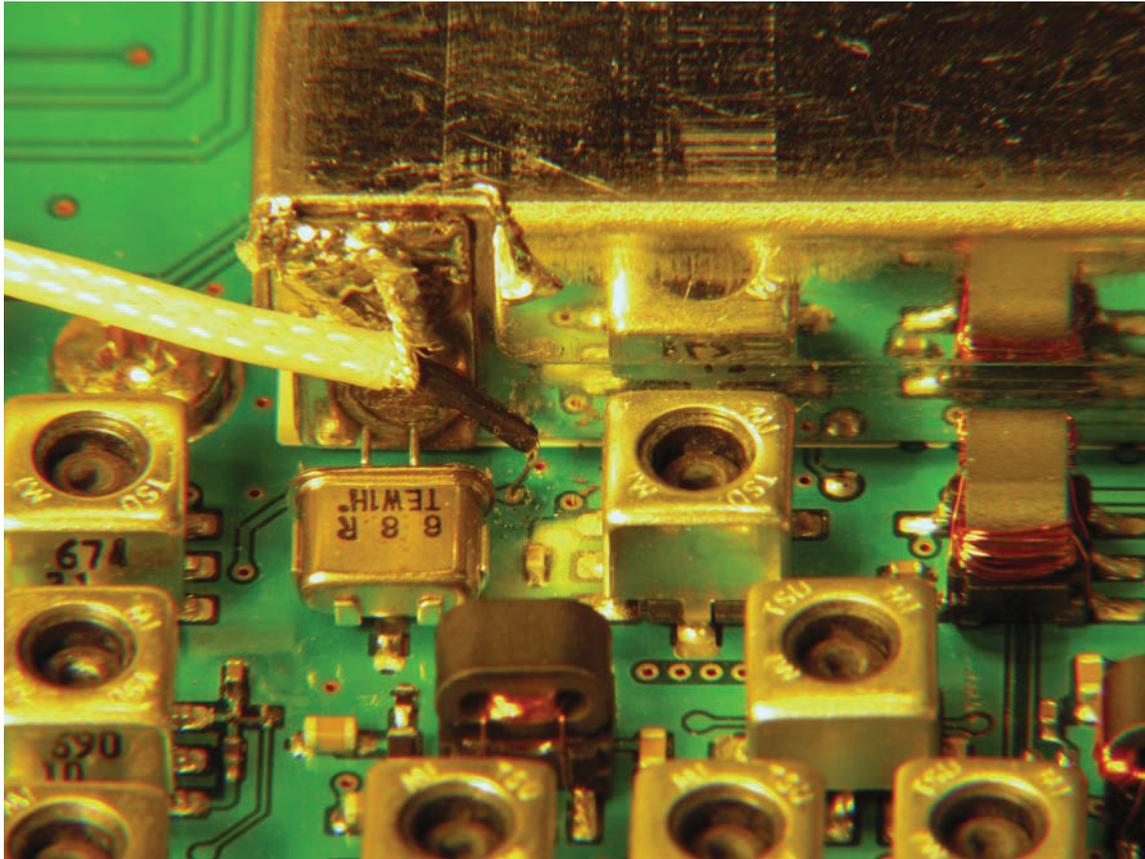


Figure 6 – Signal tap at FT-817 filter input

Note that Figure 6 shows the coax connected directly to the filter, while Mike had a 5 pf capacitor between the coax and filter to reduce loading on the circuit. I tried it both ways and found that the direct connection makes the panadaptor more sensitive by several dB, so that you can see signals that you can't hear. The FT-817 gain is reduced slightly, but weak signal sensitivity is not affected. W1FKF and N1JEZ have both done the comparison with similar results.

That should do it. Before replacing the covers, fire it up. Connect the Funcube Dongle, tune it to 68.33 MHz, and tune in a signal on the FT-817. If all is working, the signal should show up in the middle of the panadaptor display. (This assumes you have the software working and configured

already.) I had a bit of trouble because I mistakenly tuned the Funcube Dongle to 69.33 MHz the first time and didn't see any signals.

An FT-817 with the optional CW filter is more of a challenge. Figure 7 shows how Mike squeezed one in.

