
SIGNALS

Rockwell Collins Amateur Radio Club

Monthly Newsletter of the

Volume 37 Issue 04

Web Site <http://www.w5rok.us>

January 2016

RCARC Membership Meeting

Tuesday 26 January 2016
1700 Social 1730 Meeting
1800 Program

Methodist Richardson Medical Center
At Bush/Renner/Shiloh Intersection
Second Floor Conference Room 200

Subject:

Array Solutions Antenna Introduction
By Bob Kirby K3NT

Department Training, patrol their neighborhoods and report all suspicious activities to the Police Department.

Revolutionary Two-Way Radio For Smartphones Set To Launch In 2016

October 15, 2015



Courtesy of Phantom Dynamics and YouTube

The way we envision portable two way radio may be about to change, thanks to innovation by two high tech companies. Phantom Dynamics, a research development firm, has unveiled the DXBm, a device that will turn smartphones into radio transceivers when mated with the newly-invented modular Nexpaq case.

The Nexpaq, a product of clever engineering and Kickstarter funding, will transform smartphones into a number of other gadgets as well, simply by adding and removing modules at the back of the case. Those other gadgets include a breathalyzer, temperature gauge, air quality sensor and an SD card reader.

DXBm's first radio module, measuring one-by-three inches, will be released in January, 2016 and will cost about \$65. It will provide voice, secure text messaging, instant push-to-talk and even phone calls to other DXBm users within a few miles - perfect for remote areas or in emergency situations where power and network infrastructures are down, says spokesman Dorothy Jimenez.

Best of all, the DXBm is not dependent on cellular service, wi-fi signals or any other external source. (Continued on page 5)

Local Club News

Meeting Notice

At the January program Bob Kirby will be introducing the club to the new antenna launcher and the Array Solutions HF antenna package. So the program will be a live opening of the boxes and discussing the items.

RCARC Community Service Activities

Siren Testing Dennis Cobb WA8ZBT, Chris Havenridge KF5GUN, Frank Krizan K5HS, John McFadden K5TIP and Jim Skinner WB0UNI participated in the Richardson emergency siren testing on 6 January 2016. Siren testing was cancelled this month due to cloudy weather. The siren testing is performed at 12:00 on the first Wednesday of each month. The sirens are monitored by amateur radio operators and reports made using the Richardson Wireless Klub (RWK) repeater at 147.120 MHz.

Crime Watch Patrol Jim Skinner WB0UNI participated in Richardson Duck Creek Crime Watch Patrol (CWP). CWP members, after successful completion of Richardson Police

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VE SESSIONS

Dallas tests are held on the fourth Saturday of each month at 1000 hrs. 13350 Floyd Rd. (Old Credit Union) Contact Bob West, WA8YCD 972.917.6362

Irving tests are held on the third Saturday of each month at 0900. Fifth and Main St. Contact Bill Revis, KF5BL 252-8015

McKinney VE test sessions are held at the Heard Museum the first Sunday of the month. The address is 1 Nature Place, McKinney TX. The time of the testing is 1430, ending no later than 1645. **Note: no tests given on holiday weekends.**

Garland testing is held on the fourth Thursday of each month, excluding November, and begins at 1930 sharp. Location is Freeman Heights Baptist Church, 1120 N Garland Ave, Garland (between W Walnut and Buckingham Rd). Enter via the north driveway. A HUGE parking lot is located behind the church. Both the parking lot and the Fellowship Hall are located on the east side of the church building, with big signs by the entrance door. Contact Janet Crenshaw, WB9ZPH at 972.302.9992.

Plano testing is on the third Saturday of each month, 1300 hrs at Williams High School, 1717 17th St. East Plano. Check Repeater 147.180+ for announcements.

Greenville testing is on the Saturday after the third Thursday, 1000 hrs at site TBA, contact N5KA, 903.364.5306. Sponsor is Sabine Valley ARA. Repeater 146.780(-) with 118.8 tone.

Richardson The Richardson Wireless Klub (RWK) VE team hold license testing on the third Thursday of each month at St. Barnabas Presbyterian Church, 1220 West Beltline Rd. Testing begins at 1900 hrs in room 12. Enter through the Northern most door on the east side of the church building. For further information contact Dave Russell W2DMR, at 972.690.9894 or E-mail warhog4@tx.rr.com.

