

AARC COVER

Keeping Austin Wireless
for Over 94 Years!

Bulletin of Austin Amateur Radio Clubs

ISSN 1067-0262

March 2014

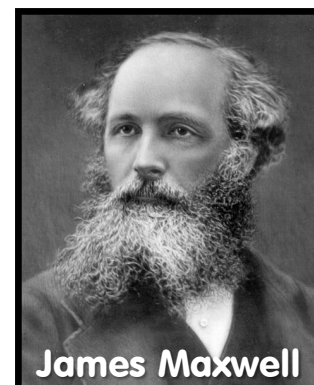
Issue 3-2014

The Early Development of Radio

By Crockett Grabbe, KF5LTT

Radio waves were detected after a prediction of the existence of electromagnetic waves in 1862 by James Clerk Maxwell. Maxwell had completed development of the 4 coupled equations of electromagnetism, including encompassing a term for electromagnetic induction found in the work of Michael Faraday in 1831. Maxwell predicted electromagnetic waves as a solution of these equations. Detecting their existence required ingenuity with knowledge of electromagnetic properties.

Heinrich Hertz of Germany discovered radio waves in 1888. He showed the spark of an induction coil set up oscillations in an open circuit, and the energy of the sources were sent out to ring detectors as electric waves. He was surprised when he found the electric field fell off not as the inverse of distance-squared (as electrostatic sources had been found to fall off), but more slowly. The actual falloff was later shown to vary directly as the inverse of distance, which is characteristic for electromagnetic sources.



James Maxwell

The spark gap transmitter became the initial way of generating radio waves, which would create waves over a broad range of frequencies. Hertz had tuned the spark gap transmission with the induction coil, and transmitters were further developed for tuning the waves excited to a fundamental & a large number of harmonics. The discovery of the waves soon attracted many experimentalists to study their properties and for their use is distance communication.

(Continued on page 4)

Periodic Events

Sun	7:00 p.m.	Travis ARES net	147.36 MHz + (131.8)
Sun	8:00 p.m.	Travis ARES Packet	145.73 MHz -
Sun	8:00 p.m.	Williamson ARES net	146.64 MHz - (162.2)
Sun	9:00 p.m.	ARO Swapnet	146.94 MHz -
Sun	(After Swapnet)	Newsline	146.94 MHz -
Mon.	7:30 p.m.	STX ARES Net	3.873 MHz
Tues.	7:30 p.m.	Hays ARES net	147.100 +
Tues.	8:00 p.m.	Bastrop ARES Net	443.750 + (114.8)
Wed	11:30 a.m.	Ham Social Luncheon, Jim's	146.94 MHz -
Thu	9:00 p.m.	2m SSB Net	144.250 (USB)
Thu	11:00 a.m.	Lunch, Pokey Joe's 183&Great Hills	444.1 MHz+
Fri	8:00 p.m.	6m SSB Net	50.230(texasvhf.org/)
Sat	7:00 - 8:30a.m.	Breakfast @ Waterloo Ice House	444.1 MHz +
Sat	9:00 a.m.	Chapter 67 QCWA QSO Net.	3.920 MHz LSB
Daily	6:30 p.m.	Central Texas Traffic Net	147.14MHz+

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Ham Radio Exams Results

The following are the results of the ARRL VE Test Session held on February 1st at Bethany United Methodist Church:

Technician Class Licenses Processed

Salim G. Salem KG5AGE
David L. Walsh KG5AGC

General Class Licenses Processed

Ellis A. Botts KG5AGD
Walter R. Carver KF5ZSB
Kevin J. Fennell KG5AGF

Extra Class Licenses Processed

Stanley C. Heston, Jr. N5UBL
George A. Kivi KF5ZSE
C. P. Smith-Goodson K7OIA

Examiners Participating in this Test Session

Steven Bonds NQ2S
Milt Cram W8NUE
Bruce Harrell KJ5LW
Gene Hinkle K5PA
Joe Makeever W5HS
Joe Thiel N5SMN

Next ARRL VE Test Sessions

March 1st - Bethany United Methodist Church, Disciple Bldg. Room 203/204
April 5th - Bethany United Methodist Church, Disciple Bldg. Room 203/204

TNX ES 73 DE W5HS
Joe

2-20-14

The South Austin W5YI VE team heartily congratulates the following people who earned new or upgraded amateur radio licenses at our February 15th session:

Extra Class

George Robison, KF5ZSG
Howard Waugh, Jr. WA5BF

General Class

Lance Lemoine, Jr. KA5NSM
Jeffrey Fletcher KG5AIH (new)
Joseph Hunt KG5AII (new)

Technician Class

Hua Liu KG5AIJ (new)
Race Chapman KG5AIK (new)

Our administering volunteer examiners were:

Sam Mihalik, KM5MY

Wally Marusa, Jr. K5WLY

Gary Popp, AE5JR

James Peisker AF5NP

Our next two amateur radio exam sessions will start at
2 PM on March 15th and April 19th in
Fleck Hall, room 118 on the campus of St. Edward's University.
All sessions are walk-in and the exam fee is \$14.

For additional information regarding our amateur radio examination sessions,
please contact Craig, AC5KW at (512) 474-6443 or by e-mail to
hamradioexams@hotmail.com or visit our web page at

<http://texashams.org/w5yi-austin/>

Austin Amateur Radio Club, Inc., PO BOX 4739, AUSTIN TX 78765-4739, Web site: <http://www.austinhams.org>

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TC ARES PIO	Steven Polunsky	W5SMP		tcares-pio@gmail.com

Please contact a club officer, attend a meeting, mail us to join the organization, you can also join or renew online.

The Austin Amateur Radio Club, Inc. (AARC) has annual membership dues of \$20.00 per person or \$30.00 per family. AARC maintains the following repeaters:

FREQUENCY	AUTOPATCH	USE
146.780	No	
146.880	Yes	General
146.940 107.2 PL Tone	No	Most popular, WX, Swapnet & Newslite
224.800	No	
444.100	No	
440.650 +5	No	70cm D-Star Repeater [W5KA]
146.480/+1.0	No	2m D-Star Repeater [W5KA C]
1293.200/-20	No	23cm D-Star Repeater[W5KA A]
1248.200	No	23cm D-Star DD (data, simp./reversible)[W5KA A]

Persons using the repeaters are asked to join the club to help support these valuable resources. To use the autopatch, announce your call sign, press * and dial the phone number then release the PTT. When finished, press # to hang up the phone. Dial 911 (no * needed) for emergency services.

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Viewpoints expressed in the AARCOVER do not necessarily reflect those of any club, or of its members, directors, or officers. Material quoted from the ARRL Letter is supplied by the American Radio Relay League, Inc.

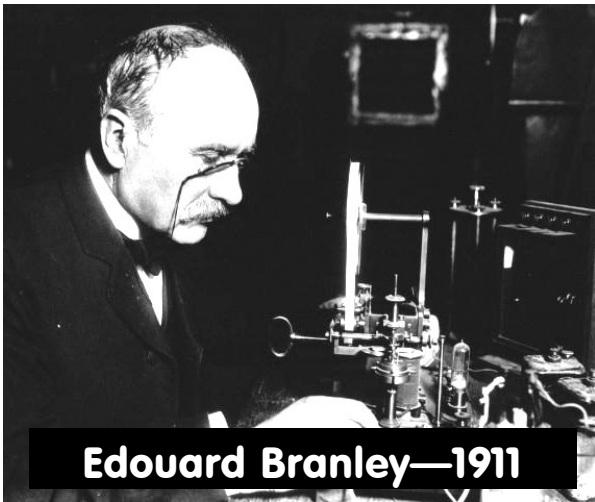
Members and other readers are encouraged to submit material for publication. Call Mitch London, if mailed submissions are required. Electronic files are encouraged! Submissions may be edited for publication. **Deadline is the 22nd of the month.**

Material may be used in a later issue. Unless otherwise noted, permission is granted to reprint AARCOVER articles, provided you credit the author and the AARCOVER.

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**For Changes in your ADDRESS, PHONE NUMBER or CALL SIGN:
See Jay Hoffman, KA5OST ka5ost@arrl.net
Jay handles all changes for membership information .**



Edouard Branly—1911

(Continued from page 1)

In 1890, Edouard Branly (France) showed metal filings in a tube cohered from electric waves. This tube was named the "Branly coherer". Then in 1895, Alexander Popoff constructed receiver with the coherer to study atmospheric electricity in lightning using detector connected with an aerial & the Earth. This receiver was improved later into a practical receptor by Sir Oliver Lodge by adding a decoherer, which tapped the coherer after each reception to dislodge the clumped filings.