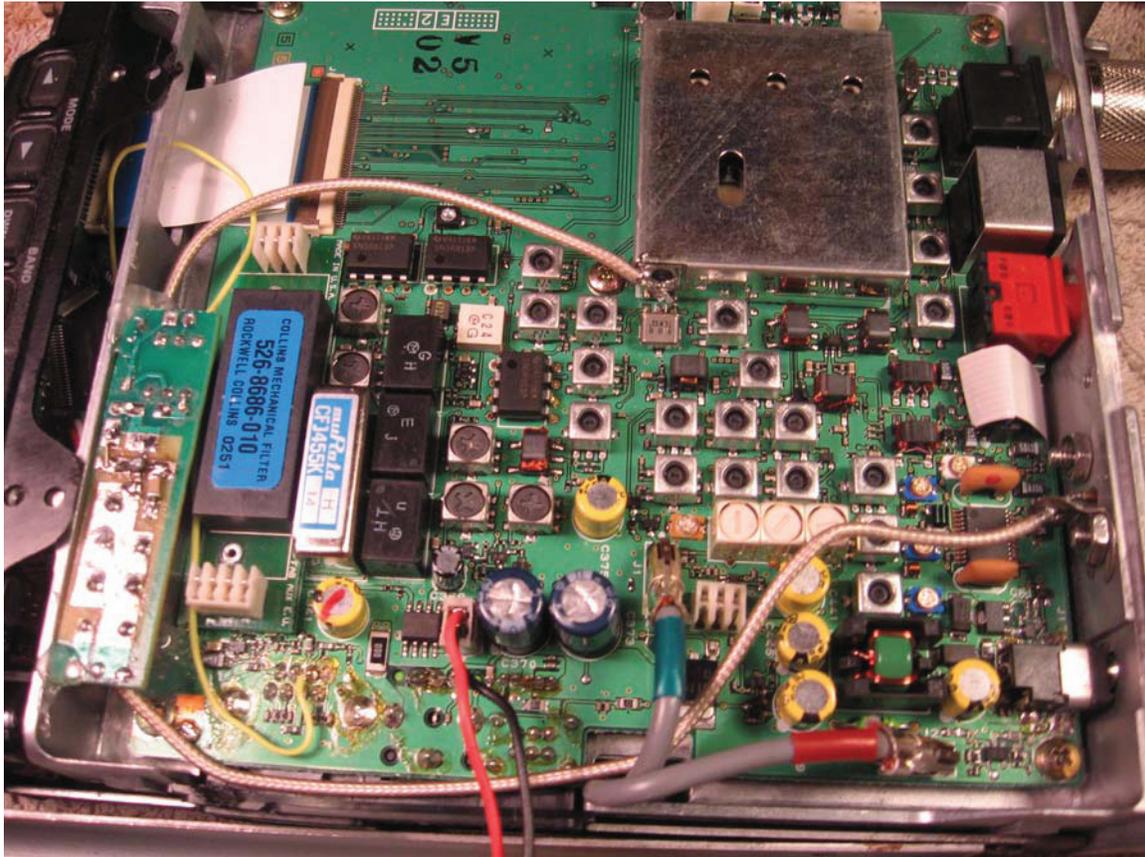


Figure 7 – N1JEZ installation with CW filter in FT-817

PTT for Transverter

While I had the FT-817 open, I took the opportunity to add transverter PTT to the radio, so that it puts voltage on the rear coax connector when transmitting. This eliminates the need to run a separate PTT line to the transverter, so only a run of coax is needed for remote operation – a real benefit when operating on hilltops in bad weather. This is a pretty simple modification by ON7WP from www.mods.dk. My version is shown in Figure 8.