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President and VP Messages

This past few weeks have seen some pretty strange/horrific weather. Both Garland and Rowlett have had some devastation from the EF4 tornado which passed through their cities.

As I live in Rowlett, I have had some rather interesting experiences from the night of December 26th. I was one of those out storm spotting, since I belong to the Rowlett RACES group. As it turned out, I chose just the right (wrong?) spot to do my observation. I did make my report, but I ended up in the debris field. I was OK, but my car was damaged and is in the process of being repaired. Fortunately our house was untouched, as the tornado passed approximately 100 yards to the west of the house.

The other amazing thing was that there were no deaths from the tornado in Rowlett, and fortunately only a few deaths over its entire path. Don't get me wrong, there were quite a few injured, but very few deaths directly from the tornado; quite amazing, considering the amount of damage it created.

In light of this, I want to remind everyone that the Sky Warn classes are coming up, and I urge everyone to attend, whether or not you are in RACES or ARES. This is vital information to have. The two local classes are listed below.

McKinney: Saturday January 23 at Collin College Campus Conference Center 8:30 AM to 4:30PM

Garland: Saturday February 20 at Granville Arts Center 9:00 AM to 4:00 PM

73s
Gene, K1GD
RCARC Vice President

Secretary's Report

There are no minutes from the December 2015 meeting, since the meeting consisted of the club Christmas dinner at Springcreek Barbecue.

THE DEATH OF SURPLUS

by: Brandon Dunson
December 7, 2015



I thought the surplus electronics market in Dallas was a byproduct of local manufacturing, after all we have some heavy hitters in our backyard: Texas Instruments, Maxim (Dallas Semiconductor), ST Micro (at one time), Diodes Incorporated. If we widen our radius to include Austin (3 hours down the road) we can make a much more impressive list by including: National Instruments, Freescale Semiconductor, better yet I'll just insert the graphic I'm pulling data from right here:

Granted, not all of these are companies that manufacture silicon, or even have manufacturing facilities here in Texas. That doesn't necessarily matter for surplus to exist. Back to my point of where surplus originated. While I wasn't completely wrong (these companies certainly have helped contribute to the surplus electronics market) the beginnings of surplus storefronts date back to World War II. Did anyone see that coming? Neither did I. However it does make sense, the US government would have had a large stock of "stuff" to get rid of at the end of the war.

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Enter the sale of government surplus all over the nation, usually near air force bases. So this is how the more generalized concept of a surplus shop came to be in existence; mix in the domestic manufacturing of electronics in the 1970's and we have electronics surplus shops aplenty.

