Minutes
WCARC Meeting
October 13, 2014

Bob-WB8NQW, presiding
Present: Stan-K8LL, Hoot-WB8VUL, Chuck-WD8ICP, Don-K8OVO, Bob-K3RC, Jim-K8JU, Jim-KD8NJW, Steve-K8BBK, Phil-W8PSK, Bob-WB8NQW, Lee-KB8RT, Bill-WD8JWJ, Tom-KC8IGZ, Steve-W8MSW, Bob-N1RB

Meeting Called to Order with Pledge of Allegiance at 7:33 pm.
Minutes of September meeting approved unanimously. (BBK/NJW)
Treasurer's Report approved unanimously.
Old Business:
Bob (RB) reported that three foxhounds, WB8VUL, W8PSK and WD8ICP, participated in the September foxhunt. The fox's lair was in Haskins Park.
Bob (NQW) reported that the equipment sales from the estate of WA8SCT have so far brought in $2348, half of which will be sent to the family.

Phil (PSK) opened up a discussion of the repeater status. He reported that after several attempts, which included sending it back to the manufacturer, the old CAT-1000 could not be reliably repaired. He polled the Technical Committee and was authorized to purchase a new CAT-250. At the same time, at the Findlay Hamfest, he and Jim (JU) were able to secure VHF and a UHF Motorola Maxtrac receivers (actually transceivers), which should solve the poor selectivity problems that the current receivers exhibit. The plan is to retain the existing transmitters. The equipment was passed around along with the operator's manual for the CAT-250.

Phil stated that he had spent between $600 and $650 (not yet sure of the cost of the receivers) on the project and requested reimbursement.

Net Check Ins

Sep   30   Traffic: 0

K8OVO	(NCS)
KD8NJW	
W8PSK	
KD8RNO	
WB8NQW	
WD8JWJ	
WD8LEI	
KD8VWU	
N1RB	
KD8WZK	
KD8FRL	
W8BKB	
K8BBK	(13)

Oct   7   Traffic: 0

N1RB	(NCS)
K8BBK	
KD8WZK	
W8PSK	
WD8LEI	
KD8RNO	
WB8NQW	
KD8NJW	
KD8VWU	
K8OVO	(10)

Oct   14   Traffic: 0

KD8NJW	(NCS)
W8PSK	
K8BBK	
N1RB	
K8OVO	
KD8VWU	
WB8NQW	
N8YAE	(8)

BRAIN TEASERS

1. What is one important reason for using powdered-iron toroids rather than ferrite toroids in an inductor?

   a.) they have greater initial permeability

   b.) they have better temperature stability

   c.) they require fewer turns to produce a given inductance value

   d.) they are easier to use with surface mount technology

2. What is the effective radiated power of a repeater station with 100 W transmitter output, 5 dB feed line loss, 3 dB duplexer loss, 1 dB circulator loss, and 10 dBd antenna gain?

   a.) 794 W

   b.) 126 W

   c.) 79.4 W

   d.) 1260 W

3. What happens to the bandwidth of an antenna as it is shortened through the use of loading coils?

   a.) it is increased

   b.) it is decreased

   c.) no change

   d.) it becomes flat

November Contests

The contest lineup for the month of November is given below. Please note that the WARC bands (60, 30, 17 and 12 m) are <u>never</u> open to con-testing.

Nov 1-2	*1200 to 1200 Z*	160 m to 10 m
Ukrainian DX 'test		**all modes**
Nov 1-3	*2100 to 0300 Z*	160 m to 10 m
ARRL Sweepstakes		**CW**
Nov 8-9	*0000 to 2400 Z*	80 m to 10 m
Worked All Europe DX 'test		**digital**
Nov 8-9	*0700 to 1300 Z*	80 m to 10 m
Japan Int'l DX 'test		**SSB**
Nov 8-9	*1200 to 1200 Z*	160 m to 10 m
OK-OM DX 'test		**CW**
Nov 8-9	*1400 to 0200 Z*	160 m to 10 m
Kentucky QSO Party		**all modes**
Nov 15-16	*1200 to 1200 Z*	80 m to 10 m
LZ (Bulgaria) DX 'test		**all modes**
Nov 15-16	*1200 to 1159 Z*	160 m to 10 m
Russian WW Multimode 'test		**all modes**
Nov 15-17	*2100 to 0300 Z*	160 m to 10 m
ARRL Sweepstakes		**SSB**
Nov 29	*0000 to 2359 Z*	160 m to 10 m
Full Day of Hell		**Feld-Hell**
Nov 29-30	*0000 to 2359 Z*	160 m to 10 m
CQ WW DX 'test		**CW**

Actor Tim Allen Gets Ticket For Real

from ARRL Letter

Actor and comedian Tim Allen now not only plays an Amateur Radio operator on television, he *is* one! Allen got his Technician license on September 4, but did not release the news until this week. In his weekly ABC comedy TV show "Last Man Standing," Allen's character Mike Baxter, is supposed to be KA0XTT, and the show has [featured] ham radio in some episodes.

