



Squelch Tales



Newsletter from the Merrymeeting Amateur Radio Association for December 2014

Seasons Greetings to all our readers

KS1R FM Repeaters also going digital

By W1ZE

Back in the early part of October, after the unpleasant events on Oak Hill the MARA move it's three repeaters from that hill and reinstalled them on a temporary basis at the QTH of Donnie Dauphin, WD1F. The VHF repeater was lashed together using an old Alinco transceiver for the 147.21 MHz output. The move to the new location was not kind to the old 444.4 GE MVP repeater and the receiver went south at once.

With hum on the VHF repeater output and a dead 449.4 receiver Donnie and yours truly started making phone calls and surfing the Internet to see what was available for an off the shelf plug-n-play repeater. Yaesu-Standard and several other firms made commercial grade repeaters for ham use but they were not cheap and out of the range of the MARA budget. In his search Donnie contacted HRO in Salem, NH and the sales manager advised Donnie that Yaesu was having a program that would allow clubs and repeater groups to purchase their new DR-1X analog/digital dual-band repeaters direct from Yaesu for \$500 in lieu of the retail \$1700. HRO faxed Donnie the application form and we quickly filled it out and emailed it to Yaesu.

Several weeks went by and nothing was heard from Yaesu. During that time the tech committee agreed that if we could purchase a second DR-1X to replace the old 444.4 repeater and get it for \$500 we should do it.

On Saturday October 25th I filled out what he thought was the correct application and emailed it to Yaesu. Within a few hours he got an email

reply from Chris Wilson the program guru at Yaesu stating that Yaesu never received our first application and sent us new forms to fill out and resubmit two separate applications, one for the 147.21 repeater and one for the 444.4 repeater. Sunday I spent most of the day filling out the forms and billing information and got it off to Chris.

The following morning there was an email on my computer from Chris stating the MARA had been approved and Yaesu would be receiving 20 new DR-1X repeaters in early November from Japan and when they arrived they would FedEx ship the two repeaters to us along with 20 promotional T-Shirts for club members.

In the interim, Donnie and I replaced the older four-cavity duplexer with a six-cavity duplexer that was purchased at Near-Fest in early October.



At the October 30th MARA meeting there was a vote to expend \$1000 of Associations funds to purchase the two repeaters and the expenditure was approved by over 90 percent of the members in attendance.

On November first, Yaesu informed Bruce, W1ZE again that the MARA had been approved but delivery to Yaesu in Cypress, California from Japan would be delayed until the end of November.

In the first of December we should receive the two repeaters and I'm sure it will not be long before Donnie will have them on the air and tested. As of this writing the plan is to test both repeaters out at Donnie's repeater site in Phippsburg and when he is sure both are working well and familiar with their operation and commands the 444.4 DR-1X will be moved to a site at Jim McIrvins QTH in Topsham to see how the UHF coverage is from his tower.

Stay tuned for an update in the January 2015 issue of this newsletter.

73, Merry Christmas and Happy New Year to you all from Southern California,

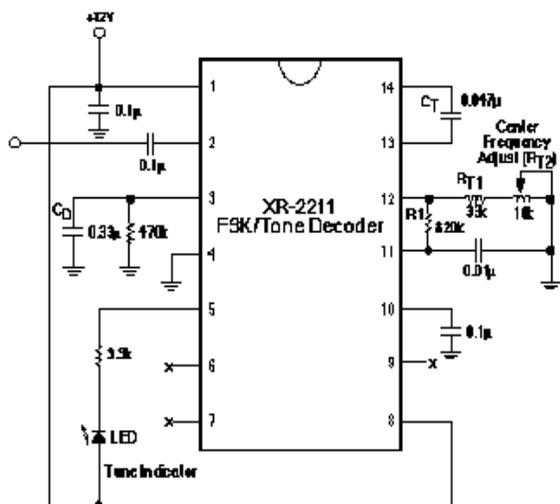
Bruce Randall, W1ZE/6



Visual CW Tuning Indicator

By Bob Wolbert, K6XX, Santa Cruz, CA

One of the FT-1000MP "bells-and-whistles" that I really like is the CW Center Tuning indicator. This feature allows you to quickly zero-beat a received signal, even if you have poor tone perception ("tone deaf"). This feature is readily adapted to any rig by adding a tone decoder, which is a simple, low cost, single-IC function.



The "Visible CW Tuning Indicator" flashes an LED when the signal is properly tuned.

Circuit Description

The circuit presented here uses a XR-2211 FSK decoder, the same device used as the demodulator in most first-generation packet TNCs. It connects to the audio output of your transceiver; the line-out or phone-patch output of some rigs is ideal. The XR-2211 is a phase-locked loop IC using a resistor and capacitor for frequency adjustment, and other resistors/capacitors for independently setting the detection bandwidth. It is available at the local electronic "junk" stores and is manufactured by Exar, Raytheon, and JRC/NJM. Digi-Key lists them for \$1.59 in single piece quantities.