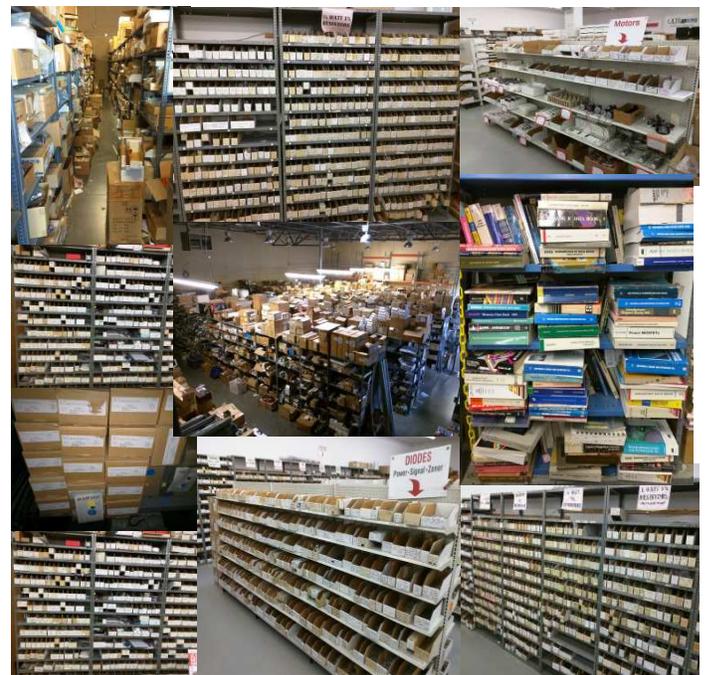
MY FIRST HAND EXPERIENCE

I didn't really appreciate how valuable my local electronics shop was until watching Beers in Bunnie's Workshop – Workshop Video #36. If you haven't seen the video you only need to know that [Ian] of Dangerous Prototypes and [bunnie] of Andrew [bunnie] Huang are standing in [bunnie]'s work-space in Singapore drinking beer and talking about the lab that is [bunnie]'s life. You with me now? Okay, there is a point in the video where the two discuss the ability to run down the street and buy a connector as something only available in Singapore or Shenzhen. Let me briefly pause here to clarify that I'm not comparing my local electronics shop to the Shenzhen market or Sim Lim Tower in Singapore, only stating that I too can hold parts in-hand before purchasing them. I'm also not [brandon] of Dangerous Prototypes or Andrew [brandon] Huang, clearly.

I do however have an electronics selection at my disposal that is unmatched until you get to the west coast shops. I went on a bit of an adventure with the owner [Jim Tanner] of my local shop [Tanner Electronics] to take some pictures of the retail floor and a few behind the scenes (warehouse) shots that you can check out after the break.



Storefront Panorama



ONE OF THE LAST REMAINING

Tanner Electronics is one of only 3 surplus electronics shops that are still operating in Dallas. However, in the mid to late '70s there were quite a few:

- Off the shelf components
- EPO (Houston location still in business)
- Electronic Discount Sales (recently closed)
- Rondure's
- Electrotex
- BG Micro (still in business: online surplus)
- Banner TV
- Olson Electronics
- Rockwell Outlet
- Tucker Electronics (still in business: online sales of test equipment and manuals)
- Crabtrees
- Wilkinson Brothers
- Wholesale Electronics
- R&R Electronics
- Tanner Electronics (still in business: retail storefront).

Another one that was quite popular was Charlie Wilson's 15¢/lb surplus pile. I wasn't aware that this type of thing was going on in Dallas, but it was exactly as it sounds. Charlie Wilson would rent a big truck, load it up with surplus electronics and dump it in a parking lot for customers to sift thru and pay by the pound.

There is also a sidewalk sale that still exists in Dallas and has been around since the early 70s. Every 1st Saturday of the month vendors meet in Downtown Dallas to sell what started out as ham gear in the early days but has devolved to a wide variety of items that you might see at a flea market. The majority of the vendors are selling electronics, but the errant perfume stand or name brand knock-off clothing peddler can be seen as well. The vendors start to set up their booths as early as 9pm the Friday before and will remain open until 2pm Saturday. I've made more than one trip downtown in the middle of the night. The most memorable was the time I went for a backup server and it started raining as I was carrying it to the car. So now it's 4am and I'm running thru downtown Dallas with a 2U Dell PowerEdge (okay maybe it wasn't a stride that was visually pleasing, but it was all the effort I could make with a machine that size in-tow). Yeah, you can buy a server at 4am under a bridge in Dallas no problem, given it's the 1st Saturday of the month and you have cash money.

SHOPPING SURPLUS

Walking into one of these shops is very different from ordering parts online, as we all have become accustomed to. They are surplus shops, they only have surplus items for sale. What does that mean? That means you can buy any

number of items that may not be available next time you come in the shop. In fact you could buy a motor or motor assembly and never be able to find one of them again. There's a chance you might not ever find data on the motor either, I know what you're thinking: "My Google-Fu is strong. I find parts and data no one else can." Yep, I thought the same thing but the fact of the matter is that some of these parts are custom made for specific designs and even calling the manufacturer yields no data.

However, this system creates an advantage of equal magnitude. Surplus shops get parts and assemblies for extremely reduced prices which means we can buy them from the shop for orders of magnitude less than others are asking for the same item.



Texas Instruments also had regular auctions where you could pick up anything from components to motor assemblies to test equipment. The only thing you couldn't find at these auctions was anything branded "Texas Instruments".