In 1896, William Marconi (Italy), connecting aerial to one side, & spark gap & ground to the other. He used an induction coil to energize the spark gap, and a telegraph key to break the current into signals. He then added a Morse register to prints dots & dashes & a Popoff receptor. This setup was the 1st wireless telegraphy (which he patented), & became the

generator for wireless telegrams.

In 1898 the German physicist Braun invented an improvement over the spark-gap transmitter of Marconi, by separating the spark gap to a primary circuit, whereas tuning of the oscillator was done in a secondary winding. An induction coil connected the low-voltage primary with a high-voltage secondary. Experiments by Nikola Tesla in the 1890's demonstrated radio waves and devices, his patents including the Tesla coil. In 1898 he demonstrated a radio-controlled boat. In 1900 he was given patents for an electrical transmitter, then challenger Marconi in court for Marconi's transatlantic transmission in 1901. The courts upheld Tesla in 1903, reversed to Marconi in 1904, then restored Tesla's prior patents ruling in 1943.

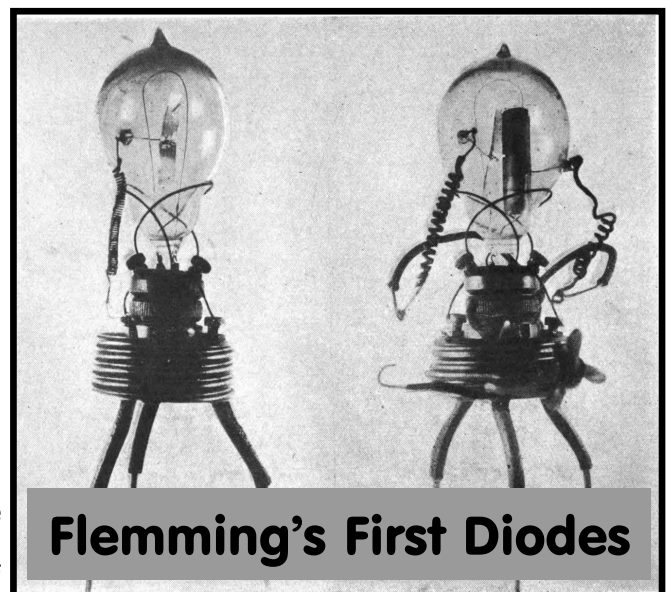
In 1899, Frederick Collins, noting the earlier discovery by Firth & Rogers (England) that direct current arc light transforms part of its energy to electric oscillations, connected the arc lamp with an aerial & ground. He used a microphone transmitter to modulate the oscillations so set up. For receiving Collins used a pill-box detector (which had been devised by Sir Oliver Lodge), and connected it with an Ericcson telephone receiver. This was the 1st wireless telephone, and it was improved later by Collins setting up the oscillations with his rotating oscillation arc. He as given a patent on this in 1906.

Fessenden was interested in following up Marconi's work to build instead a CW (continuous wave) transmitter. He invented the rotary spark-gap transmitter in 1902, which set up continuous oscillations for a few seconds, but soon realized the spark-gap transmitter was incapable of transmitting good voice & music. It was only capable of producing waves up to 60 Hz, which was the fastest cycle motors could create. He went another route & came up with the HF alternator, which by 1906 could be used for CW transmission up to 100 kHz.

In 1904, J.C. Bose received a patent for the 1st crystal detector for radio waves, which is solid-state. Shortly thereafter. J.A. Fleming invented the vacuum tube, in particular the diode, which could rectify AC current to produce DC current. The galena crystal in Bose's invention could also effectively serve as a diode.

In 1906, G.W. Pickard invented the silicon crystal detector, in which he connected a fine pointed wire (a "cat's whisker") in contact with the crystal to enhance rectification. Soon the Branly detector had been replaced by the crystal detector.

In 1906, Lee deForest invented the "audion", which was the 1st triode vacuum tube. It could amplify a weak signal in addition to rectifying it. However, it took virtually 10 years of perfection of the vacuum tube for it to compete with crystal



Flemming's First Diodes

(Continued on page 6)

Club Dues for 2014 are Due!

The new year is here and you might as well get a jump on things by paying your dues for the 2014 year.

Besides the admiration of your friends, you also get guilt free use of all club repeaters, access to club equipment, online help through the use of the Austin Hams Yahoo group and much more! Be the first on your block to be a renewing member in 2013!