"Last Man Standing" producer John Amodeo, NN6JA, told ARRL that the agreement with Allen was that "we would not publicize his license until he approved it." Allen revealed to Tom Medlin, W5KUB, for one of Medlin's webcasts that he had passed his Technician license test but did not mention his call sign, Amodeo said. "Obviously, most hams are capable of finding Tim's call sign, if they feel the need," he conceded.

"We arranged for Tom Medlin to do a 'surprise" interview' with the [ARRL VEC] VE team that administered Tim's test," Amodeo said. "They are Rob, AA6RA; Tim, N6QJ; and Julian, N3JF. ARRL VEC Staffer, Amanda Grimaldi, KB1VUV, helped us arrange the test."

More than 2 dozen members of the "Last Man Standing" crew — and now Allen, its star — have been inspired by the show's Amateur Radio component to get licensed. On September 28, the K6H "Hollywood Hamnado" special event station was on the air, with "Last Man Standing" crew members at the helm. The Southern California-based PAPA Repeater System, in association with the Broadcast Employees Amateur Radio Society (BEARS) and Disney Emergency Amateur Radio Service (DEARS) sponsored the special event.

Amodeo said K6H went very well. "We had about 35 operators and guests on Stage 9 here at CBS Studio Center" he told ARRL. "All enjoyed being on the set of 'Last Man Standing.' Naturally, we brought in breakfast (bagels and donuts), lunch (sandwiches), and, at wrap, pizza. The feeling was like a Field Day and a mini Hamvention." Amodeo said that all six K6H stations had "continuous contacts from start to finish."

Most of the K6H event and several interview segments have been posted on [Medlin's website]. ∎

Dongle Bits – V
contributed by Jeff Kopcak, K8JTK

PPM and Settings

An important thing to know about these dongles: they are cheaply made and not tested for accuracy. They are designed to receive DVB-T signals at a bandwidth of 6 – 8 MHz where a few KHz error doesn't

WCARC Weekly Net

Tuesdays at
2100 EDST/EST
147.18 MHz 67 Hz PL

Net Control Roster

Oct	28	N1RB
Nov	4	W8PSK
Nov	11	K8OVO
Nov	18	WB8NQW
Nov	25	KD8NJW
Dec	2	KD8VWU

NEXT MEETING

BREAKFAST MEETING
Saturday, Nov. 1
TIME: 9:00 am
PLACE:
Frisch's Big Boy
E. Poe Rd. & N. Main St.
Bowling Green, OH

DON'T FORGET!
10 meter informal net meets Sunday
@ 2030 EST/EDST on 28.335 MHz

November Hamfests

Nov 15-16 Allen County AR Technical Society. Annual hamfest and computer expo---Indiana State convention. Allen County War Memorial Colosseum, Ft. Wayne, IN. Contact AC-ARTS, (260) 579-2196.
e-mail: chairman@fortwaynehamfest.com
web: http://www.fortwaynehamfest.com

Dec 7 L'Anse Creuse ARC. Annual hamfest. L'Anse Creuse High School, Harrison Twp., MI. Contact Gregg, N8GEO, (248) 670-7021.
e-mail: n8geo@arrl.net
web: http://www.qsl.net/n8lc/
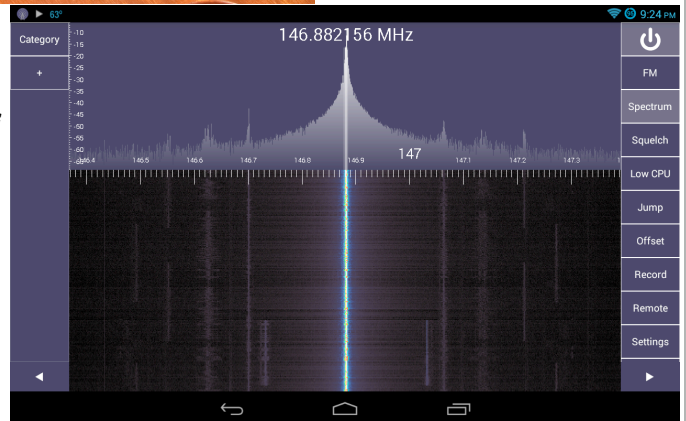
RTL-SDR running on author's Android Nexus 7 tablet. App is "SDR Touch". Note dongle connection to antenna via PL-259

Screen shot of repeater signal from Nexus tablet at 146.882 MHz.