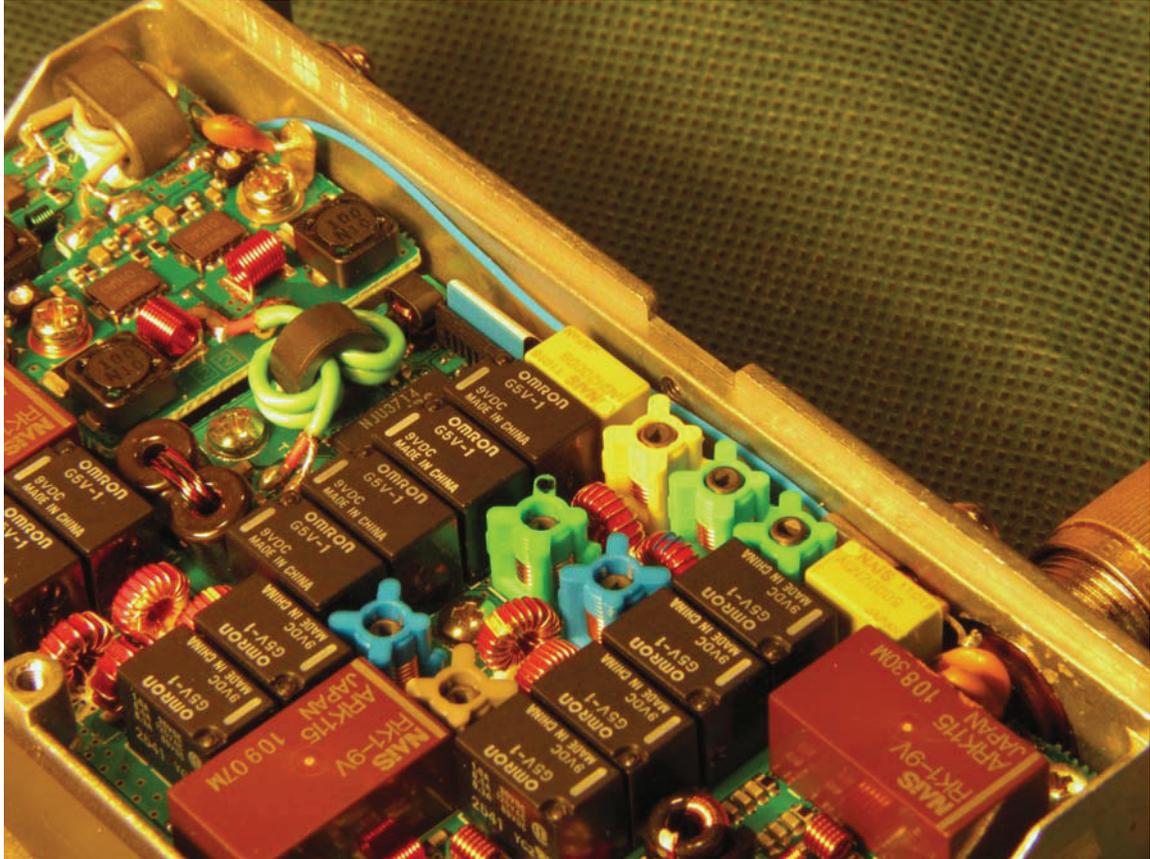
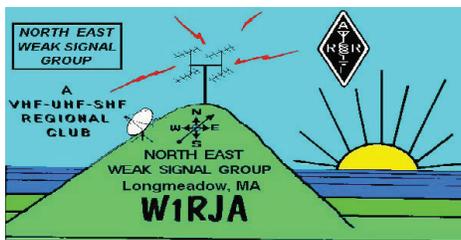


Figure 8 – PTT voltage on rear output connector

Summary

The Funcube Dongle is a good way to add a panadapter to the FT-817, a real aid to microwave operation, where finding weak signals can be a challenge. The modification is simple and does not affect normal operation when the panadapter is not needed. The PC boards are available at www.w1ghz.org.

There is no reason the Funcube Dongle and this PC board couldn't be used with other radios. Please write up your results after you figure it out.



N.E.W.S. Group Membership Application

Name: _____ Call sign: _____ Grid: _____

Street: _____

City: _____ State: _____ Zip: _____

Phone (home) _____ - _____ - _____ Optional (work) _____ - _____ - _____

Email _____

ARRL member? Y N Electronic Newsletter Delivery? Y N

Operational Bands (circle) 50 MHz 144 MHz 222 MHz 432 MHz 903 MHz

1.2 GHz 2.3 GHz 3.4 GHz 5.6 GHz 10 GHz 24 GHz 47 GHz

76 GHz Light Other (list)

The North East Weak Signal [N.E.W.S.]Group is being established to form a camaraderie among fellow VHF-UHF-SHF enthusiasts, and support a convenient means to exchange technical information. We currently have 6 meetings per year, held at a centrally located facility, and provide a "NEWSLETTER" that is distributed 2 weeks prior to each meeting. Any contributions to this publication are appreciated and can be sent to: Tom Filecco, W1WSO via email – w1wso@comcast.net. Dues are \$15/year. Remember, this group is formed by VHF'ers for VHF'ers.

Mail to:

North East Weak Signal Group
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<p>Home West Mountain Radio Products Support Buy Contact Us</p> <p>1020 Spring City Drive Waukesha, WI 53186</p> <p>Phone: 1-262-522-6503</p> <p>Fax: 262-522-6504</p> <p>Email: info@westmountainradio.com</p>	<p>Products for DC Power, Amateur Radio and R/C Hobbies</p> <ul style="list-style-type: none"> Robustness and reliability required by public safety agencies and emergency response teams Precision battery analysis suitable for battery pack manufacturers, facilities managers and aircraft owners Low pricing attractive to amateur radio and R/C hobbyists. <p>http://www.westmountainradio.com/index.php</p> <table border="1"> <tr> <td>RIGblasters</td> <td>Radio Products</td> <td>RIGrunners</td> <td>DC Power</td> <td>DSP Filtered Sound</td> <td>Battery Testers</td> </tr> </table>	RIGblasters	Radio Products	RIGrunners	DC Power	DSP Filtered Sound	Battery Testers
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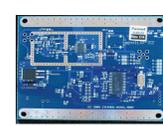
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LeCroy



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