You can pay online at- <http://www.austinhams.org/join.htm>

Just fill out the .pdf form and mail to:

The Austin Amateur Radio Club
PO Box 4739
Austin, TX 78765-4739

The Austin Amateur Radio Club, Inc.
 Membership Form for the year ending December 31, 20____

Application for: (check applicable box and enclose payment)
 AARC Individual \$20
 Family (all with same mailing address) \$30
 Student rate (thru 12th grade, no mail) \$ 5
 ARRL Individual ARRL (new or renewal) \$39
 Senior ARRL (new or renewal) \$36
 Family member ARRL (at same address) - \$8ea x ____ =
 First time ARRL discount -\$15

TEXAS HAMPAC (Political Action Committee) \$ _____
 Total Enclosed _____

Mail this form with payment to:
 AARC - P O Box 4739 - Austin, TX 78765-4739

Check One: -New member -Renew membership -Update Info
 ARRL member Y N License class E A G T+ T N Year first licensed _____

Call sign _____ First Name _____ Last Name _____
 Mail Address _____
 City/St/Zip _____
 Hm Ph _____ Cel Ph _____ Wk Ph _____
 Pager # _____ e-mail _____

Please list additional family members here and check the family member box above.

2 nd Call _____ Name _____	ARRL mem Y N
3 rd Call _____ Name _____	ARRL mem Y N
4 th Call _____ Name _____	ARRL mem Y N

I/WE have interest in the following:

<input type="checkbox"/> Monthly meetings	<input type="checkbox"/> Field Day	<input type="checkbox"/> Working Events	<input type="checkbox"/> Transmitter Hunts
<input type="checkbox"/> Talking on 2 mtrs	<input type="checkbox"/> DXing	<input type="checkbox"/> Newsletter	<input type="checkbox"/> Holding Office
<input type="checkbox"/> Presenting programs	<input type="checkbox"/> CW	<input type="checkbox"/> Net Control	<input type="checkbox"/> Emergency Comm's
<input type="checkbox"/> Holding ARRL office	<input type="checkbox"/> Education	<input type="checkbox"/> Public Awareness	<input type="checkbox"/> Working w/Youth
<input type="checkbox"/> Others _____			

Rcvd ____/____/____ Amt \$ ____ Ck ____ Cash ____ Dep ____ Post ____
 (for office use only)

JMH 20110315

Digital Wednesday/Broadband Hamnet Info

Meets the 4th Wednesday at 7PM at Arcadian/CATRAC facility on the NW corner of 183 and Technicenter Drive.

Talk in frequency is the AARC repeater, 146.940

Meeting starts on time. If you come after start time, please use 146.52 simplex to contact someone inside who can then let you in.

www.hsamm-mesh.org

(Continued from page 4)

detector. It was found over time to not only be a useful detector, but also if energized by direct current at high voltage it would setup sustained oscillations for wireless telegraphy & wireless telephony.

It took 10 years for vacuum tube to compete with crystal radio sets, but in about 15 years, crystal radio sets were being replaced commercially by receivers with audions, relegating crystal receivers to hobbyists. The crystal radio can demodulate AM signals, but not FM signals (which did not come along till the latter 1930's). Up to 1912 there were no regulations on radio signals, so interference was prevalent. In 1912, the 1st international agreement was reached to regulate it by assigning call letters to broadcasters.

The earliest radio station was started in San Jose in 1909 by engineer Charles Herrold with a 15-watt transmitter, sending out music and news. In 1921 it was assigned the call letters KQW, and in 1949 it was bought out by CBS, becoming KCBS of San Francisco.

World War I broke out in Europe in 1914, and in it airplanes, ships, and troops were kept in contact with radio. That year a relay system across the U.S. was begun by Hiram Percy Maxim & Clarence Tuska, In 1915 they started the Amateur Radio Relay League (ARRL) with its monthly magazine QST. By 1917 they had completed the relay system all the way across the country.

On their monitoring in WWI the Germans discovered whistler radio transmissions on their receivers, which occurred at or below 30 kHz and sounded like a descending whistle, or in some cases 2-3 descending whistles. They generally thought it was Allied code, and intensely monitored to try to discover its origins. When the war was over, it was clear the Allies had no such code, and radio scientists continued to monitor it to find its origin. By 1953 it was established by physicist L.R.O. Storey of Sweden that they were a naturally occurring transmission propagating on Earth's magnetic field lines created by lightning strokes.