Dongle---from p. 4

matter. This is obviously not true when you're dealing with FM signals that are 16 KHz wide or digital at 12.5 where a few KHz will put you on a completely different frequency or channel.

PPM stands for parts per million and is the difference in received frequency vs. frequency shown. To visualize this, use SDRSharp to receive a known FM signal. The center frequency shown will be different from the signal on the scope. Typical PPM offset is anywhere from 45 – 65 and will be in the programs settings. The dongle will drift another 2 – 5 PPM over the next 20 – 45 minutes as it warms up. Gain is obviously another setting that will help you receive signals. The RTL AGC setting works but will err on the side of too much gain. Manually, using more than 32.8 dB will overload and produce duplicate signal spikes. The Correct IQ setting will get rid of phantom spikes at lower gain settings.

The crystals on the RTL-SDR dongle can be replaced with higher accuracy temperature controlled crystals (TCXO) that have a variance of 1 ppm! These crystals are $10 but you have to wait for them to ship from China. Pre-modified dongles are available but you will pay three times the price for the dongle.

Android

PCs aren't the only place these SDRs can be used. They can be plugged into an Android device too. You will need a USB OTG cable (on-the-go) and Android 3.1 or later. Search Amazon or EBay for "USB OTG." OTG is a standard for plugging in USB keyboards, mice, and

thumb drives into mobile devices. Running external USB devices off the internal battery will drain it much faster. A powered USB hub will off-load the dongle power consumption. Apps include SDR Touch (wide band receiver program), ADSB Receiver, and SDRWeather for monitoring NOAA weather alerts on your device.

What can I do with this thing?

The definitive source on all things RTL-SDR is at the appropriately named www.rtl-sdr.com website. This site has it all. They regularly post software, updates, projects, and new developments. There is something new just about every week.

Some features of RTL-STR.com are The Big List Of RTL-SDR Supported Software. This is the list of software packages that support RTL-SDR on all platforms. Software ranges from wide band receivers to
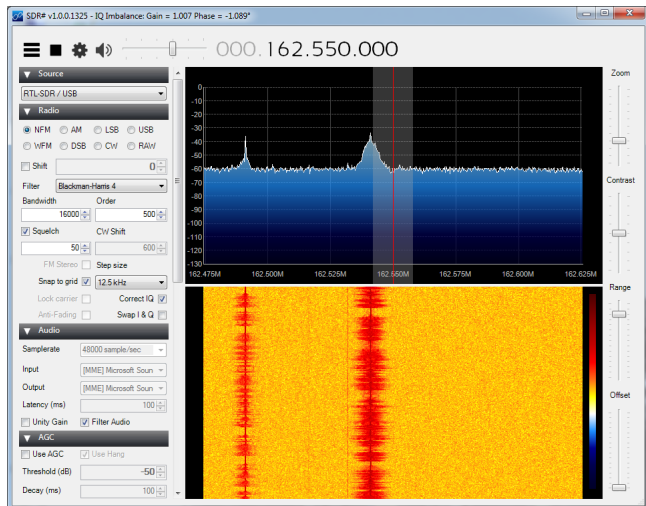
dongle with no frequency correction

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2 m Equipment
For Sale

(2) ICOM IC-275H all-mode 100W 2m transceivers (includes service manual and operating manual)---one working, other for parts---asking for both: $500

20 A power supply for ICOMs: $60

ICOM SP-20 filtering speaker: $40

Sony TC-355 tape recorder: $25

VTVM (condition unknown): $10

**Chuck Dicken, WD8ICP
e-mail: dicken@bgsu.edu**

Linear Amplifier
For Sale

Ameritron AL-80-B Linear (1KW PEP)–No mods for 220V or for 10m–Ameritron Interface included

**For more info, see:
http://www.dxengineering.com/parts/ame-al-80b**

asking $950

**Bill Wilkins, WD8JWJ
e-mail: wild_bill@wcnet.org**

single purpose programs. This will give you some ideas of things to try with RTL-SDR. SDRSharp was written to have [plugins] extend the functionality of the program. These include plugins that make SDRSharp scan frequencies, add an audio FFT, scope, level meter, or CTCSS (PL) detector.
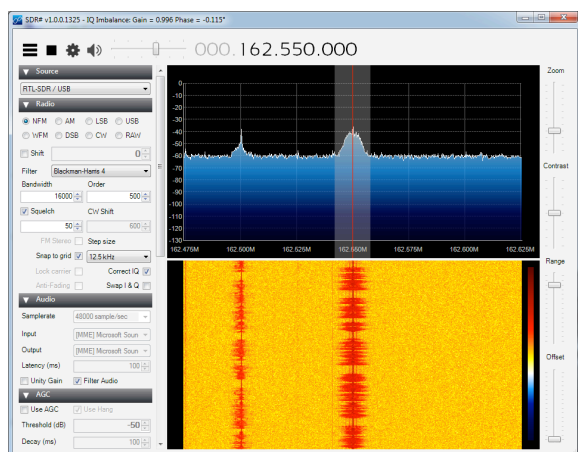
dongle with frequency correction