This tuning indicator requires a clean +12V supply for operation. With the component values shown, the tone decoder center frequency will range from below 500Hz to above 600Hz; component tolerances have been considered. The capture bandwidth of the tone decoder is about ± 25 Hz.

If you prefer a lower center frequency, increase R_T and/or C_T . Detection bandwidth is inversely proportional to R_1 . Tone detect lock time is proportional to C_D . For best results, use a good quality, temperature stable capacitor for C_T . Mylar, polystyrene or other poly-chemistries will work much better than standard disc ceramics. Also, keep the total value of $R_{T1} + R_{T2}$ between 10k and 100k.

Tuning and Operation

Connect the audio input to the speaker, line out, phone patch out, or similar connector on your receiver/transceiver. With its high input impedance, this tuning indicator does not noticeably load down even line-level audio outputs. Tune in a constant carrier or calibrator signal of the desired pitch and increase the audio gain higher than normal. Rotate R_{T2} to its fully counterclockwise position, then adjust clockwise until the LED first fully illuminates. Note this shaft position. Continue turning R_{T2} clockwise until the LED turns off. Reverse the rotation until the LED again just lights without flashing. Now center the shaft between the two "first light" positions. Reduce the audio gain to normal listening levels and verify the LED remains on.

After completing the tuning process, the LED will illuminate as you get within about 25Hz of a signal. It will flash on and off a bit with the incoming signal: do not expect to copy code this way, however. There is a trade-off between detection speed and false triggering. The component values shown are what I consider the best compromise. The detector takes a few dot lengths to light and, once lit, a few dot lengths to shut off (at 35 WPM or so).

This circuit helps me tune in stations when searching the band. I find it especially useful when (attempting) two radio contesting. This way I can find and tune in a CQer, getting fairly close to zero-beat by watching the light, while concentrating most of my attention on the run rig.

Now, I have another of the FT-1000MP features on my "old" rig at a small fraction of the price.



ARRL Board May Seek Member Input on 15 Meter Novice/Tech Digital Privileges

A proposal aired at the July ARRL Board of Directors meeting endorsing additional HF digital privileges for Technicians and referred to the ARRL Executive Committee (EC) for study came in for considerable discussion when the EC met on October 4 in Memphis. The original motion by ARRL Southeastern Division Director Doug Rehman, K4AC, had called for a *Petition for Rule Making* to the FCC seeking digital privileges for Techs on narrow segments of 80, 40, and 15 meters. Rehman's motion had noted that Technicians already enjoy digital privileges on 10 meters, a band with highly variable propagation that will diminish as the sunspot cycle declines.

After discussing the proposal's pros and cons, the EC put the ball back into the Board's court in a modified form: The EC recommended that the Board consider soliciting input from the membership on adding Novice/Technician data privileges within their existing 15 meter subband. In his original proposal, Rehman had

pointed out that text messaging, a medium preferred by today's youth, bears "great similarity with amateur digital communications."

"This is not a proposal that the Board *adopt* data privileges for Techs and Novices on 15 meters as an objective, and it is most definitely not an ARRL proposal to the FCC," stressed ARRL CEO David Sumner, K1ZZ, a non-voting member of the EC. "That would come later, if at all, after the Board has had an opportunity to weigh membership input."



Are knobs and buttons toast?

By Dan Romanchik, KB6NU

In a recent column on EETimes (http://www.eetimes.com/author.asp?doc_id=1324283), an old colleague of mine, Martin Rowe, says, "Knobs and buttons are slowly on their way out. Get used to it." He's referring to the controls on oscilloscopes, but if he were a ham, he might just as well be talking about amateur radio transceivers, too.

We already see this happening in amateur radio. FlexRadio, and a couple of other companies, already make transceivers with no front panel controls. You must have a computer to use them.

Might we even start to see this with handheld and portable equipment? For example, how much cheaper could they make a Baofeng if to use it, you had to also have an Android or iPhone app to act as the human interface?

To be honest, I haven't really thought about this much myself. I'm enough of a dinosaur to still prefer buttons and knobs, but having to use on-screen controls certainly doesn't turn me off. Rowe claims, however, that "as the old-timers retire (or in our case as older hams become SKs), younger engineers (or young hams) will expect every user interface to function like a phone or tablet. Don't believe me? Just wait."

I got several interesting replies to this idea on my blog. Bill, AD8BC says, "What would be fun would be an open-source mobile radio. I picture an RF deck with a Raspberry Pi and

touch screen for control, the Pi would simply tell the RF deck where to tune and handle the interface and scanning functions, it would ship with a stock app, but you could make your own. Built in support for SDR stuff, packet, APRS, remote operation...."

Most commenters, however, even the younger guys, still seem to prefer analog controls. Lucien, DH7LM, says, "I'm a newly licensed ham and I like both – experimenting with advanced computer stuff like SDRs and the great feeling a real radio provides!" Grant, KJ6ZZD, says, "Knobs perform some tasks better than a screen can. Knobs provide some tactile feedback that a screen just can't."