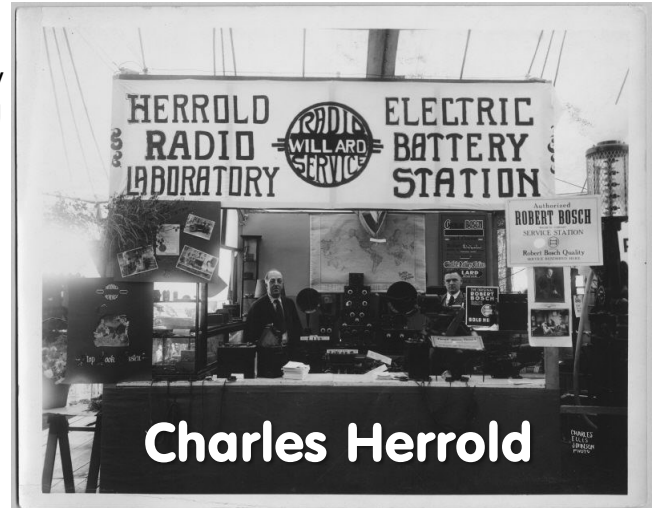
In 1917 it was likely the U.S. was going to enter the war, & the Secretary of the Navy Josephus Daniels ordered a shutdown of all radio transmission, so that only the Navy could send them out. Secretary Daniels tried to continue that monopoly after the war was over, giving the Navy permanent control of all radio transmission in the US. However he was vociferously opposed by Maxim & Tuska, who and wired all hams in ARRL on the issue. When Secretary Daniels introduced a bill into the Senate for approval of that monopoly, Maxim & Tuska helped get a bill into the House restoring free transmission. They finally won out on restoring free transmission, and the ban was lifted in 1919.

With the return of radio to all amateur operators it flourished. They advanced vacuum-tube technology and explored short-wave transmission. By discovering the reflection off the ionosphere they made worldwide communication possible.



Companies were also developing for radio. There were several separate patents issued for elements of a radio: the diode, the triode, the grid, etc. David Sarnoff in 1919 formed a consortium to buy up patents to make a complete radio. This company so-formed was named RCA, and it survived up until 1986. They marketed the 1st superheterodyne receiver in 1924, which had been invented in 1918 by Edwin Armstrong. KDKA became one of the 1st commercial stations licensed. Then in early 1922, in a protection for the development of commercial radio, amateur radio stations

(Continued on page 7)



were explicitly banned from making entertainment broadcasts. A system was also agreed on for stopping stations from infringing on each other's wavelength. By 1923 networks were started to form.

In 1925 the International Amateur Radio Union was formed in Paris. In 1926 the ARRL put out its 1st Handbook. This has been consistently updated & re-released over the years, & is the most comprehensive radio engineering handbook in the world.

It was the Radio Act of 1927 and the Communications Act of 1934 that addressed (mostly commercial) radio issues that had been brewing for well over a decade, and established modern broadcasting regulations. The latter Act replaced the earlier Federal Radio Commission by the FCC.

In 1930, the radio engineer who had invented the superheterodyne receiver submitted a new patent to the Patent & Trademark office. Within 10 years, his invention would come to revolutionize high-frequency radio.
COMING SOON -- The Development of Very High Frequency Radio

[REFERENCES]

"ARRL at 100: A Century of Ham Radio" at <http://www.youtube.com/watch?v=jerSTUDqI7s&feature=youtu.be>

"Bose, Jagadish Chandra", online at http://en.wikipedia.org/wiki/Jagadish_Chandra_Bose .

"Coherer", online at <http://en.wikipedia.org/wiki/Coherer>.

Collins, Frederick, *Radio Amateur's Handbook* (1922).

"Crystal Radio", online at http://en.wikipedia.org/wiki/Crystal_radio .

Hawker, J P, *Radio and Television* (Hart, 1966).

Hertz, Heinrich, & Daniel E. Jones, *Electric Waves* (MacMillan, New York, 1893).

"RCA", online at <http://en.wikipedia.org/wiki/RCA> .

Schulberg, Pete "Radio Advertising." (NTC Business Books, 1989)

"Tesla, Nikola", online at http://en.wikipedia.org/wiki/Nikola_Tesla .