[Jim Tanner] in his warehouse trolling everyone that has ever asked for SMD parts, to which he always responds: "We don't have ANY surface mount parts."

ADAPTING TO SURVIVE

Obviously the domestic manufacturing of electronics has moved from continent to continent a few times since the '70s. This puts shops that mainly dealt with surplus suppliers in grave danger of closing the doors. Things had to change as the surplus well dried up. Where you could previously only purchase values of resistors that had been sold to the shop as surplus, now you can buy any common value of resistor in a variety of power ratings as well as capacitors of common value in a variety of materials.

What started with filling in the resistor values to meet customer needs is now display cabinets and shelving dedicated to the hobbyists. Arduino and Raspberry Pi compatible bits and pieces can be found along with current issues of Makezine without looking too hard. However a keen eye will spot a row of boxes behind the microcontroller display marked "Z80A", "Z80B", "Z80 DMA", "Z80 PIO", "1 Meg D-RAM". Which is but a few rows before original 7400 series can be found, not to be confused with 74LS, or 74HC, or 74HCT, or ALS or 4000 series CMOS which can all be found behind the counter in through hole packages and sold by the each.

TALKIN' SHOP WITH THE OLD TIMERS

As a college senior in Electronics Engineering I get exposed to quite a bit of information on a daily basis, most of it I don't commit to memory (my profs don't read this, do they?). But at [Tanner's] I am subjected to information from the old timers that is unparalleled. I'm not saying you

should drop out and watch YouTube instead, but there is an education available thru shared experience that you won't find in a classroom. If you don't believe me go binge watch [Bil Herd] videos and tell me if it's the same as reading a textbook. Or if you have a million hours to spare fire up [Dave Jones] YouTube channel and see how that compares to a circuits 101 course.

There is a reason the two aforementioned men have a nerd-cult following, they were around when you still had data-BOOKS and you couldn't answer obscure questions with a quick "Okay Google...". I only mention them because you're sure to know who they are, but rest assured there are people of similar caliber near you. These veterans have committed an enormous amount of information to memory and its a resource we lost when the storefronts closed.



[Jim's] doomsday stash = one tube of every TTL IC he's ever come into contact with.

Surplus stores are fading away. But the biggest loss isn't the availability of inventory, it's the loss of culture. If you don't know already where to find them in your area, start by looking for the local ham radio or retro computing club. If you can stoke the local talent in you area, sit them down and explore their cache memory after asking: "What's a curve tracer?" Believe me, you're in for conversation you won't soon forget.

Revolutionary Two-Way Radio For Smartphones Set To Launch In 2016 *(continued from page 1)*

"Our 'off the grid' module uses our patented technology and voice data compression which operates on low powered sub-GHz frequency (915 MHz). This allows our modules to operate in a long range MESH self contained network along with MESH repeater mode," she said.

A second DXBm model will be aimed at business, public safety and amateur radio. It will operate in the VHF and UHF bands, and eventually the 700 and 800 MHz bands by the end of next year. Modes will include FM, DMR and P25 digital.

Users of the business and ham radio DXBm will be able to input frequencies, PL tones and scanning options by downloading software from Google Play and the Apple Store directly to the smartphone, once the unit goes on sale.

Partnering with Nexpaq allowed Fantom Dynamics to focus on the RF components of the radio, and not the case design, which is where the DXBm was born, the company said in press information.

Fantom Dynamics chief officer Hermes Jimenez said "Our objective was never to reinvent the wheel. It was to put a modern twist on old technology to create interoperability and seamless communication across all forms of technology devices."

For the time being, Nexpaq cases are only available for iPhone 6 and several Samsung Galaxy phones, but more are expected to be added.

(Editor's note: see the video at the following link: <http://www.examiner.com/article/revolutionary-two-way-radio-for-smartphones-set-to-launch-2016>.)