So, what do you think? Are knobs and buttons toast, or do you think there's still some life left in analog controls?

When not twiddling the knobs on his HF transceiver or relatively ancient Tek 2213 analog oscilloscope, you'll find KB6NU working on updates to his "No Nonsense" study guides or blogging about amateur radio at www.kb6nu.com.



Monthly Ham Trivia Question

If an OO (ARRL Official Observer) notifies an amateur radio operator of an apparent malfunction in his/her equipment, the OO must offer ways to correct the malfunction, if the other operator requests it.

True

False

Answer on last page



Year End Dinner at Kennebec Tavern

Again this year's the annual Year End Dinner will take place on December 13th at the Kennebec Tavern located at 119 Commercial St, on the waterfront across from the Hampton Inn in Bath .



Dinner is scheduled for 6:00 but if you arrive early it is the adult beverage hour.

Come bring the better half and/or family member(s) or a friend and enjoy a relaxing dinner with your MARA Ham Radio friends. Come see who will receive the coveted Ham of The Year Award.that will be presented there.



New MARA Executiave Board members elected.

At the October 30th MARA meeting there was an election to select half (4) new members of the Executiave Board for a two year term. The new Board members are:

- **Jim McIrvin, N1IPA** of Topsham;
- **Fran Chase, K1BBJ** of Brunswick;
- **Rex Thornton, K1PN** of Auburn;
- **HarryMcNelley, N1TTT** of Brunswick

They will join Marjorie Turner, KX1I, Dan Lindsley, N5AGG and Steve, AA4AK.



New DX Summit Website Seeking Beta Testers, Will Debut Formally by First of December

Froward by Fran Chase, K1BBJ

The [DX Summit](#) website will soon have a fresh new face and a more modern user interface. The well-known and popular portal for getting DX spots via the Internet, operated by Radio Arcala OH8X in Finland, will become “My DX Summit” — MDXS for short — when it formally goes live for the Amateur Radio community by December 1. Right now, though, Radio Arcala is seeking a team of up to 200 volunteer beta testers to begin using the new website and offering suggestions and changes in advance of the changeover from the current site to the new one.

“We will welcome some 200 pre-users, who are prepared to try it out and provide immediate feedback to the development team,” the announcement said. “The aim of this exercise is to serve as the final debug phase and to enhance user experience to maximum satisfaction before tens of thousands suddenly fire their browsers to help them in their future DX hunt.” Prospective “pre-users” may e-mail [Radio Arcala](#) to express their interest.

For starters, My DX Summit will display spots in HTML format as they are posted, so users will not have to wait for a new set of spots to reload every 60 seconds. The page has a clean and modern look and feel, and users can select filters in a check-off type menu. For example, users who don’t want to see any VHF spots can check a box, or they can check which VHF bands they do wish to receive spots for. Receiving only CW, SSB, or digital mode spots is just a matter of clicking the appropriate boxes in the filter menu. Selected filters are listed on the top of the display. In short, the new site will let users customize the cluster postings to their particular preferences.

With My DX Summit users no longer have to go to another menu page to share a spot. A dialog box appears on the right-hand side of the display. In addition to offering time and date

filtering, the Spot Search menu lets the user download search results into a CSV file.

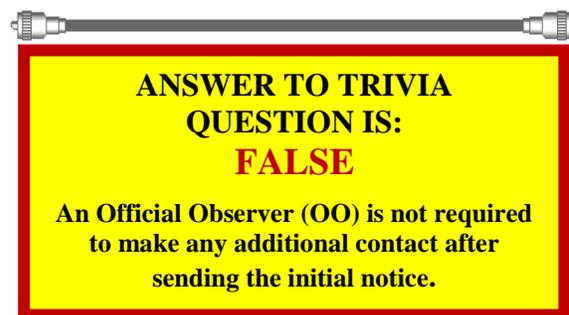
A “Tutorials” pull-down menu provides access to a comprehensive help file and instruction manual.

My DX Summit also will offer an “advanced propagation tool powered by VOACAP.” When users click on a spot it will display propagation to that location not only for that particular time but for an entire period of 24 hours on all bands. The site also will integrate a “DX News” section.

Radio Arcala said that a lot of effort — still ongoing — has been put into having MDXS work with a majority of mobile devices and browsers.

It’s expected that the advance testing process may result in some changes and additions to the site.

Radio Arcala’s Martti Laine, OH2BH, said the current DX Summit site is serving some 143,000 unique users each month. “With all these new features, we plan to double the number,” he told ARRL. “What is amazing on our portal is that each user is spending an average of 55 minutes on the system. We will soon compete with their TV watching time!” — *Thanks to Martti Laine, OH2BH*



**MERRY CHRISTMAS &
HAPPY NEW YEAR TO
YOU ALL**