*** BBHN 1.0.1 for Ubiquiti Released ***



The UBNT release is now available. It supports the following devices:

- Rocket M2
- Bullet M2 HP
- AirGrid M2 HP
- NanoStation Loco M2 (NSL-M2)
- NanoStation M2 (NS-M2)

BBHN 1.0.1 for Ubiquiti Release Notes

Please keep the following notes in mind when operating these devices and reporting issues.

Due in large part to the physical differences between Linksys and Ubiquiti devices, the following list of functional differences should be noted:

DMZ and LAN Port Distinctions

Since the Ubiquiti line of devices has only 1 Ethernet port, the standalone device only supports one wired-LAN connection. If you want additional LAN connections, then you will need to add an outboard Ethernet Switch. Connecting to that switch may require a cross-over cable rather than the standard straight-through cable.

If you need the WAN network, then you will require an outboard Ethernet Switch which supports 802.1q VLANs (virtual LANs). Typically this would be a "Managed" switch. Configure the VLANs as follows:

```
Untagged = LAN
vlan1 = WAN
```

Note: You will consume 2-ports in this configuration, so if you want to end up with the equivalent of what the Linksys WRT54 series device offers, then you will need a 6-port switch.

Look to additional support for this configuration in the UBNT Support Forum.

Off-Channel Operation

Ubiquiti devices will not search for BBHN nodes off-channel. The configured channel is the only one on which the device will operate. We are currently evaluating the Linksys operational characteristics in this area and will likely attempt to conform them to this behavior.

Band-edge Vigilance

Linksys devices utilize the 802.11g standard where transmitted data are contained within 22MHz "channels." However, if neighboring Ubiquiti devices have high-enough quality RF links, they can ramp up to 802.11n. This standard operates within 40MHz channels. In most all cases this will not be an issue, because BBHN networks are typically configured to their default, channel 1. If you choose a different channel, then care must be taken to ensure the entire channel remains within its licensed operating spectrum. For example, if it's being operated on 2.4GHz in the US under Part 97, then it must be kept on either channel 1 or 2. All higher numbered channels could cause the devices to exceed the upper limits of the ham band.

Encryption

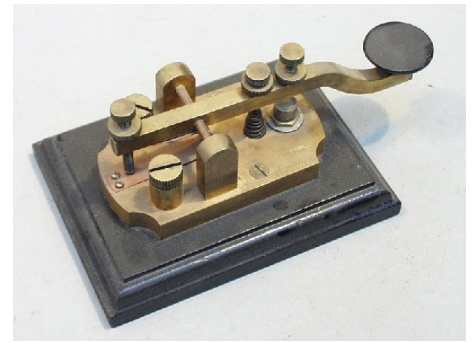
These devices can be configured to either permit or prohibit known encrypted traffic on the RF link. It is up to you to decide which is appropriate based on how it will be used and the license under which it will be operated. These rules vary by country, frequency, and intended use. You are encouraged to read and understand these rules.

These devices are pre-configured with no restrictions as to the type of data being passed and are currently compatible with the Linksys WRT54G-series BBHN firmware.

Instructions are provided if you wish to prohibit known encrypted traffic on the RF link. This includes: SSL (443), SSH (22), Node SSH (2222), and Encrypted Email (465, 995, 993).

Silent Keys

All,
A good friend and long-time AARC & ARO member/leader Johnny Allen W5TQL has passed away. He had a long battle with health issues. Our thought and prayer are with Carol and all the close friends they have. The note below is from his wife Carol- N5KIX.
Regards,
Jeff N5MNW



Dear Friends,

My sweet Johnny passed away around quarter past eleven this morning, Thursday, February 13. He was here at home the way he wanted to be and I was at his side, holding his hand and touching his cheek. It has been a long, arduous fight. I hope you join me in wishing that he will rest in peace.

Carol

It sadness me to tell you that after a year of fighting a Brain Tumor. Jim has passed away February 11,2014. Jim will be missed by all. I remember when he came to help me with Morse code and he stood by me during all my Ham Radio tests. I have many fond memories of Jim.

RIP Jim.
Below is the email from Craig.
Lori

Our friend Jim Greenwood passed away Tuesday, February 11, 2014 at St. David's South Austin Medical Center of complications from a brain tumor.

I wasn't notified until tonight because the hospital only called his brother in Colorado. Services (graveside only) are set for Saturday, March 1, 2014 at 3pm at Oakwood Cemetery, listed as 16th and Navasota, in Austin--in the "Annex" section (look for a tent).
Craig



The forum will not entertain discussions on which of these options is appropriate for a given situation. Ultimately the control operator is responsible for making that determination.