(Contributed by Frank Krizan K5HS)

Upcoming Events

JANUARY

- 30-1 January VHF Contest** The objective is for amateurs in the US and Canada (and their possessions) to work as many amateur stations in as many different 2 degrees x 1 degree Maidenhead grid squares as possible using authorized frequencies above 50 MHz. Stations outside the US & Canada (and their possessions) may only work stations in the US (and its possessions) and Canada. Begins 1900 UTC Saturday, ends 0359 UTC Monday (January 30-February 1, 2016). More info at <http://www.arrl.org/january-vhf>.

FEBRUARY

- 8-12 School Club Roundup** The objective is to exchange QSO information with club stations that are part of an elementary, middle, high school or college. Non-school clubs and individuals are encouraged to participate. The event runs Monday through Friday from 1300 UTC Monday through 2359 UTC Friday. A station may operate no more than 6 hours in a 24-hour period, and a maximum of 24 hours of the 107 hour event. More info at <http://www.arrl.org/school-club-roundup>.
- 20-21 International DX—CW** The objective is to encourage W/VE stations to expand knowledge of DX propagation on the HF and MF bands, improve operating skills, and improve station capability by creating a competition in which DX stations may only contact W/VE stations. W/VE amateurs work as many DX stations in as many DXCC entities as possible on the 160, 80, 40, 20, 15, and 10 meter bands. DX stations work as many W/VE stations in as many of the 48 contiguous states and provinces as possible. The event starts 0000 UTC Saturday; ends 2359 UTC Sunday. More info at <http://www.arrl.org/arrl-dx>.

REGULAR ACTIVITIES

- Daily** DFW Early Traffic Net (NTS) at 6:30pm 146.88 – PL 110.9Hz
- Daily** DFW Late Traffic Net (NTS) at 10:30pm 146.72 – PL 110.9Hz
- Daily** Texas CW Traffic Net (NTS) at 7:00pm on 3541 KHz and at 10pm on 3541 KHz www.k6jt.com
- 1st Wednesday** Richardson Emergency Siren Test. At noon using the Richardson Wireless Klub (RWK) repeater at 147.120 MHz.
- 2nd Wednesday** ARES North Texas HF Net Every month—3860 KHz at 8:30 pm—9:30pm

Rockwell-Collins

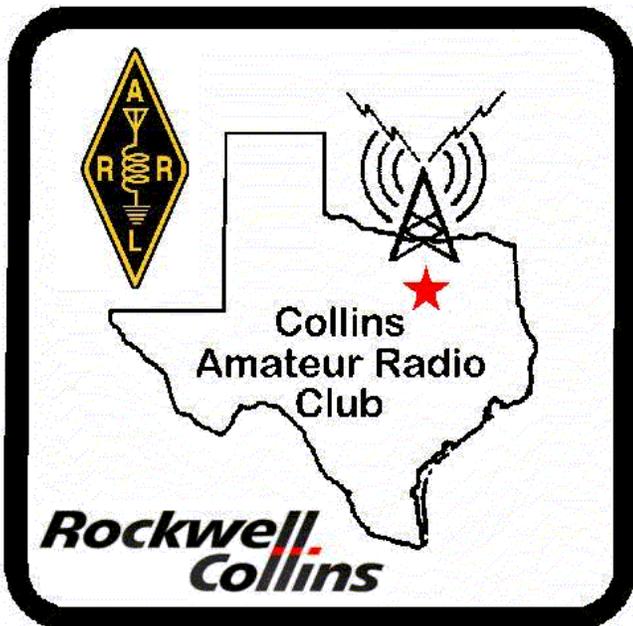
Amateur Radio Club

Mail Station 461-290

P.O. Box 833807

Richardson, TX 75083-3807

TO:



CLUB STATIONS
 (972) 705-1349

W5ROK REPEATER
 441.875 MHz +5 MHz Input
 131.8 Hz PL - RX and TX

W5ROK-1 PACKET BBS ROK Node
 145.05 MHz

W5ROK-N1, W5ROK-N2 & W5ROK-N3 HSMM-MESHNET Nodes 2.4 GHz

Tuesday 26 January 2016
 1700 Social 1730 Meeting

Methodist Richardson Medical Ctr
At Bush/Renner/Shiloh Intersection
Second Floor Conference Room 200

NEXT SIGNALS INPUTS DEADLINE:
→→→ 12 February 2016 ←←←