There is an extensive list of projects and write-ups including an
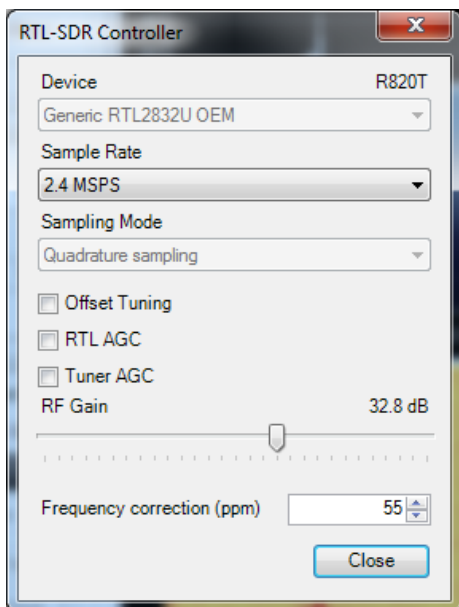
RTl-SDR controller correction screen

[Amateur Radio] category. Some in-

teresting ones are to receive live [NOAA satellite imagery], [analyze cellular phone GSM signals], [radio astronomy], [signal strength heat mapping] (fox hunting?), and how [Brazil uses our military satellites to transmit SSTV images].

With the onset of many digital standards and narrow banding, there are more digital signals out there that you may not be able to identify by hearing them or seeing them on the waterfall. This [Signal Identification Guide] has known types, frequencies they may be heard on, mode, bandwidth, sample audio, and waterfall image. I find myself using the [Radio Reference database search utilities] to help identify signals and their owners (a premium account maybe needed for some features).

My first SDR project was to use the Raspberry Pi as [a SDR remote network server]. The Raspberry Pi can be placed in an attic or basement connected to an antenna and controlled by another computer.

Audio can be piped from one program into another using Virtual Audio Cable (VAC). Some time ago, during one of the digital nets on the .76 repeater in Cleveland, I used SDRSharp and VAC to receive the [FLDIGI] messages being passed on the net. The signal path looked like this: received RF signal (146.760) -> RTL-SDR (signal data) -> SDRSharp (audio out) -> Virtual

Audio Cable -> FLDIGI (audio in) -> message decoded on screen. If I had a HackRF, I probably would have been able to transmit messages without using any "ham" gear.

In the next and probably final article, I will demonstrate tracking airplanes equipped with ADS-B transmitters and listening to trunked P25 public service radio systems for under $100. ∎

Several questions followed: Chuck (ICP) asked if the same antennas were going to be used, and the answer was yes, for now, but eventually when we must move the transmitter, the ARES unit will be used; Chuck also asked if anyone had been in contact with the BGSU authorities regarding our occupation of Offenhauer West, and Phil reported on the favorable meeting with the new University EMA director this past summer.

Bill (JWJ) moved that the Treasurer reimburse Phil for the expenses he has incurred; seconded (VUL); unanimously approved.

Phil opined that all members of the Technical Committee should learn the details of how the new controller is programmed so that in a pinch any member could act to resolve simple problems such as a premature shut down, etc. Plans are to have Jim (JU) hold several educational sessions for the group. Phil stated his belief that the final authority in determining policy for the machines should be the Trustee (currently N1RB).

Bob (NQW) identified the current Technical Committee and invited anyone else who wanted to participate to join. As a result, the current make-up of the group is: N1RB, K8JU, W8PSK, WD8ICP, WB8NQW, WD8LEI, K8BBK, KC8IGZ, W8MSW, and KD8NJW.

Jim (JU) stated that the present plan is to get the machine back on the air ASAP, and then get duplexers installed so that when the move must be made we are ready and only need to "plug and play". Then the antenna system could be upgraded.

New Business:

Bob stated that we need to choose a new location for the 2015 Kick-off Banquet (Jan. 11) as Dyers' is no longer in business. Several suggestions were batted around. Steve (BBK) volunteered to come up with some suggestions at the December meeting so that a place can be selected and reservations made.

Bob also reminded all that the 2015 Officers' slate needs to be readied by December. He will be working on appointing a Nominating Committee in the near future.

Bob also requested any suggestions for meeting programs that might include hobbies connected or unconnected to amateur radio. If you have any, please let him know.

Meeting Adjourned at 8:35 pm. ∎

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