Output Power

Ubiquiti devices output significantly higher power-levels than their Linksys counterparts. Based on the model and antenna gain, you can easily exceed 47 CFR Part 15 effective radiated power (EIRP) limits.

We believe the power level control we provide you in the user interface is generally accurate, although we have reason to believe we may overstate the actual power level by as much as 3dB in NanoStation Loco M2 configurations. We would be grateful for anyone with an accurate means of measuring this to post their observations to the forum.

Power levels for devices with dual-antennas, such as the Rocket M2, when configured in diversity mode, split the configured power between both antennas... causing each port to individually be 3db below the configured power.

Power levels have a dependency on the configured antennas. You may notice that you cannot set full max power of the device when using only a single antenna. You may also notice that you cannot use the minimal power listed in the power drop down window. Some of these devices have internal, off-chip amplifiers which are kept in their linear operating range by limiting the upper/lower input power levels.

Untested and Unsupported UBNT Devices

The release requires 32MB of memory and 8MB of flash. Attempting to load this release into anything smaller will result in an error. This generally precludes older models from being supported.

There are two classes of UBNT devices that are not supported:

Untested: These devices may operate with little or no issues. However, because we have not had the opportunity to test and confirm they work with this release we will not provide technical support for them until we have done so. You will see a banner across the GUI indicating this status. Please do not ask for help with these unless you are prepared to assist in testing the new device. We will fit these devices into a subsequent release as time permits. Note: "Titanium" devices are internally identified as distinct from their non-Titanium cousins, so for the time being these will also fall into this untested category.

Unsupported: These are devices for which the software is not intended. They may load the software and they may appear to work to some degree, but we are not prepared to add them unless and until we have a strategy for code development and support for them. You will see a banner across the GUI indicating the device is not supported.

Support Approach

We have all been amazed at what these devices can do and are sure you will be excited to build the mesh out with them. We encourage you to share your successes, so please post your experiences to the forum.

As a general rule, we will provide priority support to those designing and implementing a "production" network---those in the process of building to a committed EMCOMM client. For those experimenting with this technology or building out test-beds in a lab environment, we may ask for your patience. We acknowledge the pent-up excitement around this release and only hope we can provide a sufficient level of support for those who need us the most.

Having said that, we do have an experienced group of testers who have helped us get this release out:

Andrew, KF7JOZ
Garry, KD2DDK
Leo, IZ5FSA
Richard, W2LCN

Clint, AE5CA
Gordon, W2TTT
Mark, KD5RXT

Doug, W1DUG
Karl, W2KBF
Randy, WU2S

They will assist us in getting your questions answered and issues resolved. As you gain experience with these new devices, we encourage you to join in and support the newer adopters.

73,

The BBHN Core Team

From the Annals of History

By Joe Fisher, K5EJL

Digging through the archives here at K5EJL we found the attached photo of Jesse Copeland, the only one of which we know, receiving his "50 years in ham radio" certificate at the local Chapter 67 QCWA meeting on 13 September 1980. On the left in the photo, conferring the honors, is Amos Peters, W5LHX (SK), who was then president of Chapter 67. "Pete", as we knew him, was very active not only in QCWA but also AARC in the '70s and '80s.

W5TQ is listed as an Advanced Class license in a Spring 1969 *Callbook Magazine*. Probably first licensed sometime shortly after WWI he would not have been eligible to be "grandfathered" in when the Amateur Extra Class license was reinstated in 1951.

Jesse Copeland, who endowed the Copeland Scholarship Fund administered by AARC and Austin Community Foundation, was born 18 February 1906. He was a quiet and reserved man; I don't really remember ever having much of a conversation with him. His obituary, published 16 August 1982 in the *Austin American-Statesman*, was probably written by his wife, Amanda, and is fairly brief but includes this note:

"He was awarded one of the highest awards given by the FAA, the Sustained Superior Performance Award. He was retired from the Austin FAA having been with them since 1938."

A Masonic Lodge performed a graveside service.

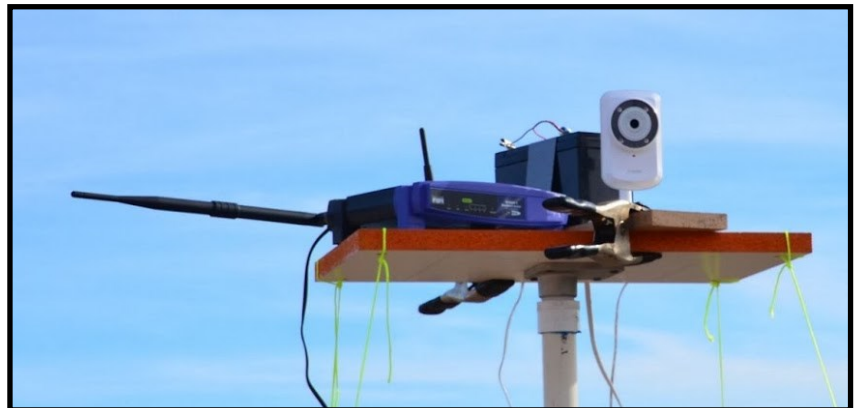


Big Bend 50 Ultra Race Photos

By Joe Jelinsky, KC2KG and Mitch London, KD5HCV



Dave Rivenburg, AD500 (digitally added), DeRoy Howard, AA5R, Alan Russell, KE5DTR; Mitch London, KD5HCV Charles Land Joe Jelinsky, KC2KG, Paul Kinney, KD5VRU



The finish line camera and node.



The second finish line camera



Dave, AD500, at the finish line node.

AARC Meeting Info.

Waterloo Icehouse

**8600 Burnet Rd. South of 183
(Come early and have dinner!)**

Business Meeting 7:00 pm

March 4—TBA

Officers Meeting 6:30 pm

March 18th - Officers meetings are open to club members.

2014 Calendar of Events

Mar 1 Irving ARC Hamfest 2014

Irving Amateur Radio Club
Betcha Bingo Hall 2420 W. Irving Blvd. #125 Irving, TX 75061

www.irvingarc.org/iarchamfest.html

Mar 1-2 Alabama Section Convention

Birmingham, Alabama
Zamora Shrine Temple 3521 Ratliff Road 205-956-3636
Chair - Bill KW4J, kw4J@arrl.net (205) 587-1993.

Publicity - Bob KC4AF KC4AF@arrl.net (205) 283-4000.

<http://birminghamfest.org/>

Mar 8 WCARC Hamfest

Georgetown Community Center San Gabriel Park's
Rick W5NR rhrommer@suddenlink.net

Mar 14-15 Delta Division Convention, Rayne, Louisiana

54th Annual 2014 Acadiana Hamfest & Crawfish Boil
Rayne Civic Center - Rayne, Louisiana

<http://www.w5ddl.org/>

Mar 15 West Texas Section Convention, Midland, Texas

59th Annual St. Patrick's Day Hamfest
Midland County Horseshoe Arena 2514 Arena Trail Midland, Texas

Randy N5OVH n5ovh.01@gmail.com 432-683-7328

<http://hamfest.w5qgg.org/>

2013 Upcoming Amateur Exams

ARRL VEC— March 1st & April 5th 9a.m. at
Bethany United Methodist Church. Contact Joe
Makeever, W5HS (345-0800) or Joe Thiel, N5SMN
(832-0450) for info. \$15 fee.

W5YI VEC- March 15th & April 19th
2p.m. in room 207, Fleck Hall, St. Edwards Univ.
Contact Craig Bean, AC5KW@arrl.net,
(474-6443) for more info.

<http://texashams.org/w5yi-austin/>

Upcoming Meetings...

Mar	Apr	Austin Meetings/Happenings	Time	Address
4	1	AARC Meeting Waterloo Ice House	7:00 p.m.	8600 Burnet Rd.
no	19	QCWA Tres Amigos \$	1:30 p.m.	7535 U.S. 290
26	23	Digital Wednesday at CATRAC	7:00 p.m.	4100 Ed Bluestein Blvd.
24	28	Travis Co. REACT Jim's 183 & Burnet	7:30 p.m.	9091 Research Blvd.
25	22	Travis County A.R.E.S., ARL Auditorium	7:00 p.m.	10000 Burnet Rd.
27	24	CERT Meeting, CTECC	6:30 p.m.	5010 Old Manor Rd.
25	22	CTDXCC Meeting Old Quarry Library	6:30 p.m.	7051 Village Ctr Dr.

% New Meeting Location for ATV

\$ QCWA Now meets quarterly visit <http://www.qcwa.org/chapter067.htm> for info